COVER SHEET

Responsible Agency: United States Department of Energy

Cooperating Agency: Tennessee Valley Authority

Title: Final Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor

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Abstract: The U.S. Department of Energy (DOE) is responsible for providing the nation with nuclear weapons and ensuring that these weapons remain safe and reliable. Tritium, a radioactive isotope of hydrogen, is an essential component of every weapon in the current and projected U.S. nuclear weapons stockpile. Unlike other materials utilized in nuclear weapons, tritium decays at a rate of 5.5 percent per year. Accordingly, as long as the nation relies on a nuclear deterrent, the tritium in each nuclear weapon must be replenished periodically. Currently the U.S. nuclear weapons complex does not have the capability to produce the amounts of tritium that will be required to continue supporting the nation's stockpile. The *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling* (Final Programmatic EIS), DOE/EIS-0161, issued in October 1995, evaluated the alternatives for the siting, construction, and operation of tritium supply and recycling facilities at five DOE sites for four different production technologies. This Programmatic EIS also evaluated the impacts of using a commercial light water reactor (CLWR) without specifying a reactor location. In the Record of Decision for the Final Programmatic EIS (60 FR 63878), issued December 12, 1995, DOE decided to pursue a dual-track approach on the two most promising tritium supply alternatives: (1) to initiate purchase of an existing commercial reactor (operating or partially complete) or reactor irradiation services; and (2) to design, build, and test critical components of an accelerator system for tritium production. At that time, DOE announced that the final decision would be made by the Secretary of Energy at the end of 1998.

On December 22, 1998, Secretary of Energy Bill Richardson announced that the CLWR would be DOE's primary option for tritium production, and the proposed linear accelerator at the Savannah River Site would be the back-up option. The Secretary designated the Tennessee Valley Authority's (TVA) Watts Bar and Sequoyah Nuclear Plants as the Preferred Alternative for CLWR tritium production. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS to construct and operate a new tritium extraction capability at the Savannah River Site.

This *Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor* (CLWR EIS) evaluates the environmental impacts associated with producing tritium at one or more of the following five CLWRs: (1) Watts Bar Nuclear Plant Unit 1 (Spring City, Tennessee); (2) Sequoyah Nuclear Plant Unit 1 (Soddy Daisy, Tennessee); (3) Sequoyah Nuclear Plant Unit 2 (Soddy Daisy, Tennessee); (4) Bellefonte Nuclear Plant Unit 1 (Hollywood, Alabama); and (5) Bellefonte Nuclear Plant Unit 2 (Hollywood, Alabama). Specifically, this EIS analyzes the potential environmental impacts associated with fabricating tritium-producing burnable absorber rods (TPBARs); transporting nonirradiated TPBARs from the fabrication facility to the reactor sites; irradiating TPBARs in the reactors; and transporting irradiated TPBARs from the reactors to the proposed tritium extraction facility at the Savannah River Site in South Carolina.

The public comment period on the CLWR Draft EIS extended from August 28 to October 27, 1998. During the comment period, public hearings were held in North Augusta, South Carolina; Rainsville, Alabama; and Evensville, Tennessee. An additional public meeting was held in Evensville, Tennessee, on December 14, 1998. The CLWR Draft EIS was made available through mailings and requests to DOE's CLWR Office and at DOE's Public Reading Rooms. In preparing the CLWR Final EIS, DOE considered comments received via mail, fax, submission at public hearings, recorded telephone messages, and the Internet. In addition, comments and concerns identified during discussions at the public hearings were recorded by a court reporter and were transcribed for consideration by DOE.

The CLWR Final EIS contains revisions and new information in response to the comments on the CLWR Draft EIS and technical details disclosed since the Draft EIS was issued. These revisions and new information are indicated by a double underline for minor word changes or by a sidebar in the margin for sentence or larger changes. Volume 2 (Comment Response Document) of the CLWR Final EIS contains the comments received during the public review of the CLWR Draft EIS and DOE's responses to these comments.

No sooner than 30 days after the notice of filing this EIS with the U.S. Environmental Protection Agency, DOE expects to issue a Record of Decision.

PREFACE

The *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling* (Final Programmatic EIS) (DOE/EIS-0161), which was completed in October 1995, assessed the potential environmental impacts of technology and siting alternatives for the production of tritium for national security purposes. On December 5, 1995, DOE issued a Record of Decision for the Final Programmatic EIS that selected the two most promising alternative technologies for tritium production and established a dual-track strategy that would, within 3 years, select one of those technologies to become the primary tritium supply technology. The other technology, if feasible, would be developed as a backup tritium source. Under the dual-track strategy, DOE would: (1) initiate the purchase of an existing commercial reactor (operating or partially complete) or irradiation services with an option to purchase the reactor for conversion to a defense facility; and (2) design, build, and test critical components of an accelerator system for tritium production. Under the Final Programmatic EIS Record of Decision, any new facilities that might be required, i.e., an accelerator and/or a tritium extraction facility to support the commercial reactor alternative, would be constructed at DOE's Savannah River Site in South Carolina.

The Final Programmatic EIS described a two-phase strategy for compliance with the National Environmental Policy Act (NEPA). The first phase included completion of the Final Programmatic EIS and subsequent Record of Decision. The second phase included the preparation of site-specific NEPA documents tiered from the Final Programmatic EIS. These EISs address the environmental impacts of specific project proposals. As a result of the Final Programmatic EIS and the Record of Decision, DOE determined to prepare three site-specific EISs: the *Environmental Impact Statement, Accelerator Production of Tritium at the Savannah River Site* (APT) (DOE/EIS-0270), the *Environmental Impact Statement for the Production of Tritium in a Comercial Light Water Reactor* (CLWR) (DOE/EIS-0288), and the *Environment Impact Statement, Construction and Operation of a Tritium Extraction Facility at Savannah River Site* (TEF) (DOE/EIS-0271). Each of these EISs presents an analysis of alternatives which do not affect the alternatives in the other EISs, with one exception. This exception is one alternative in the TEF EIS which would require the use of space in the APT. For this alternative to be viable, the APT would have to be selected as the primary source of tritium.

On December 22, 1998, Secretary of Energy Bill Richardson announced that commercial light water reactors (CLWR) will be the primary tritium supply technology. The Secretary designated the Watts Bar Unit 1 reactor near Spring City, Tennessee, and the Sequoyah Units 1 and 2 reactors near Soddy-Daisy, Tennessee, as the preferred commercial light water reactors for tritium production. These reactors are operated by the Tennessee Valley Authority (TVA), an independent government agency. The Secretary designated the APT as the "backup" technology for tritium supply. As a backup, DOE will continue with developmental activities and preliminary design, but will not construct the accelerator. Finally, selection of the CLWR reaffirms the December 1995 Final Programmatic EIS Record of Decision to construct and operate a new tritium extraction capability at the Savannah River Site.

DOE has completed the final EISs for the APT, CLWR, and TEF. No sooner than 30 days after publication in the *Federal Register* of the Environmental Protection Agency's Notice of Availability of the final EISs for APT, CLWR, and TEF, DOE intends to issue a consolidated Record of Decision to: (1) formalize the programmatic announcement made on December 22, 1998; and (2) announce project-specific decisions for the three EISs. These decisions will include, for the selected CLWR technology, the selection of specific CLWRs to be used for tritium supply and the location of a new tritium extraction capability at the Savannah River Site. For the backup APT technology, technical and siting decisions consistent with its backup role will be made.

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ACRONYMS AND ABBREVIATIONS

APT	Accelerator Production of Tritium
BEIR	Biological Effects of Ionizing Radiation
Bellefonte 1	Bellefonte Nuclear Plant Unit 1
Bellefonte 2	Bellefonte Nuclear Plant Unit 2
CFR	Code of Federal Regulations
CLWR	Commercial light water reactor
DOE	U.S. Department of Energy
EIS	Environmental impact statement
EPA	U.S. Environmental Protection Agency
FR	Federal Register
HEPA	High-efficiency particulate air
IAEA	International Atomic Energy Agency
ISFSI	Independent spent fuel storage installation
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRC	U.S. Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
P.L.	Public Law
Sequoyah 1	Sequoyah Nuclear Plant Unit 1
Sequoyah 2	Sequoyah Nuclear Plant Unit 2
START	Strategic Arms Reduction Treaty
TPBAR	Tritium-producing burnable absorber rod
TVA	Tennessee Valley Authority
U.S.C.	United States Code
Watts Bar 1	Watts Bar Nuclear Plant Unit 1
Watts Bar 2	Watts Bar Nuclear Plant Unit 2

1. PUBLIC COMMENT PROCESS

This chapter of the Comment Response Document describes the public comment process for the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor* and the procedures used to respond to those comments. Section 1.1 describes the means through which comments were acquired, summarized, and numbered. Section 1.2 discusses the public hearing format that was used to solicit comments from the public. Section 1.3 describes the organization of this document, including how the comments were categorized, addressed, and documented. Section 1.4 also provides guidance on the use of this document. Section 1.5 discusses the major comments received on the environmental impact statement. Section 1.6 includes a discussion of the major changes to the environmental impact statement that resulted from the public comment process. This chapter includes indexes of all comments received during the 60-day public comment period and the December 14, 1998, public meeting.

1.1 INTRODUCTION

In August 1998, the U.S. Department of Energy (DOE) published the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor* (CLWR Draft EIS). This document explained the need for a domestic tritium production source to maintain the United States' nuclear deterrent and described and analyzed the environmental impacts associated with tritium production at one or more nuclear power plants owned and operated by the Tennessee Valley Authority (TVA). The 60-day public comment period on the CLWR Draft EIS began on August 28, 1998, and ended on October 27, 1998.

During the comment period, public hearings were held in North Augusta, South Carolina; Rainsville, Alabama; and Evensville, Tennessee. After the public comment period ended, a public meeting was held on December 14, 1998, in Evensville, Tennessee, to allow the public to comment on TVA proposals submitted to DOE in early December. **Figure 1-1** shows the locations and dates of the public hearings and meeting. In addition, the public was encouraged to submit comments via the U.S. mail service, e-mail to a special DOE web site on the Internet, a toll-free 800-number phone line, and a toll-free fax line. Section 1.5 includes a summary of the major comments received through the public comment process. Section 1.6 includes a summary of the changes that were made to the CLWR Draft EIS as a result of the public comment process.

December 14, 1998, Public Meeting

Prior to fulfilling the requirement to reach a technology decision by the end of 1998, Secretary of Energy Bill Richardson asked TVA to submit final proposals for the Watts Bar and Sequoyah reactors, as well as for the completion of TVA's Bellefonte reactor. These proposals were provided to DOE the first week in December 1998, after the close of the public comment period for the CLWR Draft EIS on October 27, 1998 (see Volume 1, Section 1.1.4 of the CLWR EIS). Upon receiving the proposals, the Secretary of Energy directed that this information be presented for public review and comment prior to his reaching the technology decision. To enable this, it was necessary to schedule and conduct the December 14, 1998, public meeting with a minimum of notice. At this meeting, DOE presented information on the new TVA proposals, answered questions, and accepted comments on the proposals and the tritium program in general. The public was encouraged to submit written, faxed, telephoned, and e-mailed comments on the new TVA proposals. All comments received as a result of the December 14, 1998, public meeting are presented separately in Chapter 2 of this volume (200 series and 800 series commentors); DOE's responses to the December 14, 1998, comments have been integrated with the public comment period responses in Chapter 3 of this volume.

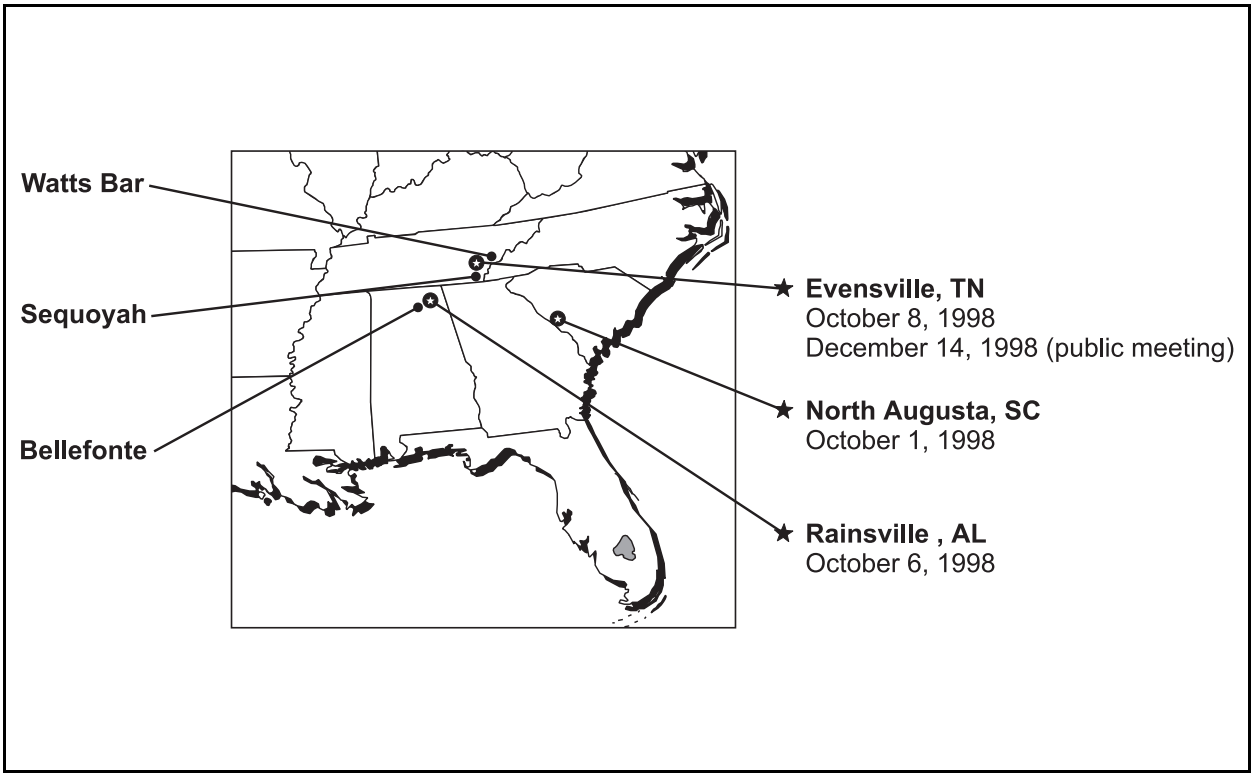

Figure 1-1 Public Hearing and Meeting Locations and Dates, 1998

The number of persons estimated in attendance at each hearing or meeting, together with the number of comments submitted and recorded, are presented in **Table 1-1**. These attendance estimates are based on the number of registration forms completed and returned at each hearing or meeting, as well as a rough "head count" of the audience, and may not include all those present.

Table 1–1 Public Hearing/Meeting Locations, Attendance, and Commentors

Location	*Date*	*No. in Attendance*	*Commentors*
North Augusta, SC	October 1, 1998	34	4
Rainsville, AL	October 6, 1998	200	27
Evensville, TN	October 8, 1998	59	14
Evensville, TN (public meeting)	December 14, 1998	71	36

All public hearing and meeting comments were combined with comments received by other means (mail, e-mail, 800-number, fax) during the comment period. Written comments were date-stamped and assigned a sequential document number. Chapter 2 of this volume contains copies of the comment documents received by DOE. **Table 1-2** provides an overview of the number of comments received and categorized by method of submission.

Table 1–2 Method of Comment Submission

Method	*Number of Submittals and Commentors*
Faxes	18
U.S. mail	51
1-800 number	34
E-mail	17
Hearings/meetings (written statements)	82
Total submittals	**203**

1.2 PUBLIC HEARING FORMAT

The public hearings used a format that allowed two-way interaction between DOE representatives and the public and encouraged public comments on the document. A neutral facilitator was present at each hearing to direct and clarify discussions and comments. A court reporter also was present at each hearing to record the proceedings and provide a transcript of the public comments and the dialogue between the public and the DOE and TVA representatives on hand. These transcripts are available in DOE Public Reading Rooms near each site and in Washington, DC.

The format used for each hearing included a presentation, question and answer session, and a public comment period. The hearing opened with a welcome from the facilitator, followed by a presentation on the proposed action by a DOE representative. The facilitator next opened the question and answer session to give the audience a chance to ask questions about the material presented. This was followed by the public comment session, during which attendees were given an opportunity to read a prepared statement of no more than five minutes. Modifications to the format were made at each of the public hearings to fulfill the special requests of attendees. Following the public hearings, statement summaries were prepared from the transcripts of each hearing and the comment documents submitted by the attendees (see Chapter 2 of this volume).

1.3 ORGANIZATION OF THIS COMMENT RESPONSE DOCUMENT

This Comment Response Document is organized into the following sections:

- Chapter 1 includes a description of the public comment process; the public hearing format; the organization of this document; the use of this document, including tables; the major comments received; and the changes made to the CLWR Draft EIS.

- Chapter 2 contains scanned copies of the comment documents received during the public comment period and the December 14, 1998, public meeting, as well as summaries of the comments received at the public hearings and the public meeting. Comments received as a result of the December 14, 1998, public meeting are presented separately (the 200 and 800 series).

- Chapter 3 includes the comment summaries and DOE's responses by category.

- Chapter 4 lists the references for this volume.

Tables are provided at the end of this chapter to assist commentors and other readers in locating individual comments concerning the CLWR EIS. The comments are categorized by issue (e.g., land or water resources) and organized under assigned category codes. **Table 1-3** lists the issue categories and corresponding category codes. Similar comments within the same issue category are presented under an assigned summary code.

Table 1–3 Issue Categories

Category Code	*Issue Category*
01	Policy issues
02	Purpose and need for tritium
03	Tritium requirements
04	Other production options
05	NEPA process
06	Reasonable alternatives selection
07	General support/opposition
08	DOE past practices
09	TVA past practices
10	Land, aesthetics, noise, soils, general environment
11	Air, water resources
12	Ecological resources
13	Socioeconomics, environmental justice
14	Occupational and public health and safety (normal conditions)
15	Occupational and public health and safety (accident conditions)
16	Waste management
17	Spent nuclear fuel management
18	Transportation
19	Design and fabrication of tritium-producing burnable absorber rods (TPBARs)
20	Decontamination and decommissioning
21	Reactor licensing issues
22	Safeguards and security
23	Cost issues
24	Miscellaneous

All comments appear in Chapter 2. Scanned images of the comments submitted via the U.S. mail service, e-mail, toll-free phone line, toll-free fax line, or personal submission at the public hearings are presented first. The scanned images are followed by summaries of oral comments submitted at the public hearings and

meeting, listed according to dates (see **Table 1-4**). The commentor numbers correspond to the dates the comments were received, as indicated in Table 1-4.

Table 1–4 Assignment of Commentor Numbers

Comments Received (Dates)	*Commentor Numbers*
August 28, 1998, to November 13, 1998	001-147
October 1, 1998 (public hearing in North Augusta, South Carolina)	500-507
October 6, 1998 (public hearing in Rainsville, Alabama)	600-629
October 8, 1998 (public hearing in Evensville, Tennessee)	700-720
December 10, 1998, to December 17, 1998	200-255
December 14, 1998 (public meeting in Evensville, Tennessee)	800-835

Table 1-5 lists all commentors who made statements or submitted comments at the public hearings or during the public comment period and at the December 14, 1998, public meeting, including members of the public, representatives of organizations or agencies, and public officials. Commentors are listed alphabetically by their last name, along with the page on which their comments appear in Chapter 2, the numbers assigned to individual comments in each document or statement summary, the comment summary-response codes, and the page in Chapter 3 on which their comments are summarized and responded to by DOE and TVA. **Table 1-6** lists the Federal, state, and local officials and agencies, companies, organizations, and special interest groups that submitted comments. The commentors in Table 1-6 are listed alphabetically by organization, along with the names of the individuals who submitted the comments, the document number assigned, and the page on which the document appears in Chapter 2.

Table 1-7 is organized by comment summary-response code. Using the appropriate comment summary-response code, commentors can locate all of the comments that are reflected in each summary. The table also lists the page in Chapter 3 where each comment summary and corresponding response appears.

1.4 How to Use This Comment Response Document

This section will assist the reader in finding individual comments and the corresponding responses from DOE and TVA. The commentor begins by locating his or her name or organization in Table 1-5 or Table 1-6, respectively. Table 1-5 is an index of all commentors. Table 1-6 is an index of organizations and public officials. Both of these tables list the page number in Chapter 2 on which their comments appear. To locate other comments that address the same comment summary-response code, the commentor should use Table 1-7. This table lists the comment summary-response codes, the page in Chapter 3 on which the comment is addressed, and the other comment numbers addressed by each comment summary-response code.

For example, if Susan Gordon (commentor 137) wants to find her comments, she should go to Table 1-5 to find her name and the corresponding page in Chapter 2 on which her document appears. On page 2-101, Ms. Gordon would find her scanned document has been "side-barred" (published with vertical lines in the outer margin to identify individual comments) and her first comment has been coded for comment summary-response 08.02. Table 1-5 also provides Ms. Gordon with the number of comments identified, the comment summary-response code assigned to each comment, and the page number in Chapter 3 on which the corresponding comment summary and response are found. After obtaining the comment summary-response code from either the scanned document on page 2-101 or Table 1-5, Ms. Gordon would then turn to Chapter 3 to read DOE's response to her comment. Ms. Gordon could use Table 1-7 to locate other comments expressing

similar concerns. For this example, comment summary-response code 08.02 on page 3-34 also addresses the following comments: 36-1, 41-4, 58-2, 103-3, 132-2, 136-3, 137-1, 211-3, 217-3, 252-3, 507-2, 707-7, 720-2, 800-9, and 803-3. These comments are listed numerically by commentor (first number followed by the dash) in Chapter 2.

1.5 MAJOR COMMENTS ON THE CLWR DRAFT EIS

During the public comment period, approximately 800 comments were received. An additional 230 comments were received in conjunction with the December 14, 1998, public meeting. Most of the comments focused on a limited number of major issues. These issues and DOE's responses as well as other related comments, are found in Chapter 3 of this volume and are summarized below.

By far, a majority of comments supported the completion and operation of the Bellefonte Nuclear Plant for tritium production because it would promote economic development in a depressed area and provide other, similar benefits. Other commentors generally opposed the completion of the Bellefonte plant as a nuclear power plant, particularly for tritium production. In response to these comments, DOE acknowledged there is both public support and opposition for the Bellefonte alternative. The CLWR EIS addresses all of the benefits cited by the commentors who favored the Bellefonte alternative, as well as the concerns expressed by opponents. DOE's responses to these and other related comments are found in Chapter 3, under Category 7: General Support/Opposition.

The cost-effectiveness of the CLWR and the Accelerator Production of Tritium (APT) alternatives was another frequent theme among many commentors. Most asked for cost-related information and/or expressed the opinion that cost should be the major determining factor in a tritium production decision. In addition, some commentors questioned the accuracy of the cost information that DOE provided at the public hearings and the December 14, 1998, public meeting, and many believed there was little possibility that TVA could complete the Bellefonte plant for the cost estimates cited. Other commentors stated they felt the large expenditures required for CLWR tritium production would be better spent on other, more urgent social needs such as education and environmental restoration. Some commentors were concerned about possible costs to TVA ratepayers resulting from tritium production.

In response to the cost-related comments, DOE stated that the CLWR EIS was prepared in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality's regulations on implementing NEPA (40 CFR 1500 through 1508), and DOE's NEPA regulations (10 CFR 1021). None of these regulations require the inclusion of a cost analysis in an EIS. As discussed in Volume 1, Section 3.2.1, the basic objective of the CLWR EIS is to provide the public and DOE decisionmakers with a description of the reasonable alternatives for CLWR tritium production and information about their potential impacts on public health and safety and the environment. While cost could be an important factor in the ultimate Record of Decision, the purpose of this and other EISs is to address the environmental consequences of the proposed action. However, DOE distributed cost information comparing the CLWR and APT alternatives (DOE 1998c) at the public hearings in October 1998, and this information is available upon request. In response to comments concerning the accuracy of TVA's cost estimates for completing the Bellefonte plant, DOE considers TVA's cost estimates to be both accurate and conservative, given that the plant is nearly complete and TVA's cost estimates were evaluated by an external reviewer. In response to comments that CLWR funds would be better spent on other, more urgent social needs, DOE noted that Congress determines how funds are allocated, and DOE does not determine Federal spending priorities. Furthermore, such spending priorities are beyond the scope of this EIS. In response to the concerns of TVA ratepayers about potential costs resulting from tritium production, DOE responded that no additional costs to ratepayers are expected. DOE's responses to the cost-related public comments are found in Chapter 3, under Category 23: Cost Issues.

Many commentors questioned the need for nuclear weapons and/or the present need for tritium. Other commentors expressed a belief that the amount of tritium needed to support current and future nuclear weapons stockpiles is less than the amount stated in the CLWR EIS. In response, DOE cited its responsibilities for maintaining the nation's nuclear weapons stockpile under the Atomic Energy Act of 1954 and the requirements of the 1996 Nuclear Weapons Stockpile Plan and accompanying Presidential Decision Directive, which established the size and composition of the nation's nuclear weapons stockpile and the need for a new tritium production source by approximately 2005. DOE stated that sufficient quantities of tritium can be obtained no longer from weapons being retired from the existing stockpile, as cited in the most recent Presidential Decision Directive. DOE's responses to comments concerning the need for tritium are found in Chapter 3, under Category 2: Purpose and Need for Tritium.

Several commentors expressed concern that tritium production in a commercial reactor would violate U.S. policy regarding the separation of commercial and military uses of nuclear energy, would hinder nonproliferation efforts, and would encourage other nations to use their own commercial facilities for nuclear weapons purposes. In response to these concerns, DOE cited the conclusions of a high-level study entitled *Interagency Review of the Nonproliferation Implications of Alternative Tritium Production Technologies Under Consideration by the Department of Energy, A Report to the Congress* (DOE 1998b). This interagency review concluded that any nonproliferation issues associated with the production of tritium in a CLWR were manageable and that DOE should continue to pursue the CLWR option, as stated in Volume 1, Chapter 1, Section 1.3.5. DOE also stated that there is no U.S. policy, law, or treaty that prohibits the production of tritium that ultimately will be used in weapons in a commercial reactor. In addition, DOE stated that the United States is a declared weapons state, and the purpose of nonproliferation efforts is to keep nonweapons states from acquiring nuclear weapons while the declared weapons states work toward total disarmament. DOE noted that other nations already operate dual-purpose reactors that serve both civilian and military needs. DOE's responses to comments on nonproliferation, the separation of civilian and military nuclear facilities, and other policy issues are found in Chapter 3, under Category 1: Policy Issues.

Many commentors were concerned about public and occupational health and safety issues. Some specifically questioned TVA's past history and practices related to plant safety. In response to these concerns, DOE stated that the environmental impacts and potential radiological doses to both workers and the public resulting from tritium production would be well below the limits considered acceptable by Federal and state regulatory authorities. Public and occupational health and safety issues are discussed in Volume 1, Chapter 5, of the CLWR EIS. DOE also stated that prior to irradiation of any TPBARs, a U.S. Nuclear Regulatory Commission (NRC) safety evaluation would be required to amend the operating license of the reactors for tritium production. This review specifically would look at all potential health and safety issues. DOE's responses to public and occupational health and safety comments are found in Chapter 3, under Category 14: Occupational and Public Health and Safety - Normal Conditions.

Several commentors stated that DOE has a history of polluting and contaminating every site they have operated and wanted to know why the proposed action would be any different. In response, DOE acknowledged having a number of older facilities in need of environmental cleanup, and an aggressive cleanup program is underway to upgrade these facilities and ensure their continued compliance with Federal and state regulations. All of the CLWR tritium production alternatives involve the use of state-of-the-art TVA reactors. These reactors have excellent environmental compliance records and exemplary environmental, health, and safety programs to ensure their continued compliance with Federal and state regulations. In addition, DOE expressed confidence that tritium production in a CLWR would be safe and is technically straightforward. To commentors who expressed concern that CLWR tritium production expenditures would drain DOE's budget for its facility cleanup activities, DOE responded that the funding for both of these programs would come from separate Congressional appropriations. Funding for CLWR tritium production would not be obtained from funding already allocated for facility cleanup activities. DOE's responses to comments about past DOE

practices and conflicts between DOE's cleanup activities and tritium production are found in Chapter 3, under Category 8: Past DOE Practices.

Some commentors suggested that the CLWR EIS was deficient and inadequate as a NEPA document. In response, DOE stated that it believes that the EIS is adequate and fully complies with NEPA. The EIS evaluates all reasonably foreseeable environmental impacts for all reasonable alternatives, in accordance with the Council on Environmental Quality's regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. DOE's responses to NEPA-related comments are found in Chapter 3, under Category 5: NEPA Process.

Other commentors stated that the relationship between the CLWR, APT (DOE 1999a,) and Tritium Extraction Facility (DOE 1999b) EISs was not clearly explained in the CLWR Draft EIS. In response, DOE added a Preface to the CLWR Final EIS to better describe the relationship between the CLWR EIS, the APT EIS (DOE 1999a), and the Tritium Extraction Facility EIS (DOE 1999b) . This Preface also addresses Energy Secretary Richardson's December 22, 1998, announcement that the CLWR would be the primary tritium supply technology (DOE 1998d). DOE's responses to comments concerning the relationship between the CLWR, APT, and Tritium Extraction Facility EISs is found in Chapter 3, under Category 5: NEPA Process (comment summary-response code 05.01).

Several commentors were concerned about the additional spent nuclear fuel that would be generated by tritium production. DOE responded that additional spent nuclear fuel would be generated if more than 2,000 TPBARs were irradiated in a single reactor, as stated in Volume 1, Section 3.2.1, of the CLWR Final EIS. DOE also stated that the CLWR EIS evaluates the environmental impacts of additional spent fuel generation resulting from a maximum number of 3,400 TPBARs. DOE stated that it would manage the tritium production process to minimize, to the extent practicable, the generation of additional spent nuclear fuel. In the event a suitable repository is not available, as required by law, the additional spent nuclear fuel generated as a result of tritium production would be stored on site in a dry cask independent spent fuel storage installation. DOE's responses to spent nuclear fuel comments are found in Chapter 3, under Category 17: Spent Fuel Management.

Several commentors suggested that the production of tritium in a CLWR would make TVA reactors an attractive target for terrorists and that DOE should address the consequences of such an attack in the EIS. In response, DOE stated that, prior to loading TPBARs in TVA's Watts Bar reactor as part of the Lead Test Assembly Program, a thorough security review was conducted. This review found existing security provisions to be adequate to protect against such a threat. Prior to utilizing Watts Bar or other TVA reactors for tritium production, additional DOE and NRC reviews would be required to ensure adequate safeguard and security. DOE's responses to these and other security-related comments are found in Chapter 3, under Category 22: Safeguards and Security.

1.6 CHANGES FROM THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

In response to comments on the CLWR Draft EIS and as a result of information that was unavailable at the time of the issuance of the Draft, Volume 1 of the CLWR Final EIS contains revisions and new information. These revisions and new information are indicated by a double underline for minor word changes or by a sidebar in the margin for sentence or larger changes. A brief discussion of the most important changes is provided in the following paragraphs.

TPBAR Failures

In analyzing the potential releases of tritium to the environment from the proposed action, the CLWR Draft EIS assumed that two of the TPBARs under irradiation would fail and the entire inventory of tritium would be available to be released to the environment under normal operating conditions. The same two-TPBAR

failure assumption was made in the analysis of transportation accidents. The assumption was based on the failure statistics of standard burnable absorber rods, i.e., two failures out of 29,700 rods through July 1980. Since the issuance of the CLWR Draft EIS, additional information obtained from Westinghouse revealed that both failures were attributed to early manufacturing defects that have been corrected. The failures were attributed to slumping of the absorber material--a condition that cannot occur in the TPBARs. Since the two early failures, more than 500,000 Westinghouse burnable absorber rods have been used without a single observed failure. Consequently, the CLWR Final EIS still analyzes the impacts to the health and safety of the public from the potential failure of two TPBARs, but characterizes the event of such a failure as an abnormal event during an irradiation cycle, rather than a continuous, normal-operation occurrence. This change in assumptions results in changes in the potential tritium releases and estimated doses to the public under normal reactor operation and some accident conditions (i.e., the nonreactor design-basis accident) for all reactor alternatives.

The Secretary's Technology Announcement

The CLWR Draft EIS was issued in August 1998. At the time, the decision on the primary and backup technologies to be used for tritium production had not been made. On December 22, 1998, Energy Secretary Bill Richardson announced that the CLWR would be DOE's primary option for tritium production and the proposed linear accelerator at the Savannah River Site would be the backup option (DOE 1998d). In addition, the Secretary designated TVA's Watts Bar and Sequoyah Nuclear Plants as the preferred CLWR facilities. The CLWR Final EIS was revised to reflect the Secretary's announcement decision and include the Preferred Alternative. Changes were made primarily in the introductory sections of the CLWR Final EIS for accuracy. The evaluation of the impacts was not affected.

Clarification of TVA Proposals

In response to public comments about the status of the TVA proposals to provide irradiation services or the sale of a CLWR, Volume 1, Section 1.1.4, of the CLWR EIS was revised. The discussion of the procurement process clarifies that DOE is considering only the purchase of irradiation services, not the purchase of a reactor. Additionally, the section clarifies that TVA submitted several proposals to DOE during the ongoing negotiations. An earlier TVA proposal for the use of Watts Bar expired. However, in December 1998, TVA submitted another offer to DOE to provide irradiation services at Watts Bar and Sequoyah, as well as additional proposals for Bellefonte. TVA's offer to provide irradiation services at one or more of the three proposed sites is still viable.

Nonproliferation Policy Issues

In response to public comments requesting DOE to provide examples of the commingling of civilian nuclear programs with military nuclear programs, Volume 1, Section 1.3.5, of the CLWR EIS was revised. The discussion of nonproliferation now includes an explanation and some background information on the issue, as well as examples of the commingling of civilian and military uses of nuclear power.

Water Quality Analysis

In response to public comments expressing concern about impacts to public water withdrawals downstream of the Bellefonte Nuclear Plant, sections of Chapters 4 and 5 in Volume 1 were revised. The discussions of surface water use for Bellefonte (Volume 1, Section 4.2.3.4) identifies nearby intakes downstream. The discussions of potential impacts to surface water near the three reactor sites (Volume 1, Sections 5.2.1.4, 5.2.2.4, and 5.2.3.4) include the tritium concentration at various locations downstream. In addition, Volume 1, Section 5.2.3.4 was revised to include potential chemical concentrations downstream of Bellefonte.

Accident Analysis

During the preparation of the CLWR Final EIS, data related to the design and fabrication of the TPBARs indicated that the release of tritium from an accidental breach of a TPBAR more likely would be time-dependent than instantaneous and finite, as was assumed in the Draft EIS (PNNL 1999). Consequently, the analyses for the TPBAR handling accident and the transportation cask handling accident at the reactor site (Volume 1, Appendix D) and the transportation cask accident en route (Volume 1, Appendix E) were revised to reflect the more recent data.

Environmental Justice

Figures in Volume 1, Appendix G were revised to improve their quality. New figures were added to show the location of minority and low-income populations within a 16.1-kilometer (10-mile) radius. In addition, a representative average individual dose at 40.2 kilometers (25 miles) to each of the 16 principal directions has been overlaid onto the 80.5-kilometer (50-mile) radius to show the potential dose to minority and low-income populations.

Tritium Requirements and Supply

In response to public comments expressing concern about the disparity between the amount of tritium needed and the amount that could be supplied by one CLWR, Volume 1, Section 3.2.1 was revised. The discussion explains that the exact amount of tritium needed is classified information, however, for the purposes of analysis, it is not expected to exceed 3 kilograms per year (6.6 pounds per year). It further clarifies that one reactor with 3,400 TPBARs would be expected to satisfy a steady-state tritium requirement in most years.

Comparison of the APT and CLWR Alternatives

In response to public comments requesting additional information about the No Action Alternative, Volume 1, Section 3.2.6 was expanded to include a table comparing the impacts of producing tritium under the accelerator and CLWR options. A document comparing the costs of the technology options is available upon request from DOE (DOE 1998c).

Source of Uranium-235 for Tritium Production

In response to public comments concerning the source of blended-down uranium-235 that could be used as nuclear fuel for tritium production, Volume 1, chapter 5, Section 5.2.7 was revised for clarification. A discussion of the environmental impacts resulting from blending-down activities of highly enriched uranium was also added.

Mitigation Measures

The CLWR Draft EIS discusses the need for mitigation measures, if such need were warranted, right after the presentation of the impacts for each environmental resource,. A new Volume 1, Section 5.5 was added to the CLWR Final EIS to summarize these discussions.

Sensitivity Analysis

An additional variation from the baseline analysis has been included in Volume 1, Section 5.2.9 of the CLWR EIS, i.e., the possibility of producing tritium at some date later than 2005.

Miscellaneous Revisions and Editorial Changes

Several sections in the CLWR Final EIS were revised to reflect the availability of more recent data, or to include corrections to erroneous information, improvements in the presentation, and other editorial changes. None of these revisions affect the environmental impact assessment of the EIS. The sections with these types of revisions are:

3.2.3	Reasonable Alternatives
4.2.1.1	Affected Environment, Land Resources, Watts Bar
4.2.1.3	Affected Environment, Air Quality, Watts Bar
4.2.1.8	Affected Environment, Socioeconomics, Watts Bar
4.2.2.1	Affected Environment, Land Resources, Sequoyah
4.2.2.3	Affected Environment, Air Quality, Sequoyah
4.2.2.4	Affected Environment, Water Resources, Sequoyah
4.2.2.6	Affected Environment, Ecological Resources, Sequoyah
4.2.2.8	Affected Environment, Socioeconomics, Sequoyah
4.2.3.3	Affected Environment, Air Quality, Bellefonte
4.2.3.4	Affected Environment, Water Resources, Bellefonte
4.2.3.6	Affected Environment, Ecological Resources, Bellefonte
5.2.1.8	Environmental Consequences, Socioeconomics, Watts Bar
5.2.3.6	Environmental Consequences, Ecological Resources, Bellefonte
5.2.3.8	Environmental Consequences, Socioeconomics, Bellefonte
5.2.3.9	Environmental Consequences, Public and Occupational Health and Safety, Chemical Hazards, Bellefonte
	Environmental Consequences, Public and Occupational Health and Safety, Energizing Transmission Lines, Bellefonte
5.2.7	Fabrication of TPBARs
5.3	Cumulative Impacts
6.2.2	Environmental Protection Permits
6.3.1	Environmental Protection, Endangered Species Act
	Environmental Protection, National Historic Preservation Act
6.3.3	Worker Safety and Health
6.4	DOE Regulations and Orders
6.5.2.1	NRC Performance, Civil Penalties-Watts Bar 1
6.5.3.1	NRC Performance, NRC Notices of Violation and Enforcement Action, Sequoyah
Chapter 7	References
A.3.2	Physical Description of the TPBAR
Appendix B	Methods for Assessing Environmental Impacts
C.3.4	Radiological Releases to the Environment and Associated Impacts
D.1.1.10	Beyond Design-Basis Accident
G.5	Environmental Justice Analysis, Results for the Sites

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Crase, Kenneth W. Aiken, SC	2-18	31-1	14.08	3-54
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2. COMMENT DOCUMENTS

This chapter is a compilation of all the comments that the Department of Energy (DOE) received during the public comment period on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor*. Comments received concerning the December 14, 1998, public meeting are also presented in this chapter.

All comments received during the public comment period are presented in this chapter in the order in which they were received and processed. Scanned images of documents received via U.S. mail, fax, e-mail, voice mail, or handed in at public hearings are presented first. These documents are followed by summaries of the comments made at the three public hearings and the public meeting. Numbers were assigned to each document and speaker, and these numbers are keyed to Table 1–5, the Index of Commentors.

The commentors are presented in this chapter in numerical order. Commentor numbers are listed at the top of each scanned image beside the name of the commentor and before the commentor's name in the public hearings/meeting comment summaries in the latter half of this chapter. Commentors who submitted comments during the public comment period are numbered 1-147. Commentors who submitted comments concerning the December 14, 1998, public meeting are numbered 200-255. Commentors who spoke at the public hearings are numbered 500-507 (October 1, 1998, North Augusta, South Carolina); 600-629 (October 6, 1998, Rainsville, Alabama); and 700-720 (October 8, 1998, Evensville, Tennessee). Commentors who spoke at the December 14, 1998, public meeting in Evensville, Tennessee are numbered 800-835.

The comments made by each commentor are identified by number and comment summary-response code in the right margin of each document and under the commentor's name in the public hearings/meeting comment summaries. The first number represents the comment number followed by a slash, and the other numbers represent the comment summary-response code. These codes can be used in Chapter 3 to locate the comment summary and response to each comment. Section 1.3 of this volume further describes the organization of this Comment Response Document and discusses the tables provided in Chapter 1 to assist the reader.

Commentor No. 1: Hank Tiller

THE SUPERIOR SALES FORCE
"Where only the best is good enough."
Allstate Insurance Company
Hank Tiller, Agency Manager
4810B Hixson Pike • Hixson, TN 37343
(423)877-6491

Allstate
You're in good hands.

TO: U.S. Department of Energy

FROM: Hank Tiller

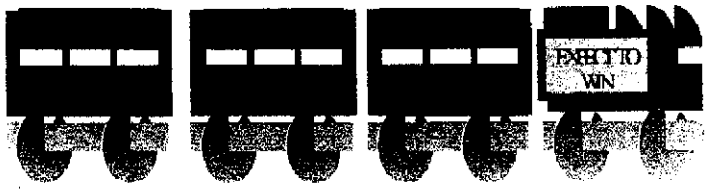
COMMENTS:
Let's take this project to an accelerator in South Carolina. Tennessee doesn't need to produce tritium. [signature] 1/04.01

DATE: 8/20/98

NUMBER OF PAGES (Including this cover sheet) 1

IF THERE IS ANY DIFFICULTY WITH THIS TRANSMISSION, PLEASE CALL US AT:
OFFICE PHONE - (423) 877-6491
FAX NUMBER - (423) 877-7140

THE CHATTANOOGA LINE



HERE COMES THE SUPERIOR SALES FORCE

Commentor No. 2: Leah R. Karpen

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: 1. It goes against national policy to produce materials for weapons at a commercial reactor. 1/01.09

2. At a time when the U.S. should be reducing its nuclear stockpile, it is appalling to me that the Department of Energy is even considering manufacturing tritium. 2/02.01

3. The money that is being spent, and has already been spent, on this project could better be spent on housing and social needs. 3/23.13

4. I am completely opposed to the project at ANY site. 4/01.01

5. Why is the Government not listening to the people? 5/05.21

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (Mrs.) Leah R. Karpen [signature] (optional)
Organization: Women's International League for Peace and Freedom
Address: 400 Charlotte Street #803
City: Asheville State: NC Zip Code: 28801-1452
Work phone: ----- Home phone: 828-254-5489
Fax: 828-254-5489
E-Mail Address:

7/4/98

Commentor No. 3: R. P. Borsody

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: IN THE PAST DELIVERY SYSTEMS REQUIRED THE LIGHTEST POSSIBLE WARHEADS, ESPECIALLY WITH THE USE OF MULTIPLE WARHEAD PLATFORMS.
CURRENT TREATIES AND THOSE UNDER CONSIDERATION WILL LIMIT WARHEADS TO 1 PER MISSILE SO TOTAL THROW-WEIGHT CAN BE CALCULATED BY OTHER NATIONS.
IN SO MUCH AS OUR LAUNCH SYSTEMS CAN HANDLE THE INCREASED WEIGHT, BOOSTING USING TRITIUM IS NO LONGER NEEDED. THE REMOVAL OF WARHEADS AS THEY ARE DECOMMISSIONED WILL FREE UP A LOT OF LONG-LIVED RADIOACTIVES WHOSE USE IS ONLY GOOD IF PUT BACK INTO WARHEADS. *1/01.03*

IT IS FOR THESE FACTS THAT I PROTEST THE USE OF TRITIUM AND THE SPENDING OF FUNDS TO CREATE MORE OF IT. SIZE OF WARHEADS YIELDS CAN BE BEST SERVED BY USING LONG-LIVED RADIOACTIVES INSTEAD OF TRITIUM BOOSTING. *2/23.13*

THANK YOU FOR ALLOWING ME TO COMMENT ON THIS SUBJECT. I WAS INVOLVED WITH NUCLEAR WEAPONS FOR A SHORT WHILE WITH THE USAF AND HOPE TO ONE DAY SEE THEM REMOVED FROM A 1st STRIKE CAPACITY. *1(cont'd)*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: R. P. BORSODY (optional)
Organization: S.R.A.C.E. - P.S.I.
Address: PO BOX 1636
City: DACULA State: GA Zip Code: 30019
Work phone: Home phone: 770 277-6862
Fax:
E-Mail Address:

7/4/98

Commentor No. 4: W. Lee Poe, Jr.

807 E. Rollingwood Rd.
Aiken, S. C. 29801
August 28.1998

Mr. Jay Rose FAX 1-800-631-0612
Office of Defense Programs
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D. C. 20585

Attn: CLWR EIS

Dear Mr. Rose:

Re: Preliminary Information on CLWR EIS in Preparation for Public Meeting

I would like to thank you for scheduling a public meeting on this EIS in North Augusta, S.C.. I look forward to attending the meeting on October 1, 1998. When I received the draft EIS earlier this week, I immediately read it with great interest. I found several areas so far in the D-EIS that I wish you would supply me additional information on before the October 1 meeting. It would make your intended meeting more valuable to me. The areas of information are described below.

1) In the Summary volume, you indicated that there was an EIS prepared to evaluate the conversion of Bellefonte to fossil fuel. Please send me a copy of the EIS (title apparently is "Final Environmental Impact Statement for the Bellefonte Conversion Project") and a copy of the ROD associated with this EIS. *1/05.22*

2) I would also like you to send me information on the lead test assembly program. In particular I would like information on:
   - What was done in the PNNL tests to show that the tritium targets are satisfactory targets and they do not leak tritium during irradiation and the tritium can be quantitatively recovered and a copy of those results. *2/19.02*
   - Information on the structural design to keep the TPBARs stable in the reactor. (The figures shown in the CLWR EIS make this target design look as if it is a cantileverd-top-attached target. This makes me conclude it is subjected to damage during irradiation from water flow vibration.) *3/19.03*
   - Information on the benefit DOE or TVA have obtained and expects to obtain from the Watts Bar irradiation. (For example, has the Watts Bar effluents increased in tritium releases since the TPBAR irradiation was started?) From the *4/05.10*

Commentor No. 4: W. Lee Poe, Jr. (Cont'd)

information contained in Section S.1.6.1.2, irradiation tests started in September 1997 and with an 18 month irradiation cycle should be discharged in March 1999. This discharge is after the scheduled time for the Secretary of Energy decision that I read so much about in the local newspaper that affect the APT and the CLWR EISs and the Tritium Extraction EIS. What I hear quoted is a decision in December 1998. *4 (cont'd)*

3) DOE has linked the tritium production EISs together. This action is made obvious in that the CLWR EIS has as its no action alternative the APT production and the FEIS on the APT seems to show the No Action to be production in the CLWR. No where have I seen a real no action alternative. (The draft APT EIS had a sort of No Action Alternative but it was removed in the final EIS.) Coupling this to what I read about the Secretaries decision coupling these two EISs and the Tritium Extraction EIS makes the public wonder about NEPA linking. Please provide me information on why this approach has been made by DOE. *5/05.01* *6/05.02* *5 (cont'd)*

4) Section S.1.5.4 describes nonproliferation considerations. In my hurried review of the body of the EIS, I was unable to find more information. Please provide me with Congressional or Presidential positions on this subject at the time AEC regulatory authority was given to the NRC and the rest of military support mission was given to ERDA and then DOE. It seemed to me this was the time that the decision to separate commercial power from weapon production was made. Also provide me with information on the decision to produce power in the dual purpose N-Reactor. (It seems quite a different thing to produce electric power in a government reactor that has a primary mission to produce weapon material than producing tritium (a weapon material) in a commercial reactor.) That latter point seems to be DOE's justification in the referenced section. Also please provide me whatever recent nonproliferation studies that relate to this point. Is it logical to initiate use of commercial reactors to produce weapon materials now that DOE doesn't have that capability within the Department? *7/01.08* *8/01.09*

5) I hope that DOE will have tables at the public meetings that compare the impacts of producing tritium in CLWR and the APT. It seems to me that is one of the major comparative assists in the NEPA decision on this EIS and on the APT EIS. *9/04.03*

6) The one thing that has made the local press lately is the CLWR and APT costs. Seems to be a large argument on the subject. Please provide me some early information that will help me understand the issue. Also please send me both cost analyses on the same basis. If they are not on the same bases, please identify for me the differences and DOE's estimate of how those differences play into the cost judgments. *10/23.15*

Sincerely

W. Lee Poe

W. Lee Poe, Jr.

Commentor No. 5: G.J. Billmeier, Jr., M.D.

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: THE DOE CLAIMED IN 1988 THAT NATIONAL SECURITY WOULD BE JEOPARDIZED IF TRITIUM PRODUCTION DID NOT RESUME SWIFTLY, (HOWEVER NO CRISIS HAS RESULTED). THE CURRENT CLAIM BY DOE TO RESUME TRITIUM PRODUCTION AT AS MANY AS 5 REACTOR SITES WOULD LIKELY COST TENS OF BILLIONS OF DOLLARS TO SUPPLY OUR CURRENT ARSENAL OF SOME 23,000 WARHEADS.
THE CONGRESSIONAL RECORD OF JUNE 17, 1992 (VOL. 138 NO. 87) STATES IN PART "THE TIME HAS COME WHEN WE ARE SHIFTING RESOLUTELY AWAY FROM A HALF-CENTURY OF BALANCING DEPENDENCY ON NUCLEAR WEAPONS — OUR OBJECTIVE SHOULD BE TO CURTAIL NUCLEAR WEAPONS' FUNCTION IN MILITARY DOCTRINE, TO HOLD OPEN RATHER THAN SEAL OFF OPTIONS FOR FURTHER REDUCTIONS IN NUMBERS OF NUCLEAR WEAPONS — TO SHARPLY CUT BACK ON TESTING TO A LEVEL ABSOLUTELY CONSISTENT WITH NO MORE THAN THE MINIMUM REQUIRED FOR SAFETY & RELIABILITY, AND TO FORMALLY SUSPEND PRODUCTION OF BOMB-GRADE FISSIONABLE MATERIALS UNDER AGREEMENT AN INTERNATIONAL AGREEMENT." (U.S. SENATE COMMITTEE ON ARMED SERVICES) *1/02.01*
WE NEED TO BAN PRODUCTION OF ALL BOMB MATERIALS INCLUDING TRITIUM. ANY CONTINUATION OF SUCH PRODUCTION CARRIES HIGH RISK POTENTIAL FOR BOTH ENVIRONMENTAL HAZARD & NUCLEAR WAR. *2/01.01*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: G.J. BILLMEIER, JR. M.D. (optional)
* Organization: PHYSICIANS FOR SOCIAL RESPONSIBILITY
Address: 6248 POPLAR AVE.
City: MEMPHIS State: TN Zip Code: 38119
Work phone: 901-761-1880 Home phone:
Fax: 901-682-2048
E-Mail Address:
* AMERICAN ACADEMY OF PEDIATRICS
* INTERNATIONAL PHYSICIANS FOR THE PREVENTION OF NUCLEAR WAR

Commentor No. 6: Clark Coan

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments:

The No Action Alternative is clearly the preferred alternative for the following reasons:

(1) The probability of new arms control agreements providing for substantial cuts in the number of nuclear weapons deployed is high. The Abolition 2000 movement, which calls for a Nuclear Weapons Convention phasing out nuclear weapons, is gaining momentum, particularly after the testing by India and Pakistan. Furthermore, the near-launch of nuclear weapons in January, 1995 by the Russians is giving impetus to de-alerting the strategic forces (removing warheads from delivery vehicles to prevent accidental launches). Thus, the need for tritium (assuming continued recycling of the gas from decommissioned warheads) will decline rapidly in the next few years negating the need for new production. 1/02.01

(2) The Savannah River Reservation is already severely contaminated with radioactive materials and has to be considered a national sacrifice zone along with Hanford in Washington State. If the National Security Council and the DOE decide to proceed with new tritium production, there is no reason to sacrifice another region of the nation. The human populations and biosphere near Savannah River have already been negatively impacted. There is no valid reason to subject the people and ecosystems of Eastern Tennessee and Northern Alabama to additional exposure to radioactivity. 2/04.01

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

OVER

Name: MR CLARK COAN (optional)
Organization: THE SOUTHWIND GROUP
Address: PO BOX 44-2043
City: LAWRENCE KS 66044
Work phone:
Fax:
E-Mail Address:

AUG 24 '98

7/4/98

3) The barrier between civilian commercial nuclear power and production for military needs should not be breached. If it is, civilian reactors become targets for attack by terrorists and foreign powers. 3/01.09 4/22.01

Commentor No. 7: Nathan Coggins

Nathan & Kathey Coggins Family
255 Taylor Bridge Rd
Jonesborough, TN 37659

7/29/98

U.S. DOE
Commercial Light Water Reactor Project
Attn: Steven Sohinki
POB 44539
Washington, DC 20026-4539

RE: Response to mailing 7/15/98

Gentlemen:

I am sorry I was unaware of the comment period which I could have overlooked. I imagine a response at this time would be to no avail. As a response at anytime from a non influential taxpayer such as our family, is in my opinion to no avail.

For what it is worth, DOE & TVA should not mix power generating with weapons production. Plus how many times will we need to destroy the world. Is not the old technology that used Plutonium and Uranium to destroy Nagasaki and Hiroshima sufficient to destroy our next target? Is the tritium use only job security as it only last a short while? 1/01.09 2/01.01

This stuff is way over my head but I personally detest the waste that goes on at both agencies. When I see my small savings account depleted for taxes. Then hear stories of Westinghouse soaking the govt for 4 billion over 4 yrs to start a reactor at Savannah River and 100 million for a cooling tower that was used for only three months. Plus hiring soviet Nuclear Engineers to keep them from going to work for some other country.

All these efforts to show strength to would be attackers from foreign countries may be a waste of time if the unrest within the U.S. is overlooked. The projected cost of 384m will be exceeded by who knows how much. 3/23.13

We work hard, try to live right and be honest enough to pay for our fair share of being a US citizen and it hurts deeply when we see all the waste and injustices that takes place. I ask you to please become a productive member of our society and stop fleecing the taxpayers. When you are lobbying to spend these millions, billions. Please think of our family who shops at yard sales for clothing for our kids and raises a garden and cans food for winter. Not because we necessarily have to but because it is being a good steward of the money that has

Commentor No. 7: Nathan Coggins (Cont'd)

been entrusted to us by God. How much greater is your responsibility to be frugal with hard working taxpayers money. 3 (cont'd)

Sincerely,

Nathan Coggins

Commentor No. 8: Charles F. Evans

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I would like to see Bellefonte completed as a tritium plant. It would help us and the Gov. The light water reactor would supply power that we need. If you go with S.C. it would be all outsourced No help to this area. 1/07.01

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Charles F Evans (optional)
Organization: Bulldawgs Local 454 Chatt, TN
Address: 385 County Rd 231
City: Hollywood, AL State: AL Zip Code: 35752
Work phone: 423-756-6000 Home phone: 256-437-2403
Fax:
E-Mail Address: CHUCKEV@BELLSOUTH.NET

7/4/98

Commentor No. 9: Leah R. Karpen

Leah R. Karpen

400 Charlotte St #603
Asheville NC
28801

Phone: 828-254-5489
FAX: 828-254-5489
email:

Wednesday, August 12, 1998

Mr. Stephen M. Sohinki, Director
Office of Commercial Light Water
Reactor Production
P.O. Box 44539
Washington, DC 20026-4539

Der Mr. Sohinki:

Production of Tritium

When I received your letter of July 15, 1998, I was appalled to learn that plans are proceeding for producing tritium. Further, to produce it in commercial light water reactors goes against national policy, which separates military production from commercial. *1/01.09*

There has been no castablished need for tritium. The United States should be reducing its nuclear stockpiles rather than adding to or replenishing them. *2/02.01*

Therefore, I oppose the project in totality.

Sincerely yours,

Leah R. Karpen

P.S. Please send me notice of meetings on the draft EIS.

Commentor No. 10: Rick Paschal

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I would first like to emphasize that I am longer do any pipe work and been in automobile galvanizing business for the past four years. Also I live only 5 miles (as the crow flies) from the Bellefonte plant. I just want you to understand that I still will probably not listen to the constitution tide of pipe fitting, welding, welding from being totally biased. I'm still partially biased because of the economic impact issues I do face in this area.

After reading the summary of the Draft Environmental Statement it would seem to me that Bellefonte 1 & 2 are the (ONLY) logical places to produce the tritium. I realize the big impact on the environment and the social impact that is good but the most reasonable thing I have seen from Bellefonte 1 & 2 can be finished in the construction stage to facilitate the conversion of a tritium producing plant which would make Bellefonte 1 & 2 the (ONLY) logical choice to make. *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: RICK PASCHAL (optional)
Organization: L.U. # 493
Address: 363 Co Rd 59
City: Lutts State: AL Zip Code: 35744
Work phone: 256 657-3143 Home phone: 256-657-3143
Fax: 256-657-5593
E-Mail Address: RPASCHAL@HIWAY.NET

7/4/98

Commentor No. 11: Sharon & Gerry Thomas, Jr.

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: My husband or myself is not for using Bellefonte for production of tritium. I had rather it be used for a natural gas facility. I don't want this in my backyard & please stay out of our drinking water. Natural gas facility is what we need. *1/07.06* *2/14.04* *1(cont'd)*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Sharon & Gerry L. Thomas, Jr. (optional)
Organization: ——
Address: 4488 CO. Rd. 81
City: Shell Rock State: Al. Zip Code: 35566
Work phone: _____ Home phone: (256) 632-2231
Fax: _____
E-Mail Address: _____

7/4/98

Commentor No. 12: Joyce Coffey

Comments Received via "800" Number

Date:	Aug 31, 1998 (7:08pm)
Name:	Joyce Coffey
Organization:	
Address:	624 "Chalsey" Road 141 Hollywood, AL 35752
Phone #:	(256) 437-8027
Fax #:	
Comment #:	

Comment:

I'm calling to make a statement against tritium at Bellefonte. I am a school teacher that teaches on the mountain above Hollywood and I live near Hollywood. Any, any, any chance of radioactivity being loose in the area is unacceptable--our jobs are not needed that badly. If we need jobs and need to use the plant which has sat idle for a number of years, the natural gas project would be the only acceptable way to go for the residents of this area. We were told when a paper-mill moved into the area that we would have no smog and no odor; however, in our beautiful valley, when there's fog, we have odor. We certainly do not need another plume to desecrate this beautiful valley. Thank you. *1/.07.03* *2/14.04* *3/07.06* *4/10.01*

Commentor No. 13: Suzanne Marshall

September 15, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
P.O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki,

I write in opposition to production of tritium in any TVA commercial light water reactor in the U.S. Your Draft Environmental Impact Statement on the Production of Tritium in a Commercial Light Water Reactor does not protect completely the health of the public or the environment from the effects of tritium, a radioactive form of water that can flow through the food chain, emit radiation into ecosystems, plants, animals and humans. It can then cause cancers, genetic mutations and problems in unborn babies. *There is no safe dose.* The only way to avoid the lethal effects of tritium and other nuclear wastes is to halt all production of these substances and their waste. AND since all of the DOE's former tritium production plants have had accidents resulting in leaks into the environment, there is no doubt that commercial reactors inherently unsuited for weapons production will leak and destroy the Tennessee River, the Tennessee Valley and our lives. *1/14.04* *2/15.03*

Tritium production is not needed. Tritium from old warheads can be recycled which will serve to maintain our arsenal until 2015. With continued arms negotiations, even less tritium will be needed in the future. Certainly, commercial reactors were not designed for any phase of weapons production. Producing tritium at commercial plants like at Bellefonte, AL or Watts Barr, TN would lead to increased safety and security issues that cannot be adequately addressed *3/02.01* *4/22.01*

I implore you to halt plans for tritium production in any TVA or any commercial reactor. It is not safe and it will violate the Atomic Energy Act, the intent of which was to keep commercial and nuclear power separate for reasons of non-proliferation, safety and security. *2(cont'd)* *5/01.09*

Sincerely,

Suzanne Marshall

Suzanne Marshall
700 8th Avenue NE
Jacksonville, Al 36265

256-782-0424

Commentor No. 14: Peter Gray

Peter L. Gray
P. O. Box 968
Aiken, S.C. 29801

October 16, 1998

"Production of Tritium in a Commercial Light Water Reactor"
draft DOE/EIS - 0288D

There are three reasons for not using a Commercial Light Water Reactor to make tritium.

Non-proliferation is the first reason. We should set an example for the world not to make weapons in civilian facilities. It is U.S. policy that separation of civil and military facilities be maintained.

We accept the concept of peace coming from war, but not the reverse. Using facilities originally developed for military missions later on for civilian purposes is acceptable. In this EIS, DOE cites four examples of this:

- "N-Reactor at Hanford" started life as a military facility to make plutonium and later make electricity. This is not comparable to converting a civilian LWR to make tritium.
- "The dual use nature of the U.S. enrichment program" It made U-235 for bombs. Later, it supplied civilian LWRs and research reactors.
- "The use of defense program plutonium production reactors to produce radio-isotopes for civilian purposes" Radio-isotopes are a boon to civil an life in the U.S.
- "The sale of tritium produced in defense reactors in the U.S. commercial market" Self-powered exit lights on aircraft to guide passengers in an emergency and other civilian uses come from these sales. *1/01.09*

All of these go in the "military-to-civilian" direction. Notice that DOE does not cite any example of going in the "civilian-to-military" direction.

All DOE does on the non-proliferation is use rather legalistic, hairsplitting language to say it's okay.

The bible says in Isaiah 2-4: "they shall beat their swords into plowshares."

Can you imagine telling North Korea to end their nuclear weapons program, giving them two CLWRs if they do so and then we make tritium in a U.S. CLWR? What about setting examples for Pakistan, India and other countries? We need to espouse actions on a high moral, ethical plane. We must not use legalistic loopholes to attempt to justify what we and DOE both know is wrong.

DOE must not use any U.S. Commercial Light Water Reactor for future tritium production, whether owned by a private company or by the TVA, whose whole history is one of civilian projects. Sure, the TVA sold electricity to the Oak Ridge Gaseous Diffusion Plant, but other vendors sold pipe, concrete, motors, instruments, etc. Doing so does not turn them into military facilities. The ownership of TVA by the U.S. government does not justify calling a TVA reactor a military installation, nor does the question of who bought its electricity.

Licensing Delays is the second reason. When the AEC was split up in the 1970s, production went to DOE. NRC got licensing and oversight of civilian facilities. One facet of the split was to not hamstring our military complex with licensing issues and delays. The civilian nuclear electric industry is rife with NRC delays. What makes the DOE think that the NRC will not delay any DOE defense programs assigned to a CLWR? *2/21.05*

Notice that these first two reasons for not using a CLWR apply only to a CLWR but not to the accelerator. It is not encumbered with either non-proliferation issues or licensing problems.

Commentor No. 14: Peter L. Gray (Cont'd)

The third reason to reject the CLWR, and DOE's other option, the accelerator, is discussed immediately below. It applies equally to both of these options.

Cost is the third reason. The CLWR might cost about $2 billion or more and the accelerator about $2.5 to 4.5 billion. If cost is to be the real discriminator, the DOE owns another, considerably less expensive tritium production concept. One that will cost about $600 million. Or less than 1/3 of either of the DOE's current choices.

DOE recently stated:

> "The department is committed to doing a comprehensive, unbiased analysis of the various options for tritium production. Then-Acting Secretary Moler insisted that the decision be made on its merits (underlines are mine)."

DOE is studying the CLWR and accelerator, but they own a third option and are ignoring it. It was invented in January 1992 but was covered up by the SRS prime contractor. It never received a review of its merits:

1. *Safety* The unit is passively safe. It eliminates or reduces significantly all Design Basis and Severe Accidents.
2. *Small* It would require about 20 acres compared to 500 for the accelerator.
3. *Proven* All parts of the design have been proven through many years of use in the nuclear field.
4. *Environmentally Friendly* It would use about 15 MW of electric input, not 600 with the accelerator, thus generating considerably fewer greenhouse gases.
5. *Lowest Cost* Four comparable designs have been costed. Extrapolation indicates about $600 million for this unit.
6. *Radiopharmaceutical Production* This unit can make all the radioisotopes the U.S. desires and now buys from Canada because we've never had that capacity within our borders.

3/04.02

Following an EIS-0161 meeting in April 1995, DOE committed in its EIS answers in October 1995 to consider this design. But they have not done so. In conversations with senior persons, I've learned that most do not even know of its existence. I've requested objective, technically-based, independent, non-biased reviews of it. The requests have been denied.

As a taxpayer, I object. I challenge the DOE to follow through on its 1995 commitment to this unit. It deserves a full review. It should be used for new tritium production in the U.S. Its cost is the lowest.

Final Non-Proliferation Comment Special Nuclear Material (SNM) includes highly-enriched uranium and plutonium but not tritium. Tritium is called "by-product" material. DOE rests part of its case on the basis of this definition to say using a CLWR is not contrary to non-proliferation policy. This is a very specious argument. All nuclear weapons in the U.S. arsenal need a fissile component (either uranium or plutonium). They also need a fusion component, tritium; that is why DOE is planning to make more. Semantic definitions cut no ice. Sure, tritium is not fissile, but it does undergo fusion. What, really, is the difference? Call tritium SNM. Stop playing word games.

1(cont'd)

Conclusion Non-proliferation issues, possible licensing delays and cost dictate against a CLWR. Low cost also dictates against the accelerator. Low cost certainly favors SRS and the 1992 design.

So, is it 2 billion for TVA, 2.5 billion for an accelerator or 600 million for this DOE-owned idea?

Use the SRS with nearly 45 years of tritium experience where we are ready to serve the nation again: capably, safely, efficiently, cost-effectively and in an environmentally sound manner.

3(cont'd)

Sincerely,

Peter Gray

Commentor No. 15: Betty Hasty

r and Editor 259-1020 Ext. 25 Sunday, August 30, 1998

The Daily Sentinel - Scottsboro Newspaper

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: ① I believe the completion of BLN for anything other than Nuclear power will be a gross waste of billions of already spent tax payer dollars. ② I prefer to leave tritium away from BLN but could accept it if needed. ③ John Robinson is a fine man and a good representative for Jackson Co. in all other respects but, I believe his wife's family history of personal responsibility toward TVA/BLN (nearly location of his home) regardless them as the district representative for or against TVA/ Bellefonte Nuclear Plant.

1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Betty S. Hasty (optional)
Organization: Ret. TVA/BLN Employee
Address: 1608 E. Ridge
City: Scottsboro State: AL Zip Code: 35768
Work phone: N/A Home phone: 256-574-7041
Fax:
E-Mail Address: See JOHN FRANK HURT etc. (Mrs Robinson's Relatives)

Commentor No. 16: Cameron G. Sherer

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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Comments: The Tritium Accelerator has several advantages over the production of tritium in a Commercial Light Water Reactor. Some of these advantages are no nuclear waste, no spent fuel rods to store and protect, safer process, provides isotopes for medical purposes, politically acceptable. 1/04.01

Please consider the Accelerator option over the CLWR. I appreciate the DOE in allowing public comment on this issue.

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Cameron G. Sherer (optional)
Organization: Westinghouse Savannah River Co.
Address: 4634A Hardy McManus Rd.
City: Evans State: Ga. Zip Code: 70809
Work phone: (803) 952-4954 Home phone: (706) 863-9489
Fax:
E-Mail Address:

7/4/98

Commentor No. 17: Anonymous

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I think the best thing to do with Bellefonte is to tear it down and spend no more money on that project. I personally don't want the production of tritium on that property. Believe me the ones that want it is just the money that contractors pay them under the table probably with your knowledge. My answer is no. I don't want my drinking water polluted with that kind of plant. You wanted input and I'm giving it. I will not give my name yet but I do live in the city limits of Scottsboro, Al. 1/07.03 2/14.04

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional)
Organization:
Address:
City: Scottsboro State: AL Zip Code: 35769
Work phone: Home phone:
Fax:
E-Mail Address:

Mail to:
U.S. Department of Energy, Commercial Light Water Reactor Project Office,
ATTN: Stephen Sohinki
P.O. Box 44539,
Washington, D.C., 20026-4539

Commentor No. 18: Elizabeth R. Brown

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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Comments: I don't want SRP to build an Accelerator at SRS. I'd be quite opposed to transporting TPBAR assemblies, being transported from CLWR sites to the SRS for tritium extraction and, and, esp to the radioactive waste that is associated with these, being transported for disposal at the SRS, or the Barnwell "dump" site. 1/04.01 2/08.01 3/18.08

Since the "clean-up" work (to repair improperly stored, and, taking nuclear materials) at the Savannah River Site facility doesn't seem to be accomplishing its goal, and despite cost over $4½ Billion, and, taxes to go, to complete, our State doesn't need any more nuclear/radioactive waste to be stored here. 2(cont'd)

As a lay person concerned with environmental factors — the health and safety of the population along the transport routes, but confident it falls, over the security of the Savannah River Site, past and present future operations. Not 2000 inspections only. Finally I don't want South Carolina to become FUS's or anyone else's "dump" or storage facility for nuclear and radioactive waste. The clean-up task would never be completed. (Thank you) 4/18.11 2(cont'd)

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Elizabeth R. Brown Pres. Chr. Legislative Committee (optional)
Organization: SCCCL, Charleston Branch
Address: 12 Fenton Ave.
City: Charleston State: SC Zip Code: 29407
Work phone: Home phone: 843-763-6544
Fax:
E-Mail Address:

9/7/98

7/4/98

Commentor No. 19: R. C. Dawson

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: Rather than continuing the maintenance of an expensive and probably illegal stockpile of weapons of mass destruction, STOP makin, future illegals, let the weapons below inoperative. 1/01.01

THAT WOULD HAVE A POSITIVE IMPACT ON THE ENVIRONMENT.

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: R. C. Dawson (optional)
Organization: R. C. Dawson, 1914 A Avon St, Los Angeles CA 90026-1832
Address:
City: State: Zip Code:
Work phone: Home phone:
Fax:
E-Mail Address:

7/4/98

Commentor No. 20: Joan O. King

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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Comments:

I have followed nuclear issues for a number of years and have a fairly extensive layman's knowledge of what is involved. I am very concerned at any move on the part of our government that violate lines set up by President Eisenhower at the end of World War II separating commercial and military nuclear programs. I am not convinced there is any pressing need for tritium. Future military needs can be handled within the military establishment. *1/01.09* *2/02.01*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: JOAN O KING (optional)
Organization: LWV - OTHERS
Address: 304 Manor Drive
City: Sautee State: GA Zip Code: 30571
Work phone: 706-878-3459 Home phone: same
Fax: same
E-Mail Address: joank@stc.net

7/4/98

Commentor No. 21: Mrs. W. H. Robinson

ner and Editor 259-1020 Ext. 25 Sunday, August 30, 1998

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: No to Tritium / No to tritium / *1/02.01*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Mrs W H Robinson (optional)
Organization: personal
Address: 1756 Skyline Dr.
City: Scottsboro State: AL Zip Code: 35768
Work phone: Home phone: 259-5342
Fax:
E-Mail Address:

Robinson
1756 Skyline Shores Drive
Scottsboro, AL 35769

Comment Documents

Commentor No. 22: C. S. Sanford

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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Comments: p. 25, par. 2 states that Watts Bar / radiation exposure within 50 miles is 0.55 person-rem/yr. How was this value derived? 1/14.07

p. 5-33, Watts Bar / - radioactive effluent is given as 14,850 curies per year. Is the surface water impacted by this effluent and if yes then why is not there a change to water quality conditions? 2/11.08

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: C. S. Sanford (optional)
Organization: S&B
Address: 1903 Primrose Ave
City: Nashville State: TN Zip Code: 37212
Work phone: Home phone: 615-383-8428
Fax:
E-Mail Address:

7/4/98

Commentor No. 23: Bob Schowalter

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I have reviewed the draft EIS and know a little bit about the proposal for TVA to use Bellefonte NP to produce tritium for DOE.

It seems to me that it is the logical way to go. Bellefonte is a govt facility with billions of dollars already invested. As I understand it it will cost DOE less to help pay for completing Bellefonte than the other alternative. Plus DOE will get a share of the power revenues. From an economic standpoint it seems to ~~like~~ be an obvious choice. 1/07.03

I know there are other considerations. The fuel rods would have to be transported to S.C. to remove the tritium, as I understand it, and this would involve some risk. I think they would have to be transported some where anyway for disposal, so I don't know how much additional risk is involved. I understand there are political considerations involving the use of a commercial reactor for making the tritium. So what! TVA is a creature of the federal govt. They have provided power for military purposes and to support atomic energy programs for more than 50 years. 2/18.01 3/07.02

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Bob Schowalter (optional)
Organization: TVA
Address: 11608 Midhurst Dr.
City: Knoxville State: TN Zip Code: 37922
Work phone: (423) 673-2287 Home phone: (423) 966-6016
Fax: 2210 (work)
E-Mail Address:

P.S. I was an HVAC design engineer on Bellefonte many years ago, and I think it's a shame to not use a valuable asset like Bellefonte.

7/4/98

Commentor No. 24: Denny R. Stiefel

COMMERCIAL LIGHT WATER REACTOR PROJECT

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I attended the meeting about Bellfonte in Huntsville at the Jemison Conference Center. I found very much like the Bellfonte nuclear plant to be completed. The people here want the plant here. We have the qualified people to complete the plant & we need the jobs. 1/07.03

Sincerely,
Denny R. Stiefel

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Denny R. Stiefel (optional)
Organization: Reliability Engr 1769 Lacotiwin 4448
Address: 1475 Co Rd 538
City: Hytop State: AL Zip Code: 35771
Work phone: 256-546-6791 Home phone: 256-623-6164
Fax:
E-Mail Address:

7/4/98

Commentor No. 25: Rhonda D. Wright, M.D.

Rhonda D. Wright, M. D.

3363 Narrow Lane Road
Montgomery, AL 36111-1507

Phone (334) 286-4894
e-mail rdwright@aol.com

September 06, 1998

Mr. Stephen Sohinki
U. S. Department of Energy
Commercial Light Water Reactor Project Office
P. O. Box 44539
Washington, D. C. 20026-4539

Dear Mr. Sohinki:

This letter is in opposition to the proposal to use the TVA's unfinished Bellefonte plant, or any other commercial nuclear reactor, for the production of tritium. I regard this as a dangerous and highly undesirable course of action for several reasons.

The first is the ability of tritium as an isotope of hydrogen to combine with oxygen and make a radioactive form of water, which can then become incorporated into all parts of the human body including DNA. In concert with the DOE's demonstrated inability to prevent tritium-releasing accidents at its other production facilities, there is a near-certainty that tritium production at the Bellefonte plant would result in radioactive contamination of the Tennessee River and in a seriously increased risk of cancer and birth defects to those whose drinking water is derived from this river. Such accidents are all the more likely to occur at a facility which was not designed for this purpose from the beginning. 1/15.02

The second reason is that production of tritium at a commercial nuclear plant will result in the production of much more nuclear waste -- three times more high-level waste than the plant would produce under normal operating conditions, by the DOE's own estimate, and at least 50% more low-level waste as well. Disposal of nuclear waste is already a serious problem, one which this proposal can only exacerbate. 2/17.02 3/16.05

The third reason is that production of tritium in a commercial facility violates the spirit, if not the letter, of the Atomic Energy Act and sets a bad precedent with regard to entanglement of civilian and military nuclear facilities. This action will make meaningless the opposition of the U.S. to the use of civilian plants for weapons production by such countries as Iraq, North Korea, India, and Egypt. 4/01.09

Sincerely,

Rhonda D. Wright, M.D.

Rhonda D. Wright, M.D.

Commentor No. 26: Nate Schwenk

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I understand that TVA has withdrawn Watts Bar and Sequoyah as suggested sites, leaving only Bellefonte. I believe this is the best option. I currently live just over 2 miles from Watts Bar, and feel quite safe and confident that the plant is being operated safely. I hope the professional say-sayers and anti-nukes are stopped. TVA's proposal could be satisfactory to them. This would be a great event for North Alabama and TVA - WIN-WIN. Sandy Rivers wife still have the extraction facility - and clean up from other projects.

1/06.03

2/09.01

3/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Nate Schwenk (optional)
Organization:
Address: 2701 Old Stage Rd
City: Spring City State: TN Zip Code: 37381
Work phone: 423 365 8198 Home phone: 423 365 2612
Fax:
E-Mail Address: schwenkn@volstate.net nlschwenk@tva.gov

7/4/98

Commentor No. 27: Jeffrey Belcher

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: Thank you for the opportunity to provide comments on this document. The effects on highway facilities from transportation of the Hazardous Material was adequately addressed. As a suggestion the document should include how a possible spill during transportation would be dealt with and also what would be the impacts to public health if a spill did occur on our highways.

1/18.09

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional)
Organization: Federal Highway Administration (FHWA)
Address: 249 Cumberland Bend Dr.
City: Nashville State: TN Zip Code: 37228
Work phone: (615) 736-7539 Home phone:
Fax: (615) 736-5467
E-Mail Address: jeffrey.belcher@fhwa.dot.gov

7/4/98

Commentor No. 28: Anonymous (1)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: Having attended the public meetings at Rainsville + Rhea County High school + listening to every comment I fully support the production of Tritium in a Commercial light water reactor. **1/07.02**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: _____ (optional)
Organization: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Work phone: _____ Home phone: _____
Fax: _____
E-Mail Address: _____

7/4/98

Commentor No. 29: John Tucker

Comments Received via "800" Number

Date:	9/23/98 (7:19pm)
Name:	John Tucker
Organization:	Athens Limestone Medical Associates in North Alabama
Address:	No address given
Phone #: **Fax #:**	No phone/fax number given
Comment #:	

Comment:

I am totally against your plan to start a tritium reactor at Bellefonte near Scottsboro, AL. I think you are going to poison the entire environment. I think you need to take your little project elsewhere. **1/10.03**

Thank you.

Commentor No. 30: Jim Sexton

Comments Received via "800" Number

Date:	9/23/98 (7:41pm)
Name:	Jim Sexton
Organization:	
Address:	11011 Kain Road 47 Florence, AL 35634
Phone #: **Fax #:**	256-757-5658
Comment #:	

Comment:

I am calling to make a comment on the idea of making this tritium at the Bellefonte site. I am totally against it for many reasons, one of which is the safety of people around the area and also because I do not believe in making weapons of war. I think tritium there would be a big mistake. *1/14.04* *2/01.01*

Commentor No. 31: Kenneth W. Crase

First Name Kenneth
MI W
Last Name Crase
Title Technical Advisor, Health Physics Technology
Organization Westinghouse Savannah River Company
Address Bldg. 707-48B
Savannah River Site

City Aiken
State or Province SC
Postal Code 29808-
Country
Email Address kenneth.crase@
Home Phone
Work Phone 803-952-7892
Work Extension
Fax Number
Date Updated 8/27/98 12:03:30 PM

Notes
I do not disagree with the assessments of impacts contained within the Draft EIS for the Production of Tritium in a Commercial Light Water Reactor, including those for radiation exposures to workers and the public However, I do believe there is at least one area where costs may not have been folded in to your assessment: The commercial reactor industry does not already possess the infrastructure and experience in dealing with the magnitude of tritium contamination and exposures. To achieve the low radiation exposure impact you have indicated in the draft EIS, additional resources and experience would have to be obtained to adequately handle the changes in the worker and environmental radiation protection programs. There may be other similar ancillary areas of cost impact not dealt with in the draft EIS. I recommend you fold these support costs into your evaluation of commercial reactor generation of tritium versus other means of production. *1/14.08*

Commentor No. 32: Alexis Zigler

First Name Alexis
MI
Last Name Zigler
Title
Organization

Address
3608 Clark Drive

City Sarasota
State or Province FL
Postal Code 34234-
Country USA
Email Address lexus51@juno.co

Home Phone 941-351-8570
Work Phone
Work Extension
Fax Number

Date Updated 8/25/98 11:13:21 AM

Notes
The light water project is a violation of the Atomic Energy Act. It is not legal to be producing weapons grade material in
commercial nuclear facilities. *1/01.09*
The United States cannot credibly preach nuclear non-proliferation to nations such as India and Pakistan while continuing to develop our own nuclear stockpile. Our actions in this regard only increase the likelyhood that nuclear weapons will be used in the future, whether by terrorists or by governments. *2/01.04*
The light water program also represents an increased likelihood of environmental contamination. We need to be moving
as quickly as possible to non-polluting energy sources, not further developing nuclear energy. The light water program
is going to produce materials that will find their way into the food chain and cause harmful effects there. *3/07.05*
I am strongly opposed to the program.
Thank you, Alexis Zigler

Commentor No. 33: Mary Stanfill

Comments Received via "800" Number

Date:	9/24/98 (8:31am)
Name:	Mary Stanfill
Organization:	
Address:	2422 Tuxedo Drive Huntsville, AL 35810
Phone #:	
Fax #:	
Comment #:	

Comment:

My concern is that Bellefonte should not be used for anything to do with producing anything for warfare and that the tritium could cause cancer, cause the environment to be polluted and I want to encourage people to know that to live by the sword, they must die by the sword. *1/07.03* *2/14.04*

Commentor No. 34: Robert Sparks

Comments Received via "800" Number

Date:	9/24/98 (8:59am)
Name:	Robert Sparks
Organization:	
Address:	59 Prentice Circle, NE Arab, AL 35016
Phone #:	
Fax #:	
Comment #:	

Comment:

I'm calling in relation to the tritium project going on in Scottsboro which is about 25 miles from me and I just wanted to give my comment on it and I am not in favor of it proceeding. Thank you. ***1/07.03***

Commentor No. 35: Jackie Ambrose

Comments Received via "800" Number

Date:	9/24/98 (9:02am)
Name:	Jackie Ambrose
Organization:	
Address:	Huntsville, AL
Phone #:	No phone/fax number given
Fax #:	
Comment #:	

Comment:

This is to do with the thing on television about opening the Bellefonte plant for tritium gas plant radium or whatever - This is to protest it. I'm totally against it. We have enough to deal with, with the other things we had in this area for years. Thank you. ***1/07.03***

Commentor No. 36: W. D. Scarbrough

Comments Received via "800" Number

Date:	9/24/98 (11:09am)
Name:	W.D. Scarbrough
Organization:	
Address:	3503 Sparkman Drive, NW Huntsville, AL 35810
Phone #: **Fax #:**	256-852-9350
Comment #:	

Comment:

Would like information concerning your program on tritium production. I'm not necessarily opposed, but the Department of Energy and other agencies do not have a good record in protecting the environment - Savannah River is just but one example. ***1/08.02***

Commentor No. 37: James William Cod

Comments Received via "800" Number

Date:	9/24/98 (11:29am)
Name:	James William Cod
Organization:	
Address:	1203 Fern Street Athens, AL 35613
Phone #: **Fax #:**	
Comment #:	

Comment:

I was told or at least I read off the television that this was the number to call about the tritium plant proposed by TVA for Bellefonte in Jackson County up near Scottsboro, so that's what I'm really calling about. I'm calling to say that I would not like to see this program put into affect on the Tennessee River because I'm afraid of the long-term--- short-term it's gonna give employment up there but long-term, I'm afraid of the after affects so really that's what I'm calling about. ***1/10.03***

Commentor No. 38: Steve Abraham

Comments Received via "800" Number

Date:	9/24/98 (11:55am)
Name:	Steve Abraham
Organization:	
Address:	1115 County Road 358 Distah, AL 35765
Phone #: **Fax #:**	
Comment #:	

Comment:

Yes, I just wanted to reply to the Bellefonte where they want to make tritium and I am kinda against it because we haven't found out enough information about the tritium to satisfy my curiosity. If you have any information on that, I would appreciate some of it. Thank you. ***1/07.03***

Commentor No. 39: Diane McFarland

Comments Received via "800" Number

Date:	9/25/98 (3:00)
Name:	Diane McFarland
Organization:	
Address:	709 Love Branch Road Harvest, AL 35749
Phone #: **Fax #:**	No phone/fax number given
Comment #:	

Comment:

I am very concerned about the Bellefonte Plant being reactivated. I just don't think it is a smart idea. I think these things have too long a life span and I read about the cancer rates up and…I work for Corps of Engineers and we do the environmental clean-ups and our Project Managers are in charge of chemical demilitarization that's going on in Johnston Atoll and Umatilla and now Anniston. I just think we should learn a lesson - don't make more of this stuff. Anniston's having a problem with it seeping through the walls. I don't mean to be an alarmist, I just think there should be another way without making these things that have such a long life span. Our children, we want clean water, clean air. I just don't think we can keep making this stuff - can't there be another way? I'd like to be informed or if I can help enlighten others about the dangers. I don't know anything other than it's got a long life span and it's not gonna go away when we create these things. We can find other jobs for people - please. Thank you for listening and I'm just a little citizen. I appreciate anything you can do. Thank you very much. ***1/14.04***

Commentor No. 40: James R. Finley

Address ID Number 39

Salutation	Mr.
First Name	James
Middle Initial	D
Last Name	Finley
Title	
Organization	
Address	400 Fairhope Drive NWArab, AL 35016
City	Arab
State or Province	AL
Postal Code	35016-4407
Country	USA
EmailAddress	finleyj@mindspring.com
Home Phone	Unlisted
Work Phone	(256) 931-0286
Work Extension	
Fax Number	
Date Updated	9/28/98 7:24:45 AM
Comment	I am a concerned citizen who wants the DOE to do the thing that is right for the country. If TVA plant would be more cost effective, then for a real change why do we not do what will save billions of dollars and then used the saved money to do something about the clean up of all the old facilities?

1/23.13

Commentor No. 41: Robert W. Van Wyck

Radiological Consultant

Robert W. Van Wyck, Certified Health (Physicist
709 Helmsdale Place, North
Brentwood, TN 37027
Tel. 615-373-9176

Sept. 20,1998

Stephen M. Sohinki, Director
CLWR Project Office
US Dept. of Energy
PO Box 44539
Washington DC 20026-4539

Comments On The Draft Environmental Impact Statement For The Production Of Tritium In A Commercial Light Water Reactor

Dear Mr. Sohinki:

Thank you for the opportunity to express my comments on the above Draft EIS in a timely manner. I previously sent comments to you in a letter but they were too late to be incorporated in the Draft EIS. For your information, none have been adequately addressed and should be in the final EIS.

These specific comments are:

1. The global impact from the further proliferation of atomic weapons throughout the world has not been adequately and honestly addressed and should be.

Since the beginning of the atomic era, our Country has maintained a steadfast policy that peaceful uses of nuclear technology will not be used for manufacture of atomic weapons. Utilization of a CLWR for tritium production is in direct conflict with this policy. If this long standing policy is changed, it will open the door for anyone to manufacture atomic weapons materials from commercial reactors leading to a major increase in atomic weaponry throughout the world. The potential for this to occur, and any resultant impact, should be a first consideration for evauatilon in the EIS.

1/01.09

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 2

The EIS attempts to address this issue in S.1.5.4 but evades the concerns. Item 1 in this section says use of a CLWR for tritium production is not prohibited by law or international treaty. While this may be true, it would still be in direct contradiction of our long standing policy, practice and stated intention. For example, how can our country encourage North Korea to utilize one of our nuclear reactors to produce electricity, as we have done, and not expect them to follow our proposed example and use it also for weapons production?

Item 2 reports the historical use of defense materials and technology for peaceful uses. Historically, it has been standard practice to utilize technology developed from defense research for peaceful uses. However, it is clear that none of these "examples" involve the opposite , as is now proposed, to use peaceful uses for weapons production. This proposal will be a "first" to my knowledge. *1(cont'd)*

Item 3 attempts to argue that maintaining separation between US civil and military activities could be adequately addressed, given particular circumstance involved, but none is given. Further, a weak argument is given that the TVA is owned by the US Government and therefore production in a TVA facility makes it "roughly" comparable to past instances of government owned dual-purpose nuclear facilities. Nothing could be further from the truth. The DOE makes atomic weapons, paid for by tax payers. The TVA makes electricity for distribution throughout the southeast region it serves and is paid for by ratepayers.

2. The EIS has not addressed the enhanced security provisions that will be required and the significantly increased potential danger to populations surrounding the site if a CLWR is used for weapons manufacture.

Emergency preparedness is addressed for each of the proposed TVA sites but only from the perspective of a plant accident and fails to address the primary increased risk if the site is used for weapons manufacture. Our enemies in the past have had weapons sites pre-targeted for nuclear bombing in the event of war and it is reasonable to assume that the sites are still pre-targeted or can be re-targeted with little difficulty. At a minimum, the EIS should include an evaluation of the impact on surrounding populations in the event of a direct or near direct blast of an external atomic weapon used to destroy the facility. *2/22.01*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 3

3. A new safety analysis will have to be performed to consider the potential increased internal pressure in the reactor vessel during a melt-down that could result from partial fusion of the large quantities of tritium in a degraded core with uncontrolled re-criticality. TMI temperature data should be used in the analysis. Although "Beyond Design Basis Accidents" were analyzed, the analysis was done using the MACCS2 accident analysis computer code for a standard PWR core. However, if a significant increase of energy can be released in the reactor vessel due to fusion of tritium gas in the core during a meltdown accompanied with uncontrolled re-criticality, the code would not be useful for assessment of accident conditions. *3/15.04*

Issue of Concern Discussed But Not Evaluated In The EIS

1. There is serious concern regarding the ability of the DOE and the TVA to carry out this project successfully. The EIS needs to point out changes in these organizations that have or will be taking place to give assurance that the project will be handled properly and in accordance with this EIS.

The stated purpose of the EIS is to analyze the potential consequences to the environment associated with the project. I submit that part of the analysis should be an evaluation of the specified candidates capabilities to successfully carry out the project.

DOE

The DOE, for one reason or another, has largely failed to accomplish any meaningful nuclear progress in recent years. As stated in S.1.5.2, over a dozen reactors for the production of nuclear materials at its many sites have been shut down and are no longer available despite the outlay of billions of dollars. Also as stated, the SRP K Reactor was discontinued in 1988 for major environmental, safety and health upgrades. Since the SRP site has already been contaminated beyond any reasonable or economical expectation for clean-up, it is difficult to see where a major environmental upgrade would be needed for continued tritium production. More than 10 years have lapsed since the DOE lost its capability to produce tritium and is unable to do so except for this proposed scheme. Likewise, the DOE has been unable to develop a Long Term Nuclear Disposal Site in Nevada even though it is *4/08.02*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 4

located adjacent to the site where hundreds of nuclear weapons have already been exploded underground (already making the area a long term nuclear waste storage site) and millions of dollars have been spent on "environmental studies". Frankly, the capability of the DOE, under its present leadership, staffing limitations, nuclear knowledge and past experience, raises serious doubts as to its current capability to carry out the project in an environmentally acceptable manner. With all the problems now being faced by the DOE in the non-nuclear energy area, it is not surprising that nuclear and defense matters are not paramount. Perhaps the time has come for Congress to reconsider the mission of the DOE in light of today's problems, and set up an agency that will insure nuclear materials needs are being met. With every "little" country now capable of being a nuclear power, it is important for them to know that a first priority has been given to maintaining our nuclear arsenal in a ready condition. *4(cont'd)*

TVA

The TVA has faced a number of problems in developing its nuclear program. In Section 6.5.3.1, it is stated that in 1985 TVA was required to shut down 5 reactors including Sequoyah 1 and 2 because of charges of mismanagement and inattention to safety requirements. The Brown Ferry Plant fire is not even mentioned. This section also discusses continued problems at TVA operating plants including the assessment of monetary fines. The NRC lists a large number of "violations" at Sequoyah 1 and 2 from 1993 through 1997 the sum total of which shows the continued unwillingness or inability of TVA to manage its nuclear program. Recently, a "whistleblower" at the Watts Bar plants received a death threat (Sunday issue of THE TENNESSEAN, Sept. 6, 1998). This is just the latest of the "whisleblowers" who have tried to call management's attention to plant problems. In view of this operating record, serious doubts exist as to the ability of TVA to carry out the project in an environmentally acceptable manner. *5/09.02*

Specific comments relating to Summary Document

(comments relate directly to the letter and number code assigned to paragraphs in the Summary Document).

S.1.5.4 - See comments above on Page 1, item 1 relating to the non-proliferation issue. *1(cont'd)*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 5

S.1.5.5 - Producing tritium in a TVA reactor is not consistent with the Congressional purposes that established the TVA. Its establishment in 1933 had no bearing whatsoever to "national defense". Later, however, it was further developed to insure a reliable supply of electricity for Oak Ridge. This insinuation should be removed. *6/09.03*

S.1.6.1.1 - The DOE's record of decision to proceed with this proposal was based on information available prior to 1995. There are other potential options available and issues perhaps not considered that suggests that this decision ought to be re-opened and re-evaluated based on information available today. See also comments relating to S.3.2.3 on Page 6. *7/05.03*

S.2 - The last paragraph makes no sense and should be removed. See comments above under S.1.5.5 regarding support of national defense by TVA. *6(cont'd)*

S.3.1.1 - Under Accident Conditions, it should spell out that a reanalysis of the DBA would be needed because of reactivity changes to the core (no mention is made of the use of boron as a chemical shim early in core life and its relationship with the TPBARs, nor of the increased reactivity needed, if any, to accomplish the project. Further, as noted above, an evaluation of the potential energy release from fusion in a degraded core during a "beyond design basis accident" needs to be made and factored into emergency planning as may be needed. *8/15.05*

The potential impact on workers involved in fuel operations needs to be evaluated since it is likely that air supplied plastic suits may be needed for their protection due to increased tritium oxide levels in the air above the refueling water canal and fuel storage pool. Adequacy of air supply, the need for communication systems and the potential for increased chance of error, all need to be included in the evaluation. *9/14.09*

A potential impact not mentioned is the affect of different metals such as Zircaloy on corrosion interaction with parts of the core and on other primary systems. *8(cont'd)*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 6

S.3.2.3 - The no-action alternatives are based on the DOE record of decision from a 1995 document. In hind site, it may be desirable to re-evaluate the decisions reached. There are other alternatives and very good reasons to consider them. For example:

o The manufacture of tritium is an important ingredient in our nuclear defense capability and needs to be protected against stoppage. This can best be accomplished by using redundancy and developing a manufacturing facility at two different sites.

o It makes no sense to obligate tax payers to "clean up" another nuclear defense site (probable costs to decommission an existing or new reactor site will likely exceed $ 1 billion) when the DOE already has a number of defense related sites that cannot be economically recovered.

o A nuclear power reactor cannot serve two masters. Either it is dedicated to making electricity and tritium manufacture takes a back seat, or it can be used to manufacture tritium and electricity generation would take a back seat. The later is what is needed for our defense program. *7(cont'd)*

o It makes no sense to buy into or use technology and equipment already more than twenty five years old (all of the TVA plants whether operating or not). What does make sense is for the DOE to undertake the design construction and operation of two tritium manufacturing facilities, each one at a different site to insure redundancy, with one of the facilities designed for electric generation. This would enable the DOE to wheel into a grid any excess electric power that might become available, but its primary purpose would be tritium production. Furthermore, additional electricity can be provided to the grid if there is a need to further reduce tritium production.

o The DOE should not rely on an organization that exhibits mismanagement and inattention to safety matters to operate a facility important to our defense needs. Instead, a new facility would provide an opportunity to design, build and operate a facility with concerned management that will give full attention to safety matters.

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 7

In summary, there are other manufacturing options, although probably more costly, that are much more sensible that should be considered. Reopening of the Record of Decision could enable better alternatives to be evaluated with a 1998 perspective. *7(cont'd)*

S.3.2.4.3 - The Bellefonte plant design and equipment are more that 25 years old. An evaluation of this aged equipment needs to be made, particularly with respect to the reactor vessel, to determine if it can be used safely. In addition, an evaluation of the twenty five year old instrumentation is needed to determine that the wiring and components have not degraded and are capable of meeting today's safety requirements. *10/21.02*

It should be noted that utilization of the site for nuclear reactors would immediately impose an eventual burden of an estimated $ 1 billion just for decommissioning. A question arises as to who will pay for it, the taxpayer or the ratepayer, or a combination of both? *11/20.04*

The following comments refer to specific sections of the Impact Statement:

1.3.3 - This section discusses DOE's past failure to be a good steward of our nuclear facilities for the manufacture of tritium. No reasons are given for this failure. The EIS needs to discuss what steps have been taken to assure that DOE will handle this project successfullyand under good stewardship. *4(cont'd)*

1.3.5 - This section discusses the weak non-proliferation arguments discussed previously on Page 1, item 1, *1(cont'd)*

3.2.5 - There is no mention of the role of the Refueling Water Storage Tank in the hold-up of tritium as a liquid waste. This applies to all of the reactor options. If not vented or disposed of, the tritium in this tank, and subsequently in the refueling water, can increase with each refueling and would require personnel to wear air supplied plastic suits for protection during this operation. This would be an impediment in refueling operations. *9(cont'd)*

4.2.2.4 - A significant source of tritium release to the river can occur if the reactor continues to operate with primary to secondary leakage and the *12/14.10*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 8

cooling tower is being bypassed. Alternately, a significant increase of airborne tritium oxide will occur if the cooling tower is in full use. This is an important distinction that needs to be made when evaluating the radiation impact on persons off site (as well as on-site). A projected use pattern should be incoporated into projected dose calculations based on past meteorological data and projected power level of the reactor.

Projected estimates of tritium concentration should be made at each of the drinking water supply intakes downstream of the site based on cooling tower use and projected buildup of tritium in Chickamauga Lake during various net flows. *12(cont'd)*

Table 4-21 lists the sources of background radiation exposure to individuals in the vacinity of the Sequoyah site. In reality, the table lists the average exposure to the US population from these sources and not actual "measured" levels at the site. This point should be clarified so as not to be misleading.

There are 8 municipal water supplies downstream from the Bellefonte site. A similar analysis should be made of the projected tritium concentration at each intake based on cooling tower usage, river flow, dam hold-up and meteorological conditions, as suggested for the Sequoyah site.

5.2.5.4 - The socioeconomic section suggests that the cost of decommissioning will be in the range of about 600 to $ 700 million. In view of the uncertainties in this number, I have increased the estimate I used up to $ 1 billion, a reasonable increase. The important point is that this obligation is incurred on start-up and is not necessary since the DOE already has thousands of acres dedicated for weapons manufacturing.. *11(cont'd)*

It is not clear whether this cost will be incurred by the taxpayer or the rate payer, an important distinction for those of us using TVA electricity.

Table 5-49 on page 5-110 should also list under the beyond-design-basis accident an evaluation of energy release from possible fusion of tritium in the core, using TMI temperature data in the event of a re-criticality of the degraded core. *3(cont'd)*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 9

6.5.2.1 - This section clearly shows the problems of TVA mismanagement as outlined in many NRC inspections and orders. There is no assurance that significant improvement has been achieved. It is difficult to understand why DOE would consider entrusting tritium production, an item vital to our defense, to the nuclear part of this agency. *5(cont'd)*

Appendix A, Page A-18- The last paragraph indicates that more new fuel assemblies may have to be loaded into the core during each refueling and that the enrichment of these assemblies may need to be increased. This indicates that an analysis should be included of flux density, the interaction of chemical shim control on this density over time, and the total impact of this added reactivity on control systems. In addition, a safety analysis is needed to determine the increased risk to personnel as a result of an out-of-core criticality incident and the steps taken to prevent one from occurring. *13/15.06*

Appendix D, Page D-4 - A non-reactor incident that requires evaluation is initiated from refueling. Most tritium in the reactor vessel will be in the form of an oxide and will become mixed with the refueling water. With significant leakage, the tritium vapor over the refueling pit, and subsequently in the spent fuel pool may require personnel to wear plastic suits during routine operation. This will cause potential operating problems that should be evaluated. In addition, ventilation from the containment area and the spent fuel pit should be evaluated. *9(cont'd)*

Design of the refueling water storage tank, not mentioned any where, is an important potential release point for tritium in liquid or vapor form. The analysis needs to consider the build-up of tritium in this water with subsequent refuelings and the potential impact on workers and the environment.

Appendix F, Page F-8 - The third box down, refers to comments previously recieved, similar to mine, that the DOE is probably not capable as it now exists to carry out this project in an environmentally safe manner. I fully agree with those who offered these comments. Although the response given by the DOE is that DOE is fully committed to carry our its responsibilities, the fact remains that the DOE has been a poor steward of our nuclear facilities and has not carried out its responsibilities in the past. *4(cont'd)*

Commentor No. 41: Robert W. Van Wyck (Cont'd)

Comments to Sohinki, Page 10

There is no assurance that it will do so in the future. See my comments and concern given previously (Page 3, item 1) regarding the ability of the DOE to carry out this mission. The response given to these concerns about the DOE does not provide an adaquate responce and perhaps demonstrates on their part a negative reaction to honest concerns. What is needed in response is some assurance, based on facts, that the DOE in now prepared to stop fumbling around with our nuclear program and has the resources and capability to make positive progress. If DOE is unable to provide this assurance, then Congress find another way to assure our nuclear defense system will remain viable. *4(cont'd)*

Thank you for your consideration of these comments on the Draft EIS.

Sincerely,

R W Van Wyck

Robert W. Van Wyck

CC's With Summary to:
State Senator Keith Jordan
U. S. Senator Bill Frist
U.S. Senator Fred Thompson
U.S. Rep. Bart Gordon

Commentor No. 42: Gene & Barbara Price

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- ✗ returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: We have read the Draft Environmental Impact Statement in its entirety and have read numerous newspaper articles written by Scientific Authority that state that the production of Tritium at the Bellefonte Plant would be a "Gross Threat" to our community.

We have not heard of any reason for the production to be produced here other than it would provide jobs for local people.

The danger far outweighs the employment issue.

Therefore: We strongly urge you not to use the Bellefonte Location!!

Seriously — Gene Price *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Gene + Barbara Price (optional)
Organization:
Address: 85 Nirberg Rd.
City: Gurtersville State: AL Zip Code: 35976
Work phone: Home phone: 582-8462
Fax:
E-Mail Address:

7/4/98

Commentor No. 43: Call-In

Comments Received via "800" Number

Date:	Oct 1, 1998 (11:30am)
Name:	Mr. John????couldn't understand his name--have called and left message to please call the 800 number again and slowly speak his name
Organization:	
Address:	Augusta, GA
Phone #: **Fax #:**	(706) 738-3459
Comment #:	

Comment:

I'm sitting here reading in the papers - I'm with the Navy - and for the life of me, I do not understand this latest and greatest of Bill Clinton's move to further dismantle the military and the whole 9 yards in this tritium mess. The Savannah River Site already has things in place to do the tritium and I believe this is nothing more than the Democrat's and nonsense to divert people's attentions elsewhere more or less to punish the voting Republican's. And that I believe is the bottom line for all this nonsense of going commercial to do what SRS has been doing all along concerning this tritium nonsense which is so typical of the Clinton administration. *1/04.01*

Commentor No. 44: W. Lee Poe, Jr.

10/1/98

Comments for CLWR EIS Meeting
By: W. Lee Poe, Jr.
807 E. Rollingwood Rd.
Aiken, South Carolina 29801

Mr. Rose, Department of Energy, and Stakeholders of the Savannah River Region I would like to provide the following comments on the Commercial Light Water Reactor draft environmental impact statement. Before starting with my comments I would like to thank Mr. Rose for his prompt attention to my request for additional information shortly after I received the draft EIS and having other information sent to me from TVA. This information was either referenced in the DEIS or was discussed in the local press. Information was requested in the following areas:

- Conversion and use of Bellefonte as a fossil plant producing electric power.
- PNNL test data on TPBARs (assemblies used to produce tritium in CLWR).
- Nonproliferation considerations of using CLWR.
- Cost analysis.

I requested two further issues, one I had hoped DOE would provide me their logic on why was DOE linking the APT, CLWR, and tritium extraction facility (TEF). The other was a request for a comparative table showing the environmental impacts of APT and CLWR + RTF at tonight's meeting. I had requested this information to assist me in reaching my conclusion on which approach is best so I can provide my input to DOE on these matters. *1/05.01* *2/04.03*

I am still reviewing the information I received but I wanted to provide you with my conclusions tonight, albeit it they may change as I continue to review the available material, on these subjects. I draw the following conclusions. I will attempt to cite the location on the concern in this comment paper but I will not bore the stakeholders with those details in my verbal presentation.

I would like to provide the following comments:

1. DOE has decided to link three EISs, the CLWR + TEF and the APT. They state in the CLWR EIS (p 1-12, Section 1.5.2.1) that if DOE decides not to proceed with the CLWR then DOE will build the APT to produce tritium. The APT EIS was issued in December 1997. They further state (p 1-13, Section 1.5.2.2) that if the CLWR is selected as the primary tritium technology, the TPBARs will be sent to the TEF. Now that is what I call EIS linking. To provide my judgments to DOE, it is necessary to fully read and retain information on each alternative in each of the EISs and produce a comparison table. DOE, you need to provide your stakeholders with tabular guides to help in that situation if you want good comments. *1(cont'd)* *2(cont'd)*

Commentor No. 44: W. Lee Poe, Jr. (Cont'd)

2. Now to complicate the above point, the EISs includes information on primary and back-up technologies. In the CLWR EIS (p 1-13, Section 1.5.2.3) it is stated that if the CLWR is selected as the back-up technology to the APT, a new extraction capacity would required as a stand-alone facility or in combination with the accelerator. *3/05.04*

3. The CLWR (p1-12, Section 1.5.2.1) indicates that the FEIS will be issued in December of this year. From what I have heard and read in local newspapers, The Energy Secretary plans to reach a decision on these three tritium EISs in December of this year. I have heard two stories on how this could occur; 1) the decision reached and then the FEISs will be completed and 2) the FEISs will be finalized and the decision will be reached as part of the ROD. If the first approach is the correct, DOE should use the public process to gain stakeholder input to the decision process but not preparing the FEISs. Don't spend the money of preparing the FEISs. The second approach assumes that DOE follows the normal process of finalizing the EISs with proposed actions, then the decision-makers make the decision and incorporate it into the ROD. The timing of completing this EIS and making the decision in this second approach with both decisions occurring in December does not seem consistent. The main point here is that the time spent in commenting should be used by DOE in making the decision. *4/05.29*

4. The CLWR EIS is difficult to understand particularly in concert with the above discussed decision. It describes in great detail a number of alternatives (p 3-12) - 18 are described in Table 3-2, which basically are one reactor, two reactors, or three reactors and a very short paragraph on the No-Action Alternative (Section 3.2.4). The impacts of each of the 18 alternatives consume the bulk of the EIS. The impacts shown for the No Action are only summarily given and referenced to the APT EIS. This approach makes evaluation of this EIS difficult. *5/06.06*

5. The CLRW EIS states that tritium could be produced in any one of the 105 CLWRs currently licensed to operate (Section 3.2.2) but that the design of the TPBARs reduces irradiation to pressurized water reactors (eliminating boiling water reactors) and only TVA responded to the DOE's RFP to identify utilities interested in either producing tritium or having a reactor available for DOE purchase. The CLWR further indicates that five TVA PWR were to be considered in this EIS; all others having been deleted due to lack of interest by the utilities.

   TVA Chairman Crowell defined TVA's response to the DOE RFP differently. In his letter to U. S. Senator Sessions of Alabama, he says TVA submitted two proposals 1) a "revenue offer" to produce tritium at Bellefonte and if needed at the Watts Bar Nuclear Plant and 2) a "service offer" to produce tritium at only Watts Bar. Chairman Crowell further states that TVA allowed the "service offer" to expire and extended the "revenue offer" through July 1, 1998. If this information Chairman Crowell provided to Senator Sessions is correct, why did DOE evaluate alternatives other than those associated with Bellefonte and Watts Bar. The DOE logic of *6/06.03*

Commentor No. 44: W. Lee Poe, Jr. (Cont'd)

eliminating all PWR other than those of the TVA and then listing TVA reactors that TVA says are not available seems inconsistent. *6(cont'd)*

6. If the inter-agency communication is as bad as indicated above, I must question the validly of an alternative that uses the TVA system to produce the nations tritium.

7. The number of TPBARs that must be irradiated to meet the tritium demand is unclear. In one place (p 3-11, Section 3.2.3), it is stated as 6,000 in 18 months or 4,000 per year. In other places it talks about 3,400 per year for each reactor. If both numbers are correct, tritium production will require irradiation in two reactors. Many places in the CLWR EIS talk about 1 or more reactors. If it requires two reactors to meet the tritium demand, DOE should talk about two reactors not 1 or more. If irradiation requires two reactors to meet the tritium demand, the TVA approach is not a viable alternative since they have withdrawn all of the TVA reactors other than Bellefonte. *7/03.03* *6(cont'd)*

8. The information contained in the CLWR EIS and the PNNL information sent me (PNNL-11419) seems to indicate that the TPBARs are reasonably engineered to retain tritium. 3,400 TPBARs will be irradiated in a single reactor each year. Each of these TPBARs is designed to hold up to 1.2 grams of tritium and have a design leak-rate of <6.7 Ci of tritium per TPBAR rod. If not damaged, the leakage from the TPBARs will be <22,780 Ci of tritium per year. This is considerably more than the 1,890 Ci shown in CLWR EIS Table 3-13. Why the difference? *8/19.04*

   The EIS describes the "gettered" TPBAR as so good that the produced tritium gas is quickly captured in the solid zirconium material and there is essentially no tritium gas in the rod (p 1-9, Section 1.3.4). This system is so effective that the rods will have to be heated to 1,000°C (1,800°F) under a full vacuum to recover the tritium captured. The TEF EIS (Appendix A) describes the design temperature maximum on the extraction furnace to be 1,100°C. Operating equipment routinely within 10% of the maximum temperatures is not a good practice. This EIS should discuss evidence used by DOE to show that high tritium recovery from the TPBARs can be achieved with reasonable furnace life. If you cannot recover the tritium, its production is worthless. *9/19.05*

9. Again I want to thank you for providing me with a copy of the cost data comparing CLWR option to the APT that Acting Secretary Moler provided to Senator Thurmond in mid July. As I review the data from that letter, I see two worrisome points.
   - The first is that for Bellefonte a credit is given that significantly reduces the life cycle cost. An equivalent adjustment is not given for the other CLWRs (in existing commercial reactors) nor for the APT. I suspect this is a payback to DOE for the electricity sold from that reactor. I also suspect that other uses of the accelerator would also provide a financial return. I seems unfair to give a credit for the Bellefonte plant and not for the APT.
   - If the irradiation requires two CLWRs to meet the tritium requirements, the CLWR costs increase significantly. What is DOE doing, betting that the tritium demand will decrease significantly thus a single reactor will suffice? I hate to *10/23.15*

Commentor No. 44: W. Lee Poe, Jr. (Cont'd)

think it might be anything more sinister. In any event, the DOE should be open on these issues. *10(cont'd)*

10. Again thank you for providing me a copy of the Report to Congress titled "Interagency Review of Nonproliferation Implications of Alternative Tritium Production Technologies." I find that it augments the terse statements in the CLWR EIS. I suggest that the report be included in the FEIS as an appendix. It points out correctly that maintaining separation between nuclear power and weapon production has supported the U. S. leadership in the International Atomic Energy Agency and other multilaterial organizations involved in civil nuclear activities. It goes on to show that tritium is not legally covered since it is not a special nuclear material. It then provides exceptions to the policy to date (Hanford N-Reactor, U. S. Uranium Enrichment, etc.) It makes the point that because TVA is government agency and the reactor is owned by the government, tritium irradiation would be an extension of past practices of "using government-owned facilities simultaneously for civil and military purposes. This conclusion may be legally the same but I draw a much different conclusion. I conclude this alternative is establishing a damaging new policy. That irradiating a nuclear weapon component in facility designed primarily to produce electric power is OK. I hate to think about how this might be used by other nations. The electricity production will consume a large portion of the neutrons generated by the reactor and the tritium can be considered a secondary product. *11/01.09*

Thank you for the opportunity to present my views on this draft EIS. I hope they will be of some value to you in the decision on tritium technology.

Commentor No. 45: Gary Stooksbury

ECONOMIC DEVELOPMENT PARTNERSHIP
Serving Aiken & Edgefield Counties

Fred E. Hunter
Director

Statement for the Record
Draft Environmental Impact Statement
Production of Tritium in a Commercial Light Water Reactor

My Name is Gary Stooksbury and I am a Director of the Economic Development Partnership of Aiken and Edgefield Counties of South Carolina. My organization is proud of Savannah River Site's past role in supporting our national defense and making the world a safer place. We believe that the Site can continue to have a positive impact in addressing the many challenges still remaining. None are more important than (1) assuring a reliable supply of tritium for our national defense and (2) preventing the spread of nuclear weapons technology and materials throughout the world. Unfortunately, the Department of Energy's proposed action in this EIS will undermine both of these objectives: it will put in jeopardy an assured supply of tritium for our national defense and it will encourage other nations to use their civilian nuclear programs to produce materials for nuclear weapons. I want to briefly explain my organization's basis for objecting to the use of Commercial Light Water Reactors for tritium production and I will provide specific comments on inadequacies in the draft EIS document.

Program Policy Issues

As your documents note, tritium is absolutely necessary for the proper functioning of modern nuclear weapons, and without an adequate supply, our nuclear shield would be greatly diminished. DOE has set out to evaluate alternate technologies to meet this need, and has narrowed the choice to two options; the CLWR and the Accelerator - the Dual Path approach. My organization and others have serious reservations about the ability and appropriateness of the CLWR option to meet the Tritium mission. Specifically

1. CLWR will severely undermine this nations ability to pursue international nonproliferation objectives. *1/01.04*

   - While we are dissuading others from producing military materials in their civilian nuclear programs, we, **for the first time in our history,** are proposing to adopt that very same course. Other nations will rightly accuse the United States of hypocrisy.

   - The Interagency Review which examined this question was flawed in its logic and vague in its conclusion. It erroneously implies that because we have previously converted weapons facilities to civilian applications it is acceptable to do the converse. It concludes that these concerns could be "satisfactorily

Post Office Box 1708 Aiken, SC 29802 171 University Parkway USCA
(803) 648-3362 FAX (803) 641-3369 ecodevpart@aol.com

Commentor No. 45: Gary Stooksbury (Cont'd)

addressed" without stating if we will lose leverage with other nations who are contemplating nuclear weapons programs.

- If our actions cause even one nation to disregard restraint and to initiate or continue to make weapons materials in commercial nuclear reactors, we have suffered a foreign policy defeat with profound impacts for the world at large. *1(cont'd)*

A worldwide outcry will result if the United States backs away from its strong nonproliferation stance, and eventually will require that the CLWR be abandoned - **with damage to our world image and adverse impacts on our nuclear stockpile.**

2. We believe that there are significant uncertainties in the ability to license a CLWR to produce tritium for use in nuclear weapons.

   - First there will be public concern over the new safety and environmental hazards resulting from the routine and accidental releases of tritium from the reactor system.
   - Secondly, many citizens are very uncomfortable with the idea of co-mingling military purposes in a civilian reactor *2/21.06*

There is no assurance that NRC will issue a license (or license amendment) for this endeavor. Again, this would cause the **CLWR option to be abandoned with adverse impacts on our nuclear stockpile.**

3. Our third issue is costs. DOE has significantly underestimated the capital costs associated with the CLWR option.

   - Much "hype" has been attributed to the supposed lower cost estimate for the CLWR option, **but that estimate has never been revealed and subjected to independent third-party review.**
   - The DOE Draft EIS discusses at length the use of TVA's Watts Barr and Sequoyah nuclear facilities, yet it has been widely reported that TVA has withdrawn those facilities. *3/23.17*
   - DOE cites the TVA estimate of $2.446 Billion to complete the Bellefonte I Reactor, which, according to the EIS document, cannot meet the START I tritium requirements, and then compares that estimate to the APT which will produce adequate tritium to meet START I requirements. Completion of both the Bellefonte I and II reactor units will be required to produce three kilograms of tritium per year, with capital costs in excess of $6 Billion.
   - It has been reported that another nuclear utility has estimated that over $4 Billion would be required to complete Bellefonte I. .

Commentor No. 45: Gary Stooksbury (Cont'd)

- The GAO states that TVA estimates are very unreliable, with overruns of several hundred percent being experienced for plants which TVA asserted to be 80% complete.
- The Congress Research Service review raises a serious question on the ability of the Bellefonte to generate sufficient revenues to offset operating costs - much less amortize construction. *3(cont'd)*
- On the other hand, estimates for the APT have been subject to public review and validated by DOE.

It is our opinion that capital costs for the Bellefonte reactors will be significantly more than for APT, and life-cycle costs will be comparable. **The available cost data supports the APT option for tritium production**

In summary, we conclude that there are no programmatic advantages to the CLWR option, but rather it has serious, if not fatal deficiencies. The Department of Energy has a Dual Path strategy in name only because the **CLWR option leads to a dead end.** *4/04.01*

Deficiencies in the Draft EIS

We believe that the Draft EIS has not addressed the full range of expected safety and environmental impacts associated with the CLWR option and therefore is deficient with respect to requirements the National Environmental Policy Act and implementing Council on Environmental Quality regulations. Specifically:

1. You have not identified and assessed the world-wide environmental impacts that would result from a federal action to approve the CLWR option.

   - Adoption of the CLWR option will undermine international nonproliferation objectives, and result in a higher probability that some nations will initiate or continue nuclear weapons research, testing and production programs. *5/05.07*
   - Adoption of the CLWR option will result in a higher probability that some nations will initiate or continue to actively pursue production of materials for nuclear weapons in their civilian nuclear facilities.
   - The increased incidence of nuclear weapons research, testing and materials production programs by non-nuclear states, will have **environmental impacts which must be analyzed and included in this EIS.**

2. The evaluation of Human Health Effects from Facility Accidents (Appendix D) is not adequate, with three deficiencies: *6/15.07*

Commentor No. 45: Gary Stooksbury (Cont'd)

- The basis for estimating that 10 percent of tritium released from the melted targets will be in the oxide form within the containment atmosphere is not documented (Table D-1). In some past safety analysis reports, DOE has assumed that 100% of released tritium is in the oxide form and available for release to the environment. Please fully explain the basis for your assumption and revise your analysis.

- Elemental tritium may be available in the containment atmosphere and released to the environment. Your analysis needs to quantify the estimated release of elemental tritium and resultant safety and environmental effects.

- Your analysis does not address the disposition of tritium remaining in the reactor facility after the first thirty days (Table D-2). Since tritium is very mobile and cannot be easily removed from contaminated coolant water, how much additional tritium will be released to the environment, and with what effects? Also, what is the long-term disposition mechanism and associated environmental impacts for tritium which remains within the containment structure?

6(cont'd)

The draft EIS need to be corrected to address the environmental impacts associated with the disposition of all tritium released in a design basis accident.

3. The draft EIS does not evaluate the environmental impacts of all program options under consideration.

- Your Draft EIS states that a one reactor option could not produce the required three kilograms of tritium per year, and your safety and environmental analysis is based on using two or more reactors.. *7/03.03*

- As noted earlier, DOE budget projections assume that the tritium need can be met with one reactor. *8/23.15*

- When asked about this discrepancy DOE stated that a special TPBAR design and fuel cycle, **different from that described in the draft EIS**, is being contemplated which will allow one reactor to make three kilograms of tritium per year. This option is not identified and evaluated in the draft EIS.

7(cont'd)

If a one reactor option is being considered, then this EIS needs to be corrected to describe and analyze the appropriate TPBAR design and fuel cycle. If two or more reactors are needed, then DOE's program and budget planning needs to reflect that fact.

Thank you for the opportunity to comment on this draft EIS.

4

Commentor No. 46: Jason J. West

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: In addressing the so-called non proliferation issue, this equality is more important to me than honesty. The United States shouldn't have to tip-toe around foreign nations or justify our actions to them. Nations such as N. Korea, Libya, and Iraq don't need an excuse to persue Nuclear Weapons and attempting to implement a program that is in no way questionable will weaken the very goal that such a program would try to accomplish the national defense. In ~~[illegible]~~ arguing the military use of civilian sites and saying it's in violation of nonproliferation, I see a case of not seeing the forest for the trees. If the United States Great Britain or China wanted to follow a similar program how would that possibly violate nonproliferation. Nations that do not have the bomb should not even be considered because of the very fact that they Dont Have The Bomb! This tritium production proposal has nothing to do with nuclear nonproliferation. In my opinion saying that the rest of the world cannot make the distinction between fissionable materials and tritium is insinuating that the rest of the world is full of fools which would be a foolish assumption for DOD or DOE to make. *1/01.04*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Jason J. West (optional)
Organization: Student
Address: 334 Palm dr.
City: Aiken State: SC Zip Code: 29801
Work phone: Home phone: (803) 642-[illegible]
Fax:
E-Mail Address:

7/4/98

Comment Documents

Commentor No. 47: Xerxes Wahl

Comments Received via "800" Number

Date:	October 5, 1998
Name:	Xerxes Wahl
Organization:	
Address:	8971 Lentzville Rd. Athens, AL 35614
Phone #: **Fax #:** **Comment #:**	(256) 729-8867

Comment:

I am against that personally. I don't see why we need more of it when it's my understanding we're already dismantling a lot of nuclear weapons that have been made already which I'm not sure that is a good idea or not but since we're doing that, I don't see why we need to make new ones. Since I live near that Plant here, I'm against it. If you need to get in contact with me, that would be great, if not, that's fine too. Good bye. *1/02.01* *2/07.03*

Commentor No. 48: Anonymous (2)

AddressID: 40 **Date Updated:** 9/28/98 7:49:40 PM

First Name: **MI:** **Last Name:** **Title:**

Organization:

Address:

City: knoxville

State or Province: TN **Postal Code:** 37919- **Country:** USA

Work Phone: **Fax Number:**

Email Address: Arista12@aol.com **Home Phone:**

Notes:

I think that the goal of producing more tritium to " add to the nuclear stockpile" is ridiculous. The United states does not need any more nuclear warheads. We currently own 8500.Increasing that number would be in direct violation of not only of a nonproliferation treaty, signed by President Nixon in 1970. but also a more recent ruling by the International Court of Justice (1996) that the United States is obligated to pursue disarmament. More tritium means more bombs, and who are we planning on blowing up anyway? As I'm sure you are aware of, tritium is not something you want produced near you or your family because of its harmful effects on people(genetic abnormalities , health problems etc.)However, where ever tritium is produced there will be people, and those people will be effected as a result . Write back if there is a real person reading this, if not you'll be hearing from me anyway!
arista12@aol.com

1/02.01 *2/01.04* *3/14.04*

Commentor No. 49: Stewart Horn

Comments Received via "800" Number

Date:	Oct 6, 1998
Name:	Stewart Horn
Organization:	
Address:	498 Keel Hollow Road New Hope, AL 35760
Phone #: **Fax #:**	(256) 955-2114 (work); (256) 723-4960 (home)
Comment #:	

Comment:

I am very opposed to the use of Bellefonte as a tritium plant. I know the reactor there was designed probably 25 years ago or 20 years ago at least, if not earlier. So the reactor design is old and outdated. I think it would place all of the people in this area in jeopardy to harm from a potential accident especially using an outdated reactor design. I know that this plant will put radiation into the water and to the air. My understanding is the reason it was stopped before was because of the high cost in meeting environmental requirements, so does that means they won't be met now? I'm very interested in receiving documentation on what the plan is. I would be interested in receiving information about the location of the public hearing, which apparently is going to be on Tuesday night, October 6. Please call me with that information if possible ahead of the meeting so that I could possibly attend. Thank you very much. Please send any information that you have, relative to the use of Bellefonte in this way. Thank you. *1/21.02* *2/09.04*

Commentor No. 50: Mike Wahl

Comments Received via "800" Number

Date:	October 7, 1998
Name:	Mike Wahl
Organization:	
Address:	8971 Lentzville Rd. Athens, AL 35614
Phone #: **Fax #:**	(256) 729-8867
Comment #:	

Comment:

I would like to express for myself and my family the desire that the Bellefonte Plant not be used for tritium production. Our North Alabama area already has one nuclear plant whereby we have no successful way of removing waste from that facility. Until those sorts of problems are resolved, Alabama has no business being involved with another facility that deals with that general sort of environmental endangerment. Thank you. *1/16.04*

Commentor No. 51: Herman & Sylvia Zaage

To the Dept. of Energy
FAX: 1-800-631-0612

Please honor the Atomic Energy Act, Section 57e, and cancel the plans for using commercial nuclear reactors for the development of Tritium for nuclear weapons. This is a serious public health issue. Tritium contamination has been linked with developmental, reproductive and other health problems. *1/01.09* *2/14.04*

Thank you.

Herman & Sylvia Zaage
160 Simonson Ave.
Staten Island NY 10303
sylhz@aol.com

Commentor No. 52: Ms. Bizzarri

Comments Received via "800" Number

Date:	Oct 12, 1998
Name:	Ms. Bizzarri
Organization:	
Address:	Tuxedo Park, NY
Phone #: **Fax #:**	(914) 351-2652
Comment #:	

Comment:

I'm calling to leave this message. Please honor the Atomic Energy Act, Section 57e, and cancel the plans for using commercial nuclear reactors for the development of tritium for nuclear weapons. I'd like to stress too that tritium contamination has been linked to developmental reproductive and other health problems. Thank you. *1/01.09* *2/14.04*

Commentor No. 53: Judith Hallock

Comments Received via "800" Number

Date:	Oct 12, 1998
Name:	Judith Hallock
Organization:	
Address:	269 Running Creek Cove Woodier, NC 28789
Phone #: **Fax #:**	(828) 586-3146
Comment #:	

Comment:

I think this is a terrible idea. I don't think we would be violating the nuclear non-proliferation treaty, which obligates all nuclear nations to pursue complete disarmament by producing weapons-grade tritium in commercial reactors and/or by the accelerator that Strom Thurmond wants built in South Carolina. We don't need to produce tritium, it has a short-half life. We need to make it when we need it, right now we don't need it, we've got plenty of weapons. It cost huge amounts of money, it's dangerous, the production is dangerous, and the storage is dangerous. There are genetic abnormalities and other health problems that have been linked in laboratory animals to tritium and I am very much opposed for these reasons to making tritium in commercial reactors or in accelerators. We already have 8,500 warheads. I don't think we need anymore. I think that's plenty. If we need it later, we can talk about it, but right now, I don't think we need to be in a hurry to produce tritium. Thank you very much. Goodbye.

1/01.04
2/02.01
3/23.13
4/14.04
2(cont'd)

Commentor No. 54: Congressman Robert Aderholt

CONGRESSMAN ROBERT ADERHOLT
10/6/98

STATEMENT TO BE READ AT RAINSVILLE

I have been pleased to work with the Alabama delegation and Members from Tennessee and with TVA to help prevent a great injustice in the defense authorization bill for fiscal year 1999. As you know, some Members of Congress and Senators support building a facility in South Carolina to use a particle accelerator for producing tritium. Supporters of this option tried to pass bill language which would have prevented the use of any commercial light water reactor for producing tritium. Clearly, all the facts, from safety, to national defense readiness, to budgetary issues point to the completion of the Bellefonte plant as the best option. I spoke on the House floor, sent two staff members to the Bellefonte plant, spoke with NBC News, and lobbied other Members through several letters to my colleagues. Several Members of Congress and Senators have been very involved. I especially appreciate the outstanding leadership of Senator Jeff Sessions. I have also enjoyed working with TVA and a number of community leaders on this effort. A significant battle was won when the Graham language was removed from the final bill, but between now and October 1, 1999, we must continue to defend the truth about this situation and educate other Members of Congress. I look forward to continuing to work with TVA, the Alabama delegation, and community leaders on this effort. Completing the plant at Bellefonte to produce tritium is simply the right thing to do for the U.S. taxpayers, and its completion would have an enormous, potential benefit for north Alabama.

1/07.03

Commentor No. 55: Mayor Philip Anderson

As mayor, of the Town of Dutton, it is my opinion that the production of Tritium in the Bellefonte Commercial Light Water Reactor at the Bellefonte Nuclear Plant would be a very big plus for all of Jackson County and the surrounding areas. *1/07.03*

I am asking the Department of Energy to give serious consideration in using the Bellefonte Plant for Tritium Production.

Philip Anderson
Mayor

Commentor No. 56: Melvin L. Brewer

IRON WORKERS LOCAL UNION NO. 704

INTERNATIONAL ASSOCIATION OF BRIDGE, STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS

2715 BELLE ARBOR AVENUE CHATTANOOGA, TENNESSEE 37406

MELVIN L. BREWER
Business Manager

423 / 622-2111 FAX 423 / 622-2112

Good Evening

I am Melvin Brewer, Business Manager of Local 704 of the International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers from Chattanooga, TN.

On behalf of our 600 plus members I would like to voice our support for the proposed Commercial Light Water Reactor for the production of Tritium Gas at Bellefonte.

Savannah River Site does not meet the 2005 production of tritium mandated by the President and Congress.

Accelerator Production of tritium requires a 500MW power source for operation. Bellefont will actually produce power.

As the safety of the plant, TVA has an excellent record. Accident risk for Bellefonte is one fatal cancel every 245 million years and transportation risk is less than one fatal cancer per 100,00 years. *1/07.03*

Additional low-level waste is about 1% of TVA current volume.

While the accelerator is an un-proven method, Commercial light water method has been proved at Watts Bar. With Watts Bar and Sequoyah as a back-up, this plan will insure the country's supply of tritium for it's National Defense needs.

As Tritium production in a commercial reactor is not prohibited by International nor the United States law. Therefore, the benefits out weight the risk.

THANK YOU!

Commentor No. 57: U.S. Congressman Bud Cramer

COMMITTEE ON
APPROPRIATIONS

E-MAIL: budmail@mail.house.gov
WEB PAGE: http://www.house.gov/cramer/welcome.html

BUD CRAMER
5TH DISTRICT OF ALABAMA
U.S. HOUSE OF REPRESENTATIVES
October 6, 1998

Dear friends:

I am pleased to have this opportunity once again to offer my strong support for the completion of the Bellefonte plant to produce tritium.

I believe that the Department of Energy's environmental impact study clearly shows that Bellefonte is a safe, practical choice for tritium production.

The Congressional Budget Office recently released a report that shows how Bellefonte is an economically sound choice as well.

When you add the strengths that Bellefonte has to offer with the work ethic and quality of life in northeast Alabama, I think it is plain to see that our community is the ideal choice for this project.

The completion of Bellefonte would create 800 permanent jobs and 2500 construction jobs in our area. We recognize that tritium production offers not only an extraordinary economic opportunity for our community. This is also an enormous responsibility that is critical to the defense of the United States. I know that our local communities possess the talent and tools to make this program a major success. *1/07.03*

Congress is quickly approaching the end of this year's legislative session. I regret that legislative business in Washington prevents me from being with you this evening. But please know that I am here working to make sure that Bellefonte is given full and fair consideration for this project. We recently won a victory for Bellefonte when we managed to turn back a bill that would have left Bellefonte out of consideration. We succeeded in getting that bill dropped and keeping Bellefonte's standing alive and well.

Thank you all for being here this evening and thank you for your concern about this important issue.

Sincerely,

Bud

Bud Cramer
Member of Congress

2246 RAYBURN BUILDING
WASHINGTON, D.C. 20515-0107
(202) 225-4801

403 FRANKLIN STREET
HUNTSVILLE, AL 35801
(205) 551-0190

1820-C JOHN R. STREET
MUSCLE SHOALS, AL 35661
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MORGAN CO. COURTHOUSE
BOX 668
DECATUR, AL 35602
(205) 355-9600

THIS MAILING WAS PREPARED, PUBLISHED, AND MAILED AT TAXPAYER EXPENSE
Printed on Recycled Paper

Commentor No. 58: John J. Federico Jr.

My name is John Federico and I live in Guntersville. I attended the last meeting held here at the college and spoke in opposition to the tritium project. After the meeting, my wife and I were approached by Nick Kazanas, the Bellefonte plant manager, who invited us to tour the plant so we could better understand how the plant would operate. Last month a small group of concerned citizens from Guntersville visited Bellefonte and I personally came away with the feeling that if the plant came on line tomorrow it would be operated safely. Mr. Kazansas and his people were extremely knowledgeable and professional and answered many tough questions. *1/07.03*

However, my concern focuses on the ominous partnership that would occur between TVA and DOE as a result of the tritium project. The environmental record of the DOE by its own admission is horrific when it comes to the way it has conducted its nuclear business over the span of the Cold War. It has created numerous superfund sites that will take years and millions of dollars to clean up. Having said that, what I find objectionable in the draft environmental impact statement is reference to a Dec 95 Record of Decision that states DOE can initiate purchase of an existing commercial reactor (operating or partially complete - such as Bellefonte) or buy reactor irradiation services with an option to purchase the reactor for conversion to a defense facility. Mr. John Scalice, the chief nuclear officer for the TVA recently provided some interesting clarification and facts about TVA's nuclear program in a recent newspaper article. He stressed that one of the main reasons TVA's nuclear program is safe, reliable and productive is because it continues to meet external peer review, external regulatory review and external fiscal review. *2/08.02* *3/05.27*

Commentor No. 58: John J. Federico Jr. (Cont'd)

If DOE should choose to purchase Bellefonte, all the checks and balances Mr. Scalice referred to will disappear because a DOE nuclear defense facility is not governed nor licensed by the Nuclear Regulatory Commission, nor is it obligated to adhere to the standards of excellence for the industry set forth by the Institute of Nuclear Power Operations. My final concern is the storage of spent fuel. If the Nuclear Waste Policy Act of 1982 mandates that spent fuel will be managed at a national repository, then DOE needs to expedite and assist in resolving the siting issues and not create additional on-site spent fuel storage facilities. *3(cont'd)* *4/17.03*

In closing, this is what I know. When you go to a race track to gamble, you bet the horse based on its track record. The track record of the TVA speaks for itself. As tax and rate payers is it smart to let $4.5 billion spent to get Bellefonte where it is today just sit there and not realize a return on the investment? I don't think so! But do I bet on the horse named DOE who can turn Bellefonte into some of the other horses in their stable such as Hanford, Rocky Flats, Oak Ridge, and Savannah River? Definitely not! Idealistically, I say do nothing that puts citizens and the River at risk. One cancer death in 50 million years is one too much. But realistically I do believe that Bellefonte can safely do their part for the DOE which will help keep the nations nuclear stockpile credible while producing electricity. And we have to trust that everyone will be safe while we hold the outside eyes and ears of the industry accountable for doing their jobs. I also realize this is about jobs. *5/09.01* *3(cont'd)* *2(cont'd)* *1(cont'd)*

Commentor No. 58: John J. Federico Jr. (Cont'd)

When I reached out to the politicians for help in stopping this project, I was told I was naive to think that local citizens cared about what could happen in 20 years, when many were only focused on buying groceries this coming Friday.

But this must be where it starts and stops. If Bellefonte comes on line, it must never be allowed to become a government owned-contractor operated defense facility that will go unchecked by the mechanisms designed to assure it is managed with the safety of the citizens and environment as its primary concern. *3(cont'd)*

Based on the above, I feel that paragraph S.1.6.1.1, page Summary 9 as it pertains to conversion to a defense facility should be deleted and the Dec 95 Record of Decision be amended accordingly. Further, revise the last major planning assumption of para S.3.2.1 on page Summary 17 to state that spent fuel rods resulting from the tritium project will be stored at an existing spent fuel storage facility until the National Repository becomes operational IAW the Nuclear Waste policy Act of 1982. *6/06.05* *4(cont'd)*

John J. Federico, Jr.

John J. Federico, Jr.
2041 Buck Island Dr.
Guntersville, AL 35976-8579
(256) 582-4459
E-Mail: pjfed@juno.com

10-6-98

Commentor No. 59: Ronald L. Forster

CATARACT, INC.
An RCM Technologies Company
2500 McClellan Ave., Suite 350
Pennsauken, NJ 08109
609/ 317-0200 Tel
609/ 486-0802 Fax

Tuesday, October 06, 1998

Ronald L. Forster
14 Hillcrest Ct.
Ringgold, GA 30736
706.937.4304

To whom it may concern:

I am in full support of the completion of the Bellefonte Nuclear Plant for the production of tritium for the following reasons:

(1) Completion of the Bellefonte plant would be much sooner than that of the Proton Accelerator Plant. The production of tritium in an operating reactor is proven safe and efficient (not an experimental process).

(2) Funding for completion of the plant will come from taxes. Projected funding for completing the plant is approximately $2 billion. The alternative Proton Accelerator Plant would cost approximately $12 billion, a cost of $10 billion or more to taxpayers. *1/07.01*

(3) Future operation of the Bellefonte plant will provide a clean source of electricity for the area and the nation's increasing demand. Also a portion of the revenues collected from the sale of this electricity will be returned to repay the taxes use to complete the plant; whereas the Proton Accelerator Plant will be non-incoming producing, and a lasting debt.

Cordially,

Ronald L. Forster
South Central Regional Manager
Cataract, Inc. (An RCM Technologies Company)

Commentor No. 60: Roger Graham

Tennessee Carpenters Regional Council
United Brotherhood of Carpenters and Joiners of America
Established August 12, 1881
1451 Elm Hill Pike, Suite 106
Nashville, TN 37210
(615) 366-3303 (615) 366-3149 fax

I am Roger Graham of Tennessee Regional Council, Carpenters Local 74. I am here tonight to speak in favor of tritium production in the U.S.A. I think when our young people are sent to put their lives on the line, to protect us and our country, WE owe it to them to have the most advanced weapons that can be had. I don't care if the tritium is produced in Alabama or South Carolina, but I do think OUR elected officials should be prudent in all decisions concerning OUR tax dollars. Now Bellefonte Nuclear Plant can be ready to produce tritium for less than 3 billion dollars in a proven safe technology, that will produce revenues by the sale of much needed electricity--versus the cost of building an accelerator plant at the cost of 16+ billions a year that we are not sure will work, but will cost 155 million a year to operate. It is our money, America, speak out. *1/07.03*

Thank you,

Roger Graham

Commentor No. 61: James H. Green

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: Mr. Sohinki,

I've reviewed the EIS and would like to applaud the people who prepared the document. I know it represents a great deal of hard work and dedication on the part of those who wrote the EIS.

I would like to respond in kind by saying that both myself and many other people in the Northeast Alabama area are willing to give the same hard work and dedication in support of the production of tritium at Bellefonte Nuclear Plant.

I have 10 yrs. experience in TVA's nuclear program and am thoroughly convinced that nuclear is the way of the future. I have a highly technical background and personally know of many other people in this area with similar backgrounds who are avid supporters of the Bellefonte Tritium Production Project.

We are all eagerly awaiting the opportunity to assist in completing Bellefonte and helping operate the plant in a safe, efficient manner. We just need the chance to prove it.

So let's go, DOE! Let's build Bellefonte and produce tritium!

Sincerely,
James H. Green

1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: James H. Green (optional)
Organization: TVA
Address: 865 Clemons Rd.
City: Scottsboro State: Ala. Zip Code: 35769
Work phone: (256) 437-4317 Home phone: (256) 574-1997
Fax:
E-Mail Address:

7/4/98

Commentor No. 62: Mayor Elizabeth Haas

TOWN OF HOLLYWOOD

P.O. Box 240
Hollywood, Alabama 35752
Phone 259-4845

10-6-98
DOE Public Meeting
Ladies and Gentlemen and Officials:

I am sorry I can not be at this meeting tonight to give my support to TVA in their endeavor to open the Bellefonte Plant for the production of tritium.

We have heard all the reasons not to produce tritium at Bellefonte and the danger this would be to our citizens and our environment. If all these dangers are true, then why is Aiken, South Carolina working hard to get DOE to close that plant for the production of tritium?

I highly support TVA.

The reopening of Bellefonte will be a boost to our economy in Jackson County and the State of Alabama.

Thank You,
Elizabeth Haas
Mayor of Hollywood, Al.

1/07.03

Commentor No. 63: Randall L. Hartwig

DOE Public EIS Meeting
at Northeast Alabama Community College
on October 6, 1998

Comments of: Randall L. Hartwig

Union position: Valley-Wide Officer - Treasurer for the Engineering Association, Inc. (EA)

The Engineering Association is the union that represents 3500 TVA employees in positions involving professional engineering, architectural, chemical, economic, and computer systems functions, all employees in positions involving professional scientific and program planning and administration functions, and all employees in positions involving inspection, aide, or technical functions in engineering and scientific fields.

ENVIRONMENTAL IMPACTS OF OPERATION OF BELLEFONTE REACTORS

- EIS verifies that the incremental impacts of producing tritium in a commercial reactor are small with no measurable health effects.
- No air quality standards will be exceeded.
- No impacts to threatened or endangered species are expected.
- There will be a visual impact from the cooling tower vapor plume.
- Minimal impact on Guntersville Reservoir (0.2% of the flow).
- Minor impacts to aquatic resources from impingement in cooling water intake screens.
- Positive socioeconomic impacts
  - 800 Bellefonte workers
  - Up to 800 indirect jobs
  - Unemployment rate would stabilize approximately 2 % below current levels.

RADIATION EXPOSURE

SOURCES OF PUBLIC RADIATION EXPOSURE

- Natural Radon - 200 millirems per year
- Cosmic Radiation - 28 millirems per year
- Medical X-Ray - 39 millirems each time
- Nuclear Medicine - 14 millirems each use
- Drinking Well Water - 1 to 6 millirems per year
- 5 Hour Airplane Flight - 2.5 millirems
- Eating Food Grown with Phosphate Fertilizers - 1 to 2 millirems per year
- Wearing porcelain dental crowns or dentures - 0.7 millirems per year
- **Bellefonte Reactor Operation with Tritium Production - 0.58 millirems per year**
- Cooking with Natural Gas - 0.4 millirems per year
- **Bellefonte Reactor Operation - 0.26 millirems per year** .32 millirem/year

PUBLIC RADIATION EXPOSURE COMPARISON

- Average U.S. resident (Background) - 363 millirems per year
- Resident of Denver, Colorado (Background) - 442 millirems per year
- Resident of Jackson County, AL (Background) - 355 millirems per year
- Resident of Jackson County, AL (Background plus **Bellefonte Reactor Operation**) - 355.26 millirems per year
- Resident of Jackson County, AL (Background plus **Bellefonte Reactor Operation with Tritium Production**) - 355.58 millirems per year

1/07.03

Commentor No. 63: Randall L. Hartwig (Cont'd)

Large scale production of tritium in a CLWR is currently being demonstrated at the Watts Bar Nuclear Plant.

There are eight TPBARs in four Lead Test Assemblies in TVA's Watts Bar Reactor for a single, normal operating cycle. When the demonstration is over (~~May~~ March 1999), they will be delivered to a DOE laboratory for subsequent examination.

The lead test assembly (LTA), currently producing tritium in the core of the Watts Bar Reactor, is ~~nearing~~ past the midpoint of its production and all indications and measurements of the reactor core and the LTA demonstrate that tritium production is proceeding as expected.

TVA has emphasized reactor safety over tritium production at Watts Bar. Reviews conducted to date have revealed no technical issues which would impact safe operation of the plant. Tritium is normally produced in the reactor coolant. Worst case tritium release assumptions are well below the Federal environmental limits. Therefore, the environmental impact from tritium production is minimal.

There are no major (and few minor) modifications that are needed for large scale production of tritium at either the Watts Bar or Bellefonte Nuclear Plants.

The large scale production of tritium in a CLWR involves relatively minor changes to the (nuclear) design of the reactor core.

The removal, packaging and shipment of the tritium production assemblies can be conducted during normal scheduled refueling outages with minor modification of established refueling procedures.

The TVA engineering workforce is technically robust and has consistently demonstrated its ability to solve the most difficult technical and regulatory challenges. This has been conclusively demonstrated by the recent INPO 1 Rating at Browns Ferry and Sequoyah Nuclear Plants and the outstanding ratings (SALP 1) received from the NRC for the Engineering support at our operating plants. *1(cont'd)*

TVA engineering workforce is completely capable of providing the technical expertise necessary for the large scale production of tritium at TVA's Nuclear Power Plants. TVA responded in ***DOE RFP DE-RP02-97DP00414***, that there are 375 employees currently with Bellefonte experience and 3584 employees with nuclear experience within TVA. Also there are over 50,000 in the labor workforce with nuclear experience.

CONCLUSION: BELLEFONTE SHOULD BE THE PREFERRED ALTERNATIVE!

The draft CLWR EIS does not identify a preferred alternative for producing tritium. A no action alternative is for DOE to build an accelerator in South Carolina. After reviewing the draft EIS and comparing the potential impacts associated with the alternatives, including the no action alternative, The EA believe that the **preferred alternative should be identified as any alternative that includes Bellefonte**. This belief is based on the following:

- Negligible environmental impacts with no measurable health effects.
- Positive socioeconomic impacts supporting economic growth and development
- Flexible tritium production capacity to meet changing tritium needs
- Proven technology compared to the No Action alternative
- No proliferation issues that are not manageable under existing laws and controls associated with CLWRs
- Least Total Life Cycle Cost

Randy Hartwig, 10-06-98

Commentor No. 64: Mayor Glenda H. Hodges

Town of Woodville
Incorporated 1890
P.O. Box 94 • 26 Venson Street
Woodville, Alabama 35776
(205) 776-2860
Fax: (205) 776-2796

October 2, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
ATTN: Mr. Stephen Sohinki
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki:

In February 1998, the Woodville Town Council adopted a resolution in support of the production of tritium at the Bellfonte Nuclear Plant, and our position has not changed.

We believe that the production of tritium at Bellefonte poses no danger to the public and we feel confident that the plant can be operated in a completely safe manner.

Since the production of tritium by the Commercial Light Water Reactor method can be accomplished as a by-product of production of electricity, utilization of the Bellefonte Plant seems to be the most feasible and logical choice to produce the tritium needed for our national defense. North Alabama is proud of the contributions made and continue to be made to our nation's military programs. 1/07.03

Also, utilization of the Bellefonte Plant would provide an economic boost to an economic depressed area of our state. Therefore, for the above reasons, we continue to offer our support.

Sincerely,

Glenda H. Hodges

Glenda H. Hodges,
Mayor

Commentor No. 65: Jyles Machen

Statement to DoE / EIS Meeting

It is seldom in a country as large as ours that an opportunity presents itself which will be a win for everyone involved.

The defense program must have a new source for tritium in order to preserve our core nuclear weapons stockpile as permitted under the START Treaty.

DoE is mandated to make a decision on where to produce tritium by December 1998. It should be an easy decision.

Insert A

The TVA Bellefonte site meets the schedule requirements. Reactor 1 is more than 85% complete and the design requirements are firm. TVA has recent experience in getting through the NRC licensing maze, and tritium production can begin by the DoE target date.

The special-built tritium rods are functioning as expected with no problems at the Watts Bar demonstration site. And Watts Bar will be a backup production site until Bellefonte is ready.

Tritium produced at Bellefonte will be transported in its solid state to a new $400M extraction facility at the DoE Savannah River site, providing employment for 250-350 people. 1/07.03

If the Bellefonte Site is selected for Tritium production,

TVA gets a completed reactor vitally needed for the region's power grid, the nation gets its vitally needed tritium for defense, and Savannah River gets the extraction/conversion facility in South Carolina. Even their Congressman Lindsey Graham, said in a 1995 detailed report to the Speaker of the House, that a commercial light water reactor [Bellefonte] is the way to produce tritium. So everybody wins.

So what's the problem? Some say the proposed Markey-Graham language in the Defense Authorization Bill, which excluded TVA, was nothing but parochial, preventing competition, costing billions more, while risking an untested accelerator. Fortunately, That language was removed in the Conference between the Senate and House.

Others are concerned about nuclear power plant safety. There are 110 nuclear power plants operating in the U.S. and not a single death by radiation exposure can be documented, ~~or is even suspected~~. While some scare stories are spread, no factual backup is provided.

Let's get on with the program. I encourage a fair evaluation and timely decision by DoE. TVA, I believe, is up to the job. The nation's largest power producer whose Browns Ferry and Sequoyah nuclear plants recently earned the highest performance evaluation rating possible, has new leadership and positive management and can again serve the nation and our region.

Insert B

The TVA Bellefonte site meets the budget requirements. Over the life of the program more than 1B will be saved in federal resources our tax dollars. Some calculations say even as much as $13B can be saved.

JYLES MACHEN
1515 LOCUST CIR SE
HUNTSVILLE, AL 35801
(205) 536-4459

Commentor No. 66: Bill Metchnik

October 6, 1998

Bill Metchnik - Resident of Paint Rock, Alabama, Jackson County, Union Representive for this area.

I rise as a citizen of Jackson County who resides in the town of Paint Rock, and who happens to be the Machinist Representative for all of North Alabama. As both a citizen and Union Representative, I do have a two-fold purpose to rise in support that the decision should be made that Tritium be manufactured at the Bellefonte TVA facility.

Understanding first of the economic boom where it would provide jobs, but jobs of a good paying nature for citizens not only for Paint Rock, Alabama, but for all the general area which can and will reach by such decision, and these jobs will be good union paying jobs.

1/07.03

As Union Representative, of course, the Union that I represent will be supplying people for jobs.

The studies that I have looked at clearly convinced me that the safety factor is so conclusive, and it should assure all, that ~~this~~ there is no danger to people who would work the jobs and again that environmental factor or impact to the area will not be compromised.

And last, when you look at the comparable cost to me as a tax payer, my taxes and yours would be better spent to have the work done at Bellefonte.

Commentor No. 67: Don Nelms

Plumbers & Steamfitters LOCAL UNION NO. 498

OCT-06-98 02:25 PM P&S L.U. 498 1 205 547 6330 P.02

Phone: (205) 546-6791

Fax: (205) 547-6330

October 6, 1998

FAX TO: DEPARTMENT OF ENERGY

FROM: DON NELMS, BUSINESS MANAGER

I am Don Nelms, Business Manager, Plumbers and Steamfitters Local Union 498, representing over 500 pipefitters and their families in Northeast Alabama. I am here on their behalf in support of Department of Energy Tritium Plant at Bellefonte. *1/07.03*

Don Nelms
Business Manager
Plumbers & Steamfitters Lu 498

AFFILIATED: American Federation of Labor and Building and Construction Trades Department.

Commentor No. 68: David Nicholas

David L. Nicholas
President, Board of Directors
Rick Roden
Executive Director

SCOTTSBORO / JACKSON COUNTY
Chamber of Commerce

February 24, 1998

BELLEFONTE POSITION STATEMENT

Sirs:

I come before you today representing the Scottsboro-Jackson County Chamber of Commerce and four affiliated organizations: Leadership Jackson County, The 21st Century Council, Design Scottsboro and the Scottsboro Business Council. Over 500 of the most active and civic minded leaders of Jackson County are represented by the membership of these organizations.

The unanimous position of the leadership of these bodies is to strongly endorse the completion and operation of the Bellefonte Nuclear Project as a joint effort between the Tennessee Valley Authority and the Department of Energy. Furthermore, no opposition has been voiced by any of the general membership of these groups. *1/07.03*

It is our position that the issue of whether or not a nuclear power plant should be located in Jackson County, Alabama was decided many years ago and that this is not an issue to be addressed during these proceedings. It is also our position that , given a choice, no one would choose to live in a world where nuclear arms exist, but again this is not the issue to be addressed during these proceedings. The Department of Energy has been given a mandate to provide a reliable source of tritium for the maintenance of our country's nuclear arsenal and that is simply a fact of life. We, the leadership of the Scottsboro-Jackson County Chamber of Commerce and its affiliated organizations

P.O. BOX 973 • 407 EAST WILLOW STREET • SCOTTSBORO, ALABAMA 35768 • 256 / 259-5500
email: sjcc@HiWaay.net

Commentor No. 68: David Nicholas (Cont'd)

David L. Nicholas
President, Board of Directors
Rick Roden
Executive Director

SCOTTSBORO / JACKSON COUNTY
Chamber of Commerce

believe that the Bellefonte facility is the single best choice to fill this need. Since the start of construction on the Bellefonte facility over 20 years ago, Jackson County has been subjected to the devastating economic effects of the on again-off again status of Bellefonte and TVA's inability to decide on a permanent course of action. The American taxpayers have seen a substantial amount of their tax dollars funneled into this project with absolutely no return from that investment. It is our belief that when this project began, TVA made a commitment to the taxpayers of Jackson County that they would build this plant and provide a substantial number of good paying, permanent jobs to this area. To the management of the Tennessee Valley Authority, we say it is time to make good on that commitment; it is time to honor your promise to those individuals who have borne the consequences of your indecision. *1(cont'd)*

It is also time to act as good stewards of the resources of the taxpayers of this country. We believe that this proposed joint effort is the prudent course of action and we urge both the TVA and the Department of Energy to proceed with all due speed.

Signed:

David Nicholas
President
Scottsboro-Jackson County Chamber of Commerce

P.O. BOX 973 • 407 EAST WILLOW STREET • SCOTTSBORO, ALABAMA 35768 • 256 / 259-5500
email: sjcc@HiWaay.net

Commentor No. 69: Donald E. Olson

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments:

Worked with TVA over six years

TVA is a Quality / Safety Conscience organization

TVA has superior ratings by INPO and the NRC at all three Nuclear sites

Light Water Reactors Are SAFE and a prudent way to produce Electric Power

TVA is currently ranked at the Top of the Nuclear Industry

We need Tritium for the National Defense

I support the partnership between the DOE and TVA at the Bellefonte Nuclear site

1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Donald E. Olson (optional)
Organization:
Address: 1601 Sherwood Oaks
City: Decatur State: AL Zip Code: 35603
Work phone: 256-729-4532 Home phone: 256-306-0511
Fax:
E-Mail Address:

7/4/98

Commentor No. 70: Mayor Louis Price

CITY of SCOTTSBORO

SCOTTSBORO, ALABAMA

MOUNTAINS • LAKES • INDUSTRY

Gail Duffey, City Clerk
Louis Price, Mayor

U.S. Department of Energy
Commercial Light Water Reactor Project Office
ATTN: Mr. Stephen Sohinki
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki:

From the very beginning of the discussions of the Bellefonte Nuclear Plant as a source of tritium for our national defense, the City Government of the City of Scottsboro, Alabama has been very supportive of this plan. Our council and the mayor have expressed this support by resolution as well as by public statements as a group and individually.

We continue to maintain a strong desire to see Bellefonte completed for the production of tritium, as well as for the production of much needed electric power. For the benefit of our nation, cost, and schedule wise, it makes sense to use the Commercial Light Water Reactor for this task. The City of Scottsboro stands ready to do whatever can be done to bring this project to completion.

1/07.03

Sincerely,

Louis Price, Mayor
City of Scottsboro

Commentor No. 71: Michael D. Roberts

NAIDA

AmSouth Bank Building / P. O. Box 1668 / Decatur, Alabama 35602 / (256) 353-9450 / FAX (256) 353-5982

February 25, 1998

Mr. Stephen Sohinki
Director
U. S. Department of Energy, Commercial
Light Water Reactor Project Office
P. O. Box 44539
Washington, D. C. 20026-4539

Dear Mr. Sohinki:

I am the Executive Director of the North Alabama Industrial Development Association. Our primary mission is to assist communities in locating new industry for North Alabama.

I support the Jackson County leadership in their strong desire for DOE and TVA to partner and produce tritium at Bellefonte. This location offers proven technology, the quickest production and the lowest cost. **1/07.03**

Jackson County and North Alabama will provide DOE and TVA with the necessary support required for this project.

Sincerely,

Mike Roberts

Michael D. Roberts
Executive Director

Commentor No. 72: R. Kent Ryan

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I AM EMPLOYED BY STONE & WEBSTER ENGINEERING CORPORATION AT THE TVA BROWNS FERRY NUCLEAR PLANT AS SITE MANAGER. THE TVA NUCLEAR PROGRAM HAS BEEN PROVEN TO BE ONE OF THE SAFEST, QUALITY FOCUSED, AND COST EFFECTIVE PROGRAMS IN THE COUNTRY. I FULLY ENDORSE THE PRODUCTION OF TRITIUM AT THE BELLEFONTE NUCLEAR FACILITY. TVA, ALONG WITH ITS CONTRACTING PARTNERS, CAN PROVIDE THE REQUIRED TECHNICAL, CONSTRUCTION, AND OPERATIONAL EXPERTISE TO COMPLETE AND OPERATE THE BELLEFONTE NUCLEAR PLANT IN A SAFE AND EFFICIENT MANNER. **1/07.03**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: R. KENT RYAN (optional)
Organization: STONE & WEBSTER ENGINEERING CORPORATION
Address: 10011 BLUFF DR
City: HUNTSVILLE AL State: AL Zip Code: 35803
Work phone: 256-729-2805 Home phone: 256-~~729~~-860-9936
Fax: 256-729-4968
E-Mail Address: rkryan5@tva.gov

7/4/98

Commentor No. 73: Steve C. Stutts

STEVE C. STUTTS
INTERNATIONAL REPRESENTATIVE
INTERNATIONAL UNION OF OPERATING ENGINEERS
AFL-CIO

#5 TWELVE OAK CIRCLE
SUITE D
JACKSON, MISS. 39209
PHONE: 601 922 6844

INTRODUCTION

WHO ARE YOU.

WHO YOU REPRESENT.

Bellefonte should be selected as the primary tritium production source by the Department of Energy (DOE) to meet our national defense needs. We fully support the selection of Bellefonte based on the following reasons:

- IT IS A PROVEN TECHNOLOGY THAT IS SAFE AND ENVIRONMENTALLY FRIENDLY

  The accelerator, at best, is a science project since no accelerator of this size has been built and operated before. The proposed accelerator is two orders of magnitude greater than existing **research** accelerators. Bellefonte is proven technology that will be safely operated on a daily basis by the Tennessee Valley Authority (TVA). TVA currently safely operates five reactors in the Valley on a daily basis. *1/07.01*

- MEETS DEPARTMENT OF DEFENSE (DOD) REQUIREMENTS FOR THE NATIONAL DEFENSE

  TVA could begin supplying tritium in 2005 as mandated by executive order. The accelerator would not be able to supply tritium until 2008 if everything went according to plan.

- ACCORDING TO CONGRESSIONAL BUDGET OFFICE REPORT, THE **BELLEFONTE OPTION COSTS $13 BILLION LESS THAN THE ACCELERATOR OPTION**.

Commentor No. 73: Steve C. Stutts (Cont'd)

In current dollars, the accelerator would cost $16 billion while the Bellefonte option would cost $3 billion.

In constant dollars, the accelerator option would cost the taxpayers anywhere from $9.5 to $16 billion, plus approximately $155 million each year to operate, while the Bellefonte option would cost the taxpayers a total of $2.5 billion.

The money spent by DOE to complete Bellefonte would be repaid to the federal government. Revenues from the sale of electricity will be paid to DOE over the 40-year life of the plant to pay off the investment with interest.

There would be no net loss of revenue to the government and taxpayers.

- CREATES 800 PERMANENT JOBS AND HUNDREDS MORE INDIRECT JOBS. THAT'S NOT INCLUDING THE ADDITIONAL CONSTRUCTION JOBS AT THE PLANT. *1(cont'd)*

  This is a significant socio-economic impact on northeast Alabama that must be strongly considered.

In closing, I understand that an Interagency Report by the DOE, DOD, National Security Council, State Department, Arms Control and Disarmament Agency, White House Office of Science and Technology Policy, Office of the Vice President , and the Nuclear Regulatory Commission has concluded that no domestic law or international treaty would be violated by producing tritium at Bellefonte; that use of Bellefonte extends the past practice of using government-owned facilities simultaneously for civil and military purposes rather than setting a new precedent for proliferation; and that DOE should continue to pursue the CLWR option given the essential defense need for tritium and the flexibility, technical maturity, and cost-effectiveness of this operation. The Operating Engineers fully support the production of tritium at TVA's Bellefonte Nuclear Plant.

Commentor No. 74: Mayor Peaches Thompson

October 6, 1998

My name is Peaches Thompson, I am the Mayor of Gurley, Alabama. In 1985, which Bellefonte was at its peak, our low to moderate income of people was at 58 percent. In 1997, we ran another survey and the numbers jumped to 88 percent, and we feel like part of that was due to Bellefonte closing at that time.

Speaking on behalf of the 1500 residents of Gurley, we unanimously support a cooperative effort between DOE and TVA to complete the Bellefonte Nuclear Plant for the production of tritium.

The selection of Bellefonte offers: *1/07.03*

1. an assured supply of tritium necessary to our national defense program,
2. at the least cost to the U.S. taxpayer,
3. and much needed employment to an economically depressed area of the United States.

We stand eager and ready to support DOE and TVA in the process of making a Bellefonte Tritium Production Facility a reality.

For the records, I would like to present to Mr. Moderator a written statement of our support.

THANK YOU.

Commentor No. 75: Richard Ward

GOOD EVENING, MY NAME IS RICHARD WARD, GENERAL ORGANIZER, REPRESENTING THE INTERNATIONAL ASSOCIATION OF BRIDGE STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS AND AN ACTIVE MEMBER OF THE TENNESSEE VALLEY TRADES AND LABOR COUNCIL, WHICH IS COMPRISED OF 15 INTERNATIONAL TRADES AND LABOR ORGANIZATIONS.

SPEAKING ON BEHALF OF THE IRON WORKERS INTERNATIONAL ASSOCIATION, WE WHOLEHEARTEDLY PLEDGE OUR SUPPORT TO THE DEPARTMENT OF ENERGY AND THE TENNESSEE VALLEY AUTHORITY FOR THE COMPLETION OF THE BELLEFONTE PROJECT AS A TRITIUM PRODUCTION FACILITY IN SUPPORT OF OUR NATIONAL DEFENSE.

OUR MEMBERS AND FAMILIES, AS WELL AS THE COMMUNITIES IN THE SOUTHEASTERN UNITED STATES, ARE IN STRONG SUPPORT OF NATIONAL DEFENSE EFFORTS THAT KEEP THIS COUNTRY SAFE AND SECURE.

WE HAVE BEEN BRIEFED ON THE RESULTS OF THE RECENTLY RELEASED GOVERNMENT-PREPARED ENVIRONMENTAL IMPACT STATEMENT, AND WE FIND TRITIUM PRODUCTION WITH THE BELLEFONTE REACTOR TO BE ENVIRONMENTALLY SAFE AND ECONOMICALLY SOUND. *1/07.03*

WE HAVE CAREFULLY ANALYZED THE CONGRESSIONAL BUDGET OFFICE COST COMPARISON OF THE TRITIUM PRODUCTION ALTERNATIVES AND IT MAKES NO SENSE WHATSOEVER TO CONSIDER ANY OTHER FACILITY OTHER THAN THE BELLEFONTE REACTOR TO PRODUCE TRITIUM.

I URGE THE DEPARTMENT OF ENERGY TO SELECT THE BELLEFONTE NUCLEAR PLANT AS THE PRIMARY SOURCE OF TRITIUM PRODUCTION.

THAT SELECTION WILL PROMOTE A COOPERATIVE EFFORT BETWEEN ORGANIZED LABOR, THE TENNESSEE VALLEY AUTHORITY AND THE DEPARTMENT OF ENERGY THAT WILL SAVE THE TAX PAYER BILLIONS OF DOLLARS.

MR MODERATOR, I WOULD LIKE TO PRESENT YOU WITH A COPY OF MY STATEMENT FOR THE RECORD.

THANK YOU.

Commentor No. 76: Dan Williams

North Alabama Mayor's Association

October 5, 1998

I am speaking on behalf of the North Alabama Mayors Association. The North Alabama Mayors Association represents the interest of one hundred eighty municipalities in the North Alabama area.

The North Alabama Mayors Association agrees with those who have reviewed the draft Environmental Impact Statement (EIS) for the production of tritium in a Commercial Light Water Reactor (CLWR) dated August, 1998. We find the proposed tritium production program to be environmentally safe and to produce no measurable health effects. In addition, we conclude that Bellefonte Nuclear Plant should be named in the EIS as the preferred alternative based on its least life cycle cost to the U. S. Taxpayer and the positive socioeconomic effects of the project. I am including a summary of the primary points from the Draft EIS used to reach this conclusion. *1/07.03*

I appreciate the opportunity to tell you that the North Alabama Mayors Association supports wholeheartedly the production of tritium at the Bellefonte Nuclear Plant.

Dan Williams
President, North Alabama
Mayors Association

P.O. Box 308 Huntsville, Alabama 35804
(205) 532-7304 * Fax (205) 532-7525

Commentor No. 76: Dan Williams (Cont'd)

DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
FOR
TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

USES OF TRITIUM

Tritium is a radioactive isotope of hydrogen. If not properly controlled it can be dangerous, but when controlled properly is safe and can save lives. Tritium is:

- Used for life science and drug metabolism studies to ensure the safety of potential new drugs
- Used for self-luminous aircraft and commercial exit signs
- Used for luminous dials, gauges and wrist watches
- Used to produce luminous paint
- Used in Doppler Radar
- Used as a triggering component (i.e., boosts yield) in nuclear weapons

NONPROLIFERATION ISSUES
(Nonproliferation is defined as preventing the increase or spread of nuclear weapons)

Interagency Review of Nonproliferation Implications concerning tritium production was completed on July 14, 1998 and concluded the following:

- Nonproliferation policy issues associated with a Commercial Light Water Reactor (CLWR) are manageable and DOE should continue to pursue the CLWR option.
- No legal or treaty prohibitions against tritium production in a CLWR.
- Many exceptions have been made over the years to separation of civilian and military use of nuclear energy.
- Reactors producing tritium can remain on IAEA Safeguards List.
- No bilateral "peaceful uses" agreements will be violated. Reactors making tritium will use U.S. - origin uranium fuel.
- TVA's charter gives it a national security responsibility.

A House of Representatives Task Force (chaired by Lindsey Graham of South Carolina) issued a report to the Speaker of the House in 1995 concluding:

- Production of tritium in a commercial reactor is not a proliferation concern.
- Producing tritium in a reactor is no different than producing tritium in an accelerator.
- Raising nonproliferation concerns is simply an argument to sell the accelerator option.

Bellefonte would be operated as a electrical power generation facility with the ability to provide DOE with irradiation services for tritium production.

1

Commentor No. 76: Dan Williams (Cont'd)

ISSUES REVIEWED BY EIS

- Land use
- Visual Resources
- Air Quality
- Water Quality and Use
- Archeological and historic resources
- Biotic (living things) resources including threatened and endangered species
- Socioeconomics (interaction of social and economic factors)
- Public and Worker Health and Safety

ENVIRONMENTAL IMPACTS OF OPERATION OF BELLEFONTE REACTORS

- EIS verifies that the incremental impacts of producing tritium in a commercial reactor are small with no measurable health effects.
- No air quality standards will be exceeded.
- No impacts to threatened or endangered species are expected.
- There will be a visual impact from the cooling tower vapor plume.
- Minimal impact on Guntersville Reservoir (0.2% of the flow).
- Minor impacts to aquatic resources from impingement in cooling water intake screens.
- Positive socioeconomic impacts
  - 800 Bellefonte workers
  - Up to 800 indirect jobs
  - Unemployment rate would stabilize approximately 2 % below current levels.

RADIATION EXPOSURE

SOURCES OF PUBLIC RADIATION EXPOSURE

- Natural Radon - 200 millirems per year
- Cosmic Radiation - 28 millirems per year
- Terrestrial - 28 millirems per year
- Internal (your own body)- 39 millirems per year
- Medical X-Ray - 39 millirems each time
- Nuclear Medicine - 14 millirems each use
- Drinking Well Water - 1 to 6 millirems per year
- 5 Hour Airplane Flight - 2.5 millirems
- Eating Food Grown with Phosphate Fertilizers - 1 to 2 millirems per year
- Wearing porcelain dental crowns or dentures - 0.7 millirems per year
- **Bellefonte Reactor Operation with Tritium Production - 0.58 millirems per year**
- Cooking with Natural Gas - 0.4 millirems per year
- **Bellefonte Reactor Operation - 0.26 millirems per year**

Commentor No. 76: Dan Williams (Cont'd)

PUBLIC RADIATION EXPOSURE COMPARISON

- Average U.S. resident (Background) - 363 millirems per year
- Resident of Denver, Colorado (Background) - 442 millirems per year
- Resident of Jackson County, AL (Background) - 355 millirems per year
- Resident of Jackson County, AL (Background plus Bellefonte Reactor Operation) - 355.26 millirems per year
- Resident of Jackson County, AL (Background plus Bellefonte Reactor Operation with Tritium Production) - 355.58 millirems per year

CONCLUSION: BELLEFONTE SHOULD BE THE PREFERRED ALTERNATIVE!

The draft CLWR EIS does not identify a preferred alternative for producing tritium. A no action alternative is for DOE to build an accelerator in South Carolina. After reviewing the draft EIS and comparing the potential impacts associated with the alternatives, including the no action alternative, we believe that the preferred alternative should be identified as any alternative that includes Bellefonte. This belief is based on the following:

- Negligible environmental impacts with no measurable health effects.
- Positive socioeconomic impacts supporting economic growth and development
- Flexible tritium production capacity to meet changing tritium needs
- Proven technology compared to the No Action alternative
- No proliferation issues that are not manageable under existing laws and controls associated with CLWRs
- Least Total Life Cycle Cost

Commentor No. 77: Danny L. Williams

October 6, 1998

My name is Danny L. Williams, Business Manager of the International Union of Operating Engineers, Local 320, Florence, Alabama.

Speaking on behalf of the 590 members, we unanimously support a cooperative effort between the Department of Energy and the Tennessee Valley Authority to complete the Bellefonte Nuclear Plant for the production of tritium.

The selection of Bellefonte offers:

1. an assured supply of tritium necessary to our national defense program,
2. at the least cost to the U.S. taxpayer,
3. and much needed employment to an economically depressed area of the United States.

We stand eager and ready to support DOE and TVA in the process of making a Bellefonte Tritium Production Facility a reality.

For the records, I would like to present to Mr. Moderator a written statement of our support.

THANK YOU.

1/07.03

Commentor No. 78: David Thornell

Bunn Lovelady, Chairman
Debra Jordan, Vice-Chairman
Wade "Bo" Murray, Treasurer
Jim Green, Secretary
Tommy Harding, Director
James V. Hastings, Director
Gary Lackey, Director

MOUNTAINS OF ADVANTAGE
Jackson County
ALABAMA
Economic Development Authority

David Thornell, CEO,
Executive Director

Shelia Bryant,
Assistant Director

Jackson County Economic Development Authority Supports Tritium Production at Bellefonte

The lead economic/industrial development marketing and recruitment agency for Jackson County gives their enthusiastic endorsement for the production of tritium at the TVA-Bellefonte facility.

We feel that the selection of Bellefonte by the DOE to serve this nation's tritium needs represents a win-win situation for our county and this country. It is the clear winner and perhaps the best deal that the United States will ever have available from an investment standpoint. The shared power revenues as proposed will more than pay back all expenditures and the production of tritium in a light water reactor is the only proven method under consideration. We have learned a lot about this process through this selection phase. We have read the Environmental Impact Documents. We believe it is and will be safe. Without this knowledge we would be firm in opposing this project. However, based on the facts, Jackson County offers an operating environment that will be overwhelming in its support. This is true from our first-hand view and involvement and as indicated by these local public hearings. We want the jobs, we want the dollars and we want to support our nation's security interests by joining DOE and TVA in a partnership that will accomplish these common and vitally important objectives. Bellefonte is the wise choice and therefore the best choice.

1/07.03

817 South Broad Street • P.O. Box 609 • Scottsboro, AL 35768-0609
Ph: (256) 574-1331 • Fax: (256) 259-0873
E-Mail: JCEDA@HWAAY.net

Commentor No. 79: Anonymous (3)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: We are for Tritium Production At Bellefonte Plant 1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: _____ (optional)
Organization: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Work phone: _____ Home phone: _____
Fax: _____
E-Mail Address: _____

7/4/98

Commentor No. 80: Anonymous (4)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: We are totally opposed to the proposal for environmental, and other safety concerns (terrorism is a reality in our world today - this reactor most likely would be a prime target) Also... accidents do happen and even a small percentage of a chance of one occurring is far too risky considering the magnitude of a nuclear disaster. 1/14.04 2/22.01 3/15.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Commentor No. 81: Melvin L. Brewer

IRON WORKERS LOCAL UNION NO. 704

INTERNATIONAL ASSOCIATION OF BRIDGE, STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS

2715 BELLE ARBOR AVENUE CHATTANOOGA, TENNESSEE 37406

MELVIN L. BREWER
Business Manager

423 / 622-2111 FAX 423 / 622-2112

Good Evening,

I am Melvin Brewer, Business Manager of Local 704 of the International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers from Chattanooga, TN.

On behalf of our 600 plus members, I would like to voice our support for the proposed Commercial Light Water Reactor for the production of Tritium Gas at Bellefonte with Watts Bar and Sequoyah as a back-up.

The reasons for our support are numerous and are beneficial not only to the people of this area, but to the American people as a whole.

Some of the reasons are

Savannah River Site does not meet the 2005 production of tritium mandated by the President and Congress.

Accelerator Production of tritium requires a 500MW power source for operation. Bellefont will actual produce power. *1/07.01*

As for the safety of the plant, TVA has an excellent record. Accident risk for Bellefonte is one fatal cancel every 245 million years and transportation risk is less than one fatal cancer per 100,000 years. The risks factor for Watts Bar and Sequoyah are quite a bit less.

Additional low-level waste is about 1% of TVA current volume.

While the accelerator is an un-proven method, Commercial light water method has been proved at Watts Bar. With Watts Bar and Sequoyah has a back-up this plan will insure the country's supply of tritium for it's National Defense needs.

As Tritium production in a commercial reactor is not prohibited by International nor the United States law. We feel like the benefits out weight the risk.

Commentor No. 82: Danny M. Easter

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I AM IN SUPPORT OF THE CLWR PROJECT, BECAUSE OF OUR NATIONAL SECURITY & THE LEAST EXPENSE TO THE AVERAGE TAXPAYER. *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Danny M. Easter (optional)
Organization: Painter's Local 226 Chatt.
Address: P.O. Box 947
City: Rockwood State: Tenn Zip Code: 37854
Work phone: 423-365-3133 Home phone: 423-365-4051
Fax:
E-Mail Address:

7/4/98

Commentor No. 83: Ronald E. Easter

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- returning this comment form to the registration desk at the meeting
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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I SUPPORT CLWR BECAUSE IT IS THE CHEAPEST WAY TO PRODUCE TRITIUM FOR OUR NATIONS DEFENSE. 1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Ronald E. Easter (optional)
Organization: Pintlalla 10226 Chatt.
Address: ~~[illegible] Rd.~~ P.O. Box 947
City: Rockwood State: Tn. Zip Code: 37854
Work phone: 698-4163 Home phone: 354-1136
Fax:
E-Mail Address:

7/4/98

Commentor No. 84: Linda Ewald

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I continue to be opposed to the production of tritium, because 1/10.03
of the increased risk of environmental contamination, 2/14.04
increased hazard to human health, increase production of 3/16.04
nuclear waste (when we don't know what to do with 4/23.13
current stores of waste), the financial costs, and the 5/01.10
immorality of its use in nuclear weapons.
The United States does ~~not~~ not need tritium by
the year 2005. By DOE's calculations the U.S can
maintain its current huge ~~[illegible]~~ arsenal without
producing tritium until 2016. And if the arsenal is 6/02.02
reduced, as experts claim it can and should be, no
new tritium would be needed until 2030.
Tritium decays at the rate of more than 5% per
year - if production begins by 2005 - half will be
gone by the time it is actually used. It will cost
at least 2 billion dollars (and in reality probably much
more) to begin production of tritium. That money 4(cont'd)
in wasted - 2 billion federal dollars could create
20,000 valuable jobs.
But most of all, the production of nuclear weapons 5(cont'd)
materials in a civilian reactor is immoral and a
violation of the nuclear non-proliferation treaty signed 7/01.04
and ratified by the United States in 1970. It is

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Linda Ewald (optional)
Organization: Foundation for Global Sustainability, Oak Ridge Environmental Peace Alliance
Address: 649 Pender Road
City: Knoxville State: TN Zip Code: 37933
Work phone: Home phone:
Fax:
E-Mail Address:

7/4/98

Commentor No. 84: Linda Ewald (Cont'd)

hipocrisy for us to criticize other nations for their use of commercial reactors to produce nuclear weapons material, while we make plans to produce tritium in our civilian reactors.

As a taxpayer and a human being, I do not want to support the production of tritium or any nuclear weapons material. Weapons of mass destruction threaten all of Creation. This plan sets a precedent that will destroy our international non-proliferation efforts. I urge the individuals with the power to make decisions to consider the long term consequences. Is short term gain worth the risk to our health, our home and our future?

Thank-you for the opportunity to comment.

7(cont'd)

Commentor No. 85: William Griffith

Stone & Webster FOUNDED 1889

STATEMENT FROM STONE & WEBSTER

My name is William (Bill) Griffith. I am a Vice President with Stone & Webster Engineering Corporation. We are now the Engineers of Record for the Bellefonte nuclear plant. We are one of the world's largest engineers and constructors of commercial nuclear facilities. We have reviewed the Draft Environmental Impact Statement and would like to compliment the Department of Energy on the thoroughness of that report. And we agree with the conclusions as stated both from a safety perspective and from the impact on the environment. We as the engineers, through our engineering and design responsibilities, will ensure that the Bellefonte nuclear power station is designed in compliance with all applicable laws and environmental regulations.

1/07.03

# # #

10/8/98

Stone & Webster, Incorporated
P.O. Box 2325, Boston, Massachusetts 02107-2325
245 Summer Street, Boston, Massachusetts 02210
Tel: 617-589-5111 Fax: 617-589-2156

Commentor No. 86: Ann Harris

Ann Harris
305 Pickel Road
Ten Mile, TN 37880

phone # 423-376-4851
Fax # 423-376-8864
e-mail: apickel@aol.com

October 8, 1998

Comments to DRAFT EIS on TRITIUM production using the commercial light water reactors @ TVA:

1. Decommissioning of a TRITIUM production site has never been performed therefore who is going to clean up the mess left at Watts Bar when DOE and DOD leave? The cost will be much higher at a tritium production plant than at a plant not making tritium. Will the rate payers of TVA have that added to their stranded cost when deregulation hits? *1/20.01*

2. I could not find the definitions for such words as –
   --"measurable health effects" *2/14.11*
   --"associated impacts of transporting " *3/18.02*
   --previous (TVA) impact statements—: "serve to a great extent as the basis for this EIS"
   ---Does it mean that DOE went back into history and found something they liked and used it -----that is what appears to have happened here. Watts Bar was licensed 3(three) years ago----Sequoyah over 15 and Bellefonte does not have one that is in this decade. So what is the basis for making that statement. What is the NRC basing their decision of NO Significant Impact! *4/05.25*
   ----What does No Significant Impact mean? Does that mean that the local people are of no significance, the country surrounding Watts Bar or the river is of no significance? Some where you must define how you use the word "significant" and how it applies to this EIS.
   ----TVA and the NRC both use the word **significant** until an action happens that makes people scream "Uncle". So I am asking what DOE's usage is in this format? *5/05.28*

3. You have used the national average of fuel rod burns to set the standard in this EIS. Why didn't you use TVA's average of burns. Is it because the average is much higher than 2 (two) per year. Using competent and safe nuclear programs around the nation does not reflect TVA's record. *6/19.06*

4. What is the basis for using INPO's reports to defend using TVA's CLWRs when the public does not have access to those reports and cannot get them? (The NRC and TVA both use INPO documents to make critical judgments that best suit them to write violations against TVA and TVA does not produce ALL of INPO's comments when talking to the public. Therefore the public is at a vast disadvantage responding to this EIS on that basis alone) *7/09.05*

Commentor No. 86: Ann Harris (Cont'd)

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5. You used the "affected environment area" terminology at the Bellefonte Meeting. Does that mean that you base that on the "current prevailing winds?" *8/14.12*

6. What is the current waste water program that the TVA nuclear programs use to clean up the reactor coolant waste water prior to release into the Tennessee river? Where is the procedure for that and how often is that program tested to support its reliability? What is the criteria that the NRC will use to monitor that program? Where is that criteria located now? *9/11.01*

7. At the Bellefonte it was stated that if TVA has an over run of the bid that TVA will pick up the overrun; i.e. the rate payers. Does the 1.9Billion dollars that using the CLWRs at TVA also include the cost of transportation to the SRS and does it include the cost of the extraction facility? If not why not?

8. You have made the point several times that TVA is a government agency. If that is a matter of fact shouldn't you notify the White House, congress, the media as well as the TVA Chairman and board in addition to the rate payers in the valley and notify them that TVA will be sharing the cost of mismanagement and illegal activities with all of the taxpayers across America. Also you state that TVA's reactors are government owned. When did the rate payers sell off the assets of the valley? What is the basis for these statements and why was this language used? TVA has never been known in the past as a government agency. Doe is taking the position that DOE only has to come in and confiscate TVA! *10/23.14*

9. In your draft you report very small numbers of abused employees that have been harmed as a result of raising safety issues. Are those numbers from the Department of Labor or is that from the thugs at Region II of the NRC or is that from the TVA Nuclear's Vice President that says that the NRC----DOE-----DOL----the media---- or the public does not know the law and that TVA has never abused any one over safety issues. *11/09.06*

10. How will TVA------the NRC-------and DOE ensure a safety conscious work environment where employees feel free to raise safety issues with out damage to them , their families or their careers? When a TVA employee receives a death threat at his/her work desk since 1995 up and through out the past month then safety is not a top priority of these agencies. Where is my confidence that you are willing to protect workers from management abuse?

Commentor No. 86: Ann Harris (Cont'd)

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11. Will DOE pay replacement cost for damage to private when the accident happens? (since the Price Anderson Act only requires that an insurance company to pay a set amount for damage to private property.) How will you reimburse me for your recklessness? *12/15.01*

12. At the Bellefonte meeting you stated that you will be using Watts Bar, Sequoyah and in addition to Bellefonte to keep up the production on an annual rotation. What is the basis for this menage a trois with DOE? Also where in the EIS is that scenario addressed? *13/03.03*

I have additional comments but will seek that they be addressed through further written comments.

Commentor No. 87: Jerry V. Mills

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I support tritium production at the TVA Nuclear facilities. I am an Engineer currently working at Sequoyah Nuclear Plant with 20 yrs experience in the nuclear industry. I worked 8 yrs on the Bellefonte design (secondary side of plant - power producing side). The design of the secondary side of the plant far exceeds the code requirements with respect to material certifications & quality. I was part of 2 major walkdowns of the secondary side of the plant in the early 1980's. All of the major equipment and piping is installed. Only small bore piping & misc drains & vents was not completed. Like Watts Bar, Bellefonte & Sequoyah the thermal efficiency of the plant (heat cycle efficiency) will be among the best in the country. With the growing concern over air quality, finishing Bellefonte can help reduce greenhouse emissions from fossil fuels. *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Jerry V. Mills (optional)
Organization: Nuclear Engineering, Sequoyah Nuclear Plant
Address: 518 New Union Circle
City: Dayton State: TN Zip Code: 37321
Work phone: (423) 843-8339 Home phone: (423) 775-6850
Fax:
E-Mail Address: JVMills@TVA.GOV

7/4/98

Commentor No. 88: Jesse L. Reed

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I am in support of the CLWR. We need the tritium for the protection of our nation, and the plants are already, which is a huge savings for taxpayers. 1/07.01

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Jesse L. Reed (optional)
Organization: Ironworkers Local 704 Chatt. Tenn.
Address: 7437 Wasson Memorial Highway
City: Grandview State: Tenn. Zip Code: 37337
Work phone: Home phone: (423) 365-6669
Fax:
E-Mail Address:

7/4/98

Commentor No. 89: Steve Tanner

October 8, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
P. O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki:

I have the following comments on the Draft Environmental Impact Statement (DOE/EIS-0288D) for the Production of Tritium in a Commercial Light Water Reactor.

1. Summary - Section S.1.1 after last sentence add the same last sentence as Volume 1 section 1.1.1 which states: "DOE is considering only the purchase of irradiation services, not the purchase of a reactor." 1/24.12

2. Volume 1, Section 1.3.5 - Add reference to Speaker's Task Force on Nuclear Cleanup and Tritium Production, A Report titled: "Getting on with Tritium Production: A Report to Speaker Newt Gingrich" dated September 29, 1995. Reason for my comment is that this report also concluded there were no treaties, laws, or policies violated with CLWR tritium production. 2/01.04

3. Volume 1 Section 5.2.11 - Construction Impacts (regarding Accelerator) - I do not believe the most significant impact regarding dewatering has been captured.

   The current wording in the Draft CLWR EIS Section 5.2.11 currently states that impacts would be minimal, but there is no mention of the groundwater being contaminated. The APT Draft EIS, Section 3.3.2.2 identifies that radiological analysis of groundwater from the water table showed that radium and tritium are present in some locations beneath the preferred site and are slightly above the respective drinking water standards.

4. Under ERP No. D-DOE-A09828-00 Rating EC2, Surplus Plutonium Disposition (DOE/EIS-0283) for Siting, Construction and Operation of three facilities for Plutonium Disposition the EPA expressed concern as to the ***lack of assurance that proposed operations would not lead to further adverse impacts***. 3/04.05

   Draft CLWR EIS, Section 5.2.11, subsection on Operational Impacts states that the APT would produce neutrons which have the potential to penetrate the shielding and be absorbed by the soil and groundwater. This indicates that there **would be adverse impacts from operations** of the facility and that the EPA concerns under the plutonium disposition EIS are valid and should therefore also be addressed for the APT. I am not suggesting that all of the APT Impacts be addressed in the CLWR EIS. I do believe though that the most significant ones should be mentioned in the CLWR EIS since the APT is the no action alternative. If this area is not yet addressed in the

Commentor No. 89: Steve Tanner (Cont'd)

APT EIS, it would not be appropriate to address it in the CLWR EIS until the APT EIS has evaluated the issue. *3(cont'd)*

Sincerely,

Steve

Steve Tanner
2475 Allegheny Dr.
Chattanooga, TN 37421

Commentor No. 89: Steve Tanner (Cont'd)

FR-ENVIRONMENTAL SCAN: 09/25/98

RA Web Page: http://insidenet.tva.gov/envmgt/regaff/ra.htm
For full text or "pdf" format: http://insidenet.tva.gov/envmgt/regaff/fedreg/em092598.htm

Index of Items: (09/25/98 Total 2)

1. **EPA**--Environmental Impact Statements and Regulations; Availability of EPA Comments

2. **EPA**--Common Sense Initiative Council, (CSIC)

-----No. 1 of 2---------
L-S ID No. : 645207 (72 lines)
PAGE: 63 FR 51349 NO. 186 09/25/98
CFR: -NONE-
CAPTION: Environmental Impact Statements and Regulations; Availability of EPA Comments
AGENCY: Office of Federal Activities
Office for Enforcement
Environmental Protection Agency
ACTION: Notice
CONTACT: Office of Federal Activities, 202-564-5076

SUMMARY: ERP No. D-DOE-A09828-00 Rating EC2, Surplus Plutonium Disposition (DOE/EIS-

0283) for Siting, Construction and Operation of three facilities for Plutonium Disposition, Possible Sites Hanford, Idaho National Engineering and Environmental Laboratory, Pantex Plant and Savannah River, CA, ID, NM, SC, TX and WA. Summary: EPA expressed environmental concern based on the effects on water and ecological resources and the presence of contamination in the existing environment and lack of assurance that the proposed operations would not lead to further adverse impacts.

Commentor No. 90: Steve Tanner

Good Evening, My name is Steve Tanner. I have over twenty six years experience in the nuclear and defense industries. I am an employee of TVA. I am here tonight though not as a TVA employee, but as an interested citizen and concerned taxpayer of the United States of America. The views and beliefs I express to you tonight are my own.

For over two years now, I have had the opportunity to gain a tremendous amount knowledge regarding DOE's efforts to obtain a new assured supply of tritium. I have researched information regarding what tritium is, the associated health effects, why the United States needs tritium, what has been occurring in congress and in DOE since 1989 pertaining to tritium production, what other nations are doing about tritium production, what the United States policies are regarding proliferation, arms reduction, science and technology, and how our political process is working just to name of few. I have also reviewed and compared data provided in the draft EIS's for both the CLWR and the APT options. I would be afraid to even try to estimate the volume of material I have seen and read regarding tritium.

Let me start by commending DOE and TVA for their thoroughness and depth in the draft Environmental Impact Statement for the CLWR production of tritium. I truly believe that all potential impacts have been identified and thoroughly evaluated.

Next ~~Now,~~ I would like to share with you a few things that I have learned through my research and regarding the No Action Alternative:

The first thing I learned involves time and money:

> DOE has been attempting to provide an assured supply of tritium to meet defense needs for at least ten years now. In March 1989, a report was prepared identifying that an Accelerator for the production of tritium could be designed and built in Hanford, Washington at a cost of $2.3 Billion in 9 years.
>
> Today, over nine years later, 3 years into conceptual and detailed design activities, after numerous studies and some limited testing and who knows at what cost to date, the estimate is even higher. There is still $3.5 Billion to go to get an accelerator facility built and operating, 40 years of operations and maintenance cost, nine more years to go on the schedule, and not in Washington State but now in South Carolina.
>
> What this indicates to me is that we have people in this country that have found their answer to our ailing Social Security Program --- they have found a way to fund their own retirements through a pork barrel program called the Accelerator Production of Tritium---and it's being paid for through our tax dollars.

1/23.15

1(cont'd)

Commentor No. 90: Steve Tanner (Cont'd)

The second thing I learned deals with political interference:

> Congress has each year, I know since 1993, passed laws that required DOE to find a solution and make a decision regarding a source of tritium. In fact, in November 1993, congress passed the FY94 Defense Authorization Act which required DOE to evaluate the commercial production of tritium. Then a law was passed that specifically required any new tritium production facility to be built in South Carolina. Why South Carolina? Politics!
>
> In 1995, DOE's dual path strategy using an accelerator or a CLWR was published after the urging of congress for DOE to again consider commercial production. Congress recognized in public law the dual path strategy and mandated a decision date by DOE.
>
> Since then a political battle has been occurring. This battle has been Accelerator pork barrel benefactors against those that are serious about what is best for our country. Fortunately, we have some very strong and capable congressional members that have maintained DOE down a steady path of finding what is best for the United States and who support the decision being made by DOE based on merit not politics.
>
> I believe that DOE can and will make a decision based on what is best for the United States as long as the pork barrel politicians stay out of their way.

2/01.02

Commentor No. 90: Steve Tanner (Cont'd)

The third thing I learned also involves political interference but is more specific to so called proliferation implications:

Who's to say what we as a country can achieve regarding arms reduction and control. I have seen some major shifts in our policy as a nation. Moving more and more towards being the leader in nuclear weapons reductions. The United States has been a leader in the development of the Comprehensive Test Ban Treaty, the Non-proliferation Treaty, and is currently leading the world towards adopting a Fissile Materials Cut-off Treaty.

Yet while we move forward towards these goals, let us not forget that to lead we must take the right actions. I know that until we achieve total world nuclear disarmament the right action is for the United States to maintain a nuclear deterrent. I also know that to maintain that deterrent safe and reliable we need tritium.

I believe to build an accelerator as a "New Nuclear Defense Production Facility" as part of the Nuclear Weapons Complex is not the right action. I state this because a new accelerator facility built with a mission of tritium production, a facility capable of producing fissile material such as plutonium and uranium, a new production facility controlled by the Nuclear Weapons Complex and probably not subject to IAEA accountability inspections, a facility that uses a technology that is not under current export controls --- that all of these things indicate high risk and they carry major proliferation implications. *3/01.04*

On the contrary, DOE's purchase of irradiation services through a financial arrangement with TVA which allows for completion of Bellefonte, is consistent with the direction our country has been going regarding other military versus civilian technology uses.

Let me share this with you: The United States National Security, Science and Technology Strategy states: "The Administration has launched initiatives that reflect new ways of doing business. Acquisition reform removes barriers that separate the defense industry from the commercial industry and thus ensures that the military acquires the highest quality equipment at the lowest cost. Our dual-use technology policy recognizes that our nation can no longer afford to

Commentor No. 90: Steve Tanner (Cont'd)

maintain two distinct industrial bases and allows our armed forces to exploit the rapid rate of innovation of commercial industry to meet defense needs." *3(cont'd)*

So I believe as we lead the world to disarmament and to minimize any potential proliferation implications, building the accelerator is not the right action. I also believe the right action is to use a CLWR. I state this because use of a CLWR:

- supports our dual-use technology policy,
- does not violate any laws, treaties, or policies,
- Provides greater government control than the DOE Nuclear Weapons Complex which is managed by private sector Management and Operations companies under contract with DOE and in business for a profit while TVA reactors are managed and operated by government employees, and *4/07.01*
- a CLWR would only be used to irradiate DOE components that produce tritium in a non-weapons usable form more like producing a raw material than the finished product in a TVA reactor.

In summary,

I recommend that DOE include as the preferred alternative to be identified in the Final CLWR EIS use of the Bellefonte facility with, when and if needed, a Watts Bar backup, and *5/06.05*

I request that DOE move expeditiously to eliminate any further funding of the "Accelerator Production of Tritium Project" or as a minimum rename the project to the "~~Pork Barrel~~ - Fund Our Retirement Production of Tritium Project". Then when someone says they are F.O.R APT, we'll know what they really mean. *6/04.01*

I thank you for listening and submit a copy of my comments for the record and your consideration.

Comments of Steve Tanner at Public Meeting on Tritium Production in Commercial Light Water Reactors, October 8, 1998, Evensville, TN

Commentor No. 91: Charles R. Watson

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: It is a good safe way to make tritium gas, and we need the gas for pops in the air

1/07.02

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Charles R. Watson (optional)
Organization: Rank C.U. 226
Address: 715 Fillmore Ln
City: Clarksville, TN State: TN Zip Code: 37343
Work phone: Home phone: 842-5240
Fax:
E-Mail Address:

7/4/98

Commentor No. 92: Marie Weir

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I am in favor of CWLR because I believe it is in the best interest of our country to be able to defend ourselves and to do this, we must have the means of producing tritium.
I also believe CWLR is the most economical way to produce tritium. The plants are already there, which is a huge savings to tax payers in comparison to building a huge plant for that specific purpose. This is a two-fold savings as the plants also produce power at the same time.
It is safe according to all studies conducted.

1/07.02

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Marie Weir (optional)
Organization:
Address: 8509 Dayton Pike Hwy.
City: Dayton State: TN Zip Code: 37321
Work phone: 698-4463 Home phone: 775-0356
Fax: 698-4932
E-Mail Address:

7/4/98

Commentor No. 93: Mitchell Weir

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I am in favor of the CLWR process to produce tritium for the nations stockpile. This option is the only one that makes any sense for the American taxpayer. The 9 billion dollar savings along with the slight impact the CLWR will make on the environment makes the choice very easy. 1/07.02

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Mitchell Weir (optional)
Organization: Painters & Allied Trades Local 226
Address: 8507 Dayton Mt Hy
City: Dayton State: TN Zip Code: 37321
Work phone: 423-698-4163 Home phone: 423-775-0356
Fax: 423-698-4932
E-Mail Address:

7/4/98

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison

Comments on the
Draft Environmental Impact Statement
for Tritium Production
in a Commercial Light Water Reactor

by the
Oak Ridge Environmental Peace Alliance
October 8, 1998

CHAPTER 1

1.1.1 The document states that "the U.S. nuclear weapons complex does not have the capability to produce the amounts of tritium that will be required to support the Nation's current and future stockpile."

Comment: 1) The Nation is a magazine. The United States is a nation. 2) This statement is divorced from reality. The DEIS can reference the President's directive demanding more tritium, but as DOE well knows, its own numbers show we do not need tritium until 2016 (to maintain START 2 levels) and will by then likely need less tritium due to additional multilateral stockpile reductions. As NRDC has pointed out, a scenario of 1000 warheads—still more than enough to secure our national defense and serve as adequate a deterrent against hostile attack as any size arsenal—would not require additional tritium until 2032 (by that time, 3/4ths of any tritium produced in 2005 will have decayed away). 1/24.12 2/02.02

1.1.2 The DEIS envisions the life of the light water reactor being used to produce tritium to be 40 years.

Comment: In the case of Watts Bar and Sequoyah reactors, 40 years from 2005 would extend their life beyond current expectancy. In the case of Bellefonte, just a few years after the US would really "need" the tritium (2032 under the NRDC 1000 warhead scenario) the reactor would shut down. 3/21.03

1.1.4 The DEIS proposes to define the reasonable alternatives as the four reactors "offered" by TVA (Watts Bar 1, Sequoyah 1&2, Bellefonte 1), added Bellefonte 2 as "reasonable" and proposed to examine the environmental impacts of using any combination of the five. TVA has withdrawn three of those reactors from its offer (Watts Bar and the Sequoyahs), leaving DOE with only Bellefonte 1 as "offered."

Comment: In considering reasonable alternatives, DOE must use some criteria and use it consistently. Either only the reactors offered in response to the procurement process can be considered (and then only those which continue to be offered), or all reactors, completed and uncompleted, which could be used must be considered as reasonable alternatives. (This would conceivably include the Fast Flux Test Facility in Richland, Washington and any number of commercial reactors operated by public utilities). Either the realm of reasonable is defined by those "offered" or it is not. In either case, DOE's current list is not sufficient to define "reasonable" alternatives. 4/06.03

1.3.1 DOE describes the process by which the "required tritium requirements" (sic) are determined.

Comment: It is not clear from this description whether the date 2005 comes from the Presidential directive (where the President demonstrates the kind of clear thinking and good judgement that got him in his current mess, only this time on a subject far more serious) or from DOE's extrapolation from the Presidential directive. It should be made clear. 2(cont'd)

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

1.3.2. The DEIS: "In the absence of new weapons design and the total redesign of all warheads and delivery systems, the nation requires a reliable source of tritium to maintain a nuclear deterrent. Furthermore total redesign…would require nuclear testing which would be contrary to the President's pursuit of a Comprehensive Test Ban Treaty."

Comment: DOE demonstrates its selectivity in describing the context in which this "need" is being defined and this decision is being made. In imagining the possible future, it is more reasonable and just as accurate to say, "In the event of further arms reductions which would require accelerated dismantlement of the current nuclear arsenal, the nation's need for tritium to maintain its nuclear arsenal would decline along with the size of the arsenal, pushing the "need" date far into the future. This development would be in compliance with the nation's legal obligation to pursue complete disarmament under the Nuclear Nonproliferation Treaty, Article VI, which became the law of the United States upon its ratification in March, 1970. The DEIS should reflect reality---consideration of "reasonable alternatives" should not be bound by outdated policies, particularly those which have been denounced by no less eminent persons than General Lee Butler, retired head of the US Strategic Air Command and President Jimmy Carter. NEPA does not permit DOE to limit its "reasonable" alternatives to Presidential policy statements. ***5/02.01***

1.3.3 The DEIS says tritium "must be available" by 2005 if a commercial light water reactor is the source and that tritium "must be available" by 2007 in a linear accelerator is the source.

Comment: This discrepancy is not based on any science or fact. It gives the lie to DOE's statement of "need." If the "need" for tritium is based on decay of tritium in the current arsenal and the fixed amount available in the reserve, then we will "need" tritium when we need it and the date will be the same whether the source is commercial reactors, linear accelerators, or purchase from Canada. ***2(cont'd)***

1.3.5(2) The DEIS cites four instances of "exceptions to the practice of differentiating between US civilian and military facilities" in an effort to address proliferation concerns.

Comment: This attempt to skirt the significant concerns of the public (concerns shared by a large majority of the US House of Representatives) about the proliferation impacts of using a civilian nuclear reactor to produce bomb material is disingenuous, outrageous, and absurd.

Clearly the concern about nonproliferation which the US has used around the world has never been that a nation which possesses military nuclear facilities will surreptitiously use those facilities for peaceful purposes. It is disingenuous of the DEIS to pretend it misunderstood the public's concern. It is absurd to imagine we would threaten (or, as we ostensibly did in Iraq, attack) another nuclear power (Russia? Great Britain? China? France?) to prevent them from converting a military installation to a peaceful purpose, or to disable their efforts to use military technology for civilian purposes.

Give us a break! The concern has always been that nations would be able to disguise weapons development as civilian activity or transfer commercial expertise toward the development of weapons of mass destruction. It is this activity we forbid in other nations (North Korea, Iran, Iraq, etc.) And it is precisely this activity we propose to undertake in this DEIS.

If, in fact, section 1.3.5 represents the best defense of the Interagency Review, then one of two things is true: either 1) the interagency review was bound by a predetermined outcome and had to perform these gymnastics of logic to attempt to perform its assignment satisfactorily or 2) the interagency review group was astonishingly inept. ***6/01.04***

1.3.5(3) The DEIS says any reactors used to produce tritium would "remain eligible for IAEA safeguards."

Comment: What are these safeguards? Is DOE saying the reactors would be placed under IAEA safeguard, or is DOE only being coy? Has IAEA agreed it would accept the responsibility of "safeguarding" these reactors? (This is not a silly question. In 1994, when DOE brought ***7/01.06***

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

highly"enriched uranium to the US from Kazakhstan, it announced loudly that the material would be placed under IAEA safeguards at Y-12 in Oak Ridge. This never happened because IAEA balked at the responsibility, apparently for two reasons: lack of resource to do the job, the fact that IAEA could not reasonably verify the contents of the cans and therefore declined to be responsible for them.) ***7(cont'd)***

1.3.5(3) The DEIS says the fact that TVA reactors are technically owned by the government makes them "roughly comparable" to "past instances of government-owned dual-purpose nuclear facilities."

Comment: This statement not only insults the reader's intelligence, it is duplicitous. From a nonproliferation standpoint (the title of this section), crossing the line from civilian to military is in not remotely comparable to crossing the line the other way. ***6(cont'd)***

1.3.6 The DEIS attempts to discuss DOE's current projections for future energy demand.

Comment: The DEIS does not make clear whether TVA's projections include conservation measures to reduce demand and/or development of renewable energy resources. ***8/09.07***

1.4 DOE describes the NEPA strategy and the tiering (sic) of this decision from the Programmatic EIS.

Comment: DOE describes here a process which paves the way for an action that may prove unwise and untenable---that tritium will be produced in one of two ways even if the environmental impact statements for each demonstrate the impact to be drastic of prohibitive. DOE apparently leaves itself no room to back out, a position which runs counter to the intent of NEPA. ***9/05.08***

1.4 DOE references the Record of Decision (60FR63878) compelling the two current EISes (linear accelerator and commercial light water reactor)

Comment: Does 60FR63878 stand regardless of the outcome of the EISes which tier (sic) from it?

1.5.1.2 The DEIS describes two Environmental Assessments on the Lead Test Assembly, one by DOE/TVA and an "independent" environmental assessment (small letters) by NRC.

Comment: It is distressing at this point to learn of the "independent" NRC environmental assessment. Apparently it was independent of any public participation. As such, it stands as a private government document and deserves the skepticism of a public shut out of its preparation process. ***10/05.09***

1.5.2.4 The DEIS notes that TVA has been preparing a Bellefonte conversion EIS and that the EIS is on hold pending the outcome of this EIS.

Comment: It is unclear why the preparation of this EIS should impact the Bellefonte conversion EIS. It seems to make more sense to complete the conversion EIS so that the people living near the sites can make a decision about what they would like to see in their community---an operating fossil fuel electricity generating facility or a bomb plant. If this tritium CLWR EIS is going to influence the Bellefonte conversion, it should incorporate the conversion EIS in its entirety since they are connected actions. ***11/05.05***

CHAPTER 2: Purpose and Need

The DEIS attempts to place the proposed action in a historic context. Any such effort much include the Nuclear Nonproliferation Treaty and its obligation to pursue complete nuclear disarmament. The United States ratified this treaty in 1970. In 1996, the International Court of Justice upheld the obligation of the US and other nuclear states to comply with the treaty obligation. ***2(cont'd)***

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

There is no reading of the Nuclear Nonproliferation Treaty which can countenance the construction of new facilities to create tritium.

This section also raises the question of "need." DOE claims, based on a Presidential finding, that the US "needs" tritium by 2005. Yet DOE's own charts—first printed in the PEIS on tritium production and repeated here make clear that there is no "need" for tritium until at the very earliest 2011 and, using material currently decaying "in the pipeline," until 2016. Realistic projections of further arms reductions (see our Comments at the scoping hearing for this EIS) based on maintaining a reasonable deterrent arsenal and using excess tritium from the pipeline, indicate no "need" for tritium until 3032 at the earliest.

Of course, it is the position of the Oak Ridge Environmental Peace Alliance that the US should abolish its nuclear weapons arsenal and lead other nations to do the same. Our position is shared, incidentally, by arms control experts and at least one former President of the United States. Yet the DEIS is dismissive of this scenario, suggesting at least that it is considered unreasonable.

In fact, DOE's position—that we "need" tritium by 2005—is unreasonable for at least two reasons:

First, it is based on a Presidential directive which, according to the international court of justice, violates our obligations under the Nuclear Nonproliferation Treaty which is the law of the land. The President does not have the right to violate laws, and even a "presidential directive" does not carry the force of law when it is counter to a law.

Second, given the half-life of tritium, at least half of any tritium produced in 2005 (when DOE claims for the purposes of this document that we "need" it) will not be available when we truly will need it—in 2016. The nature of tritium is such that it only makes sense to produce the tritium as needed *when* it is needed; it simply has too short a shelf-life to be producing quantities of tritium a dozen years in advance of the time of need. DOE increases risks and the likelihood of environmental impacts by producing tritium in 2005—in order to have a predetermined amount of tritium available in 2016, DOE must produce twice as much tritium in 2005 as it would have to produce in 2015 to meet the same need.

DOE also notes in this section the presence of a five-year reserve of tritium which currently exists. The reserve tritium, being bound by the laws of physics, is not preservable. It is decaying. Tritium obeys the "use it or lose it" law. DOE should use this tritium before producing new tritium; the presence of a five year reserve simply adds five years to the time we "need" tritium. **5(cont'd)**

CHAPTER 3: Commercial Light Water Reactor Program Alternatives

3.1. The DEIS says that tritium can be produced "during the normal operation of a CLWR."

Comment: On page 1-15, DOE says producing tritium in a commercial light water reactor on the scale proposed by DOE will generate additional spent fuel wastes. Removal and shipment of TPBARS is also not "normal." The DEIS must be forthright about the changes in normal operations required to accommodate DOE's proposal to produce tritium. **12/17.01**

3.1.2 The DEIS describes the Tritium Producing Burnable Absorber Rods, saying they are "long, thin tubes that contain lithium 6..."

Comment: Is all the lithium-6 necessary for these TPBARS already available or will lithium-6 need to be produced for this purpose? (The separation of lithium-6 from lithium-7, historically performed for nuclear weapons production at Oak Ridge's Y-12 plant, is responsible for the extensive mercury contamination for which Oak Ridge is so notoriously well known.) If lithium-6 will need to be produced, the environmental impacts of production must be thoroughly documented in the EIS. **13/19.07**

"3.1.2 The DEIS refers to a "maximum leakage rate of tritium for each TPBAR." **14/19.08**

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

Comment: At the public meetings for the Environmental Assessment on the Lead Test Assembly (the first TPBARs to be inserted in Watts Bar) DOE repeatedly assured the public that leakage from TPBARs was virtually impossible. Explain fully, please.

3.1.3 The DEIS states that "some tritium is expected to permeate through the TPBARS during normal operation, which would increase the quantity of tritium in the reactor's coolant water system." **14(cont'd)**

Comment: At the public meetings for the Environmental Assessment on the Lead Test Assembly (the first TPBARs to be inserted in Watts Bar) DOE repeatedly assured the public that leakage from TPBARs was virtually impossible. Explain fully, please.

3.2.1 The DEIS states that DOE needs at least 4,000 TPBARs/year to produce its desired quantity of tritium.

Comment: Since TPBAR irradiation takes place during a normal fuel cycle, this means at any one time at least two and probably three reactors would be employed in the production of tritium. Currently, DOE has only one uncompleted reactor officially "offered" by TVA; this would appear to be inadequate to meet DOE's "need." **4(cont'd)**

3.2.1 The DEIS explains what impacts are considered for completed and uncompleted reactors.

Comment: The EIS should also provide a comparison between the two—between Watts Bar and Bellefonte, for instance, in order to allow the reader to understand the true choice from an environmental impact point of view. The purpose of NEPA is to compel the government to choose from among reasonable alternatives that which has least adverse impact on the environment. If the government owns all the TVA reactors, which this EIS claims for the purposes of making its nonproliferation argument, DOE can compel tritium production in whichever TVA reactors have the least environmental impact (in this case, saving the taxpayer several billions of dollars). **15/06.07**

3.2.1 The DEIS states that transportation impacts are based on an assumption that 4,000 irradiated TPBARs per year are transported.

Comment: The evaluation of transportation impacts should be straightforward, based on DOE's actual expected timing. If TPBARs are to be shipped on a regular basis, at the minimum rate, stretched throughout the year, the scheme for analyzing transportation risks presented here may be appropriate. If, on the other hand, TPBARs will be transported in bursts—3,400 over a relatively brief period every eighteen months, for instance—the analysis should address that scenario. **16/18.03**

3.2.1. The DEIS assumes completion of Bellefonte by 2005.

Comment: The DEIS should be subjected to a reality check and more reasonable projections should be used based on progress thus far on Bellefonte (begun twenty-three years ago) and the schedule of TVAs most recently completed reactor, Watts Bar I. **17/09.08**

3.2.1 The DEIS explains that it is essentially deferring questions about the management/storage of spent fuel.

Comment: Since Watts Bar does not have fuel storage capacity for the time period under consideration in this proposed action (40 years), issues of spent fuel storage and management can not be finessed but must be discussed in detail, specific to each reactor under consideration. **18/17.04**

3.2.3 The DEIS defines "reasonable alternatives." **4(cont'd)**

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

Comment: Since some of the reactors under consideration as "reasonable alternatives" are not officially available to DOE (the TVA offer having been withdrawn) they are, essentially, like all the other commercial or government-owned reactors in the country unavailable to DOE. The criteria DOE is using to define "reasonable alternatives" must be explicitly stated. **4(cont'd)**

Table 3-5. page 3-16 Lists gaseous emissions of 282.5 Curies on an annual basis.

Comment: This does not appear to be an insignificant number. A clear accounting of the radionuclides should be included. **19/14.13**

3.2.5.2 Description of the facilities under consideration as reasonable alternatives.

Comment: The DEIS does not consider the possibility of an attack by hostile forces on these plants which would be making materials essential to the US arsenal of nuclear weapons of mass destruction. Given the fact that these facilities would be the least protected and least safeguarded of all US nuclear weapons facilities, this is a possibility which must be contemplated and included in the analysis. We note from the map and description here that the Sequoyah plant is located only 7.5 miles from Chattanooga, a major metropolitan area, making it a comparatively attractive target for terrorists. **20/22.01**

Table 3-9 lists annual releases of gases from Sequoyah plants.

Comment: The units of measure (presumably curies) for "other radionuclides" should be added; the "other radionuclides" should be identified. **19(cont'd)**

3.2.5.3 The DEIS describes Bellefonte Nuclear Plants 1 and 2

Comment: According to the DEIS, the chronology of Bellefonte construction is this:

- construction begins in 1975
- construction halted in 1988
- construction begins in 1992
- construction halted in 1994
- announcement of conversion to fossil fuel in 1996
- announcement of scheme to complete as nuclear in 1997

The EIS, in determining the reasonableness of completing Bellefonte for tritium production by 2005 should provide information on how complete Bellefonte currently is, how realistic the 2005 date is, and what size of spent nuclear fuel cooling pool is being (or has been) designed and constructed. **17(cont'd)**

3.2.6.1 The DEIS says, "Such conversion [of Bellefonte to fossil fuel] would be independent of this EIS and would not occur until after a decision were made regarding the role of Bellefonte 1 and 2 in tritium production.

Comment: This sentence tries to assert that the consideration of Bellefonte's conversion to fossil fuel is independent of this EIS at the same time that it states explicitly that it is dependent on the outcome of this EIS. The decision to convert Bellefonte to fossil fuel, taken in 1996 by TVA, is now being withheld pending the decision under consideration in this EIS—it is by definition dependent on this EIS and should be acknowledged and treated as such, despite the NEPA headaches which might be created by such acknowledgement of the facts. **11(cont'd)**

CHAPTER 4—Affected Environment

General Comment: The EIS fails to give adequate consideration to the analysis of environmental justice issues, dismissing them in one brief statement. **21/13.08**

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

Environmental justice asks this question: Are impacts being disproportionately visited on people of"color or low-income communities? The DEIS asserts the answer is no (5.2.3.10).

It is not enough to make this assertion, nor is it adequate to disguise adverse impacts on specific populations by describing a wide circle around the plant and drawing generalizations about the population living there. Environmental Justice doesn't ask in general about large areas; it asks specifically: are the people living closest, most likely to be impacted, low-income, people of color, or both?

For example: At Sequoyah, the DEIS draws a circle with a 50 mile radius around the plant and draws conclusions based on averages for the population within that huge area. Closer inspection, however, notes that the per capita income level for the closest community to the plant, Soddy Daisy, is less than half the income level for the entire county (Hamilton) which is circumscribed by the large circle. (4.2.2.8, p.4-47). **21(cont'd)**

This one instance where the DEIS provides information to make a comparison raises immediate environmental justice concerns. The EIS must include a thorough examination of environmental justice issues which answers the fundamental question: Are the people living nearest the plant—those most likely to be exposed to environmental insults—disproportionately low-income or people of color communities (or both)?

Table 4-35 The DEIS addresses economic impacts of the proposed decision.

Comment: The DEIS here addresses economic issues. (In response to Comments from the scoping hearing, the DEIS seems to pretend that economic questions are outside the scope of the EIS. NEPA, however, requires federal agencies to consider "the whole of the human environment," which obviously includes economic questions.) **11(cont'd)**

The DEIS fails to include in any of its analysis a comparison of the eventual decontamination and decommissioning costs between Bellefonte as a nuclear site and Bellefonte as a fossil fuel electricity generating plant. It should do so, since these are the possible futures for Bellefonte. Absent a role as a tritium producer, Bellefonte will not be completed as a nuclear plant.

4.2.3.11 The DEIS describes storage capacity at Bellefonte and says each unit has a storage pool which has the capacity to hold 1,058 spent fuel assemblies. **22/17.05**

Comment: Does this mean it can or can not accommodate 3,400 TPBARs every eighteen months for forty years?

CHAPTER 5: Environmental Consequences

Table 5-42 The environmental consequences of environmental impacts under different conditions for dry cask storage (required where pools are not adequate, such as Watts Bar) are considered using a generic matrix. **23/17.06**

Comment: The information about earthquake and tornado damage is not sufficient to allow the reader to determine the adequacy of this method of estimating environmental impacts.

5.2.7 The DEIS states that DOE will provide needed low-enriched uranium for additional fuel assemblies from its own supplies using uranium downblended from the US nuclear weapons program. **24/01.07**

Comment: Despite the identification of the nonproliferation concerns associated with this scheme in earlier public meetings, the DEIS does not address this question. DOE currently has at its disposal

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

quantities of highly enriched uranium which has been determined to be excess to our national security needs. In recent years, DOE completed an EIS covering the downblending of this material for use in commercial nuclear reactors.

At the time DOE withdrew highly enriched uranium from the larger Programmatic Environmental Impact Statement of the Disposition of surplus fissile nuclear weapons materials, it did so for the explicit purpose of indicating to the world our determination to remove this material from the nuclear weapons arena. The decision was advertised to the public and other nations as one driven by nonproliferation concerns. It was critically important that we not only voice our resolve but that we take concrete steps to make that resolve manifest.

Does DOE not now care about the nonproliferation message sent to the public and the world by this proposed action? Are other nuclear or near-nuclear nations to be played as fools on the world stage, joined by the American people?

On the one hand, we removed the highly enriched uranium from our nuclear stockpile to show our determination to reduce our reliance on the nuclear arsenal in order that other nations would be encouraged to do the same. On the other hand, we now propose to take that very same material, downblended, and return it to the nuclear weapons production pipeline by using it to produce tritium to maintain our arsenal at levels which exceed the START 2 levels and violate the Nuclear Nonproliferation Treaty.

Surely this madness has direct, immediate, and profound proliferation concerns which must be addressed in this document. Additionally, it undermines any confidence the public might have had in DOE's determination to deal honestly and forthrightly regarding special nuclear materials—the solution to that, of course, is not for DOE to add another section to this document, but for it to abandon its current scheme. *24(cont'd)*

Tables 5-50, 5-51 lay out the actual expected releases of tritium to the environment in a table which compares normal operation of Watts Bar and Sequoyah to operation with TPBARs in place.

Comment: DOE/TVA should highlight for the public these facts, not immediately apparent from the tables, especially in light of the fact that at previous hearings (cf. Spring City, TN) DOE assured the public the TPBARs were virtually leakproof.

- Each TPBAR is assumed to leak 1 curie of tritium per year (p. C-19)

- Total releases of tritium to the air during normal (no accident) operations will be 60 times higher at Watts Bar if tritium is being produced. (Table 5-50)

- Total releases of tritium to the water will be five times as much during normal (no accident) operations if tritium is being produced at Watts Bar.

- In accident conditions, releases of tritium to the air (failure of two TPBARs) at Watts Bar would increase nearly 300 times. Ninety-nine percent of the tritium released would be due to tritium production under this proposed activity.

- In accident conditions, releases of tritium to water will be nearly thirty times as high—an additional 17,010 curies—from tritium production.

- Under normal operations (Table 5-51) the annual dose for people living as far as fifty miles from the Sequoyah nuclear plant will triple (10.5 person-rem v. 3.2 person-rem). *25/14.05*

Table 5-53 addresses cumulative impacts at Bellefonte comparing Bellefonte as a nuclear site with Bellefonte as a nuclear site making tritium for bombs.

Comment: Comparison should be between Bellefonte as a nuclear plant making tritium and Bellefonte as a fossil fuel plant, since absent DOE's billions of dollars for tritium, Bellefonte will not be *11(cont'd)*

Commentor No. 94: Oak Ridge Environmental Peace Alliance Presented by Ralph Hutchison (Cont'd)

completed as a nuclear plant. *11(cont'd)*

OTHER COMMENTS

A-23 This appendix considers tritium production operations. Numbers on page A-23 indicate that Bellefonte would produce an additional 1,863 spent fuel assemblies if it were selected to produce tritium. This number exceeds the total capacity of Bellefonte's current spent fuel pools. *26/17.07*

In the response to Comments section, the DEIS further muddies the water about the "need" for tritium, stating (F-6) that the Presidential requirements take into account "recent international arms control agreements." According to DOE's own figure, however (Figure 2-1, p. 2.2) the US currently has enough tritium to maintain the stockpile at START 2 levels until 2011 (2016 if the reserve is used). Both of these presentations can not be true at the same time.

The response to questions about why tritium is "needed" by 2005 if produced in a reactor but not "needed" until 2007 if produced in an accelerator is not adequate. It would appear that the same solution (using the reserve for a few years and replenishing it from new production) could apply as easily to reactors as to an accelerator. The fact, which DOE should come clean about, is that we do not "need" tritium by 2005. We just want it by then to feel more secure. And we are loudly going through the process of securing tritium production by then not because we "need" it (by any measure) but in order to try to pressure other nations to do what we want with their arsenals. This commenter notes that it is logic reminiscent of the old "Bizzaro World" skits on *Saturday Night Live* during the Reagan administration to try to compel others to do what you want by doing precisely the opposite. *2(cont'd)*

The third Comment on page F-10, addressing Nuclear Weapons, asserts that tritium production is consistent with and fully supportive of the commitments of the US under a variety of treaties, including the Nonproliferation Treaty. This response is a lie—a statement intended to deceive. As the International Court of Justice ruled in 1996, the US is not upholding its treaty obligations under the nonproliferation treaty and the production of tritium for the sole purpose of maintaining a large arsenal into the next century directly contradicts our obligations under Article VI of the treaty. It is incomprehensible—beyond even the wildest gymnastics of language or logic—to state that maintaining our large arsenal is consistent with our obligation to pursue complete disarmament. *6(cont'd)*

The response to the final Comment in the DEIS (p. F-12) asserts that "moral and ethical issues are beyond the scope of the EIS." But NEPA clearly states that an EIS must consider the whole of the human environment. In fact, the decision to seek to protect the natural environment and wildlife is a moral decision; the inclusion of environmental justice concerns is the result of nothing other than moral considerations; economic issues are heavily freighted with moral considerations. Abstract moral and ethical issues may present a greater challenge to the preparers of an EIS and may confront federal decision-makers with information they would choose to ignore, but it is possible to consider and even quantify the effects of many moral decisions. This commenter asserts, DOE denials notwithstanding, that moral and ethical issues are already present in abundance in this EIS, and the issues raised at the scoping meeting, while uncomfortable to contemplate and difficult to quantify, deserve full consideration throughout this decision-making process. *27/01.10*

Commentor No. 95: Thomas J. Stone

SAVANNAH RIVER REGIONAL DIVERSIFICATION INITIATIVE
P.O. Box 696, Aiken, South Carolina 29802, (803) 593-9954 ext. 1400 FAX (803) 593-4296

RESOLUTION

WHEREAS, tritium is a critical ingredient in nuclear weapons and its ready availability is essential to the continued national security of the United States; and

WHEREAS, the U.S. currently has no domestic tritium production capability; and

WHEREAS, the United States Government is currently considering two technology alternatives, including use of existing commercial light water reactors, for meeting future tritium needs; and

WHEREAS, the merging of defense and peaceful uses of nuclear energy in a single facility as would occur in using a commercial power reactor for production of tritium has been counter to national policy since the commencement of the Atomic Age: and

WHEREAS, the existing commercial reactors proposed for tritium production would not be located on a secure Department of Energy defense production site and would not be under the Department's direct control and oversight; and

WHEREAS, the use of commercial power reactors for defense purposes violates the historical separation between peaceful and defense uses of nuclear energy and could be expected to erode public confidence and support for commercial nuclear power facilities;

NOW BE IT RESOLVED that the Savannah River Regional Diversification Initiative Board of Directors opposes the use of U.S. commercial light water reactors for production of tritium.

ADOPTED THIS 22nd DAY OF SEPTEMBER 1998 AT AIKEN, SOUTH CAROLINA.

1/01.09

Thomas J. Stone
Chairman

Robert M. Reich
Secretary

Commentor No. 96: Ralph E. Crafton

AddressID: 41
Date Updated: 10/8/98 3:12:27 PM
First Name: Ralph
MI: E
Last Name: Crafton
Title: Boilermaker
Organization:
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State or Province: AL
Postal Code: 35768-
Country: USA
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Fax Number:
Email Address: crafton@hiwaay.net
Home Phone: 256-259-4642
Notes: I started working at Bellefonte neclear plant in 1976 I saw this plant being built I I would like to see it finished by the DOE &TVA . This part of AL. TN need theses kind of job I was laid off in 1985 from Bellfonte. I would like to work there again . I support the neclear industary & the DOE.

1/07.03

Commentor No. 97: James S. Arrington

AddressID: 42 Date Updated: 10/9/98 7:43:49 AM

First Name: James MI: S Last Name: Arrington Title: Mechanical Engineer

Organization: TVA, Watts Bar Nuclear Plant, Site Engineering

Address: EQB 2N-WBN

City: Spring City

State or Province: TN Postal Code: 37381- Country: USA

Work Phone: 423-365-1605 Fax Number: 423-365-1750

Email Address: jsarrington@tva.gov Home Phone: 423-593-4714

Notes: This message is to Stephen Sohinki,
I was at the meeting last night at Rhea County HS and did not get to ask my question. I was wondering if DOE had pursued another option, other than CLWR & ATP. For instance, I believe it would be possible, as the bird sits in the silo the hydrogen decays into 50% helium & 50% hydrogen thereby significantly reducing the boosting effect. If at the time of launch, a squib valve blows allowing the helium/hydrogen to blowdown into a winding of silver-palladium tubing which is wrapped tightly around a pyrotechnic device which is ignited at the same time the squib valve blows, the tubing would become white-hot thereby passing the helium thru the walls of the tubing and separating the helium from the hydrogen, arming the warhead with pure hydrogen while the missile is in flight. This option would negate the high cost of tritium production. why hasn't a third option been pursued???? Thanks and keep up the good work. 1/01.03

Commentor No. 98: David & Willie Bellomy

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I ~~[illegible]~~ Am ~~[illegible]~~ ~~OPPOSED~~ OPPOSED TO This being PUT IN Belle FONTE because OF what IT Will do TO The ENVIRONMENT, The Air-WATER, We Need TO THINK OF OUR Children & grand Children. OUR TENN. River is Already dirty. You CAN Check and See IF I Am RIGHT About IT being ONE OF The 10 IN The NATION Also There are a LOT OF People IN This Area. 1/10.03

I WILL NOT SUPPORT This UNLESS IT is Natural GAS! 2/07.06

I was AT The DOE Meeting Held AT NORTH EAST Comm College. MOST OF The People For The Production OF Tritium AT BelleFonte Was From OUT OF TOWN. I Have Lived IN JACKSON COUNTY & SCOTTSBORO ALL my LIFE & KNOW The MAJORITY OF People IN This Area. MOST OF The Cars We SAW IN Parking Areas were from Tennessee

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: DAVID & WILLIE BELLOMY (optional)
Organization: Home OWNER
Address: P.O. Box 434 - 425 Campground Circle
City: SCOTTSBORO State: AL Zip Code: 35768
Work phone: Home phone: 574-5303
Fax:
E-Mail Address:

Also They made IT Clear we would Hear From Public OFFICIALS.

Mail to:
U.S. Department of Energy, Commercial Light Water Reactor Project Office,
ATTN: Stephen Sohinki
P.O. Box 44539,
Washington, D.C., 20026-4539

THANK you
Willie Bellomy

Commentor No. 99: Louise Gorenflo

Louise Gorenflo
185 Hood Drive
Crossville Tn 38555
10/9/98

Dear USDOE

I oppose TVA making tritium for the Department of Energy.

* US insists that other nations do not use their civilian reactors to make weapons materials. The U.S. should act in a consistent manner. **1/01.09**

* The U.S. does not need tritium now. Half of the tritium made today will be decayed by the time it is needed **2/02.02**

* The tritium project is an expensive waste of tax dollars. If we want to strengthen our national defense, we need to put these dollars into educating our children. **3/23.13**

* Production of tritium will violate the Nuclear non-proliferation treaty that obligates all nations to nuclear disarmament. **4/01.04**

* Tritium production endangers the health of the local community. **5/14.04**

— Louise Gorenflo

Commentor No. 100: Richard & Lucy Henighan

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments:

Tritium is highly radioactive and very dangerous. Its manufacture, despite planned safeguards, demands unequivocal need, which does not exist. The need for tritium depends on the number of nuclear weapons the US will maintain in the new century, and the environmental impact of tritium is tied up centrally with the environmental impact of nuclear weapons & the international arms race. Our treaty obligations (the nuclear nonproliferation treaty), and the growing risks due to international proliferation of nuclear weapons demand continuing restraint by the United States, as the leading nuclear power, and negotiated decreases in our nuclear stockpile. A 1000 bomb arsenal, more than adequate to deter attacks, would not require any additional tritium until nearly a third of the way thru the next century. Manufacturing tritium now will only impede the process of nuclear disarmament and nonproliferation, with all the heightened risk of regional or global catastrophe associated with any use of nuclear weapons. In addition the manufacture of tritium in commercial settings will greatly increase the risk of proliferation, since it breaches a fundamental principal of nuclear policy up to now: the separation of peaceful and military uses of nuclear power. The draft EIS does not deal with those issues adequately and the process of approval for this project should not go forward.

1/14.04 **2/02.02** **3/01.04** **4/01.09**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Richard Henighan / Lucy Henighan (optional)
Organization:
Address: 614 Mt. View DR.
City: Seymour State: TN Zip Code: 37865
Work phone: Home phone:
Fax:
E-Mail Address:

7/4/98

Commentor No. 101: Kenneth W. Holt

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

October 5, 1998

U.S. Department of Energy
Commercial light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
P.O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the Production of Tritium in a Commercial Light Water Reactor [DOE/EIS-0288D]. We are responding on behalf of the U.S. Public Health Service, Department of Health and Human Services. Technical assistance for this review was provided by Dr. Felix Rogers, Radiation Studies Branch (RSB), National Center for Environmental Health, Centers for Disease Control and Prevention (CDC).

The DEIS Sections, Appendices C, D, and E dealing with potential adverse human health effects resulting from Environmental releases of radioactive or hazardous materials to the environment appear to be well developed and comprehensive. Radiological and hazardous waste exposures to the public from environmental releases resulting from normal operations, operational accidents, and transportation were estimated using information on source terms and potential at-risk years. Exposure modeling used to project the impacts on the health of the public due to radiological and chemical releases included meteorological data, hydro geologic data, and potential release scenarios that included both facility and transportation accidents. **1/14.06**

Risk estimate endpoints for the public included 1)excess cancers from radio nuclide and chemical exposures, 2)cancer fatalities from radio nuclide exposure, 3)adverse genetic effects from radio nuclide exposure, 4)hazard quotient from exposure to nonradioactive materials. Risk from radiological exposures were estimated using NCRP 1993 risk estimates. The uncertainties in the DEIS risk analysis procedure included model uncertainty, source term uncertainty, scenario uncertainty, and parameter uncertainty (sampling error, data sources)

Environmental pathway modeling done by the reviewer show little exposure to off site individuals from facility accidents or normal operations. The risk to public health from the operation, transportation and accident scenarios as expressed by the DEIS are low and reasonable expectations from operations of Commercial Light Water Reactors.

Commentor No. 101: Kenneth W. Holt (Cont'd)

Page 2 - Mr. Sohinki

Thank you for the opportunity to review and comment on this DEIS. Please send us a copy of the Final EIS, and any future environmental impact statements which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA). **1(cont'd)**

Sincerely,

Kenneth W. Holt

Kenneth W. Holt, MSEH
Special Programs Group (F16)
National Center for Environmental Health

cc: Felix Rogers, Ph.D.

Commentor No. 102: Bre Nicole Reiber

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NYU School of Medicine

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Executive Director
WENDY PERRICH

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PSRNYC

PHYSICIANS FOR SOCIAL RESPONSIBILITY/NYC
Disarmament • Environmental Protection • Violence Reduction

October 6, 1998

Stephen Sohinki
U.S. Department of Energy
P.O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki:

I am writing on behalf of the New York City chapter of Physicians fo Social Responsibility, a nonprofit public education organization representing 1,200 health professionals and concerned citizens in th New York metropolitan area. After reading the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor, I am deeply concerned with the DOE's inaccurate interpretation of national and international laws and its downplaying of the public health effects of low-level radiation.

The EIS asserts that "the use of CLWRs for tritium production (is) not prohibited by law." That is not accurate. Section 57e of the Atomic Energy Act prohibits the government from using commercial nuclear power plants to facilitate the development of nuclear weapons. It is noted in the EIS that "historically, there have been numerous exceptions to the practice of differentiating between U.S. civil and military facilities." It fails to mention, however, that these historical exceptions came with extreme financial and environmental costs, as there would be today. *1/01.09*

Next, the issue of nuclear nonproliferation is of paramount concern to PSR members. I would like to point out that tritium production for the purpose of maintaining a nuclear arsenal does violate a very important international treaty—contrary to what is stated in the EIS. As a signatory of the Nonproliferation Treaty (NPT), the U.S. has an obligation to work in good faith towards *complete* nuclear disarmament. Tritium production announces our intent to maintain a nuclear arsenal—and other nations can be expected to follow our lead. *2/01.04*

Last, the EIS avoids the most important issue with regard to

475 Riverside Drive • Room 551 • New York, NY 10115
Phone: 212-870-2980 • Fax: 212-870-2243 • Email:psrnyc@igc.apc.org

Commentor No. 102: Bre Nicole Reiber (Cont'd)

low-level radiation exposure: there is no safe low dose of low-level radiation. Radiation exposure can result in an array of adverse health effects, with cancer being the most lethal. Additionally, the U.S. has yet to find a safe, permanent storage facility for radioactive waste; until it does so, creating more radioactive waste—no matter how small—is environmentally and socially irresponsible. Countless studies have shown that man-made radiation is *not* a near-harmless, natural extension of background radiation, as DOE and EPA public relations claim. *3/07.05* *4/17.15* *3(cont'd)*

While I was disappointed that the Senate approved of CLWRs for tritium production, I was pleased that the DOE will receive no funding for it in FY 1999. In the interim, I hope the DOE will be more thorough in considering its impact on national and international obligations, on human health, and on the environment. *5/01.11*

Sincerely,

Bre Nicole Reiber
Executive Assistant

Commentor No. 103: William D. Scarbrough

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.cp.doe.gov/cp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I have only had time to review the summary of the impact statement. I realize that it is prepared by advocates. Starting from this and my limited personal background the following opinion is hereby issued. I am sure more learned opinions will prevail. As I perceive this, any pollution problem will not be any greater than that which already exist for the TVA area. 1/10.04

The actual Tritium extraction occurs in areas already over exposed to mismanagement. TVA areas would only expose special control rods and ship them to the extraction plant. It appears that this in no way adds significantly to any existing situation. 2/24.07

~~I am concerned that the ATOMIC ENERGY/BOMB PRODUCTION does NOT have a absolutely~~ not spotless history in environmental safety. 3/08.02

We do however already have Energy production in the valley and it appears that control rod exposure would provide for great financial inhancement and efficiency for our area and ABC tritium production. Also it accomplishes this with a minimum of exposure to perceived dangers. 4/23.13

It appears nothing ever starting from scratch. or should.

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Wm D Scarbrough (optional)
Organization: RETIRED
Address: 3503 Sportsman Dr NW
City: Huntsville State: AL Zip Code: 35810
Work phone: N/A Home phone: 256 852 0550
Fax:
E-Mail Address:

Commentor No. 104: Jennifer Stephens

Plumbers & Steamfitters Local 298 Gadsden, Alabama

Good Evening Ladies and Gentlemen,

It is apparent to me that those of you who object to the use of Bellefonte as the site for the extraction of tritium have many valid reasons for your opposition, not the least of which include your deep concern for the health and well-being of yourselves and your families. We, the proponents of tritium production at Bellefonte, are concerned about our families as well. I must assume that those of you in opposition have occupations which allow you to see you families each and every day. You wake up in your own bed every morning. You go to your job every day. And you return to your home every evening. However, many of us in this room are denied this aspect of daily life which you take for granted. We, or our spouses, have occupations which require us to travel hundreds of miles away from our homes because there is no where in northern Alabama for us to make a living. We must wake up in strange beds, work in strange towns, and live in strange motels while we are away. We keep in touch with our families by telephone. We do not get the luxury of watching our children grow up. We miss birthdays, school functions, our kid's baseball games, anniversaries. We miss being able to come home each night. 1/07.03

Now, it may be easy for those of you to whom I am speaking to just say, "Get a different job." Well, that's not the answer. The economy of northern Alabama was booming when we began our careers. Unfortunately, industry moved north, and therefore, so did our jobs. Its time to bring the jobs back home.

The thought of 4,500 temporary and 700-800 permanent jobs becoming available in northern Alabama is almost too great a prospect for us to even think about. These jobs do not only mean that we will be able to work at home, they mean that the local economy will undeniably increase. We will be here to purchase our gasoline, our food, and our work-related items. We will be here, in northern Alabama, putting our money back into our own economy. Everyone will benefit.

Why should we continue living in the dark ages? Nuclear technology is here and it is not going to go away. Our direct risks from that technology are minuscule compared to the risks we will all take when we leave here tonight and drive home. If tritium is not produced at Bellefonte, it will be produced somewhere else. This means that all of the benefits I just spoke of, will continue to be benefits to some other area of the country. We do not want this to happen anymore. We need the jobs here. We need to boost our own economy for a change. We need to be at home, so we too, can be with our families.

Commentor No. 105: Mary Ellen Bowen

Comments Received via "800" Number

Date:	Oct 16, 1998
Name:	Mary Ellen Bowen
Organization:	
Address:	Lewis County, TN
Phone #:	(931) 964-2534
Fax #:	
Comment #:	

Comment:

I just want to state that I do not want you to proceed with the use of tritium or any other thing to keep the nuclear power industry alive. I think that it is wrong and that it is hurtful to the people and the planet and please put a stop to it. Thank you. *1/14.04*

Commentor No. 106: Dot Houser

Comments Received via "800" Number

Date:	Oct. 19, 1998
Name:	Dot Houser
Organization:	
Address:	46 Sherry Drive Ringo, GA 30736
Phone #:	(706) 866-7239
Fax #:	
Comment #:	

Comment:

I am voicing a very strong opinion of not putting tritium at the Bellefonte plant near Scottsboro, Alabama in Jackson County. There are enough people down there dying with cancer as it is with much radiation, contaminated air, and everything as it is, but there are a lot of older folks there. They do not need this. The people that live in that area are not educated enough to run plants like that, they would have to bring in employees to run the plant and it is not a good idea. Absolutely, I just resent this being pushed down the throat of us North Alabama people. We have a second home there. We live in North Georgia, but we are in North Alabama since we opted to have a second home there and this just hurts me to the bone when I think about something like that coming to that area, it really does, but I trust that somebody else will take it somewhere else. Thank you for your time *1/14.04* *2/13.01*

Commentor No. 107: Robert H. Page

AddressID: 43 Date Updated: 10/16/98 9:14:59 AM

First Name: Robert MI: H Last Name: Page Title:

Organization:

Address: 2 Stacey Circle

City: Signal Mountain

State or Province: Tn Postal Code: 37377- Country: USA

Work Phone: 860-447-1791 Fax Number: 860-440-0404

Email Address: pagerh@gwsmtp.nu.com Home Phone: 423-886-6856

Notes:

From what I've read, The US will need to continue with Tritium too maintain our weapons.
I support the production of Tritiun in a comercial reator. What we do in the USA does change our concerns or position for countries trying to develope weapons capabilities, or our lessen our influence in detering proliferation.
I do not support the spending of an estimated $5 billion on an unqualified,dedicated,defense technology at the Savannah River Site.
The Bellefonte proposal,to finish a viable commercial reator, should cost the taxpayers less.
provide needed electicity in a more safely regulated industry, and spread the gov't spending to more than one state
The regional support for TVA is justifiably very high, while the National concencus is that the Savannah River Site is an environmental liability.
Please think green (dollars and environment)and go with Bellefonte.
Thank you for your support,
Robert and Antoinette Page

1/07.03

Commentor No. 108: Dr. Chris Gunn

13 oct 98

At 6,643 feet, Clingmans Dome is the highest peak in the Great Smoky Mountains National Park. The platform is provided to present an unparalleled view of the national park.

Photo by Adam Jones

Dear DOE -

Please visit these mountains and our people. Get away from DC and your paperwork and realize firsthand how we do not need or want tritium in our TVA reactors. The danger, the waste $, the short sighted planning are all threats to US — all of US.

Sincerely,

Dr. Chris Gunn
PO Box 1104
Cullowhee, NC 28723

US Dept of Energy
Commercial Light Water
Reactor Project
PO Box 44539
Washington
DC 20026-4539

1/14.04

2/23.13

3/02.01

SPACE RESERVED FOR U.S. POSTAL SERVICE

Commentor No. 109: Dorothy J. Mock

Dorothy J. Mock
46 Skyland Drive
Pisgah Forest
NC 28768

United States Department of Energy

Commercial Light Water Reactor Project

Post Office Box 44539

Washington, DC 20026-4539

To Whom It May Concern (To Whom I Address My Concern):

I urge you, I entreat you, I implore you: do not permit tritium to be made--not in any reactor anywhere in the United States! 1/07.02

Tritium is extremely dangerous. Tritium is not needed; we should not be making nuclear bombs! 2/02.01 3/14.04

Most important, as we move into the twenty-first century, making tritium violates the Nuclear Nonproliferation Treaty the US signed and ratified over 25 years ago. For us/US to violate this treaty weakens our hand in efforts to limit and control the spread of nuclear weapons among the nations of the world. 4/01.04

Shouldn't the United States be leading the world toward disarmament instead of demoralizing such efforts by producing tritium?

I urge you, I entreat you, I implore you: do not make tritium!

Sincerely yours,

Dorothy J. Mock

Commentor No. 110: Earl Budin, M.D.

Submitted by EARL BUDIN, M.D. Earl Budin
Co-chair, Physicians for Social Responsibility
SANTA BARBARA
Assoc. Clinical Professor of Radiology, UCLA
Medical Center

COMMERCIAL LIGHT WATER REACTOR PROJECT

LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: The proposal to use a civilian nuclear power reactor to produce Tritium for use in nuclear bombs would be a terrible mistake and I strongly object to that proposal for the following reasons.

1. The most important reason is that this would be a violation of the Nuclear Non-proliferation Treaty which declares that every government must work toward a world-wide agreement on a treaty to abolish all nuclear weapons as an urgent goal to be achieved in the shortest time period. If we produce more Tritium this would send a message to other countries that we intend to keep nuclear bombs and make it very difficult to reach agreement on their abolition. 1/01.04

2. World-wide abolition of nuclear weapons has been the stated goal of our president and of recent chief of staff of our armed forces Gen. Colin Powell, as well as of a large number of high ranki ng generals and admirals of U.S. and other countries who in a recent statement called for the abolition of all nuclear weapons, recognizing the fact that nuclear bombs are of no military value. 2/01.01

3. As noted on page 13 of the DEIS, we have on hand enough Tritium to maintain our nuclear weapons until the year 2010.Certainly we must by then have established a world-wide verifiable agreement on the elimination of nuclear weapons. 3/02.02

4. If "enhance the yield of a nuclear weapon" is the key function of Tritium (page 5, DEIS), we could maintain our present nuclear weapons without Tritium, since the explosive power of our present nuclear bombs already makes them infeasable for military use. 4/01.03

5. The proposal to use commercial nuclear power reactors to produce Tritium for nuclear bombs would violate the long-standing U.S. policy to keep military and civilian nuclear reactors separate. 5/01.09

6. To establish a new use for civilian nuclear power reactors is counter to the growing world-wide consensus that nuclear power should be eliminated as a source of energy since it is inherently unsafe, uneconomic and most importantly unnecessary. 6/24.08

Submitted by Earl Budin, M.D. Earl Budin MD
co-chair, Physicians for Social Responsibility, Santa Barbara chapter
Associate Clinical Professor of Radiology, UCLA Medical Center

Address: 2415 Stanwood Drive,
Santa Barbara, CA 93103

Commentor No. 111: Virginia Thrasher

Comments Received via "800" Number

Date:	Oct 26, 1998
Name:	Mrs. Virginia Thrasher
Organization:	
Address:	2716 Hanover Circle Birmingham, AL 35213
Phone #: **Fax #:**	
Comment #:	

Comment:

I am calling for a copy of your Environmental Impact Statement. What you all are planning to do up in Scottsboro, Alabama, the Commercial Light Water Reactor, is what I want the EIS on. If it includes any information as to why there's any reason to continue with this project in view of the fact that nuclear reactors are being demolished throughout other parts of the United States, I just want some justification for it other than that you need to create jobs, which I realize are very necessary. *1/02.01*

Commentor No. 112: R. D. Liska

AddressID: 45 **Date Updated:** 10/25/98 5:00:31 PM

First Name: R. **MI:** D **Last Name:** Liska **Title:** concerned citizen

Organization:

Address: 115 S. Oakwood

City: Republic

State or Province: MO **Postal Code:** 65738- **Country:** USA

Work Phone: **Fax Number:**

Email Address: auggie8@juno.com **Home Phone:**

Notes:

Hello DOE.
Why must Tritium be produced for nuclear weapons? Is not there enough death and insanity in the world as is? Put your time,money. and energy into building safe and clean nuclear power plants. Put your time,energy, and money into cleaning up the nuclear waste you are now and have produced. How many people will this project end up killing? *3/14.04* *2/23.13* *1/01.01*
I thought we were getting rid of our nuclear stockpile. *4/02.01*

Commentor No. 113: Richard J. Sturtridge

AddressID: 47 Date Updated: 10/26/98 8:25:17 PM

First Name: Richard MI: J Last Name: Sturtridge Title: Owner

Organization: Jalan-Jalan

Address: Box 128122

City: Nashville

State or Province: TN Postal Code: 37212- Country: USA

Work Phone: ( ) 385-2321 Fax Number: ( ) 385-7288

Email Address: artworkdesign@home.com Home Phone:

Notes: I am appalled and frightened to hear that you are planning hearings for the production of Tritium in a commercial light water reactor in my home state of Tennessee. I am appalled at the thought of using a civilian facility for the production of weapons of nuclear destruction and frightened by the thought of the creation of yet another cancer producing facility in a State alreadt suffering from a dangerously poor environmental record. Do us all a favor and stop it now. *1/01.09* *2/14.04*

Commentor No. 114: Ronald Allen

Comments Received via "800" Number

Date:	Oct 26, 1998
Name:	Ronald Allen
Organization:	
Address:	10324 West Blue Springs Court Homosassa, FL 34448
Phone #: **Fax #:**	(352) 628-0994
Comment #:	

Comment:

As a taxpayer, I am very concerned that the Government do this tritium in the Bellefonte and the other TVA plants versus the Savannah River plant because of the cost -- talking a great deal of money more for Savannah River to do it versus TVA. I would very much like some more information. If you would mail this to me on this issue and I would appreciate it that you make my comments known. Thank you. *1/23.15*

Commentor No. 115: Patricia Pelot Sanders

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

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- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments:

NO TRITIUM

It's a waste of money. 1/23.13

It's dangerous. 2/14.04

It violates US treaty obligations. 3/01.04

It's absurd to make it before you need it. 4/02.02

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Patricia Pelot Sanders (optional)
Organization: U.S. citizen
Address: P.O. Box 1275
City: M'boro State: TN Zip Code: 37133
Work phone: (615) 896-0255 Home phone (615) 896-0255
Fax (615) 893-2688
E-Mail Address: —

7/4/98

Commentor No. 116: Leigh Haynie for Wild Alabama

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October 26, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
P.O. Box 44539
Washington, DC 20026-4539

RE: Comments on Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor

Dear Director Sohinki:

On behalf of Wild Alabama, a non-profit outdoor recreation and environmental organization, I am filing the following comments on the Draft EIS for the proposed conversion of a commercial light water reactor into a tritium producing facility.

Wild Alabama's initial and greatest concern is the Department of Energy and TVA's blithe assertions that while tritium is radioactive, it must be produced. No options; no alternatives. The purpose of an EIS is to present all possible, viable alternatives. Instead, the documents provided interested parties contain nothing more than bureaucratic filler for foregone conclusions. The fact that you provide a chart with 18 reactor combinations does not give the vulnerable public the "alternatives" required by NEPA; nor does the consideration of producing tritium in an accelerator provide an alternative. 1/06.01

The EIS is woefully inadequate and incomplete. Assertions by the DOE that waste will be produced and that storage of that waste may be stored on-site or may be stored in a federal storage 2/05.11 3/16.02

Commentor No. 116: Leigh Haynie for Wild Alabama (Cont'd)

facility does not satisfy the requirements of NEPA. Comments cannot be made with such indecision and inconsistency. Complete information cannot be provided by DOE until after March of 1999 when the post-irradiation tests will be studied from Watts Bar. A lack of mitigation measures and a lack of concise and complete discussions of impacts by the proposed production also inhibit adequate comments. The DOE spends an admirable amount of time with drawings and explanations of what will happen during the process of production, but the DOE becomes vague and noncommital when discussing the impacts this will have on the environment. Another inadequate section is found in §5.2.10 where the DOE states that accidents as a result of sabotage will not be addressed because of their speculative nature. In the next Draft EIS, the DOE needs to further explain why this is a speculative argument with the growth of extremist terrorist organizations. The United States is no longer impervious to terrorist attacks as the World Trade Center bombing illustrates. The environment and safety issues require just as in-depth and clear scientific explanation as tritium production.

3(cont'd) *4/05.10* *5/24.14* *6/05.12* *7/22.01*

The alternatives in the EA did not consider a broad enough range. Each alternative (excluding the no action alternative) provides for the same amount of tritium production. The EIS fails to provide adequate justification and discussion of how the DOE arrived at the due date of 2005 to start production of tritium (other than the fact that the 1996 Nuclear Weapons Stockpile Plan is accompanied by a Presidential Decision Directive that mandates new tritium be available by approximately 2005 IF a CLWR is the selected option for tritium production). The EIS also fails to provide adequate support for the production of 3 kilograms of tritium per year. Finally the EIS fails to provide the data and figures as to why DOE needs forty years of tritium production at 3 kilograms a year.

8/06.02 *9/02.02* *10/03.03*

One reasonable alternative would be to moderate the amounts of tritium produced to fewer number of years of production and/or smaller yearly levels. According to the chart on page 12 of the summary, the DOE will not reach 1996 NWSM stockpile levels until 2010, which could be a delayed start-up date. (The DOE can borrow expertise from modern accounting procedures where inventory is not delivered until it is needed thereby increasing efficiency in relation to time, money, and storage space.) This is another alternative not considered by the DOE. All of the DOE's alternatives result in the same amount of tritium in the same amount of time, and with the cursory consideration of the no action alternative, all of the alternatives will result in production dependent on TVA. This is legally insufficient.

8(cont'd)

A particularly instructive case is *Friends of the Bitterroot, Inc. v. U.S. Forest Serv.*, No. CV-90-76-BU, 25 E.L.R. 21186 (D. Mt. 1994). There, even though the Forest Service identified and considered seven alternatives, the Court held that the Forest Service failed to comply with NEPA because the agency failed to consider just one additional reasonable alternative, namely an alternative to protect roadless areas. The agency claimed that such an alternative would not further the purposes of the proposed action, but the Court disagreed. The Court held:

"In Count II of their complaint, as amended, plaintiffs contend the Trail Creek

2(cont'd)

Commentor No. 116: Leigh Haynie for Wild Alabama (Cont'd)

EIS fails to adequately analyze all reasonable alternatives, including a less environmentally damaging alternative that would exclude logging and road building activity in existing roadless areas within the Beaverhead National Forest. Plaintiffs maintain the EIS should have addressed an alternative exempting the Beaver Lakes roadless area from the timber sale in order to preserve that area's value as secure wildlife habitat. In response, defendants assert the alternative would not have met the management goals, standards, and objectives of the Beaverhead National Forest Plan. Defendants further maintain the development of such an alternative would not have added any new information to the EIS.

"NEPA requires an EIS provide information in detail and consider every reasonable alternative to a proposed action. *Citizens for a Better Henderson*, *supra*, 768 F.2d at 1057; see 42 U.S.C. § 4332(2)(c)(iii). An agency's range of alternatives is reviewed under a 'rule of reason' standard that 'requires an agency to set forth only those alternatives necessary to permit a reasoned choice.' *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982) ('The touchstone for [a court's] inquiry is whether an EIS' selection and discussion of alternatives fosters informed decisionmaking and informed public participation.'). Additionally, NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered or which have substantially similar consequences. *Northern Plains Resource Council v. Lujan*, 874 F.2d 661, 666 (9th Cir. 1989). As a result, an agency's consideration of alternatives is sufficient if it examines an appropriate range of alternatives, even if it does not consider every available alternative. *Headwaters, Inc. v. Bureau of Land Management*, 914 F.2d 1174, 1181 (9th Cir. 1990).

2(cont'd)

"In the case sub judice, the Forest Service examined seven alternate courses of action with respect to the Trail Creek project: six 'action' alternatives (Alternatives B, C, D, E, F, and G) and one 'no action' alternative (Alternative A). The 'action' alternatives proposed timber harvesting in varying locations, amounts, and methods in the Trail Creek area. Moreover, the action alternatives all called for varying degrees of timber harvesting in the Beaver Lakes roadless area.

"Defendants maintain the plaintiffs' preferred alternative 'would not have met the management goals, standards, and objectives defined in the Beaverhead National Forest by the Beaverhead Forest Plan.' Specifically, defendants maintain that 'because the management decisions to harvest timber in those areas have already been made at the Forest Plan level it did not need to be revisited.'

"The fact the Beaverhead Forest Plan designates certain land as suitable for timber management does not, however, obligate the Forest Service to proceed with the timber harvesting, nor does it preclude the Forest Service from exercising its

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discretion to consider other courses of action. Accordingly, to the extent defendants maintain an alternative aimed at preserving the Beaver Lakes roadless area would be 'pointless,' based upon the goals of the Beaverhead Forest Plan, the court concludes defendants' summary judgment motion is not well taken. Defendants' position is contrary to NEPA's underlying tenet, i.e., that agencies consider all reasonable alternatives so as to ensure an EIS fosters informed decision making. See *Idaho Conservation League v. Mumma, supra*, 956 F.2d at 1519-20.

"The Forest Service cannot deny there is some benefit to be derived from considering an alternative that preserves the Beaver Lakes roadless area. Plaintiffs, as well as the Montana Department of Fish, Wildlife & Parks, whose considerable expertise in the area of wildlife management is undisputed, expressed concerns that preservation of the Beaver Lakes roadless area warranted full consideration in the Trail Creek NEPA process given the area's high security value for wildlife. Moreover, plaintiffs have alleged the roadless areas provide wildlife corridors essential for maintaining the biological diversity in the Northern Rocky Mountains.

"Given the contentious and long-standing debate in the State of Montana regarding the preservation of roadless lands and wilderness designation, the court concurs with plaintiffs' assertion that the NEPA process would have been properly serviced by development of an action alternative that preserved roadless lands in the Trail Creek area. Such an alternative would have afforded the opportunity for scientific and public participation and debate regarding the delicate balance between preserving natural resources and timber management. **2(cont'd)**

"Accordingly, the EIS' failure to address an alternative preserving existing roadless lands in the Trail Creek area renders compels this court to REMAND this matter for further administrative proceedings."

The Council on Environmental Quality (CEQ) administers and interprets NEPA. See *Abenaki Nation of Mississquoi v. Hughes*, 805 F. Supp. 234, 241 (D. Vt. 1992), aff'd, 990 F.2d 729 (2d Cir. 1993). 40 C.F.R. § 1502.14 makes abundantly clear that the DOE has failed to adhere to the regulations and therefore the EIS should be revised again to address each of the following requirements. This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Section 1502.15) and the Environmental Consequences (Section 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

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(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

Only a brief survey of the preceding requirements is needed to demonstrate that the DOE has failed to address all but one item, item D. While the DOE provides the public with a tome of bureaucratic jargon, the DOE fails to identify alternatives that were dropped from consideration and why they were dropped from consideration. This is a violation of NEPA. In the eyes of the DOE, each alternative will result in approximately the same impact even though one set of the reactors, Bellefonte, is not in production and sits idle. The fact that the DOE glosses over the cataclysmic change that will occur in northeast Alabama due to the start-up and production of radioactive materials emphasizes the glaring weaknesses of this EIS. This is a violation of NEPA. What is the DOE's preferred alternative? Where, if at all, is there a discussion of the mitigation measures that will be in place once production is started? Mitigation measures will be needed at all three CLWRs with the construction of the ISFI and the impacts on endangered species. 40 C.F.R. § 1508.20 defines mitigation to include (a) Avoiding the impact altogether by not taking a certain action or parts of an action. . . (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment ,(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and (e) Compensating for the impact by replacing or providing substitute resources or environments. The DOE must address the issue of mitigation measures and adequately examine those in the Final EIS. **2(cont'd)**

Within this Comment letter, we point out two alternatives that the EIS did not, and it is apparent that the DOE fails to adhere to the rules and regulations of NEPA. As we have outlined at least two viable but unexamined alternatives that could be used to address the tritium problem, the EIS is inadequate and must be reissued.

The EIS spends sufficient time examining the technical aspects of tritium production, but fails to thoroughly examine issues outside of its expertise, such as ecosystem and economical considerations. With all of the activity affecting the viability of the aquatic wildlife such as the mussels and native fish and with all the unnatural diversions of water, at least four dams between the three proposed Commercial Light Water Reactors, what is to be gained environmentally, and **11/12.03**

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in the long run economically, by choosing a Commercial Light Water Reactor? Since TVA has been planning on converting Bellefonte to a fossil fuel plant, how will the destruction of that plan affect the economics of the surrounding area? Where is the comparison of economic gain to be won with tritium production over another fossil fuel plant? **11(cont'd)** **12/13.02**

The presence of Indiana and gray bats along with the endangered mussels and the endangered green pitcher plant prohibit the furtherance of any proposed actions at Bellefonte. No documentation is given as to WHO determined the green pitcher plant is not found in the vicinity of the plant or that it is not supposed to be found in this area. As to the Indiana bat, the DOE should be aware of its tenuous hold on existence and the federal court's measures to protect said species. As one federal district court has determined,

> The Indiana bat was listed as an endangered species on March 11, 1967. Between 1960 and 1975, the bat's population decreased by 28%. In 1983, subsequent in time to the passage of the ESA, the U.S. Fish and Wildlife Service ("Fish & Wildlife") issued a recovery plan for the Indiana bat. Fish & Wildlife then designated seven (7) "Priority 1 hibernacula" where 85% of the Indiana bats currently hibernate. Despite the recovery plan's goal of halting the decline of the Indiana bat, the bat's population has continued to fall. Between 1960 and 1987 there was a 55% population decline at Priority 1 hibernacula, and a generally similar decline at Priority 2 hibernacula. [AR, Tab 38 GG 008]. According to the defendants' Indiana Bat Summer Habitat Management Strategy, "if the present rate of decline continues, the Indiana Bat Recovery Team projects that the species will be extirpated from Priority 1 caves, and perhaps become extinct, by the year 2040." **13/12.04**

House v. United States Forest Service, 974 F.Supp. 1022, n.1, (8th Cir., 1997). In that particular case, the U.S. Forest Service was ordered to cease and desist all activities in an area inhabited by the Indiana bat. The DOE will have to provide much more information before it can proceed at Bellefonte, which includes site-specific information as to all species listed under endangered status and mitigation and habitat management plans for each species.

Agency decisions are subject to the "arbitrary and capricious" standard which applies in APA actions. *State of North Carolina v. Federal Aviation Administration,* 957 F. 2d 1125, 1128 (4th Cir.1992). In order to apply this standard, a court must determine whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. *Id.* (quoting *Citizens to Preserve Overton Park, Inc. v. Volpe,* 401 U.S. 402, 416, 91 S. Ct. 814, 823-824, 28 L. Ed.2d 136 (1971)). It is the DOE's responsibility to determine the suitability of Bellefonte for tritium production. While the DOE has notified the United States Fish and Wildlife Service of the existence of the Indiana Bat, the Endangered Species Act requires all federal agencies to consult in such a situation:

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> Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

16 U.S.C. §1536(b). **13(cont'd)**

To state, as the DOE does in Appendix B, that " . . .no additional impacts to biological resources would be expected from tritium production" fails to take the "hard look" as required by NEPA. In an EA the agency must take a "hard look" at the project and its impacts, "as opposed to bald conclusions, unaided by preliminary investigation," and must "identify the relevant areas of environmental concern." *Maryland-National Capital Park and Planning Commission v. U. S. Postal Service*, 487 F.2d 1029, 1040 (D.C. Cir. 1973). General, vague comments, such as "For partially completed CLWRs, the baseline and associated impacts would depend on the level of modification necessary to complete construction and the effluents resulting from the reactors' operation activities (EIS B-6), do not suffice as a "hard look." Furthermore, more explanation needs to be provided the public as to Table 5-24. Footnote b assures the reader that the radioactive release will significantly less than the limit of 20,000pCi/L for tritium, but what does that limit mean. Did the government set the limit where only one in a 100 will die from cancer or suffer the effects? What does that limit mean? The next EIS the DOE does must examine these limits in more detail and provide adequate explanation for the lay reader. **14/14.14**

NEPA sets forth a "national policy which will encourage productive and enjoyable harmony between man and his environment [and] promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." 42 U.S.C. § 4321.

The Eleventh Circuit has recently explained the genesis and overall approach of the Act:

> "Prior to the passage of [NEPA], environmental considerations were systematically underrepresented in the federal agency decision making process. Consistent with traditional notions of natural resource allocation, the benefits of development were overstressed and less environmentally damaging alternatives for meeting program objectives were often given limited consideration. NEPA declares a broad national commitment to protecting and promoting environmental quality. This commitment is implemented by focusing government and public attention on the environmental effects of proposed agency action; The Act ensures that important environmental **15/05.13**

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consequences will not be 'overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.' In short, NEPA requires that the evaluation of a project's environmental consequences take place early in the project's planning process."

North Buckhead, 903 F. 2d at 1539-40 (citation omitted).

NEPA does not set out substantive environmental standards, nor prescribe any regulatory program. Rather, the congressional mandate of § 4321 is realized through a set of "action forcing" procedures that require an agency to take a "hard look" at environmental consequences. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 109 S.Ct. 1835, 1846, 104 L.Ed.2d 351 (1989); *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519, 558, 98 S.Ct. 1197, 1219, 55 L.Ed.2d 460 (1978). The procedural requirements derive from 42 U.S.C. § 4332(2)(C)(I-iv), which directs all agencies of the federal government to prepare for "major Federal actions" a detailed statement on (i) the environmental impact of the proposed action; (ii) any unavoidable adverse environmental effects if a project is implemented; (iii) alternatives to the proposed action; (iv) the relationship between short-term uses of the environment and maintenance of long-term productivity; and (v) any irreversible and irretrievable commitments of resources involved in the project's implementation.

An EIS is [supposed to be] an exhaustive analysis of the impacts, proposed mitigation, and alternatives to the federal project, which has been circulated to other involved agencies, see § 1502.19, subject to public comment and agency response, see § 1503, reviewed by the CEQ in case of interagency disagreement, see § 1504, and ultimately submitted to the President. The EIS, therefore, is the primary vehicle for compliance with NEPA where a project will have a significant impact on the environment. The EIS is the "action forcing" device envisioned by Congress to insure that NEPA's policies and goals are infused into federal decision making. 40 C.F.R. § 1502.1. **15(cont'd)**

There is a failure to identify how Bellefonte, an untested site, is a viable alternative when of each proposed plant Bellefonte is the one that will receive the most significant impact. Whereas the other CLWRs already operate, therefore already experience increased levels of radiation, Bellefonte currently experiences no radiation. (EIS p. 5-67). Producing tritium at Bellefonte will increase radiation exposure exponentially. Your own EIS confirms this conclusion:

> At Bellefonte, there would be a potenital for secondary impacts arising from the proposed action. This is because Bellefonte reactors are currently not operating. While it is noted that any secondary impacts would be caused by the radionuclides other than tritium, these impacts would represent a change from no action. (EIS p.5-111).

There is absolutely no cumulative impacts analysis in this EA. The EA very briefly looked at some things called "cumulative impacts" but these were actually indirect impacts and nothing but **16/05.14**

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"cookbook" analysis at that. There is nothing site-specific at all about cumulative impacts, and there is nothing at all about other actions (public or private) in the area and how they will interact with this proposal. Reliance upon 1974 or older data from TVA does not suffice NEPA's "hard look" requirement. "Cumulative impacts" are not the things that happen later or some distance from this proposal, such as downstream sedimentation five years from now. Those are called "indirect impacts," which NEPA also requires the agency to consider. However, the DOE cannot forego its legally mandated consideration of cumulative impacts by mislabeling indirect impacts as "cumulative." Where is the cumulative analysis on Bellefonte's impact in conjunction with the Widows Creek Fossil Plant? Data from 1974 is too distant and not accurate enough to satisfy NEPA's requirements. Further analysis and measurements need to be initiated before a complete Draft EIS can be submitted.

Isolated references to impacts this proposed construction and operation at Bellefonte will have on the citizens and wildlife in this area are ineffective until the DOE analyzes those impacts cumulatively. For example, in Chapter 5 of the EIS, the DOE lists consequences that will occur from tritium production such as increased operational noise levels. After identifying the amount of noise increase and finding that wildlife will experience "startled responses," the DOE dismisses these responses as "causing little or no disturbance of wildlife on the site and thus should affect no changes in local wildlife populations." (EIS p. 5-50). This "little" disturbance combined with the "insignificant reduction in the aquatic macroflora and plankton" in the river (EIS p. 5-51) and the "small impact of radiological releases on aquatic species" (EIS 5-52) may combine to be a significant impact on the ecosystem as a whole. However, neither the writer or the reader knows since that kind of analysis is never produced by the DOE. **16(cont'd)**

The EA is required to identify and consider cumulative effects:

> "For each alternative, estimate the direct, indirect, and cumulative environmental effects, including the effectiveness of the mitigation measures, that would result from implementing each of the alternatives, including the no action alternative. Also, identify any additional mitigation measures that may be required, such as measures common to all alternatives."

1909.15 FSH § 15.

The CEQ Regulations are clear that cumulative effects involve impacts from other projects, but this EIS neither mentions nor identifies the impacts from a number of similar projects being proposed in this area or from past projects in the area.

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The CEQ Regulations define "Cumulative impact" as:

"the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

40 C.F.R. § 1508.7 (Emphasis added.)

The CEQ Regulations also state:

"'Effects' include: . . . (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." ***16(cont'd)***

40 C.F.R. § 1508.8.

The EA labels a few charts as cumulative effects. Those charts, however, disclose only direct or indirect effects of the project. An example is that the EA discusses "cumulative" impacts on ecological from this proposal and this proposal alone. The EA assumes that general impacts from this proposal several years from now, such as the increase of water temperature, are "cumulative" impacts. (EIS at 5-115). That is a direct impact. While mentioning other TVA activities in or nearby the Tennessee River, nowhere does the EIS discuss the impacts of this proposal in addition to other similar actions in the area, whether on TVA projects or private activities. All the EIS discusses is the increase in radioactivity from tritium productions. While such discussion is appropriate, to limit cumulative impacts analysis to that one item is grossly inadequate. Another example of DOE's failure to present the facts in a proper way is the chart on page 5-43. According to the chart, only .0004 percent of the Tennessee River's water flow will be diverted to accommodate the needs of a plant producing tritium, yet the EIS fails to present how this diversion of water in conjunction with municipalities and industries and dams will affect the river.

Another failure of the DOE when discussing the impact on surface water and groundwater is the failure to convey in clear, accurate and simple terms what the effects to the human environment will be if a leak of tritium occurs. In Appendix B the EIS attempts to discuss the methods by which water resources and water quality will be monitored. Again, the EIS is replete with general surmises, especially concerning the partially completed facilities. The DOE concedes ***17/11.10***

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there will be an impact when an idled plant is engaged, but apparently expects residents to appreciate the fact the DOE will monitor the change in water quality. Like normal hydrogen, tritium can bond with oxygen to form water. When this happens, the resulting water (called tritium oxide or tritiated water) is also radioactive. Because tritium oxide is chemically identical to normal water, it cannot be filtered out of the water. Once Bellefonte tritium hits the water supply there will be no way to retrieve it. To spend over 400 pages explaining the benefits of tritium and the wonders it will do for the economy and socioeconomic levels of the area, it is remiss and violative of NEPA to minimize and trivialize the negative effects that will occur. To dismiss concerns about the potentially significant and harmful effects of tritium production with some vague assurances the water will be monitored does not suffice. NEPA requires the government to analyze both positive and negative significant impacts. This EIS fails to follow those regulations. ***17(cont'd)***

NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. 40 C.F.R. §1500.1(b).

"An EIS serves two purposes: (1) to provide decision makers with enough information to aid the substantive decision whether to proceed with the project in light of its environmental consequence; and (2) to provide the public with information and an opportunity to participate in gathering information." *Big Hole Ranchers Association*, 686 F. Supp. at 260. ***18/05.15***

In relevant part, CEQ regulations define "significantly" as follows:

"Significantly as used in NEPA requires considerations of both context and intensity:

"(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action . . . .

"(b) Intensity. This refers to the severity of impact. . . . The following should be considered in evaluation of intensity:

"(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance

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the effect will be beneficial

". . . .

"(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

"(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

"(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about future considerations.

". . . .

"(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

"(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for protection of the environment."

40 C.F.R. § 1508.27. The DOE must take adhere to these regulations and provide the public with an EIS that adequately identifies how this proposed project will impact their environment as a whole. *18(cont'd)*

There is a very limited discussion of other projects in the area, including some private lands. However, that section only gives cursory review to those actions, and nowhere does the EA ever identify and discuss the IMPACTS from those other actions. Cumulative effects analysis requires more than ticking off a list of other things in the area; it requires identification and analysis of the impacts from those actions and the proposed action together. *16(cont'd)*

The lack of site-specific analysis is a clear violation of NEPA. All of the analysis in the EIS could be cut and pasted into another project anywhere else in the country. Site-specific analysis *19/12.05*

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cannot be cut and paste because it deals with the specifics of the project. The Department must address the impacts to the specific streams, plants, animals, etc. in the project area. All wildlife discussion in the EIS is based entirely upon generic statements with absolutely no site-specific supporting data or information. None of the information has been field-checked or verified in any way. There is no site-specific data on wildlife in this compartment, and there is no survey data showing what numbers of sensitive species occur in these areas such that the agency can adequately determine that the proposal will not adversely impact the viability of these species. Without actual site-specific data showing the number of individuals of a species and how many will be killed or displaced by this proposal, the agency cannot logically conclude that the viability of these species is assured in this area. The bottom line is the DOE must provide numbers and populations statistics. Even this EIS acknowledges that TVA activities on the Tennessee River have resulted in declining numbers of mussels and other aquatic life. Only with site-specific data and hard numbers will the DOE accurately convey the true impacts of this proposed action. *19(cont'd)*

At no point in the EIS does the DOE consider possible attack on the transport of TPBARs from the production site to either Savannah River Site or the Richland, Washington site.

A blanket statement such as "No environmental impacts are expected as a result of compliance with both NRC and DOE safeguard and security provisions based on the adequacy of the existing TVA security provisions illustrates the cursory analysis given to such considerations as security. (EIS p. 5-106). *7(cont'd)*

From a document well over 400 pages, the DOE sees fit to devote only two paragraphs to the important discussion of soils. (EIS p. 4-66). Soils can be what conduct the waste from this proposed activity; soils can be what protects the waste from entering the water table. Soil identification is necessary to evaluate storage options and stability for the future. Adverse impacts to water quality have not been analyzed properly. There is a lack of data on impacts from previous diversions. Tables 5-22 and 5-23 are antiquated charts from 1967 without any recent data to confirm what is in the water now, nor any qualified data as to what will be in the water once the proposed actions begin. The following statements do nothing to ease one's mind: "Water required from the Guntersville Rervoir would be a small fraction of the river flow, and most of it would be returned to the reservoir after use." (EIS p. 5-42). *20/10.02* *21/11.07*

The EA avoids any discussion of the economic impacts to recreation. This is a blatant failure to comply with the agency's NEPA duties. The EA fails to consider how the presence of an active radioactive production plant will affect the economics of recreation at the Guntersville State Park *22/13.03*

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and Reservoir. At no point in the EIS is there any discussion of the economics of fishing, hunting, hiking, wildflower viewing, bird watching, horse back riding or other recreational uses of these areas.

There are countless legal requirements to consider the economic impacts of this proposed plant to other uses. Some of these include:

> "(B) Identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations ...."

NEPA Section 102, 42 U.S.C. § 4332.

22(cont'd)

The analysis pretends that creating an active tritium plant where there is no activity now has no adverse effects on recreation. The DOE has an obligation to disclose these effects. It is not legal to pretend they do not exist or to ignore them merely because considering them would be "difficult."

> "Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative."

40 C.F.R. § 1508.8.

The ID Team must contain the expertise necessary to evaluate the economic impacts of the project. Even if the economic impacts of recreation were truly "intangible" and difficult to address, the EA still cannot refuse to address the issue. Thus, the EA has not provided a legally adequate economic analysis.

In closing, my client, Wild Alabama, is opposed to the proposed tritium production at Bellefonte, in particular. Wild Alabama is particularly concerned that DOE will focus too heavily on the potential economic benefits from the Bellefonte site and will not weigh these benefits with the significant decreases in land resources, air quality, water quality, ecosystem quality and quality of life issues. In addition too much emphasis is placed on the fact that TVA announced in 1994 that Bellefonte would not be completed as a nuclear plant without a partner. However, in a general sense, my client finds the EIS is woefully inadequate for all proposed sites. The DOE sloughs off the

23/05.26

24/05.16

Commentor No. 116: Leigh Haynie for Wild Alabama (Cont'd)

difficult issues raised by tritium production at Bellefonte. To ask the citizens of Jackson County and north Alabama to trust the DOE that tritium is needed, but that the figures to support that are classified does not satisfy the open process of NEPA. It is also irresponsible to state that an explosion of the Bellefonte facility is outside of the scope of this EIS. Chernobyl is a mere decade behind us; residents around such facilities need to be informed of the results of such an explosion. While moral and ethical considerations may be beyond the scope of the DOE's analysis, issues such as life and death, healthy and unhealthy lives, and safe and unsafe water are not beyond the scope. The facts as DOE presents them are that there will be increase in the quantity of radionuclides to be released if and/or when an accident occurred; the tritium content in the liquid effluent will likely increase; there will be a likely increase in the generation of low-level radioactive waste, which must be stored somewhere with plans to store on-site; and there is a significant change in potential risks from proposed tritium production. The EIS completely fails to list and examine mitigation measures for these increased risks to the surrounding citizenry.

24(cont'd)

25/15.08

26/14.04

27/16.01

26(cont'd)

5(cont'd)

Besides learning how to make tritium and enjoying the excellent models and drawings, the EIS glosses over the environmental issues and dismisses the significant impacts this proposed project will have on the surrounding ecosystem, humans and all. At a minimum, DOE must be required to do the EIS over again after the testing is completed in the spring of 1999. This EIS is too early. Until the post-irradiation examination and studies are completed by DOE, no solid and specific information can be provided. After March of 1997, the DOE will be able to provide specific information, instead of general surmises. This proposed action will have a significant impact on the environment around the Bellefonte facility. To posit there will be no significant adverse impact when 3 kilograms of tritium is run through a facility that is idled and zapping no radioactivity waves in addition to the creation of low-level radioactive waste on site is the height of ludicrousness. Wild Alabama requests the DOE to delay reissuing another Draft EIS until such time as complete tests have been run on the TPBARs currently at Watts Bar 1.

18(cont'd)

4(cont'd)

18(cont'd)

4(cont'd)

Please make these comments part of the record. Thank you for your consideration.

Sincerely,

Leigh Haynie

Leigh Haynie
Attorney for Wild Alabama

Commentor No. 117: Joanne MacNulty

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Joanne MacNulty
Organization:	
Address:	PO Box 266 Paonia, CO 81428
Phone #: **Fax #:**	(970) 527-6620
Comment #:	

Comment:

I am responding to the notion of creating tritium for war in a commercial reactor or 2 or 3, Watts Bar, Sequoyah, and Bellefonte. In the south, where I used to live, I can't tell you strongly enough what a crazy idea many of us out here think that is, not to mention illegal and counterproductive to life on earth. You have my written comment from a couple of months back, but I understand that the comment period is about up so I wanted to go on record of asking you, please don't do this thing. Thank you. *1/01.09*

Commentor No. 118: Monica Blanton

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Monica Blanton
Organization:	
Address:	1629 Berkley Circle Chattanooga, TN 37405
Phone #: **Fax #:**	(423) 756-8237
Comment #:	

Comment:

I'm calling in opposition to the production of tritium at Bellefonte Nuclear Plant. *1/07.03*

Commentor No. 119: Marita M. Hardesty

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Marita M. Hardesty
Organization:	
Address:	1235 Lonesome Pine Road Kingston Springs, TN 37082
Phone #: **Fax #:**	(615) 952-5865
Comment #:	

Comment:

I'm calling in regards to the proposal that more tritium be produced in civilian reactors. I am against the making of more tritium. I understand that the United States is in violation of treaties that have already been signed about nuclear proliferation and that tritium also has a shelf life and it decays at about 5% per year. Right now we have in our stockpile enough tritium until the early years of 2000, the 21st century. It is not needed. I am hoping that the majority of voices in our democracy will tell you that they don't want it and that the money spent on this unnecessary situation should be spent towards better causes. Thank you for your time.

1/01.04

2/02.01

3/23.13

Commentor No. 120: Eskel Lind

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Eskel Lind
Organization:	
Address:	515 3rd Street Santa Cruz, CA 95062
Phone #: **Fax #:**	460-0338
Comment #:	

Comment:

I am also calling on behalf of Ms. Roberts. She is also a Santa Cruz resident living on Paul Minnie Avenue. Her phone number is 475-8910. We are both opposing the development of tritium, the production of tritium, in the commercial light water reactor in Tennessee. We are against that component which is for the use of nuclear weapons and also for the impact upon the environment and for the safety of people. I don't like the idea of using civilian facilities for the production of that material and I don't like the use of that at all. To begin with…it causes cancer and it is not really that concerned about the…people and I think it is insane to be doing that to begin with, so I'm making my comment that I am against this. I'm against the production of tritium in a commercial light water reactor. O.K. Goodbye.

1/07.02

2/01.09

1(cont'd)

Commentor No. 121: Joyce Rolce

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Joyce Rolce
Organization:	
Address:	Nashville, TN
Phone #: **Fax #:**	(615) 370-4032
Comment #:	

Comment:

This comment is from Richard and Joyce Rolce of Brentwood, Tennessee. We are very much opposed to the manufacture of tritium at TVA facilities or within Tennessee, the light water reactor program, and wanted to express our opposition to it. Thank you. Please contact me if you have any questions. Bye. *1/07.02*

Commentor No. 122: Beverly Charles

Comments Received via "800" Number

Date:	Oct. 27, 1998
Name:	Beverly Charles
Organization:	
Address:	46 Radcliff Road Springfield, IL 62703
Phone #: **Fax #:**	(217) 585-1329
Comment #:	

Comment:

I am calling to make a comment on the production of tritium in a commercial light water reactor. I do not see a need for this--it is a component for nuclear weapons--we are not at war and we, for sure, don't need to be selling it to anyone else. Although many people may not truly believe it, I believe a lot of these factors are a part of what is increasing the cancer rates--having been a victim of breast cancer myself, I am thoroughly against this type of production. Thank you. *1/02.01* *2/14.04*

Commentor No. 123: Maggie Colgan

AddressID: 48 Date Updated: 10/26/98 7:32:30 PM

First Name: Maggie MI: Last Name: Colgan Title:

Organization:

Address:

City:

State or Province: Postal Code: Country: USA

Work Phone: Fax Number:

Email Address: MACOLGAN7@aol.com Home Phone:

Notes: Stop this insanity!! No CLWR in Tennessee

1/07.02

Commentor No. 124: Alex A. Pulsipher

AddressID: 50 Date Updated: 10/27/98 12:04:38 PM

First Name: alex MI: a Last Name: pulsipher Title:

Organization:

Address: 816 maplehurst park apt #1

City: KNOXVILLE

State or Province: TN Postal Code: 37902- Country: USA

Work Phone: Fax Number:

Email Address: APULSIPH@ICX.NET Home Phone:

Notes: NO TRITIUM PRODUCTION IN CIVILIAN FACILITIES! END ALL PRODUCTION OF NUCLEAR WEAPONS NOW!

1/01.09

2/01.01

Commentor No. 125: William W. Howell

AddressID: 51 Date Updated: 10/27/98 10:43:33 PM

First Name: William MI: W Last Name: Howell Title:

Organization:

Address: 1007 Stonewall Drive

City: Nashville

State or Province: TN Postal Code: 37220- Country: USA

Work Phone: 615-297-2269 Fax Number: 615-385-2503

Email Address: wwhowell@earthlink.net Home Phone: 615-269-4532

Notes: Having read the summary of the Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, I am amazed that the proposal was not abandoned a long time ago. With the Cold War over and nuclear stokpiles being reduced, where is the justification for maintaining a stockpile? Why don't we just dismantle the weapons as the components age and deteriorate? I don't want my tax dollars squandered on this boondoggle. *1/02.01* *2/23.13*

Commentor No. 126: Justin P. Wilson

STATE OF TENNESSEE

DON SUNDQUIST
GOVERNOR

October 27, 1998

Mr. Stephen M. Sohinki, Director
CLWR Project Office
U.S. Department of Energy
P.O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki:
As the Governor's Lead Contact for State of Tennessee National Environmental Policy Act (NEPA) reviews, I am providing comments in response to the **U.S. Department of Energy - Draft Environmental Impact Statement for the Production of Tritium in Commercial Light Water Reactor, DOE/EIS – 0288D dated August 1998**. The attached comments from state agencies represent the complete and official response of the State of Tennessee. These comments are limited to the scope of study appropriate for the aforementioned document. Please give these comments your full consideration as well as all comments presented by concerned citizens at your public meetings

The State firmly supports the maintenance of our national security. The proposed actions appear to further that goal without compromising the health and safety of Tennessee citizens or the protection of State resources. *1/14.06*

The State makes the following comments:

1) The Department of Energy (DOE) should consider a specification that commercial reactors producing tritium be operated at a level appropriate for efficient power production, not a level that maximizes tritium production. Since risk of exposure is greatest during fuel rod replacement or transportation of spent nuclear fuel, this would minimize risks of accidental exposure. Operating the reactor at an inefficient level for power production increases the rate of fuel consumption, thereby increasing both the rate at which fuel rods are changed and the amount of spent nuclear fuel that must be transported and disposed. In addition, the EIS did not evaluated the operation of Bellefonte for maximum power efficiency as it did for Watts Bar and Sequoyah. The DOE should provide this analysis if it intends to produce tritium at Bellefonte. *2/14.15*

2) The document should explain whether operational limits for a plant would be changed to produce tritium and whether those changes might affect National Pollution Discharge Elimination System (NPDES) permits under which that plant now operates. *3/11.02*

State Capitol, Nashville, Tennessee 37243-0001
Telephone No. (615) 741-2001

Commentor No. 126: Justin P. Wilson (Cont'd)

Mr. Stephen M. Sohinki
Page 2
October 27, 1998

3) The DOE should consider background and downstream monitoring of these facilities. **4/11.03**

We appreciate the opportunity to comment and will respond to additional opportunities in the future. If you have any questions, please contact our staff policy analyst at 615/532-4968 (fax 615/532-0740).

Sincerely,

Justin P. Wilson
Deputy Governor for Policy

JPW/emw

cc: Mr. Milton H. Hamilton, Jr., Commissioner
NEPA coordination file/Mr. Dodd Galbreath
State NEPA Contacts
Mr. James Chardos, Tennessee Valley Authority

Commentor No. 127: Earl C. Leming

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

October 5, 1998

US Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
PO Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki

U.S. Department of Energy - *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor*, DOE/EIS-0288D dated August 1998

The Tennessee Department of Environment and Conservation, DOE Oversight Division (TDEC DOE-O) has reviewed the above Draft Environmental Impact Statement (EIS). The subject EIS was reviewed in accordance with the requirements of the National Environmental Policy Act (NEPA) and associated implementing regulations 40 CFR 1500, 1508, and 10 CFR 1021 as implemented.

The production of tritium at Sequoyah and/or Watts Bar and/or Bellefonte nuclear plants as described in the subject EIS does not appear to create a significant risk to the environment or human health, provided tritium production is at a level that allows efficient power production. Less efficient power production would result in additional spent nuclear fuel (SNF) with associated environmental and transportation risks. After review of the subject document, the Division offers the following comments for your consideration: **1/14.15**

- The option of simultaneously burning mixed oxide (MOX) fuel and producing tritium in the same reactor was not discussed in the EIS. The EIS should explain why this option was not included. **2/04.04**
- The National Environmental Policy Act (NEPA) does not specifically require cost analyses, however, due to extremely important and complex socioeconomic factors associated with the tritium production project, the EIS should include a complete cost analyses. **3/23.16**
- If tritium is produced at levels that increase reactor fuel consumption, the EIS should clarify who owns the additional SNF and who will pay for its eventual treatment, storage, and disposal. **4/17.08**

Commentor No. 127: Earl C. Leming (Cont'd)

The following request was made in the State's comments on the Notice of Intent (letter from J.P. Wilson to S.M. Sohinki dated March 6, 1998, with attached letter from E.C. Leming to S.M. Sohinki dated March 6, 1998). We again request that following data be provided to this office for review.

"**Environmental Impacts and Safety**
Provide to the State and interested stakeholders the TVA sampling data from the primary coolant at the Watts Bar Pilot Project (both before) and during actual production of tritium. Send the data as it becomes available. Measurements of H-3 in particular should be provided. Since the tritium-producing burnable absorber rods (TPBARs) contain different materials than standard BARs, other relevant neutron activation products should be included in the data. Supply enough reference data to facilitate evaluation. Supply detection limits and bounding statistics." *5/19.13*

Sincerely

Earl C. Leming
Director

Commentor No. 128: Joelle Key

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Radiological Health
3rd Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1532
615-532-0399
INTERNET: jkey@mail.state.tn.us

October 26, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki:

Thank you for the opportunity to review the Draft Environmental Impact Statement for the Production for Tritium in a Commercial Light Water Reactor. We have the following comments about this document.

1) The TPBARs being tested at Watts Bar will not be removed until 1999, and yet the decision of which technology is going to be used is going to be made by the end of 1998. Is it reasonable to make this decision before concluding the test at Watts Bar? If this decision can be made without this information, then there was no reason for the test to be run. *1/05.10*

2) The production of tritium in a reactor will cause a significant increase in the amount of tritium in the coolant. The presentation of material in this report implies that the increase in the quantity of tritium is not significant. Section 5 compares the amount of tritium released annually under normal operations and the amount predicted with tritium being produced. On page 5-5 the comparison is made for gaseous emissions. In this example, it is stated that under normal conditions 5.6 Ci of tritium is released annually. With 1,000 TPBARs in the reactor, a release of 1,655.6 Ci of tritium is predicted. The footnote states that 1,550 Ci of this comes from the unlikely condition that 2 of the TPBARs fail. Even if none of the TPBARs fail, 1,550 Ci from 1,656.6 Ci leaves 100 more Ci released when tritium is being produced. This is almost 20 times as much tritium than is currently released from the commercial reactor. The same comparisons can be made for liquid effluents on page 5-6, with the increase being threefold. The dose assessment for these releases does show that they are well within federal guidelines, but the increase in the amount of tritium being release is significant should not be treated as if it is insignificant. *2/14.16*

Sincerely,

Joelle Key
Health Physicist

Commentor No. 129: Robert L. Foster, Jr.

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
WATER SUPPLY
6th Floor, 401 Church Street
Nashville, Tennessee 37243-1549

October 26, 1998

U. S. Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
P. O. Box 44539
Washington, D. C. 20026-4539

Re: **U. S. Department of Energy - Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor, DOC/EIS-0288D dated August 1998**

Dear Mr. Sohinki:

The Tennessee Department of Environment and Conservation, Division of Water Supply has reviewed the draft environmental impact statement (EIS). The Division of Water Supply offers the following comments for your consideration:

- The proposed impact statement could be strengthened by requiring TVA, DOE and DOD to fund background and downstream tritium monitoring at public water system intakes that could potentially be impacted by the production of tritium. Sample containers should also be prepositioned for use in case of an accidental release of tritium by nuclear plants. The data generated by the monitoring should routinely be made available to the state and to the water systems for inclusion in consumer confidence reports along with a simple explanation anticipated health effects of the ingestion of tritium at the concentrations found in water at the intake. *1/11.03*

Thank you for the opportunity to comment.

Sincerely,

Robert L. Foster, Jr.

Robert L. Foster, Jr.
Deputy Director

RLF/rlf

Commentor No. 130: Christopher F. Turner

AddressID: 53 Date Updated: 10/28/98 5:19:48 PM

First Name: Christoper MI: F Last Name: Turner Title:

Organization:

Address: 3056 Bowling Green Dr.

City: Walnut Creek

State or Province: CA Postal Code: 94598- Country: USA

Work Phone: Fax Number:

Email Address: caped8@aol.com Home Phone: (925)937-6586

Notes: I just wished to express my thanks to all the members of the CLWR project for doing such important work in the development of tritium production.many more feel the same way I do. Thanks *1/07.02*

Commentor No. 131: Judi Kazanas

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: I fully support the production of tritium ~~pro~~ at the Bellefonte nuclear plant in Hollywood, Alabama. Secretary of Energy Richardson has many positive considerations at Bellefonte. From an aspect of cost, Bellefonte is by far the best choice to produce tritium. Environmental impact studies have been conducted in the region and have been favorable. Technical risk aspects have been thoroughly studied with a favorable report. Compatibility, with respect to quantity & schedule, has been reviewed. The partnership of DOE & TVA represents a wonderful opportunity for Alabama & Tennessee to once again contribute to the military defense of our great country. *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Judi Kazanas (optional)
Organization:
Address: 5720 Laurel Ridge Rd
City: Chattanooga State: TN Zip Code: 37416
Work phone: Home phone: 423 344-7137
Fax:
E-Mail Address: jkazanas@aol.com

7/4/98

Commentor No. 132: Madeline Duckles

Women's International League for Peace and Freedom
United States Section
1213 Race Street, Philadelphia, PA 19107-1691
(215) 563-7110 • (215) 563-5527 (FAX)

Berkeley-East Bay Branch
P.O. Box 5576, Berkeley 94705
510-845-3737

October 26, 1998

DRAFT ENVIRONMENTAL IMPACT STATEMENT
for the
PRODUCTION OF TRITIUM IN A COMMERCIAL LIGHT WATER REACTOR

Using commercial reactors to produce tritium has serious environmental and public health impacts. Tritium is extraordinarily difficult to contain. Elevated tritium levels have already been found in the air and water around reactor sites. Far from harmless, tritium contamination has been associated with a variety of public health problems including birth defects and cancers. *1/14.04*

In December 1991 coolant contaminated with tritium leaked into the Savannah River from a D.O.E. reactor. As a result, industrial and residential water plants in Georgia and South Carolina were closed for an undetermined period. *2/08.02*

We do not believe these concerns have been adequately addressed in the subject E.I.S.

Women's International League for Peace and Freedom is very concerned that plans to produce nuclear weapons materials such as tritium in commercial reactors will do irreparable damage to non-proliferation goals. Until now the U.S. has maintained a clear distinction between weapons work and commercial programs, and it has tried to persuade other nations to do the same. Violating this long-standing policy would set a dangerous precedent worldwide. *3/01.04*

Since no country poses a credible military threat to the U.S. and the Start II Treaty has been ratified by the U.S. Senate, there is no urgent requirement for more tritium than can be obtained from the scheduled dismantling of our nuclear weapons arsenal. *4/02.02*

India and Pakistan have burst into the international scene with their recent nuclear tests and have thus joined the acknowledged nuclear powers (U.S., Great Britain, France, Russia and China). Israel is known to possess nuclear weapons, and Iran is approaching nuclear capability. *3(cont'd)*

Other countries possess nuclear power plants. It would be irresponsible, to say the least, for the U.S. to lead the way to using commercial reactors for weapons purposes. *5/01.09*

WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM.
Berkeley-East Bay Branch

Madeline Duckles

Madeline Duckles, Chair

Commentor No. 133: Mayor Glenda H. Hodges

Town of Woodville

Incorporated 1890

P.O. Box 94 • 26 Venson Street
Woodville, Alabama 35776
(205) 776-2860
Fax: (205) 776-2796

October 2, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
ATTN: Mr. Stephen Sohinki
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki:

In February 1998, the Woodville Town Council adopted a resolution in support of the production of tritium at the Bellfonte Nuclear Plant, and our position has not changed.

We believe that the production of tritium at Bellefonte poses no danger to the public and we feel confident that the plant can be operated in a completely safe manner.

Since the production of tritium by the Commercial Light Water Reactor method can be accomplished as a by-product of production of electricity, utilization of the Bellefonte Plant seems to be the most feasible and logical choice to produce the tritium needed for our national defense. North Alabama is proud of the contributions made and continue to be made to our nation's military programs. *1/07.03*

Also, utilization of the Bellefonte Plant would provide an economic boost to an economic depressed area of our state. Therefore, for the above reasons, we continue to offer our support.

Sincerely,

Glenda H. Hodges

Glenda H. Hodges,
Mayor

Commentor No. 134: Randy Horton

Comments Received via "800" Number

Date:	Oct. 30, 1998
Name:	Randy Horton
Organization:	
Address:	145 Fairhill Drive Wilmington, DE
Phone #: **Fax #:**	302-234-7874
Comment #:	

Comment:

I'm calling in support of the DOE proposal to open the Bellefonte Nuclear Plant. Thank you for your support. *1/07.03*

Commentor No. 135: Colleen Lancaster

COMMENT FORM

The Department of Energy is interested in your comments on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.*

There are several ways to provide comments on this document and these include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting
- returning this comment form or other written comments to the address on the back
- faxing your comments to 1-800-631-0612
- commenting via the World Wide Web site: http://www.dp.doe.gov/dp-62
- calling toll-free and leaving your comments via voice mail, 1-800-332-0801

Comments: By study of history 4th or that, after World War II, a new "peaceful" role for nuclear energy would begin not to be confused or entwined with the defense role. There was to be a wall between the two roles. Section 1.1.5.4 of this draft EIS attempts to muddy the water and imply "dualuse" has been commonplace. However, we are engaged in a discussion about making a bomb component in a civilian reactor. "There is a difference." I am highly troubled by the breaching of the wall. 1/01.09

Admittedly, though, some breaching has already occurred because the civilian role has always been twisted by the defense role. Our defense role comes begging at the door of its poor relative, the civilian role; and the civilian role must take up the slack in a period when the world doesn't seem to respect nuclear weapons and superpowers much.

My choice: 2/04.01

The No Action Alternative for the CLWR EIS – accelerator production of tritium at the Savannah River site.

We cannot have "dual-use" facilities in this country and then be picky about dual-use technology we sell to other countries or protest sale of it by others to rogue nations. 1(cont'd)

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: Colleen Lancaster (optional)
Organization:
Address: 801 Davis Dr.
City: Brentwood State: TN Zip Code: 37027
Work phone: 615-741-0783 Home phone: 615-370-1572
Fax:
E-Mail Address: Plumbob346@AOL.com

Commentor No. 136: Judith Cumbee

11096 CR 247
Lynn OR 38843
Oct 27, 1998

Mr Stephen Sobinski, Director
CLWR Project Office, US DOE
PO Box 44539
Washington, DC 20026-4539

Dear Mr Sobinski:

I write in total opposition to the Watts Bar plant being completed to produce nuclear energy and tritium for nuclear weapons and in general opposition to any nuclear production.

I am concerned about security for my state, our country and the world.

By the way, a commercial plant making nuclear bomb material could become a target for terrorist action or a bomb attack by hostile powers. Nuclear facilities could be the best protected of all U.S. nuclear weapons facilities and having them in my state certainly does not enhance our security. 1/22.01

On site storage of radioactive and toxic waste (as happened at the Savannah River Plant and which could also happen in transporting the irradiated TPBARS as well as the used fuel rods or the wastes) is another risk not to be taken in "Watts the Beautiful." 2/16.03 3/08.02 4/18.04 5/18.10

And furthermore it is past time for America the Beautiful to live up to her promises as a leader for the world. What moral authority do we have to demand Saddam Hussein for building weapons of mass destruction while we, a signer of the Nuclear Non Proliferation Treaty, instead of pursuing complete nuclear disarmament, are going ahead to fulfill Article VI, plan to produce tritium for the continued production of nuclear weapons? 6/01.04

Commentor No. 136: Judith Cumbee (Cont'd)

I recommend that there is no practical difference between TVA producing electricity for nuclear weapons and producing tritium, that it is just "in effect extending the past practice of using government owned facilities simultaneously for civil and military purposes" is absolute contradiction to the intent of the International Atomic Energy Act. Using a commercial plant to produce weapons material would set a precedent for Iraq, China, and any other country to organize weapons development as civilian activity. 7/01.09

Security for our second death will be generated not by nuclear energy and nuclear weapons but by developing a reverence for life. For scientific, environmental, and moral reasons, since results, the Bellefonte plant - or any other - be used to produce tritium. 8/01.10

Sincerely,

Judith W. Cumbee

PS - A number of those who believe we need a nuclear deterrent, the National Resources Defense Council points out that 1000 warheads - more than enough to serve as a deterrent - "would not require additional tritium until 2032... by that time 3/4 ths of our tritium produced in 2005 will have decayed away." If tritium facility producing by 2000 would be delayed by 2040 — 9/02.02

Commentor No. 136: Judith Cumbee (Cont'd)

A Resolution Opposing Production of Tritium at the Alabama Bellefonte Plant
By the Peace-Justice Human Rights Committe of Alabama New South Coalition
October 2, 1998

Whereas, the Department of Energy has prepared a Draft Environmental Impact Statement on the production of tritium in the TVA reactor at the Alabama Bellefonte plant;

Whereas, tritium, produced from uranium fission, is used for the trigger of nuclear weapons and the United States has more than enough tritium to last until 2015 if there are no more arms control treaties (and if there are, less will be needed); 9(cont'd)

Whereas, making bomb material in a commercial reactor violates the Atomic Energy Act which has always kept commercial and nuclear power separate for reasons of safety, security, and nonproliferation; 6(cont'd)

Whereas, the current course of developing additional radioactive materials for weapons use is in violation of the Nuclear Nonproliferation Treaty;

Whereas, serious safety flaws shut down reactors at the Savannah River Plant which produced plutonium and tritium,

Whereas, the Savannah River Site is heavily contaminated; carbon steel tanks holding 34 million gallons of radioactive liquid wastes developed leaks; "arsenic, mercury, tritium and other poisons contaminate site's ground and surface water (Atlanta Journal/Constitution 4/18/91); 3(cont'd)

Whereas, leakage of radioactive tritium and other poisons would cause severe environmental contamination in Alabama, endangering human and other life systems, even beyond the immediate site (in 1983 carcinogenic solvents were discovered under the Savannah River Site in the deep Tuscaloosa aquifer, which flows into Alabama); 10/14.04

Therefore be it resolved that the Peace-Justice-Human Rights Committee of the Alabama New South Coalition, which was founded on a platform that included support for a Nuclear Weapons Freeze, generally opposes further production of tritium and specifically opposes using the Bellefonte plant for such production, and 11/01.01 12/07.03

Be it further resolved that this notice of opposition will be forwarded to Stephen Sohinki, Director, CLWR Project Office, US Dept. of Energy, PO Box 44539, Washington DC 20026-4539 [or faxed to 800 631 0612 or sent to http://www.dp.doe.gov/dp-62, all to be marked: "CLWR EIS Comments] and to newspapers in the Scottsboro, Fort Payne, Huntsville, Anniston, and Birmingham areas.

Commentor No. 137: Susan Gordon

Alliance for Nuclear Accountability

A national alliance of organizations working to address issues of nuclear weapons production and waste clean-up

Member Groups

American Friends Service Committee
Denver, CO

Citizen Alert
Las Vegas, NV

Coalition for Health Concern
Benton, KY

Concerned Citizens for Nuclear Safety
Santa Fe, NM

Environmental Defense Institute
Troy, ID

Fernald Residents for Environmental Safety and Health, Inc.
Ross, OH

Global Resource Action Center for the Environment
New York, NY

Government Accountability Project
Seattle, WA
Washington, DC

Hanford Education Action League
Spokane, WA

Heart of America Northwest
Seattle, WA

Los Alamos Study Group
Santa Fe, NM

Miamisburg Environmental Safety & Health
Miamisburg, OH

National Environmental Coalition of Native Americans
Prague, OK

Native Americans for a Clean Environment
Tahlequah, OK

Neighbors in Need
Englewood, OH

Oak Ridge Environmental Peace Alliance
Oak Ridge, TN

Panhandle Area Neighbors & Landowners (PANAL)
Panhandle, TX

Peace Action Education Fund
Washington, DC
Nashville, TN

Peace Farm
Panhandle, TX

Physicians for Social Responsibility
Washington, DC

Portsmouth/Piketon Residents for Environmental Safety & Security
McDermott, OH

Rocky Mountain Peace and Justice Center
Boulder, CO

Snake River Alliance
Boise, ID

Southwest Research and Information Center
Albuquerque, NM

STAND of Amarillo
Amarillo, TX

Tri-Valley CAREs
Livermore, CA

Western States Legal Foundation
Oakland, CA

Women's Action for New Directions
Arlington, MA

October 27, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
Attn: Mr. Stephen Sohinki
PO Box 44539
Washington, DC 20026-4539

RE: Comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor (Draft CLWR EIS)

Dear Mr. Sohinki:

These comments are submitted by the Alliance for Nuclear Accountability (ANA). ANA is a national network of more than 30 organizations working to address issues of nuclear weapons production and waste cleanup. ANA groups have been directly affected by contamination problems caused by past tritium production as well as effects of nuclear weapons production. **1/08.02**

ANA has two major concerns about the DEIS. First, ANA opposes any renewed tritium production for nuclear weapons. Thus, we oppose all of the alternatives included in the DEIS -- both producing tritium in civilian reactors, which are the five "reasonable alternatives" discussed, and the "no action" alternative of producing tritium in an accelerator. Second, ANA believes that the DEIS is substantially deficient as a NEPA document in its analysis of the environmental impacts, in addition to not discussing all reasonable alternatives. **2/01.01** **3/05.16**

ANA requests that the DEIS be withdrawn and that no decision be made to select a new tritium production source for nuclear weapons. **2(cont'd)**

Regarding the "need" for tritium production, the DEIS does not demonstrate that any tritium production source is actually needed, and there has not been a valid and public debate about the size and existence of the U.S. nuclear arsenal. The DEIS's own chart (Figure S-3) shows that to maintain the START-II Stockpile tritium is not needed until 2016. Under any START-III treaty, the need for tritium would be further delayed. The DEIS itself is contradictory as to the "need." Section 1.3.3 states that tritium "must be available" by 2005 if a commercial light water reactor is **4/02.01** **5/02.02**

Seattle Office: 1914 North 34th St., #407, Seattle, WA 98103, 206/547-3175, Fax: 206/547-7158
Washington, DC Office: 1801 18th St. NW, #9-2, Washington, DC 20009, 202/833-4668, Fax: 202/234-9536

Commentor No. 137: Susan Gordon (Cont'd)

the source and that tritium "must be available" by 2007 if a linear accelerator is the source. **5(cont'd)**

Any valid DEIS must discuss real alternatives -- such as not having a new tritium production source and maintaining a smaller nuclear arsenal, and complying with the treaty obligations under Article VI of the Nuclear Nonproliferation Treaty to step up the U.S. commitment to progress on nuclear arms reduction. **6/01.04**

Regarding environmental impacts, the DEIS does not discuss the history of environmental and health problems around DOE tritium production facilities. Environmental problems, leaks, and accidents that have occurred at other tritium production sites are reasons that there are currently no U.S. tritium production plants for nuclear weapons. The DEIS does not discuss how spending billions of dollars on tritium production will divert funding from much-needed cleanup of the nuclear weapons complex. **1(cont'd)** **7/23.13**

The discussion of environmental impacts in the DEIS is also flawed. The DEIS does not fully describe that tritium-producing burnable absorber rods (TPBARs) is a new technology, so there are great uncertainties in their use, including the actual leakage rate (which could be much larger than the 1 curie per year estimate used on page C-19) and the environmental effects of handling, storing, and transporting them. The DEIS does not discuss the fact that there is no disposal site for spent fuel, so that the environmental effects of tritium production could include centuries of on-site spent fuel storage at commercial reactor site(s). **8/19.09** **9/17.09**

The DEIS also does not adequately discuss environmental justice issues. For example, the DEIS does not fully describe and discuss the impacts on low-income and minority populations living in close proximity (less than 15 miles) from some of the commercial reactor sites. Environmental impacts are diluted by the DEIS's usage of a 50-mile radius, when water and air contamination problems could be concentrated in areas in proximity to reactor sites. **10/13.08**

Thank you for your careful consideration of these comments.

Yours truly,

Susan R Gordon

Susan Gordon
Director

Commentor No. 138: Linda King

161 Caliente Dr.
Hoover, AL 35226
Oct. 24, 1998

Commercial Light Water Reactor Project Office
P.O. Box 44539
Washington, DC 20026-4539

Dear Mr. Sohinki:

I have been reading material concerning the proposed tritium plant in the state of Alabama. I am quite concerned. As careful as anyone would try to be working with this product, accidents, no doubt, would still occur. I do not want my beautiful state to be ruined. 1/15.03

I feel sure you are aware of the negative possibilities, such as it being a radioactive form of water. That's a scary thought! Also, air emissions, cancer, discharge into rivers, transportation of the substance – all of these outweigh the formation of new jobs. 2/14.04

Commentor No. 138: Linda King (Cont'd)

Jobs are great, but at what price! 2(cont'd)

Visit our beautiful state. We want to keep it that way – safe, too. 1(cont'd)

I'm not usually a letter writer, but I may become more of one.

Please give consideration to my thoughts on the matter.

Thank you,
Linda King

Commentor No. 139: Joseph A. Imhof

OCT 26, 1998

U.S. DEPT. OF ENERGY
C LWR PROJECT OFC.
ATTN: STEPHEN SOHINKI
WASHINGTON, D.C.

DEAR STEPHEN,

JOSEPH IMHOF, HERE. I MET YOU AT THE RAINSVILLE, AL. PUBLIC HEARING ON OCT. 6 OF THIS YEAR.

AS A NATIVE ALABAMIAN, I WANT WHAT IS BEST FOR ALABAMA. I FEEL THAT THE BELLE FONTE PROJECT WOULD BE HARMFUL TO OUR ENVIRONMENT IN MANY WAYS. THEREFORE, 1/10.03

Commentor No. 139: Joseph A. Imhof (Cont'd)

(2)

SPEAKING FOR MYSELF ONLY, I CANNOT SUPPORT THIS PROJECT. I RECOMMEND THE "NO ACTION" OPTION. 1(cont'd)

IF I COULD SPEAK FOR THE PEOPLE OF ALABAMA, (AND THESE PEOPLE FULLY UNDERSTOOD THE CONSEQUENCES OF THIS PROPOSED BELLEFONTE PROJECT) I WOULD UNEQUIVOCALLY SAY THAT THE PEOPLE OF ALABAMA DON'T WANT THIS PROJECT. 2/04.01

PLEASE CONSIDER THE "NO

Commentor No. 139: Joseph A. Imhof (Cont'd)

(3)

ACTION" OPTION AND PRESERVE THE SCENIC BEAUTY AND PASTORAL SETTING OF THIS BEAUTIFUL AREA. 2(cont'd)

THANK YOU VERY MUCH FOR YOUR ATTENTION TO THIS REQUEST.

SINCERELY,

JOSEPH A. IMHOF

Joseph A. Imhof

256-880-1019

E-MAIL debhof@juno.com

Commentor No. 140: Robert E. Eigelsbach

IRON WORKERS LOCAL UNION NO. 704

INTERNATIONAL ASSOCIATION OF BRIDGE, STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS

2715 BELLE ARBOR AVENUE — CHATTANOOGA, TENNESSEE 37406

MELVIN L. BREWER, *Business Manager* — 423 / 622-2111 — FAX 423 / 622-2112

October 28, 1998

Mr. Bill Richardson
U.S. Department of Energy
Commercial Light Water Reactor Project Office
PO Box 44539
Washington, DC 20026-4539

Dear Mr. Richardson:

I would like to take this opportunity to thank you on behalf of our entire membership for your visit and reception at Bellefonte Nuclear Plant regarding the Tritium Project under consideration at the site.

Our membership believes that tritium production is essential for the defense of this great nation we live in. But as I mentioned in our brief conversation, that as builders by profession, this plant still remains as "unfinished business" to a large percentage of our membership who has worked there at one time or another. I myself started a career as an Iron Worker over 20 years ago at Bellefonte Nuclear Plant, as we all have grown and progressed over the years this plant continues to remain idle. 1/07.03

Again on behalf of our membership, we urge you to select this site so our blood, sweat and tears that we as builders put in this project will not be for nothing.

Yours truly,

Robert E. Eigelsbach
Assistant Business Manager
Iron Workers Local Union 704

REE:cjc

Commentor No. 141: Mike Woloszyn

Comments Received via "800" Number

Date:	Nov. 3, 1998
Name:	Mike Woloszyn
Organization:	
Address:	
Phone #: **Fax #:**	302-832-3344
Comment #:	

Comment:

My wife and my mother-in-law both live in the Scottsboro area and I just wanted to tell you that I support the Bellefonte unit and everybody there that I've talked to believes that it is a safe use for the area. It would be a good plus for the economy and it makes economic sense to use that facility instead of building one from scratch. The benefits for the average American taxpayer are enormous and once again, I fully support the use of this facility. Thank you. *1/07.04* *2/23.13*

Commentor No. 142: James H. Lee

United States Department of the Interior

OFFICE OF THE SECRETARY
OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE
Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

September 29, 1998

ER-98/546

U.S. Department of Energy
Commercial Light Water Reactor Project Office
Attention: Mr. Stephen Sohinki
P.O. Box 44539
Washington, D.C. 20026

RE: DEIS for the Production of Tritium in a Commercial Light Water Reactor

Dear Mr. Sohinki:

The Department of the Interior has reviewed the referenced Draft Environmental Impact Statement (DEIS) and offers the following comments.

The DEIS discusses the impacts associated with the production of tritium in existing Commercial Light Water Rectors owned by the Tennessee Valley Authority (TVA). The installations being considered are the Watts Bar Unit 1, in Rhea County, TN; Sequoyah Units I and 2, Hamilton County, TN; and Bellefonte Units I and 2, Jackson County, AL. The proposed tritium production will not involve new construction or significant increases in tritium discharges beyond those already permitted in the Tennessee River. The Fish and Wildlife Service previously provided a current list of federally threatened and endangered species which occur in the area. The DEIS incorporated consideration of impacts to those species and concluded the operation would not adversely impact those species. The Fish and Wildlife Service does not anticipate adverse effects to listed species from the proposal. TVA is committed to an extensive environmental monitoring program which would be conducted during operations. Should the monitoring indicate an adverse impact on listed species, TVA would immediately initiate consultation with the Fish and Wildlife Service regarding those impacts. *1/14.06*

Please contact me at 404-331-4524 if you should have any questions.

Sincerely,

James H. Lee
Regional Environmental Officer

Commentor No. 143: Heinz J. Mueller

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

October 27, 1998

4EAD/rkm

Mr. Stephen Sohinki
U.S. Department of Energy
Commercial Light Water Reactor Project Office
P.O. Box 44539
Washington, D.C. 2006-4539

SUBJECT: Draft Environmental Impact Statement (DOE/EIS-0288D) for the *Production of Tritium in a Commercial Light Water Reactor*

Dear Mr. Sohinki:

We reviewed the subject Draft Environmental Impact Statement (DEIS) in accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. The proposed action is to obtain irradiation services from one or more Commercial Light Water Reactors (CLWRs) to provide tritium in sufficient quantities to support the nation's nuclear weapons stockpile requirements.

The proposed action includes fabricating tritium-producing burnable absorber rods (TPBARs) at a commercial facility; irradiation of the TPBARs at one or more of five operating or partially constructed TVA nuclear reactors; the possible completion of TVA's nuclear reactors; transportation of non-irradiated TPBARs from the fabrication facility to the reactor sites, irradiating TPBARs in the reactors and transporting irradiated materials from the reactors to a tritium extraction facility that DOE would establish at the Savannah River Site in South Carolina; and management of spent nuclear fuel and low-level radioactive waste. Overall, the DEIS is comprehensive and detailed. The Summary document provides a concise synopsis. Our comments on the DEIS are attached.

EPA has environmental concerns about the project; in particular, the Final EIS should provide more detailed information about the comparative costs of the tritium production alternatives, processes, and potential environmental impacts. *1/23.16*

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Commentor No. 143: Heinz J. Mueller (Cont'd)

Thank you for the opportunity to review this DEIS. Based on our review, we rate the DEIS "EC-2", that is, we have environmental concerns about the project, and more information is needed to fully assess the impacts. If you have questions, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

Heinz J. Mueller, Chief
Office of Environmental Assessment

Attachment

Commentor No. 143: Heinz J. Mueller (Cont'd)

Comments for
Draft Environmental Impact Statement (DEIS) for the
Production of Tritium in a Commercial Light Water Reactor

GENERAL COMMENTS:

1. DOE should be explicit concerning the costs associated with tritium production at each TVA plant considered. Please provide a comparison of engineering requirements and costs associated with using existing reactors vs. use of a new reactor. *1(cont'd)*

2. The completion of Bellefonte Nuclear Plant(s) should be a separate EIS. Unless solely used for tritium production, this EIS should not suffice as a dual one for the completion and commercial operation of the Bellefonte plant(s). *2/05.06*

3. Data from the final report from the test phase currently ongoing at Watts Bar should be reviewed and analyzed before a final EIS is completed for this CLWR project. Uncertainties related to burnup, reactor physics, and other factors should be more adequately assessed by DOE at that time. *3/05.10*

4. Will the emissions from the tritium produced be covered under the Clean Air Act - NESHAP-Radionuclides [10 CFR 61, subpart H]? Although a minor contributor to the air emissions from a Nuclear Plant, nevertheless the tritium is owned by DOE. *4/11.05*

SPECIFIC COMMENTS:

P.1-12, Sec.1.5.1.2: Please provide the report that discusses the findings or lessons learned from the Lead Test Assembly demonstration. When will the post-irradiation exam be conducted? *3(cont'd)*

P.3-2, Sec.3.1.2: States the tritium produced would be chemically bound to the "getter" and extracted only after heating to a high temperature. Is there no release potential of any form of tritium, such as elemental or tritium oxide, that contributes to the 0.2 mrem/yr for 1000 TPBARs, for example? Is the only tritium added to waste and releases related to the nuclear process itself? *5/19.10*

P.3-9, 4th bullet: States that the tritium production "would not be expected to affect the radiological condition of the reactor..." Will the results of the trial test at Watts Bar provide the adequate evidence required to better predict what will happen in the core, the reactor life, etc.? What will be the effect on the reactor physics itself? How different from using the regular burnable absorber rods? *3(cont'd)* *6/24.15*

P.5-99, Sec.5.2.7: What is the current U-235 enrichment, 4.0%? Why would DOE supply the higher enriched uranium, and not the U.S. Enrichment Plants? Is it because of the uranium surplus at DOE? *7/24.04*

Also, the text states that the environmental impacts "would be minimal" from increasing the enriched uranium use in the reactor. How does this compare with the H-3, in liquid/air releases? DOE should quantify this statement. *8/14.17*

Commentor No. 143: Heinz J. Mueller (Cont'd)

P.A-12, 1st Paragraph: The text does not go into any detail about the differences between using TPBARs instead of burnable poison rods. Is this discussed elsewhere? If so, it should be referenced here. If not, please provide more detail. *9/19.11*

Commentor No. 144: Anonymous (5)

Comments Received via "800" Number

Date:	Nov 13, 1998
Name:	Unknown
Organization:	
Address:	"North Alabama"
Phone #: **Fax #:**	
Comment #:	

Comment:

I am a citizen of North Alabama. I do not want the publicity. I am not in favor of a tritium plant in Jackson County. Thank you. *1/07.03*

Commentor No. 145: Herbert L. Harper

TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

September 1, 1998

Mr. Stephen M. Sohinki
Office of Reconfiguration
Department of Energy
Washington, DC 20585

RE: DOE, TRITIUM/COMMERCIAL LIGHT WATER, UNINCORPORATED, MULTI COUNTY

Dear Mr. Sohinki:

The Tennessee State Historic Preservation Office has reviewed the above-referenced undertaking received on Tuesday, August 25, 1998 for compliance by the participating federal agency or applicant for federal assistance with Section 106 of the National Historic Preservation Act. The Advisory Council on Historic Preservation has codified procedures for implementing Section 106 of the Act at 36 CFR 800 (51 FR 31115, September 2, 1986).

After considering the documentation submitted, it is our opinion that the undertaking will have no effect upon National Register of Historic Places listed or eligible properties. This determination is made either because of the location, scope and/or nature of the undertaking, and/or because of the size of the area of potential effect; or because no listed or eligible properties exist in the area of potential effect; or because the undertaking will not alter any characteristics of an identified eligible or listed property that qualify the property for listing in the National Register or alter such property's location, setting or use. Therefore, this office has no objections to your proceeding with the project. *1/14.06*

If you are applying for federal funds, license or permit, you should submit this letter as evidence of compliance with Section 106 to the appropriate federal agency, which, in turn, should contact this office as required by 36 CFR 800. If you represent a federal agency, you should submit a formal determination to this office for comment. You may direct questions or comments to Joe Garrison (615)532-1559. This office appreciates your cooperation.

Sincerely,

Herbert L. Harper

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jyg

Commentor No. 146: Mary Lou Blazek

Oregon
John A. Kitzhaber, M.D., Governor

Department of Consumer and Business Services
Office of Energy
625 Marion St. NE, Suite 1
Salem, OR 97301-3742
Phone: (503) 378-4040
Toll Free: 1-800-221-8035
FAX: (503) 373-7806
Web site: www.cbs.state.or.us/external/ooe/

October 5, 1998

Mr. Jay Rose
Office of Defense Programs
US Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: Oregon Office of Energy's comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor.

Dear Mr. Rose,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor (CLWR EIS). Tritium production is a subject Oregonians have strong feelings about. Our most urgent concerns are:

The CLWR EIS mentions numerous times that production of tritium in a commercial light water reactor may result in more spent fuel. As also detailed in the CLWR EIS, this fuel will have higher enrichments and lower burnup than fuel currently discharged to the spent fuel pools and thus will have higher reactivity. The CLWR EIS discusses in detail the use of Independent Spent Fuel Storage Installations (ISFSI), but it is presumed that some of this more reactive fuel will be discharged to the facility spent fuel pool. The CLWR EIS contains no discussion of the effects of this high reactivity fuel on spent fuel pool design parameters or spent fuel pool or fuel handling accidents. We recommend that a detailed analysis of the effects of this high reactivity fuel on the various plants' spent fuel pools, and on fuel pool and fuel handling accident analyses be done and a discussion of the results included in the CLWR EIS. **1/17.10**

There is no discussion of the effect of this high reactivity fuel on the postulated geologic repository. For example: Since there will be much more spent fuel generated by this process, will this affect the capability of the geologic repository to accept fuel from other CLWR? Will its high reactivity make it ineligible for geologic storage or require special handling? These issues should be evaluated and discussed in the CLWR EIS. **2/17.11**

Commentor No. 146: Mary Lou Blazek (Cont'd)

Attached are additional specific comments. Should you have any questions, please contact Doug Huston of my staff at (503)378-4456.

Sincerely,

Mary Lou Blazek
Administrator
Nuclear Safety Division
Oregon Office of Energy

cc: Ms. Donna Powaukee - Nez Perce Tribe
Mr. J. R. Wilkerson- CTUIR
Mr. Michael Wilson - Washington Ecology
Mr. Douglas Sherwood - EPA
Mr. Russell Jim - Yakama Nation

Commentor No. 146: Mary Lou Blazek (Cont'd)

Oregon Office of Energy's comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor Page 1 of 4.

Section 4.2.1.9 discusses "conservative assumptions" used for both individual and population exposure times. We recommend that these conservative assumptions be expressly discussed in the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor (CLWR EIS). **3/14.18**

Table 4-10 refers to a footnote "c." Footnote "c" does not exist. It appears that footnote "d" is correct. This table needs to be corrected. **4/24.12**

Table 4-11 does not contain any reference to the source of the data in the table. We recommend that a citation as to the source of the data, for example, exposure records, be included with Table 4-11. **5/24.16**

The Low Level Radioactive Waste section on page 4-28 implies a difference between the primary coolant system and the reactor coolant system. In reality these are one and the same system. We recommend that consistent terminology be used in this section.

Section 4.2.2.1 refers to Chickamauga Lake, Figure 4-7 refers to Chickamauga Reservoir. These references need to be consistent. **4(cont'd)**

The Aquatic Resources Section on page 4-42 discusses a decline in the native mussel population but does not discuss a suspected cause. We recommend that this suspected cause be included in this section. **6/12.06**

The discussions of socioeconomic impact are very inconsistent between sites. These discussions need to be to the same level of detail for each site. **7/13.04**

The first assumption listed in Section 5.1.2 is not an assumption; it's a statement concerning the conservatism of the model used. Move this statement from the list of assumptions up into the paragraph, which precedes the list of assumptions. **8/24.17**

The statement in the fourth assumption of Section 5.1.2 that experience with boron burnable absorber rods bounds what would be expected from Tritium Production Burnable Absorber Rods (TPBAR) needs more amplification. There are several types of boron burnable absorber rods with different materials of construction. The number of boron burnable poison rods installed in a core is much less than the possible number of TPBARs that would be installed for tritium production. **9/19.01**

Section 5.2.1.1 under Land Use states no additional land would be disturbed at Watt's Bar to prepare for tritium production but then goes on to discuss construction of a dry cask spent nuclear fuel storage facility at the site. We recommend that the first sentence be modified to acknowledge the possible construction of a dry cask spent nuclear fuel storage facility. **4(cont'd)**

Commentor No. 146: Mary Lou Blazek (Cont'd)

Oregon Office of Energy's comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor Page 2 of 4.

Section 5.2.1.9.1 makes the statement no new facilities would be constructed to support tritium production at Watt's Bar. Construction of a dry cask spent nuclear fuel storage facility constitutes new facilities. We recommend that this possibility be acknowledged in any discussion of construction impacts in the CLWR EIS. **4(cont'd)**

Section 5.2.1.9.2 under Radiological Impacts states assessment of dose and associated cancer risk to the non-involved worker is not applicable for beyond-design-basis accidents. The rationales given following this statement are of dubious validity. The assumption of a slow moving accident is not a general case; many scenarios of fast moving beyond basis accidents exist. Further, the statement is made that the public within 10 miles would have been evacuated. This evacuation would not occur immediately and would most likely take hours to accomplish. We recommend that dose and associated cancer risk be evaluated for the non-involved worker. **10/15.09**

Table 5-6 presents risk increments associated with various accidents, and the paragraph following this table describes these numbers as the actual risk. Terminology should be consistent between narratives and tables. **11/15.10**

The statement on page 5-39 that studies of natural draft cooling towers in England approximate the performance of natural draft cooling towers in the southern US needs amplification. There are significant climate differences between these two areas. **12/11.06**

Footnote "e" to Table 5-22 appears redundant.

The footnotes associated with Table 5-29 are out of synch with the table. **4(cont'd)**

Table 5-30 does not include health risks to workers. The assumption that administrative controls will completely protect workers is unrealistic. The Oregon Office of Energy recommends that as a minimum, historical exposures for workers in similar processes, with administrative controls in place, be reviewed and the risks then extrapolated. **13/14.01**

Table 5-32 assumes mean (50%) meteorological conditions to the maximally exposed offsite individual. We recommend that worst case credible meteorological conditions be used to bound the risks. **14/15.11**

Table 5-32 does not give units for the data presented. We recommend these units be provided in the table. **15/24.20**

Table 5-38, Uranium Fuel Cycle and Waste Management entry discusses only transportation. Issues associated with additional on-site storage capacity for spent fuel should also be discussed. **16/17.12**

Commentor No. 146: Mary Lou Blazek (Cont'd)

Oregon Office of Energy's comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor Page 3 of 4.

Section 5.2.6, page 5-92 discusses the exposure to a "real" individual. Information should be included on what is meant by placing the word real in quotes. *17/24.23*

Include the assumptions behind the conservatively estimated dose to a worker from the Independent Spent Fuel Storage Installation (ISFSI). (page 5-94, top of the page.) *18/17.13*

Page 5-94, second paragraph states no chemical, biocide or sanitary wastes would be generated in the operation of the ISFSI. This disagrees with Table 5-41, which implies that small amounts of these would be generated. These two references should be consistent. *19/17.14*

Table 5-42, page 5-96, the bottom of the table is cut off.

The table on the top of page 5-97 has no title, is not referred to anywhere in the text, and generally contains no useful information. We recommend this table be deleted. *4(cont'd)*

The transportation segments discussed in section 5.2.8 (page 5-100) do not include transportation of raw materials to the TPBAR fabrication facility. This phase of transportation should also be discussed. *20/18.12*

The Table 5-46 assumption of a one month refueling outage is optimistic. We recommend that the TVA average refueling outage duration be used in this column. *21/14.19*

Section 5.2.9 refers to a "baseline tritium production CLWR configuration" which it says is described in Sections 5.2.1 to 5.2.3. These sections consider two conditions: 1000 TPBARS and 3400 TPBARS. Table 5-46 identifies the baseline as 3400 TPBARS, but it is not apparent that this is the baseline assumed in Table 5-47 since some of the "change from baseline" columns for this case are non-zero. The baseline assumed in this section needs to be stated explicitly, and all the tables in this section should be checked for consistency with this baseline. *22/24.18*

Tables 5-51 and 5-53 do not consider two reactors operating in the tritium production mode even though these options are possible as discussed in Table 3-2. The two reactors in tritium production configuration should be added to these tables. *23/24.13*

The following typographical or grammatical errors were discovered:

Summary, page 6 top of page, second sentence contains a split infinitive – "to not be.." should be "not to be…"
Page 3-10, second bullet, fourth sentence, replace "of" with "at" just prior to "a national repository."
Page 3-29, Low Level Radioactive Waste Generation, first sentence. Add the word "at" prior to Bellefonte 1. *4(cont'd)*

Commentor No. 146: Mary Lou Blazek (Cont'd)

Oregon Office of Energy's comments on the Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor Page 4 of 4.

Typographical and grammatical errors (cont.)

Page 4-12, 4-13, the last two full sentences on page 4-12 are repeated on the top of page 4-13.
Page 5-1, Section 5.1, first sentence. Add the word "to" following the abbreviation CEQ.
Page 5-31, Section 5.2.3.2, second paragraph, first sentence. Add the word "by" following the phrase "compensated for…"
Page 5-98, last sentence on the page. Insert the word "no" prior to the word "additional."
Page 5-105, TBAR should be TPBAR
Page 5-105, Section 5.2.10, second sentence. The word "characterizes" should be "comprises."
Page 5-120, first full paragraph at the top of the page, second sentence. This sentence should be re-written. A suggestion is "Due to the limited amount of land disturbance, there would be small impacts….."
Page C-8, the paragraph following Table C-2. The radiation unit Grey is improperly abbreviated Cy. *4(cont'd)*

The following commentors (200 through 255) submitted comments concerning the December 14, 1998, public meeting and TVA's latest proposals to DOE for use of Watts Bar, Sequoyah, and Bellefonte.

Commentor No. 200: Mrs. Ed Houser

Comments Received via "800" Number

Date:	Dec 10, 1998
Name:	Ms. Ed Houser
Organization:	
Address:	46 Sherry Drive Ringo, GA 30736
Phone #: **Fax #:**	(706) 866-7239
Comment #:	

Comment:

I am totally against opening a plant in Hollywood, Alabama at the Bellefonte plant. Those people down there have enough trouble as it is. There's not enough educated people to run that--they would have to be bringing people in to run it. There's not enough housing for people to be brought in. It is mostly a farm community. Lots of older folks and younger folks, not a whole lot in between. But this plant does not need to be in Bellefonte because it will create nothing but trouble. *1/13.01*

Commentor No. 201: W. D. Scarbrough

Comments Received via "800" Number

Date:	December 10, 1998
Name:	W.D. Scarbrough
Organization:	
Address:	3503 Sparkman Drive, NW Huntsville, AL 35810
Phone #: **Fax #:**	(256) 852-9350
Comment #:	

Comment:

Comment on tritium production at Tennessee Valley. I feel it would be highly desirable. I do feel like part of your message is not getting out because I have not seen one reference in any public publication, newspaper or television report, radio report, otherwise of the fact that all you will be doing in the Tennessee Valley is exposing control rods to radiation and you will transport the control rods somewhere else to extract tritium. I feel like it will be highly desirable to have that situation here because we already are producing atomic electricity--we might as well get some other benefit from it as tax benefits. *1/07.07*

Commentor No. 202: Robert Van Wyck

Comments Received via "800" Number

Date:	Dec. 15, 1998
Name:	Robert Van Wyck
Organization:	
Address:	709 Helmsdale Place North Brentwood, TN 37027
Phone #: **Fax #:**	(615) 373-9176
Comment #:	

Comment:

I don't want any of the options. My problem is you notified me on Friday of a meeting that's being held at the Rhea County High School in Evansville today. There's no way I can make that on such a short schedule. I tried to fax a letter in to Sohinki asking in the future at least 2 weeks notice but your fax machine is not working. I don't know why. I tried for the last 24 hours so please check your fax machine and try to schedule these meetings so people have time to get there to make discussion. *1/07.02* *2/05.31*

(Mr. Van Wyck's comments were received, see Commentor No. 247)

Commentor No. 203: Angela Heckler

Comments Received via "800" Number

Date:	Dec. 17, 1998
Name:	Angela Heckler
Organization:	
Address:	983 County Road 213 Hollywood, AL 35752
Phone #: **Fax #:**	(334) 499-2380
Comment #:	

Comment:

I am calling in reference to the Bellefonte Nuclear Plant producing tritium--we are against it. We feel like this is being pushed upon us. The polls that have been taken have not been taken fairly. It will affect us and we do not want it here. I don't know where the people are getting their information that says that Jackson County does want this because everyone I talk to say they do not want it and we would like to make that clear. Just wanted to make the comment and let someone know that we are not for this. We are against it and we do not want it in our community. *1/07.03*

Commentor No. 204: Carol L. Womacks

AddressID: 56 Date Updated: 12/16/98 1:22:03 AM

First Name: carol MI: L Last Name: womacks Title:

Organization: Bellefonte Alliance

Address: 204 County Rd. 402

City: Scottsboro

State or Province: Al Postal Code: 35768- Country: Jackson

Work Phone: Fax Number:

Email Address: womacks@HiWAAY.net Home Phone: 256)574-2808

Notes: I would like to say that the majority of citizens of Jackson County do not want the Bellefonte plant put onto operation. That of course not what the elected officials, business owners, and union people from Tennessee want you to think. People in Jackson county are concerned if they will loose jobs. business owners will loose business . I know that the man who ran against our Mayor lost his job working for the city of Scottsboro and this was after many good job reviews prior to his running for Mayor. And you wonder what I am telling you is true? I only wish you would take time to remember that all who came to the meetings were people who would profit from the Bellefonte option and not one average citizen was for the Bellefonte option. Please take this into consideration and do the right thing for the people of Jackson County by not selecting our Bellefone plant as the place to produce tritium. Thank you

1/07.03

Commentor No. 205: William L. Stiles

AddressID: 57 Date Updated: 12/18/98 2:34:08 PM

First Name: William MI: L Last Name: Stiles Title: Elect. Maint. Foreman

Organization: TVA SEQUOYAH

Address: 3216 SCENIC DR.

City: SCOTTSBORO

State or Province: AL. Postal Code: 35769- Country: U.S.

Work Phone: 423-843-8574 Fax Number:

Email Address: wlstiles@tva.gov Home Phone: 256-259-0554

Notes: I'VE BEEN IN TVA POWER PLANT MAINTENANCE FOR THE LAST 24 YR'S. 20 YR'S OF THIS TIME OF THIS TIME HAS BEEN AT BELLEFONTE FOR 10 YR'S AND THE LAST 10 YR'S AT SEQUOYAH NUCLEAR PLANT.
TVA HAS GOOD NUCLEAR PLANTS BUT BELLEFONTE IS THE BEST BUILT,DESIGNED AND WILL HAVE AN OPERATING LIFE OF 40 YR'S.
ECONOMICALLY BELLEFONTE IS THE BEST DEAL AND THE PEOPLE OF JACKSON COUNTY WANT DOE!!!

1/07.03

Commentor No. 206: Silas M. Booker

AddressID: 58 Date Updated: 12/19/98 7:51:25 AM

First Name: Silas MI: M Last Name: Booker Title:

Organization:

Address: 1325 Torbett Road

City: Spring City

State or Province: Tn Postal Code: 37381- Country: USA

Work Phone: Fax Number:

Email Address: Suedoname1@AOL.COM Home Phone:

Notes: Tritium production should be confined to DOE owned reactors. To do otherwise would confuse the distinction of Commerical uses and weapon uses of nuclear power. It would weaken the US stand that countries should not use their utility reactors for weapons production. *1/01.09*

Commentor No. 207: Judith Cumbee

Comments Received via "800" Number

Date:	Dec. 14, 1998
Name:	Judith Cumbee
Organization:	
Address:	11076 County Road Lanett, AL 36963
Phone #: **Fax #:**	(334) 499-2380
Comment #:	

Comment:

I am the Chair of the Peace-Justice Human Rights Committee of Alabama New South Coalition. I have been out of town. I got a message Thursday afternoon about this "Public Hearing" Monday night, the 14th. I am leaving for Atlanta tomorrow. I have a sick daughter. There's no way I can be in Tennessee, but number one, I am chagrined that we would get information at such a last minute about a matter that has to do with producing tritium in either Tennessee or in Alabama--that is outrageous. We need to have a good long advance notice. How would one of the Secretaries of Energy or anybody else be able to plan something at the last minute? I have sent in my comments before about my opposition to tritium production. We need to be doing away with our nuclear weapons. We are accusing Iraq of weapons of mass destruction and here we are proceeding with tritium. Absolutely outrageous. I totally oppose it and I won't go on, as I said, you have my written comments but I think having this meeting at the last minute is totally wrong and if you want to try to get a full accurate kind of response from the public, you need to set another meeting in January. So, in spite of our differences over this, whoever might hear this message, or maybe you even agree with me, I wish you, ...what, Season's Greetings which means that I hope the people of the world can come together and create a world where we can live together and set a plan to try not to annihilate us all and we can find ways of peace and it's not through building up these kinds of weapons.

1/05.31

2/01.01

1(cont'd)

2(cont'd)

Commentor No. 208: Jim Snell

AddressID: 55 Date Updated: 12/11/98 5:24:43 PM

First Name: Jim MI: Last Name: Snell Title:

Organization:

Address: 301 Scott Ave.

City: Nashville

State or Province: TN Postal Code: 37205- Country: USA

Work Phone: 615-322-4848 Fax Number: 615-343-0325

Email Address: james.e.snell@vanderbilt.edu Home Phone: 615-226-1365

Notes:

As a concerned citizen of Middle Tennessee, I believe that tritium production in commercial light water reactors (CLWR) would be a tremendous mistake on several fronts. First of all, I have safety concerns for the workers and community members around the proposed sites. I understand that DOE believes that this technology is safe, but it is still a relatively untried procedure. Second, I believe that resuming tritium production sets a conflicting goal to those of strategic arms reduction. The need assesments set forth by the DOE seem to ignore current reductions activities as well as those required by strategic arms reduction treaties the the United States has signed into law. Third, and most importantly, I believe that the use of a commercial reactor for military purposes sets an extremely bad example and precedent. The United States can only expect other nations to follow our example and use their civilian facilities for military purposes. The hypocrisy is clear, and we can not reasonably expect other countries to keep civilian and military seperate while we happily churn out bomb material in a CLWR. *1/14.04* *2/02.01* *3/01.09*

It appears that the DOE and TVA have already struck a deal to produce tritium regardless of the concerns of community members such as myself. I hope, however, that this is not the case and that the DOE will reconsider its desire to resurrect the Cold War era bomb machine. It simply is not needed and will waste untold billions of taxpayer money. Please do not proceed with the Commercial Light Water Reacter project. *4/05.33* *2(cont'd)* *5/23.13*

Yours Truly,
Jim Snell

Commentor No. 209: Mike Crane

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I AM IN FAVOR OF THE BELLEFONTE PROPOSAL. *1/07.03*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) MIKE CRANE
Organization:
Address: 315 LENORE LANE
City: SPRING CITY State: TN Zip Code: 37381
Work phone: 423 2653633 Home phone:
Fax:
E-Mail Address: MLCRANE1@JUNO.COM

12/10/98

Comment Documents

Commentor No. 210: Robert L. Davis

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I support any of the Bellefonte options, it is the best for the country and by far the best utilization for the American Taxpayer. Any other option threatens the livelihood of TVA Electricity production, makes no social economic benefit for the local area or utilities. Federal funds DOE has an opportunity to make a wise self paying choice and any other option is a short term bandaid. **1/07.03**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Robert L Davis
Organization: TVA
Address: 1140 Bessemer Rd. NW
City: Huntsville State: AL Zip Code: 35816
Work phone: (256) 574-8410 Home phone: (256) 534-2224
Fax: (256) 574-8991
E-Mail Address: RLDavis@tva.gov, RLDCARD@aol.com

12/10/98

Commentor No. 211: Cheryll A. Dyer

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: The East Tennessee area is overflowing with toxic materials from hazardous waste operations both in local industry and DOE operations. East Tennessee cannot handle any more toxic wastes, emmissions or accidents. **1/10.04**

The people of the Bellefonte area are willing to host this new facility. Consideration should be given first to this site. **2/07.03**

There are many illnesses believed to have been caused by the DOE nuclear operations across the country. East Tennessee has three nuclear facilities that have contaminated the air, soil and water. We do not need another nuclear facility to add more burden on an already sick environment and population. **3/08.02**

Even if an "accident" did not occur over the next 25 years at Watts Bar/Sequoha, the contamination issues are of grave concern and require serious consideration. Tritium poses a nuclear danger and the contamination issues possible should not be placed in this area. There are just too many environmental and population concerns with adding yet another nuclear facility to the East Tennessee area. **1(cont'd)**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Cheryll A Dyer – Disabled worker from DOE Oak Ridge K-25 Site
Organization: Coalition for a Healthy Environment
Address: 1180 Melton Hill Cir
City: Clinton State: TN Zip Code: 37716
Work phone: Home phone: 423/457-8322
Fax: 423-457-8150 (call home # first)
E-Mail Address: CheryllDyer@yahoo.com

12/10/98

Commentor No. 212: Linda Ewald

Dec. 14, 1998

COMMENT FORM

COMMERCIAL LIGHT WATER REACTOR PROJECT

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I would like to protest the short notice of this meeting - many interested persons did not hear about the meeting or were unable to attend because of other commitments. Also the deadline for the decision needing to be before the end of the year (2-3 weeks) is of concern. Such an important decision should not be rushed and there is not time for all who wish to comment by phone, letter and otherwise. Also due to short notice. *1/05.31*

I have commented at previous meetings and my stat made have not changed. I am opposed to the production of tritium or any nuclear weapons material. I am opposed to the production of tritium for nuclear weapons in Watts Bar or any commercial nuclear reactor. This violates U.S. nonproliferation policy and the Nuclear Nonproliferation Treaty. The United States would protest this action in any other country - we must abide by the same rules made for the whole world. *2/01.12* *3/01.01* *4/01.04*

I question the statement that Tritium is not a special nuclear material (exactly what is special nuclear material?) Tritium is highly radioactive and harmful to human health and the environment and should not be produced on purpose. It also as a electric power and tax payer, I protest being forced to pay for production of weapons materials with electric bill and tax. And finally this choice between tritium production in a commercial reactor or linear accelerator is another decision and should not be forced. The cutest and most cost effective course is U.S. reduction of nuclear weapons stockpile. *5/01.13* *6/14.04* *7/10.03* *8/23.13* *3(cont'd)*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Linda Ewald

Organization: Oak Ridge Environmental Peace Alliance / Knoxville Interfaith Network

Address: 948 Pender Road

City: Knoxville State: TN Zip Code: 37923

Work phone: Home phone:

Fax:

E-Mail Address:

12/10/98

3(cont'd)

Commentor No. 213: Patty Fagan

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: Where has TRITIUM been Produced? & what has the Studies Shown to the environment? We The People (Mothers esp.) worry about the environment - our water, fish, is unsafe here - we do not want fish, swim in the water. We do not want the same type thing to happen to the air. *1/08.03* *2/14.04*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Patty Fagan

Organization: Mothers Res. Homemaker

Address: 4995 B Little Ferry Rd

City: Dayton State: TN Zip Code: 37321

Work phone: 423 2095812 Home phone:

Fax:

E-Mail Address:

12/10/98

Commentor No. 214: Ronald L. Forster

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
12/14/98 **PRIOR**
to Leaving the Meeting

Comments: I am opposed to the Sole Production of tritium @ WBN and SQN for the following reasons:

(1) Operating the Units as high Leakage cores for tritium production which would reduce the operating life of these units by ~~[illegible]~~ years; thus removing ~~these~~ highly needed sources of electricity production. No R.O.I.

(2) The Starting and operation of Bellefonte for the production of electricity and Tritium is the most logical ~~dec~~ decision

(A) Another source of electricity ~~for~~ future increasing demands

(B) A Portion of the sale of this electricity will pay back the tax dollars spent to produce it.

(C) Economic Benefits for the NE AL NW GA & TN areas around the Bellefonte Plant.

Its the logically correct choice for the Nation.

Ronald L Forster

1/07.08

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Ronald L. Forster
Organization: Cataract, Inc (RCM Technologies)
Address: 14 Hillcrest Ct
City: Ringgold State: GA Zip Code: 30736
Work phone: (706) 937 4304 Home phone: 706 937 6199
Fax: Cataract RF @ aol.com
E-Mail Address: ?

12/14/98

Commentor No. 215: Erich R. Gonce

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: Bellefonte yes - most logical and economical way to go for the future for the production of power and the production of tritium.

1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Erich R. Gonce
Organization: Local Union 606
Address: 7[illegible] Mountain Creek Road [illegible]
City: Chattanooga State: TN Zip Code: 37405
Work phone: (256) 546-6751 Home phone: (423) 876-[illegible]
Fax:
E-Mail Address:

12/10/98

Commentor No. 216: Dick Hoesly

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I SUPPORT ANY BELLEFONTE OPTION FOR THE PRODUCTION OF THE NATIONS TRITIUM SUPPLY.

I FEEL THAT THESE OPTIONS ARE THE CHEAPEST FOR DOE, & THE NATIONS TAXPAYERS. THE LIFE CYCLE COSTS FOR BELLEFONTE OPTIONS RETURN DOE MONEY THRU SHARING IN NET CASH FROM ELECTRICITY SALES.

THE USE OF WATTS BAR WILL PROVIDE NO ECONOMIC BENEFIT TO THE AREA AROUND WATTS BAR. IT WILL ALSO PUT AT RISK BASE LOAD PLANTS WHICH TVA NEEDS FOR POWER SUPPLY. 1/07.08

DURING THE CONGRESSIONAL SESSION LAST SUMMER THE ALABAMA DELEGATION & THEIR CONSTITUENTS SPEAR-HEADED THE DRIVE TO OVERTURN THE MARKEY-GRAHAM LANGUAGE. WHEN THIS LANGUAGE RETURNS AGAIN THIS YEAR WHERE WILL DOE GET THEIR SUPPORT? SUPPORT WILL NOT COME FROM AN AREA THAT DOESN'T GAIN ANYTHING.

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) DICK HOESLY
Organization:
Address: 2905 CLEMONS RD
City: SCOTTSBORO State: AL Zip Code: 35769
Work phone: Home phone: 256-259-6373
Fax:
E-Mail Address:

12/10/98

Commentor No. 217: John Johnson

Comments of john johnson 12-14-98

john johnson
PO Box 281
Chatt TN
37401
423-624-3935

TO Sec. Energy Bill Richardson:

* The cold war IS OVER!
(all together now —
The Cold War IS OVER!
The cold war IS OVER!
* We DO NOT Need more nuclear weapons — we should dismantle the ones we have. No More Nukes! 1/01.01

* i oppose this tritium project (w/ TVA) — it violates the spirit, if not the letter, of the Law (AEA + NNPT) 2/01.04

* DOE makes a mess wherever it goes — Oak Ridge, Savannah, Hanford 3/08.02

* By producing tritium for nukes you are not, contrary to popular opinion, preventing nuclear war — You are, in fact, making nuclear holocaust more of a certainty. 1(cont'd)

* in short you are all slaves to the imperatives of technology and war criminals and you should resign and go camping in the wilderness with your families.

Commentor No. 218: Larry Kuka

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: PRODUCTION OF NUCLEAR WEAPONS MATERIAL SHOULD BE DONE AT DEPT OF DEFENSE FACILITIES NOT COMMERCIAL POWER PRODUCING GENERATING PLANTS.

1/01.09

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Larry Kuka
Organization:
Address: 6601 Ramsey Rd
City: Harrison State: TN Zip Code: 37341
Work phone: 423 344 7777 Home phone: Same
Fax: 423 344 0022
E-Mail Address: mtpg@am-pub.com

12/10/98

Commentor No. 219: Mr. & Mrs Ford P. McCuisten Jr.

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I join the large majority in favoring the production at the Bellefonte site.
I spent my vacation in Washington, asking for help in the completion of that near finished plant.
I do not favor the use of Watts Bar nor Sequoyah because they offer nothing positive to the area and I feel the CLWR option would not be alive if the people of Jackson County Al. had not taken a firm stand.
Please make Bellefonte the choice of DOE, it is clearly the choice of the people.
Thank You

1/07.08

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Mr & Mrs Ford P McCuisten Jr.
Organization: International Brotherhood of Boilermakers
Address: PO Box 315
City: Dutton State: Al Zip Code: 35744
Work phone: 256-574-8810 Home phone: 256-657-2477
Fax:
E-Mail Address:

12/10/98

Commentor No. 220: Mark D. Phillippe

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I support any of the Bellefonte Options
WATTS BAR/SEQ OPTIONS ARE
100 COSTLY AS COMPARED TO BELLEFONTE
OVER THE LIFE OF THE PROJECT and
PER KILOGRAM OF TRITIUM PRODUCED.
WATTS BAR/SEQ DO NOT PRODUCE JOBS
FOR THE VALLEY.
WATTS BAR/SEQ PUTS TVA AT RISK
DUE ELECTRICAL BASE LOADS

1/07.08

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) MARK D PHILLIPPE
Organization:
Address: 3002 SCENIC DR
City: SCOTTSBORO State: AL Zip Code: 35769
Work phone: 256-574-8713 Home phone: 256-259-3969
Fax:
E-Mail Address: MPHILLIP@HIWAAY.NET

12/10/98

Commentor No. 221: Steven Sax

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I AM AGAINST THE WATTS BAR OPTION
BECAUSE of the POWER RELIABILITY Problems
using WATTS BAR. Bellefonte would
be operated as a DOE REACTOR UNIT and
ANY OUTPUT of ELECTRICITY would be
DISCHARGED by TVA. DOE could make
the decisions ABOUT HOW the UNIT
would be operated. WATTS BAR must
be operated to TVA'S Needs for POWER
PRODUCTION and NOT DOE PRODUCTION
Needs. IN TIMES of POWER SHORTAGES -
TVA may not be able to SHUT DOWN
WATTS BAR for DOE TRITIUM Needs.

1/07.08

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Steven SAX
Organization: FORT PAYNE IMPROVEMENT AUTHORITY
Address: PO BOX 680617
City: FORT PAYNE State: AL Zip Code: 35967
Work phone: (256) 845-0671 Home phone:
Fax:
E-Mail Address:

12/10/98

Commentor No. 222: George E. Schmidt Jr.

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: We do not want Watts Bar and Sequoyah used to make tritium nor do we want Bellefonte completed nor used to make tritium. 1/07.02

Please send me the means I have as a citizen to prevent the making of tritium. 2/05.21

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) George E. Schmidt, Jr.
Organization: U.S. Citizen
Address: 214 East 8th Street
City: Chattanooga State: TN Zip Code: 37402
Work phone: 423-266-1618 Home phone: 423-266-6091
Fax:
E-Mail Address:

12/10/98

Commentor No. 223: Lucy W. Taylor

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: As a citizen, as a TVA ratepayer, and as a tax payer, I totally oppose the production of tritium. Now that Soviet deterrance no longer "justifies" our production and stock piling nuclear weapons, there is no justification. 1/23.13

We deserve a national debate over continued production of nuclear weapons. Under what circumstances would we launch such weapons? Even if we were attacked with a nuclear weapon, how could we responsibly, morally respond with a nuclear attack? Any such use would harm the land, air and water of all the "enemy's" neighboring countries. Given the power of our current bombs any attack would adversely ~~the sea~~ impact water and land of our entire planet. 2/01.01 3/01.10

The sums of money to produce tritium and the continued production of nuclear weapons is obscene. A billion people barely survive on $1.00 a day. Terrorism thrives on their desperate poverty. We could use our wealth and science to alleviate the desperate impoverishment which is our newest cold war adversary. 1(cont'd)

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Lucy W. Taylor
Organization:
Address: 2720 Folts Drive
City: Chattanooga State: TN Zip Code: 37415
Work phone: 266-1618 Home phone: 267-0765 (423)
Fax:
E-Mail Address:

12/10/98

Commentor No. 224: Marie Weir

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I AM IN FAVOR of THE BELLEFONTE PROJECT BECAUSE of THE ECONOMICAL BENEFITS IT WILL GENERATE FOR THE ENTIRE AREA. **1/07.03**

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) MARIE WEIR
Organization: RESIDENT OF RHEA COUNTY (TN VALLEY)
Address: 6507 DAYTON MIN. HWY.
City: DAYTON State: TN Zip Code: 37321
Work phone: 698-4163 Home phone: 775-0356
Fax: 698-4932
E-Mail Address:

12/10/98

Commentor No. 225: Mark A. Wheeler

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I am the vice president of the IBEW local #175. I represent the 3,400 membership of my union. We have constructed and maintained the TVA nuclear plants from the start. Having had hands-on experience with these plants, we know that they are very safe. **1/07.02**

As American citizens who love this country and the freedoms that it stands for all around the world, we want a strong defense potential to deter any enemy assault. **2/01.01**

As tax paying citizens, we want commercial light water reactors used in lieu of an accelerator because the commercial reactors are a much less expensive option. **3/07.01**

As residents of the Tennessee Valley, we need additional power capacity to maintain our way of life and to be able to attract new industry to this area. **4/07.03**

We see the Bellefonte option as by-far the best. It would give the DOE economical tritium and this region will get much needed power.

The Watts Bar/Sequoyah options, while a far second, would be much better than the accelerator because the smaller expense and would give additional revenue to TVA which would offset rate costs and/or provide funds for additional power facility construction. **3(cont'd)**

While the accelerator would provide for the national defense, it would be economically irresponsible.

Please choose the Bellefonte option!

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Mark A. Wheeler
Organization: IBEW #175
Address: 1406 Garden Farm Dr.
City: Hixson State: TN Zip Code: 37343
Work phone: (423) 843-6914 Home phone: (423) 842-7204
Fax: (423) 847-6870
E-Mail Address: MWhe814315@aol.com

12/10/98

Commentor No. 226: Mrs. Susan Cassidy Wilholt

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I am opposed to the Watts Bar facility being used to produce tritium. 1/07.07

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) MRS. SUSAN CASSIDY WILHOIT
Organization:
Address: 531 EVERGREEN DRIVE
City: DAYTON State: TN Zip Code: 37321
Work phone: 423-775-6781 Home phone: 423-775-6781
Fax:
E-Mail Address: SWilhoit@vistate.net

12/10/98

Commentor No. 227: Charles R. Williams

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: Being a taxpayer and a TN Valley ratepayer, I strongly believe TVA has a proven track record for nuclear safety. Having worked at both the Sequoyah and Watts Bar plants, I have seen first hand the minute detail to safety concerns at these plants. 1/07.02

Knowing the economic impact of Sequoyah Nuclear Plant Taxes from my home and the impact in economics around the Watts Bar Nuclear Plant, I feel for the people in Alabama who at one time envisioned a chance for growth. As it is now, Bellefonte stands as a giant eyesore of no use to anyone. The completion of Bellefonte is the only win-win choice for Ratepayers - Taxpayers and the citizens in and around the Bellefonte Plant. 2/07.08

Thank You.
Charles R. Williams

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Charles R. Williams
Organization: IBPAT
Address: 188 Porter St.
City: Soddy Daisy State: TN Zip Code: 37379
Work phone: (423) 998-4163 Home phone: (423) 332-5333
Fax:
E-Mail Address: Rwil954@AOL.com

12/10/98

Commentor No. 228: Anonymous (6)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: We at Midpoint International support the Belefont plane because it makes more befe/discussion and best for the country Ronnie

1/07.03

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional)
Organization: Midpoint
Address: 8044 Ray Mears Blvd
City: State: TN Zip Code: 37919
Work phone: Home phone: 691-5652
Fax:
E-Mail Address:

12/10/98

Commentor No. 229: Anonymous (7)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I live in Rhea Co. & we don't want tritium here.

1/07.07

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional)
Organization:
Address:
City: State: Zip Code:
Work phone: Home phone:
Fax:
E-Mail Address:

12/10/98

Commentor No. 230: Anonymous (8)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: As a neighbor of the Watts Bar Nuclear Plant, I have a very real concern about the proposed production of Tritium in the existing reactor. There are definite increased risk considerations to us local residents and no economic benefits – only negative ones. If this option is approved and it seems the leading contender, I believe TVA/DOE should reflect some of the large monetary exchanges to our local governments as some compensation ~~of~~ to us local ratepayers and taxpayers. Please make this part of the decision process. 1/07.07

2/23.23

[My wife – a Tennessee homewife – does not want Watts Bar – Sequoyah option either, Mr. Secretary] 1(cont'd)

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) _____
Organization: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Work phone: _____ Home phone: _____
Fax: _____
E-Mail Address: _____

12/10/98

Commentor No. 231: Anonymous (9)

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: If Mr Richardson is to do what's best for the "Nation as a Whole", the Bellefonte option is clearly the only choice that can be made. 1/07.03

If any other choice is made it will send or confirm the message that "Political Prostitution" has prevailed again. 2/05.26

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) _____
Organization: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Work phone: _____ Home phone: _____
Fax: _____
E-Mail Address: _____

12/10/98

Commentor No. 232: Mike Womacks

I want to direct my comments to the proposal written by Craven Crowell to Mr. Richardson, and express my opposition to Bellefonte.

Under the social economic impact it is stated that thousands of jobs will be created both long and short term. I submit to you that the bulk of the short term jobs will be taken by the unions from Tenn which is wonderful them, but hardly helpful to the citizens of Jackson County. The 800 long term jobs hardly approach the number thousands as stated in the letter. I submit again the citizens of Jackson County will not recieve the bulk of these jobs as we are somewhat short of nuclear engineers and other workers qualified to work in a nuclear plant. 1/13.05

Under Public & Political Support, I grant you have local political support and some congressional support. However the following members of Congress have stated opposition to the proposed production of tritium at Bellefonte (Read Names) 2/01.02

As far as the local citizens are concerned, I can tell you there is absolutely not a majority in favor of Bellefont production, and I challenge the local politicians to

Commentor No. 232: Mike Womacks (Cont'd)

conduct an election or referendum to let the people speak for themselves. That's the democratic way. Also why were not the negative EIS comments included in this letter. 3/23.22

~~In conclusion~~ No one has addressed the issue of local property values, and they will surely go down, also our local taxes will rise. There is definitely a economic benefit to local residents in Scottsboro. 4/13.06

In conclusion, I understand the need for jobs and support the construction of a natural gas plant. I don't appreciate the citizens of Tenn of anywhere else telling me what is good for my community. As for our national security, I spent 23 yrs in the military which included involvement in 3 wars, believe me we have enough nuclear bombs to destroy any adversary. If we do need more tritium let's put it in an area that is already contaminated, not contaminate a new one. 5/07.06 6/01.01 7/07.07

Commentor No. 233: Larry Hancock

December 14, 1998

Hello,

My name is Larry Hancock. I am the Recording Secretary for the International Brotherhood of Electrical Workers, Local 721, Chattanooga, Tennessee. Our local represents approximately 700 members which consists of Operators, Electricians and Instrument Mechanics at Sequoyah Nuclear Plant, Bellefonte Nuclear Plant, and other TVA facilities in the immediate area.

I am here tonight to stand in opposition to the proposal of using Watts Bar and Sequoyah as the producers of Tritium for the Department of Energy. There is much to be lost by TVA and the valley if Tritium is produced at Watts Bar and Sequoyah, and much to be gained by producing it at Bellefonte!

Watts Bar and Sequoyah are both base load units for TVA, and as such are needed on line as much as possible. If they are used as Tritium producers for D.O.E. they could be shut down if needed by D.O.E. to support our National Defense. TVA and the valley can't afford to be without the power that these two plants generate! Since both of these plants are up and running, successfully, I might add, there is absolutely nothing to be gained for this area if those units produce Tritium, even if TVA management says that either selection is a win for TVA and the valley. That is a bald-faced lie! There will not be any construction jobs or permanent jobs produced by selecting Watts Bar and Sequoyah! The only win for TVA and the valley is for Tritium to be produced at Bellefonte. *1/07.07*

If Tritium is produced at Bellefonte there are many economic benefits for TVA and the valley. First and foremost is all the employment possibilities that exist for the entire area. During construction, many of this areas construction workers will have the opportunity for gainful employment at Bellefonte. There will not be any construction jobs produced by selecting Watts Bar and Sequoyah! Additionally, the local that I represent anticipates gaining much more than a hundred new members as Bellefonte is staffed with permanent workers.

Another issue that I would like to raise is: **WHY ARE WE EVEN HERE TONIGHT?** There are many reasons why the CLWR option is still open to D.O.E. **All of them are because of the efforts put forth by the many organizations that helped fight the fight to keep the CLWR open!** Organized labor, Business leaders, Education leaders, Bipartisan political and a strong community support have kept this option open. All of their efforts were for one selection and one selection only. **That was the completion of Bellefonte.** There was a lot of time and money invested by all of these organizations to see this happen. Now that all those efforts were successful, it appears that Secretary Richardson wants to let Watts Bar and Sequoyah slip in under the door. We must not let that happen! Swapping projects at this time is very disappointing and would appear to be a deceptive move by the Department of Energy. *2/07.08*

Commentor No. 233: Larry Hancock (Cont'd)

The facts show that the CLWR option is the best one of the of the dual path options for D.O.E., and the selection of Bellefonte as the CLWR facility is the only selection that must be made. *3/07.01*

In conclusion, I urge Secretary Richardson the do the right thing and make his selection for the CLWR option with Bellefonte as the primary CLWR producer.

Thank you.

Commentor No. 234: Dwight Wilhoit

1

In 1986, Ned Ray McWhorter was elected Governor of Tennessee and after serving two terms in the Governor's mansion, Governor McWhorter left public office in 1994 as one of the most popular and beloved elected officials in the 200 year history of Tennessee. In fact, Time Magazine wrote that the only reason that Governor McWhorter was not elected to the United States Senate in 1994 was because he did not run. In the first cabinet meeting held by Gov. McWhorter, with the heads of all the departments present, Gov. McWhorter ended the cabinet meeting with ~~his~~ this simple and straightforward directive: "Remember, It's never too late to do the right thing". He didn't say to do what was easy or to

Commentor No. 234: Dwight Wilhoit (Cont'd)

2

do what was cheap. He told his cabinet to do the right thing.

For years, the citizens of this country have been subjected to people of power and influence who were only interested in what was easy or what was cheap. One only has to look a few miles from this very spot to see such an example. The large coal companies of the 20's and 30's who would come to an area and strip mine the coal and rape the land and when they left, the land was devastated and lives destroyed. They had done what was easy and what was cheap. So the citizens of the area looked to their government to see that the right thing was done. And legislation was passed that forced the

Commentor No. 234: Dwight Wilhoit (Cont'd)

3

coal companies to reclaim the land and return it to the way it was found. It was the right thing to do. Or one can look at the chemical companies of the 50's and 60's, captains of industries and corporate CEO's who dirtied our air and fouled our water. In the early 60's, the Cayahoga River that flows through Cleveland, Ohio, became so polluted that the river caught on fire, or the most infamous example of all – Love Canal where chemicals were dumped and scores of innocent children died years before their time. The chemical companies had done what was cheap and what was easy. So the people turned to their government to do the right thing. And the Clean Air Act and the Clean Water Act were passed. It

Commentor No. 234: Dwight Wilhoit (Cont'd)

4

wasn't what was cheap; it wasn't what was easy; it was the right thing to do.

Now the secretary of Energy is faced with making a choice of where this country's new supply of Tritium will be made. His choices are simple. He can place it at Watts Bar where the people have expressed their opposition towards it and by placing it there will do nothing to help the economic well being of the citizens of the Tennessee Valley. This is the cheap way, this is the easy way. Or he can place it at Bellefonte Nuclear Plant in North Alabama where the citizens of that area have shown time and time again, their over whelming support to have the production of Tritium in their area and by placing it at

1/07.08

Commentor No. 234: Dwight Wilhoit (Cont'd)

5

Bellefonte Nuclear Plant, help a depressed area by bringing thousands of construction jobs and hundreds of permanent jobs to an area where unemployment is running 9 to 10 percent. Mr. Secretary, this is the right thing to do. Please, Mr. Secretary, do not take the cheap or easy way, thereby saying that you don't give a damn about the people of the Tennessee Valley. Mr. Secretary, in the words of Gov. McWhorter, remember, it's never too late to do the right thing. *1(cont'd)*

Commentor No. 235: Mary Dennis Lentsch

Mary Dennis Lentsch
1236 N Concord Road
Chattanooga TN 37421

I am pleased to have the opportunity to speak at this meeting. I have prepared a chart that spells TRITIUM down the side.

Next to each letter I have placed a quality or characteristic that I believe can be ~~lined~~ linked with our tritium topic this evening.

TRUTH

The truth is that we do not need more tritium! It is my understanding that the U.S. has a reserve of tritium now and the DOE estimates this is enough tritium to last until 2016. Considering the half-life of tritium it does not seem wise or needed to produce and stockpile more tritium at this time. The truth is that we do not need more tritium! *1/02.01*

RESPECT

Respect among nations seems to be the key to moving nations of the world away from reliance on nuclear weapons. The U.S. has prevailed upon other nations to maintain a complete ban on the use of commercial facilities for military nuclear purposes. The proposed tritium production at Watts Bar and Sequoyah is an apparent contradiction in our nuclear weapons policies. How can the U.S. break the ban and maintain respect among nations? *2/01.09*

INTEGRITY

The U.S. cannot maintain its integrity when it produces tritium which is a violation of the nuclear nonproliferation treaty which the U.S. agreed to in 1970. I believe when we are talking about nuclear nonproliferation that U.S. integrity is critical. We must NOT move ahead with a new tritium program that has the potential to undercut a long-standing nonproliferation policy. *3/01.04*

TRUST

We trust that the decision made by Secretary Bill Richardson and the Department of Energy will say "NO" to tritium production. In saying "NO" to tritium production the U.S. would be showing the world we are committed to reducing the nuclear danger which hangs over all of us. *1(cont'd)*

Commentor No. 235: Mary Dennis Lentsch (Cont'd)

INTERDEPENDENCE

Interdependence among nations in ~~enforcing and~~ living up to the agreements of the nuclear nonproliferation treaty is vital for all nations. I believe the U.S. plans to use commercial nuclear power plants to produce tritium for nuclear weapons blurs the lines between civilian and nuclear applications of nuclear power and sends a dangerous nonproliferation message to other nations. *3(cont'd)*

UNDERSTANDING

It is beyond understanding why there is such urgency for tritium production at Watts Bar and Sequoyah plants when there seems to be an emerging consensus for significantly reduing the U.S. nuclear arsenal. *4/01.12*

MERCY

If the decision is made to produce tritium at the Watts Bar and Sequoyah plants, all I can say is MERCY ME! OH, LORD , HAVE MERCY! The impact and consequences of tritium production at the local level, the national level, and the international level cause me to say- MERCY ME! OH, LORD HAVE MERCY! *5/07.07*

Commentor No. 236: Joseph A. Imhof

Juno e-mail printed Thu, 10 Dec 1998 20:21:27 , page 1

From: debhof
To: debhof@juno.com
Subject: PUBLIC HEARING ON DEC. 14 , 1998 .

PUBLIC HEARING FOR CONSIDERATION

OF USE OF WATTS BAR & SEQUOYAH

UNITS FOR LONG TERM PRODUCTION

OF TRITIUM

EVENSVILLE , TENNESSEE

DECEMBER 14 , 1998 .

" A PLAN WE CAN LIVE WITH —

A COMMON SENSE SOLUTION . "

Commentor No. 236: Joseph A. Imhof (Cont'd)

Juno e-mail printed Thu, 10 Dec 1998 21:00:04 , page 1

From: debhof
To: debhof@juno.com
Subject: PUBLIC HEARING – DEC. 14 , 1998

_____PREAMBLE_____

In a ~~more~~ perfect world , human concerns (and not vested interests) would be a BASIS for policy decisions , not just a CONSIDERATION . Human Concerns , here , meaning taking into account the factual known impacts of actual , real operating nuclear facilities upon the health and welfare of individual human beings and other biological entities.

_____ THESIS _____

The best policy would be one which entails the least amount of harm to the fewest individual human beings and the smallest number of biological entities . This means that the impact of tritium production should be minimal , period.

_____ ACTION PLAN _____

Use existing facilities to produce tritium whenever humanly possible without impacting new areas of population and generating additional expense to American taxpayers . Avoid creating new health risks and environmental concerns by using existing facilities.

1/07.08

Commentor No. 236: Joseph A. Imhof (Cont'd)

Juno e-mail printed Thu, 10 Dec 1998 21:39:18 , page 1

From: debhof
To: debhof@juno.com
Subject: PUBLIC HEARING , DEC 14, 1998 .

_____ RECOMMENDATION _____

Based on consistency with the best policy , a recommendation is made to use Watts Bar as the main unit for production of tritium , while maintaining Sequoyah as a back -up facility . Bellefonte would have prime consideration as a natural gas electric power production facility , costing billions less than a nuclear plant , and providing plentiful power to the Tennessee Valley ; thus fulfilling TVA'S mission without relying on corporate welfare . Bellefonte should NOT be considered as a coal - fired plant , as this would be a source of acid rain , particulate matter , and an aggravation to those with respiratory illnesses.

1(cont'd)

_____ CONCLUSION _____

In a perfect world , there would be no need for nuclear arms , anti-missile missiles , or Strategic Defense Initiatives . However ; if we must accomodate the nuclear defense industries' need to proliferate the use of nuclear weaponry , let us do it in a manner which does the least amount of harm to biological entities (esp. ; us) and the least possible damage to our precious life support system , the environment .

In conclusion , let 's strive for minimum impact by using existing facilities for

Commentor No. 236: Joseph A. Imhof (Cont'd)

Juno e-mail printed Thu, 10 Dec 1998 21:39:18 , page 2

tritium production and limit the amount
we project for future needs to what is
realistic for an era in which the demand will
surely decrease . *1(cont'd)*

SUBMITTED BY

JOSEPH A. IMHOF
HUNTSVILLE , AL
256 - 880 - 1019

Commentor No. 237: Steve Tanner

Comments of Steve Tanner at DOE Public Meeting on TVA's Watts Bar/Sequoyah Services Offer - December 14, 1998, Evensville, TN

Good Evening, my name is Steve Tanner. I come here today representing myself and my family as residents of Hamilton County, as ratepayers, and as U.S. Taxpayers.

You have asked for our input regarding TVA's Watts Bar/Sequoyah Services Offer. Let me begin by stating that we support your efforts in obtaining as much input as you can regarding public opinion. In fact, this past summer I received a response from Vice President Gore regarding tritium production legislation that was pending at the time. In that response, the Vice President assured me his intention was to act in the best interest of all citizens. Holding this meeting this evening, we believe, supports that intent.

You have stated the selection criteria being considered. You also stated the overall consideration is "What's in the best national interest". One criteria you did not list though, which is stated in Public Law, involves the "liabilities and benefits of the technologies including benefits like revenues".

In comparing the WBN/SQN Services Offer and the Bellefonte Offers against the criteria, all of the TVA Offers whether Bellefonte or Watts Bar/Sequoyah, meet the criteria, and all can be implemented in a manner that supports reduced tritium needs as well as any perceived proliferation concerns. We believe, though, that the Watts Bar/Sequoyah Offer is not the best selection. WHY? Here's three major reasons:

1. There are liabilities and risk. The offer commits two baseload nuclear power generation plants to a mission that would no longer be solely to produce power. This places a liability of tritium production on TVA with increased risks to TVA's ability to provide reliable low cost power to their customers and ultimately to us as ratepayers. *1/07.08*

2. There are no benefits. There is no direct benefit to Hamilton or Rhea counties or the State of Tennessee. No new jobs and no increase in the tax base. This offer does not salvage use of an existing government asset, there is no revenue sharing to DOE, and the positive environmental benefit of new power generation without greenhouse gas emissions does not occur.

3. The overall cost is higher than using Bellefonte. The total cost with this offer to me as a taxpayer, even though it has low annual payments, is higher than the TVA Bellefonte Offers and is for a shorter period of time.

Commentor No. 237: Steve Tanner (Cont'd)

We believe that Bellefonte is the best selection because it meets the selection criteria, has the lowest cost to us as taxpayers, does not have the liabilities and risk of a baseload plant, and provides distinct benefits. Benefits that are shared not only locally and regionally, but also on a national level. National benefits such as lowest cost to the taxpayer, an environmental benefit of new power generation without greenhouse gases, and revenues allowing for cost recovery.

In addition, DOE must not forget that the Department has other missions in addition to national security. DOE's core mission statement starts off with these words: "To foster a secure and reliable energy system that is environmentally sustainable,..". As part of DOE's FY99 budget process, DOE stated they had established five key goals that drive all strategic planning and budgeting decisions. Three of those goals are directly supported by a selection of Bellefonte but are not supported by a selection of Watts Bar/Sequoyah.

Selection of Bellefonte:

1. Has DOE promoting clean efficient energy and enhancing energy security through new nuclear power generation capacity,
2. Shows DOE stabilizing and protecting the environment by preventing a new fossil fueled power generation with greenhouse gas emissions, and
3. Has DOE stimulating U.S. economic productivity through creation of new jobs and multi-regional economic development.

Selection of Watts Bar/Sequoyah does not promote, enhance, stabilize, protect or stimulate anything associate 1 with these goals.

Investment in new power generation is not outside of DOE's mission. Bellefonte meets the criteria, can be available to produce tritium when and if DOE has the need, can fully support key DOE goals, and provides benefits not available with the Watts Bar/Sequoyah Offer.

My family and I contend that the Secretary's decision should not just select an acceptable option, but should select the option that - using the Vice President's words - is in the "Best Interest of all citizens".

1(cont'd)

Commentor No. 237: Steve Tanner (Cont'd)

Last week the Vice President also said that one of the last things his father said to him was "always do right". We sincerely hope that after hearing the public opinions from tonight's meeting, the Secretary will in fact, "do right".

In conclusion, DOE - Do not select the TVA Watts Bar/Sequoyah Services Offer, instead select an offer that partner's DOE with TVA in the completion of Bellefonte, providing local, regional and national benefits versus regional liabilities and risks, and which can do all of this while providing an assured supply of tritium.

1(cont'd)

Commentor No. 238: Steven Howell

AKZO NOBEL

Industrial Fibers

December 14, 1998

Re: Comments by Steven Howell
Yarn Plant Manager
AKZO Nobel Industrial Fibers, Inc.
Scottsboro, AL.

TO: Secretary Bill Richardson, DOE

I represent a 750,000 square foot facility located in Scottsboro, Alabama. We employ approximately 715 people at our facility and have annual sales of close to 150 million dollars.

I am totally against the use of Watts Bar/Sequoyah as the site for proposed Tritium production. This is based on the adverse impact to the regions power supply that this would have. As I am sure you are aware that by completing Bellefonte it would add approximately 1200 MW of new power generation to the TVA power system. This is in contrast to the use of Watts Bar/Sequoyah which would compromise the power generation of these units. This past summer the shortage of power generation in the TVA system caused millions of dollars of extraordinary high power bills for Tennessee Valley Industries.

This past summer TVA generation could not meet the power demand and had to purchase power from outside systems. This cost our plant in an excess of one (1) million dollars this past summer. The economic benefit to the whole Tennessee Valley would be best served by completing Bellefonte. In addition to the economics of using Bellefonte an added benefit would be that by using Bellefonte for power generation fossil fire generation would not be needed to meet peak demands. This would reduce the greenhouse gases that are released to the atmosphere. *1/07.08*

Therefore, based on environmental and economic benefits from the completion of Bellefonte to make Tritium I strongly request that Secretary Richardson after reviewing all aspects will select Bellefonte. By doing so the best interest of our country as well as the Tennessee Valley will be served.

Thank you for allowing me to speak on this most important matter to the Tennessee Valley.

Sincerely,

Steven Howell
Yarn Plant Manager

Akzo Industrial Fibers, Inc.
7526 Akzo Blvd.
Scottsboro, AL 35768-8106
Phone: 205-574-7200
Fax: 205-574-7274

Commentor No. 239: Groups Opposed to CLWR Tritium Production

GROUPS ACROSS THE NATION OPPOSE COMMERCIAL REACTOR PRODUCTION OF TRITIUM

December 14, 1998

The Honorable Bill Richardson
Secretary of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Secretary Richardson:

The undersigned organizations, representing thousands of concerned citizens throughout the country, strongly oppose U.S. plans to utilize any commercial nuclear power plants to produce tritium for nuclear weapons. In our view, such a plan would blur the line between civilian and military applications of nuclear power and thus sets a dangerous precedent from a non-proliferation standpoint. In addition, further reductions in nuclear arsenals, supported by your administration and increasingly likely, would make a new source of tritium unnecessary. *1/07.02*

As you are aware, it has been the long-standing policy of the United States to separate military and civilian uses of nuclear technology. We stand behind that policy and continue to believe that in this area, the United States must make non-proliferation concerns paramount. Recent revelations that the Indian government procured tritium for its nuclear weapons program from Western-built 'civilian' reactors reinforces our view.

Section 56e of the Atomic Energy Act forbids special nuclear material produced in a commercial reactor from being used "for nuclear explosive purposes." While definitions of "special nuclear material" do not include tritium, this technicality does not mask the fact that the Department of Energy plans to use a source of civilian electricity as a source of material to boost the destructive power of the nuclear weapons in the U.S. arsenal. As a former Ambassador to the United Nations you must be able to appreciate how apparent contradictions in our nuclear weapons policies undercut our ability to champion the cause of nuclear non-proliferation abroad. *2/01.09*

The U.S. timeline for securing a new source of tritium is based on out-dated thinking in terms of the size of the U.S. nuclear arsenal. The United States still bases its planning on maintaining a START (Strategic Arms Reduction Treaty) I arsenal. Implementation of START II, now pending ratification in the Russian Duma, will delay the "need" for new tritium until at least 2011 since the tritium from nuclear weapons being retired under the provisions of the START treaties can be recycled into the nuclear weapons slated to remain in the arsenal. The lower force levels envisioned under the broad outlines of START III agreed to by Presidents Clinton and Yeltsin last year would delay the "need" for new tritium even further into the 21st Century. *3/02.01*

Commentor No. 239: Groups Opposed to CLWR Tritium Production (Cont'd)

We are particularly concerned about the prospect of using taxpayer dollars to complete the construction of the Tennessee Valley Authority's Bellefonte nuclear reactor to produce nuclear weapons tritium. In addition to the substantial burden this proposal would present for taxpayers, bringing Bellefonte on-line would add to the ever growing amount of nuclear waste in the United States. A problem for which there is no adequate solution. *4/23.13*

We understand that your office is under considerable pressure to choose between a number of potential tritium sources, each of which has considerable fiscal or non-proliferation drawbacks. At a time of emerging consensus on the desirability of significantly reducing the U.S. nuclear arsenal we urge you to make the courageous decision of "none of the above" regarding tritium sources. We stand ready to work with your office on the removal of legislative language forcing the United States to maintain a massive Cold War-sized arsenal. *3(cont'd)*

The United States does not need to move forward with a new tritium program that will waste further taxpayer dollars and has the potential to undercut long-standing non-proliferation policy. *4(cont'd)* *5/01.04*

Sincerely,

NATIONAL ORGANIZATIONS

Susan Gordon
Alliance for Nuclear Accountability

Bruce Hall
Peace Action

Bob Kinsey
United Church of Christ
Peace and Justice Task Force

Michael Mariotte
Nuclear Information and Resource Service

Betty Obal
Sisters of Loretto

Jim Riccio
Public Citizen's
Critical Mass Energy Project

Susan Shaer
Women's Action for New Directions

REGIONAL AND LOCAL ORGANIZATIONS

Jim Allen
Vine and Fig Tree
Montgomery, AL

Bill Akin
Mid-South Peace & Justice Center
Memphis, TN

Commentor No. 239: Groups Opposed to CLWR Tritium Production (Cont'd)

Jacqueline Cabasso, Executive Director
Western States Legal Foundation
Oakland, CA

Tom Carpenter
Government Accountability Project
Seattle, WA

Donald Clark
Cumberland Countians for Justice & Peace
Pleasant Hill, TN

Judy Cumbee
Justice-Peace-Human Rights Committee of Alabama New South Coalition
Montgomery, AL

Bruce and Maggie Drew
Prarie Island Coalition
Lake Elmo, MN

Marjie Edguer
Cleveland Peace Action
Cleveland, OH

Don Hancock
Southwest Research & Information Center
Albuquerque, NM

Ralph Hutchison
Oak Ridge Environmental Peace Alliance
Oak Ridge, TN

Carol Jahnkow
Peace Resource Center of San Diego
San Diego, CA

Marylia Kelley
Tri-Valley CAREs (Citizens Against a Radioactive Environment)
Livermore, CA

Marcus Keyes
Office of Justice, Peace & Integrity of Creation
Roman Catholic Diocese of Knoxville
Knoxville, TN

Reinard Knutsen
Shundahai Network
Las Vegas, NV

Adele Kushner
Action for a Clean Environment
Alto, GA

Greg Mello
Los Alamos Study Group
Santa Fe, NM

Michelle Neal-Conlon
Foundation for Global Sustainability
Knoxville, TN

Rick Nielsen
Citizen Alert
Las Vegas, NV

Harry Rogers
Carolina Peace Resource Center
Columbia, SC

Susan Lee Solar
Grandmothers and M/others Alliance for the Future
Austin, TX

Lynne Stembridge
Hanford Education Action League
Spokane, WA

Diane Swords
Peace Action Central New York
Syracuse, NY

Ellen Thomas
Proposition One Committee
Washington, DC

Commentor No. 239: Groups Opposed to CLWR Tritium Production (Cont'd)

Harvey Wasserman
Citizens Protecting Ohio
Bexley, OH

Commentor No. 240: Ronald W. Boles

Ronald W. Boles
DOE Hearing on Tritium Production
Rhea County High School
Evansville, Tennessee
December 14, 1998

My name is Ronnie Boles. I am Chairman of the Electric Utility Board in Huntsville Alabama. I come to you as a concerned member of the electric power community. My concerns with TVA producing tritium at the Watts Bar and Sequoyah nuclear power plants encompass the electric power production capabilities of TVA under this proposal, economic development, national security and the life cycle costs.

Allow me to be specific.

TVA offers you a plant at Bellefonte dedicated to the production of tritium. The production cycle of 12 months maximizes the amounts to match DOE's needs. Over the lifetime of this plant, you are assured of a reliable source and the repayment of the money you invest.

Under the Watts Bar/Sequoyah proposal, tritium production is secondary to electric power production. Otherwise this shutdown of the plants will raise TVA's power production costs when the plant is shut down for tritium collection. This past year, during the hot summer months, TVA had to go off-line to purchase power because it could not meet the demands of its customers. During such times, our industrial customers on interruptible service have to pay higher than usual prices for electric power, reflecting TVA's higher costs for this supplemental energy. Tritium collecting will shut down this dedicated plant, causing higher energy prices to be paid by these valued customers. I submit that this is not fair for the electric power consumers of TVA to underwrite tritium collection costs for DOE.. *1/07.08*

This leads me to discuss other economic development issues. DOE has shown that economic development is one of its concerns as an agency. Production of tritium at Watts Bar/Sequoyah will produce no new jobs and no new electric power. I don't need to remind you of what economic expansion will ensue with your decision to support tritium production at Bellefonte in Jackson County, Alabama, but the benefits derived from having 1200 megawatts of new electric power will benefit a whole region of the United States.

Under the Watts Bar/Sequoyah proposal, Watts Bar will be your main source of tritium; Sequoyah is designated as a backup should difficulty persist at Watts Bar. As you know, Sequoyah will be decommissioned in 2022. National security demands a stable source for tritium far past that year. Only Bellefonte offers the life span to match DOD's expectations. This fact should not be ignored.

If the issue is just dollars, DOE/DOD can buy tritium from Russia. But we cannot permit our weapons program to be vulnerable to a foreign power, merely on the basis of cost. That has never been policy in the DOD/DOE Program. A short term decision could have long term consequences for DOD, DOE, TVA and the whole nation. *2/01.14*

The support for the completion of the Bellefonte Nuclear Plant has been chronicled in the media from the Tennessee Valley all the way to Washington. Congressmen and Senators from the six states served by TVA fought long and hard to give you this option. I dare say we would not be here tonight discussing light water reactors if their valiant efforts had not been successful.

Those people expended great political capital to afford DOE this opportunity. To now see a third option considered has been disheartening, at least from my point of view. You still have support from local, state and national figures to proceed with Bellefonte. The economics should convince you Bellefonte is the logical choice. *1(cont'd)*

Thank you for allowing me to present these views to you tonight.

Commentor No. 240: Ronald W. Boles (Cont'd)

Larry Bishop
Terri Leake

Tennessee Valley Authority, Post Office Box 328, Huntsville, Alabama 35804-0328

for your info.
Elaine
12-10-98

December 3, 1998

Mr. Bill Pippin, General Manager
Huntsville Utilities
Post Office Box 2048
Huntsville, Alabama 35804-02048

Dear Bill:

Due to the volatility of last summer's Economy Surplus Power (ESP) prices, TVA has placed an indefinite moratorium on the offering of new amounts of Limited Interruptible Power (LIP) and Limited Firm Power (LFP) to directly-served and distributor-served customers. The moratorium will provide us with time to evaluate, and if necessary, restructure the LIP and LFP programs to meet the future needs of TVA and its customers.

The majority of existing LIP and LFP customers also contract for some ESP. Also, some existing ESP customers may be large enough to potentially qualify for LIP (20 MW) or LFP (30 MW). Due to the price volatility of ESP prices during the summer of 1998, some existing ESP, LIP, and LFP customers may view a possible conversion of ESP to LIP and/or LFP as a means to pay a less volatile energy rate and also reduce the probability of power being suspended during peak load periods. Without this moratorium, system operating flexibility might be lost and costs might increase if a significant amount of ESP load was converted to LIP and LFP. This moratorium will temporarily cap the amounts of LIP and LFP made available by TVA at the amounts that are under contract as of the effective date of the moratorium. *1(cont'd)*

However, LIP and LFP will still be available as an industrial development tool for loads which would otherwise be eligible for TVA's Growth Credits.

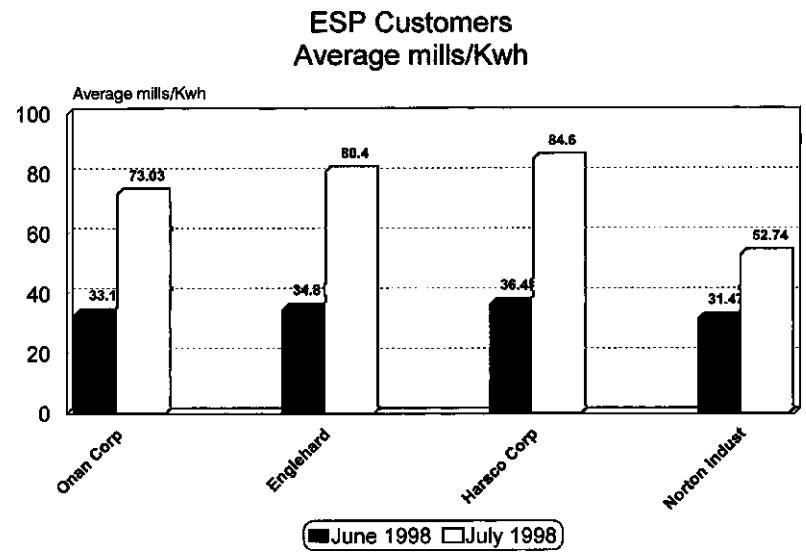
If you have any questions, please contact Darrel Smith of this office or me.

Sincerely,

David Hooks

David Hooks
Senior Customer Service Manager
Huntsville Customer Service Center

Commentor No. 240: Ronald W. Boles (Cont'd)



Commentor No. 241: Ann Harris

Ann Harris, Executive Director, We The People, Inc., of Tennessee
305 Pickel Rd., Ten Mile, TN 37880
(423) 376-4851 fax (423) 376-8864
December 14, 1998

DOE Public Hearing Concerning Watts Bar Tritium Production

In the October meeting here at Evensville, TVA stated that they do not have a waste water program that will extract tritium from the reactor coolant water prior to release to the Tennessee River. Now I find that all you boys are aware that an extraction facility such as is needed for these light water reactors is in place in Canada. They have extracted 14 kg of tritium since 1988. And except for a small amount sold to industry and for research it remains in storage at the Canadian site. The market price is $30,000 per gram. Send a buyer to Canada and buy what is already produced. Quit fixing what ain't broke. *1/01.14*

Further, tritium gas does not readily absorb in to the body. BUT tritiated water virtually jumps into the body. Tritium enters the body through the skin or open wounds, absorbed into materials such as gloves, clothing and in particular metal. Now this Watts Bar plant is made of medal. Why would we want to use it? Let us go out and make another superfund site for the American tax payers and my children and grandchildren. *2/14.04*

Tritium has been detected in the soil, rainwater and groundwater surrounding a research laboratory in California and in New York. Tritiated water is found in local creeks in the same areas. Now DOE says that there is no easy way to treat low levels of tritium found in water or soil. In addition, the position that one dose or short term exposure is not hazardous produces the notion that tritium is not dangerous . It is the extended exposure to tritium that produces the damage. Bourbon has never killed anyone BUT the extended *3/14.25*

Commentor No. 241: Ann Harris (Cont'd)

abuse and use has killed millions of Americans. DOE—TVA--- and those boys from the NRC that are hiding in the background are misleading these communities.

Permit me to give you some of your own research data back to you

#1: University of Chicago———high birth deaths rates

#2: Lawrence Livermore Laboratory———reduced levels of necessary DNA germs in females

#3: University of California @ Berkley———mutations (cell damage)

#4: Neuherberg, Federal Republic of Germany———death of birth mothers

#5: Central laboratory for Radiological Protection, Wasrsaw, Poland——— high rates of lung and testes cancer *3(cont'd)*

#6: Medical Research Council, Oxon, England——— Mass loss in male testis—even in low dosage

You boys are from the government and you are here to help me!!!!!!!!!!!!!!

What you are bringing to my community and river is nuclear thylidomide. It is the equivalent of the drug that was given to pregnant women for morning sickness in Europe and produced massive birth defects and deaths. And you are bringing the men another "agent orange." Don't help us anymore!

The question of the safety of the primary coolant system at Sequoyah and Watts Bar are of such recognized bad design and are virtually inoperable at any give time that they are of little use during any heat up of the reactor. The TVA employee that identified these problems has received death threats on the job site at Watts Bar and at his home. These are all questions that have received little or no attention by DOE or TVA in consideration of making TVA rate payers responsible for DOE's continuing mismanagement coupled with TVA's current standards and mismanagement. It begs the question of whether or not tritium production at TVA is an asset to the valley and can the rate payers afford this type of long range and unknown consequences? *4/09.10*

Commentor No. 242: Carl Fowler

Sheet Metal Workers' International Association
LOCAL UNION NO. 48

1108 29th Street North
Birmingham, Alabama 35234
Phone (205) 322-9016

December 14, 1998

My name is Carl Fowler, Assistant Business Agent of Sheet Metal Workers' Local Union #48, Birmingham, AL. On behalf of our members and myself, as concerned tax paying citizens, I would like to address the issue of Tritium production.

By the year 2011, the United States supply of Tritium will be depleted. President Clinton has ordered that new Tritium be available by 2005. Since 1995, the Department of Energy has been investigating alternative methods for Tritium production. By law, the Secretary of Energy must decide before the end of this year on whether the department will use a commercial light water reactor or another method. I would like to briefly compare those alternatives.

In 1997, an experimental reactor at the Hanford Nuclear Reservation in Washington State was put on "a hot standby" as a possibility. That reactor is only capable of producing 1 ½ to 2 kilograms of Tritium a year at full Capacity. The reactor at Hanford would have to be recommissioned at a cost of 200 million dollars or more and the annual operating expense would be about 88 million dollars. Hanford doesn't need more trouble, contends a spokesman for the group Government Accountability Project, who states, and I quote "There's already enough waste there to fill a football field to 250 miles in the sky-high enough that the space shuttle would bump into it." Sheet Metal Workers' stand opposed to the Hanford site. *1/06.03*

A second possibility is the Proton Accelerator, which if chosen, would be built in South Carolina. In 1995, a Department of Energy report, listed the cost at between 9 and 12 billion dollars. Also, the accelerator would require a significant power supply. It's estimated that the accelerator would consume 400 mega watts of electricity a year and cost taxpayers between 100 and 200 million dollars in electrical cost alone. Also, the Proton accelerator uses a technology that's unproven. Are we going to dig another hole in the ground and call it "Super Collider II?" Also, the Proton Accelerator cannot meet the schedule of Tritium production by 2005. Sheet Metal Workers stand opposed to the Proton accelerator. *2/07.01*

Then there is the final alternative of producing Tritium in a Commercial Light Water Reactor. Within the last month there are now basically two proposals for using a light water reactor, the Watts Bar/Sequoyah Service offer and the Bellefonte Nuclear Plant service offer. Let's compare the two options.

(1) Costs:
With revenue sharing the Bellefonte offer would provide the D.O.E. with an opportunity to recover the initial investment. In other words, Bellefonte's total investment plus interest would be repaid in full. TVA recently submitted a Bellefonte reduced payment offer which reduces D.O.E. payments by more than 700 million dollars. With or without revenue sharing, the Bellefonte offer has a lower life cycle cost to D.O.E. for Tritium production than any other alternative including the Watts Bar/Sequoyah offer. Tritium is sold commercially for about 30 million dollars a *3/07.08*

Commentor No. 242: Carl Fowler (Cont'd)

kilogram. The Watts Bar/Sequoyah offer will cost close to 26 million dollars a kilogram compared to Bellefonte's offer for the same service in the range of 0 to 12.38 million dollars. Neither of these two offers includes other program cost, such as, target rod fabrication, transportation nor the construction and operation of the Tritium Extraction Facility, all of which makes the Bellefonte offer ~~for~~ Ave. below the commercial cost of Tritium.

(2) Production capability:
Although the numbers are classified, the D.O.E. will need between 2 and 3 kilograms of Tritium each year to replace the material in nuclear weapons. Watts Bar/Sequoyah will produce up to 3 kilograms of Tritium a year with a 18 to 24 month production cycle, with only 25 years of production. With the Watts Bar/Sequoyah offer, electricity will be the first priority and Tritium as a secondary mission. On the other hand, Bellefonte will produce up to 5.6 kilograms of Tritium per year with a 12 month production cycle if needed and a source of Tritium production for up to 40 years. Bellefonte will be totally dedicated to the production of Tritium. In other words, Tritium first, electricity second.

(3) Economic Impact:
The Watts Bar/Sequoyah offer will mean no new jobs, no regional economic benefits and no increase to state and local revenue. The Bellefonte offer will mean thousands of new jobs, both short term and long term, a positive regional benefit and increase state and local revenue. Bellefonte Tritium Plant will not just be an Alabama plant for only Alabama workers. ~~With~~ Of the labor unions with jurisdiction over Bellefonte 75 percent Ave. based in Tennessee. It's estimated that 50 percent of the workforce will be from Alabama, 45 percent from Tennessee and 5 percent of the workers will be from Georgia. *3(cont'd)*

(4) Support:
There has been no local public, government, state, organized labor or congressional support for the Watts Bar/Sequoyah offer. As a matter of fact, there has been public opposition with no supporting comments from the environmental impact study public meetings. Bellefonte has active support from local, government, state, organized labor and congressional support. There were more than 80 environmental impact study comments in favor of Bellefonte. Sheet Metal Workers' stand opposed to the Watts Bar/Sequoyah offer.

Here we are at the 11th hour of decision and still no choice. Let's choose the most logical and feasible choice. That choice is Bellefonte. Only Bellefonte provides new jobs, the lowest cost to taxpayers, provides multi-state economic benefits and offers a revenue payback to benefit taxpayers. Only Bellefonte has local, state, bipartisan Congressional support and organized labor support. Finally only Bellefonte would offer production flexibility with operating cycle lengths and would be totally dedicated to the production of Tritium.

Let's not play politics with our future and the future of our country. The facts speak for themselves. Only one choice, Bellefonte Tritium Production Facility must be chosen.

Thank-you.

Commentor No. 243: Don Nelms

Plumbers & Steamfitters LOCAL UNION NO. 498

P.O. BOX E 3803 WEST MEIGHAN BOULEVARD
GADSDEN, ALABAMA 35904

Phone: (205) 546-6791 Fax: (205) 547-6330

December 13, 1998

Secretary of Energy Bill Richardson
Forestall Building
1000 Independence Ave., S.W.
Washington, D.C. 20585

Secretary Richardson,

I am Don Nelms, Business Manage for Local 498, Plumbers & Pipefitters of Northeast Alabama. I am here on behalf of our members and their families, who in support of the use of Bellefonte for D.O.E.'s Tritium Production Plant.

First let me say we don't understand a government that will spend $40 million Plus dollars to take one man out of a job that he is doing very well, but will not jump at a chance put thousands of it's tax payers to work. WE JUST DON'T UNDERSTAND THIS.

Our members and their families live in the Bellefonte area and want to work and raise their children there.

There are many reason Bellefonte should be the choice of D.O.E.

New Jobs, Lowest Cost, Very Strong Support, A New Electrical Source, and Provides At Least 15 Years more use than Watts Bar / Sequoyah.
Bellefonte provides at least 40 years to you, Watts Bar/ Sequoyah only 25 years. 40 years of jobs for taxpayers, payback to D.O.E. only at Bellefonte not Watts Bar/ Sequoyah.
At Bellefonte Tritium will be the main product, electric power will be a by-product. Not so at Watts Bar/Sequoyah. The use of Watts Bar/Sequoyah would force more Use of Fossil Fuel Plants that will cause more Air Pollutant. Not at Bellefonte, It will be another source of much need clean Electrical Power

Does Public Support cause a problem for D.O.E. ?

At Bellefonte you have the support of the People in the area, Local, State, and Congressional Political Leaders, and all Labor groups in the area.
Not So Anywhere Else.

T.V.A. was founded to create Jobs and Electric Power for the American People. The selection of Bellefonte is the only offer on the table in which T.V.A. & D.O.E. can continue to provide Either of these to America.

1/07.08

Thank You
Don Nelms
Business Manager
Plumbers & Steamfitters LU 498

AFFILIATED: American Federation of Labor and Building and Construction Trades Department.

Commentor No. 244: James B. Sandlin, P.E.

Scottsboro ELECTRIC POWER BOARD

P.O. Box 550
404 E. Willow Street
Scottsboro, Alabama 35768
(256) 574-2680 Fax: (256) 574-5085
Web address: www.scottsboropower.com

Date: December 14, 1998

Re: Comments by James B. Sandlin, P.E.
Manager of Scottsboro Electric Power Board
Scottsboro, Alabama

To: Secretary Bill Richardson, DOE

I am totally against the Watts Bar/Sequoyah Tritium proposal from TVA to meet the nation's tritium supply. My comments will be focused on the impact to the regions power supply, as operated and maintained by TVA, and the cost and availability of said TVA power.

Choosing the Watts Bar/Sequoyah Tritium option would substantially compromise the regions power supply during moderate to extreme loading conditions. The summer of 1998 brought criticality to the supply and price of interruptible power for many Tennessee Valley industries. As my colleague from the Scottsboro Akzo Nobel Industrial Fibers facility will explain, that while power was available, the price incurred created cataclysmic conditions for these industries. My customer, Akzo Nobel, saw a significant increase in power cost over the late summer months.

MONTH	Electric Bill
May 1998	$464,786.11
June 1998	$731,904.84
July 1998	$841,469.13
August 1998	$558,995.82

1/07.08

New generation of approximately 1200 MW will be added to the TVA power system a Bellefonte unit is completed. This would decrease the risk of sharp price increases because TVA would have more generation to meet the Tennessee Valley's demand for electricity. If the Watts Bar/Sequoyah option is chosen, the valley could see an even greater risk of interruptible power price instability. Generation capacity supplied by Watts Bar could become unavailable if the DOE/DOD needs to extract tritium burnable absorption during extreme load conditions.

Also, municipal and cooperative (consumer-owned) electric distribution systems would be even further jeopardized because wholesale power cost would rise if TVA Nuclear generation were not available. Fossil-fired or natural gas turbines used to meet the Valley's demand during a nuclear unit outage would also add

Commentor No. 244: James B. Sandlin, P.E. (Cont'd)

Mr. James B. Sandlin
Comments to DOE – December 14, 1998
Rhea County High School, Evansville, Tennessee

pg. 2

greenhouse gasses to the environment and additional costs, respectively. Clearly, nuclear power plays an important part in supplying power for our country. If we expect to maintain a robust economy and keep unemployment low, our country must rely on nuclear power to meet its' growing demand for energy.

The TVA Bellefonte options are clearly the best choice for tritium production. I strongly encourage that Secretary Richardson weigh its merits and definite tangible benefits of competing Bellefonte. The Tennessee Valley Power Distributors unanimously support the completion of Bellefonte and its role in our national defense. After all, the mission of TVA from its inception provided resources to assist other agencies and departments in keeping our national defense strong. *1(cont'd)*

I appreciate the opportunity to speak to you on this important matter.

Sincerely,

Jimmy Sandlin
Manager

Commentor No. 245: Monica Blanton

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments:
I feel the US needs to live up to its responsibility as a world leader & practice the policies we espouse to others - such as keeping separate the commercial & military uses of nuclear power. *1/01.09*

We are a prosperous nation in prosperous times & the cost to produce tritium should not be the major factor determining where it is produced *2/23.16*

I'm opposed to TVA's production of tritium at any of its facilities *3/07.04*

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Monica Blanton
Organization:
Address: 1685 Berkley Circle
City: Chatta State: Tn Zip Code: 37405
Work phone: Home phone: 423 756 3237
Fax:
E-Mail Address:

12/10/98

Commentor No. 246: Mary Brooks

COMMERCIAL LIGHT WATER REACTOR PROJECT

COMMENT FORM

Please Turn in Your Written Comments
PRIOR
to Leaving the Meeting

Comments: I am opposed to the proposed use of Watts Bar for the production of Tritium. We do not want this to be produced here in Rhea County. 1/07.07

Thank you for your input. Please use additional sheets if necessary and attach them to this form.

Name: (optional) Mary Brooks
Organization:
Address: 263 Bates
City: Dayton State: TN Zip Code: 37321
Work phone: 423 775 9071 Home phone:
Fax:
E-Mail Address:

12/10/98

Commentor No. 247: Robert W. Van Wyck

Radiological Consultant

Robert W. Van Wyck, Certified Health (Physicist
709 Helmsdale Place, North
Brentwood, TN 37027
Tel. 615-373-9176

Stephen M. Sohinki, Director
CLWR Project Office
US Dept. of Energy
PO Box 44539
Washington, DC 20026-4539

Dec. 12, 1998

Dear Mr. Sohinki:

I received a phone call from someone in your office on Friday, 12/11, informing me that you plan to hold a hearing at the Rhea County High School in Evensville, TN on Monday, 12/14, regarding the proposal to manufacture tritium in one or more of the TVA Light Water Nuclear plants. I received a memo in the mail today (Saturday, 12/12) confirming the meeting.

It is not clear why this meeting is being held, particularly with such short notice. The EIS has not been completed to my knowledge. Therefore, the local residents who attend will not be adequately informed or be able to carry out any meaningful discussion about the project.

It is also not clear why such a "sudden" meeting has been called for this purpose. Since I feel it would be a serious mistake to manufacture tritium as proposed and I am strongly opposed to it, perhaps I was notified as an "after thought ". 1/05.31

In any event, I cannot make the meeting at this time with such short notice. Therefore, I hurriedly prepared the attached letter to State Senator Gene Elsea, in whose district the meeting will be held, and handed it to him on Friday at his office here in Nashville. I hope that he, or a representative, will be able to attend and provide useful information from my perspective.

In the future, I request that you give at least two weeks notice of any planned meetings on this proposal so that plans can be made to attend.

Sincerely,

R. W. Van Wyck

Robert W. Van Wyck, CHP

Commentor No. 248: Mayor Donald B. Clark

Department of Energy
Public Meeting
December 14
Rhea County High School
on Watts Bar and Sequoyah
nuclear power plants for the production of
TRITIUM
Comments of Donald B. Clark

The Cumberland Countians for Peace & Justice, a coalition of individuals and religious congregations in neighborinmg Cumberland County, is an affiliate of Peace Action and, as you might suspect, is strongly opposed to the manufacture of tritium, period !! No where, no how! *1/01.01*

On August 7, 1997, my testimony referred to National Council of Churches, World Council of Churches, Friends Committee on National Legislation, and United Church of Christ positions on nuclear weapons,the Plutonium Economy, and nuclear power. I concluded by saying that it can be safely said that THE MAINLINE RELIGIOUS COMMUNITY STANDS AGAINST ANYTHING THAT WILL EXTEND THE LIFE OF A NUCLEAR REACTOR, MAKE IT EVEN SLIGHTLY LESS UNECONOMIC TO OPERATE, DELAY ITS DEMISE, OR PUT IT ON ADDITIONAL WELFARE. We certainly would be opposed to the Department of Energy helping TVA complete a nuclear power plant. We view nuclear power as a "costly mistake" in the first place. *2/07.02*

We have been working for years trying to stop the Department of Energy from building nuclear bombs, in Oak Ridge and elsewhere. We support the Nuclear Non-Proliferation Treaty, the Comprehensive Test Ban Treaty, no furher nuclear testing of any kind and the rapid dismantlement of nuclear weapons. We do not believe that $5 billion should be spent a year on our nuclear weapons arsenal, creating more deadly H bombs out of old ones. We believe the program is not politically appropriate, responsible, moral or logical. *3/02.01* *4/23.13* *5/01.10*

In that testimony, we quoted from the June 1997 issue of PHYSICS TODAY that contained several articles on radioactive waste and nuclear safety, mentioning a 12 year tritium leak to groundwater from a spent fuel holding tank of a reactor at Brookhaven National Laboratory. I mentioned the public trust of the management of any nuclear reactor or research laboratory anywhere in the world is slim and justifiably should be nonexistant. The history of secrets, deceptions, denials and lies preclude trust and engenders anxiety. Those in the industry and the NRC are seemingly confident that nuclear science has the answers and must be pursued no matter what the costs. We consider this a faith based on self-dillusion and blind arrogance. Akltternatively using the economic resources devoted to nuclear reactors and weapons, by the United States alone, for only a few *6/08.04* *4(cont'd)*

Commentor No. 248: Mayor Donald B. Clark (Cont'd)

months, could solve the world hunger and literacy problems and fund world wide environmewntal restoration. Redirecting the human resources of the nuclear and war industries to the meeting of creation needs is essential, in my view. *4(cont'd)*

I conclude that testimony by claiming that NO ONE CAN JUSTIFY FURTHER TOXIC IMPACTS ON THIS REGION, citing several toxic impacts of Oak Ridge reported in the newspapers back in 1997. Since then the *Tennessean* newspaper has had several articles on the health of employees and area communities as well as a Special Report on the toxic impacts of nuclear and secondary sites accross the nation. An editorial on the date of the special report, September 29,1998 is attached. *7/10.04*

Copies of my testimony on August 7, 1997 and Fdebruary 26,1998, less several attachments, are also provided.

Thank you for the opportunity to present our views again.

Donald B. Clark

Since my last testimony, I have been elected Mayor of Pleasant Hill, TN and, in addition to involvements listed previously, have been added to the Steering Committee of the OBED Watershed Association and the Cumberland Chapter of Save Our Cumberland Mountains.

United Church of Christ, Network for Environmental & Economic Responsibility
Donald B. Clark, Convenor P.O.Box 220, Pleasant Hill, TN 38578
(931) 277-5467 Fax: 277-5593 clarkjd@multipro.com

Cumberland Countians for Peace & Justice
Donald B.Clark, Chair of Steering Committee
P.O.Box 220, Pleasant Hill, TN 38578
(931) 277-5467 Fax: 277-5593 clarkjd@multipro.com

NEER
Network for Environmental and Economic Responsibility

United Church of Christ

Commentor No. 249: Stephen A. Smith

_____Forward Header_____
Subject: TVA and Tritium
Author: <sasmith@TnGreen.com>
Date: 12/17/98 10:44 AM

Steve,
I wanted to get the summary of my TVERC comments the other night.

1. We do see the need for Tritium at this time, DOE has not presented a compelling case for the need. *1/02.01*

2. We see the use of a CLWR as a clear violation of the non-proliferation treaty, no matter which reactor is chosen. *2/01.04*

3. We feel strongly that the Vice President's office has influenced this decision, and this will compromise his ability to stand before the world community in the future if elected to a higher office and argue against weapons of mass destruction. We see that he has been too involved in moving this TVA agenda. We will also work hard to expose his role both nationally and internationally if this goes forward in the coming months. *3/01.15*

4. Given the options of Bellefonte and Watts Bar, we see the Watts Bar option as the least environmentally destructive, given that Bellefonte is a "clean site". We also see Watts Bar has offering the greatest flexibility at the least cost given the future likelihood of addition weapons reductions.

5. We feel it has been a great miss characterization of the facts to say there is over whelming support for Bellefonte in Alabama. This is not true outside of those who have a direct economic benefit from the proposal. The fact that Alabama State Rep. John Robinson from Scottsboro was reelected by a 70-30 margin while he was vocal in his opposition to the Bellefonte proposal is clear evidence of this, and the closest thing to a citizen vote to date. We feel there is a large but not vocal opposition to Bellefonte and tritium in the community in Alabama. *4/07.08*

If these could be gotten directly to the Richardson that would be great, I have zero confidence that Sohinki can respresent our view objectively.

Thanks for your help

Stephen A. Smith, DVM
Executive Director
TVERC

Commentor No. 250: Oak Ridge Environmental Peace Alliance

OAK RIDGE ENVIRONMENTAL PEACE ALLIANCE
100 TULSA RD, SUITE 4A • OAK RIDGE, TN 37830 • 423 483 8202 • orep@igc.org

10 December 1998

The Honorable Bill Richardson, Secretary
The United States Department of Energy
1000 Independence Avenue, SW
Washington DC 20585

Dear Secretary Richardson:

We are writing to express in the strongest possible terms our opposition to the production of tritium for nuclear weapons in the Watts Bar, Sequoyah, and Bellefonte commercial nuclear reactors of the Tennessee Valley Authority or in a linear accelerator at Savannah River. We hold these strong beliefs for these reasons: *1/07.02*

WE DO NOT NEED MORE TRITIUM

According to DOE's own estimates, the US has enough tritium to last until 2016 (see the Tritium Programmatic Environmental Impact Statement).

WE SHOULD END THE ARMS RACE, NOT PROLONG IT

The proposed "need" for tritium is based on maintaining a huge START 1 arsenal well into the next century. This action, and its accompanying billion dollar price tag, is incomprehensible. The Department of Defense recently advocated deeper than START 2 cuts in the US arsenal. General Lee Butler, retired in 1994 as the head NATO strategic forces, has called for abolition. Former President Jimmy Carter has also called for steps to abolish nuclear weapons. Why is the Department of Energy proceeding to build up the arsenal? *2/02.02*

MAKING TRITIUM IN COMMERCIAL REACTORS VIOLATES US POLICY

The US has prevailed upon other nations to maintain a complete ban on the use of commercial facilities for military nuclear purposes. This ban is so thorough, the US can not purchase Uranium from foreign suppliers to make tritium in TVA reactors. Now the US proposes to unilaterally break the ban, sending a clear message to the rest of the world. *3/01.09*

Commentor No. 250: Oak Ridge Environmental Peace Alliance (cont'd)

MAKING TRITIUM VIOLATES THE NONPROLIFERATION TREATY

The 1970 nuclear nonproliferation treaty obligates the United States to pursue complete nuclear disarmament, not spend more than $2 billion to maintain a huge arsenal. Producing tritium we do not need and will not use is a step in the wrong direction. *4/01.04*

MAKING TRITIUM WASTES BILLIONS OF TAX DOLLARS

By DOE's own estimates, the cost of producing tritium we do not need and will never use will range from two to seven billion dollars. This is our money. We paid it in taxes. DOE does not have our permission to spend it in a senseless and illegal action *5/23.13*

IT IS TIME TO SHOW COURAGEOUS LEADERSHIP

Mr. Secretary, this is a moment for courageous leadership. Your predecessor, Hazel O'Leary distinguished herself when she stood up to the weapons labs and declared the US would not conduct further nuclear weapons tests because we did not need them. Her courage and honesty, and her clear vision of the post-Cold War world, enabled the US to achieve a Comprehensive Test Ban Treaty with other nations. *6/01.01*

This is a moment when you can rise above your already distinguished career and demonstrate world-caliber leadership. We do not need tritium, and you know it. To step back from this decision would be to show the world we are committed to reducing the nuclear danger. Such a step costs us absolutely nothing, saves billions of dollars, and positions the US to lead the other nations of the world away from reliance on nuclear weapons. It could, indeed, be the first step away from the nuclear shadow which has hung over all the world since 1945.

We appeal to you for leadership and courage. Say "No" to tritium.

Sincerely,

Commentor No. 251: Tim & Jennifer Proffitt

December 15, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki:

Please consider our request - Do not produce Tritium in the Tennessee Valley expecially Watts Bar reactor.

We are raising samll children here and have everything to loose and nothing to gain from this. We do support the safety of our Country but we also support the safety and health of our family and friends of the Tennessee Valley. PLEASE do not bring this to Tennessee. *1/07.07*

Thanks for our consideration.

Yours truly,

Tim Proffitt
Jennifer Proffitt

cc: Zach Wqmp, Congress
Al Gore, Vice President

Tim Proffitt
Route 1, Box 221
Decatur, Tn. 37322

Commentor No. 252: Ned & Joyce Proffitt

December 15, 1998

U.S. Department of Energy
Commercial Light Water Reactor Project Office'
P.O. Box 44539
Washington, D.C. 20026-4539

Dear Mr. Sohinki and All I May Concern:

Please do not produce Tritium in the Tennessee Valley and especially at Watts Bar and Sequoyah reactors. *1/07.07*

I am not against protecting our country and being ready to defend our country. Please consider there are too many people down river from Watts Bar in case of an accident. This is the water that most people drink including Chattanooga. *2/15.03*

Please do not contaminate the whole country. Leave it in the Savanah River area that already has the damage. *3/08.02*

Please condiser the lives of the people of the Tennessee Valley. *1(cont'd)*

Yours truly,
Ned Proffitt
Joyce Proffitt
Ned Proffitt
Joyce Proffitt

cc: Zach Wamp, Congress
Al Gore, Vice President

Ned Proffitt
Route 1, Box 249
Decatur, Tn. 37322

Commentor No. 253: Kristina K. Stark

[redacted]

FAX COVER SHEET

FAX

OAKLEY HIGH SCHOOL
118 W. 7TH
OAKLEY, KS 67748
785 [redacted]-672-3241
FAX - [redacted]-672-3743
785

DATE: 1-18-99
TO: Commercial Light Water Reactor Project Office
Attn: Stephen Sohinki
FAX NO.: 1-800-631-0612
NO. PAGES: INCL COVER PAGE 2
From: Oakley High Debate

Commentor No. 253: Kristina K. Stark (Cont'd)

We are members of the Oakley High School Debate Team from Northwest Kansas. As you may, or may not know, this year's debate topic deals with the United States and Russian foreign policy. We have encountered a proposal that seeks to import Russian tritium from nuclear reactors to meet United States defense needs. We realize that there may be a tritium shortage in the United States in the future, but we believe importing Russian nuclear by-products will have negative consequences. We are searching for information showing that the United States will be able to produce its own tritium supply for the future. We have read information on the APT project, and we believe that this may be a possible means of obtaining tritium. We would appreciate any information supporting the conclusion that the United States will be able to produce its own tritium. Thank you for your time. 1/01.14

Kristina K. Stark
Derek Seth

Commentor No. 254: Petition

December 9, 1998

The Honorable Bill Richardson
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Secretary Richardson:

RE: TRITIUM PRODUCTION

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   - **Only Bellefonte** would offer production flexibility with operating cycle lengths
4. ENVIRONMENTAL REASONS
   - **Bellefonte completion** provides new electric power generation with no additional greenhouse emissions and supports recent Administration clean air initiatives

NAME	ADDRESS
[illegible]	OPS-2B Sequoyah
Paul L. Jochum	OPS-2B SEQUOYAH

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NAME	ADDRESS
MONICA CROSS	134 KENSINGTON DRIVE FLORENCE, AL
James Dillard	P.O. Box 1167 Florence, AL
Charles E. Frederick	842 Marshall Rd, Florence, AL
M. Diana Rich-Bennette	715½ S. Washington St. Tuscumbia AL

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NAME	ADDRESS
Joyce Gillespie	102 Co. Rd 543, Moulton, AL 35650
Keith McPeters	~~[illegible]~~ 1270 W Rex Lb Rd Florence, AL 35633
Calvin L. Brawley	135 Brawley St. Leighton AL. 35646
Jacque Anderson	305 Dowdy Ln. Florence, AL 35633

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NAME	ADDRESS
Carl Scarborough	STC-25 SQN
[illegible]	STC-25 SQN
[illegible]	STC 25-SQN
Michael B. Beecher	STC 25-SQN
Joseph D. Smatton	STC-25-SQN

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NAME	ADDRESS
Robert J Poole	6419 Sea Haven Drive Hixson TN 37343
Jack L Adams	8260 Oxford Dr, Hixson, TN 37343
Christopher Carey	1151 Lakeside Circle, Hixson, TN 37343

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RE: TRITIUM PRODUCTION

NAME	ADDRESS
Kenneth D. Pulliam	6720 Harbor Circle Chattanooga, TN 37416
Ronald R. Hughes	2337 Chimney Hills Rd. Soddy-Daisy TN 37379
Jerry V. Mills	512 New Orion Circle Dayton TN. 37321
VONDA SISSON	3628 Wauchula St. Chatt. TN 37406
Terry S. Orr	1845 Bay Hill Dr. Hixson, TN 37343
Brenda Smith	7017 Hunter Glen Dr. Ooltewah, TN 37363
David M Lafever	1920 Gunbarrel Rd #1005, Chattanooga TN 37421
Walton M Justice	6410 Sam Ponce Ln Hixson TN 37343
John F. Thomas	7807 HAVERSTON CROSSING HIXSON, TN 37343

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NAME	ADDRESS
Wayne L. Smatters	37859 Hwy 95 N, Greenback, Tn. 37742
[illegible]	5607 RIDGETOP RD KNOXVILLE TN 37921
[illegible]	730 GERMANTOWN CR. EAST RIDGE, TN 37412

Commentor No. 254: Petition (Cont'd)

NAME	ADDRESS
[illegible]	[illegible] CHATT TN
[illegible]	6512 Sonnenshine Dr. Hixson, TN.
[illegible]	6605 Harvest Run Dr. Harrison, TN
Wm J Kagay	7709 Ridge Bay Drive, Hixson, TN
[illegible]	1807 [illegible] Ln. Hixson, TN
L Nichols	1275 Leaside Ln Hixson TN
[illegible] Wade	513 River Landing Dr Soddy Daisy, TN
[illegible] Woody	6447 RIDGE LAKE RD Hixson, TN
Francis D. Smith	277 Goldstone Lane, Dayton, TN 37321
Timothy M. Duffield	326 N Knob Creek Rd Seymour TN
Frank T. Bradford	8848 Wooten Rd. Chatto. Tn
Eric Payne	1810 Hidden Harbor Rd Hixson, Tn
Glenda Hill	10005 Hixson Pike, Soddy-Daisy, TN
[illegible] Walker	318 Union St. Sale Creek Tn
James F. Nichols Jr	1576 Walkertown Rd. Dayton Tn
Howard L Fleming	726 Creek Drive Ch.H / TN
[illegible]	1418 Cranmer Cir. Hixson, TN.
Judy Collier	8925 Dallas Hollow Rd Soddy-Daisy, Tn
[illegible]	3106 Wheatley Circle, [illegible]

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NAME	ADDRESS
John Rathjen	10738 Moss Lake Dr. Hixson, TN 37343
Michael D. Stutz	49 Lakeside Dr, Scottsboro, AL 35769
W. Michael Holley	530 Spring St, Signal Mtn. Tenn. 37377

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NAME	ADDRESS
Randy Hartwig	1910 Cumberland Ave. SW Decatur, AL 35603
[illegible]	1215 Parkview Wood Rd. Huntsville, AL 35640
[illegible]	2223 Victoria Dr Decatur, AL 35603

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NAME	ADDRESS
Steven A. Taylor	2222 Essex Dr SW Decatur, AL 35603
[illegible]	2309 Warwick Ave SW, Decatur, AL 35603
[illegible]	607 Dogwood Dr. Decatur, AL 35603
[illegible]	3530 Modaus Rd., Decatur, AL 35603

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Robert M. Chiga	24910 Co Rd 14 Florence, Al 35633
C. M. Evans	778 Co. Rd. 584 Rogersville, Al. 35652

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NAME	ADDRESS
Sonja D. Denton	836 Cumberland Street, Florence, AL 35630
Jean Lolley	2422 Cty Rd 103 Killen, AL 35645

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NAME	ADDRESS
DAVID R. BRANHAM	DPS-3C SEQUOYAH NUCLEAR PLANT, SODDY-DAISY, TN.
Michael E. Anderson	124 Rockham Rd Hixson TN 37343 37379

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NAME	ADDRESS
Lawrence L. Edmondson Jr.	8235 Blue Spruce Dr. Hixson Tn 37343

Commentor No. 254: Petition (Cont'd)

December 9, 1998

The Honorable Bill Richardson
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Secretary Richardson:

RE: TRITIUM PRODUCTION

We the undersigned have strongly supported and continue to strongly support tritium production at TVA's Bellefonte Nuclear Plant. For the past year we have put forth our energy toward the ultimate goal of the DOE selection of the Bellefonte option. All of our efforts (i.e., letter writing, contacting U.S. Representatives and Senators, opposing legislative language that would have eliminated use of Commercial Light Water Reactors, attending meetings, etc.) has been exerted **only for Bellefonte**. Had it not been for the efforts of people such as we, the Commercial Light Water Reactor option **would not be available** to DOE today. We continue to **support only Bellefonte** for the following reasons:

1. ECONOMIC REASONS
   - **Only Bellefonte** provides new jobs
   - **Only Bellefonte** provides lowest cost to the taxpayers
   - **Only Bellefonte** provides multi-state economic benefits
   - **Only Bellefonte** revenue offer provides payback provisions to benefit the taxpayer

2. PUBLIC POLICY
   - **Only Bellefonte** has strong local and state support
   - **Only Bellefonte** has strong bipartisan congressional support
   - **Only Bellefonte** has strong organized labor support

3. TECHNICAL REASONS
   - **Only Bellefonte** would be a dedicated facility for tritium production
   - **Only Bellefonte** would offer production flexibility with operating cycle lengths

4. ENVIRONMENTAL REASONS
   - **Bellefonte completion** provides new electric power generation with no additional greenhouse emissions and supports recent Administration clean air initiatives

1(cont'd)

NAME	ADDRESS
William David Herston CTR1D/M	

Commentor No. 254: Petition (Cont'd)

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   - **Bellefonte completion** provides new electric power generation with no additional greenhouse emissions and supports recent Administration clean air initiatives

NAME	ADDRESS
[illegible]	3906 Windward Ln. Soddy-Daisy, TN 37379
[illegible]	2304 Cleardview Pl. Decatur, AL 35601

Commentor No. 254: Petition (Cont'd)

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   - **Bellefonte completion** provides new electric power generation with no additional greenhouse emissions and supports recent Administration clean air initiatives

NAME	ADDRESS
[illegible]	915 Tennessee Avenue, Athens, TN 37303
[illegible]	320 Byrdstown Hwy, Monroe Tn 38573
[illegible]	232 Pugh Rd. Crossville, TN 38555

Commentor No. 255: Petition

December 14, 1998

To: Secretary of Energy Bill Richardson, Congressman Zach Wamp
Congressman Van Hillary, Senator Bill Frist, Senator Fred Thompson
Vice-President Al Gore, President Bill Clinton

We, the undersigned, are residents of Tennessee, and we are totally opposed to the production of tritium at the Watts Bar Nuclear Facility. We do not want the production of tritium in our area. Thank you for your support in this matter. *1/07.07*

1. Margaret Brooks 1268 Dean Rd Chattanooga TN 37405 Margaret Brooks
2. Matt Long 615 Bob Long Rd Dayton TN 37321
3. Dede Jones 1746 Riverpoint Rd Dayton TN Dede Jones
4. Gary Smith 444 Evergreen Dayton TN
5. Linda Smith 444 Evergreen Dayton TN
6. Becky Earles 457 Pine Hollow Rd. Dayton, TN
7. Susan Willett 537 Evergreen Dr. Dayton, TN.
8. Benjamin L. Simpson 1530 Riverpoint RD. Dayton, TN 37321
9. Amy Earles 457 Pine Hollow Rd. Dayton, TN 37321
10. Mary Pasch 263 Bales Landing Dayton TN 37321
11. Charlotte Johnston Oak Street Dayton, Tn 37321
12. Dean Newman 330 Highland Dr. TN 37321
13. [illegible] Newman 330 Highland Dr. TN 37321
14. [illegible] McKenzie 161 Oak St. #2 Dayton, Tn 37321
15. Pat Bick 148 Lakewood Dr. Dayton, TN 37321
16. Mary Mac Brock 1368 Market St #101 Dayton Tn 37321

Commentor No. 255: Petition (Cont'd)

December 14, 1998

To: Secretary of Energy Bill Richardson, Congressman Zach Wamp
Congressman Van Hillary, Senator Bill Frist, Senator Fred Thompson
Vice-President Al Gore, President Bill Clinton

We, the undersigned, are residents of Tennessee, and we are totally opposed to the production of tritium at the Watts Bar Nuclear Facility. We do not want the production of tritium in our area. Thank you for your support in this matter. *1(cont'd)*

17. Catherine McDonald 1746 Riverpoint Road Dayton TN 37321
18. Ben Simpson 1530 Riverpoint Rd. Dayton TN 37321
19. Robert Simpson 1530 Riverpoint Rd Dayton TN 37321
20. Sunny Simpson 1530 Riverpoint Rd Dayton TN 37321
21. Robin Ackman

Commentor No. 255: Petition (Cont'd)

December 14, 1998

To: Secretary of Energy Bill Richardson, Congressman Zach Wamp
Congressman Van Hillary, Senator Bill Frist, Senator Fred Thompson
Vice-President Al Gore, President Bill Clinton

We, the undersigned, are residents of Tennessee, and we are totally opposed to the production of tritium at the Watts Bar Nuclear Facility. We do not want the production of tritium in our area. Thank you for your support in this matter. *1(cont'd)*

Dana Shoonn, 135 Tom Garrison Rd., Evensville, TN 37332
Charles [illegible], 735 Tom Garrison Rd., Evensville, TN 37332
Jean Dead 166 LAMPLIGHTER CT. DAYTON, TN 37321
Yvonne West 1305 Shawerhoop Rd Dayton TN 37321
[illegible] Johnson 672 Pine Hill Dr. Dayton, TN 37321

Commentor No. 147: Petition

AN ASSESSMENT OF THE DRAFT CLWR EIS
FOR
TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

We, the undersigned, have reviewed the draft Environmental Impact Statement (EIS) for the production of tritium in a Commercial Light Water Reactor (CLWR) dated August 1998. We find the proposed tritium production program to be environmentally safe and to produce no measurable health effects. In addition, we conclude that Bellefonte Nuclear Plant should be named in the EIS as the preferred alternative based on its least life cycle cost to the U. S. taxpayer and the positive socioeconomic effects of the project. A summary of the primary points from the draft EIS used to reach this conclusion are shown on the attached pages. *1/07.03*

OPEIU International

International Association of Machinists and Aerospace Workers

Engineering Association

International Union of Operating Engineers

International Association of Heat and Frost Insulators and Asbestos Workers

International Brotherhood of Painters and Allied Trades

International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths

Operative Plasterers' and Cement Masons' International Union

Forgers and Helpers - International Union of Bricklayers and Allied Trades

United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry

United Brotherhood of Carpenters and Joiners of America

United Union of Roofers, Waterproofers and Allied Workers

International Brotherhood of Electrical Workers

Sheet Metal Workers' International Association

International Association of Bridge, Structural and Ornamental Iron Workers

International Brotherhood of Teamsters

Laborers' International Union of North America

Commentor No. 147: Petition (Cont'd)

DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
FOR
TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

USES OF TRITIUM

Tritium is a radioactive isotope of hydrogen. If not properly controlled it can be dangerous, but when controlled properly is safe and can save lives. Tritium is: *1(cont'd)*

- Used for life science and drug metabolism studies to ensure the safety of potential new drugs
- Used for self-luminous aircraft and commercial exit signs
- Used for luminous dials, gauges and wrist watches
- Used to produce luminous paint
- Used in Doppler Radar
- Used as a triggering component (i.e., boosts yield) in nuclear weapons

NONPROLIFERATION ISSUES
(Nonproliferation is defined as preventing the increase or spread of nuclear weapons)

Interagency Review of Nonproliferation Implications concerning tritium production was completed on July 14, 1998 and concluded the following:

- Nonproliferation policy issues associated with a Commercial Light Water Reactor (CLWR) are manageable and DOE should continue to pursue the CLWR option.
- No legal or treaty prohibitions against tritium production in a CLWR.
- Many exceptions have been made over the years to separation of civilian and military use of nuclear energy.
- Reactors producing tritium can remain on IAEA Safeguards List.
- No bilateral "peaceful uses" agreements will be violated. Reactors making tritium will use U.S. - origin uranium fuel.
- TVA's charter gives it a national security responsibility.

A House of Representatives Task Force (chaired by Lindsey Graham of South Carolina) issued a report to the Speaker of the House in 1995 concluding:

- Production of tritium in a commercial reactor is not a proliferation concern.
- Producing tritium in a reactor is no different than producing tritium in an accelerator.
- Raising nonproliferation concerns is simply an argument to sell the accelerator option.

Bellefonte would be operated as a electrical power generation facility with the ability to provide DOE with irradiation services for tritium production.

1

Commentor No. 147: Petition (Cont'd)

ISSUES REVIEWED BY EIS

- Land use
- Visual Resources
- Air Quality
- Water Quality and Use
- Archeological and historic resources
- Biotic (living things) resources including threatened and endangered species
- Socioeconomics (interaction of social and economic factors)
- Public and Worker Health and Safety

ENVIRONMENTAL IMPACTS OF OPERATION OF BELLEFONTE REACTORS *1(cont'd)*

- EIS verifies that the incremental impacts of producing tritium in a commercial reactor are small with no measurable health effects.
- No air quality standards will be exceeded.
- No impacts to threatened or endangered species are expected.
- There will be a visual impact from the cooling tower vapor plume.
- Minimal impact on Guntersville Reservoir (0.2% of the flow).
- Minor impacts to aquatic resources from impingement in cooling water intake screens.
- Positive socioeconomic impacts
  - 800 Bellefonte workers
  - Up to 800 indirect jobs
  - Unemployment rate would stabilize approximately 2 % below current levels.

RADIATION EXPOSURE

SOURCES OF PUBLIC RADIATION EXPOSURE

- Natural Radon - 200 millirems per year
- Cosmic Radiation - 28 millirems per year
- Terrestrial - 28 millirems per year
- Internal (your own body)- 39 millirems per year
- Medical X-Ray - 39 millirems each time
- Nuclear Medicine - 14 millirems each use
- Drinking Well Water - 1 to 6 millirems per year
- 5 Hour Airplane Flight - 2.5 millirems
- Eating Food Grown with Phosphate Fertilizers - 1 to 2 millirems per year
- Wearing porcelain dental crowns or dentures - 0.7 millirems per year
- Cooking with Natural Gas - 0.4 millirems per year
- **Bellefonte Reactor Operation with Tritium Production - 0.32 millirems per year**
- **Bellefonte Reactor Operation - 0.26 millirems per year**

Commentor No. 147: Petition (Cont'd)

PUBLIC RADIATION EXPOSURE COMPARISON

- Average U.S. resident (Background) - 363 millirems per year
- Resident of Denver, Colorado (Background) - 442 millirems per year
- Resident of Jackson County, AL (Background) - 355 millirems per year
- Resident of Jackson County, AL (Background plus **Bellefonte Reactor Operation**) - 355.26 millirems per year
- Resident of Jackson County, AL (Background plus **Bellefonte Reactor Operation with Tritium Production**) - 355.32 millirems per year

CONCLUSION: BELLEFONTE SHOULD BE THE PREFERRED ALTERNATIVE! *1(cont'd)*

The draft CLWR EIS does not identify a preferred alternative for producing tritium. A no action alternative is for DOE to build an accelerator in South Carolina. After reviewing the draft EIS and comparing the potential impacts associated with the alternatives, including the no action alternative, we believe that the **preferred alternative should be identified as any alternative that includes Bellefonte**. This belief is based on the following:

- Negligible environmental impacts with no measurable health effects.
- Positive socioeconomic impacts supporting economic growth and development
- Flexible tritium production capacity to meet changing tritium needs
- Proven technology compared to the No Action alternative
- No proliferation issues that are not manageable under existing laws and controls associated with CLWRs
- Least Total Life Cycle Cost

Commentor No. 147: Petition (Cont'd)

AN ASSESSMENT OF THE DRAFT CLWR EIS
FOR
TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

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Signature	Address
Robert A. Fredericksen	2807 McTavish Ave SW, Decatur, AL 35603
[illegible]	912 Delaware Dr. Hixson, TN 37343
[illegible]	334 Co Rd 565 Town Creek, AL 35672
[illegible]	3031 Old Moulton Rd Decatur AL 35603
[illegible]	1813 Lindergloss Road, Killen, AL 35645
Kerry Moody	22196 Chickasaw Dr, Athens, AL 35613
Dennis [illegible]	565 Congress St. Schenectady, NY 12303
[illegible]	84 Old Huntown Rd Norwich, CT 06360
[illegible]	2601 E Hartford St 18 Hernando FL 34442
[illegible]	771 Cornelia Dr, HSV, AL 35802
C.W. Fabian	313 Huxley Rd, Knoxville TN 37922
[illegible]	13500 Hatchie Lane, Athens, Al 35611
[illegible]	6607 River Winds Ln, Hixson, TN 37343
[illegible]	1605 W Market St Athens AL 35611
[illegible]	26185 Eastern Ferry Rd. Elkmont AL 35620
[illegible]	464 Stillmeadow Rd Somerville AL 35670

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

Commentor No. 147: Petition (Cont'd)

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Signature	Address
Ronald D. Phillips	320 Oak St. N.E. Decatur, AL
Rodger L Douglas	1604 Wellington Ct SE, Decatur, AL 35601
[illegible]	616 N. Beach Drive, Hixson, TN
[illegible]	213 Lawson West Dr. Killen AL 35645
[illegible]	7629 Hunter Rd. Hixson, TN. 37343
William L. Aldredge	1814 Sherwood Dr. SE, Decatur AL 35601
[illegible]	111 Lawson Wall Dr. Huntsville, AL 35806
[illegible]	1309 Garth Ave. Decatur, AL 35601
Gina Cummins	114 Michli Rd, Madison, AL 35758
[illegible]	1918 S. Beechwood dr Florence AL 35630
[illegible]	21 Powell Circle Fire Ats TN 38457
[illegible]	1952 County Road 53 Rogersville, AL 35652
[illegible]	115 Progress Lane Madison, AL 35758
[illegible]	106 Charing Cross, Florence, AL 35633
[illegible]	142 Co Rd 53 Rogersville, AL 35652
[illegible]	405 Louise St. Florence AL 35630

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Signature	Address
[illegible]	876 Spring Cove Rd, Florence AL 35634
[illegible]	16189 E. Glenn Valley Dr Athens AL 35611
Clayton Carpenter	3504 Co. Rd 136, Town Creek Ala
Ronald E Moody	201 BIRCH RUN, FLORENCE, AL 35630
[illegible]	17355 Holland Rd ATHENS, AL 35613
Roy L Emmanuel	9560 Mitchell Bend Ct. Granbury, TX 76048
[illegible]	6722 Stonehouse Dr. Huntsville, AL 35806
[illegible]	363 CR 172 Iuka, MS 38852
C. Earl Williams	125 Royal Dr. apt 2609 MADISON, AL 35758
Deborah B. Franks	9424 Sot Holden Ln Athens, Al 35614
[illegible]	102 Buchanan St. Morrilton AR 72110
[illegible]	1866 Fiduciary, Prospect, TN 38477
Thomas W Jordan	400 E Maple St Muscle Shoals Al 35661
Anthony G. Hastings	102 Penny Place Athens, AL 35613
[illegible]	127 SPRINGWATER MADISON, AL 35758
Larry M Walker	98 ALISSA LANE, GRANT, AL 35747
Ralph L Hain	1202 Byron Ave SW, Decatur, AL 35601

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Signature	Address
[illegible]	15023 Leafmore Dr. Hsv. AL 35803
[illegible]	35357 County Rd 8 Florence, Al. 35634
[illegible]	603 Springwood Cir. Hsv., AL 35803
[illegible]	323 Mary Lee Dr Florence AL 35634
[illegible]	180 Yancy Rd MADISON, AL 35758
[illegible]	3736 Co Rd 33 Stevenson, Al. 35772
[illegible]	12255 Lukeys Way Athens, AL 35611
[illegible]	114 Evergreen Drive Florence AL 35634
[illegible]	133 Parker Drive Florence, AL 35633
[illegible]	119 Matt Phillips Rd Huntsville AL 35810
[illegible]	603 Auburn Ave Huntsville, AL 35801
[illegible]	501 Co Rd 34 FLORENCE AL 35630
[illegible]	135 CR 81 Florence, AL 35633
[illegible]	12104 Lukeys Way ATHENS AL 35611
[illegible]	2201 Dunwoody Dr SW Decatur, AL 35603
Rodney Briggs	200 Barnyard Blvd Florence, AL 35634
[illegible]	706 Ashley Dr. S.W. Decatur, AL 35601

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1(cont'd)

Signature	Address
Dydo Henley	510 Jenkins Simpsonville, S.C.
[illegible]	1733 E Moore St Sanford NC
Samuel J. Sharp	P.O. BOX 331 LEXINGTON AL
B. T. Ford	227 HARBOR DRIVE P.O. Box 218 Spring City, TN 37381
Ruford Johnson	6346 Bowling green rd Scottsville Ky 42164
Paul M. Tatley	1 JASPER PROVIDENCE RI 02904
David F. Armstrong	27 VARICK ST. OSWEGO, N.Y. 13126
David J. [illegible]	PO BOX 3094 OSWEGO NY 13126
D. Charlotte Abbott	6461 Oak Ridge Rd, Vicksburg, MS 39180
David C. Unverferth	1201 Riverfront PKWY Chattanooga TN 37402
Frederick W. Frosello Jr.	2004 Lancaster Ave S.W. Decatur AL 35603
Thomas L. Stratton	2520 MAHALA LN. CHATTANOOGA, TN 37421
Robert J. Smith	6435 Ricks Lane Tuscumbia AL 35674
Hoy Allen	9534 Hy. 17 Flo. Ala. 35634
Michael G. Jones	103 2nd AVE. S Lorette, Tn 38469-2122
Bryan Mitchell	360 Point Rd. Muscle Shoals, AL 35661
[illegible]	55 Co Rd. 317 Florence, Al 35634

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1(cont'd)

Signature	Address
[illegible]	8927 S. East End Ave Chicago, IL 60617
Kenneth L. Flemming	222 Stokes #84, Madison, AL 35758
David Weatherford	1135 East Jefferson St. Pulaski, TN. 38478
Barry D. Tales	2506 Spring Ave SW Decatur, AL 35603
Richard [illegible]	1146 Lightfoot Dr Birmingham PA & 10906 Douglas Dr. Athens AL
Cathy C. Snedly	321 County Rd 97 Rogersville, AL 35652
[illegible]	11344 Cowford Rd. Athens, AL 35611
Peter Thompson	105 Park Terrace Sheffield AL 35660
Michael S. Briggs	1206 Cartwell Ave SW Decatur AL 35601
Greg Egell	522 County Rd 52 Anderson AL. 35610
[illegible]	1347 Richmond Drive Melbourne FL. 32935
Earl Rutledge	1700 31st ST SHEFFIELD, AL 35660
Angie Thorn	6686 Brown Rd. Danville, AL 35619
Walter Lafore	1346 Water Tank Rd. Union Grove AL 35175
[illegible] R. Mitchell	775 Co Rd 489 Lexington AL 35648
Jim F. Mayfield	1701 Co Rd 122 Lot 86 Florence AL 35634
Marilyn J. Swanner	1050 Harborview N.E. Decatur, AL 35601

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Signature	Address
Billy G. Hamble	1945 Cagle Dr. Florence, Ala. 35630
William Howell	P.O. 25 Rogersville, Al. 35652
Donna Y. Crunk	61 Kimberly St. Decatur, Ala. 35603
Randy Sumler	Rt. 2 Box 168 Corinth, Ms. 38834
Pickle Cotton	9911 Hy 72 West Athens Ala 35611
William J. Bailey	2561 County Rd 71 Killen, AL 35645
Terry J. Baker	15443 Arlington Rd Athens, AL 35611
Phillip Dain	80 Bridge Circle Killen Al 35645
Larry Walker	2900. Rd 586 Rogersville Al. 35652
Kenneth R. Phelps Jr	1247 Green Brook Lo. Hixson, TN 37343
Donald Finley	10268 Hwy 75 Russellville AL
Wayne Slaton	13000 Hwy 72 Rogersville, Al. 35652
Dwight Collier	210 Jonterville St Sheffield, Al. 35660
Julie Brown	13030 County Line Rd Muscle Shoals 35661
Jesse J. Gaddy	208 Sanderson Rd. Meridianville, AL 35759
Jonathan Nuttall	615 Lake Six Rd Killen, AL 35645
Robert T. Shelton	600 Cunn Rd 470 LEXINGTON AL 35648

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Signature	Address
William S. Law	5555 Weaklep Creek Rd Lawrenceburg, TN 38464
Paul A. Slater	21545 Upper Ft Hampton RD Elkmont Al 35620
Larry W. Hester	1101 Buena Vista Muscle Shoals Ala 35661
Bobby N. Freeman	6695 Woodmont Dr Tuscumbia, Al. 35674
Wayne Andrews	294 TUBBS ROAD RUSSELLVILLE Al 35654
Ronnie Miller	1501 Hwy 49 Russellville Al 35653
James L. Cox	2213 Brighton St. SW. Decatur, AL. 35603
Walter R. Woods	19 POPLAR Russellville, Al. 35653
Terry A. Hank	617 Hwy 4 Vina Al, 35593
Thomas Meadows	14247 ELLIS LANE LESTER, AL. 35647
Billy L. Peel	14791 Harris Spring Rd TANNER, AL. 35671
Richard L. Stump	108 County Rd 355 Florence Al. 35634
Kenny Law	105 Quail Dr Lawrenceburg, Tn 38464
Larry Stinson	1551 CR450 Lexington, Al. 35648
Lonnie H. Stout	1214 CAMPGROUND Cir. SCOTTSBORO, Al. 35769
Billy Sargent	3401 Tarpley Shop Rd Pulaski Tn 38478
John A. Pierce	100 Ben Franklin Cir Madison, Ala 35758

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

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Commentor No. 147: Petition (Cont'd)

AN ASSESSMENT OF THE DRAFT CLWR EIS
FOR
TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

We, the undersigned, have reviewed the draft Environmental Impact Statement (EIS) for the production of tritium in a Commercial Light Water Reactor (CLWR) dated August 1998. We find the proposed tritium production program to be environmentally safe and to produce no measurable health effects. In addition, we conclude that Bellefonte Nuclear Plant should be named in the EIS as the preferred alternative based on its least life cycle cost to the U. S. taxpayer and the positive socioeconomic effects of the project. A summary of the primary points from the draft EIS used to reach this conclusion are shown on the attached pages.

1(cont'd)

Signature	Address
[illegible]	371 Leona Dr. Florence, AL 35633
[illegible]	P.O. Box 1535 Decatur, AL 35602
Elizabeth White	920 W. Mobile St. Florence, AL 35630
[illegible]	102 Douglas St. Madison, AL 35758
[illegible]	2379 2nd Ave S.E. Cullman, AL 35055
[illegible]	9386 Poplar Pt. Athens AL 35611
[illegible]	1402 Edwards Muscle Shoals AL 35661
[illegible]	1700 CO Rd 76 Rogersville, AL 35652
[illegible]	4290 CO Rd 76 Rogersville, AL 35652
[illegible]	1014 Sheffield Rd Madison, AL 35758
[illegible]	Fly, ~~Staff~~ Steve Apt 215 Madison AL 35758
[illegible]	1423 Henderson Point Rd Tuscumbia, AL 35674
[illegible]	262 Oakview Circle KILLEN, AL 35645
[illegible]	1902 CO Rd 124 Florence, AL 35633
[illegible]	1413 Martin Florence AL 35630
[illegible]	15484 Chelsea Dr. Athens AL 35611
[illegible]	1378 County Rd 36 Killen AL 35645

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Commentor No. 147: Petition (Cont'd)

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1(cont'd)

Signature	Address
[illegible]	Box 434 County Rd 442 Killen, AL 35645
[illegible]	2303 East 6th St. Muscle Shoals, Ala 35661
[illegible]	774 W. Alabama St. Florence, AL 35630
[illegible]	13150 CO Rd 47 Florence AL 35634
[illegible]	160 Wagner Dr Tuscumbia al 35674
[illegible]	15139 7-Mile Post Rd Athens, al 35611
[illegible]	1035 Co Rd 142 Florence, Al. 35634
[illegible]	4810 Keith Rd Ringgold GA 30736
[illegible]	922 County Rd 425, Killen, Al 35645
[illegible]	15125 Hobbs Rd, Athens, AL 35614
Sandra K. Woodey	521 Lawson St., Athens, AL 35611
[illegible]	18021 Cox Rd Athens, AL 35611
[illegible]	[illegible]
[illegible]	232 Francis Dr Killen AL 35645
[illegible]	249 CR 442 Killen Al 35645
[illegible]	617 South Tinde Street Florence Ala 35630

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Commentor No. 147: Petition (Cont'd)

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Signature	Address
[illegible]	106 Jefferson St Florence Al 35630
Mark B Sherrod	1701 E. 32nd ST. Sheffield, AL 35660
Jack Watson	501 Shoal Creek Rd Huntsville, AL 35640
Mary Goodwin	P.O. Box 5075 Huntsville, AL. 35805
[illegible]	2213 Dunwoody Dr Hillsboro, AL 35613
[illegible]	6010 DOGWOOD DR HARRISON, TN. 37341
Robert L Klupp	9193 Hawkins Dr Athens AL 35611
[illegible] Turner	687 Cambridge Dr Madison, AL 35758
Donna Hardy	855 Raintree Drive Tuscumbia AL 35674
[illegible]	106 Brady St Tuscumbia AL 35674
James H Johnson	1703 IRIS ST. SW DECATUR AL 35601
James A Johnson	1810 Garth Ai SW Decatur AL 35601
Denis J. O'Hara	220 CEDAR LN. Killen, AL 35645
Gary M. Ponder	1310 Runaymeed Ave SW Decatur, AL 35601
Danny Bollender	3308 Cedar Cove SW Decatur, AL 35603
[illegible]	205 Sunset Dr. Athens AL 35611

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Commentor No. 147: Petition (Cont'd)

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Signature	Address
Delbert D Little	25343 MAGNOLIA DR, ATHENS AL 35611
Dennis D Maffield	205 Mackaley Dr, Florence, AL 35630
Judy Evans	16559 Evans Rd Athens, Al 35611
Lorinda M. Leech	109 Fox Run Florence, Al. 35633
Amy C. Pickett	4407 Danville Rd, Decatur Al 35603
John H White	130 Christopher Circle Athens Al 35611
Jimmy Sudesjno	1012 7th Ave SE, Decatur AL 35601
Deborah Brown	3282 County Rd 50 Rogersville, Al 35652
[illegible]	201 N.E. Commons Decatur, AL 35601
Jerry Christley	2028 LANCELOT DR DECATUR, AL 35603
A. D. [illegible]	891 Mountain Rd Brownsboro, Al. 35741
Elaine Reece	206 Gordon Drive Athens, AL 35611
Stephen K. Hogan	349 County Road 396 Killen, Alabama 35645
[illegible]	7792 Cou Rd 136 Town Creek AL 35672
[illegible]	164 Cove Court Florence, AL 35634
George T. Ballew	3202 Sweetbriar Road SW, Decatur, AL 35603

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Commentor No. 147: Petition (Cont'd)

AN ASSESSMENT OF THE DRAFT CLWR EIS
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1(cont'd)

Signature	Address
[illegible]	1125 County Rd 60 Anderson AL 35610
[illegible]	25535 Cleveland Rd Athens AL 35613
[illegible]	271 Ridge Rd Killen, Ala. 35645
[illegible]	1636 Iron Man Rd. Hartselle, Ala. 35640
[illegible]	606 Richton Ave Muscle Shoals AL
[illegible]	1404 Parsons St Sheffield AL.
[illegible]	8204 County Rd #35 Killen AL 35645
[illegible]	3849 County Rd 47 Florence AL 35630
[illegible]	212 Butt St. Thomas Gl. 35633
[illegible]	1962 Capley Dr. Florence AL. 35630
[illegible]	9900 Upper Sweet Rd Athens, Ala 35614
Ronald Sawyer	614 Butler Mill Rd Woodville AL 35776
[illegible]	2402 Tanner Dr Hartselle, AL 35640
[illegible]	607½ Winchester Rd Hartselle AL 35811
[illegible]	800 Vaughn Bog Rd. Hartselle, AL 35640
[illegible]	141 Riverchase Dr Florence, AL 35634

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1(cont'd)

Signature	Address
[illegible]	1407 Alpine St SE Decatur AL
[illegible]	865 County Rd 144 Killen, AL 35645
[illegible]	372 Co. Rd. 33 Killen AL 35645
[illegible]	175 Hardy Rd Pulaski, TN 38478
[illegible]	20440 Co Rd 8 Florence, AL 35633
[illegible]	104 Big Oak Circle Madison, Al. 35758
[illegible]	314 Central ave Muscle Shoals 35661
[illegible]	P.O. Box 836 Killen, AL 35645
[illegible]	17375 Martin Dr. Athens, AL 35611
[illegible]	816 Smith Ave. Decatur, Al. 35603
[illegible]	11438 Hy W. 64 East Lexington AL 35648
[illegible]	582 Co. Rd 107 Killen AL 35645
[illegible]	344 Wilson Dam Rd Florence, Alabama 35630
[illegible]	491 Meadow Springs Lane Florence, AL 35633
[illegible]	200 James St Muscle Shoals, Al. 35631
[illegible]	1085 CR 411 Killen, AL 35645

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Commentor No. 147: Petition (Cont'd)

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Signature	Address
Keith McCarley	1315 ROAN RD N.E., HARTSELLE, AL 35640
Cecil Pace	906 E. MOSS AVE Muscle Shoals AL 35661
David Wade	713 West Lakeside Florence AL 35630
Kenyl Hall	495 County Road 564 Rogersville, AL 35652
Julian Bass	P.O. Box 114 Rogersville AL 35652
[illegible]	2772 Hillbrow Lane Cherokee Ala 35616
Thomas Schuell	P.O. Box 474 Killen, Al. 35645
W E Walden	#40 BETSY ROSS LANE FLORENCE ALA. 35633
Jason K Reid	100 Ben Franklin Cir. Madison, AL 35758
Joseph Dutton	P.O. Box 836 Killen, Al 35645
Jimmy Taylor	675 Starnes Loop Rd Grant, AL 35747
Steve Kirkbright	135 Olive Dr. Jacksonville, Ala. 35674
Robert McClure	4861 Chisholm Road, Florence, AL 35634
Dennis McMurtrey	5505 County Rd. 25 Killen, AL 35645
Loretta J. Pardue	463 Hwy 364, Richmond, MS. 38873
Vernon Dawson	70 ORE Mill Rd Leighton AL 35646

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Signature	Address
Michael W. Hamblin	2259 Co. Rd. 33 Scottsboro AL
[illegible]	10 3 Gant Hill Road Scottsboro, AL
[illegible]	P.O. Box 85 Pisgah, AL
Wanda F. McCutchen	P.O. Box 434 Bridgeport, AL
Charles L. Cole	2194 Co Rd 209 Bridgeport, AL
Larry D. Bloom	3041 CO RD 58 Pisgah AL 35765
William D. [illegible]	100 CO RD 584 Stevenson, AL 35772
Jimmy K. Dixon	55 CO RD 321 Scottsboro, AL. 35768
Billy R. Newman	P.O. Box 532 Bridgeport, AL 35740
Robert E. Lowe	180 JEWELL LN. WALTWELL TN 37397
Randy A. Lemon	P.O. BOX 316 VALLEY HEAD, AL. 35989
[illegible]	P.O. BOX 1005 Bridgeport, AL 35740
[illegible]	1334 Maintown Dr Chatt, Tn 37421
[illegible]	P.O. Box 436 Stevenson Ala. 35772
Dewey Heifield	111 Sharon Dr. Stevenson, AL 35772
Morgan C. Thomas	P.O. Box 377 532 Cobb Section, AL 35771
[illegible]	298 Co Rd 275 Bridgeport AL 35740

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Signature	Address
[illegible]	730 Germantown Cir. Apt 613 East Ridge, TN 37412
[illegible]	8908 Chimney Point Knoxville TN 37922
[illegible]	1622 Brandi Ln Hixson TN 37343
[illegible]	141 Hendricks Bldg Apt 2 Chattanooga TN 37405
[illegible]	189 Water Oak Dr. ; Madison, Ala. 35758
[illegible]	6512 Ironwood Dr. Hixson, TN 37343
[illegible]	6601 Dandy Dr Chattanooga TN 37421
Wm. J. Kagay	7704 Ridge Bay Dr., Hixson TN 37343
[illegible]	6605 Harvest Row Dr., Harrison, TN 37341
Wayne L. Smathers	37859 Hwy 95N , Greeneback, TN 37742
[illegible]	1275 Lenside Ln, Hixson, TN 37343
[illegible]	318 [illegible] St Soddy Daisy, TN 37379
Glenda J. Hill	10005 Hixson Pk., Soddy-Daisy, Tn 37379
Paul R. Hill	" "
Timothy M. Griffith	326 N Knob Creek Rd, Seymour TN 37865

Commentor No. 147: Petition (Cont'd)

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Signature	Address
[illegible]	16121 E. Glenn Valley, Athens, AL
U. N. Shah	11011 Macbeth Dr. Hsv. AL
[illegible]	2309 Richmond St, SW, Decatur, AL
[illegible]	69 Aqua Vista Dr, Killen, al
[illegible]	135 Stanway Tr, Madison AL 35758
Sharon Green	P.O. Box 354, Rogersville, AL 35652
D. L. Matthews	15283 Hobbs Road, Athens, AL 35614
B. W. Garner	8509 Snake Rd., Athens, AL 35611
Louis C. Edendorger	2308 Quince Dr, SE Decatur, AL 35601
[illegible]	22620 Easty Ferry Rd, Ellmont, Al 35020
[illegible]	2242 Westmeade Dr., Decatur, AL 35603
[illegible]	25079 Huntsville Rd Lester, AL 35647
David O. Elkins	22218 Chickasaw Dr. Athens, AL 35613
[illegible]	1403 Henry Dr, Athens, AL 35611
[illegible]	3312 Cedarhurst Dr SW Decatur AL 35603
Charles K. Dollar	701 Henry Drive, Athens, AL 35611
[illegible]	12271 Lukers way, Athens, AL 35611

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Signature	Address
[illegible]	903 Jessie Dr, SW Decatur, AL 35603
[illegible]	113 Daniel St SW Decatur, AL 35601
[illegible]	1787 Hwy 207 Rogersville AL 35652
[illegible]	9041 County Rd 26 Rogersville, AL 35652
[illegible]	311 [illegible] Decatur, AL 35603
Marion C. King	208 Roosevelt Av Muscle Shoals Al 35661
Bridgette B. Harding	6220 North Pike Cherokee, AL 35616
Ronnie R. Church	106 Lagrange Muscle Shoals Al 35661
[illegible]	2525 S Aspen Springfield Mo 65807
Gary W. Philp	1708 Grandaddy Rd Lawrenceburg TN. 38464
Danny Dodd	116 Royal Oak Rd. Florence, AL 35633
William R. Taylor	692 Co. Rd. 1474 Cullman Al 35058
Louis E. Harting	Rt #1 Box 381 Killen Al 35645
Stanley K. Wallace	176 Ray Richardson Drive Greenhill, AL 35615
[illegible]	61 Kimberly St. SE Decatur, Al 35673
Roger [illegible]	330 Walnut Creek Lk Killen AL 35645

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Signature	Address
Randall L. Harting	1910 Cumberland Av. SW, Decatur, AL 35603
[illegible]	2223 Victoria Dr Decatur, AL 35603
[illegible]	1344 Coffman Springs Rd LaFayette, GA 30728
[illegible]	63 Clearwater St. Springfield, MA 01129
[illegible]	Kastanjegen 9NB 72356 Vasteras Sweden
[illegible]	17 [illegible] Ct. [illegible]
[illegible]	1408 Cumberland Dr, Hixson TN 37343
[illegible]	118 Jay Drive Madison AL 35758
[illegible]	[illegible]
[illegible]	604 N Valley Dr Chattanooga TN 37415
[illegible]	1315 Perkins Wood Rd Hartselle AL 35640
[illegible]	631 Celia Drive, Hartselle, Al 35640
[illegible]	2213 Inverness Ln. Decatur, AL 35603
[illegible]	106 Autumn Oak Ln Harvest AL 35749
[illegible]	207 [illegible] Drive Florence, AL 35630

Commentor No. 147: Petition (Cont'd)

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Signature	Address
[illegible]	2222 ESSEX DR SW DECATUR, AL 35603
[illegible]	2305 WARWICK AVE SW, DECATUR, AL 35603
[illegible]	130 BILL LEE RD OXR, AL 35763
[illegible]	320 Poplar Springs Dr. Killen, AL 35645
[illegible]	101 E. Meadow Hill Dr. Florence, AL 35633
[illegible]	102 SHADY LN ATHENS, AL 35613
[illegible]	2128 Mackey St. Rogersville, AL 35652
[illegible]	9754 Barker Rd Athens AL 35614
[illegible]	2503 CHESLEY AVE SW DECATUR AL 35603
[illegible]	613 Courtland AVE Muscle Shoals AL 35661
[illegible]	40 Madison St. Muscle Shoals, Ala. 35616
[illegible]	530 Poplar Springs Dr, Rogersville, Al 35652
Leonard R. Madison, Jr.	138 Heatherwood Dr., Madison, AL 35758
[illegible]	P.O. Box 684 Athens, Al 35612
[illegible]	905 Garrett Dr. Athens, AL 35611
[illegible]	1802 Canton Cir SW, Decatur, AL 35603-3160
[illegible]	222 PINOAK DR, MADISON AL 35758

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Signature	Address
[illegible]	22221 Misty Leigh Ln. Athens, AL 35613
[illegible]	1021 Horizon Lane Huntsville AL
[illegible]	22217 Chickasaw Dr., Athens, AL 35613
[illegible]	400 Meadowbrook Dr. Huntsville AL 35803
[illegible]	P.O. Box 684 Athens, AL 35612
[illegible]	PO BOX 195 RT 6 Decatur, AL 35603
[illegible]	103 Maple Dr. Florence AL 35630
[illegible]	2916 Gibbsville Dr. Decatur AL 35603
[illegible]	2003 New Center Rd. Somerville AL 35670
[illegible]	2901 Hunterwood Dr. Decatur AL 35601
[illegible]	30011 Arbica Dr. Madison, AL 35757
[illegible]	1417 GRANT ST. SE DECATUR, 35601
[illegible]	P.O. BOX 1051 KILLEN AL 35645
[illegible]	21286 Hwy Loop Athens AL 35620
[illegible]	16633 ZEHNER RD ATHENS AL 35611
[illegible]	13485 Dew Cut Rd Athens, AL 35611
[illegible]	20 DARIK PVE DR. Decatur, AL 35603

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Signature	Address
[illegible]	STC-1I SQN
[illegible]	PSC 1F-M MS
Mary E. McLight	PSC 1F-M

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Signature	Address
[illegible]	40AR 1A-MS
Brenda Holly	WAR 1A-MS
[illegible]	2106 Bay Pointe Dr, Hixson TN 37343

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TRITIUM PRODUCTION AT BELLEFONTE NUCLEAR PLANT

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1(cont'd)

Signature	Address
Patricia Zlotnik	13111 Dickens Ave Huntsville, AL 35756
Marie Kook	1015 Tennessee St. Florence, AL 35601
Karen Logston	320 Julie Dr. Lexington, AL 35648
Vicky Beasley	2220 CHAMBERLAIN CLOSE SEVIERVILLE, TN 37379

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

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Commentor No. 147: Petition (Cont'd)

AN ASSESSMENT OF THE DRAFT CLWR EIS
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1(cont'd)

Signature	Address
Chris W. McCormick	183 Ellis Rd Jasper, TN 37352
Mark D. Bruning	1020 Victoria Ave Jasper TN 37347
Gary E. Summers	1402 Highcrest Dr Hixson, TN 37343
GREGG S. HAGGINS	655 HEDLEY COVE RD 37350
Kenny Holt	212 - 167 Co Rd Section AL 35771
William C. Sparkle Jr	P.O. BOX 217, BRIDGEPORT, AL 35740
David J. Frazier Jr.	123 WOODLAWN DR., BRIDGEPORT, AL 35740
Sharon L. Beavers	2397 Hwy 156 South Pittsburg, TN 37380
John W. Brooks	7207 N. CHESTFIELD LN. HIXSON TN 37343
Wesley McGill	1908 Shallow Pl. Chatt. TN 37421
Warren W. Quick	991 Hancock Rd., Jasper, TN 37347

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

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Commentor No. 147: Petition (Cont'd)

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Signature	Address
[illegible]	512 New Union Cl, Dayton, TN 37321
Ronald R Hyslin	2337 Chimney Hill Dr. Soddy-Daisy TN 37379
Terry S. Orr	1845 Bay Hill Drive, Hixson, TN 37343
Teresa D. Chapman	8933 Lazy River Drive, Harrison, TN 37341
[illegible]	8260 Oxford Dr., Hixson, TN 37343
Cordie Sisson	3608 Walnut St, Chattanooga, TN 37406
John Thomas	7807 Hyberton Crossing, Hixson TN 37343
[illegible]	5705 Moody Sawyer Rd, Hixson, TN 37343
[illegible]	9421 Shadow Point Circle Chattanooga TN 37421
[illegible]	169 Richesin Rd Sweetwater TN 37874
[illegible]	754 Highland Dr Dayton TN 37321
[illegible]	6419 Sea Haven Drive Hixson TN 37343

Commentor No. 147: Petition (Cont'd)

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Signature	Address
Carol J. Hukes	TVA (MR 5N-G)
	1101 Market St.
	Chattanooga, TN 37401

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Signature	Address
Stephen L. Keever	MR 2T-C

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FOR
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Signature	Address
Sonja D. Jordan	WAR 1A-MS
Brenda J. Kelly	WAR 1A-MS

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Signature	Address
Hale	637 Battery Pl #7 Chatt. TN 37405

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Signature	Address
J.R. Brockwell	ADM IL-WBN
Richard Sharpe	8901 Walker Circle Ooltewah TN 37379
Rickey Stanton	155 Boley Street Dayton TN 37321
[illegible]	ADM IL-WBN
[illegible]	ADM IL-WBN
M. DeWayne Davis	11135 Crocus Point Drive Knoxville, TN 37922
S. D. Hudson	ADM IL-WBN
[illegible]	ADM IL-WBN
Paul Pace	ADM IL-WBN

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Signature	Address
[illegible]	8235 Blue Spruce Dr Hixson Tn 37343
Larry M Bagley	813 FOX CHASE LN. HIXSON TN 37343
Rebecca L. Sears	8236 Blue Spruce Drive Hixson, TN 37343
Navin S Shah	1295 LEASIDE LANE HIXSON, TN 37343
Richard W Pillsbury	1711 Rock Bluff Rd Hixson TN 37343
[illegible]	1115 E. Woodshire Dr, Knoxville, TN 37922-5651
Lloyd A Lucas	6434 LAKE SHADOWS CIR. HIXSON, TENN. 37343
[illegible]	5609 COLD SPRINGS RD HIXSON TN 37343
Jennifer R Bell	1948 Light Tower Cr. Hixson, TN 37343
Stanley R Hudson	2630 Poe Rd, Soddy-Daisy, Tn 37379
[illegible]	2709 Autumn Chase Dr, Chattanooga TN 37421
Monna S Beam	9670 LOVELL RD Soddy Daisy [illegible]

Commentor No. 147: Petition (Cont'd)

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Signature	Address
[illegible]	[illegible]

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1(cont'd)

Signature	Address
Belonie P. Walker	#1 3617 N. Crestview Dr. Huntsville, AL 35816
Johnny Whisenant	922 Rocky Branch Dr. Gurntersville, AL 35976
[illegible]	1204 Brandywine Ln. SE Decatur, Al 35601
[illegible]	603 Dogwood Dr Decatur AL 35603
[illegible] Hilbert	3530 Modaus Rd Lacey, AL 35603

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AN ASSESSMENT OF THE DRAFT CLWR EIS
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1(cont'd)

Signature	Address
[illegible]	319 Harris Dr. Florence AL 35634
[illegible] Wright	3203 Trails End Decatur AL 35603
M. Shan McNatt	2118 Sky Park Rd Florence AL 35634
Douglas C. Dyer	610 MARTHA ST SW DECATUR AL 35601
[illegible]	8304 Island Point Dr. Harrison TN 37341
Gerald Lowery	9425 Shadow Pt Cr Chattanooga, TN 37421
[illegible]	306 Hoveysuckle Pt Dr Huntsville AL 35640
Donald B. Ricketts	22221 East Yorkshire Dr. Athens, AL 35613
[illegible]	4502 Autumn Lake Tr Decatur AL 35603

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Signature	Address
James D. Anderson	2216 Lynn Rd., Huntsville AL 35810
[illegible]	26869 Pass De Athens, Al 35613
Clyde Williams	P.O. Box 124 Belle Mina, Ala. 35615
[illegible]	23 Orchard Hill Rd, Fayetteville, Tn. 37334
John K Allen	255 County Road 490 Lexington al. 35648
[illegible] R. Martin	3315 Co. Rd 98 Anderson Al. 35630
Larry W. [illegible]	464 Co Rd 168 Killen Ala 35645
[illegible]	631 Oak View Circle Killen, AL 35645

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Signature	Address
Billy Davis	574 Wheeler Rogersville Al
Buney Parker Jr	1763 Co Rd 257 Town Creek AL
Emmett King Jr	3011 Fort Rose Muscle Shoals al.
Jimmie Brewer	144 Co. Rd 1227 Vincent Al
Wendell Driscoll	215 P.O. Box 173 Riverside, Al
[illegible]	21956 Al Hwy 127 Elkmont Al
Marion Dell	101 School Cutoff Rd. Jacksonville Ala.
[illegible]	7648 Cherokee Co. Scottsboro, AL.
James Pombekar	8330 Co. Rd. 214 Trinity, AL.
[illegible]	713 Black St Gadsden Al
James W. Rorse	17611 Nuclear plant Road Athens Ala
Owen Ezell	239 Rose Rogersville, Al 35652
Robert McCafee	1927 Pisgah Ridge Rd Pulaski, Tn 38478
Dwight Hockey	1340 C. Lackey Road Leighton Al 35646
Ronald M. Harrison	1323 Co. Rd. 130 Town Creek Ala 35672
Vicky Kelly	538 Co. Rd. 175 Florence, AL 35634
William T. Weldon	2145 Co. Rd. 38 Hanceville Ala 35077
Kenneth Blanchard	109 Stacy Circle, Gurley, Al. 35748

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

Commentor No. 147: Petition (Cont'd)

TVA TODAY UPDATE
Friday, September 18, 1998

Language Dropped That Blocked TVA Tritium Production

A House-Senate conference committee in Congress has agreed to drop language that would have blocked a plan to produce tritium at Bellefonte Nuclear Plant.

The Department of Energy has been directed to provide tritium to the Department of Defense by 2005. DOE is considering the production of tritium either at Bellefonte or at a proposed linear accelerator at DOE's Savannah River site in South Carolina.

The House of Representatives had included language in its version of this year's defense-authorization bill that would have prohibited using a commercial reactor such as Bellefonte's for tritium production.

Chairman Crowell issued the following statement today:

On behalf of the TVA Board, I deeply appreciate the hard work of members of the Valley congressional delegation to keep TVA's Bellefonte Nuclear Plant as an option to produce tritium. This roadblock has been cleared because of their hard work and leadership. Bellefonte remains in the competition, and it could not have been done without them.

Bellefonte is truly the best option because it:

- Saves taxpayers at least $4 billion when compared to the accelerator option, according to the Congressional Budget Office.
- Maximizes TVA's $4-billion investment in the plant.
- Creates 700 permanent jobs and hundreds more indirect jobs. That's not including the additional construction jobs at the plant.
- Uses a proven technology that is safe and environmentally friendly.
- Meets DOD requirements for national defense.

Completing Bellefonte is consistent with TVA's policy of only finishing a nuclear plant if we have a partner. Today, because of the help of the Tennessee Valley Delegation, we are one step closer to making that happen.

Tritium is an isotope of hydrogen that is required by all U.S. nuclear weapons. Because it decays at a rate of about 5 percent per year, it must be replaced periodically. The United States has not produced tritium since 1988, when the last tritium-production reactor was shut down at the Savannah River site.

TVA Today is a daily source of information for TVA employees. Please send items or ideas to Dan Adair in Employee Communications by e-mail (Microsoft Exchange), fax (423-632-7902) or interoffice mail (ET 6E-K), or call him at 423-632-8054.

Page 1

1(cont'd)

Commentor No. 147: Petition (Cont'd)

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1(cont'd)

Signature	Address
[illegible]	60 Trattenham Rd. Killen Al 35645
[illegible] McClanahan	204 Phillips Drive, Killen Ala 35645
[illegible]	321 Nottingham Rd, Florence, Ala 35633
[illegible]	409 CONGRESS DR, ATHENS, AL 35611
[illegible]	15066 FIELDING RD ATHENS, AL 35611
[illegible]	17259 Glaze Rd. Athens Al 35611
Tommy Parrish	10910 New Cut Rd. Athens Ala. 35611
[illegible]	14226, Section Line Rd, Elkmont Ala 35620
Mike A. [illegible]	275 WOODCASTLE DR. FLORENCE AL, 35630
[illegible] Hydrick	11121 McCullough Dr Huntsville, AL 35801
[illegible]	1911 County Rd 28, Florence, Al 35634
[illegible]	22559 Mayberry Dr ATHENS ALA 35613
[illegible]	701 Sylvan Drive Rockwood, Tn 37854

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

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Signature	Address
William H. Guyman	ANT-1A-NST
Jerry W. Whitten	SUB-1A-CLT
Harry L. Williams	ANT-1A-NST
Marvin L. McKnight	CUF 1A-CCT

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Signature	Address
Randy Beaty	700 Lu Ann Ct Antioch, TN 37[illegible]
[illegible]	105 T COURT CIRCLE DOVER TN 37[illegible]
Charles W. Snyder	163 Timberlake Drive Oak[illegible] TN 37058
John M. Smith	715 Kleaman Dr. Clarksville, TN 37[illegible]

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Signature	Address
Dennis L Heineman	86 Ruth's Lane Ringgold Ga 30736
[illegible]	5811 Sawyer Dr Sign Lake TN 37377
[illegible]	1001 Vineyard Rd. Chattanooga, TN
[illegible]	694 Charbell St. Hixson, TN 37343
[illegible]	6221 Shallowford Road # 51, Chattanooga TN 37421
[illegible] W. McCowell	1906 Oak Cove Dr Soddy Daisy Tn 37379
[illegible] E. Swinea	8810 Havendale Lane, Chatt, TN 37421
H. David [illegible], Jr.	6286 White Tail Dr, Cohutta, TN 37343
Frank E. Perry	1803 Pine Needles Tr, Chatt, Tn 37421
[illegible]	6510 Hunt Drive Chattanooga TN 37421
S. Michael Hull	4528 Kings Lake Ct, Chattanooga, TN 37416
Sharon N. Love	128 Harris Lane Ringgold Ga 30736
Richard S. Burgan	5434 Poplar Springs Rd, Ringgold Ga 30736

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Commentor No. 147: Petition (Cont'd)

Louvain, from
Watts Bar Group 501
Amington
10/6/98

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Signature	Address
James S. Amington	EQB 2N-WBN
[illegible]	EQB 2N-WBN
[illegible]	EQB - 1F - WBN
Jimmy C. Pierce	EQB-2N-WBN
W W Webb	EQB 2N - WBN
[illegible]	EQB1F -WBN
[illegible]	EQB - 2N-WBN
[illegible]	EQB - 2N-WBN
[illegible]	EQB-2N-WBN
R. O. [illegible]	EQB 2N-WBN
[illegible]	EQB-1F -WBN
[illegible]	EQB-1F WBN
[illegible]	EQB -2N -WBN
[illegible]	EQB-2N-WBN
[illegible]	EQB-1M-WBN
[illegible]	EQB-2N
[illegible]	EQB-2N-WBN

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Signature	Address	
C.M. Kerr	EQB 1F	WBN
[illegible]	EQB-1F	WBN
Nicholas C. Horning	EQB 1F	WBN
S. Paul Harlan	EQB-1F	WATTS BAR NUCLEAR
T.L. [illegible]	EQB-1F	WBN
Maurice L. Young	EQB-2N	WBN
[illegible]	EQB-1F	WBN
[illegible]	EQB-1F	WBN
[illegible]	EQB-1F	WBN
[illegible]	EQB-1F	WBN
[illegible]	EQB-1F	WBN
[illegible]	EQB 1F	WBN
[illegible]	EQB 1F	WBN
[illegible]	EQB 1M	WBN
[illegible]	[illegible]	[illegible]
Sharon A. [illegible]	EQB 2N	WBN

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Signature	Address
Robert L. Colbert III	EQB 2N-WBN
[illegible]	EQB 2N-WBN
Patrick E. Donahue	EQB 2N-WBN
James R. [illegible]	EQB 2N-WBN
Ernest T. Hart	EQB 2N-WBN
Kendrick Ware	EQB 2N-WBN

Return Petition to Louvain Edmondson, OPS 2B - SQN, by October 6, 1998

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Public Hearing – North Augusta, South Carolina
October 1, 1998

Commentor 500 (Bob Smith)

1/09.08 The commentor asks whether the schedule for completing construction of the Bellefonte Nuclear Plant Unit 1 (1999 to 2004) is hypothetical or real.

2/03.02 The commentor believes there is a logical disconnect between the Bellefonte 1 completion schedule (1999 to 2004) and the Presidential requirement to establish a tritium supply source by 2005. The commentor asserts that, if a one-year delay in the schedule occurs as a result of planned additional technology assessments or budget constraints, the Bellefonte Nuclear Plant would not be capable of meeting the Presidential requirement for two years because the irradiated tritium targets would not arrive at the Savannah River Site until 2007.

3/24.05 The commentor asks how a one-year delay in completing construction at Bellefonte 1 would impact the schedule to complete the Tritium Extraction Facility by 2005.

Commentor 501 (Lee Poe)

1/04.01 *[In response to a DOE statement that using a commercial light water reactor (CLWR) for tritium production is "technically straightforward and safe"]* The commentor asks if DOE takes the same position on the Accelerator Production of Tritium (APT) option.

2/05.04 The commentor asks if DOE would spend all of the money necessary both to design the APT and to complete reactor construction if either were designated as a backup source for tritium production. The commentor states that the information on the primary and backup tritium sources is difficult to understand—particularly the elements DOE requires for a facility and a backup and what that really means to public citizens.

3/23.14 The commentor asks to know the total costs to complete commercial reactor construction for use both as a primary and a secondary (backup) production source, including the Tritium Extraction Facility.

4/04.03 The commentor requests charts summarizing and comparing the environmental effects of CLWR tritium production with those of the APT and the Tritium Extraction Facility.

5/05.02 The commentor believes the CLWR Draft Environmental Impact Statement (EIS) summarizes the environmental effects of the proposed action, gives a very high level summary of the No Action Alternative, and "fixes it" so citizens will have a "very tough time" trying to understand what is being proposed. The commentor states that it is very difficult to understand the decisions that DOE is talking about, particularly when the EIS does not provide the reader with the no-action effects and merely tiers them off to some other document.

6/05.29 The commentor is concerned that the CLWR Draft EIS states that a CLWR Final EIS will be issued in December 1998, but the speaker mentioned January as a target date. The commentor postulates that, as a Secretarial decision is expected at about the same time that the CLWR Final EIS is issued, a decision already must have been reached. The commentor suggests that either DOE should not spend the money to write the CLWR Final, APT, and Tritium Extraction Facility EISs because their completion will not affect the decision, or DOE should work to make

the Final EISs worthwhile. The commentor would like to see the CLWR, APT, and Tritium Extraction Facility EISs combined into one document.

7/06.03 The commentor postulates that: (1) having received only two responses to their request for proposals, DOE made the decision to build tritium-producing burnable absorber rods (TPBARs) for use in pressurized water reactors only, not boiling water reactors, which "cuts the territory down," and (2) this justified listing the five Tennessee Valley Authority (TVA) reactors in DOE's approach and excluding all others from the EIS analysis. The commentor asks why DOE analyzed all the pressurized water reactors not covered by the DOE/TVA proposal.

8/24.01 The commentor questions whether use of the TVA system is reasonable if DOE and TVA can't communicate with each other effectively. The commentor suggests an interagency discussion would help fulfill DOE's need to produce tritium.

9/03.03 The commentor states that the numbers of TPBARs cited by the CLWR Draft EIS clearly suggest DOE will use two or more reactors for tritium production.

10/19.04 The commentor states that, according to the numbers given in the CLWR Draft EIS, the TPBARs will release tritium at a rate of less than 22,780 Curies per year, not the 1,890 Curies per year cited.

11/19.05 The commentor questions why DOE would want to run the Tritium Extraction Facility furnaces within the top 90 percentile of their maximum temperature. The commentor states that there is no data in the EIS that addresses recovery efficiency in the Tritium Extraction Facility.

12/23.15 The commentor questions the fairness of giving the Bellefonte plant a significant credit for the sale of electric power, but not giving similar credits to the APT and the other reactors for revenue returns. The commentor points out that if it takes more than one reactor, the cost of using Bellefonte together with one or more CLWRs should be combined, and the costs and revenue returns of the CLWR option should be compared with those of the APT option.

13/23.16 The commentor proposes a cost document be appended to the CLWR Final EIS. The commentor states that a comparison of the costs for all the options should be available somewhere, if not in the Final EIS.

14/01.04 The commentor suggests appending the Interagency Review to the CLWR Final EIS. The commentor agrees that CLWR tritium production is not illegal because tritium is not a special nuclear material. The commentor believes the United States should abide by both the legal and technical implications of its actions and not try to set examples that will be misinterpreted by outside nations.

15/01.09 The commentor believes that weapons production and power generation should not be combined because it would set a precedent that would negatively affect U.S. nonproliferation objectives.

16/01.10 The commentor believes that CLWR tritium production is not illegal, but is morally wrong.

Commentor 502 (Dick Reynolds)

1/06.03 The commentor asks if TVA has withdrawn the irradiation services part of their bid. The commentor asks whether TVA will reconstitute their offer to provide irradiation services for DOE tritium production.

2/03.02 The commentor asks for confirmation that DOE would use the Watts Bar Nuclear Plant if there were any delays in completing Bellefonte for tritium production.

Commentor 503 (Gary Stooksbury)

1/01.04 The commentor believes the actions proposed in the CLWR Draft EIS will undermine the twin *[U.S.]* objectives of establishing a supply of tritium for national defense purposes and preventing the spread of nuclear weapons technologies and materials throughout the world. The commentor believes the Interagency Review that examined the impact of CLWR tritium production on U.S. nonproliferation objectives was flawed in its logic, vague in its conclusions, and erroneously implied that previous conversion of U.S. weapons facilities to civilian applications should make it easy to do the reverse. The commentor believes a worldwide outcry will result if the United States backs away from its strong nonproliferation stance and, in the end, the CLWR tritium production option will be abandoned after damaging the United States' international image and causing adverse impacts on the nuclear stockpile.

2/21.06 The commentor believes there are significant uncertainties that will affect TVA's ability to license a commercial light water reactor for tritium production, including public concern over new safety and environmental hazard and public discomfort with the proposal to commingle military and civilian reactor purposes. The commentor believes there is no insurance that the U.S. Nuclear Regulatory Commission (NRC) will issue a license or a license amendment for this endeavor and, if not, this would cause the CLWR option to be abandoned and would result in adverse impacts on the nuclear stockpile.

3/23.02 The commentor believes DOE has significantly underestimated the costs associated with the CLWR option and that these estimates should be subjected to an independent third-party review.

4/23.17 The commentor states that the CLWR Draft EIS discussed the use of TVA's Watts Bar and Sequoyah nuclear facilities, yet it is widely reported that TVA has withdrawn those facilities. The commentor states that DOE cites the TVA estimate of $2.4 billion to complete Bellefonte 1 and questions TVA's ability to bring anything on line, on time, and under budget. The commentor states that another nuclear facility has estimated that over $4 billion would be required to complete Bellefonte and that the Government Accounting Office says that TVA's estimates are very unreliable—past overruns of several hundred percent were experienced at plants that TVA assessed to be 80 percent complete.

5/09.09 The commentor states that, as someone who grew up in the shadows of Watts Bar and remembers reading the newspaper articles and what it took to bring that facility on line, he is appalled that DOE would even discuss Watts Bar.

6/23.20 The commentor believes that capital costs for the Bellefonte reactors will be significantly more than for the APT and that life cycle costs will be comparable.

7/04.01 The commentor believes there are no programmatic advantages related to the CLWR option and that, instead, it has serious, if not fatal, deficiencies.

8/05.07 The commentor believes the CLWR EIS must include analyses of the potential worldwide environmental impacts resulting from a higher probability that some nation will initiate or continue nuclear weapons research testing and production programs as a result of U.S. CLWR tritium production.

9/15.07 The commentor requests the CLWR EIS human health effects analyses to fully explain the basis for assuming that 10 percent of the tritium released from the melted targets will be in an oxidized form within the contaminated atmospheres. The commentor believes tritium may be available in the contaminated atmosphere and may be released to the environment. The commentor requests that the EIS analyses quantify the estimated release and the environmental effect; address the disposition of tritium remaining in the reactor facility; and address the environmental impacts associated with disposition of all tritium released in a design-basis accident.

10/05.05 The commentor believes the CLWR Draft EIS does not evaluate the environmental impacts of all the program options under consideration.

11/03.03 The commentor asks for information concerning how many reactors DOE/TVA plans to use for tritium production. The commentor also asks for information about the specific TPBAR design and fuel site that DOE says would allow one reactor to make three kilograms of tritium per year, and how they are different from those described in the CLWR Draft EIS. The commentor believes that if a one-reactor option is being considered, then the EIS should be corrected to describe and analyze the appropriate TPBAR design and fuel site. If two or more reactors are needed, then DOE's program and budget planning needs to reflect that fact.

12/23.18 The commentor states that the Congressional Research Service review raises a serious question about the ability of Bellefonte to generate sufficient revenue to offset operating costs, much less amortize construction.

Commentor 504 (Peter Gray)

1/01.09 The commentor believes it is U.S. policy to maintain the separation of civil and military facilities, and the United States should set an example for the world by not making weapons in civilian facilities. The commentor believes the examples of using a facility for both military and civilian purposes that are described in the CLWR Draft EIS are not comparable to the proposed action because the facilities were first used for military purposes and later converted to civilian use.

2/21.05 The commentor believes the NRC is likely to delay DOE defense programs assigned to a CLWR.

3/04.02 The commentor states that, if cost is the real discriminator, DOE owns another, less expensive, tritium production concept that would cost about $600 million—less than a third of the cost of CLWR tritium production and about a quarter of the cost of building an accelerator. The commentor calls for a review of this device. The commentor believes that, failing the use of the less expensive device, DOE should use the Savannah River Site because of its nearly 45 years of tritium experience and the readiness of its workers to serve the nation again capably, safely, efficiently, cost-effectively, and in an environmentally sound manner.

4/03.03 The commentor did not understand that production of 3 kilograms of tritium per year was a surge goal and that the “day-in, day-out” goal was something lower.

5/23.16 The commentor states that the surge goal would nearly double the number of fuel assemblies needed and, correspondingly, the amount of spent fuel for disposal. The commentor asks that

these costs be addressed in the CLWR Final EIS so that the public will know what it would cost to produce 3 kilograms of tritium per year.

Commentor 505 (David Losey)

1/01.09 The commentor believes the United States has intended for years to separate its commercial and defense interests, and now is the time to move toward more integrity by avoiding legalistic word-splitting (tritium is not a special nuclear material) and maintaining the separation of civilian and military nuclear facilities.

Commentor 506 (Donald Morris)

1/06.03 The commentor asks about media reports that TVA has withdrawn their offer for irradiation services.

2/05.27 The commentor asks whether DOE is considering purchasing a TVA reactor or the irradiation services of a reactor.

3/23.19 The commentor asks about reports that TVA has offered to complete construction of the Bellefonte reactor for irradiation of the TPBARs, and that TVA's Chairman has stated that TVA will require all the funding "up front" before undertaking completion and licensing of the Bellefonte reactor. The commentor asks what guarantees DOE will require of TVA to ensure that construction and NRC licensing of the Bellefonte plant will be completed within the stipulated costs.

4/ 23.21 The commentor asks whether the fixed price for completing the Bellefonte plant would also include defense of the project against any nuclear activist suits or intervenors.

Commentor 507 (Bob Schwartz)

1/02.01 The commentor questions the need for tritium production. The commentor believes DOE tritium production is a jobs program, not a vital necessity.

2/08.02 The commentor believes the Savannah River Site has enough problems of its own without assuming new missions.

Public Hearing - Rainsville, Alabama
October 6, 1998

Commentor 600 (Mike Womacks)

1/23.02 The commentor is concerned about cost overruns, in view of the Tennessee Valley Authority's (TVA) history, and asks how the public may assume that the $1.9 billion or $2.1 billion TVA says it will take [to complete Bellefonte for tritium production] will be sufficient.

2/01.04 The commentor asks if the United States is now willing to allow other countries to produce tritium in their commercial nuclear power plants.

3/14.20 The commentor notices that the health risks and impacts analyzed in the Draft EIS deal with tritium production only, and not the risks and impacts of the plant itself (without tritium

production). The commentor asks to know the health risks and impacts resulting from both tritium and nuclear power production. The commentor is concerned that people already are affected by nuclear power production and an additional 1.1 percent, or about 1,500 people, would die of cancer as a result of the proposed action.

Commentor 601 (Charles Anderson)

1/14.21 The commentor asks if his chances of winning the Georgia Lottery without buying a ticket are better than his chances of dying from radiation released by a tritium-producing Bellefonte nuclear power plant.

Commentor 602 (Joseph Imhof)

1/11.11 The commentor cites a quote from the CLWR Draft EIS on page 5-53 [the commentor refers to Appendix C, page 5-53, but the reference is misquoted], the first sentence in the section on Threatened and Endangered Species: "Operational impacts on threatened or endangered species could occur through the release of thermal, chemical, or radioactive discharges to the atmosphere or the river." The commentor asks why it is necessary to discharge radioactive material into the river and whether there is any alternative.

2/11.12 The commentor asks whether the small amounts of radiological and chemical materials normally discharged into a river by a nuclear power plant are processed before being discharged.

Commentor 603 (Melvin Brewer)

1/24.06 The commentor asks where the tritium produced by a CLWR would go and what would be done with it.

2/01.01 The commentor asks why the United States needs nuclear weapons.

3/01.10 The commentor asks if nuclear weapons are meant to be genocide weapons and states that, wherever they want to make tritium, he'll be there actively opposing it. The commentor also states that he has heard talk about jobs, but asks when people are going to start talking about humanity.

Commentor 604 (Roger Graham)

1/02.02 The commentor asks if it is true that, for America to maintain its nuclear weapons capability, the country must be able to produce tritium by the year 2005.

2/01.04 The commentor asks whether it is true that, even if the United States doesn't have nuclear weapons, other countries will have them.

3/07.01 The commentor is in favor of tritium production in the United States.

4/07.03 The commentor thinks that we owe it to the people in the military to provide the best technology to help them protect us. The commentor doesn't care whether tritium is produced in Alabama or South Carolina, but does think our elected officials should be prudent in their decisions to spend taxpayer dollars. The commentor states that the Bellefonte Nuclear Plant could be ready to produce tritium for less than $3 million, and that it uses a proven safe technology that will produce revenues from the sales of much-needed electricity. The commentor compares this

figure to the cost of building an accelerator—$16+ billion for an accelerator that may not work and would cost $155 million a year to operate.

Commentor 605 (Jerry Ward)

1/23.15 The commentor asks how the projected $1.9 billion cost to complete the Bellefonte plant for tritium production compares with the total costs to develop and construct the Savannah River option (the APT option at the Savannah River Site).

Commentor 606 (C. A. Frees)

1/11.09 The commentor asks the distance between the Bellefonte plant's point of discharge into the river and the point where the Jackson County Water Department draws water from the river for public use. The commentor, upon hearing the answer is 4.5 miles, asks if the public water source that was measured is the one for Fort Payne. The commentor also asks the location of the other public water sources in Jackson County and their distance from the Bellefonte plant's discharge point.

Commentor 607 (Doug Grice for U.S. Congressman Bud Cramer)

1/07.03 The commentor reads a statement from Congressman Cramer in support of completing the Bellefonte plant for tritium production because it is safe and economically sound; area residents have a work ethic; and it would create jobs.

Commentor 608 (Angie Culvert for U.S. Senator Jeff Sessions)

1/07.03 The commentor, speaking for Senator Sessions, expresses support for the completion of the Bellefonte plant for tritium production because it is right for the taxpayers, the Department of Defense, the nation, and northern Alabama.

Commentor 609 (Paul Housel for U.S. Congressman Robert Aderholt)

1/07.03 The commentor reads a statement from Congressman Aderholt in support of completing Bellefonte for tritium production because all the facts concerning safety, national defense readiness, and budgetary issues point to the Bellefonte plant as the best option, and it would bring enormous potential benefits to northern Alabama.

Commentor 610 (John J. Federico, Jr.)

1/07.03 The commentor states that he attended the scoping meetings and spoke in opposition to CLWR tritium production; but after being invited to tour the Bellefonte plant, he now believes the plant can be operated safely.

2/05.27 The commentor objects to the December 1995 Record of Decision that allowed DOE to either initiate purchase of an existing commercial reactor or buy reactor radiation services. The commentor is concerned that this decision allows DOE to purchase the Bellefonte plant if it chooses. The commentor fears that the checks and balances that are common to private industry and ensure proper oversight over commercial plants (e.g., external peer, regulatory, and fiscal reviews) would disappear because DOE nuclear defense facilities are not governed or licensed by the NRC, nor are they obligated to adhere to the Institute of Nuclear Power Operations' industrial standards of excellence. The commentor states that if Bellefonte comes on line, it must

never be allowed to become a government-owned, contractor-operated defense facility that will go unchecked by the mechanisms designed to ensure it is managed with the safety of the citizens and the environment as its primary concern. The commentor also states that DOE's environmental record has been horrific in the way it conducted its nuclear business during the Cold War, and that DOE has created numerous Superfund sites that will take years and millions of dollars to clean up. The commentor doesn't think it is smart for taxpayers to spend $4.5 billion on constructing Bellefonte up to this point and then just let the plant sit there and not produce a return on the investment.

3/06.05 The commentor asks if the reference to the 1995 Record of Decision can be deleted from the CLWR Final EIS. The commentor is concerned that if the reference stays in the EIS, then somewhere down the line DOE will have the option to purchase the Bellefonte plant and make it a defense facility. The commentor is concerned that this might occur 40 years from now at the end of the Bellefonte plant's lifetime, when the NRC won't renew the plant's license, but there is still a need for tritium. The commentor believes that DOE could then buy the plant and operate it without TVA. The commentor believes that the language referring to this Record of Decision in the CLWR EIS should be deleted, at least where it pertains to conversion to a defense facility, and the December 1995 Record of Decision should be amended accordingly.

4/17.03 The commentor is concerned about spent fuel storage. The commentor states that if the Nuclear Waste Policy Act of 1982 mandates that spent fuel will be managed at a national repository, then DOE should expedite this effort and assist in resolving the siting issues instead of creating additional onsite spent fuel storage facilities. The commentor also states that the last major planning assumption in Section S.3.2.1 on page 17 of the CLWR Draft EIS Summary should be changed to state that spent fuel rods resulting from the tritium project will be stored in an existing spent fuel facility until a national repository becomes operational, in accordance with the 1982 Nuclear Waste Policy Act.

5/14.04 The commentor believes that nothing should be done that puts citizens and the [Tennessee] River at risk. The commentor states that one cancer death in 154,000 years is too many.

6/07.04 The commentor believes that Bellefonte can safely do its part for DOE, which includes helping to keep the nation's nuclear stockpile credible while producing electricity.

Commentor 611 (State Senator Lowell Barron)

1/07.03 The commentor reports that 77 percent of respondents answering a political poll in Jackson County supported completion of the Bellefonte plant for tritium production. The commentor believes that regional public support for tritium production at the Bellefonte plant is based on the view that it would provide jobs and keep the nation's military strong. The commentor supports tritium production at the Bellefonte plant because it is safe and it is in the best interest of the nation and the local area.

Commentor 612 (David Thornell)

1/07.03 The commentor has several statements in support of completing the Bellefonte plant for tritium production from various area officials and organizations, including Mayor Louis Price of Scottsboro, Alabama; Mayor Glenda Hodges of Woodville, Alabama; Mayor Elizabeth Hayes of Hollywood, Alabama; the North Alabama Mayor's Association; and the Chamber of Commerce and its affiliated organizations. The commentor and his employer enthusiastically

support completing the Bellefonte plant for tritium production because it is both a win/win situation for Jackson County and the nation, and the wisest and best choice.

Commentor 613 (Dutton Mayor Philip Anderson)

1/07.03 The commentor believes that tritium production at the Bellefonte plant would be a very big plus for all of Jackson County and the surrounding area. The commentor asks DOE to give serious consideration to using the Bellefonte plant for tritium production.

Commentor 614 (Leroy Beasley)

1/07.03 The commentor, speaking on behalf of his professional association, supports tritium production at the Bellefonte plant because it is a positive step for TVA, for the region, and for DOE, and it can provide area residents with things they really need, such as additional electrical capacity. The commentor presents a petition signed by members of major labor unions at the TVA plants stating that they have reviewed the CLWR Draft EIS, and they endorse and support the development of the Bellefonte project. The commentor compares the $1.9 billion cost to complete the Bellefonte plant for tritium production to the cost of the accelerator option, which is conservatively estimated to be more than $9 billion.

Commentor 615 (Langston Mayor Butch Vaught)

1/07.03 The commentor, speaking on behalf of the residents of Gurley and Langston, supports completion of the Bellefonte plant for tritium production because it would provide an assured supply of tritium at the least cost to U.S. taxpayers, as well as much needed employment to an economically depressed area of the United States.

Commentor 616 (Joe Buttram)

1/07.03 The commentor, speaking for the county commission, supports the completion of Bellefonte as a nuclear power plant and for tritium production and believes the Bellefonte plant can be operated safely. The commentor thinks the people in Jackson County are generally in support of tritium production at the Bellefonte plant. The commentor states that there is nothing inherently dangerous about a United States-produced nuclear weapon. The commentor believes those in control of nuclear weapons in other countries are the problem because they do a poor job of producing them. The commentor states that if Bellefonte is completed, it will be the best and safest-designed nuclear plant ever built. The commentor thinks the dangers of operating the Bellefonte plant for tritium production would be minuscule, and that it would be good for Jackson County, the State of Alabama, and surrounding areas in Tennessee and Georgia. The commentor states that the risks area residents would be taking if Bellefonte were used for tritium production would be nothing compared to the risks other folks have taken for the nation’s safety and freedom from other powers.

Commentor 617 (Ronnie Boles)

1/07.03 The commentor, speaking on behalf of his utility board, supports completion of the Bellefonte Nuclear Plant for tritium production. The commentor states that he and his fellow board members are comfortable with both TVA's ability to safely construct and operate this facility and DOE's ability to safely transport tritium out of the area.

Commentor 618 (Richard Ward)

1/07.03 The commentor, speaking on behalf of his union, supports DOE and TVA consideration of the completion of the Bellefonte Plant as a tritium production facility in support of national defense because using the Bellefonte reactor would be environmentally safe and economically sound. The commentor states that he and his fellow union members have carefully analyzed the Congressional Budget Office's cost comparison of the tritium production alternatives, and they believe it makes no sense to consider any facility other than the Bellefonte reactor for tritium production. The commentor urges DOE to select the Bellefonte Nuclear Plant as a primary tritium production source because it would promote a cooperative effort between organized labor, TVA, and DOE that would save taxpayers billions of dollars.

Commentor 619 (Don Bevill)

1/07.03 The commentor supports TVA and the completion of the Bellefonte plant for tritium production.

Commentor 620 (Ed Mann)

1/07.03 The commentor states that of all the places where he has prepared environmental impact studies, he would rate the nuclear facilities at Athens, Alabama, and Spring City, Tennessee, as the finest examples of TVA's work. The commentor states that if these facilities are an example of the finished product that TVA intends at Bellefonte, somebody should think very seriously about completing the effort.

2/24.09 The commentor states that, when his group of retired engineers, scientists, and physicists met in April of last year, someone told them there was absolutely no increase in any kind of disease, including cancer, in areas where TVA facilities are operating.

Commentor 621 (Carl Lansden)

1/07.03 The commentor encourages DOE to make the CLWR Draft EIS a reality because, after reviewing it, he finds it difficult to believe that prudence could bring tritium production anyplace else. The commentor states that, from an economic standpoint, it is certainly desirable for the facility to be located in the area, and this is reflected in the EIS. The commentor applauds the conclusion that must evolve from the EIS—that the inhabitants of Jackson County will be the beneficiaries of the prudence displayed by DOE, TVA, and the Congressional Budget Office.

2/23.13 The commentor believes that, for the first time in modern history, the United States is enjoying a surplus in the national budget, and it would be incomprehensible to turn around and waste $8 billion to $10 billion to build a facility in South Carolina to accommodate DOE and the nation's need. The commentor can't believe that anyone who is functioning and is consistent with the needs of society would waste that type of money when there are so many other things for which it could be used.

Commentor 622 (Louvain Edmondson)

1/07.04 The commentor knows from his experience that TVA operates its plants safely.

2/07.03 The commentor has collected 450 signatures of people that have read the summary of the CLWR Draft EIS and agree that this is the right thing to do. The commentor states that they know this is a win/win situation for TVA, DOE, and the citizens of the United States and Jackson County.

Commentor 623 (Carol Lomax)

1/04.04 The commentor asks if TVA and DOE will guarantee and promise the citizens of Jackson County that mixed oxide fuel will never be used at the Bellefonte plant.

2/23.03 The commentor asks, since DOE and the TVA plants are government-owned, when will everybody in the nation be responsible for TVA's $29 billion in debt, and how soon can ratepayers expect a rate reduction from the current TVA debt (i.e., why should the ratepayers be responsible for the proposed action, which they will be, since TVA has so magnanimously offered some of the money they will be making on the production of electricity to DOE, and why isn't the rest of the nation paying for the proposed action?).

3/15.01 The commentor states that insurance companies do not cover any losses of any type of nuclear power plant accident and asks if TVA and DOE or the Price-Anderson Act would provide 100 percent of the cost of replacement for any losses suffered by the residents of Jackson County. The commentor asks for the name of an expert on Price-Anderson coverage.

Commentor 624 (Steven Stutts)

1/07.01 The commentor, speaking for his union and a joint labor council of TVA workers, states that the Bellefonte plant should be selected by DOE as the primary tritium production source to meet U.S. defense needs because nuclear power is a proven technology that is safe and environmentally friendly. The commentor supports this position with the following statements: Bellefonte can be safely operated on a daily basis by TVA; the proposed accelerator alternative is a science project at best, since no accelerator of this size has been built or operated before. TVA's fail-safe mechanisms set the benchmark for the industry. Bellefonte meets the requirements of the U.S. Department of Defense because TVA could begin supplying tritium by 2005, as mandated by the Executive Order, while the accelerator would not be able to supply tritium until 2008. The Bellefonte option would cost $13 billion less than the accelerator option. While the Bellefonte option would cost $3 billion; the money spent by DOE to complete the Bellefonte plant would be repaid to the Federal Government because the revenues from electricity sales could be paid to DOE to pay off the investment with interest. Completing Bellefonte would create 800 permanent jobs and hundreds more indirect jobs, and this would have a significant economic impact on northeast Alabama, which must be strongly considered. The commentor states that, if you take all of these factors and add the appropriation of training for future work and the future generation of crafts, it sends a very strong signal and is very solid reasoning. The commentor states that using Bellefonte for tritium production would extend the past practice of using government-owned facilities for both civil and military purposes, not set a new precedent for proliferation.

Commentor 625 (Jennifer Stephens)

1/07.03 The commentor favors completion of the Bellefonte plant for tritium production to “bring the jobs back home” so that area workers won’t be forced to leave their families and seek employment in other states. The commentor states that if tritium is not produced at Bellefonte, it will be produced somewhere else and all of the socioeconomic benefits will go to some other area of the country. The commentor does not want this to happen anymore.

2/13.05 The commentor states that, in addition to jobs, completion of Bellefonte for tritium production would benefit the local economy because workers would spend the money they earn at home, not on the road.

Commentor 626 (Delbert Shelton)

1/07.03 The commentor, after touring the Bellefonte plant, states that he was thoroughly impressed with the safety features in place, and he thoroughly supports the completion of the Bellefonte Nuclear Plant for tritium production.

Commentor 627 (Randy Hartwig)

1/07.04 The commentor, speaking for his union of TVA employees, states that they have reviewed the CLWR Draft EIS, and they agree that the environmental and health impacts associated with producing tritium in a commercial reactor would be very small.

2/12.02 The commentor, speaking for his union, agrees that there would be only minimal impact on the Guntersville Reservoir— less than 0.2 percent of the flow—and only minor impacts to other aquatic resources.

3/13.05 The commentor states that his fellow union members were ecstatic about the positive socioeconomic impacts to the area (800 jobs).

4/14.22 The commentor states that the radiation exposure for residents of Jackson County, including background radiation and radiation from the Bellefonte reactor operations, would be 355.26 millirem per year, a lower dose than the average for U.S. citizens overall, which is 363 millirem per year.

5/07.03 The commentor states that no major modifications and only a few minor ones are needed for large-scale production of tritium at either the Watts Bar or Bellefonte Nuclear Plants. The commentor, speaking for his union, believes that Bellefonte should be DOE's Preferred Alternative because of its negligible environmental impacts; absence of measurable health effects; positive economic impacts; flexible tritium production capability to meet ever-changing needs; the fact that it is a proven technology compared to the Savannah River accelerator option; the fact that there are no proliferation issues that are not manageable under existing laws and the controls associated with light water reactors; and the fact that its total cost would be less. The commentor, speaking for his union, states that TVA's engineering work force is technically robust and has consistently demonstrated its ability to solve the most difficult technical and regulatory challenges, as demonstrated by the recent "1 Rating" given to the Browns Ferry and Sequoyah Nuclear Plants.

Commentor 628 (Ronald Forster)

1/07.04 The commentor, speaking from his experience, has found TVA's safety and environmental record to be one of the highest in the industry. The commentor states that driving a car or smoking would be much more hazardous than living near the Bellefonte plant (if completed for tritium production). The commentor states that tritium production in an operating reactor is proven, safe, and efficient, and is not an experimental process.

2/07.01 The commentor's major concern is as a taxpayer; he fully supports completion of the Bellefonte plant because it could happen much sooner than construction of the proton accelerator plant. The commentor assumes that funding for completion of the Bellefonte plant would come from taxes. The commentor states that projected funding for completion of the Bellefonte plant would be approximately $2 billion, while the alternative proton accelerator plant would cost approximately $9 billion—a cost of $7 billion more to the taxpayers.

3/07.03 The commentor states that future operation of the Bellefonte plant would provide a clean source of electricity for the area and would help meet the nation's increasing demand [for electricity]. The commentor states that a portion of the revenue collected from the sale of electricity would be returned to repay the taxes used to complete the Bellefonte plant, whereas the proton accelerator plant would be non income-producing and would carry a lasting debt.

Commentor 629 (Jyles Machen)

1/07.03 The commentor states that he admires TVA and supports the Bellefonte plant facility because it would be a win for everyone involved. The commentor encourages a fair and timely decision by DOE. The commentor believes the Bellefonte site meets the budget requirements; that by choosing the Bellefonte plant more than $7 billion in Federal resources and tax dollars would be saved over the life of the program; that the Bellefonte site can meet DOE's schedule requirements because the Unit 1 reactor is more than 85 percent complete and the design requirements are firm; that it is vitally needed for the region's power grid; the nation will get its vitally needed tritium for defense, and Savannah River will get the extraction and conversion facility in South Carolina. The commentor states that some people say the Markey-Graham language in the Defense Authorization Bill, which excluded TVA, was parochial, prevented competition, and would cost billions more to risk an untested accelerator. The commentor is pleased that this language was removed in the conference between the House and the Senate. The commentor states that other people are concerned about nuclear plant safety, but there are 110 nuclear power plants operating in the United States and not a single death by radiation exposure has been documented. The commentor believes TVA is up to the job because it is the nation's largest power producer and its Browns Ferry and Sequoyah Nuclear Plants recently earned the highest performance evaluation rating possible. The commentor further states that TVA has new leadership and positive management and can again serve the nation and the region.

2/24.06 The commentor states that tritium produced at Bellefonte will be transported in its solid state to a new $400 million extraction facility at DOE's Savannah River site, which will provide employment for roughly 300 people.

Public Hearing – Evensville, Tennessee
October 8, 1998

Commentor 700 (Steven Smith)

1/06.03 The commentor asks why DOE is talking so much about the Watts Bar and Sequoyah plants if, as reported by the media, TVA has removed the plants from consideration for tritium production. The commentor understood that DOE would use Watts Bar for tritium production only if there were problems at the Bellefonte plant, and that DOE's primary objective is to use the Bellefonte plant only for tritium production. The commentor asks for clarification on these points.

2/23.22 The commentor states that using the Watts Bar plant only for tritium production clearly is the least expensive reactor option and asks why TVA let this option expire. The commentor suggests TVA's reason was to preclude the lower priced option (Watts Bar only) so that Federal monies could be obtained to finish the Bellefonte Plant.

3/23.16 The commentor requests documentation to support DOE's conclusion that purchasing irradiation services at Watts Bar would be less expensive in the near term, but more expensive over the long

term (plant life-cycle). [Commentor refers to a comparison of the tritium production costs for the Watts Bar and Bellefonte plants that DOE sent to the U.S. Congress.]

4/23.04 The commentor asks who would benefit from electricity sales revenues obtained from a completed Bellefonte Nuclear Plant—the taxpayers, TVA, or DOE?

5/17.16 The commentor asks if the speaker meant to say that: (1) reactor units at either the Watts Bar or Sequoyah plants would generate 75 percent more spent fuel if they were run at the higher rate required for tritium production; and (2) spent fuel generation would double if tritium were produced in one of the Bellefonte units.

6/03.03 The commentor asks about the size of DOE's projected target irradiation goal.

7/17.17 The commentor states that tritium production in excess of 2000 targets per year would generate additional spent fuel. The commentor requests clarification concerning whether any of the three TVA nuclear power plants is capable of managing their existing and projected spent fuel load and whether adding to it would only complicate the situation.

8/06.05 The commentor asks when DOE would use two or more facilities to avoid exceeding the Bellefonte plant's spent fuel generation limits. The commentor believes the analyses that will determine DOE's choice to use one or more reactors for tritium production should be made public because of the implications for TVA ratepayers and U.S. taxpayers.

9/06.06 The commentor is unclear concerning what the dots mean in the "measle chart" on page 3-12 of the CLWR Draft EIS and on page 18 of the CLWR Draft EIS Summary. The commentor would like to see the actual numbers, instead of dots, that were used to analyze the associated impacts of each alternative.

10/23.05 The commentor believes cost overruns are likely if TVA plants are used for tritium production. The commentor asks whether the CLWR Final EIS will include information concerning the potential liability of ratepayers for cost overruns. If not, the commentor asks why, when a TVA cost overrun in completing the Bellefonte plant would have socioeconomic impacts on TVA's debt reduction plan and, consequently, on area ratepayers. The commentor requests DOE to guarantee that the CLWR Final EIS will contain more discussion and analysis of the potential risks and consequences of cost overruns. The commentor believes that not doing so would be a mischaracterization of the NEPA process.

11/02.02 The commentor believes DOE has not made a compelling argument for the United States' near-term need for tritium, and that the CLWR Draft EIS is flawed because the numbers for the current U.S. tritium inventory are not provided.

12/03.01 The commentor believes that, before U.S. taxpayers are asked to pay several billion dollars for tritium production, the amount of tritium in U.S. inventories should be declassified and made publicly available so that citizens can determine when a real need for tritium will arise.

13/02.01 The commentor believes the United States should aggressively pursue the START II Treaty, which would extend the required date for new tritium production to 2016, or up to 2020, or to 2030.

14/05.02 The commentor believes the No Action Alternative discussed in the CLWR Draft EIS does not fully consider *no action* (i.e., avoiding new tritium production at this time); thus, it is not a true No Action Alternative under NEPA.

15/01.04 The commentor believes the discussion of nonproliferation impacts and issues in the CLWR Draft EIS is woefully inadequate. The commentor believes the United States' violation of its own nonproliferation policy, a policy that the United States seeks to impose on other countries, is hypocritical and encourages other nations to do likewise. The commentor points out that *Janes Defense Review* reports that India got its weapons tritium from a commercial reactor. The commentor believes the United States' nonproliferation concerns have significantly increased since the CLWR Draft EIS was issued, and there should be greater discussion about nonproliferation in the CLWR Final EIS.

16/01.09 The commentor disagrees with the conclusions of the authors of the *Interagency Review of the Nonproliferation Implications of Alternative Tritium Production Technologies Under Consideration by the Department of Energy*, and says this document cites no clear historic examples of using commercial nuclear facilities for military purposes. The commentor believes that by basing its assumptions about the nonproliferation impacts of CLWR tritium production on the examples cited in the *Interagency Review*, DOE is making an illogical argument and defying current U.S. nonproliferation policy.

17/23.06 The commentor is disconcerted as a TVA ratepayer to learn that, first, Chairman Crowell stated in TVA's 1996 Integrated Resource Plan that TVA will not engage in further nuclear power plant construction without a full partner, and now, under one of DOE's tritium production scenarios, TVA would invest $4.5 billion (essentially its current expenditures for construction of Bellefonte) into the partnership with DOE, resulting in someone else (DOE) completing the reactor at no additional cost to the ratepayers. The commentor believes DOE's CLWR tritium production proposal is nothing more than a thinly veiled attempt to subsidize TVA's attempts to complete the Bellefonte reactor with taxpayer money.

18/23.07 The commentor believes DOE needs to understand how delicate and fragile the contractual situation is with TVA's distributors, as well as the liabilities related to TVA's ability to meet the obligations of its 10-year debt [reduction] plan and the restructuring of the electric utility environment. The commentor believes these issues are significant and should be addressed socioeconomically to evaluate their long-term implications for the Tennessee Valley and for U.S. taxpayers.

19/06.04 The commentor asks whether the CLWR Final EIS will include information about the contractual agreements between TVA and DOE and the potential impacts of TVA's contract obligations.

20/01.02 The commentor thinks the real battle is yet to come before $2 billion is appropriated by the Congress for this project.

Commentor 701 (Ernest Haston)

1/04.01 The commentor requests a comparison of the technical risks associated with the CLWR tritium production option and the APT option. The commentor asks whether the technical risks for the two options will be included in the CLWR Final EIS or only in the final decision.

2/11.13 The commentor suggests the use of a device that measures wind velocities to gather data on prevailing winds in the region near the Watts Bar site (this device is already available at the plant).

Commentor 702 (Ralph Hutchison)

1/05.23 The commentor asks that DOE not try to intimidate or dismiss the public by saying, "Well, we're not going to do that," because commentors can only refer to the information they've been given.

2/05.30 The commentor states that the analyses of DOE's "most likely scenario" (2,000 TPBARs) are not in the CLWR Draft EIS, although some analyses apparently have been done. The commentor states that if DOE has a scenario other than those presented in the EIS, a scenario based on undeveloped, undetermined, secret information, the public can't comment on it, and that is a frustrating problem.

3/05.04 The commentor asks if DOE is going to pursue both the primary and back-up options (CLWR or APT) for tritium production; what the terms "primary" and "back-up" mean; and whether both options have been or will be developed.

4/23.16 The commentor asks whether DOE's economic analysis includes the costs of pursuing the CLWR and APT options as both primary and back-up alternatives to each other.

5/23.15 The commentor asks what percentage of the accelerator program would DOE actually pay for—i.e., of the nine billion total, how much is for the design, and vice-versa.

6/05.10 The commentor asks whether there is any incremental release of tritium from the TPBARs being tested in the Lead Test Assembly tests at Watts Bar.

7/01.02 The commentor wonders whether DOE is aware that the vote on the Markey-Graham Amendment was close and the U.S. House of Representatives was "pretty solidly in support of Markey-Graham."

8/01.05 The commentor wonders whether the *Interagency Review* panel (on nonproliferation issues associated with CLWR tritium production), DOE, etc., have decided it is permissible for India, Iraq, and North Korea to produce tritium in their commercial reactors for use in nuclear weapons.

9/01.01 The commentor thinks that many people are concerned about the United States' possession of nuclear weapons.

10/14.05 The commentor asserts that DOE would like the public to believe tritium production would have little or no environmental impacts, but says the CLWR Draft EIS states that, under the "normal operations, no accident scenario" for tritium production operations at Watts Bar, releases to the air would be 60 times higher than current levels, while total tritium releases to water would be five times greater than normal. In addition, under normal operations, the annual radiation dose for people living as far as 50 miles away from the Sequoyah Nuclear Plant would triple as a result of tritium production. The commentor further states that during accident conditions tritium releases to the air at Watts Bar would increase by nearly 300 times, and tritium releases to water would be nearly 30 times higher than normal. The commentor feels it is unfair for DOE to communicate information in the public meetings that is not found in the EIS. The commentor believes that DOE should highlight the actual expected releases of tritium to the environment to

inform the public that, while the TPBARs were reported to be virtually leakproof a year or so ago, they are now assumed to leak 1 Curie of tritium per year, which is a lot of tritium.

11/01.04 The commentor states that the attempt made in the CLWR Draft EIS to skirt the significant nonproliferation concerns of the public by citing four instances of "exceptions to the practice of differentiating between the U.S. civilian and miliary facilities," each of which involved military facilities used for civilian purposes, is disingenuous, outrageous, and absurd. The commentor states that, while some people believe it is appropriate for us to do what we demand of others, our government seems to arrogate to itself the privilege of doing whatever it chooses and denying that same privilege to other countries. The commentor objects to the statement in the CLWR Draft EIS declaring that the TVA reactors are technically owned by the U.S. Government, making them roughly comparable to past instances of government-owned dual-purpose nuclear facilities. The commentor believes this statement insults the public's intelligence and is duplicitous. The commentor states that on page F-10 of the CLWR Draft EIS, the response to the third comment on that page, DOE's assertion that tritium production is consistent with and is fully supported by the commitments of the United States under a variety of treaties, including the Nonproliferation Treaty, is a lie. The commentor reports that the International Court of Justice ruled in 1996 that the United States is not upholding its treaty obligations under the Nonproliferation Treaty, and production of tritium for the sole purpose of maintaining a large arsenal into the next century directly contradicts the United States' obligation under Article VI of the treaty.

12/21.03 The commentor states that, given the half-life of tritium, at least half of any tritium produced in the year 2005 would not be available when it is truly needed in 2016, so DOE would have to produce twice as much tritium in 2005 to meet its needs in 2016. The commentor believes that it doesn't make sense to produce tritium until it's needed, and earlier, unnecessary tritium production only increases the risks and the likelihood of environmental impacts.

13/22.01 The commentor states that the CLWR Draft EIS does not consider the risks of an attack by hostile forces on the proposed plants, but should do so because they would be making materials essential to the U.S. arsenal of nuclear weapons and would be the least protected and safeguarded of all U.S. nuclear weapons facilities.

14/05.05 The commentor states that the CLWR Draft EIS says conversion of the Bellefonte plant to fossil fuel is independent of this EIS, but also says such conversion would not occur until after a decision is made regarding the role of Bellefonte 1 and 2 in tritium production—indicating that conversion *is* dependent on the outcome of this EIS and the Bellefonte conversion EIS has been held up pending completion of this CLWR EIS. The commentor believes the CLWR EIS should acknowledge this fact.

15/13.08 The commentor states that, regarding environmental justice, it's not enough to assert that the impacts are not being disproportionately visited on people of color or low-income communities, nor is it adequate to disguise the adverse impacts on specific populations by describing a wide circle around the plant and making generalizations about the population living there. For example, the closest community to the Sequoyah plant is Soddy-Daisy, whose population is at less than half the income level for Hamilton County, which is circumscribed by a large circle.

16/20.02 The commentor states that the CLWR Draft EIS fails to include a comparison of the eventual costs of decontaminating and decommissioning Bellefonte as a nuclear site and as a fossil fuel electricity generating plant—which it should do, since those are the two possible futures for the plant.

17/01.10 The commentor states that the response to the final comment on page F-12 of the CLWR Draft EIS asserts that, "moral and ethical issues are beyond the scope of the Environmental Impact Statement." The commentor reminds DOE that NEPA clearly states an EIS must consider the whole of the human environment. The commentor believes that decisions to protect the natural environment and wildlife are moral ones, as are the inclusion of environmental justice concerns and economic issues, and it is possible to consider and even quantify the effects of many moral decisions. The commentor states that moral and ethical issues are already abundant in this EIS, and the issues raised in the scoping meeting, while uncomfortable to contemplate and difficult to quantify, deserve full consideration throughout this decision-making process. The commentor asks that DOE not forget that the CLWR EIS is about the making of weapons of mass destruction, which is a monstrous thing.

Commentor 703 (Ann Harris)

1/11.01 The commentor asks for a description of TVA's current wastewater program and procedures for cleaning up the reactor coolant wastewater prior to releasing it into the river; the schedule for testing the program to ensure its reliability; the criteria the NRC uses to monitor the program; and where this criteria may be found.

2/11.04 The commentor asks: (1) who is ultimately accountable for determining how much tritium can be released into the Tennessee River; (2) who has the authority to determine whether the procedures for the current wastewater program are correct; and (3) is the current program capable of providing complete and accurate numbers for the amounts of tritium that would be released into the river.

3/03.03 The commentor asks where in the CLWR EIS is it explained that, to meet its annual tritium production requirements, DOE probably would use a combination of the Watts Bar, Sequoyah, and Bellefonte Nuclear Plants. The commentor feels this information is hidden in the document.

4/18.05 The commentor asks whether transporting TPBARs from three different reactors in two states would increase the opportunities for a transportation accident.

5/18.06 The commentor asks whether DOE plans for a single truck to pick up irradiated TPBARs at each reactor and transport them collectively to the Savannah River Site.

6/24.13 The commentor asks for clarification concerning the cumulative effects of using three reactors simultaneously at three different sites.

7/19.06 The commentor asks why DOE assumed the failure of two TPBARS, which the commentor understands to be the national average, instead of the failure rate experienced by TVA alone.

8/14.03 The commentor asks whether DOE's analyses of the impacts of tritium production on the affected environment are based on current prevailing winds. The commentor points out that, according to the National Weather Service, 90 percent of the prevailing winds in the local area come straight up from Alabama to the [Tennessee] state line and do not expand widely. The commentor states that the graphics in the CLWR Draft EIS used to illustrate the area should be corrected because the lines run 50 miles in any one direction and do not reflect the national average for these valleys.

9/05.17 The commentor suggests DOE should not use five- and six-year old documentation for the CLWR EIS because Bellefonte hasn't had an EIS in this decade; the EIS for Watts Bar is three years old; and there have been some major weather changes recently.

10/14.02 The commentor reports that, according to the International Geological Society and the National Geology Group, it's improper to use a 50-mile radius around each of the TVA plants for impact analyses in this particular region. The commentor, therefore, believes the maximum meteorological impact assumed in the CLWR EIS in order to multiply that impact for the entire 50-mile radius is understated. The commentor suggests shaping these areas more like an oblong than a circle to account for the narrow corridor in which the prevailing winds move.

11/23.10 The commentor asks for clarification on DOE's position that, if TVA has an overrun on their bid for tritium production, DOE will not share in it and the overrun will be handled by TVA. The commentor asks what TVA will do in the case of a cost overrun.

12/15.01 The commentor wants DOE to address in the CLWR EIS how replacement costs for damage to private property would be handled if an accident occurs.

13/09.06 The commentor wants DOE to address in the CLWR EIS how TVA, the NRC, and DOE will establish a safe work environment where workers are free to raise safety issues. The commentor wants DOE to address in the EIS how workers will be protected from management abuse to the greatest and furthest extent of the law. The commentor asks the source for the numbers quoted in the EIS regarding abused employees that have been harmed as a result of raising safety issues at TVA.

Commentor 704 (Michelle Conlon)

1/05.18 The commentor believes the EIS process is very one-sided and thinks DOE and other Federal agencies may need to review it.

2/05.19 The commentor would like to see DOE's presentation of the CLWR EIS information to the public accompanied by a presentation from an independent reviewer.

3/14.23 The commentor thinks the DOE presentation failed to sufficiently emphasize the high radioactivity of tritium.

4/03.01 The commentor asks whether the amount of tritium currently stored in U.S. Government inventories is public knowledge, and if not, why not. The commentor believes the public needs to know the exact amount to make an informed decision about CLWR tritium production.

5/19.12 The commentor asks why DOE says the TPBARs would be under less stress in the reactor core than standard burnable absorber rods.

6/01.12 The commentor asks why DOE and the Federal Government are moving so quickly on tritium production, and why Secretary of Energy Bill Richardson believes he has to make the technology decision before the end of the calendar year.

7/24.06 The commentor asks whether DOE plans to proceed with extracting tritium from the irradiated TPBARs immediately after their arrival at the Savannah River Site and, if not, how long the irradiated TPBARs might be stored at the site.

8/02.02 The commentor questions the need to produce tritium by 2005 to 2007 if the plan calls for storing the tritium while it decays (i.e., wouldn't it be better to produce tritium only when it is actually needed?).

9/05.10 The commentor asks how many TPBARs were inserted into the Watts Bar reactor to conduct the Lead Test Assembly tests. The commentor is pleased to note that another person thought it was important for DOE to report the results of the Watts Bar Lead Test Assembly test because the commentor believes such information is critical to the EIS process.

10/24.22 The commentor asks how many TPBARs were inserted into the Advanced Test Reactor.

11/06.04 The commentor points to text in the CLWR EIS Summary document that describes DOE's dual track approach for tritium production and asks when DOE plans to exercise its option to purchase irradiation services.

12/23.01 The commentor wishes to make it clear that the ratepayers in Tennessee are ultimately responsible for the costs currently being incurred by TVA for the construction of Bellefonte (TVA issues bonds, but the bonds are the responsibility of the ratepayers). The commentor states that, as a result, the Federal Government's argument that it already owns the TVA plants is thin.

13/21.04 The commentor asks when the NRC's review of the Production Core Topical Report and its plant-specific reviews will be available to the public.

14/07.06 The commentor states that constructing the Bellefonte plant as a natural gas facility is just as viable as completing Bellefonte as some nuclear facility with tritium production, and both would create jobs.

15/07.02 The commentor doesn't believe that residents of the Tennessee Valley need this project to survive. The commentor, as a young person, doesn't want to live with this legacy in the Tennessee Valley and encourages DOE not to proceed with the decision to produce tritium in a civilian nuclear power plant.

16/23.10 The commentor is extremely uncomfortable with ratepayers in the Tennessee Valley being asked to subsidize DOE's nuclear power program.

Commentor 705 (Bill Monroe)

1/21.01 The commentor asks whether TVA would expect the operational technical specification limits to remain the same under tritium production.

Commentor 706 (Greg DeCamp)

1/06.03 The commentor requests clarification about which of the 18 CLWR tritium production alternatives remains practically viable after the expiration of TVA's irradiation services offer (i.e., how many of the 18 options are really practical at this point?). The commentor asks if TVA and DOE are in agreement that, despite TVA's withdrawal/expiration of its offer to sell/lease the irradiation services of the Watts Bar plant, all five of the TVA reactors are still being considered for tritium production.

2/23.08 The commentor asks if TVA's offer for tritium production includes a fixed price.

3/23.09 The commentor thinks the CLWR EIS would benefit from including more information about the actual costs of the various alternatives and the implications of the costs for the specific economic proposals being considered (e.g., if the project costs $1.9 billion, who will be responsible for supplying the rest of the money if the costs exceed the fixed price?).

4/23.10 The commentor asks if TVA plans to pass on the cost of an overrun on its fixed price contract with DOE to ratepayers and, if not, is TVA subsidized by some other means.

5/24.10 The commentor asks for clarification of a statement found in the CLWR Draft EIS summary that indicates no design changes would be necessary to complete Bellefonte for tritium production. The commentor suggests the clarification be added to the summary document for the CLWR Final EIS.

Commentor 707 (Michelle Caratoo)

1/06.05 The commentor asks to know if DOE's preferred choice for tritium production would involve several different sites. The commentor believes it might simplify the process if all the necessary activities were performed at one site.

2/18.07 The commentor believes the additional shipping requirements for tritium production are likely to cause accidents and traffic problems. The commentor believes the transportation accident risk found in the CLWR Draft EIS is exceedingly low—less than one fatal accident per hundred thousand years is unrealistic. The commentor wonders whether other agencies like the Tennessee Emergency Management Agency or Federal Emergency Management Agency have plans to deal with any accidents, because accidents are inevitable in any line of work.

3/02.02 The commentor asks if the new tritium produced between 2005 and 2007 would likely decay if it has to wait 20 years before it's used and, if so, wouldn't it be better to produce it only when it is actually needed. The commentor asks why new tritium production couldn't wait until 2017 if the United States does not need tritium until 2020. The commentor thinks that, if we don't need tritium until 2020, perhaps we can spend a little more time investigating different ways to make it, and maybe the accelerator or some other way would be a simpler procedure.

4/24.03 The commentor asks if the amount of tritium now possessed by the United States is losing its efficiency or is leaking somewhat and, if so, is there no way to prevent this loss.

5/01.04 The commentor considers the Nonproliferation Treaty to be something important that the country has signed and believes we need to start keeping our treaties.

6/01.09 The commentor doesn't want other countries to use their civilian nuclear facilities for military purposes, so the United States needs to set a good example and do likewise. The commentor doesn't recall any other place in the United States where new nuclear facilities to produce energy or military products are being used. The commentor wonders why TVA is opening a new facility at this time. The commentor believes this activity is contrary to the current national trend, and there is probably a good reason for that trend.

7/08.02 The commentor is concerned that there is so much left from past [weapons] projects to clean up, such as at Oak Ridge and other facilities. The commentor wonders who is responsible for doing that and whether that's something we also could be working on at the same time.

8/23.13 The commentor believes it doesn't make sense to start a new project when the previous ones haven't been completed and these would probably take a great number of brilliant engineering minds and many jobs to clean up. The commentor would like to see the U.S. Government work on that, starting now—perhaps with the use of Superfund monies The commentor would like part of the Federal budget to be spent developing more renewable energy resources for the present and the future instead of starting new nuclear projects.

9/05.24 The commentor invites DOE to do a presentation on CLWR tritium production in Nashville, Tennessee.

10/12.01 The commentor is concerned that TVA is divesting some of its recreational properties, like the Land Between the Lakes, and putting so much energy into this project. The commentor would like TVA to keep that project and maybe turn it over to the Wildlife Resources Agency or some other agency to maintain. The commentor believes it is not fair to take land from private citizens for valley uses and then just dump it to some other agency; the land should go back to the people or some other thing like that.

11/23.11 The commentor is concerned about TVA's debt—maybe TVA should take a little breather before starting another project and incurring more debt.

12/20.04 The commentor is concerned that the costs for eventually mothballing and decontaminating TVA's plants will be very high and this issue was not addressed in the CLWR Draft EIS.

13/24.02 The commentor is concerned that, whether we're producing electricity or making tritium, it seems like we pick the most complicated processes—like nuclear energy, which is a very complicated way to make steam or heat or boil water. The commentor wonders if using highly complicated processes make mistakes and failures more likely. The commentor suggests more time should be spent figuring out how to make the process (nuclear power) safe, or it should be abandoned until we can find a safer way to do this.

14/20.01 The commentor wonders who will be responsible for the cleanup of this project, because many jobs could be created by cleaning up past projects.

15/13.05 The commentor believes tritium production may not be the best way to create jobs.

16/04.04 The commentor states that burning uranium and mixed oxide fuels, as is occurring at Oak Ridge, is not an acceptable way of dealing with the waste. The commentor would like to see the development of a better way of dealing with it.

17/14.24 The commentor believes the cancer fatalities listed under environmental impacts in the EIS are exceedingly low and inaccurate, if recent newspaper stories are true.

18/20.03 The commentor thinks DOE and TVA should consider the long-term effects and the cleanup and the decontamination aspects of CLWR tritium production, which are all parts of the process, before starting such a project.

Commentor 708 (Bill Griffith)

1/07.03 The commentor and his employer have reviewed the CLWR Draft EIS and offer their compliments to DOE on its thoroughness. The commentor also agrees with the EIS conclusions

concerning the public safety and environmental impacts of CLWR tritium production at the Bellefonte nuclear power station.

Commentor 709 (Fred Boggess)

1/07.03 The commentor and his labor union agree with the conclusions of the CLWR Draft EIS and support completion of the Bellefonte plant for tritium production because it is both economical and good for the taxpayers and ratepayers of the valley.

Commentor 710 (Leroy Beasley)

1/07.04 The commentor believes the Bellefonte plant is probably the safest and the best documented nuclear plant that TVA has, and that the plant would "stand head and shoulders" above most of the nuclear plants designed in America. The commentor has no concerns about the safety of TVA's other nuclear plants.

2/07.03 The commentor and his organization have reviewed the CLWR Draft EIS, and they accept and support its conclusions about the completion of the Bellefonte nuclear plant.

Commentor 711 (Louvain Edmondson)

1/07.04 The commentor and his organization are confident that TVA's nuclear plants are safe. The commentor recognizes the need for tritium to preserve the U.S. nuclear deterrent. The commentor takes issue with charges that TVA is always "over budget and over schedule," citing record performance at the Sequoyah plant. The commentor brought a petition to the last public meeting with 450 signatures of people, mostly engineers, who had read the CLWR Draft EIS summary and agreed with its conclusions. The commentor has brought an additional 69 signatures to present to this meeting and states that his organization, the engineers at the Sequoyah plant, and many people from the Bellefonte plant are in full support of CLWR tritium production. The commentor believes CLWR tritium production is the right thing for the people of the valley and of the nation because all the people can benefit from it and it will save the ratepayers a lot of money.

Commentor 712 (Linda Ewald)

1/10.03 The commentor is opposed to tritium production because of the increased risk of environmental contamination.

2/14.04 The commentor is opposed to tritium production because of human health hazards.

3/16.04 The commentor is opposed to tritium production because of nuclear waste production.

4/01.10 The commentor is opposed to tritium production because of the immorality of its use in nuclear weapons.

5/02.02 The commentor believes the United States does not need tritium by the year 2005. By DOE's calculations, the United States can maintain its current, huge arsenal without producing tritium until 2016. The commentor believes that if the [U.S. nuclear] arsenal is reduced, as experts claim it can and should be, no new tritium would be needed until 2032. The commentor believes that Federal funding to begin tritium production by 2005 would be wasted because, with tritium's decay rate, half of the tritium produced would be gone by the time it is actually used.

6/23.13 The commentor suggests the $2 billion for tritium production would be better used to create 20,000 valuable jobs.

7/01.04 The commentor believes that CLWR tritium production would be a violation of the 1970 Nuclear Nonproliferation Treaty. The commentor thinks it is hypocritical for the United States to criticize other nations for their use of commercial reactors to produce nuclear weapons material while we make plans to produce tritium in our civilian reactors. The commentor states that, as a taxpayer, a ratepayer, and a human being, she does not want to support the production of tritium or any other nuclear weapons material. The commentor thinks that weapons of mass destruction threaten all of creation, and DOE's CLWR tritium production proposal sets a precedent that will destroy the United States' national nonproliferation efforts. The commentor urges the individuals with the power to make decisions to consider the long-term consequences of tritium production and whether the short-term gain is worth the risks to our health, our home, and our future.

Commentor 713 (Steve Tanner)

1/05.20 The commentor commends DOE and TVA for the thoroughness and depth of the CLWR Draft EIS. The commentor believes that all the potential impacts have been identified and thoroughly evaluated.

2/23.15 The commentor believes the APT option is a way for some people to fund their own retirements through a pork barrel program paid for by taxpayer dollars.

3/01.02 The commentor believes that political considerations are the only reason for proposing to site the accelerator in South Carolina. The commentor is pleased that, in making decisions about tritium production, some members of Congress have kept DOE on the steady path of determining what is best for the United States and have supported basing the decision on merit, not politics.

4/01.04 The commentor believes that, until total world nuclear disarmament is achieved, the right action is for the United States to maintain a safe and reliable nuclear deterrent, which will require tritium. The commentor believes that building an accelerator as a new nuclear defense production facility that is part of the nuclear weapons complex is not the right action because: (1) the accelerator facility would be capable of producing fissile materials such as plutonium and uranium and would be controlled by the nuclear weapons complex; (2) it probably would not be subject to International Atomic Energy Agency accountability inspections; and (3) it would use technology that is not under current export controls, carries high risk and has major proliferation implications. The commentor believes that DOE's purchase of irradiation services through a financial arrangement with TVA that allows the completion of Bellefonte is consistent with the direction the United States has been taking regarding military versus civilian technology uses. The commentor thinks that DOE's dual-use technology policy recognizes that the nation can no longer afford to maintain two distinct industrial bases and allows the armed forces to exploit commercial industry's rate of innovation to meet defense needs.

5/07.01 The commentor believes the right action for tritium production is to use a CLWR because it would support the dual-use technology policy. The commentor believes tritium production would not violate any laws, treaties, or policies. The commentor believes tritium production would provide greater government control in the DOE nuclear weapons complex, which is managed by private sector companies who are in business for profit, while TVA reactors are managed and operated by government employees.

6/06.05 The commentor recommends that DOE identify the Bellefonte facility (backed up by the Watts Bar as needed) as its Preferred Alternative in the CLWR Final EIS.

7/04.01 The commentor requests DOE to move expeditiously to eliminate any further funding of the APT project or, at a minimum, rename that project the "Fund Our Retirement Production of Tritium" project.

Commentor 714 (Clyde Caldwell)

1/07.03 The commentor states that he, together with his union and the members of his local trades and labor council, favors completing the Bellefonte plant because it is a win-win situation for the country, TVA, and the citizens of this valley. The commentor informs DOE that TVA has a $4.5 million investment sitting in northern Alabama and, because of the number of construction workers required, completing and operating Bellefonte for tritium production will provide employment and associated economic benefits not only for northern Alabama, but also for eastern Tennessee and all the way to Birmingham (in central Alabama). The commentor states that completion of the Bellefonte plant would allow TVA to recoup part of its $4.5 million investment while producing badly-needed tritium to secure public safety and security. The commentor states that the Bellefonte plant is one of the highest quality plants that's ever been built in the nuclear industry. The commentor, because of the lessons learned in completing the Watts Bar plant, does not anticipate significant problems in completing the Bellefonte plant and encourages DOE to use the Bellefonte facility for tritium production. The commentor is not concerned about the safety of TVA nuclear plants. The commentor states that safety is not a major concern of the people he represents because they intend to operate the [TVA] plants and build them as safely as they can be built. The commentor believes that nuclear is a clean, safe power source. The commentor points out that, although he’s heard about the danger of tritium, he has some tritium on his watch face and has seen it in nursery decorations and other things for children. The commentor believes tritium production is necessary because the United States cannot defend itself without nuclear weapons.

2/24.11 The commentor wants to make it clear that TVA will own the facility and at no time will it be sold or given to DOE.

Commentor 715 (Ronald Forster)

1/07.03 The commentor and his company have reviewed the CLWR Draft EIS and agree wholeheartedly with the safe production of tritium in a CLWR. The commentor, after investigating regional electricity rates, believes an increase in TVA’s rates would be justified in return for enabling TVA to pay off some debt, change the liability of the Bellefonte plant into an electricity-producing asset, and use the revenues from Bellefonte to repay some of the tax monies used to complete the plant. The commentor, as a taxpayer, wants to see things completed sooner rather than later and believes the Bellefonte plant would be completed sooner for tritium production than the accelerator. The commentor believes the United States needs to have the availability of a tritium production source and needs to make the decision about where to produce it. The commentor believes completion of the Bellefonte plant makes sense to meet the increasing need for electricity in the area and to help stabilize rates. The commentor believes that $2 billion to complete Bellefonte for tritium production, relying on a well documented technology that works better than expected, versus $9 billion to build an accelerator for tritium production, using an untested, unknown, experimental version of the technology, should be a logical decision for taxpayers.

Commentor 716 (Jennifer Stephens)

1/07.03 The commentor favors completion of the Bellefonte plant for tritium production to "bring the jobs back home" so that area workers won't be forced to leave their families and seek employment in other states. The commentor states that, in addition to jobs, completion of Bellefonte for tritium production would benefit the local economy because workers will spend the money they earn at home, not on the road. The commentor states that, if tritium is not produced at Bellefonte, it will be produced somewhere else and all of the socioeconomic benefits will go to some other area of the country. The commentor does not want this to happen anymore.

Commentor 717 (James Roberson)

1/07.04 The commentor supports TVA management and employees in operating a tritium-producing facility because they have proven they can handle related plants and projects for the people of the United States. The commentor states that the Tennessee Valley has expertise available [to support tritium production].

Commentor 718 (Rex Wilson)

1/07.03 The commentor and his labor union urge the completion of Bellefonte and the use of Sequoyah and Watts Bar as backup units. The commentor appreciates TVA for bringing electricity to the area. The commentor believes TVA is fair with people. The commentor urges DOE to do the right thing and select Bellefonte, finish it, use it, and then use Watts Bar and Sequoyah as backup units to bring some jobs in the area.

Commentor 719 (Mark Wheeler)

1/03.01 The commentor asks if the U.S. tritium supply is classified. The commentor wonders how persons who have access to that classified information can say we need more tritium by 2005, but others who don't have access can come up with figures like 2016 and 20 years and 30 years down the road. The commentor is not willing to make an assumption and risk national security.

2/23.15 The commentor understands the cost of the Bellefonte option is estimated at about $2 billion, and the accelerator at the Savannah River Site would cost about $9 billion. The commentor suggests the cost estimates for each option indicate which is the best.

3/07.03 The commentor believes that, as tritium production will occur somewhere, it should be done in the local area where area residents can benefit from it. The commentor and his labor union strongly support tritium production at Bellefonte because it will be safe, great for the country, and great for the Tennessee Valley.

4/05.20 The commentor thinks the CLWR Draft EIS does an excellent job covering the options and statistics.

5/07.04 The commentor, who works at the Sequoyah plant, has absolutely no safety concerns and is very impressed with the plant's redundant safety systems. The commentor, speaking as an official of his labor union, states that the workers know how safe the plant is and if they thought anything was unsafe, they would be opposed to building these plants.

Commentor 720 (Terry Johnson)

1/01.01 The commentor believes the United States' nuclear deterrence policy and program has worked, and we need to continue to make it work.

2/08.02 The commentor thinks one of the biggest problems affecting CLWR tritium production is that, because of past history, we don't trust each other.

The following commentors (800 through 835) made comments at the December 14, 1998, public meeting concerning TVA's latest proposals to DOE for use of Watts Bar, Sequoyah, and Bellefonte.

Public Hearing – Evensville, Tennessee
December 14, 1998

Commentor 800 (John Johnson)

1/24.24 The commentor asks what "point of departure" means as used in the slide presentation.

2/23.02 The commentor asks that, given the costs of $11 billion and 23 years to complete the Watts Bar Plant, why does DOE think they can complete the Bellefonte Plant for less.

3/16.01 The commentor asks what DOE will do with the nuclear waste generated by tritium production.

4/05.31 The commentor states that it is bad timing to hold the meeting during the holiday season and complains that he did not receive any personal notice of the meeting, although he is on the stakeholder mailing list.

5/01.04 The commentor states that he is opposed to tritium production because it violates the spirit of the Nonproliferation Treaty and sends a wrong message to other countries.

6/01.01 The commentor states that the Cold War is over. The commentor urges DOE to obtain tritium from existing nuclear weapons. The commentor states that tritium production will subvert the human race to the will of the national security state, serves the imperatives of technology, is all about money, greed, and death, and demands that DOE cease and desist in its tritium production plans at once.

7/24.21 The commentor asks what DOE will do if TVA is dismantled as a result of deregulation.

8/24.19 The commentor asks if DOE and TVA are in Y2K compliance.

9/08.02 The commentor states that DOE's track record belies its promises.

Commentor 801 (Ronnie Boles)

1/06.03 The commentor asks whether TVA has a legal or contractual obligation to partner with DOE on any of the current tritium proposals.

Commentor 802 (Michelle Conlon)

1/05.27 The commentor asks whether DOE still has the option to buy a reactor.

2/23.23 The commentor asks what effect irradiation services at Watts Bar and Sequoyah Plants will have on ratepayers, and whether electric rates would change.

3/05.10 The commentor asks what will be done with the TPBARs used in the Lead Test Assembly demonstration at Watts Bar and when will it be completed. Since tritium will not be extracted from the TPBARs used in the lead test assembly demonstration, how will we know the production process works without extracting the tritium.

4/05.31 The commentor criticizes the process and states that it appears there has been a lot of discussion after the public comment period was closed. The commentor suggests DOE do things differently in the future. The commentor complains that she did not get copies of Chairman Crowell's letter before this meeting and says this is unfair.

5/01.15 The commentor warns Vice President Gore about the damage his support for the proposed action will do to his presidential campaign in 2000.

The commentor submits the following document along with her written statement: Zerriffi, Hisham and Herbert Scoville, Jr., *Tritium: The Environmental, Health, Budgetary, and Strategic Effects of the Department of Energy's Decision to Produce Tritium,* Institute for Energy and Environmental Research, Takoma Park, Maryland, January 1996.

Commentor 803 (Steven Smith)

1/23.24 The commentor asks for clarification regarding the [cost] numbers given for the Watts Bar and Sequoyah Plants in the presentation. What is the breakdown that led to TVA's estimate of $85 million for irradiation services. The commentor further suggests that TVA is inflating the taxpayer costs to make the Bellefonte option more attractive.

2/01.07 The commentor asks why DOE cannot use off-spec blended-down HEU at Sequoyah for tritium production.

3/08.02 The commentor states that every place DOE has made tritium is now a nuclear waste site, and asks why DOE cannot be honest about it.

4/24.31 The commentor asks why TVA proposed only 25 years, noting that the Watts Bar Plant came on line in 1986-1987, and should theoretically have 30 years left for tritium production.

5/05.31 The commentor complains that there was not enough time to respond to the meeting notice.

6/01.04 The commentor states that he is opposed to the use of CLWRs for tritium production since, regardless of which option is chosen, the nonproliferation issue remains.

7/01.15 The commentor warns Vice President Gore about the damage his support for the proposed action will do to his presidential campaign in 2000.

8/23.05 The commentor states that the Bellefonte option is a risk to ratepayers because of the danger of cost overruns. The commentor warns that ratepayers will "foot the bill" if Bellefonte cannot be completed for under $2 billion, and the commentor believes it cannot be done.

9/05.05 The commentor states that TVA should submit to the record its three scenarios for Bellefonte from its completion plan.

10/07.03 The commentor states that only those persons in Alabama who will benefit directly from completion of Bellefonte support this option; a silent majority oppose it.

11/02.01 The commentor states that DOE should not commit to using Bellefonte while arms reduction efforts are moving ahead.

Commentor 804 (Cheryll Dyer)

1/05.27 The commentor asks if TVA is overseen by the state and OSHA regulations, and would this oversight cease if TVA partners with DOE to produce tritium.

Commentor 805 (Ralph Galt)

1/01.04 The commentor asks whether it is true that the United States promoted the Nonproliferation Treaty to encourage the world's weapons states to stop production and reduce their stockpiles and to persuade nonweapons states to not make nuclear weapons. The commentor asks whether the U.S. Government is violating the Nonproliferation Treaty by making new nuclear weapons. The commentor asks whether the United States is working towards further reductions or maintaining the high level of the stockpile. The commentor asks whether the United States is required to wait for the Russians to ratify the START II treaty before making the agreed-upon reductions. Does the United States have to wait for the international community to agree to arms reduction before it can reduce its nuclear weapons stockpiles. The commentor asks whether U.S. law takes precedence over the Nonproliferation Treaty.

Commentor 806 (Mike Womacks)

1/23.25 The commentor asks how TVA can reduce its estimated costs for completing the Bellefonte Plant for tritium production. The commentor asks whether ratepayers would have to pay more to make up the $.5 billion difference.

2/23.07 The commentor asks whether residents of Scottsboro, Alabama, would see their rates go up or down as a result of tritium production at Bellefonte.

3/13.05 The commentor states that citizens of Jackson County will not receive the benefit of either short- or long-term jobs.

4/01.02 The commentor states that congressional support is not universal, and the majority of local citizens are not in favor of using Bellefonte for tritium production.

5/23.22 The commentor asks why TVA did not include the negative EIS comments in their latest offer letter to DOE.

6/13.06 The commentor states that, if Bellefonte is used, local property values will go down and taxes will go up and that the local school system cannot support the extra students.

7/07.06 The commentor states that he supports Bellefonte being converted to a natural gas facility.

8/02.01 The commentor states that the United States has enough nuclear bombs, so it is not necessary to make more tritium.

9/07.07 The commentor suggests that if it is necessary to make tritium, DOE use an existing facility rather than contaminate a new area.

Commentor 807 (Linda Ewald)

1/01.13 The commentor asks what is special nuclear material, and why tritium is not a special nuclear material.

Commentor 808 (Ernie Chaput)

1/05.29 The commentor asks if the Secretary would make the technology decision before the final tritium production EISs (CLWR and APT) are completed.

2/05.32 The commentor asks how DOE can make a technology decision when the EIS has not been completed and questions on the safety analysis and environmental impacts in the CLWR Draft EIS have not been addressed. The commentor asks whether the Secretary could change his decision after the final EISs (CLWR and APT) are published. The commentor suggests that DOE is ahead of the NEPA process in making the technology decision before the safety issues are identified and publicly addressed in the final CLWR and APT EISs.

3/03.04 The commentor, citing the 2.5 kilogram requirement, says that the CLWR Draft EIS isn't clear as to how many reactors would be needed. The commentor asks whether the Bellefonte option refers to Bellefonte only, or to Bellefonte and another reactor, and would two reactors be used for tritium production in all cases. The commentor asks where in the CLWR Draft EIS does it mention a 12-month cycle for tritium production at Bellefonte? The commentor asks whether DOE submitted materials to the NRC for review and whether the NRC is reviewing the 12-month cycle option.

4/24.31 The commentor asks why TVA's irradiation services proposal is for 25 years when the original programmatic proposal was for 40 years. The commentor also asks whether the requirements had changed.

Commentor 809 (Gary Drinkard)

1/23.23 The commentor asks whether residents of Rhea County would receive a tax break for the risks associated with tritium production at Watts Bar and Sequoyah.

2/05.31 The commentor notes that the meeting was called hastily, suggesting that DOE prefers the Watts Bar and Sequoyah option and speculating whether DOE was tipping its hand.

3/05.29 The commentor asks why "input from area residents" was not included in the decision criteria shown in the presentation.

Commentor 810 (Fred Boggess)

1/21.08 The commentor asks whether the license to finish the Bellefonte unit is still in effect.

2/23.26 The commentor also asks whether TVA has begun paying back the principal on the debt.

3/23.27 The commentor asks whether DOE has determined which reactor method is the most economical way to produce tritium over the 25- or 30-year production period.

Commentor 811 (Ann Harris)

1/01.06 The commentor asks why DOE has not made it clear that the IAEA does not do any kind of evaluations – they accept the word of the U.S. reactors.

2/19.14 The commentor asks who is going to fabricate the tritium rods that DOE would use in the Watts Bar reactor. The commentor asks whether DOE will examine the fabricator's past performance specifically with regards to cladding. The commentor notes there is massive decay of the cladding in the rods that would cut down on the production of Watts Bar, and suggests that DOE would derate the plant even more. The commentor also asks whether one-cycle use would cut power production at Watts Bar.

3/24.25 The commentor notes that both EPA and the Occupational, Safety, and Health Administration say they have Memorandums of Understanding with TVA that allow an exchange of paperwork instead of onsite inspections. The commentor asks where he can obtain copies of these Memorandums of Understanding.

4/01.14 The commentor asks DOE to consider buying the 14 kilograms of tritium available from a Canadian source.

5/14.04 The commentor expresses concern that tritiated water is readily absorbed by the human body and by metal. The commentor is concerned that using Watts Bar for tritium production will turn it into a superfund site, since the Watts Bar Plant metal structures will absorb the tritium.

6/14.25 The commentor quotes statistics on the dangers of tritium and calls it "nuclear thalidomide."

7/09.10 The commentor expresses concern about the safety of the primary coolant system at the Sequoyah and Watts Bar Plants, saying the systems are badly designed and are virtually inoperable at any given time.

8/01.15 The commentor warns Vice President Gore about the damage his support for the proposed action will do to his presidential campaign in 2000.

Commentor 812 (Jackie Kittrell)

1/05.26 The commentor asks what steps will occur once the Secretary makes his technology decision at the end of the month, and will there be opportunities for public input during this process.

2/21.07 The commentor asks what would be the NRC time line for licensing once a decision has been made to use Watts Bar for tritium production.

Commentor 813 (Jimmy Wilkey, Rhea County Executive)

1/24.27 The commentor asks if TVA was the only organization to offer a bid in response to DOE's Request for Proposals for CLWR tritium production.

2/13.07 The commentor asks whether the economic impact of using Watts Bar or Sequoyah for tritium production would be positive or negative. The commentor also asks that the welfare of the citizens of Rhea County be included in DOE's deliberations and notes that Bellefonte would have greater and more positive economic impact.

Commentor 814 (Ronald Forster)

1/24.26 The commentor asks whether tritium production would shorten the life span of the Watts Bar or Sequoyah units.

2/07.08 The commentor states that he favors the completion of the Bellefonte Plant for tritium production because it would produce additional electricity, provide economic benefits to the region, and enable a payback of taxpayer dollars. The commentor states that he is opposed to tritium production at Watts Bar and Sequoyah because it could reduce plant operating lifetimes and would offer no real economic benefits.

Commentor 815 (H. M. Fagan)

1/24.27 The commentor asks how many organizations are qualified to do this job that didn't want it. The commentor asks why TVA bid on DOE tritium production. The commentor asks why TVA had no competition.

2/06.03 The commentor asks whether this is a case of two government agencies (DOE and TVA) "scratching each other's back" to produce tritium. The commentor asks whether the Savannah River Site and some other utilities were considered as potential sites.

3/09.03 The commentor notes that TVA is expanding its responsibilities from power production to weapons production, and asks whether tritium production would influence TVA to move further into weapons and defense-related activities.

4/14.04 The commentor asks how tritium production would affect TVA's ability to maintain current levels of public health risk around its reactors. The commentor asks whether tritium production is going to increase the amount of radiation leakage and risk to the public from dangerous materials at Watts Bar.

Commentor 816 (Carol Womacks)

1/24.28 The commentor asks when the last environmental impact study was done using Bellefonte as a nuclear reactor without tritium production.

2/23.12 The commentor asks how the $2.9 billion will be dispersed if tritium production takes place at the Watts Bar Plant.

Commentor 817 (Chris Lugo)

1/05.21 The commentor asks whether the public has the right to say no if DOE chooses the Watts Bar and Sequoyah Plants for tritium production, and, if so, how is this done. The commentor also asks what their legal recourse would be.

2/01.09 The commentor asks whether tritium production in a CLWR would violate the Atomic Energy Act, and who decided it would be acceptable to produce tritium in a CLWR.

3/02.01: The commentor states that tritium production is about death and bombs and that the whole cycle of consequences resulting from the use of nuclear weapons should be considered in making a decision about tritium production. The commentor states that he is opposed to tritium production in general.

Commentor 818 (Patty Fagan)

1/08.03 The commentor asks where tritium has been produced before, and requests a list of these places.

2/14.04 The commentor asks how safe is tritium. The commentor expresses belief that TVA had made fishing in local waters impossible, and is concerned about the effects of tritium production on regional air and water.

Commentor 819 (Don Clark)

1/08.04 The commentor notes past tritium leaks at Brookhaven National Laboratory, and asks why the tritium was allowed to get into the groundwater. The commentor also asks why the tritium leaks were not discovered at Brookhaven National Laboratory for 20 years; what are DOE and Brookhaven National Laboratory doing about the leaks, and what can they do about it.

The commentor submits the following documents along with his written statement:

"Nuclear Regulatory Commission Public Hearing, Testimony of Donald B. Clark," Sweetwater, Tennessee, August 7, 1997.

"U.S. Department of Energy CLWR Environmental Impact Statement Public Meeting, Testimony of Donald B. Clark," Evensville, Tennessee, February 26, 1998.

Ferguson, Charles, and Frank Von Hippel, "U.S. Tritium Production Plan Lacks Strategic Rationale," *Defense News* 29 (December 7-13, 1998).

"Nation Shirks Duty to Nuclear Victims,"*The Tennessean*, September 29, 1998.

Commentor 820 (Roy Priest for U.S. Congressman Bud Cramer)

1/07.08 The commentor states that Congressman Cramer supports the Bellefonte option on the grounds that it is more cost-effective, offers economic benefits such as cost recovery over the lifetime of the contract, and is very much supported by state and local officials and area residents. The Watts Bar and Sequoyah irradiation services option would offer none of these benefits.

Commentor 821 (Charles Dotson)

1/07.03 The commentor states that the Bellefonte option is the cheapest and most effective choice over the long term, and it would create jobs and help the economy.

Commentor 822 (Calvin Underwood)

1/07.08: The commentor states that he supports the Bellefonte option because of the positive impacts it would have on ratepayers, taxpayers, and the area workforce. Only this option would increase jobs. The Bellefonte option is the only option fully compatible with the programmatic requirements. Bellefonte offers a dedicated facility with a flexible schedule that can adapt to programmatic changes in requirements. It would be difficult to deal with such changes at a nondedicated baseload plant like Watts Bar or Sequoyah. Also, cost factors favor Bellefonte—it would be the best option for DOE, TVA, the United States, and TVA ratepayers.

Commentor 823 (Steve Tanner)

1/07.08 The commentor notes that DOE has stated the selection criteria being considered. One criteria not listed, which is stated in public law, involves the "liabilities and benefits of the technologies, including benefits like revenues." They (the commentor's family) believe TVA's Watts Bar and Sequoyah option would not be the best choice for tritium production for three reasons.

First, the offer commits two baseload nuclear plants to a mission that would no longer be solely power production. This would place a liability on TVA and would increase risks to TVA's ability to produce reliable, low-cost power for its customers, the ratepayers.

Second, there are no direct benefits from the Watts Bar/Sequoyah offer to Hamilton or Rhea Counties or the State of Tennessee. The offer provides no new jobs and no increase in the tax base. It does not salvage use of an existing government asset; provides no revenue-sharing to DOE; and does not add the positive environmental benefit of new power generation without emission of greenhouse gases.

Third, the overall cost is higher than that of the Bellefonte option. Although the Watts Bar offer comes with low annual payments, the total long-term cost is higher than the Bellefonte offer and the term is shorter.

The commentors, therefore, believe that Bellefonte would be the best choice for tritium production because it meets the selection criteria; offers the lowest cost to taxpayers; does not come with the liabilities and risks of a baseload plant; and provides distinct local and national economic benefits.

The commentors point out that DOE must not forget that it has other missions in addition to national security. DOE's core mission statement begins with the words, "To foster a secure and reliable energy system that is environmentally sustainable,...." During the Fiscal Year 1999 budget process, DOE states that it had established five key goals that drive all its strategic planning and budgetary decisions. Three of these goals are directly supported by the selection of Bellefonte, but are not supported by the selection of Watts Bar and Sequoyah.

Selection of Bellefonte would:

- Promote clean, efficient energy and enhance energy security through provision of new nuclear power generation capacity.
- Stabilize and protect the environment by preventing new fossil-fueled generation that would result in greenhouse gas emissions.
- Stimulate U.S. economic productivity through job creation and multiregional economic development.

The commentors contend that the Secretary of Energy should not select merely an acceptable option, but should select the option that, using the Vice President's words, is in the "best interest of all citizens."

Commentor 824 (Joseph Imhof)

1/01.09 The commentor states that he opposes the use of commercial facilities for weapons use.

2/ 07.08 The commentor believes the best policy is one that entails the least amount of harm to the fewest humans and biological entities. Therefore, the impact of tritium production should be minimal. The commentor believes existing facilities should be used for tritium production whenever possible without impacting new areas of population and generating additional expense to U.S. taxpayers. Use of existing facilities would avoid creating new health risks and environmental concerns. The commentor believes Watts Bar should be the main unit for tritium production, with Sequoyah as a backup facility. Bellefonte should be considered for use as a natural gas electric power production

facility, which would cost billions less than its completion as a nuclear power plant. Bellefonte should not be considered for use as a coal-fired plant because this would make it a source of acid rain and particulate matter, which would aggravate people with respiratory illnesses.

Commentor 825 (Ralph Hutchison)

1/01.01 The commentor is in favor of arms reduction and eventual nuclear disarmament.

2/14.05 The commentor states that, according to the CLWR Draft EIS, tritium production at Watts Bar under normal operations would increase tritium released to the air by slightly less than 300 times. Tritium released to area water sources without tritium production at Watts Bar is 639 Curies compared to 17,649 Curies from tritium production. In addition, radiation doses to area residents is 10 times higher than normal under tritium production.

3/02.01 The commentor submits a letter to the Secretary from himself and other area residents asking DOE not to produce tritium at any of the TVA plant sites or at the Savannah River Site.

Commentor 826 (Jimmy Sandlin)

1/07.08 The commentor states that the people of Jackson County, Alabama, support tritium production at Bellefonte and are opposed to tritium production at the Watts Bar/Sequoyah Plants because it would compromise the region's power supply under moderate and extreme loading conditions. Tritium production at Bellefonte would add 1,200 megawatts to the TVA power system, which would decrease the risk of sharp price increases and increase stability. Selection of the Watts Bar/Sequoyah Plants would increase price instability because the generation capacity supplied by the plants could be interrupted if DOE needs to extract tritium during extreme load conditions. If TVA nuclear generation were not available, wholesale power costs would rise, thereby jeopardizing municipal and cooperative electric distribution systems. The commentor states that the Tennessee Valley Power Distributors unanimously support completion of Bellefonte for tritium production.

Commentor 827 (Louvain Edmondson)

1/07.03 The commentor states that Bellefonte is the best choice for tritium production because there is substantial congressional, state, and local support. Also, a dedicated unit is preferable to a baseload plant that would lose power generation if put on a 12-month schedule, resulting in negative impacts to ratepayers. Bellefonte would provide additional generation capacity without greenhouse gas emissions, as well as economic benefits such as jobs and cost recovery via revenues.

Commentor 828 (Monica Blanton)

1/01.09 The commentor states that the United States should follow the nonproliferation policy it espouses to other nations by not using commercial facilities for weapons production. The commentor states that the proposed action blurs the line between civilian and military nuclear facilities.

2/23.13 The commentor states that the cost to produce tritium should not be a major factor in determining where it is produced.

3/07.04 The commentor opposes tritium production at any of the TVA plants.

Commentor 829 (Mary Lentsch)

1/02.01 The commentor states that tritium production is unnecessary because reserve inventories are available and can last until 2016. The commentor states that she trusts Secretary of Energy Bill Richardson to say "NO" to tritium production.

2/01.09 The commentor states that the United States must maintain its respect among nations by following the nonproliferation policies it has promoted, particularly the ban on the use of commercial facilities for military nuclear purposes.

3/01.04 The commentor states that the United States cannot maintain its integrity if it violates the Nonproliferation Treaty to produce tritium. The commentor states that interdependence among nations in living up to their agreements is vital.

4/01.12 The commentor does not understand why there is such urgency for tritium production at the Watts Bar/Sequoyah Plants when the United States seems to be reducing its nuclear arsenal.

5/07.07 The commentor states that, if tritium is produced at the Watts Bar/Sequoyah Plants, all she can say is "MERCY ME! OH LORD, HAVE MERCY!"

Commentor 830 (Dwight Wilhoit)

1/07.08 The commentor asks that the Secretary not do the cheap and easy thing in making his decision, but do the right thing–select Bellefonte for tritium production. Selection of Bellefonte is supported by local residents and would help a depressed area by bringing thousands of jobs, while selection of Watts Bar does nothing for the citizens of the Tennessee Valley.

Commentor 831 (Don Nelms)

1/07.03 The commentor states that he and his union support the use of the Bellefonte Plant for tritium production. The commentor states that TVA was founded to provide jobs and electricity for Americans, and DOE has the opportunity to help TVA continue to do so.

Commentor 832 (Carl Fowler)

1/06.03 The commentor states that he opposes the use of Hanford (Fast Flux Test Facility) for tritium production for cost and environmental reasons.

2/07.01 The commentor opposes building the APT for tritium production for economic and schedule reasons, and states it is an unproven technology.

3/07.08 The commentor opposes using Watts Bar and/or Sequoyah for tritium production because it would not yield any economic benefit and the option has little support among area residents. The commentor points out that tritium production would be secondary at Watts Bar and Sequoyah, but the primary mission at Bellefonte. The commentor supports the completion and use of Bellefonte for tritium production because it would bring substantial economic benefit to the region and there is significant local, state, and congressional support for this option.

Commentor 833 (Greg Wright)

1/07.08 The commentor, as a businessman, recognizes that there is little return on DOE's investment if it uses the Watts Bar and Sequoyah plants for tritium production, but there would be a high return from selecting the Bellefonte plant for this purpose. Bellefonte would be an asset to the economy in the southern region of the country; would increase TVA's electricity-generating capacity; and would stabilize rates.

Commentor 834 (Mitchell Weir)

1/07.08 The commentor is against the selection of the Watts Bar and Sequoyah plants and favors selection of the Bellefonte plant on the basis of job creation.

Commentor 835 (Leaf Myczack)

1/05.31 The commentor complains that notification about the meeting was poor.

2/05.09 The commentor charges that the Lead Test Assembly demonstration was already underway when DOE had the public meeting on that issue.

3/24.29 The commentor states that tritium is a weapons component and DOE should be honest about that fact.

4/24.30 The commentor expresses concern about the impacts of tritium production on uranium mine workers and people living in the vicinity of uranium mines.

5/07.04 The commentor opposes tritium production at any of the TVA plants.

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2. COMMENT DOCUMENTS 2-1

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3. COMMENT SUMMARIES AND RESPONSES

This chapter presents summaries and responses to comments the Department of Energy received during the public comment period on the *Draft Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor*. Comments received in conjunction with the December 14, 1998, public meeting are also addressed in this chapter.

All comments received during the public comment period are addressed in this chapter. The comments have been summarized and organized under issue categories. Where possible, identical or similar comments provided by more than one commentor are grouped together into one comment summary. The comment summaries also are organized under comment summary-response codes. These codes are keyed to Table 1-7, Comments Sorted by Summary-Response Code, and are presented in numerical order. Responses have been prepared by the Department of Energy (DOE) and the Tennessee Valley Authority (TVA) for each of the comment summaries. These responses indicate whether changes were made to the *Final Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor* (CLWR EIS) and the rationale behind those changes.

The comments summarized under each issue category are listed below each summary. The first numeral in each comment number represents the document or public hearing commentor number, and the second numeral after the dash represents the comment number. These comment numbers can be used in Chapter 2 to locate the original comments. Section 1.3 further describes the organization of this Comment Response Document and discusses the tables provided in Chapter 1 to assist the reader.

CATEGORY 01: POLICY ISSUES

01.01 Several commentors assert that DOE should not produce tritium or nuclear weapons. Other commentors question why nuclear weapons require tritium. One commentor requests that the EIS be withdrawn and that DOE not make a decision to select a new tritium production option. Several commentors express the need to maintain a strong defense.

Comments Summarized: 2-4, 5-2, 7-2, 19-1, 30-2, 110-2, 112-1, 124-2, 136-11 137-2, 207-2, 212-3, 217-1, 223-2, 225-2, 232-6, 248-1, 250-6, 603-2, 702-9, 720-1, 800-6, 825-1

Response: In accordance with Section 91 of the Atomic Energy Act, DOE is required to carry out its atomic weapon activities consistent with the express consent and direction from the President. This express consent and direction is contained in the Nuclear Weapons Stockpile Plan, which is described in Volume 1, Section 1.3.1 and Chapter 2 of this EIS. The issue of whether DOE should produce tritium or nuclear weapons is beyond the scope of the CLWR EIS. Volume 1, Section 1.3.2 of the EIS discusses the tritium requirement for U.S. nuclear weapons. As described in that section, all weapons in the U.S. stockpile require tritium to function as designed. Without tritium, none of the weapons in the stockpile would be capable of functioning as designed, the Nuclear Weapons Stockpile Plan requirements would not be met, and the nuclear deterrent would degrade. Eventually the nuclear deterrent would be lost. The alternative of redesigning weapons to require less or no tritium was evaluated but dismissed from further consideration for the reasons stated in Section 3.1.3 of the *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling Programmatic Environmental Impact Statement* (Final Programmatic EIS) (DOE 1995). [See also the

response to Comment Summary 01.03.] DOE acknowledges the commentors' concerns that the United States maintain a strong defense.

01.02 One commentor expresses pleasure that, in making decisions about tritium production, some members of Congress have kept DOE on the steady path of determining what is best for the United States and have supported basing the decision on merit, not politics. One commentor thinks the real battle is yet to come before $2 billion is appropriated by Congress for this project. One commentor suggests that DOE would not get the support of the Alabama delegation if the area doesn't gain anything. Another commentor suggests that, while there is local political support for Bellefonte, it is by no means universal. Another commentor asks whether DOE is aware that the vote on the Markey-Graham Amendment was close and in opposition to the CLWR program.

Comments Summarized: 90-2, 232-2, 700-20, 702-7, 713-3, 806-4

Response: The actions of elected officials are beyond the scope of the CLWR EIS.

01.03 Several commentors contend that DOE does not need tritium because the nuclear weapons will work without tritium, albeit at reduced yields. Another commentor states that, with new treaties limiting multiple-warhead delivery systems to one warhead per delivery system, the additional weight capacity of the delivery systems would allow a heavier warhead that could be designed to deliver the same yield without using tritium. Another commentor suggests that a system whereby the decayed helium and hydrogen could be diverted prior to weapon detonation might be used, thereby negating the need for tritium replenishment.

Comments Summarized: 3-1, 97-1, 110-4

Response: The alternative to redesign weapons to require less or no tritium was considered in Section 3.1.3 of the Final Programmatic EIS (DOE 1995), but dismissed as unreasonable. As explained in that section, the nuclear warheads in the enduring stockpile were designed and built in an era when the tritium supply was assured, when underground testing was being conducted, and when military needs required that the warheads be optimized in terms of weight and volume. Replacing all of these warheads with new ones that would use little or no tritium for the sole purpose of reducing overall tritium demand would not be feasible. Without underground nuclear testing to verify their safety and reliability, new warhead designs could not deviate very far from existing designs, which require the use of tritium. Even with underground testing to facilitate new designs and a fully operational production complex, it would still take many years to build enough nuclear weapons to replace the entire stockpile. Furthermore, the design of a whole new weapons stockpile, the resumption of the underground nuclear testing program necessary to prove the safety and reliability of such a new stockpile, and the redesign of all delivery systems would undoubtedly have severe impacts on negotiating additional bilateral arms reductions.

In regard to the suggestion of adding a new mechanism to purge the helium and hydrogen immediately prior to detonation, nuclear weapons are designed to function using a specified amount of tritium. As explained in Volume 1, Section 1.3.2 of the CLWR EIS, the implosion of the pit along with the onset of the fissioning process heats the deuterium-tritium mixture to the point that the atoms undergo fusion. This is a very intricate and precise process and is dependent upon a specified amount of tritium which interacts with other components specifically designed for such an interaction. Either the specified amount of tritium is present to enable the weapons to be capable of functioning as designed, or it isn't. This is why the tritium reservoirs must be replenished on a regular basis.

01.04 Commentors suggest that production of tritium in a CLWR poses a nuclear proliferation risk. Several other commentors indicate that use of a CLWR to produce tritium violates the Nuclear Nonproliferation Treaty, especially Article VI's commitment to total disarmament. Another commentor indicates that, if the CLWR

program were to influence just one other country to do what is being proposed by the CLWR EIS, the U.S. nuclear nonproliferation effort will be lost. Another commentor states that production of tritium in a CLWR sends a message to other countries that the U.S. intends to keep its nuclear weapons well into the future. Another commentor asks, "What moral authority does the United States have to damn Saddam Hussein for building weapons of mass destruction while we, a signer of the Nonproliferation Treaty, plan to continue production of nuclear weapons?" Another commentor refers DOE to an additional study, *Getting on With Tritium Production: A Report to Speaker Newt Gingrich*, which concluded that CLWR production of tritium does not violate any treaties, laws, or policies. Another commentor states that tritium production is necessary to keep the United States strong while we move forward toward the goal of total nuclear disarmament. One commentor says that the interagency nonproliferation review cited in Section 1.3.5 of the CLWR Draft EIS was either bound by a predetermined outcome or prepared by a group which was astonishingly inept. The same commentor also indicates that the United States is not upholding its obligations under Article VI of the Nonproliferation Treaty by maintaining a very large arsenal into the next century.

Comments Summarized: 32-2, 45-1, 46-1, 48-2, 53-1, 84-7, 89-2, 90-3, 94-6, 99-4, 100-3, 102-2, 109-4, 110-1, 115-3, 119-1, 132-3, 136-6, 137-6, 212-4, 217-2, 235-3, 239-5, 249-2, 250-4, 501-14, 503-1, 600-2, 604-2, 700-15, 702-11, 707-5, 712-7, 713-4, 800-5, 803-6 805-1, 829-3

Response: The issue of nonproliferation is addressed in Volume 1, Section 1.3.5 of the CLWR EIS. As explained in that section, in order to fully investigate the potential impacts of the CLWR proposal on nonproliferation efforts, a high-level interagency review was conducted. That effort resulted in the July 14, 1998, issuance of the *Interagency Review of the Nonproliferation Implications of Alternative Tritium Production Technologies Under Consideration by the Department of Energy, A Report to the Congress* (DOE 1998b). This report, prepared by top Administration officials from various government departments including the Department of Defense, the Department of State, and the Department of Energy, concluded that any nonproliferation issues associated with the use of a CLWR to produce tritium were manageable and that DOE should continue to pursue the CLWR option. The review further concluded that there are no legal or treaty prohibitions against tritium production in a CLWR; reactors making tritium can remain on the International Atomic Energy Agency (IAEA) Safeguards List; and no bilateral "peaceful uses" agreements would be violated so long as unrestricted fuel and components are used.

In regard to the Nuclear Nonproliferation Treaty, nowhere does it specifically refer to tritium. Under the Treaty, parties agree not to transfer nuclear weapons or other devices or control over them, and not to assist, encourage, or induce nonnuclear states to acquire nuclear weapons. Production of tritium in a CLWR by a nuclear weapons state in no way conflicts with such an agreement.

In regard to the U.S. use of CLWRs to produce tritium and the influence this action might have on enticing other countries to do the same, production of tritium in a CLWR fully supports the goals of Article VI of the Nuclear Nonproliferation Treaty, in which signatory nations agree to work toward total disarmament. Since the end of the Cold War, the United States has significantly reduced the size of its nuclear weapons stockpile and DOE has dismantled more than 12,000 nuclear weapons. At the present time, the United States is further downsizing the nuclear weapons stockpile consistent with the terms of the Strategic Arms Reduction Treaty I (START I), and DOE is continuing its dismantlement activities. The United States has ratified the START II Treaty and is hopeful Russia will do likewise. Negotiations required for further reductions will stretch well into the next century, and tritium production in a CLWR to support a reduced nuclear weapons stockpile, while the United States actively pursues further nuclear weapons reductions agreements, is consistent with the long-range goal of total nuclear disarmament.

The United States is a declared weapons state, and the purpose of nonproliferation efforts is to keep nonweapons states from acquiring nuclear weapons while weapons states work towards the longer term goal

of achieving total nuclear disarmament. Other declared nuclear weapons states already produce tritium in reactors that also produce electricity for commercial use. Nonweapons states which have agreed not to manufacture nuclear weapons are not likely to be encouraged to do so as a result of the U.S. decision to produce tritium in a CLWR. As for rogue states bent on obtaining nuclear weapons at any cost, it is doubtful that U.S. production of tritium in a CLWR will have any influence on their nuclear weapons endeavors.

In regard to the commentor who referred DOE to *Getting on with Tritium Production: A Report to Speaker Newt Gingrich,* dated September 29, 1995, the Department has reviewed this document and is aware of this report's finding that production of tritium in a CLWR would not violate any treaties, laws, or policies.

01.05 The commentor wonders whether the Interagency Review Panel (on nonproliferation issues associated with CLWR tritium production), the Department of Energy, etc., have decided it is permissible for India, Iraq, and North Korea to produce tritium in their commercial reactors for use in nuclear weapons.

Comment Summarized: 702-8

Response: No. The goal of the Nuclear Nonproliferation Treaty is to prevent nations such as Iraq, North Korea, and India from having a nuclear weapons program at all, regardless of where materials might be made.

01.06 The commentor wants additional clarification concerning the statement in Section 1.3.5(3) of the CLWR Draft EIS that any reactors used to produce tritium would "remain eligible for IAEA safeguards." The commentor also asks for an explanation of the safeguards provided by the IAEA.

Comments Summarized: 94-7, 811-1

Response: The TVA reactors will remain on the U.S. list of facilities eligible for IAEA safeguards. Under the 1980 U.S./IAEA Safeguards Agreement, the United States has sole authority to decide which U.S. facilities are eligible for safeguards and the IAEA has sole authority to decide which eligible facilities will be selected for safeguards. Although the IAEA does not monitor the production of tritium, the IAEA has advised the U.S. government that the use of any CLWR to produce tritium would not preclude the IAEA from applying safeguards at such facilities. All relevant U.S. agencies have agreed that, if tritium is produced at a TVA facility, the TVA facility will be maintained on the list of installations eligible for IAEA inspection.

IAEA safeguards are designed to safeguard the flow of special nuclear and source material under the U.S./IAEA Agreement and to detect the withdrawal of significant quantities of nuclear material from activities while such material is being safeguarded. Safeguard procedures are based upon material accountancy with containment and surveillance as important complementary measures. Material control system records and design information are made available to the IAEA for examination and verification. The IAEA may make routine, ad hoc, or special inspections to verify information received. During inspections, the IAEA may make use of statistical techniques and random sampling in evaluating the flow of nuclear material.

01.07 The commentor states that the CLWR Draft EIS indicates that DOE would provide blended-down highly enriched uranium to be used for reactor fuel. The commentor believes that such a use of weapons material is inappropriate, as the Department has already acknowledged by removing such a proposal from the *Storage and Disposition of Weapons — Usable Fissile Materials Final Programmatic Environmental Impact Statement* (DOE 1996). Another commentor asks why DOE cannot use "off-spec" blended-down highly enriched uranium at Sequoyah for tritium production.

Comments Summarized: 94-24, 803-2

Response: DOE has amended the language in Volume 1, Section 5.2.7 of the CLWR EIS to indicate that any highly enriched uranium provided by DOE for downblending into CLWR fuel would come from highly enriched uranium set aside for national security purposes, and would not come from highly enriched uranium that has been declared excess to weapons needs.

"Off-spec" blended-down highly enriched uranium is material that does not meet the standard specifications for commercial nuclear reactor fuel. The fuel contains higher than usual amounts of a material that inhibits the fission process. "Off-spec" fuel still can be used in nuclear fuel if the fuel is at a somewhat higher commercial fuel enrichment level. While there is no legal prohibition, using "off-spec" highly enriched uranium in a tritium production reactor could be judged to be inconsistent with U.S. commitments to refrain from using the material to manufacture nuclear weapons.

01.08 The commentor requests information on the Congressional or Presidential positions on nonproliferation at the time Atomic Energy Commission regulatory authority was given to the U.S. Nuclear Regulatory Commission (NRC) and the rest of the military support mission was given to the Energy Research and Development Administration (and then to DOE).

Comment Summarized: 4-7

Response: The delegation of Atomic Energy Commission regulatory authority for commercial reactors to the NRC and the delegation of the remaining Atomic Energy Commission authority to the Energy Research and Development Administration (and then to DOE) did not constitute a policy decision to separate commercial power from weapon production.

01.09 Commentors contend that it goes against long-standing national policy to produce materials for nuclear weapons at a commercial facility. Several commentors indicate that the nonproliferation study referred to in the CLWR Draft EIS only addresses military-to-civilian instances, and that this is not the same as civilian-to-military—that crossing the line from military-to-civilian use of a reactor is not remotely comparable to crossing the line the other way. Additional commentors state that it would be hypocritical for the United States to manufacture tritium in a CLWR while at the same time formally trying to prohibit other countries such as India, Pakistan, or North Korea from doing the same thing. Another commentor believes that a CLWR is not capable of serving "two masters," i.e., operating in both a civilian and military mode at the same time. Another commentor states "Use of a commercial plant to produce weapons material would set a precedent for Iraq, China, and any other country to disguise weapons development as civilian activity." Another commentor indicates that Section 57.e of the Atomic Energy Act prohibits the government from using commercial nuclear power plants to facilitate the development of nuclear weapons. Another commentor states that it is disingenuous of DOE to pretend it misunderstood the public's concern, and that it is absurd to imagine the United States would threaten another nuclear power to prevent them from converting a military installation to a peaceful purpose or would disable their efforts to use military technology for civilian purposes. This commentor states the real concern always has been that nations would be able to disguise weapons development as civilian activity, and this is precisely what DOE is proposing with the CLWR program. Another commentor states that producing tritium in a commercial reactor is "illegal and counterproductive to life on earth."

Comments Summarized: 2-1, 4-8, 6-3, 7-1, 9-1, 13-5, 14-1, 20-1, 25-4, 32-1, 41-1, 44-11, 51-1, 52-1, 95-1, 99-1, 100-4, 102-1, 110-5, 113-1, 117-1, 120-2, 124-1, 132-5, 135-1, 136-7, 206-1, 207-1, 208-3, 218-1, 235-2, 239-2, 245-1, 250-3, 501-15, 504-1, 505-1, 700-16, 707-6, 817-2, 824-1, 828-1, 829-2

Response: There is no U.S. policy, law, or treaty that prohibits the production of tritium which will ultimately be used in weapons in a commercial reactor. Although Section 57.e of the Atomic Energy Act of 1954, as

amended, prohibits the use of special nuclear materials produced in an NRC-licensed facility (a commercial reactor), tritium is not considered a special nuclear material as defined by Section 11.aa of the Atomic Energy Act.

Additionally, production of tritium in a U.S. commercial reactor is not inconsistent with U.S. opposition to such production by India, Pakistan, or North Korea. The United States is a declared weapons state, and the purpose of the nonproliferation efforts is to keep nonweapons states from acquiring nuclear weapons while weapons states work toward the longer-term goal of achieving total nuclear disarmament. In addition, several other nations operate dual-purpose reactors which serve both civilian and military needs.

The commentors are correct in that the CLWR Draft EIS only gives examples of military-to-civilian joint uses of reactors. The CLWR Final EIS has been amended to include examples of civilian-to-military joint uses of reactors. These additional examples of civilian-to-military uses may be found in Volume 1, Section 1.3.5 of the CLWR EIS.

In regard to the ability of a CLWR to operate in both a civilian and military capacity at the same time, the tritium-producing burnable absorber rods (TPBARs), as described in Volume 1, Section 3.1.2, replace the existing burnable neutron absorber rods of a normal reactor operation. They absorb excess neutrons and extend fuel life in the same way as the burnable absorber rods they replace. TPBARs do not affect the normal operation of the reactor, but they produce tritium, all of which is internally captured in the TPBAR getter.

01.10 Commentors allege that tritium should not be produced in a CLWR because the use of nuclear weapons is morally and ethically wrong. Another commentor alleges that moral and ethical issues are already present in abundance in the CLWR Draft EIS and, while uncomfortable to contemplate and difficult to quantify, they deserve full consideration throughout this decisionmaking process. Another commentor states that security will be generated not by nuclear energy and nuclear weapons, but by developing a reverence for life.

Comments Summarized: 84-5, 94-27, 136-8, 223-3, 248-5, 501-16, 603-3, 702-17, 712-4

Response: The CLWR EIS assesses the potential environmental impacts associated with tritium production at one or more CLWRs. While one could opine that moral and ethical issues are integral to every issue addressed in an EIS, the focus of an EIS is on potential environmental impacts. Strictly moral and ethical issues are outside the scope of the CLWR EIS.

01.11 The commentor expresses disappointment that the Senate approved CLWRs for tritium production, but is pleased that DOE will not receive funding for it in Fiscal Year 1999. The commentor also expresses hope that DOE will be more thorough in considering the CLWR Program's impact on national and international obligations, human health, and the environment.

Comment Summarized: 102-5

Response: The commentor is referred to Volume 1, Chapter 1 for a discussion of a number of national and international concerns, and to Chapter 5 for a thorough evaluation of the environmental consequences of the proposed action.

01.12 The commentor asks why DOE and the Federal Government are moving so quickly on tritium production, and why Secretary Richardson believes he has to make the technology decision before the end of the calendar year.

Comments Summarized: 212-2, 235-4, 704-6, 829-4

Response: All nuclear weapons in the United States stockpile must contain tritium to be capable of performing as designed. Because it decays, the tritium contained in nuclear weapons must be replenished periodically. The United States has not produced new tritium since 1988. International arms control agreements in recent years have led to reductions in the size of the nuclear weapons stockpile. This, in turn, has allowed DOE to recycle tritium from dismantled weapons for use in the remaining stockpile. However, due to the decay of tritium, the current inventory of tritium will not be sufficient to meet national defense requirements past approximately 2005. The most recent Presidential direction, which is contained in the 1996 Nuclear Weapons Stockpile Plan and an accompanying Presidential Decision Directive, mandates that new tritium must be available by approximately 2005 if a CLWR is the selected option for tritium production. In order for DOE to obtain tritium from a CLWR by that date, it is necessary first to make the CLWR tritium technology decision by December 1998, as mandated by the Fiscal Year 1998 Authorization Act. Subsequent to the tritium technology decision, the following events would need to occur before approximately 2005: (1) TPBARs must be fabricated; (2) an NRC license amendment to allow irradiation of the TPBARs in a CLWR must be obtained; (3) TPBARs must be irradiated in a CLWR, removed, and cooled; (4) irradiated TPBARs must be transported to the Savannah River Site; and (5) tritium must be extracted at the proposed Tritium Extraction Facility at Savannah River.

01.13 The commentor asks for a definition of special nuclear material and wants to know why tritium is not a special nuclear material.

Comments Summarized: 212-5, 807-1

Response: As indicated in Volume 1, Chapter 10, the Glossary, "special nuclear material" is defined in Section 11 of the Atomic Energy Act of 1954. Accordingly, special nuclear material means: (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the NRC determines to be special nuclear material; or (2) any material artificially enriched by any of the foregoing. Section 51 of the Atomic Energy Act further states that, "The Commission [i.e., NRC] may determine from time to time that other material is special nuclear material in addition to that specified in the definition as special nuclear material. Before making such determination, the Commission must find that the determination that such material is special nuclear material is in the interest of the common defense and security, and the President must have expressly assented in writing to the determination."

The NRC has not classified tritium as special nuclear material. Tritium, therefore, is not legally classified or regulated as special nuclear material under the Atomic Energy Act.

01.14 The commentors suggest that DOE could buy tritium from either Russia or Canada. One commentor notes that, if money alone is the issue, DOE could buy tritium from Russia; however, this commentor felt that such a move would leave our weapons program vulnerable to a foreign power. Another commentor points out that 14 kilograms of tritium have been extracted in Canada since 1988 and suggests that DOE should acquire it at $30,000 per gram rather than produce it.

Comments Summarized: 240-2, 241-1, 253-1, 811-4

Response: In the Final Programmatic EIS (DOE 1995), DOE considered the purchase of tritium from other sources, including foreign nations. Conceptually, the purchase of tritium from foreign governments could fulfill the tritium requirement. However, while there is no national policy against purchase of defense materials from foreign sources, DOE determined that the uncertainties associated with obtaining tritium from foreign sources rendered this alternative unreasonable for an assured long-term supply. Consequently, in this tiered CLWR EIS, the purchase of tritium from foreign sources is still considered an unreasonable alternative.

01.15 Several commentors feel that the Vice President's office has influenced this decision and has been too involved in moving TVA's agenda. They believe that this will compromise the Vice President's ability to stand before the world community in the future and argue against weapons of mass destruction if he is elected to a higher office. Another commentor suggests that the Vice President's support of the proposed action will damage his chances in the 2000 presidential election.

Comments Summarized: 249-3, 802-5, 803-7, 811-8

Response: Energy Secretary Bill Richardson announced that the CLWR will be the primary technology for tritium production because it is a proven technology; it has the flexibility to meet a range of future needs; and it is the best deal for the taxpayer. He also explained that the Watts Bar and Sequoyah plants are the Preferred Alternative because they would provide tritium when needed, at cost, without a large capital expense. The political aspirations of the Vice President are beyond the scope of the CLWR EIS.

CATEGORY 02: PURPOSE AND NEED FOR TRITIUM

02.01 Several commentors question the need for tritium. One commentor asserts that, "DOE claimed in 1988 that national security would be jeopardized if tritium production did not resume swiftly, however, no crisis has resulted." Several commentors state that the United States should shift away from a dependency on nuclear weapons. Other commentors question the need for nuclear weapons and whether the United States needs as many nuclear weapons as it has. Several commentors assert that the United States should be reducing its nuclear weapons stockpile, rather than producing more tritium.

Comments Summarized: 2-2, 5-1, 6-1, 9-2, 13-3, 20-2, 21-1, 47-1, 48-1, 53-2, 94-5, 108-3, 109-2, 111-1, 112-4, 119-2, 122-1, 125-1, 137-4, 208-2, 235-1, 239-3, 248-3, 249-1, 507-1, 700-13, 803-11, 806-8, 817-3, 825-3, 829-1

Response: Since the end of the Cold War, the United States has significantly reduced the size of its nuclear weapons stockpile and DOE has dismantled more than 12,000 nuclear weapons. At the present time, the United States is further downsizing its nuclear weapons stockpile, consistent with the terms of the START I Treaty, and DOE is continuing dismantlement. The United States ratified the START II Treaty and is hopeful that Russia will do likewise. Additionally, the United States is committed to further weapons reduction in accordance with the Nonproliferation Treaty. As stated in Volume 1, Section 1.3.3 of the CLWR EIS, reductions in the size of the nuclear weapons stockpile, brought on by international arms control agreements, have enabled DOE to fulfill its tritium requirements by recycling tritium removed from weapons. This source of tritium is presently being utilized and already has been factored into the tritium requirement projections, which indicate a need for a new supply of tritium by approximately 2005. While future arms control reductions may change the requirements, DOE is responsible for meeting the current requirements set forth by the President. The need for nuclear weapons and the issue of how many nuclear weapons the United States should maintain in its nuclear deterrent are beyond the scope of the CLWR EIS. The need for a new tritium supply is explained in Volume 1, Chapter 2 of the CLWR EIS. [See also the response to Comment Summary 02.02 for additional information.]

02.02 Several commentors question the need for tritium by 2005. One commentor specifically questions whether the 2005 date comes from the Presidential directive or from DOE's extrapolation from the Presidential directive. Several commentors assert that DOE does not need tritium until 2016 to maintain START II levels and, by then, the United States likely will need less tritium due to additional multilateral stockpile reductions. Several commentors also opine that a scenario of 1,000 warheads would be more than enough for national defense and this scenario would not require additional tritium until 2032. One commentor questions how it

is possible that tritium is needed by 2005 for the CLWR alternative, but not until 2007 for the accelerator alternative. The commentor asserts that the need date for tritium should be independent of the tritium supply source.

Comments Summarized: 84-6, 94-2, 99-2, 100-2, 110-3, 115-4, 116-9, 132-4, 136-9, 137-5, 250-2, 604-1, 700-11, 704-8, 707-3, 712-5

Response: As discussed in Volume 1, Chapter 2 of the CLWR EIS, the need for a new tritium supply is based on the 1996 Nuclear Weapons Stockpile Plan and an accompanying Presidential Decision Directive. The approximate 2005 date comes directly from the Presidential Decision Directive, not from DOE's extrapolation from the Presidential Decision Directive. The 1996 Nuclear Weapons Stockpile Plan, which represents the latest official guidance for tritium requirements, is based on a START I-level stockpile size of approximately 6,000 accountable weapons. A Nuclear Weapons Stockpile Plan for 1997 and 1998 was not issued. The potential impacts of future arms control agreements were accounted for in the development of the 1996 Nuclear Weapons Stockpile Plan. Commentors' assertions that new tritium is not needed until 2016 are erroneous and are not based on the current Nuclear Weapons Stockpile Plan requirements. The issue of whether a stockpile of 1,000 warheads would be more than enough to secure national defense is beyond the scope of the CLWR EIS. The purpose of the CLWR EIS is to evaluate the environmental impacts of the reasonable CLWR alternatives for providing the tritium necessary to support the enduring stockpile, as defined by the President in the Nuclear Weapons Stockpile Plan. Concerning whether the need for tritium is independent of the supply source, the reason the year 2007 was mandated for accelerator tritium production is that is the earliest date by which the accelerator could be built and begin operation. In such a case, tritium requirements from approximately 2005 until 2007 would have been met by withdrawals from the tritium reserve. The tritium reserve then would have been replenished by producing tritium quantities greater than the decay requirements. The Secretary's December 22, 1998, announcement that the CLWR would be the primary supply tritium technology means that DOE will not have to withdraw from the tritium reserve.

CATEGORY 03: TRITIUM REQUIREMENTS

03.01 Several commentors opine that the classified tritium requirements should be declassified. One commentor states that a meaningful review of the CLWR EIS is not possible due to the classification issues. Another commentor asserts that DOE is hiding behind classifications and that the citizenry should be entitled to the same information as DOE. Lastly, one commentor opines that, if the tritium requirements were declassified, they would show that tritium is not needed as soon as DOE claims. Another commentor is not willing to risk national security to declassify tritium requirements.

Comments Summarized: 700-12, 704-4, 719-1

Response: Tritium requirements are classified to protect national security. While DOE's philosophy is to disclose as much information to the public as possible, this does not include classified information. Volume 1, Chapter 2 of the CLWR EIS provides unclassified information regarding the tritium requirements. As discussed in that chapter, the President directed DOE to provide a new tritium supply source by approximately 2005 in order to meet the requirements set forth in the most recent Nuclear Weapons Stockpile Plan. The unclassified tritium requirements information presented in Chapter 2 is consistent with the classified tritium requirements.

03.02 Commentors question whether the Bellefonte plant could meet tritium requirements by approximately 2005. Commentors further question what would happen if Bellefonte were not on line in time to support the tritium requirements.

Comments Summarized: 500-2, 502-2

Response: If TVA were not able to provide the necessary tritium by approximately 2005 using Bellefonte Unit 1, then TVA would produce tritium in Watts Bar 1 and/or Sequoyah 1 and/or 2 to meet the tritium requirements.

03.03 Several commentors state that the CLWR Draft EIS is unclear about the number of TPBARs and the number of reactors required to meet tritium demands. One commentor states that the CLWR EIS should explain that 3 kilograms of tritium is the surge goal and that the "day-in, day-out goal is something lower." One commentor questions why DOE needs 40 years of tritium production at 3 kilograms per year.

Comments Summarized: 44-7, 45-7, 86-13, 116-10, 501-9, 503-11, 504-4, 700-6, 703-3

Response: As described in Volume 1, Section 3.2.1 of the EIS, the CLWR program is being designed to produce up to 3 kilograms of tritium per year. The text in Section 3.2.1 has been modified to clarify that 3 kilograms of tritium represents an unclassified maximum requirement that only would be required if the tritium reserve were ever lost/used. Producing up to 3 kilograms of tritium would involve the irradiation of up to 6,000 TPBARs in an 18-month cycle. The maximum number of TPBARs that could be irradiated in a single reactor without significantly disrupting the normal electricity-producing mode of operation is approximately 3,400 TPBARs per each 18-month cycle. Consequently, producing 3 kilograms of tritium without significantly disrupting the normal electricity-producing mode of operation would require more than one reactor. It should be noted, however, that producing 3 kilograms of tritium per year likely would be a short-term requirement to reconstitute the tritium reserve. In such a case it is technically feasible to produce larger quantities of tritium in a single reactor by changing some of the design parameters of the TPBARs and/or some of the technical parameters of the host reactor, including shortening the operating cycle. Volume 1, Section 5.2.9 of the EIS addresses the environmental impacts associated with such a case. However, DOE does not foresee the implementation of this mode of production in any of the reactor units considered in the CLWR EIS. Regarding why the EIS evaluates a 40-year period, this represents the operational life of the new tritium production source (as presented in Volume 1, Chapter 2 and Section 3.2.1 of the EIS). Forty years was selected for several reasons: (1) it is consistent with the period of analysis analyzed in the Accelerator Production of Tritium (APT) EIS (DOE 1997b, DOE 1999a) (thus facilitating a common basis comparison between the two technologies); (2) it is the length of time for the NRC's initial operating license for nuclear power plant operation; and (3) it represents a bounding period of time to ensure that the CLWR EIS assesses all reasonably foreseeable impacts. However, because the Nuclear Weapons Stockpile Plan requirements do not extend beyond an 11-year period (see Volume 1, Section 1.3.1 of the EIS), the 40-year time period for analysis does not purport to translate into national security requirements beyond the Plan's requirements.

03.04 The commentor, citing the 2.5 kilogram requirement, asks how many reactors would be needed. The commentor asks whether the Bellefonte option refers to Bellefonte only, or Bellefonte and another reactor, and whether two reactors would be used for tritium production in all cases. The commentor asks where in the CLWR Draft EIS does it mention a 12-month cycle for tritium production at Bellefonte. The commentor also asks whether DOE submitted materials to the NRC for review, and whether the NRC is reviewing the 12-month cycle option.

Comment Summarized: 808-3

Response: As discussed in Volume 1, Section 3.2.1 of the CLWR EIS, for the purposes of the analysis DOE assumed that the CLWR program would be designed to produce up to 3 kilograms of tritium per year. Steady-state tritium requirements, which are classified and would vary depending upon the specific requirements of the Nuclear Weapons Stockpile Plan, are less than 3 kilograms of tritium per year. Considering the current design of the TPBARs and the efficiency of the tritium extraction process, the analysis assumption of 3

kilograms of tritium per year would involve the irradiation of up to 6,000 TPBARs in an 18-month refueling cycle. Since the maximum number of TPBARs that could be irradiated at each reactor unit without significantly disturbing the electricity-producing mode is 3,400 TPBARs, more than one reactor unit would be needed to satisfy the analysis assumption. The combinations of reactor units that could be used for tritium production form the reasonable alternatives discussed in Section 3.2.3 of the CLWR EIS. It is technically feasible to produce larger quantities of tritium by changing some of the design parameters of the TPBARs and some technical parameters of the host reactor, including shortening the refueling cycle. Volume 1, Section 5.2.9 addresses the environmental impacts associated with such a case.

The NRC is currently reviewing a topical report titled, *Tritium Production Core Topical Report*, (WEC 1998). The NRC is not reviewing anything regarding the length of the operating cycle.

CATEGORY 04: OTHER TRITIUM PRODUCTION OPTIONS

04.01 Several commentors express support for the APT at the Savannah River Site and opine several advantages of the APT over CLWR production of tritium. One commentor questions whether DOE thinks that tritium production in an accelerator is straightforward and safe. Commentors also request a comparison of the technical risks associated with the CLWR and APT options. The commentor asks whether the technical risks for the two options will be included in the CLWR Final EIS or only in the final decision. Commentors also express opposition to an APT at the Savannah River Site.

Comments Summarized: 1-1, 6-2, 16-1, 18-1, 43-1, 45-4, 90-6, 135-2, 139-2, 501-1, 503-7, 701-1, 713-7

Response: DOE acknowledges that there is both support for and opposition to the APT at the Savannah River Site, which is the programmatic No Action Alternative to the CLWR program. The purpose of the CLWR EIS is to evaluate the environmental impacts of the reasonable CLWR alternatives for providing the tritium necessary to support the enduring stockpile, as defined by the President in the Nuclear Weapons Stockpile Plan. For completeness, Volume 1, Section 5.2.11 and Table 3-14 of the CLWR EIS provide a summary of the environmental impacts associated with tritium production at an APT at the Savannah River Site. Specific questions about APT safety and technology challenges are addressed in the APT EIS (DOE 1997b, DOE 1999a).

04.02 One commentor expresses support for a small advanced heavy water reactor for tritium production that could be built at the Savannah River Site. The commentor opines that such a device would be the least costly tritium production alternative, as well as the safest, most efficient, and most environmentally-sound.

Comments Summarized: 14-3, 504-3

Response: As discussed in Volume 1, Section 1.1.3, the CLWR EIS is a tiered document which follows the Record of Decision for the Final Programmatic EIS (60 FR 63878). As such, the scope of the CLWR EIS is limited to evaluating the environmental impacts of the reasonable CLWR alternatives for providing the tritium necessary to support the enduring stockpile. Reactor alternatives that are not CLWRs are not reasonable alternatives for the CLWR EIS. The Final Programmatic EIS evaluates the full range of reasonable technology alternatives for tritium supply. A heavy water reactor was one of the reasonable alternatives evaluated. In addition, Section A.3.1 of the Final Programmatic EIS described the potential technology innovations that might be incorporated into any of the reactor alternatives. For the heavy water reactor, the Final Programmatic EIS described the potential technology innovations associated with a small advanced heavy water reactor. As explained in the Comment Response Document (Volume III of the Final Programmatic EIS), if the heavy water reactor were chosen in the Record of Decision, "site-specific analysis would consider these types of

improvements." However, in the Record of Decision, DOE did not choose to build any new reactors and did not choose the heavy water reactor technology. Consequently, no site-specific analysis of a small advanced heavy water reactor has been done.

04.03 Commentors request DOE to provide tables comparing the environmental impacts of the CLWR and APT options and the Tritium Extraction Facility. Another commentor questions how much of the APT costs would be for design and how much would be for construction.

Comments Summarized: 4-9, 44-2, 501-4

Response: An environmental impact comparison table comparing the CLWR and APT options was provided to the individual who made this comment at the Savannah River Site public hearing, and the CLWR Final EIS has added a comparison of impacts table as suggested (see Volume 1, Chapter 3, Table 3-14). The costs associated with the APT are contained in the official cost estimates which DOE made available at the public hearings (DOE 1998c). Costs of the APT and the Tritium Extraction Facility are beyond the scope of the CLWR EIS.

04.04 One commentor questions why the option of simultaneously burning mixed oxide fuel and producing tritium in the same reactor was not discussed in the CLWR Draft EIS. Another commentor opines that burning uranium and mixed oxide fuels is not an acceptable way to deal with the waste. Another commentor asks TVA and DOE to guarantee that mixed oxide fuel will never be used at Bellefonte.

Comments Summarized: 127-2, 623-1, 707-16

Response: As explained in Volume 1, Appendix F, Table F-3 of the CLWR EIS, TVA officials stated at the public scoping meeting in Evensville, Tennessee, on February 26, 1998, that TVA has no intention of pursuing the use of mixed oxide fuel at any TVA reactor that would be utilized for tritium production. Consequently, the potential impacts associated with producing tritium while also burning mixed oxide fuel are not reasonably foreseeable. The issue of burning uranium and mixed oxide fuels is not within the scope of the CLWR EIS.

04.05 The commentor states that he does not believe the summary of the APT Draft EIS (CLWR Draft EIS, Section 5.2.11) captures the most significant impacts regarding dewatering and the presence of radium and tritium contamination, as described in the APT Draft EIS, Section 3.3.2.2. The commentor also references a previous EIS from DOE that resulted in the U.S. Environmental Protection Agency (EPA) expressing concern about the lack of assurance that proposed operations would not lead to further adverse impacts. Volume 1, Section 5.2.11 of the CLWR Draft EIS states that the APT would produce neutrons that have the potential to penetrate shielding and be absorbed by the soil and groundwater. This indicates that there would be an adverse impact from operation of the facility and, based on the EPA's previous concern, DOE should address the impacts from the APT in the CLWR Final EIS.

Comment Summarized: 89-3

Response: As stated in the CLWR EIS, Section 5.2.11 presents a summary of the environmental impacts of the APT. For a more detailed analysis of these potential impacts, the reader is referred to the APT EIS (DOE 1997b, DOE 1999a). The APT EIS has been incorporated into the CLWR EIS by reference. DOE has included in the CLWR EIS a summary of the most significant potential impacts from the APT. It is beyond the scope of the CLWR EIS explicitly to address the impacts or the mitigation actions resulting from the programmatic No Action Alternative, which is the construction and operation of the APT at the Savannah River Site.

CATEGORY 05: NEPA PROCESS

05.01 One commentor questions the reason for the linkage between the CLWR EIS, the APT EIS, and the Tritium Extraction Facility EIS.

Comments Summarized: 4-5, 44-1

Response: The Preface to the CLWR EIS clarifies the relationship between the CLWR EIS, the APT EIS, and the Tritium Extraction Facility EIS. The Preface also includes the announcement Secretary Richardson made on December 22, 1998 (DOE 1998d). Based on that announcement, DOE now intends to produce tritium in CLWRs. The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. A new tritium extraction capability would be sited at the Savannah River Site to extract tritium from CLWR TPBARs. The December 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) provides the programmatic umbrella for the site-specific actions assessed in the CLWR, APT, and Tritium Extraction Facility EISs. As tiered National Environmental Policy Act (NEPA) documents, these EISs analyze the site-specific environmental impacts of implementing the actions proposed in each. In the Final Programmatic EIS, the environmental impacts of all three of these projects were analyzed collectively. In addition, this CLWR EIS presents a summary of the environmental impacts of the APT at the Savannah River Site (see Volume 1, Section 5.2.11 and Table 3-14) and the impacts of the tritium extraction facility at the Savannah River Site (see Section 5.3.4). The APT and Tritium Extraction Facility EISs have been incorporated into the CLWR EIS by reference.

05.02 Two commentors question whether there is a "real no action alternative" for either the CLWR EIS or the APT EIS. Another commentor states that it is very difficult to understand the decisions that DOE is talking about, particularly when the EIS does not provide the reader with the no-action effects and merely tiers them off to some other document.

Comments Summarized: 4-6, 501-5, 700-14

Response: The No Action Alternatives for the CLWR EIS and the APT EIS tier from the original December 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878). As explained in Volume 1, Section 3.2.4 of the CLWR EIS, based on that Record of Decision, if tritium is not produced in a CLWR, it will be produced in an accelerator. This approach is consistent with guidance from the Council on Environmental Quality, which states that, "the no action alternative may be thought of in terms of continuing with the present course of action until that action is changed," (see 46 FR 18026). In the December 1995 Record of Decision for the Final Programmatic EIS, the Secretary determined that DOE would produce tritium either in a CLWR or in an APT at the Savannah River Site. The CLWR EIS No Action Alternative is not to produce tritium in any of the TVA reactors. However, the alternative of not producing tritium (which DOE has interpreted the commentor's question of a "true no action alternative" to mean) was analyzed in Section 3.2.1 of the Final Programmatic EIS. Neither the Record of Decision for the Final Programmatic EIS nor the Secretary's announcement on December 22, 1998, selected this No Action Alternative.

05.03 The commentor suggests that the 1995 Record of Decision for the Final Programmatic EIS be re-opened and re-evaluated based on information available today. The commentor advocates that DOE design, construct, and operate two different tritium facilities at different sites to ensure redundancy, with one of the facilities designed for electricity production.

Comment Summarized: 41-7

Response: On December 22, 1998, Energy Secretary Richardson announced that DOE now intends to produce tritium in CLWRs (DOE 1998d). The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) to construct and operate a new tritium extraction capability at the Savannah River Site. The Secretary considered issues such as cost, technical realities, environmental impacts, policy, and statutory requirements in making that announcement. DOE intends to issue a consolidated Record of Decision in April 1999 (see also the Preface to the CLWR EIS).

05.04 One commentor states that the information on the primary and backup tritium sources is difficult to understand—particularly the elements DOE requires as a facility and a backup and what that really means to public citizens. Another commentor questions when DOE will select either of the tritium supply dual tracks described in the CLWR EIS.

Comments Summarized: 44-3, 501-2, 702-3

Response: On December 22, 1998, Energy Secretary Richardson announced that DOE now intends to produce tritium in CLWRs (DOE 1998d). The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) to construct and operate a new tritium extraction capability at the Savannah River Site. Volume 1, Section 1.5.1.1 of the CLWR EIS has been revised to clarify the issue of the primary and backup tritium source in accordance with the Secretary's announcement (see also the Preface).

05.05 Several commentors ask why the preparation of this EIS should impact the Bellefonte Conversion EIS. One commentor opines that it would make more sense to complete the Conversion EIS so that the people living near the sites can make a decision about what they would like to see in their community. The commentor suggests the CLWR EIS should incorporate the Conversion EIS in its entirety since they are connected actions. The commentor points out that in Section 3.2.6.1, the CLWR Draft EIS states, "Such conversion [of Bellefonte to fossil fuel] would be independent of this EIS and would not occur until after a decision were made regarding the role of Bellefonte 1 and 2 in tritium production." This sentence asserts that the consideration of the conversion to fossil fuel at Bellefonte is independent of the CLWR EIS at the same time that it states explicitly that it is dependent on the outcome of this EIS. The commentor suggests that a comparison be made between Bellefonte as a nuclear plant making tritium and Bellefonte as a fossil fuel plant. Other commentors question why the CLWR Draft EIS did not include an alternative to complete the Bellefonte plant as a fossil fuel electricity plant. One commentor specifically questions the validity of the CLWR EIS because this alternative is not included. This commentor asserts that the EIS needs to compare the eventual decommissioning and decontamination costs of Bellefonte as a nuclear site with the costs of Bellefonte as a fossil-fuel electricity generation plant.

Comments Summarized: 94-11, 503-10, 702-14, 803-9

Response: It is a well-established principle under NEPA that the purpose and need of a proposed action should delineate the limits of the reasonable alternatives to that action. That is, an alternative that does not accomplish the agency's goals is not a reasonable alternative.

As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy the national security requirements directed

by the President. DOE believes that the CLWR EIS discusses all of the reasonable alternatives for producing tritium in one or more CLWRs to satisfy such national security requirements.

Converting the Bellefonte plant to a fossil fuel electricity-generating plant is discussed in the CLWR EIS (see Volume 1, Section 1.5.2.4). As discussed in that section, TVA has completed a Final EIS for the Bellefonte Conversion Project (TVA 1997) that analyzes the reasonably foreseeable environmental impacts associated with converting the Bellefonte plant to a fossil fuel plant. However, with respect to the CLWR EIS, conversion of the Bellefonte plant to a fossil fuel electricity-generating plant would not accomplish DOE's purpose and need as stated in the CLWR EIS. As such, conversion of the Bellefonte plant to a fossil fuel plant is not a reasonable alternative for the CLWR EIS and, thus, is not analyzed in the CLWR EIS.

05.06 The commentor expresses the opinion that the completion of the Bellefonte Nuclear Plant be analyzed in a separate EIS. Unless solely used for tritium production, this EIS should not suffice both for the completion and commercial operation of the Bellefonte Plant.

Comment Summarized: 143-2

Response: TVA is a cooperating agency with DOE on the CLWR EIS. TVA plans to adopt the CLWR EIS and issue a TVA Record of Decision. Upon adoption, the CLWR EIS would effectively update TVA's Bellefonte environmental statement, which was revised in 1993. All remaining construction impacts, as well as all operational impacts that relate to operation as a nuclear power plant, are addressed in this EIS. Additional impacts peculiar to tritium production also are addressed. TVA has worked closely with DOE to ensure that all aspects of completing and operating Bellefonte have been considered. Although DOE's purpose for completing Bellefonte is tritium production, the CLWR EIS also discusses TVA's need for power and concludes that power generation from Bellefonte could be used in lieu of other options analyzed in TVA's *Energy Vision 2020, Integrated Resource Plan and Environmental Impact Statement* (TVA 1995).

05.07 One commentor asserts that DOE has not addressed the full range of expected safety and environmental impacts and, therefore, is deficient with respect to NEPA and implementation of Council on Environmental Quality regulations. The commentor says that the CLWR EIS has not identified and assessed the worldwide environmental impacts that would result from a Federal action to approve the CLWR option. The commentor also opines that, "Adoption of the CLWR option would undermine international nonproliferation objectives and result in a higher probability that some nations will initiate or continue production of materials for nuclear weapons in commercial reactors."

Comments Summarized: 45-5, 503-8

Response: The CLWR EIS has been prepared in accordance with Council on Environmental Quality regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. To the extent that potential environmental impacts could be identified for the alternatives analyzed, they are included in the CLWR EIS. This analysis includes the direct, indirect, and cumulative environmental consequences of the production of tritium in three operating CLWRs and the completion and operation of two partially completed CLWRs. The proposed action does not have any worldwide impacts. The proposed action is not expected to have any impact upon the nuclear weapons endeavors of other nations; would not violate or impact any international treaties or agreements; would not have any impact on ongoing negotiations to further reduce nuclear weapons stockpiles; and would not promote nuclear proliferation. [See also the response to Comment Summary 01.04 for additional information.]

05.08 The commentor states that in the CLWR Draft EIS, Section 1.4, NEPA Strategy, DOE proposes an action that may prove to be unwise and untenable—that tritium will be produced in one of two ways even if other EISs (i.e., APT and Tritium Extraction Facility) demonstrate the impacts to be drastic or prohibitive. The

commentor says that DOE apparently leaves itself no room to back out of a position that runs counter to the intent of NEPA. The commentor also asks whether the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) stands regardless of the outcome of the EISs which tier [sic] from it.

Comment Summarized: 94-9

Response: On December 22, 1998, Secretary Richardson announced that DOE intends to produce tritium in CLWRs (DOE 1998d). The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) to construct and operate a new tritium extraction capability at the Savannah River Site. The CLWR EIS assesses the environmental impact of tritium production at each of the TVA sites and the transportation impacts associated with transferring TPBARs to the Savannah River Site. In accordance with the Secretary's announcement, Volume 1, Section 3.2.7 of the CLWR EIS has been revised to indicate DOE's Preferred Alternative for tritium production. In preparing both the Programmatic EIS and the project-specific EISs (CLWR EIS, APT EIS, Tritium Extraction Facility EIS), no drastic or prohibitive environmental impacts were identified. Moreover, the NEPA regulations do not mandate that an agency select the most environmentally beneficial alternative. See also the Preface to the CLWR EIS for a discussion of DOE's intent to issue a consolidated Record of Decision.

05.09 The commentor notes that opportunities did not exist for the public to participate in the development of the NRC's environmental assessment of the Watts Bar Lead Test Assembly. Another commentor charges that the Lead Test Assembly tests were already underway when the public meeting was held.

Comments Summarized: 94-10, 835-2

Response: The public had several opportunities to state their concerns to the NRC prior to the start of the Lead Test Assembly demonstration in September 1997. On December 23, 1996 (62 FR 67584), the NRC announced it would hold a public hearing for public comment regarding a topical report entitled, "Report on the Evaluation of Tritium-Producing Burnable Absorber Rod Lead Test Assembly." The time and place of the public hearing was announced on January 27, 1997, and the public hearing was held in Washington, D.C., on February 25, 1997.

On July 23, 1997 (62 FR 39557), NRC announced another public hearing in Sweetwater, Tennessee, on August 7, 1997, regarding TVA's proposal to insert lead test assemblies containing TPBARs at the Watts Bar Nuclear Plant. The purpose of the hearing was to provide an opportunity for public comment on the technical issues and to ensure that the public is aware of the NRC staff's review activities and has an opportunity to provide comments on them.

Also, on June 11, 1997 (62 FR 31853), the NRC announced that the "Report on the Evaluation of the Tritium-Producing Burnable Absorber Rod Lead Test Assembly" (NRC 1997) was available from the NRC for public inspection. Any member of the public could request and obtain a copy of the document and provide comments. Finally, on September 11, 1997, the NRC issued its "Environmental Assessment and Finding of No Significant Impact" (62 FR 47835) for the license amendment to allow the insertion of the lead test assemblies into the Watts Bar Nuclear Plant for testing. In addition, as part of the license amendment process for the lead test assembly demonstration, NRC issued a Notice of Opportunity for Hearing (62 FR 30644). No comments were received and the amendment was issued on September 15, 1997 (62 FR 52596). Each of these actions by the NRC involved the public.

05.10 One commentor requests DOE to provide information on the benefits DOE or TVA have obtained from the Watts Bar Lead Test Assembly demonstration. Another commentor suggests that data from the Lead Test

Assembly demonstration should be reviewed and analyzed before the CLWR Final EIS is completed. Commentors question whether it is reasonable to make a tritium technology decision before concluding the Lead Test Assembly demonstration at Watts Bar. Another commentor requests that DOE delay reissuing another Draft EIS until such time as complete tests have been run on the TPBARs currently at Watts Bar. Another commentor asks what will be done with the TPBARs used in the Lead Test Assembly tests at Watts Bar and when will it be done. This commentor also asks how DOE will know that the production process works if tritium is not extracted from the TPBARs used in the Lead Test Assembly tests. Another commentor asks whether there is any incremental release of tritium from the TPBARs being tested in the Lead Test Assembly demonstration. Another commentor asks how many TPBARs were inserted into the Watts Bar reactor.

Comments Summarized: 4-4, 116-4, 128-1, 143-3, 702-6, 704-9, 802-3

Response: As described in Volume 1, Section 1.5.1.2 of the CLWR EIS, DOE and TVA are currently conducting a Lead Test Assembly demonstration to confirm and provide confidence to regulators and the public that tritium production in a CLWR is technically straightforward and safe. This confirmatory demonstration, which involves irradiating 32 TPBARs in Watts Bar Unit 1, began in September 1997. Once irradiation is completed (approximately March 1999), the TPBARs will be removed and undergo post-irradiation examination. The TPBARs will be examined extensively, both in a nondestructive and destructive manner, including some extraction testing. The benefits received to date from the Lead Test Assembly demonstration are: (1) the design and fabrication of the TPBARs were successfully completed to meet all requirements; (2) Watts Bar was successfully licensed by the NRC for the irradiation demonstration; (3) the CLWR program has demonstrated all aspects of the program, from TPBAR design through actual insertion and irradiation in a CLWR; and (4) routine monitoring shows that TPBARs are performing as intended (i.e., tritium effluents in the reactor coolant system are as expected and neutron flux levels in the reactor core are as expected).

The confirmatory tests of the Lead Test Assembly demonstration at Watts Bar are not required prior to the completion of this EIS. DOE has over 10 years of extensive development and testing, including the irradiation of tritium-producing rods at the Advanced Test Reactor at the Idaho National Engineering Laboratory. Examination of these rods proved that the rods make and retain tritium. The Lead Test Assembly demonstration is confirmatory and is not being done for technical reasons, but to provide confidence to the NRC and the public that tritium production in a light water reactor is technically straightforward and safe. Based on over 10 years of experience utilizing this design of TPBARs in the Advanced Test Reactor and extensive post-irradiation examinations conducted at Argonne National Laboratory-West and Pacific Northwest National Laboratory, DOE is confident that placement of up to 3,400 TPBARs in a CLWR would have minimal impact on normal reactor operations and on factors such as TPBAR burnup and reactor physics (see Volume 1, Appendix A of the CLWR EIS).

05.11 The commentor cites the Council on Environmental Quality's regulations and a number of court cases and states that: (1) the EIS is woefully inadequate and incomplete and DOE did not consider a broad-enough range of alternatives; (2) an alternative not considered is the production of tritium for fewer years or in smaller amounts; the commentor requests consideration only of lower rates or fewer years of tritium production, not more; and (3) DOE failed to identify alternatives that were dropped from consideration and explain why they were dropped. The commentor also asks why the Preferred Alternative was not identified.

Comment Summarized: 116-2

Response: (1) It is a well-established principle under NEPA that the purpose and need of a proposed action should delineate the limits of the reasonable alternatives to that action. That is, an alternative that does not accomplish the agency's goals is not a reasonable alternative. As explained in Volume 1, Chapter 3 of the

CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy the national security requirements directed by the President. DOE believes that the CLWR EIS addresses all of the reasonable alternatives for producing tritium to meet national security requirements. Even if it were reasonable to consider the alternatives suggested by the commentor, their impacts would be less than, and subsumed within, those presented in the CLWR EIS. The CLWR EIS also contains a sensitivity analysis that addresses the effects of a reduced production cycle (Volume 1, Section 5.2.9).

(2) The 1996 Nuclear Weapons Stockpile Plan, which represents the latest official guidance for tritium requirements, is based on a START I-level stockpile size of approximately 6,000 accountable weapons. To support such a stockpile, a new tritium supply is required by approximately 2005, not 2010 as the commentor states. As described in Volume 1, Section 3.2.1 of the CLWR EIS, the CLWR program is being designed to produce up to 3 kilograms of tritium per year and has been revised to explain that this amount represents an unclassified maximum requirement, and only would be required if the tritium reserve, which is maintained for emergencies and contingencies, were ever lost or used. To ensure that the EIS assessment of potential environmental impacts is conservative, the EIS presents the environmental impacts of maximum tritium production at each of the five TVA reactor alternatives. In reality, DOE intends to produce only as much tritium as actually required, which would be significantly less than the amount presented in the CLWR EIS (e.g., maximum tritium production at each of five TVA reactors). NEPA does not require an agency to consider alternatives that are infeasible, ineffective, or inconsistent with the basic policy objectives for the action at issue. The case cited by the commentor, *Friends of the Bitterroot, Inc., v. Forest Service 25 E.L.R 21186 (D.Mt. 1994),* is not inconsistent with this principle. The court noted (in the excerpt quoted by the commentor) that the additional alternative required to be considered (preservation of a roadless area) was within the discretion of the agency.

In the present action, DOE does not have discretion to consider the underlying basis of the Presidential Decision Directive, let alone to consider changes to the tritium production levels and schedules which the President mandates. The requested alternative to consider such changes is, therefore, not within the "reasonable alternatives" which NEPA requires to be considered (40 CFR 1502.14).

(3) Volume 1, Section 3.2.2 of the CLWR EIS identifies the alternatives that were dropped from consideration, (specifically other CLWRs considered for tritium production) and the rationale for their elimination. Programmatic alternatives for the production of tritium were discussed in the Final Programmatic EIS (DOE 1995).

(4) In Section 3.2.7 of the CLWR Draft EIS, DOE stated that a Preferred Alternative was not known at the time of the publication. The Preferred Alternative for the CLWR EIS was announced by Secretary Richardson on December 22, 1998, and is identified in Volume 1, Section 3.2.7 of the CLWR Final EIS. Question 4b. of "40 Most Asked Questions" concerning the Council on Environmental Quality's NEPA regulations addresses the issue of whether the Preferred Alternative has to be identified in the CLWR Draft EIS. The Council's response is as follows: "Section 1502.14(e) requires the section of the EIS on alternatives to identify the agency's Preferred Alternative if one or more exists, in the draft statement, and identify such alternative in the final statement . . . ." This means that if the agency has a Preferred Alternative at the Draft EIS stage, that alternative must be labeled or identified as such in the Draft EIS. If the responsible Federal official in fact has no Preferred Alternative at the Draft EIS stage, a Preferred Alternative need not be identified there. By the time the Final EIS is filed, Section 1502.14(e) presumes the existence of a Preferred Alternative and requires its identification in the Final EIS ". . . unless another law prohibits the expression of such a preference."

05.12 The commentor is concerned that DOE is vague and noncommittal in its discussion of impacts to the environment.

Comment Summarized: 116-6

Response: DOE believes that it has adequately addressed impacts to the environment that could result from implementing the various alternatives. Volume 1, Chapter 5 of the CLWR EIS addresses specific site and regional impacts to 12 resource areas from the proposed alternatives, and Appendices C, D, E, and G provide further detailed analysis related to human health effects from normal operation, human health effects from facility accidents, human health effects of overland transportation, and environmental justice, respectively.

05.13 The commentor asserts that, since the operation of Bellefonte represents the most significant impacts of any of the alternatives, it should not be a viable alternative.

Comment Summarized: 116-15

Response: NEPA requires the preparation of an EIS for major Federal actions that may significantly affect the quality of the environment. The analysis for the CLWR EIS was conducted in accordance with Council on Environmental Quality regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. These regulations do not mandate that an agency select the most environmentally beneficial alternative. The purpose of the NEPA process is to ensure that accurate environmental studies are performed; that they are done with public involvement; and that public officials, like those at DOE, make decisions based on an understanding of the environmental consequences.

As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy the national security requirements directed by the President. DOE believes that the CLWR EIS addresses all of the reasonable alternatives for producing tritium to meet national security requirements.

05.14 The commentor states that: (1) DOE has not properly addressed the cumulative impacts in the CLWR EIS. The commentor asserts that (2) Section 5.3.2 of the CLWR EIS addresses only indirect impacts and not cumulative impacts as defined by the Council on Environmental Quality regulations. The commentor suggests that the EIS should address the combined effects of the proposed action; for example, minor noise impacts on wildlife and small impacts to aquatic life could be combined to result in significant impacts on the ecosystem. The commentor also asserts that there is a very limited discussion of other projects in the area. The commentor also asks, (3) where is the cumulative analysis on Bellefonte's impact in conjunction with the Widow's Creek Fossil Plant? The commentor also refers to (4) an increase in the diversion of water from the Tennessee River for public use.

Comment Summarized: 116-16

Response: (1) DOE feels that Volume 1, Section 5.3 of the CLWR EIS adequately addresses cumulative impacts. Council on Environmental Quality/NEPA regulations define "cumulative impacts" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

(2) In Volume 1, Section 5.3.2, the CLWR EIS states that for Watts Bar and Sequoyah there are no known Federal or nonfederal facilities that could contribute to a change in the radiological environment of the region of influence. In addition, the CLWR Final EIS Tables 5-59 and 5-60 address land use, air quality, and groundwater requirements at the Watts Bar and Sequoyah Nuclear Plants.

For the Bellefonte plant, DOE acknowledges that there will be future growth in Jackson County, and this is indicated in Volume 1, Chapter 5, Table 5-61. The cumulative impacts from tritium production at the Bellefonte Nuclear Plant are presented in Table 5-62.

No causal relationships were found between resource consumption, effluent emissions, and health of surrounding ecosystems.

(3) The contributory effect of the Widow's Creek Fossil Plant is accounted for in the ambient air and water quality and background radiological conditions described for the region around Bellefonte in Volume 1, Chapter 4 of the CLWR EIS. These conditions have been combined with the incremental impacts associated with the completion and operation of Bellefonte for tritium production and have been presented for each resource area in Chapter 5 of the EIS.

(4) DOE and TVA are aware of increases in water diversions from the Tennessee River for public use and have considered both demand and discharge impacts in the CLWR EIS analysis on water quality.

05.15 The commentor provides various citations to regulations relating to "significance" of environmental impacts and requests that the CLWR EIS adequately identify how the proposed project will impact the environment as "a whole." The commentor also asserts that the EIS glosses over environmental issues and dismisses the significant impacts the project will have on the "surrounding ecosystem, humans and all." The commentor criticizes DOE for concluding that the operation at Bellefonte would have no significant adverse impacts.

Comment Summarized: 116-18

Response: NEPA requires the preparation of an EIS for major Federal actions that may significantly affect the quality of the environment. The analysis for the CLWR EIS is conducted in accordance with Council on Environmental Quality regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. The purpose of the NEPA process is to ensure that accurate environmental studies are performed; that they are done with public involvement; and that public officials, like those at DOE, make decisions based on an understanding of the environmental consequences.

Volume 1, Chapter 5 of the CLWR EIS provides a detailed description of impacts associated with land resources, noise, air quality, water resources, geology and soils, ecological resources, archaeological and historic resources, socioeconomic aspects, public and occupational health and safety, and waste management. Chapter 3 summarizes the impacts. In addition, the CLWR EIS has three Appendices (C, D, and E) that discuss in detail the health impacts associated with each of the alternatives. The EIS addresses all of the elements of significance required by Council on Environmental Quality regulations and case law associated with NEPA.

DOE believes that the environmental impacts at Bellefonte have been adequately addressed in the CLWR EIS.

05.16 Two commentors find the EIS to be deficient and inadequate as a NEPA document. One commentor feels that DOE sloughs off the difficult issues raised by tritium production at Bellefonte and that its use of classified information does not satisfy the open process of NEPA. The other commentor states that the EIS is substantially deficient as a NEPA document in its analysis of the environmental impacts, in addition to not discussing all reasonable alternatives.

Comments Summarized: 116-24, 137-3

Response: DOE believes that the EIS is adequate and fully complies with NEPA with respect to the analysis of impacts at the proposed sites. The EIS evaluates all reasonably foreseeable impacts for all reasonable alternatives.

With respect to addressing all reasonable alternatives, it is a well-established principle under NEPA that the purpose and need of a proposed action delineate the limits of the reasonable alternatives to that action. That

is, an alternative that does not accomplish the agency's goals is not a reasonable alternative. As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. DOE believes that the CLWR EIS addresses all of the reasonable alternatives for producing tritium to meet national security requirements. A discussion of the development of alternatives is given in Section 3.2.

With respect to the use of classified information, tritium requirements are classified to protect national security. While DOE's philosophy is to disclose as much information to the public as possible, this does not include classified information. Chapter 2 of the CLWR EIS provides unclassified information regarding tritium requirements. As discussed in that chapter, the President has directed DOE to provide a new tritium supply source by approximately 2005 in order to meet the requirements set forth in the most recent Nuclear Weapons Stockpile Plan. The unclassified tritium requirement information presented in Chapter 2 is consistent with the classified tritium requirements.

05.17 The commentor suggests that DOE should not use five- and six-year old documentation for the CLWR EIS.

Comment Summarized: 703-9

Response: The CLWR EIS was prepared using the most current information available. In addition to existing EISs, those persons preparing the document reviewed all recent available documents and consulted with TVA personnel to obtain accurate and timely information (TVA 1998a). Further, prior to publication of the Draft EIS and the Final EIS, it underwent internal review within TVA to ensure that the latest information was used in its preparation (TVA 1998c, TVA 1999).

05.18 The commentor believes the EIS process is very one-sided and thinks DOE and other Federal agencies may need to review it.

Comment Summarized: 704-1

Response: DOE has made every effort to ensure that the preparation of this EIS has not been one-sided. DOE has encouraged public participation in the process beginning with the initial scoping meetings and continues it with incorporation of public comments in the CLWR Final EIS. Further, DOE has consulted with a number of other Federal and state agencies during its preparation of the CLWR EIS. In addition, the EIS has been reviewed by other state and Federal agencies. The NEPA process is established through Council on Environmental Quality regulations (40 CFR 1500-1508). In addition, DOE has developed its own implementing regulations for NEPA (10 CFR 1021). This EIS was prepared in accordance with both sets of regulations, as well as NEPA itself (42 U.S.C. 4321 *et seq.*).

05.19 The commentor would like to see DOE's presentation of the EIS information to the public accompanied by a presentation from an independent reviewer.

Comment Summarized: 704-2

Response: In addition to its own review of the CLWR EIS, DOE has provided copies to numerous Federal and state agencies, including the EPA, for review and comment. The EPA has an obligation under Section 309 of the Clean Air Act to review and comment in writing on the environmental impact of any matter relating to the authority of the Administrator. In addition, the public comment period provides opportunity for all interested parties to provide their own independent review of the document. DOE welcomes these independent reviews and feels that they lead to both a better document and, ultimately, a better decision.

05.20 Two commentors commend DOE and TVA for the thoroughness and depth of the CLWR Draft EIS. One commentor states that all the potential impacts have been identified and thoroughly evaluated. Another commentor thinks the CLWR Draft EIS does an excellent job covering the options and statistics.

Comments Summarized: 713-1, 719-4

Response: DOE acknowledges the commentors' recognition of the quality of the CLWR Draft EIS.

05.21 The commentor asks why the Government is not listening to the people. Another commentor asks by what means can citizens prevent the making of tritium.

Comments Summarized: 2-5, 222-2, 817-1

Response: The CLWR program has undertaken an aggressive public outreach program and has made an effort to listen to all members of the public who have views on what the U.S. Government should do with respect to tritium production alternatives. DOE has reviewed and responded to all comments received during the public comment period.

DOE's role in the production of tritium and all nuclear materials required for the defense of the United States is mandated by Congress through its enactment of the Atomic Energy Act of 1954, and the President in the Nuclear Weapons Stockpile Plan. Further, any decision to produce tritium at a CLWR would have to be funded by Congress. Thus, those citizens wishing to prevent the making of tritium should express their views by writing to their congressional representatives and the President.

05.22 The commentor asks for a copy of the *Final Environmental Impact Statement for the Bellefonte Conversion Project* and a copy of the Record of Decision associated with this EIS.

Comment Summarized: 4-1

Response: TVA provided the commentor a copy of the *Final Environmental Impact Statement for the Bellefonte Conversion Project*. The Record of Decision for this EIS will not be issued until the outcome of the current TVA effort with DOE to produce tritium at Bellefonte is completed.

05.23 The commentor asks DOE not to intimidate or dismiss the public and to give the public adequate information to evaluate DOE's actions.

Comment Summarized: 702-1

Response: The NEPA process is one of the most successful and effective ways that DOE has to both inform and receive input from the public. Every effort is made to prepare an EIS that is complete and understandable. Further, supporting documentation is referenced and all referenced material is made available to the public in reading rooms. It is not DOE's intention to intimidate or dismiss the public at any stage in the NEPA process. All public comments received during the public comment period will be reviewed and responded to before DOE decides on a course of action.

05.24 The commentor would like DOE to hold an additional hearing on tritium production in Nashville, Tennessee.

Comment Summarized: 707-9

Response: Prior to the beginning of the public comment period, DOE evaluated potential locations for public hearings. An effort was made to ensure that all geographic areas were represented. Thus, it was decided to hold hearings in North Augusta, South Carolina; Rainsville, Alabama; and Evensville, Tennessee. These hearings were held on October 1, 6, and 8, 1998, respectively, and were well attended. DOE believes that the geographic distribution of these hearings was adequate to provide an opportunity for those residents in closest proximity to the TVA reactors being considered and the site of the new extraction capability to attend.

05.25 The commentor questions the definition of "previous impact statements" that "serve to a great extent as the basis for this EIS." The span of time for these documents ranges from three years to fifteen years or more, and the commentor questions how DOE selected its data.

Comment Summarized: 86-4

Response: Section 1.5.1.3 summarizes the relationship between the CLWR EIS and other relevant NEPA documents, including EISs for the operation of the Watts Bar and Sequoyah Nuclear Plants and the construction of the Bellefonte Nuclear Plant. The documents have been completed and serve as a baseline on which the environmental impacts associated with tritium production can be assessed. The information has been updated through communications with TVA staff, along with current TVA documents. DOE used the most current sources of information available in compiling data to assess the impacts of tritium production. Volume 1, Chapter 7 and each of the appendices in the CLWR EIS provide a detailed list of the references that were the basis of this analysis.

05.26 The commentor is concerned that DOE will focus too heavily on the potential economic benefits from the Bellefonte site and will not weigh these benefits against decreases in land resources, air quality, water quality, ecosystem quality, and quality of life issues. Another commentor expresses concern that politics would influence the decision.

Comments Summarized: 116-23, 231-2, 812-1

Response: DOE has undertaken the preparation of the CLWR EIS to evaluate the environmental impacts of producing tritium at a CLWR at Bellefonte, as well as Watts Bar and Sequoyah. DOE will fairly and completely consider environmental issues, along with other pertinent issues such as economic, policy, and statutory requirements, when arriving at a decision. The decision will be made after the CLWR Final EIS has been published. Council on Environmental Quality Regulation 1505.2, Record of Decision, states that each agency shall prepare a concise public record of decision.

The Record of Decision must identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives considered to be environmentally preferable. An agency may discuss preferences among alternatives based on relevant factors, including economic and technical considerations and agency statutory missions. An agency shall identify and discuss all such factors, including any essential considerations of national policy balanced by the agency in making its decision and how those considerations entered into its decision.

The Record of Decision must state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted and, if not, why. A monitoring and enforcement program is to be adopted and summarized where applicable for any mitigation.

This EIS has been undertaken to evaluate the environmental impacts of tritium production in a CLWR. The decision resulting from the NEPA process will be announced in a Record of Decision following publication of the Final EIS. That decision will be based on the evaluation of impacts presented in the EIS, as well as other pertinent factors such as economic considerations.

05.27 One commentor asks whether DOE is considering purchasing a TVA reactor or its irradiation services. The commentor refers to the December 1995 Record of Decision, which contains the option of DOE purchasing a reactor. The commentor expresses concern that external, peer, regulatory, and fiscal reviews of operations at the tritium-producing nuclear plants would disappear because DOE nuclear defense facilities are not licensed by the NRC, nor is DOE obligated to adhere to the Institute of Nuclear Power Operations' industrial standards of excellence. However, the commentor believes the tax payers and rate payers should realize a return on the $4.5 billion already spent on Bellefonte. The commentor recommends that, if Bellefonte comes on line, it must never be allowed to become a government-owned, contractor-operated defense facility that will go unchecked by the mechanisms designed to ensure it is managed with the safety of the citizens and the environment as its primary concern. Another commentor asks if oversight by state and Occupational Safety and Health Administration regulators would continue if TVA partners with DOE to produce tritium.

Comments Summarized: 58-3, 506-2, 610-2, 802-1, 804-1

Response: The 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) considered the possibility of purchasing a reactor before the Request for Proposals process began. As events unfolded, the purchase option became irrelevant because only TVA nuclear plants were proposed for tritium production. As stated in Volume 1, Section 1.1.1, DOE considered only the purchase of irradiation services, not the purchase of a reactor. As TVA is a U.S. Government agency, the Watts Bar, Sequoyah, and Bellefonte Nuclear Plants are already government-owned. If chosen for tritium production, the Bellefonte plant will be completed as a nuclear power plant and would continue to be regulated by the NRC. Therefore, use of the TPBARs in one of Bellefonte's reactors would be governed by NRC regulations, and NRC approval would be required before the use of the TPBARs could begin. After this approval, the Bellefonte plant would be subject to periodic NRC safety inspections and evaluations throughout its planned lifetime (40 years).

The TVA plants would continue to comply with all applicable Federal and state regulations. Regulatory oversight will not be affected by tritium production in a CLWR.

05.28 The commentor requests clarification on how DOE and NRC define the word "significance."

Comment Summarized: 86-5

Response: Although the word significant is used in the CLWR EIS, there is not one meaning of this term (see 40 CFR 1508.27). When possible, the EIS defines what is meant by "significant." For example, in Volume 1, Section 5.2.3.2, the EIS defines significant as noise impacts greater than 65 decibels A-weighted [dBA]. In Section 3.2.6.2, the transportation risks for Bellefonte 1 or 2 would be significantly lower than one fatality per year, which is then defined as less than one fatality per 100,000 years. Therefore, it is important to look at the word "significant" in the context of its usage.

The commentor may be referring to Section 1.5.1.2, DOE's Lead Test Assembly Environmental Assessment, and the TPBAR confirmatory demonstration at Watts Bar 1. The NRC prepared a separate environmental assessment and issued its own Finding of No Significant Impact for the Environmental Assessments. According to Council on Environmental Quality NEPA regulations, a Finding of No Significant Impact is a document which briefly explains the reasons why a proposed action addressed in an environmental assessment will not have a significant effect on the human environment and, therefore, why an EIS will not be necessary (40 CFR 1508.13).

The NRC Finding of No Significant Impact (62 FR 47835) indicates that they evaluated the impacts relative to the requirements set forth in 10 CFR Part 51. Specifically, they evaluated the possibility of accidents, changes in types or amounts of effluents, offsite population doses, and worker doses attributable to the demonstration. For example, they found that if the entire amount of tritium was released in a year's discharge

of cooling water, the maximum annual dose to a member of the public would be less than 1 percent of the NRC criterion for effluents and only about 0.007 percent of the average annual dose resulting from naturally occurring radionuclides. Based on its environmental assessment, the NRC staff concluded that there are no significant radiological or nonradiological impacts associated with the proposed action and that the proposed license amendment will not have a significant effect on the quality of the human environment. The commentor is referred to the NRC document (62 FR 47835) for further details on this decision.

05.29 One commentor questions whether the tritium technology decision will be made prior to completing the CLWR EIS and the APT EIS. The commentor opines that DOE should use the comments received on these EISs in the decisionmaking process. Another commentor questions whether a technology decision prior to completion of the project-specific EISs (i.e., the APT EIS and the CLWR EIS) would be premature. Another commentor asks whether the Secretary would make a decision before the final tritium production EISs (CLWR and APT) are completed. Another commentor suggests that the Final APT, Tritium Extraction Facility, and CLWR EISs not be prepared or should be combined. Another commentor asks why input from area residents was not included in the decision criteria shown in DOE's December 14, 1998, presentation.

Comments Summarized: 44-4, 501-6, 808-1, 809-3

Response: On December 22, 1998, the Secretary announced that DOE intends to produce tritium in CLWRs (DOE 1998d). The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) to construct and operate a new tritium extraction capability at the Savannah River Site. That announcement was made based on all available information, the Final Programmatic EIS, and any comments that were received related to the CLWR EIS and the APT EIS. DOE intends to complete these EISs to support proposed project-specific actions that could be implemented by the Secretary's announcement. The express intent of the December 14, 1998, public meeting was to solicit input from area residents prior to the Secretary's announcement on December 22, 1998. See also the Preface to the CLWR EIS for a discussion of DOE's intent to issue a consolidated Record of Decision.

05.30 The commentor, observing that the analysis of DOE's most likely scenario (2,000 TPBARs) is not in the CLWR Draft EIS, expresses frustration that the public can't comment on a scenario unless it is presented in the EIS.

Comment Summarized: 702-2

Response: The EIS presents the environmental impacts associated with the maximum loading of TPBARs in a reactor (3,400 TPBARs) and also addresses lesser amounts.

05.31 Several commentors stated that notification of the December 14, 1998, meeting was too short. Other commentors stated that the December meeting was scheduled at a bad time—during the holidays. Yet other commentors stated that the mailing of the notification for the December meeting was too late; did not reach all interested parties; and did not provide sufficient time to prepare for such an important meeting.

Comments Summarized: 202-2, 207-1, 212-1, 247-1, 800-4, 802-4, 803-5, 809-2, 835-1

Response: Prior to fulfilling his requirement to reach a technology decision by the end of 1998, the Secretary of Energy asked TVA to resubmit a proposal for the Watts Bar and Sequoyah reactors, as well as final proposals for completion of TVA's Bellefonte reactor in order to provide DOE with a comprehensive set of options. Such proposals were provided to DOE the first week of December 1998. In order for the public to have an opportunity to provide DOE with input on these proposals prior to the Secretary's decision at the end of 1998, it was necessary to hold the December 14, 1998, meeting with a minimum of notice to the public. To maximize public participation on such short notice, DOE sent more than a thousand individual notices of the meeting to interested parties on December 10, 1998; advertised notice of the meeting in local newspapers; and provided the local media with a December 8, 1998, press release giving notice of the time and place of the meeting.

DOE recognizes that the December 14, 1998, meeting was scheduled, announced, and conducted in a relatively short time frame. As stated in the introductory comments by Mr. Barry Lawson, the public meeting facilitator, this December 14, 1998, meeting was not for the purpose of discussing the EIS, but to provide DOE with public input on the resubmitted TVA proposal to utilize the Watts Bar and Sequoyah plants for tritium production.

In compliance with NEPA requirements, DOE held scoping meetings related to the CLWR EIS proposal in February 1998, and subsequently held public hearings in October 1998 to receive comments on the CLWR Draft EIS. The option of utilizing the Watts Bar and Sequoyah reactors was included in the CLWR Draft EIS. As such, the public was notified of this option through the normal NEPA process and was provided ample time to review and comment on the proposal to utilize the Watts Bar and Sequoyah plants for tritium production.

Participants at the December 14, 1998, meeting were encouraged to provide comments to DOE on the latest TVA proposal. Although these comments are not part of the formal comment process for the CLWR Draft EIS, they are included in the CLWR Final EIS.

05.32 A commentor wants to know if the Secretary of Energy could change his decision after the EISs are published, and states his opinion that the technology decision should not come before the NEPA process and before the safety issues are identified and addressed in the CLWR Final EIS.

Comment Summarized: 808-2

Response: The announcement made by Secretary Richardson on December 22, 1998 (DOE 1998d), which designated the CLWR as the primary tritium production technology, fulfilled DOE's 1995 commitment to select between a CLWR and a linear accelerator. The CLWR option was designated because it is a proven technology; it is the best deal for the taxpayer; and it has the flexibility to meet a range of future needs. DOE will complete key research and development milestones for the accelerator as a backup option, but will not initiate construction. Such a dual track strategy would allow the Secretary of Energy to change his decision at a later date should the CLWRs prove unable to supply the nation's future need for tritium.

05.33 A commentor feels that DOE and TVA have already struck a deal to produce tritium regardless of the concerns of community members.

Comment Summarized: 208-4

Response: As described in Volume 1, Section 1.1.1, the CLWR EIS evaluates the environmental impacts associated with tritium production for all TVA reactor plants offered by TVA during the open procurement process. That procurement process is ongoing, and negotiations are continuing between DOE and TVA. As discussed in Section 1.1.4, because both TVA and DOE are Federal agencies, an agreement between them could be reached through either a contract (per the full and open Federal procurement process) or through an interagency agreement via the Economy Act. The Economy Act is a Federal law that allows two government agencies to enter into an interagency agreement similar to the contractual agreement that a Federal agency would enter into with a nonfederal party through the competitive procurement process.

During preparation of the CLWR EIS the community had several opportunities to provide input through the NEPA process. This participation occurred during the scoping and public comment periods for the CLWR Draft EIS. The public's input is reflected in the CLWR Final EIS.

CATEGORY 06: REASONABLE ALTERNATIVES SELECTION

06.01 The commentor disagrees with DOE's assertion that tritium must be produced. The commentor asserts that this provides "no options; no alternatives." The commentor further states that, "the purpose of an EIS is to present all possible, viable alternatives. Instead, the documents provided interested parties contain nothing more than bureaucratic filler for foregone conclusions. The fact that you provide a chart with 18 reactor combinations does not give the vulnerable public the 'alternatives' required by NEPA; nor does the consideration of producing tritium in an accelerator provide an alternative."

Comment Summarized: 116-1

Response: As described in Volume 1, Section 1.1.3 of the CLWR EIS, the CLWR EIS tiers from the Final Programmatic EIS (DOE 1995) and Record of Decision (60 FR 63878). As such, the CLWR EIS evaluates the reasonable alternatives for tritium production in one or more CLWRs to satisfy national security requirements as directed by the President. These national security requirements, which are set forth in Section 91 of the Atomic Energy Act, are not discretionary. The specific CLWRs that are assessed in the CLWR EIS were determined through a competitive procurement process described in Volume 1, Section 1.1.4 of the CLWR EIS. It is a well established principle under NEPA that the purpose and need of a proposed action should delineate the limits of the reasonable alternatives to that action. That is, an alternative which does not accomplish the agency's goals is not a reasonable alternative. As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. DOE believes that the CLWR EIS discusses all of the reasonable alternatives for producing tritium in one or more CLWRs to satisfy these national security requirements. The commentor does not identify any other reasonable alternatives, nor does the commentor provide any reasons why the alternatives evaluated are not reasonable. With respect to the commentor's implication that the EIS should evaluate an alternative that would not produce tritium (e.g., "a real no action alternative"), the response to Comment Summary 05.02 discusses this issue.

06.02 The commentor asserts that DOE will not reach 1996 Nuclear Weapons Stockpile Memorandum stockpile levels (tritium requirements) until 2010 and that DOE should evaluate the alternative of a delayed startup. The commentor further asserts that, "all of the DOE alternatives result in the same amount of tritium in the same amount of time." The commentor opines that this is not legally sufficient and that DOE should evaluate alternative production scenarios.

Comment Summarized: 116-8

Response: The 1996 Nuclear Weapons Stockpile Plan, which represents the latest official guidance for tritium requirements, is based on a START I-level stockpile size of approximately 6,000 accountable weapons. To support such a stockpile, a new tritium supply is required by approximately 2005, not 2010 as the commentor states. As described in Volume 1, Section 3.2.1 of the CLWR EIS, the CLWR program is being designed to produce up to 3 kilograms of tritium per year. Section 3.2.1 has been revised in the CLWR EIS to explain that 3 kilograms of tritium represents an unclassified maximum requirement, and would only be required if the tritium reserve, which is maintained for emergencies and contingencies, were ever lost or used. To ensure that the EIS assessment of potential environmental impacts is conservative, the CLWR EIS presents the environmental impacts of the maximum tritium production at each of the five TVA reactor alternatives. In reality, DOE intends to produce only as much tritium as actually required, which will be significantly less than what is presented in the EIS (e.g., maximum tritium production at each of five TVA reactors). [See the response to Comment Summary 03.03 for more detail on tritium requirements.]

06.03 Several commentors ask questions regarding the fact that TVA has allowed one of its two procurement proposals (the irradiation services proposal) to expire. The commentors question whether this affects the alternatives in the CLWR EIS, and whether there are really alternatives for tritium production at TVA reactors other than Bellefonte Unit 1. One commentor specifically requests that DOE explicitly state the criteria used to define reasonable alternatives and also questions why the Fast Flux Test Facility Reactor and any number of commercial reactors operated by public utilities were not included as reasonable alternatives. One commentor expresses their opposition to using a Hanford reactor (the Fast Flux Test Facility) for the production of tritium.

Comments Summarized: 26-1, 44-6, 94-4, 242-1, 501-7, 502-1, 506-1, 700-1, 706-1, 801-1, 815-2, 832-1

Response: As described in Volume 1, Section 1.1.1, the CLWR EIS evaluates the environmental impacts associated with tritium production for all TVA reactor plants offered during the procurement process. That procurement process is ongoing, and negotiations are continuing between DOE and TVA. Because both TVA and DOE are Federal agencies, an agreement could be reached through an interagency agreement via the Economy Act. The Economy Act is a Federal law that allows two government agencies to enter into an interagency agreement similar to the contractual agreement that a Federal agency would enter into with a nonfederal party through the competitive procurement process. The Federal procurement process for the CLWR program explicitly allows for an interagency agreement via the Economy Act. As such, TVA's action to allow the irradiation services proposal (made in response to the procurement request) to expire, has no bearing on the negotiations that might result in an interagency agreement via the Economy Act. Consequently, all of the TVA reactors that were initially identified during the procurement process as reasonable alternatives for tritium production remain reasonable alternatives. In December 1998, TVA resubmitted a radiation services proposal for the Watts Bar and Sequoyah reactors. Volume 1, Section 1.1.4 of the CLWR EIS was revised to clarify the procurement process.

In response to the commentor who requests the criteria used to define reasonable alternatives, Volume 1, Section 3.2.2 of the CLWR EIS describes the process that DOE employed to receive proposals from owners/operators of CLWRs for tritium production. As explained in that section, DOE issued a request for proposals for the CLWR production of tritium (while the specific requirements are too voluminous for inclusion, the request for proposals is available by contacting the DOE CLWR Program Office). As stated in Volume 1, Section 1.1.4 of the CLWR EIS, the only proposals determined to be responsive to the requirements of the procurement request were from TVA. Through the procurement process, the five TVA reactors evaluated in the CLWR EIS were identified. No other commercial CLWRs were offered by owner/operators and, consequently, the CLWR EIS does not evaluate them. With respect to the Fast Flux Test Facility Reactor, that research reactor is a DOE reactor, not a CLWR. The option of using DOE's existing reactors (such as the

Fast Flux Test Facility at Hanford and the K-reactor at the Savannah River Site) was evaluated but dismissed from further consideration for the reasons stated in Section 3.1.3 of the Final Programmatic EIS (DOE 1995). DOE announced in the December 1995 Record of Decision (60 FR 63878) that it would evaluate whether the Fast Flux Test Facility Reactor might play a role in tritium production. The Secretary of Energy, on December 22, 1998, announced that the Fast Flux Test Reactor would play no role in tritium production (DOE 1998d).

06.04 One commentor asks whether the CLWR Final EIS will include information about the contractual agreements between TVA and DOE and the potential impacts of TVA's contract obligations. Another commentor asks when DOE plans to exercise its option to purchase irradiation services.

Comments Summarized: 700-19, 704-11

Response: Contractual agreements are not a part of the EIS and involve sensitive negotiations that are ongoing and have not been finalized. For these reasons, any contractual agreements made between TVA and DOE regarding production of tritium are not presented in the CLWR EIS. TVA would produce tritium for DOE only if and when necessary.

06.05 One commentor asks if DOE's preferred choice for tritium production would involve several different sites. The commentor believes it might simplify the process if all the necessary activities were performed at one site. Another commentor asks when DOE would use two or more facilities to avoid exceeding the Bellefonte plant's spent fuel generation limit. The commentor believes that analyses that will determine DOE's choice to use one or more reactors for tritium production should be made public because of the implications for TVA ratepayers and U.S. taxpayers. Another commentor asks if the 1995 Record of Decision can be deleted or amended to remove language that would allow DOE to purchase the Bellefonte plant and convert it to a defense facility. Another commentor recommends that DOE identify the Bellefonte facility (backed up by Watts Bar as needed) as its Preferred Alternative in the CLWR Final EIS.

Comments Summarized: 58-7, 90-5, 610-3, 700-8, 707-1, 713-6

Response: On December 22, 1998, Secretary of Energy Bill Richardson announced that DOE now intends to produce tritium in CLWRs (DOE 1998d). The APT would not be constructed at the Savannah River Site, but would be a backup option to CLWRs. The Secretary's announcement that the CLWR would be the primary tritium supply technology reaffirms the 1995 Record of Decision for the Final Programmatic EIS (60 FR 63878) to construct and operate a new tritium extraction capability at the Savannah River Site. The CLWR EIS assesses the environmental impact of tritium production at each of the TVA sites and the transportation impacts associated with transferring TPBARs to the Savannah River Site. In accordance with the Secretary's announcement, Volume 1, Section 3.2.7 of the CLWR EIS has been revised to indicate DOE's Preferred Alternative of using Watts Bar and Sequoyah for tritium production. As stated in Volume 1, Section 1.1.1 of the CLWR EIS, DOE is considering only the purchase of irradiation services, not the purchase of a reactor.

06.06 Several commentors do not understand Table 3-2 in the Draft EIS. One commentor specifically requests that the actual environmental impacts for the various alternatives be displayed in Table 3-2, rather than "dots."

Comments Summarized: 44-5, 700-9

Response: As described in Volume 1, Section 3.2.3 of the CLWR EIS, Table 3-2 presents the various reactor alternative combinations that constitute the reasonable alternatives evaluated in the CLWR EIS. The "dots" in that table depict the combination alternatives. As stated in this section, "the impacts for each of the

18 irradiation alternatives would be the sum of each of the impacts at each of the sites involved." The impacts at each of the sites involved are described in detail in Volume 1, Chapter 5 of the CLWR EIS.

06.07 The commentor requests a comparison between the completed and uncompleted reactors. The commentor asserts that, "the purpose of NEPA is to compel the Government to choose from among reasonable alternatives that which has the least adverse impact on the environment."

Comment Summarized: 94-15

Response: In Volume 1, Chapter 3 of the CLWR EIS, Table 3-13 provides the comparison between the completed and uncompleted reactors.

NEPA requires the preparation of an EIS for major Federal actions that may significantly affect the quality of the environment. The analysis for the CLWR EIS was conducted in accordance with Council on Environmental Quality regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. These regulations do not mandate that an agency select the most environmentally beneficial alternative. The purpose of the NEPA process is to ensure that accurate environmental studies are performed; that they are done with public involvement; and that public officials, like those at DOE, make decisions based on an understanding of the environmental consequences.

CATEGORY 07: GENERAL SUPPORT/OPPOSITION

07.01 Several commentors express support for the CLWR option and cite several advantages of the CLWR over accelerator production of tritium.

Comments Summarized: 8-1, 59-1, 73-1, 81-1, 88-1, 90-4, 225-3, 233-3, 242-2, 604-3, 624-1, 628-2, 713-5, 832-2

Response: DOE acknowledges that there is both support and opposition for the CLWR program, which is the programmatic No Action Alternative to the APT program. The purpose of the CLWR EIS is to evaluate the environmental impacts of the reasonable CLWR alternatives for providing the tritium necessary to support the enduring stockpile, as defined by the President in the Nuclear Weapons Stockpile Plan. For completeness, Volume 1, Section 5.2.11 and Table 3-14 of the CLWR EIS summarizes the environmental impacts associated with accelerator tritium production at the Savannah River Site.

07.02 Several commentors express their support for the CLWR program in general, citing reasons of national defense, cost-effectiveness, and low environmental impacts, as described in the CLWR EIS. Several other commentors also express their opposition to the CLWR program in general, citing the policy of separation between military and civilian programs, public health and safety, effects to the environment, and cost.

Comments Summarized: 23-3, 28-1, 91-1, 92-1, 93-1, 109-1, 120-1, 121-1, 123-1, 130-1, 202-1, 222-1, 225-1, 227-1, 239-1, 248-2, 250-1, 704-15

Response: DOE acknowledges that there is both support for and opposition to the CLWR program in general. The reasons cited by supporters and opponents have been the subject of specific comments and responses elsewhere in this document. The need for tritium and national defense are discussed in Volume 1, Chapter 2 of the CLWR EIS and in the response to Comment Summary 02.01. Cost is discussed in the response to Comment Summary 23.16. The issue of separation between military and civilian programs is discussed in the

response to Comment Summary 01.09. Public health and safety is discussed in Volume 1, Chapter 5 of the CLWR EIS and in response to Comment Summaries 14.04 and 15.03.

07.03 Several commentors express their support for the Bellefonte option, citing numerous reasons including safety; cost-effectiveness; boost to the regional economy; electricity as a byproduct; TVA's good track record; jobs; use of an existing resource; national defense; proven technology; small environmental impacts; compatibility with the program needs; the right thing to do; a win-win situation; and it is good for the nation, DOE, TVA, and Jackson County.

Several other commentors express their opposition to the Bellefonte option, citing numerous reasons including the dangers of radioactivity, public health and safety, significant impacts to the environment, the policy of separation between military and civilian programs, and nonproliferation.

Comments Summarized: 10-1, 12-1, 15-1, 17-1, 23-1, 24-1, 26-3, 33-1, 34-1, 35-1, 38-1, 42-1, 47-2, 54-1, 55-1, 56-1, 57-1, 58-1, 60-1, 61-1, 62-1, 63-1, 64-1, 65-1, 66-1, 67-1, 68-1, 69-1, 70-1, 71-1, 72-1, 74-1, 75-1, 76-1, 77-1, 78-1, 79-1, 82-1, 83-1, 85-1, 87-1, 96-1, 104-1, 107-1, 118-1, 131-1, 133-1, 134-1, 136-12, 140-1, 144-1, 147-1, 203-1, 204-1, 205-1, 209-1, 210-1, 211-2, 215-1, 224-1, 225-4, 228-1, 231-1, 254-1, 604-4, 607-1, 608-1, 609-1, 610-1, 611-1, 612-1, 613-1, 614-1, 615-1, 616-1, 617-1, 618-1, 619-1, 620-1, 621-1, 622-2, 625-1, 626-1, 627-5, 628-3, 629-1, 708-1, 709-1, 710-2, 714-1, 715-1, 716-1, 718-1, 719-3, 803-10, 821-1, 827-1, 831-1

Response: DOE acknowledges that there is both support for and opposition to the Bellefonte option. The reasons cited by supporters and opponents have been discussed in the CLWR EIS and also have been the subject of specific comments and responses elsewhere in this document. Specifically: The need for tritium and national defense are discussed in Volume 1, Chapter 2 of the EIS and in response to Comment Summary 02.01. Cost is discussed in the response to Comment Summary 23.16. The issue of separation between military and civilian programs is discussed in the response to Comment Summary 01.09. The issue of nonproliferation is discussed in response to Comment Summary 01.04. Issues related to public health and safety from radiological releases are discussed in responses to Comment Summaries 14.04 and 15.03. Socioeconomic issues are discussed in Chapter 5 of the EIS and in response to comment summaries in Category 13.

07.04 Several commentors support the use of the TVA plants in general and Bellefonte in particular for implementing the proposed action. The commentors express several reasons for their support including safety; small environmental effects; efficiency; less risk that other everyday activities; design superiority (Bellefonte) over other plants; nuclear energy's advantages as a clean and safe power source; safe practices on the part of TVA and its employees; advantages for Jackson County (Bellefonte), Alabama, and surrounding areas in Tennessee and Georgia; and the safety record of the nuclear industry. Several commentors oppose the use of TVA facilities for the production of tritium.

Comments Summarized: 141-1, 245-3, 610-6, 622-1, 627-1, 628-1, 710-1, 711-1, 717-1, 719-5, 828-3, 835-5

Response: DOE assesses the environmental impacts of the proposed action at each of the TVA reactor units in Volume 1, Chapter 5 of the CLWR EIS. The commentors' support for the proposed action and the specific support of some of the commentors for Bellefonte is noted. DOE acknowledges that there is both support and opposition to the use of TVA facilities for the production of tritium.

07.05 Commentors oppose the proposed action on the basis of an "increased likelihood of environmental contamination" and "adverse effects" even at low levels of radiation exposure. One of the commentors suggests that DOE should not further develop nuclear energy.

Comments Summarized: 32-3, 102-3

Response: As discussed in Volume 1, Chapter 5 of the CLWR EIS, the environmental impacts and potential doses to the public from the proposed action are well within limits considered acceptable by regulatory authorities. Sections 5.2.1.9, 5.2.2.9, and 5.2.3.9 of the EIS provide the results of the analyses of the incremental risk resulting from normal operation and hypothetical accident scenarios during tritium production. These analyses are performed using a generally accepted method for design-basis and beyond design-basis accident analyses in support of the reactor operations promulgated by the NRC. The analyses use special models for the evaluation of consequences of accidental releases of tritium (both in elemental and tritiated water vapor) to the environment. Volume 1, Appendix C, Section C.2.2, of the EIS summarizes the characteristics and biological health effects of tritium. This appendix also provides the health effect standards that were used to estimate the potential lifetime cancer mortalities resulting from the exposure to tritium and other radioactive materials. Health effects were calculated using a linear extrapolation from the nominal risk estimated for lifetime total cancer mortality at a dose of 10 rad to a very low dose level, i.e., a zero dose. The impact from the application of this model is considered to be an upper-bound estimate. There is scientific uncertainty about cancer risk in the low-dose region below the range of epidemiologic observation, and the possibility of no risk, or even a health benefit, cannot be excluded. The low-dose region is defined as a dose level (~0.01 rad) where DNA repair can occur in a short period (a few hours) after irradiation-induced damage. DOE considers the use of CLWRs to produce tritium to be a viable, cost-effective, safe, and environmentally-sound alternative, and not necessarily a promotion of nuclear energy.

07.06 Several commentors express their preference that the Bellefonte plant be converted into a fossil fuel plant.

Comments Summarized: 11-1, 12-3, 98-2, 232-5, 704-14, 806-7

Response: Volume 1, Section 1.5.2.4 of the CLWR EIS discusses the Bellefonte Conversion Project EIS. As stated in that section, if these reactors will not be utilized in the CLWR program, one of the five alternatives addressed in the *Final Environmental Impact Statement for the Bellefonte Conversion Project* (TVA 1997) could be selected in the Record of Decision for that EIS.

07.07 Several commentors express support for the Watts Bar/Sequoyah option, stating it would permit the Tennessee Valley area to receive benefits in addition to the production of electricity; it is the least environmentally destructive option; and it provides greater flexibility at the least cost.

Several other commentors express opposition to the Watts Bar/Sequoyah option, citing numerous reasons including: increased risk to local residents, no economic benefit, adverse effects on the region's power supply, and no increase in jobs.

Comments Summarized: 201-1, 226-1, 229-1, 230-1, 232-7, 233-1, 235-5, 246-1, 251-1, 252-1, 255-1, 806-9, 829-5

Response: DOE acknowledges that there is both support for and opposition to the Watts Bar/Sequoyah alternative, which is the Preferred Alternative in the CLWR EIS. The reasons cited by supporters and opponents are discussed in the EIS and also are the subject of specific comments and responses elsewhere in the document. Public health and safety issues are discussed in Chapter 5 of the EIS, and also in response to Comment Summaries 14.04 and 15.03. Socioeconomic issues, such as jobs, are both discussed in Chapter 5,

as well as in response to Comment Summaries in Category 13. Cost issues are discussed in response to Comment Summary 23.16. The commentors are also referred to the responses to Comment Summaries 7.03 and 7.04.

07.08 During the December 14, 1998, meeting a number of commentors compared the Bellefonte alternative to the Watts Bar/Sequoyah alternative. Those in favor of Bellefonte feel that it would: (1) provide more electricity, not less, as would happen at Watts Bar and Sequoyah during shutdowns needed to produce tritium; (2) help stabilize electrical costs, since TVA would not have to buy power during periods of high demand; (3) be cheaper, since the sale of electricity would pay back the tax dollars spent to build the plant; (4) provide economic benefits, including jobs, to the region; (5) produce tritium for a longer period of time; (6) benefit area ratepayers and taxpayers; (7) salvage an existing government asset; (8) provide national benefits, such as the lowest cost to the taxpayer; and (9) generate power without greenhouse gases. Some commentors also point out that, compared to Watts Bar/Sequoyah, Bellefonte is strongly supported by the local population (including politicians, businessmen, labor unions, and educators) and many supporters have worked hard to promote tritium production at the site.

Some commentors, after comparing the alternatives, favor the Watts Bar/Sequoyah alternative over the Bellefonte alternative since it would: (1) use an existing facility; (2) avoid creating new health risks and environmental concerns; (3) not impact new population areas; (4) cost less; (5) cause the least harm to biological entities; and (6) offer the greatest flexibility at the least cost, given the future likelihood of additional weapons reductions.

Comments Summarized: 214-1, 216-1, 219-1, 220-1, 221-1, 227-2, 233-2, 234-1, 236-1, 237-1, 238-1, 240-1, 242-3, 243-1, 244-1, 249-4, 814-2, 820-1, 822-1, 823-1, 824-2, 826-1, 830-1, 832-3, 833-1, 834-1

Response: DOE recognizes that there are advantages and disadvantages to both the Bellefonte alternative and the Watts Bar/Sequoyah alternative. In designating the Preferred Alternative, the Secretary of Energy considered a variety of factors including cost, schedule, flexibility, environmental impacts, and the ability to meet statutory requirements. Based upon these factors, the Secretary judged the Watts Bar/Sequoyah alternative preferable to Bellefonte. A final decision will not be made until at least 30 days after the EPA Notice of Availability for the CLWR Final EIS is issued.

CATEGORY 08: DOE PAST PRACTICES

08.01 One commentor opposes transportation of TPBARs to the Savannah River Site for extraction because the Savannah River Site cleanup "doesn't seem to be accomplishing its goal," and the commentor doesn't want South Carolina to become a dump or storage site for nuclear and radioactive waste.

Comment Summarized: 18-2

Response: DOE has a very aggressive cleanup program and has worked with the EPA, states, stakeholders, and the general public to develop long-range programs and commitments to clean up its facilities to acceptable levels. While the commentor's opinion that DOE's clean-up actions are not accomplishing its goal are noted, this comment is beyond the scope of the CLWR EIS. The impacts of low-level wastes associated with the proposed action to produce tritium at one or more CLWRs are addressed in Volume 1, Sections 5.2.1.11, 5.2.2.11, and 5.2.3.11 of the CLWR EIS. Impacts associated with wastes from tritium extraction are addressed in the Tritium Extraction Facility EIS (DOE/EIS-0271) (DOE 1998a, DOE 1999b).

08.02 Commentors suggest that DOE has a record of polluting and contaminating every site they have operated and that the CLWR program will be no different. One commentor contends that the K-Reactor should be utilized so that other sites will not be polluted by DOE. Another commentor contends that, since the K-Reactor at the Savannah River Site has been contaminated beyond reasonable or economical expectation for clean-up, it is difficult to see why the need for environmental upgrades are a reasonable excuse for this facility not to be considered as a reasonable alternative. One commentor indicates that among other deficiencies in cleanup activities, DOE has failed to site a nuclear repository and, therefore, its ability to operate a CLWR program is in serious question. Another commentor indicates that in December 1991, coolant contaminated with tritium leaked into the Savannah River from a DOE reactor. Another commentor states that the CLWR EIS does not give the history of environmental and health problems around DOE tritium facilities.

Comments Summarized: 36-1, 41-4, 58-2, 103-3, 132-2, 136-3, 137-1, 211-3, 217-3, 252-3, 507-2, 707-7, 720-2, 800-9, 803-3

Response: DOE recognizes that it has facilities which require some level of environmental cleanup. Similar to other industries, most of the DOE facilities were designed and constructed in the 1940s and 1950s, prior to today's environmental requirements, when the understanding of waste management principles was not what it is today. Over the past several years, DOE has had a very aggressive facility modernization and cleanup program and has worked with the EPA, states, Tribal Nations, stakeholders, and the general public to develop long-range programs and commitments to cleanup its facilities to acceptable levels. To date, the Department has completed numerous cleanup activities and is aggressively working toward the cleanup of its remaining environmental problems. Actions taken to implement the CLWR tritium program would not be inconsistent with nor impact these ongoing cleanup activities, since the cleanup activities of the DOE are funded and managed separately.

In regard to the use of the K-Reactor at the Savannah River Site, this option was evaluated by the Final Programmatic EIS (DOE 1995), but dismissed from further consideration for the reasons stated in Section 3.1.3 of that document and summarized here. The K-Reactor was designed in the 1940s and was utilized for the production of tritium and other nuclear materials until 1988. At that time, the facility was shut down for major environmental, safety, and health upgrades to comply with today's stringent standards. The commentor is correct in that, during the effort to restart the K-Reactor, tritium-contaminated coolant was released into the Savannah River. Despite a great number of improvements, it was finally decided that the facility was too old and that the additional cost of upgrades sufficient to enable it to comply with the Department's existing standards were too great. If the K-Reactor were to be used, the environmental problems associated with the past use of this facility must be remedied in accordance with the Federal Facilities Act and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements.

In regard to DOE's ability to carry out the CLWR program, the Department has demonstrated a competency in leading the industry in the use of nuclear energy and in the protection of human health and safety. DOE has pioneered the development of energy-efficient products, space exploration technology, medical treatment procedures, and a long list of other noted accomplishments. The focus of the CLWR EIS is to assess the potential environmental impacts associated with the production of tritium at each of the five TVA reactors being considered. A history of environmental and health issues associated with DOE facilities, as well as other DOE programs such as the nuclear repository, does not fall within the scope of this EIS.

DOE is committed to improving its environmental management, to operating its facilities in a manner that meets or exceeds all applicable environmental, safety, and health requirements, and to the cleanup of its environmental problems. The alternatives being considered for the production of tritium in a CLWR all propose the utilization of state-of-the-art TVA reactors. These reactors have excellent environmental compliance records and exemplary environmental, health, and safety programs to assure continued compliance.

In addition, as discussed in response to Comment Summary 05.10, DOE has confidence that the use of TPBARs in a CLWR is safe and technically straightforward.

08.03 A commentor would like to know where tritium has been produced and what studies have been conducted that show its effect on the environment.

Comments Summarized: 213-1, 818-1

Response: Volume 1, Section 1.3.3 of the CLWR EIS presents a brief discussion of the history of tritium production. Appendix C discusses the properties of tritium and its effects on the environment. Section C.2.1.2 presents a discussion of health effects including references to the National Research Council's Committee on the Biological Effects of Ionizing Radiation (BEIR) reports. Section C.2.2 presents a discussion of tritium characteristics and biological properties including references to International Commission on Radiological Protection (ICRP) publications.

08.04 A commentor mentions a 12-year tritium leak to groundwater from a spent fuel holding tank at Brookhaven National Laboratory and notes that public trust of the management of any nuclear reactor or research laboratory anywhere in the world is slim. Further, the commentor questions the faith that industry and the NRC put in nuclear science to find answers to industry problems.

Comments Summarized: 248-6, 819-1

Response: The tritium leak at Brookhaven National Laboratory involved material that leaked from an unlined spent fuel pool. All the TVA reactor facilities include linings in the design of their spent fuel pools.

CATEGORY 09: TVA PAST PRACTICES

09.01 One commentor states that he lives about 2 miles from Watts Bar and feels quite safe and confident that the plant is being operated safely. Another commentor expresses confidence in TVA's track record.

Comments Summarized: 26-2, 58-5

Response: As discussed in Volume 1, Section 6.5 of the CLWR EIS, TVA operates all its reactor facilities within all state and Federal regulations.

09.02 The commentor expresses a serious concern regarding the ability of DOE and TVA to carry out this project successfully. The commentor suggests that the EIS needs to point out changes in these organizations that have or will be taking place to give assurance that the project will be handled properly and in accordance with this EIS. The commentor also suggests that the EIS perform an evaluation on the "specified candidates" capabilities to carry out the project. Referring to Section 6.5.3.1, the commentor cites various examples of past TVA experiences which, according to the commentor, point to TVA's inability to manage the program in an environmentally acceptable manner.

Comment Summarized: 41-5

Response: TVA's capability to successfully carry out the project is inherently a major consideration in DOE's decision process. In 1985, TVA made the decision to voluntarily shut down its nuclear units because of technical deficiencies and the absence of an effective management system in the nuclear program. In response to this situation, TVA restructured its nuclear organization, strengthened its management system, and

successfully implemented a comprehensive recovery plan to address the identified deficiencies and regulatory concerns. This strengthened management system demonstrated TVA's ability to recover the nuclear program, and the agency continues to successfully manage the program as one of the leading performers in the industry. TVA's management takes very seriously any identified problems and violations of any level. Corrective actions are taken as soon as possible, and recurrence controls are put in place. While Sequoyah had a number of violations identified during the mentioned time frame, the overall trend of violations continues to decrease and the majority of those received recently have been characterized as having low safety significance. Watts Bar Unit 1 was designed, built, and is operated to high standards and adheres to strict regulations to ensure the health and safety of the public and TVA employees. Since successfully completing startup activities and beginning commercial operation in May 1996, Watts Bar has demonstrated excellent performance and set world records during its first-cycle operation and refueling outage. Two years in a row, the plant received from the NRC's Systematic Assessment of Licensee Performance evaluation a "superior" rating in three of four performance categories and a "good" in the remaining category. Volume 1, Sections 6.5.2 and 6.5.3 of the CLWR EIS present a discussion of Institute of Nuclear Power Operations reports for the Watts Bar and Sequoyah plants.

09.03 The commentor, referring to Section S.1.5.5 (Summary) of the CLWR Draft EIS remarks that producing tritium in a TVA reactor is not consistent with the Congressional purposes that established TVA. The commentor notes that its establishment in 1933 had no bearing whatsoever to "national defense," although later it was further developed to ensure a reliable supply of electricity for Oak Ridge. The commentor recommends that the insinuation be removed. Another commentor suggests that tritium production is an expansion of TVA's responsibilities from power production to weapons production, and asks whether tritium production would influence TVA to move further into weapons and defense-related activities.

Comments Summarized: 41-6, 815-3

Response: The commentor is correct that TVA has provided electricity to the defense mission at Oak Ridge. One of the key reasons for constructing TVA's Shawnee Fossil Plant near Paducah, Kentucky, was to provide electricity to DOE's uranium enrichment plant at that location. The CLWR EIS Summary, Section S.1.5.5, and Volume 1, Section 1.3.6, provide an accurate summary of the TVA Act, so a revision of the text is unnecessary. The preamble to the TVA Act identifies national defense as one of the purposes for TVA's creation. Further, the TVA Act in Sections 15(h) and 31 indicates that the Act should be liberally construed to aid TVA in discharging its responsibilities for the advancement of national defense and other statutory purposes. In compliance with that Congressional mandate, TVA has supported the nation's defense efforts on numerous occasions since its creation in 1933. TVA produced phosphorus and ammonium nitrate for explosives and munitions during World War II and the Korean Conflict. From 1952 to 1957, TVA, under an agreement with the Department of the Army, operated and maintained the Phosphate Development Works complex, at which various phosphorus-based chemical agents were produced. From 1985 to 1998, under a contract with the Department of Defense, the Phosphate Development Works was refurbished and reactivated to process and purify the United States' remaining stock of a nerve agent component (methyl phosphoric dichloride). TVA continues to support defense missions today with the cleanup of chemical and munitions production and storage sites, as well as stabilization or disposal of surplus chemical weapons stockpiles. Thus, tritium production is not an expansion of TVA's defense role nor would it influence TVA with regard to any future defense-related activities. The text referred to by the commentor in the CLWR EIS Summary, Section S.2, and Volume 1, Chapter 2, is accurate.

09.04 The commentor asserts that the Bellefonte plant would put radiation into the water and the air. The commentor further remarks that, according to his understanding, the plant was stopped before because of the high cost of meeting the environmental requirements and wonders how the requirements would be met now. The commentor is interested in receiving documentation on the plan for this action.

Comment Summarized: 49-2

Response: Radioactive effluents from nuclear facilities are strictly controlled and regulated in the United States by state and Federal regulations for the protection of the environment and the health and welfare of the public. Although the operation of Bellefonte, as analyzed in Volume 1, Section 5.2.3.9 of the CLWR EIS, would result in radioactive discharges, resultant air and water concentrations would be well below established regulatory limits. As stated in the CLWR EIS, Bellefonte was initially deferred in 1988 because of diminished growth in TVA's customer power needs. In 1994, the TVA Board of Directors decided that the Bellefonte Nuclear Plant would not be completed unless financial partners could be found. The cost of environmental controls was not a factor in this decision.

09.05 The commentor asks, "What is the basis for using Institute of Nuclear Power Operations reports to defend using TVA's CLWRs when the public does not have access to those reports and cannot get them?" The commentor suggests that the public is at a vast disadvantage responding to this EIS on that basis alone.

Comment Summarized: 86-7

Response: As stated in Volume 1, Section 6.5.1 of the CLWR EIS, the purpose of the section that describes compliance indicators is not for DOE to assess the adequacy of TVA's operation of its CLWRs, but to provide a basis to assess whether there are any compliance issues that would interfere with the production of tritium. The Institute of Nuclear Power Operations performance indicators are appropriately mentioned in this section, as they are used by individual nuclear plants to help them improve their operations by measuring them against established standards of excellence that apply across the industry. The Institute of Nuclear Power Operations restricts distribution on all plant-specific performance reports, and no one in the industry releases their complete reports to other utilities or to the public. Distribution is restricted to encourage candor in communications between the Institute of Nuclear Power Operations (the auditor) and the nuclear plant being audited. While the Institute of Nuclear Power Operations reports are confidential, NRC Systematic Assessment of Licensee Performance reports are made available to the public, including all input material such as data from the Institute of Nuclear Power Operations. All regulatory violations, whether they are self-identified or not, are described in the NRC Systematic Assessment of Licensee Performance reports and are made available to the public.

09.06 The commentor remarks that the CLWR Draft EIS reports very small numbers of abused employees that have been harmed as a result of raising safety issues. The commentor inquires about the source of these numbers. The commentor also inquires as to how TVA, the NRC, and DOE will ensure a safety-conscious work environment where employees feel free to raise safety issues without damage to them, their families, or their careers.

Comments Summarized: 86-11, 703-13

Response: Over the past several years, TVA has developed several means to monitor the safety consciousness of its workforce. Periodic surveys of employee attitudes regarding employee/management communication of safety concerns are conducted by TVA's Office of Inspector General. TVA's Nuclear Concerns Resolution Staff is a separate organization outside the normal nuclear management chain that provides an alternative path for employees to communicate any safety or quality concerns. Through a standard exit interview process, the Concerns Resolution Staff also provides employees and contractors leaving employment an opportunity to raise any concerns and voice their opinions about employee/management communication. TVA management tracks and trends employee grievances and U.S. Department of Labor complaints arising from allegations of intimidation and harassment in order to gauge the effectiveness of its safety-conscious work environment efforts. In the early 1990s, dozens of Department of Labor cases were filed within TVA Nuclear. No Department of Labor cases were filed in 1998. Employee surveys in recent years indicate that approximately

98-99 percent of the employees and contractors feel free to raise safety concerns with their direct management without reprisal. The CLWR EIS does not include a discussion on the numbers of abused TVA employees that have been harmed as a result of raising safety issues. Volume 1, Sections 6.5.2.1 and 6.5.3.1 of the CLWR EIS discuss Notices of Violation which imposed civil penalties regarding alleged acts of discrimination. The source of this information is the NRC.

09.07 The commentor remarks that, in attempting to discuss current projections for future energy demands in Section 1.3.6, the CLWR Draft EIS does not make clear whether TVA's projections include conservation measures to reduce demand and/or development of renewable energy resources.

Comment Summarized: 94-8

Response: TVA's projected customer power needs will be met using new generation resources, as well as efficiency improvements to TVA's existing generation resources. Additionally, changes in customer end-use (demand-side) efficiencies, such as conservation, are a factor in power need projections. Some of these end-use efficiencies result from programs carried out by TVA and the distributors of TVA power. TVA's *Energy Vision 2020, Integrated Resource Plan Environmental Impact Statement* (TVA 1995) presents both short-term and long-term TVA plans for demand-side management and customer service programs. A program is now in the planning stages that would add additional renewable energy resources such as wind energy and solar energy to TVA's generation system.

09.08 A commentor, referring to Section 3.2.l of the CLWR Draft EIS where the assumption is made that the Bellefonte plant would be completed by 2005, states that the CLWR EIS should be subjected to a reality check, and more reasonable projections should be used based on progress thus far on Bellefonte and the schedule of Watts Bar 1. Another commentor asks whether the schedule for completing Bellefonte 1 is hypothetical or real. The commentors also recommend that the CLWR EIS, in determining the reasonableness of completing Bellefonte for tritium production by 2005, should provide information on how complete Bellefonte currently is, how realistic the 2005 date is, and what size of spent nuclear fuel cooling pool is being (or has been) designed and constructed.

Comments Summarized: 94-17, 500-1

Response: The schedule for completing Bellefonte Nuclear Plant Unit 1 is consistent with DOE's tritium requirement. The schedule for the completion is based on sound assumptions and experience gained through prior operation. It has been reviewed extensively by outside experts, such as Bechtel, Ebasco, and Fluor Daniel. In Volume 1, Section 3.2.2, the CLWR EIS states that Bellefonte Unit 1 is 90 percent complete while Unit 2 is 57 percent complete. The reasonableness of the 2005 completion date has been reviewed. Irrespective of the completion schedule for Bellefonte, it is likely that the first core load of TPBARs would be irradiated in the Watts Bar plant. As discussed in Volume 1, Section 4.2.3.11, the spent fuel pool for Unit 1 is constructed and will be able to store 1,058 spent fuel assemblies. This capacity would be sufficient to store 20 years of operation without alternate storage means.

09.09 The commentor states that, as someone who grew up in the shadows of Watts Bar and remembers reading the newspaper articles and what it took to bring that facility on line, he is appalled that DOE would even discuss Watts Bar.

Comment Summarized: 503-5

Response: Watts Bar Unit 1 was designed, built, and is operated to high standards and adheres to strict regulations to ensure the health and safety of the public and TVA employees. Since successfully completing startup activities and beginning commercial operation in May 1996, Watts Bar has demonstrated excellent

performance (see Volume 1, Section 6.5.2.1). Its first operating cycle was the best first cycle for the first unit of any plant in the United States. For Fiscal Year 1998, Watts Bar set a new site generation record and had the best first-cycle refueling outage for U.S. plants in the past decade. For the second time in a row, the plant received from the NRC's Systematic Assessment of Licensee Performance evaluation a "superior" rating in three of four performance categories and a "good" in the remaining category.

09.10 A commentor points out that the primary coolant systems at Sequoyah and Watts Bar are of a recognized bad design and are virtually inoperable at any given time. The commentor expresses concern that this has received little or no attention by TVA or DOE, and that ratepayers should not be responsible for their mismanagement.

Comments Summarized: 241-4, 811-7

Response: The design of the Watts Bar and Sequoyah reactors has been thoroughly reviewed and licensed by the NRC. TVA operates its plants in compliance with all NRC requirements and all other applicable regulations. Volume 1, Chapter 6 of the CLWR EIS describes the regulatory compliance history of both Watts Bar and Sequoyah.

CATEGORY 10: LAND, AESTHETICS, NOISE, SOILS, GENERAL ENVIRONMENT

10.01 The commentor expresses concern that the plume from operation of the cooling tower would result in odors in the valley.

Comment Summarized: 12-4

Response: The cooling tower plume associated with operation of a nuclear reactor is a water vapor plume and would not result in any detectable odor.

10.02 The commentor expresses concern that DOE has not provided adequate information on soils and geology with which to evaluate storage options, other future structures, and the protection of groundwater from wastes at Bellefonte.

Comment Summarized: 116-20

Response: DOE believes that the information provided on geology and soils for Bellefonte in Volume 1, Section 4.2.3.5 of the CLWR EIS is adequate for the level of impacts anticipated and discussed in Section 5.2.3.5. Extensive evaluations of soils and bedrock on the Bellefonte site were conducted prior to the construction of Bellefonte Units 1 and 2. These evaluations are discussed in the *Bellefonte Nuclear Plant Final Safety Analysis Report* (TVA 1991) and in the *Final Environmental Statement, Bellefonte Nuclear Plant Units 1 and 2* (TVA 1974). The *Final Environmental Impact Statement for the Bellefonte Conversion Project* (TVA 1997) also summarizes geological and soil conditions at the site. The last two documents serve as a baseline on which the environmental impacts associated with tritium production are assessed. Although the characteristics of soils can play a role in controlling spills of fuels, oils, solvents, or other chemicals, the primary controls are engineered controls and mitigation measures as provided in the site Spill Prevention, Control, and Countermeasures Plan. The environmental impacts from the construction and operation of the dry cask Independent Spent Fuel Storage Installation (ISFSI) are addressed in Volume 1, Section 5.2.6 of the CLWR EIS. However, no decision will be made to either construct or operate a dry cask ISFSI as a result of this EIS. Appropriate NEPA documentation would be prepared prior to the construction of such a facility.

10.03 Commentors are opposed to tritium production in general or at Bellefonte in particular because of the increased risk of environmental contamination.

Comments Summarized: 29-1, 37-1, 84-1, 98-1, 139-1, 212-7, 712-1

Response: The radiological releases to the environment that could result from the proposed action under normal operating conditions and various hypothetical accident scenarios are conservatively estimated in Chapter 5 of the EIS for each candidate reactor site. The potential impacts to the environment and the radiological doses and risks to the public from these releases also are assessed and discussed in Chapter 5. The assumptions and methodology used for the assessment are discussed in detail in Volume 1, Appendix C and D of the CLWR EIS for normal operation and accident conditions, respectively. The methodology used is based on scientific standards accepted in the industry and dictated by Federal and state regulatory authorities. As discussed in Volume 1, Chapter 5 of the CLWR EIS, the environmental impacts and the potential doses to the public are well within limits considered acceptable by the regulatory authorities. The potential environmental impacts resulting from the operation of Bellefonte specifically are addressed in Section 5.2.3 of the CLWR EIS.

10.04 One commentor states that any pollution problem would not be greater than that which already exists for the TVA area. Other commentors suggest that the East Tennessee region is already overflowing with toxic materials from both local industry and DOE operations and cannot handle any more toxic wastes.

Comments Summarized: 103-1, 211-1, 248-7

Response: Volume 1, Chapter 5 of the CLWR EIS analyzes the range of potential impacts which could occur at each of the three TVA plants. These impacts were determined to be within regulatory limits for each of the alternatives. Existing environmental conditions within the TVA area as they relate to the operation of the TVA reactors as tritium-producing plants are described in Volume 1, Section 4.2, Affected Environment.

CATEGORY 11: AIR, WATER RESOURCES

11.01 The commentor asks the following: What is the current wastewater program that the TVA nuclear programs use to clean up the reactor coolant waste water prior to release into the Tennessee River? Where is the procedure for that and how often is that program tested to support its reliability? What are the criteria that the NRC will use to monitor that program? Where are those criteria located now?

Comments Summarized: 86-9, 703-1

Response: As described in Volume 1, Sections 4.2.1.4 and 4.2.2.4 of the CLWR EIS, the radionuclide contaminants in the primary coolant are the source of liquid radioactive waste at the Watts Bar and Sequoyah plants. Each source of liquid waste receives an individual type of treatment before discharge to the environment under the National Pollutants Discharge Elimination System (NPDES) permit. The CLWR EIS presents the amount of radioactive liquid effluent to the Tennessee River in Volume 1, Tables 5-2, 5-12, and 5-30, and presents potential tritium concentration in the river in Tables 5-3, 5-13, and 5-31. TVA Nuclear contracts with a vendor to process the reactor coolant wastewater and to ensure any radioactivity is well within the established regulated limits prior to release to the Tennessee River. The vendor is responsible for supplying and operating the liquid waste processing system. Prior to system use, the vendor supplies to TVA for review a “Process Control Program” that describes the available processing vessels, operating parameters, and suggested removal criteria for the various media utilized in the vessels. Vendor operating procedures also are submitted for TVA’s review. Prior to each batch of processed water being released to the Tennessee River,

an analysis is performed to identify the radioactive species present. This analysis also determines each pollutant's rate of discharge and the total activity to be released to the Tennessee River and compares these estimates to the regulatory limits for each pollutant. These releases are well below the allowable activity limits presented in 10 CFR 20. The NRC monitors and inspects conformance to the 10 CFR 20 release limits.

11.02 The commentor states that the document should explain whether the operational limits for a plant would be changed to produce tritium and whether those changes might affect the NPDES permits under which that plant now operates.

Comment Summarized: 126-3

Response: Volume 1, Sections 5.2.1.4 and 5.2.2.4 have been revised to clarify that TVA does not envision any changes to the operational limits that might affect the NPDES permits for the Watts Bar and Sequoyah plants.

11.03 Two commentors recommend that DOE should consider background and downstream monitoring of the facilities.

Comments Summarized: 126-4, 129-1

Response: TVA presently monitors downstream of the release point at Watts Bar and Sequoyah, and will monitor downstream of the Bellefonte release point (once Bellefonte begins operation) in accordance with regulatory requirements. The NRC requires that the monitoring for tritium detects at a level of 2,000 picocuries per liter. TVA monitors more conservatively than the NRC requirement and can detect at levels of 300 picocuries per liter. In addition to monitoring liquid effluent pathways, TVA also monitors releases via air pathways. In accordance with regulatory requirements, TVA routinely files environmental reports with the NRC and state agencies that identify and quantify scheduled and unscheduled liquid and air pathway releases to the environment. These reports also identify the consequences of these releases (i.e., doses) on the general population.

11.04 The commentor asks: (1) who is ultimately accountable for determining how much tritium can be released into the Tennessee River; (2) who has the authority to determine whether the procedures for the current wastewater program are correct; and (3) whether the current program is capable of providing complete and accurate numbers for the amounts of tritium that would be released into the river.

Comment Summarized: 703-2

Response: All commercial power reactors discharge liquid and gaseous tritium during operation. The NRC and EPA are statutorily responsible for setting discharge limits for radionuclides (including tritium) and enforcing those limits. TVA is responsible for meeting those limits and demonstrating compliance with them. All nuclear plant discharges are sampled and/or monitored to verify that they are within applicable limits. The instrumentation involved is periodically calibrated to ensure accuracy. In addition, TVA has a comprehensive radiological monitoring program which samples airborne and terrestrial pathways between the plant and the surrounding population to verify that all human exposure limits are met. All samples are analyzed at TVA's Western Area Radiological Laboratory in Muscle Shoals, Alabama. All analyses are conducted in accordance with written and approved procedures and are based on accepted methods. The Radiological Laboratory employs a comprehensive quality assurance/quality control program to monitor laboratory performance throughout the year. The program includes equipment checks to ensure that the radiation detection instruments are working properly and analysis of the quality control samples are included alongside routine environmental samples. The laboratory participates in the EPA Interlaboratory Comparison Program. In addition, samples

are split with the EPA National Air and Radiation Environmental Laboratory, and applicable state agencies provide an independent verification of the overall performance of the laboratory.

The answer to the commentor's three points are: (1) the NRC regulates how much tritium can be released, (2) the NRC establishes the wastewater program requirements, and (3) the current program is considered to provide an accurate assessment of any tritium released into the Tennessee River.

11.05 The commentor asks whether a National Emission Standard for Hazardous Air Pollutants for radionuclides is applicable to tritium production.

Comment Summarized: 143-4

Response: As discussed in Volume 1, Section 6.2.2, National Emission Standards for Hazardous Air Pollutants for radionuclides (40 CFR 61, Subparts H and I) are not applicable to NRC-licensed facilities such as the TVA reactors. [See National Emission Standards for Radionuclide Emissions from Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H, Final Rule, 60 FR 46206 (September 5, 1995).] Radioactive emissions, including tritium, are regulated by the NRC (10 CFR 50, Appendix I, 40 CFR 190, and 10 CFR 20). Furthermore, as indicated in Volume 1, Sections 5.2.1.9.1 and 5.2.2.9.1, impacts from radioactive emissions from tritium production at Watts Bar or Sequoyah would be small. Section 5.2.3.9.1 presents the expected impacts from radioactive emissions from tritium production at the Bellefonte Nuclear Plant. The EPA decided that compliance with NRC regulations constitutes compliance with 40 CFR 61.

11.06 The commentor suggests that the statement on page 5-39 of the CLWR Draft EIS, which says that studies of natural draft cooling towers in England approximate the performance of natural draft cooling towers in the southern United States, needs amplification. The commentor asserts that there are significant climate differences between these two areas.

Comment Summarized: 146-12

Response: The commentor is concerned that the cooling tower solids deposition rate presented in the CLWR Draft EIS may not be representative of the Bellefonte cooling towers. The text has been revised in the CLWR Final EIS to present the estimated solids deposition rate near the Bellefonte cooling towers.

11.07 One commentor suggests that adverse impacts to water quality have not been analyzed properly in the EIS and that there is a lack of data on impacts from previous diversions. Specifically, a commentor suggests that data presented in Tables 5-22 and 5-23 are outdated and that concentrations of pollutants from Bellefonte during operation need to be presented. The commentor states that the following statement does nothing to ease one's mind: "Water required from the Guntersville Reservoir would be a small fraction of the river flow, and most of it would be returned to the reservoir after use." (CLWR Draft EIS p. 5-42).

Comment Summarized: 116-21

Response: The CLWR EIS also analyzed the potential radiological water quality impacts associated with operation of Bellefonte 1 or Bellefonte 1 and 2 for tritium production. The results of these analyses, presented in Volume 1, Section 5.2.3.4 of the CLWR EIS, indicate that concentrations of tritium in the Tennessee River resulting from the operation of the plant would be well below limits established by the EPA for drinking water. Discharges and concentrations in the reservoir would meet the limitations of the NPDES Permit and Alabama Department of Environmental Management drinking water standards, which have been set to protect the public drinking water supply.

Water use by other users withdrawing water from the Guntersville Reservoir is discussed in Volume 1, Section 4.2.3.4 of the CLWR Final EIS. Tables 5-28 and 5-29 (formerly Tables 5-22 and 5-23) have been revised to agree with the more recent water quality monitoring data for Guntersville Reservoir presented in Table 4-26. Revised concentrations in the reservoir after effluent mixing have been included in the tables.

11.08 The commentor notes that, on page 5-33 of the CLWR Draft EIS, the Watts Bar 1 radioactive effluent is given as 14,850 Curies per year. The commentor asks whether this effluent impacts the surface water and, if so, why there is no change to water quality conditions.

Comment Summarized: 22-2

Response: The CLWR EIS analyzes the potential water quality impacts associated with operation of Watts Bar 1 for tritium production. The results of these analyses, presented in the revised Volume 1, Section 5.2.1.4 of the CLWR EIS, indicate that concentrations of tritium in the Tennessee River resulting from tritium production at the plant would be well below limits established by the EPA for drinking water. It should be noted that the radioactive effluent from each of the reactors has been modified to eliminate the contribution from two failed TPBARs. TPBAR failure is considered an abnormal event and the resulting release of radioactive materials from this event would not occur on an annual basis.

11.09 The commentor asks the distance between the Bellefonte plant's point of discharge into the river and the point where the Jackson County Water Department draws water from the river for public use. Further, upon hearing the answer is 4.5 miles, the commentor asks if the public water source that was measured is the one for Fort Payne. The commentor also asks the location of the other public water sources in Jackson County and their distance from the Bellefonte plant's discharge point.

Comment Summarized: 606-1

Response: The nearest municipal water intake is for Fort Payne at Tennessee River Mile 387.6, 2.7 miles downstream of the TVA Bellefonte effluent diffuser. The next nearest municipal water intake is for Scottsboro at Tennessee River Mile 385.8, 4.5 miles downstream of Bellefonte, at the Comer Bridge (Alabama Route 35). Scottsboro provides water to Jackson County from this intake. Other water supply intakes near Bellefonte are listed in Volume 1, Section 4.2.3.4, and Table 4-27 of the CLWR Final EIS.

11.10 The commentor claims that DOE failed to discuss the impacts of the proposed action on surface and groundwater. The commentor further opines that, although the Department concedes that there will be an impact to the water quality, it did not address monitoring. The commentor suggests that, since tritium oxide is chemically identical to water, it cannot be filtered out of the water, implying that monitoring for tritium after it has been released is too late.

Comment Summarized: 116-17

Response: Volume 1, revised Sections 5.2.1.4, 5.2.2.4, and 5.2.3.4 of the CLWR Final EIS discuss potential releases of tritium to surface waters around each site and address potential tritium concentrations. As discussed in these sections, the resulting tritium concentration in these waters would be well within the drinking water limit established in the Safe Drinking Water Act. Plant procedures associated with any tritium monitoring would be approved by the NRC. With respect to groundwater, the EIS concludes that groundwater quality would not be affected by the operation of the reactors in a tritium-producing mode.

11.11 The commentor, referring to a statement made in the CLWR Draft EIS that, "Operational impacts on threatened or endangered species could occur through the release of thermal, chemical, or radioactive

discharges to the atmosphere or the river," asks why it is necessary to discharge radioactive materials into the river and whether there is an alternative.

Comment Summarized: 602-1

Response: The statement the commentor refers to is a general statement that thermal, chemical, or radioactive discharges potentially could occur. Further on in the text, the CLWR EIS states that the impact of such radiological releases should not have a detrimental effect on endangered species. Modern nuclear plants, however, do discharge some extremely small amounts of thermal, chemical, and radioactive materials during normal operations. This is because trace amounts of these materials find their way into the makeup water that feeds into and out of the reactor coolant system. When the coolant water leaves the reactor, it is piped into large "hold-up" tanks. Most of the water is recycled back into the reactor; but when the hold-up tank fills, the water is sampled and tested to make sure it is within the regulated radiological limits, and then discharged to the river. Such discharges are regulated by the NRC and by state environmental protection agencies. The state agencies issue NPDES permits that allow the plants to discharge certain chemicals and radiological constituents within legally specified limits. There are limits on how much of these materials a plant can discharge and when it can discharge them. The analyses presented in the CLWR EIS show that the incremental risk associated with such normal discharges would be very small. Even if a plant's safety systems failed and all the tritium released to the reactor coolant system during normal operation were discharged into the river, the resulting radiological doses would be small. [In estimating the radiological doses and risks to the public from such a tritium release, the CLWR EIS assumed the public was drinking water directly from the river, eating fish from the river, and swimming in the river.] Radiation dose limits for protecting human health are much lower than any dose that would be expected to have any adverse effects on other organisms. For this reason, such radiological releases should not affect endangered species or any other wildlife that includes the river as part of its habitat.

11.12 The commentor asks whether the small amounts of radiological and chemical materials normally discharged into a river by a nuclear power plant are processed before being discharged.

Comment Summarized: 602-2

Response: The liquid discharges from a nuclear plant are processed prior to release via controlled pathway to the river to reduce the quantities of radiological and chemical materials to well below the acceptable level established by the Federal and state regulatory authorities. However, it should be noted that this processing does not reduce the quantity of tritium before it is released to the environment. Tritium concentrations are monitored to ensure compliance with limits established by the NRC.

11.13 In response to an inquiry by another commentor regarding meteorological data collection, the commentor states that a device that measures wind velocities to gather data on prevailing winds in the region near the Watts Bar site already is available at the plant.

Comment Summarized: 701-2

Response: Each nuclear plant site is required to maintain an operable meteorological tower to supply weather information as needed to direct survey operations during a radiological emergency. From these and other facilities, TVA has accumulated detailed, thorough sets of meteorological data at each site, which were used in analyzing environmental impacts for air pathway pollutant releases in this EIS. Volume 1, Section 4.2.1.3 of the CLWR EIS describes the meteorology and climatology in the region of the Watts Bar site, including the prevailing winds, which are from the south-southwest.

CATEGORY 12: ECOLOGICAL RESOURCES

12.01 The commentor is concerned that TVA is divesting some of its recreational properties, such as the Land Between the Lakes, and putting so much energy into this project. The commentor would like TVA to keep that project and maybe turn it over to the Wildlife Resources Agency or some other agency to maintain. The commentor expresses a belief that it is not fair to take land from private citizens for TVA uses and then just dump it to some other agency; the land should go back to the people or some other appropriate community use.

Comment Summarized: 707-10

Response: TVA received appropriated funding to continue to manage the Land Between The Lakes in Fiscal Year 1999 as a National Recreation Area. TVA is committed to continue operating this area to provide outdoor recreation and environmental education opportunities for the American people. For more information concerning this project, the commentor is encouraged to call 1-800-525-7077.

12.02 The commentor states agreement with the information presented in the CLWR Draft EIS that there would be only a minimal impact on the Guntersville Reservoir—less than 0.2 percent of the flow—and only minor impacts to other aquatic resources.

Comment Summarized: 627-2

Response: Impacts to Guntersville Reservoir from the production of tritium at Bellefonte are discussed in Volume 1, Section 5.2.3.4 of the CLWR EIS; impacts to aquatic resources are discussed in Section 5.2.3.6.

12.03 The commentor expresses concern that ecosystem and economical considerations were not thoroughly examined and that activities such as diversions of water and dam construction have affected the viability of aquatic wildlife. The commentor asks what is to be gained environmentally and economically by choosing a CLWR for tritium production.

Comment Summarized: 116-11

Response: The CLWR EIS summarizes the existing ecological environment at each of the three CLWR sites. These discussions may be found in Volume 1, Sections 4.2.1.6 (Watts Bar Nuclear Plant Unit 1), 4.2.2.6 (Sequoyah Nuclear Plant Units 1 and 2), and 4.2.3.6 (Bellefonte Nuclear Plant Units 1 and 2). The EIS further addresses the environmental consequences of the alternatives at each site in Sections 5.2.1.6, 5.2.2.6, and 5.2.3.6. DOE is confident that discussions presented in these sections adequately address ecological issues related to the proposed action. Impacts from water diversions and dam construction on the Tennessee River are beyond the scope of the present document. Economical benefits from the proposed action are addressed under the socioeconomic sections of Chapter 5.

12.04 The commentor cites a number of court cases and expresses concern that the CLWR EIS did not adequately address potential impacts to threatened and endangered species, especially the Indiana bat, and that DOE, although it notified the U.S. Fish and Wildlife Service, did not consult with that agency concerning threatened and endangered species.

Comment Summarized: 116-13

Response: The U.S. Fish and Wildlife Service has been consulted concerning potential threatened and endangered species that could occur at each CLWR site. Two letters were received (July 10, 1998, Lee Barclay, Field Supervisor, to Jon Loney, Manager, Environmental Management, TVA, [DOI 1998a] and

July 21, 1998, Larry E. Goldman, Field Supervisor, to Jon Loney, Manager Environmental Management, TVA [DOI 1998b]) providing information on threatened and endangered species that should be evaluated at the three proposed sites. On September 29, 1998 (letter from James H. Lee, Regional Environmental Officer, to Stephen Sohinki, Director, Commercial Light Water Reactor Project Office, DOE [DOI 1998c]), the U.S. Fish and Wildlife Service commented on the CLWR Draft EIS and noted that: "The Fish and Wildlife Service previously provided a current list of Federally threatened and endangered species [including the Indiana bat] which occur in the area. The CLWR EIS incorporated consideration of impacts to those species and concluded the operation would not adversely impact those species. The Fish and Wildlife Service does not anticipate adverse effects to listed species from the proposal." If TVA's operational monitoring program finds an adverse impact on any listed species, TVA will initiate further consultation with the U.S. Fish and Wildlife Service.

12.05 The commentor states that the EIS lacks site-specific ecological data and analysis concerning sensitive species. The commentor states that site-specific analysis should include the number of individuals of a species and how many will be killed or displaced by the proposed action.

Comment Summarized: 116-19

Response: DOE believes that the analyses of ecological resources, including sensitive species, provided in Volume 1, Sections 5.2.1.6, 5.2.2.6, and 5.2.3.6 of the CLWR EIS adequately address potential impacts from the proposed action at each of the three sites under consideration. Where the potential exists to affect ecological resources, the analyses demonstrate that impacts would be minor and/or of short duration. These results do not warrant the collection and analysis of detailed population data for each species potentially affected. The collection of detailed data and its analysis would only provide meaningful results if other than minor and/or short-term impacts were postulated. Council on Environmental Quality Regulations 1502.2 (a) and (b) state that EISs should be analytic rather than encyclopedic and that impacts should be discussed in proportion to their significance. The regulations go on to state, "There shall be only brief discussion of other than significant issues. As in finding of no significant impact, there should be only enough discussion to show why more study is not warranted."

With regard to sensitive species, the U.S. Fish and Wildlife Service, after reviewing the CLWR Draft EIS, found the analysis adequate to conclude that adverse impacts to listed species are not anticipated (letter dated September 29, 1998, James H. Lee, Regional Environmental Officer, to Stephen Sohinki, Director, Commercial Light Water Reactor Project Office [DOI 1998c]).

12.06 The commentor notes that Section 4.2.2.6, Aquatic Resources, mentions a decline in native mussel populations near the Sequoyah Nuclear Plant; but the reason for the decline was not addressed.

Comment Summarized: 146-6

Response: The referenced section states that few native mussels persist in the impounded portions of the Tennessee River adjacent to the Sequoyah Nuclear Plant site. The paragraph also states that mussels are present in the portions of the river below both the Chickamauga and Watts Bar Dams. While not directly stated, the intent of the paragraph is to point out that mussels do not occur in the impounded portions of the river and do occur in the more free-flowing portions of the river below the dams. Volume 1, Section 4.2.2.6 was revised in the CLWR Final EIS to clarify this point.

CATEGORY 13: SOCIOECONOMICS, ENVIRONMENTAL JUSTICE

13.01 The commentor states that people that live near Bellefonte are not educated enough to operate nuclear power plants and that bringing in employees to run the plant is not a good idea. Another commentor expresses concern that there is not enough housing for people to move into the area around Bellefonte.

Comments Summarized: 106-2, 200-1

Response: Approximately 800 people would be needed at Bellefonte for its efficient and safe operation. These 800 individuals would possess different skills and have various levels of education and training commensurate with their duties and responsibilities at the nuclear plant. Any individuals hired from the area or elsewhere to work at Bellefonte would be well trained in accordance with NRC requirements, applicable laws, good business practices, and nuclear industry guidelines. Internal and external audits, inspections, and assessments would ensure that these persons remain adequately trained to safely perform their jobs at the plant. While the initial economic effect of bringing in workers to operate Bellefonte may strain local infrastructure, the overall impact is expected to result in economic growth for the region.

Demand for housing by construction and operations workers in the vicinity of Bellefonte would increase during the completion and operation of the plant. Data indicate that vacant permanent housing for sale and rent in the vicinity of Bellefonte would not meet this demand. It is anticipated, however, that the completion and operation of Bellefonte would stimulate the construction of additional permanent housing, the opening of new trailer parks, and the expansion of existing parks to meet this demand. The construction of new housing units during the completion of Bellefonte would have a positive effect on the regional economy. It is expected that these new units also would meet permanent housing requirements for plant operations workers and their families. The impacts on housing from the completion and operation of Bellefonte are discussed in greater detail in Volume 1, Section 5.2.3.8 of the CLWR EIS.

13.02 The commentor asks the following question, "Since TVA has been planning on converting Bellefonte to a fossil fuel plant, how will the destruction of that plan affect the economics of the surrounding area?"

Comment Summarized: 116-12

Response: The economic impacts of converting Bellefonte to a fossil fuel plant are described in Section 4.2.12 of the *Final Environmental Impact Statement for the Bellefonte Conversion Project* (TVA 1997). As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. DOE believes that the CLWR EIS discusses all of the reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. Conversion of the Bellefonte plant to a fossil fuel electricity-generating plant would not accomplish DOE's purpose and need as stated in the CLWR EIS. As such, conversion of the Bellefonte plant to a fossil fuel plant is not a reasonable alternative for the CLWR EIS and, therefore, the comparison of tritium production with a fossil fuel plant is not presented in the CLWR EIS.

13.03 The commentor suggests that DOE avoids discussing in the CLWR EIS the economic impacts to recreation in general and, specifically, the Guntersville State Park and Reservoir. The EIS did not discuss the economics of fishing, hunting, hiking, wildflower viewing, bird watching, horseback riding or other recreational uses of these areas.

Comment Summarized: 116-22

Response: As the commentor points out, it is indeed true that the economic impacts to recreation are somewhat "intangible" and difficult to quantify. Impacts to recreation, however, may be evaluated by reviewing the number of fishing and boating licenses, for example, on other reservoirs with nuclear power plants experiencing similar conditions to that which would be experienced on the Guntersville Reservoir if the Bellefonte plant became operational.

TVA constructed and operates two nuclear power plants, Sequoyah and Watts Bar, on Chickamauga Reservoir near Chattanooga. TVA has seen no evidence of diminished recreational use on this reservoir due to the presence of these plants. Water-based recreation including fishing, boating, and water skiing is very popular on Chickamauga Reservoir. Other types of recreation, such as hunting and wildlife observation on adjoining lands, also are popular. Based on TVA's experience on Chickamauga Reservoir, there is no reason to believe that these recreational resources on Guntersville Reservoir would be impacted. The following information has been gathered in response to this comment.

There has been no decrease in fishing activities since Watts Bar went on line in May 1996.[1]

There were no appreciable changes in use patterns at TVA camping and park facilities in the area around Watts Bar. The Meigs County Arts and Crafts Festival has increased in size each year for the past several years.[2]

Creel survey data collected for Watts Bar before plant operations (1982-1985) and since the plant began operations (1996-1998) report that, since the plant began operations, harvest rates have exceeded those from before plant operations for all species compared.[3]

Tennessee Wildlife Resources Agency boat registration and hunting/fishing licenses sold in Meigs and Rhea counties are listed below. Hunting and fishing licenses are sold as a combined license. These data suggest that the startup of Watts Bar in 1996 had no effect on these common recreation outlets.

	1995	***1996***	***1997***
Hunting/Fishing Licenses[4]			
Meigs County	12,687	10,699	11,521
Rhea County	13,802	12,563	13,466
Boating Registration[5]			
Meigs County	927	NA	1,119
Rhea County	2,182	NA	2,435

13.04 The commentor suggests that the socioeconomic discussions in the EIS need to be at the same level of detail for each site.

Comment Summarized: 146-7

[1]Telephone interview with Tim Churchill, State of Tennessee Wildlife Resources Agency, Nashville, December 4, 1998.

[2]Telephone interview with Charlie Ellenburg, Tennessee Valley Authority Land Use Specialist, Melton Hill, December 4, 1998.

[3]Baxter, D.S., et al, *Aquatic Environmental Conditions in the Vicinity of Watts Bar Nuclear Plant During Two Years of Operation, 1996-1997* (Tennessee Valley Authority, Resource Group, Water Management, Norris, Tennessee, June 1998) 102.

[4]Telephone interview with Nellie Mann, State of Tennessee Wildlife Resources Agency, Nashville, December 7, 1998.

[5]Telephone interview with Becky Tomlin, State of Tennessee Wildlife Resources Agency, Nashville, December 7, 1998.

Response: Only the incremental socioeconomic impacts of tritium production were considered at the Watts Bar and Sequoyah Nuclear Power Plants. It was determined that the small regional costs and benefits associated with tritium production at these plants would have no measurable socioeconomic impacts. Less than 10 additional full-time equivalent workers would be required per unit. Because neither Bellefonte 1 nor Bellefonte 2 are currently operating, the EIS assessed the impacts of completing and operating these plants for tritium production. The socioeconomic impacts of this action at Bellefonte are far greater than at either Watts Bar or Sequoyah. The additional socioeconomic detail provided on Bellefonte in this instance is warranted, while additional socioeconomic detail on Watts Bar and Sequoyah is not necessary. This approach is consistent with Council on Environmental Quality Regulations 1502.2 (a) and (b). These regulations state that EISs should be analytic rather than encyclopedic, and that impacts should be discussed in proportion to their significance. These regulations also state, "There shall be only brief discussion of other than significant issues. As in finding of no significant impact, there should be only enough discussion to show why more study is not warranted."

13.05 Several commentors recommend that Bellefonte be selected by DOE as its primary tritium production source because it would create 800 permanent jobs and hundreds more indirect jobs, and this would have a significant economic impact on northeast Alabama because American workers would fill these jobs and retain them. However, one commentor also states that tritium production may not be the best way to create jobs. Other commentors state that the citizens of Jackson County would not receive the benefit of either short- or long-term jobs.

Comments Summarized: 232-1, 625-2, 627-3, 707-15, 806-3

Response: DOE acknowledges that there is both support for and opposition to the CLWR program and the selection of Bellefonte as the preferred tritium production site. The purpose of the CLWR EIS is to evaluate the environmental impacts of the reasonable CLWR alternatives for providing the tritium necessary to support the enduring stockpile as defined by the President in the Nuclear Weapons Stockpile Plan.

Tritium production at Bellefonte would have a significant economic impact on the region. These impacts are described in Volume 1, Section 5.2.3.8 of the CLWR EIS. Approximately 800 people would be needed at Bellefonte for its efficient and safe operation. These 800 individuals would possess different skills and have various levels of education and training commensurate with their duties and responsibilities at the nuclear plant. Local workers would be hired to the greatest extent possible which, as discussed in Section 5.2.3.8, would result in a lower unemployment rate, especially during construction. Any individuals hired from the area or elsewhere to work at Bellefonte would be well trained in accordance with NRC requirements, applicable laws, good business practices, and nuclear industry guidelines. Internal and external audits, inspections, and assessments would ensure that these persons remained adequately trained to safely perform their jobs at the plant. While the initial economic effect of bringing in workers to operate Bellefonte might strain local infrastructure, the overall impact would be expected to result in economic growth for the region.

13.06 A commentor expresses concern that there is no economic benefit [from tritium production at Bellefonte] to the residents of Scottsboro because local property values will be reduced, and local taxes will rise as a result of the completion of Bellefonte.

Comment Summarized: 232-4, 806-6

Response: As discussed in Volume 1, Section 5.2.3.8 of the CLWR EIS, DOE expects a positive socioeconomic impact associated with the completion of the Bellefonte plant. A significant number of new jobs would be added during construction and operation, along with significant new revenues and taxes to the local economy. Demand for housing would increase. It is speculative to expect property values to decrease as a result of completing Bellefonte.

13.07 A commentor asks whether the economic impact of using Watts Bar or Sequoyah for tritium production would be positive and negative. The commentor also asks that the welfare of the citizens of Rhea County be included in DOE's deliberations, and notes that Bellefonte would have greater and more positive economic impact.

Comment Summarized: 813-2

Response: As indicated in Volume 1, Sections 5.2.1.8 and 5.2.2.8 of the CLWR EIS, only the incremental socioeconomic impacts of tritium production were considered at Watts Bar and Sequoyah, which are operating nuclear power plants. It was determined that the small regional costs and benefits associated with tritium production at these plants would have no measurable socioeconomic impacts. Less than 10 additional full-time equivalent workers would be required per unit. The socioeconomic impacts, therefore, would not be noticeable. The socioeconomic impacts of completing Bellefonte would be far greater than those for either Watts Bar or Sequoyah. The socioeconomic impacts from tritium production at Watts Bar, described in Volume 1, Section 5.2.1.8 of the CLWR EIS, were determined based on the socioeconomic baseline conditions described for Rhea County in Section 4.2.1.8.

13.08 Several commentors express concern that DOE has not adequately determined whether minority and low-income populations living closest to the plants are experiencing disproportionate impacts and has not presented this information in the EIS. One commentor suggests that environmental impacts might be diluted by the usage of a 50-mile radius in the environmental justice analysis, when water and air contamination problems could be concentrated in areas of proximity to reactor sites.

Comments Summarized: 94-21, 137-10, 702-15

Response: DOE is committed to full compliance with all provisions of Executive Order 12898. The environmental justice analysis was prepared in compliance with the Council on Environmental Quality's guidelines for inclusion of environmental justice under NEPA. The CLWR EIS addresses the issue of whether implementation of the proposed action or alternatives would result in disproportionately high and adverse environmental effects on minority populations or low-income populations. The Council's guidance further states that an environmental effect must be significant to qualify as disproportionately high and adverse, where significant is defined by the Council's implementation regulations (see § 1508.27 and Volume 1, Appendix G, Section G.2 of this EIS). As discussed in Volume 1, Chapter 5 of the CLWR EIS, implementation of the alternatives for production of tritium in CLWRs would pose no significant radiological or nonradiological health risks to the public. The estimated incremental dose to an average individual from the production of tritium would be approximately one-ten-thousandth of the natural background radiation. The risks would not be significant regardless of the racial, ethnic, and economic composition of potentially affected populations.

As discussed in Volume 1, Chapter 5 and Appendix G of the CLWR EIS, implementation of the proposed action or alternatives would pose no significant risks to the entire population residing within 80 kilometers (50 miles) of candidate sites, or to maximally exposed individuals within 80 kilometers of the candidate sites. As shown in Figures G-1 through G-15 of Appendix G of the CLWR EIS, low-income populations reside throughout some of the potentially affected areas. However, implementation of the proposed action or alternatives would pose no significant risks to the potentially affected population regardless of the economic status of individuals that comprise the population.

Volume 1, Chapter 5 of the CLWR EIS describes radiological health impacts on the entire population residing within 50 miles of the candidate sites. Radiological health impacts are not diluted by selection of a 50-mile radius-of-effects zone, because the total population dose within the 50-mile distance is the sum of estimated doses received by each member of the potentially exposed population. For example, the total population dose described in Chapter 5 of the CLWR EIS is the sum of estimated doses to persons within 15 miles of the site

added to the sum of estimated doses to persons at a distance larger than 15 miles, but no more than 50 miles from the site. The 50-mile radius-of-effects zone is used because potential impacts due to air and water contamination would not be limited to the area immediately surrounding the candidate sites, nor would potentially affected minority and low-income populations necessarily be concentrated near the sites. Consequently, the environmental justice analysis described in Volume 1, Appendix G of the CLWR EIS considers minority populations and low-income populations residing throughout the potentially affected area.

Figures in Appendix G have been revised and new figures added showing the location of minority and low-income populations residing within 10 miles of the candidate sites. In addition, for each of the 16 principal directions, a representative average individual dose at 5 miles and 25 miles has been overlaid onto the 10-mile and 50-mile radii, respectively, to show the potential dose to minority and low-income populations.

CATEGORY 14: OCCUPATIONAL & PUBLIC HEALTH & SAFETY - NORMAL CONDITIONS

14.01 The commentor recommends that historical exposures to workers in similar processes, with administrative controls in place, be reviewed and the risks then extrapolated and included in Table 5-30.

Comment Summarized: 146-13

Response: Volume 1, Table 5-39 (formerly Table 5-30) is mainly intended to address the impacts of airborne trace releases of hazardous chemicals to the public and workers. These chemical compound releases are derived exclusively from processes and operations considered to be point sources and, therefore, are emitted through exhaust stacks above the level where they would affect workers in the immediate vicinity of the emission source. The vast majority of the chemicals are released from the auxiliary boilers and emergency diesel generators when operated to provide heat and backup power. These processes do not operate continuously. The emergency diesel generators, for example, operate only when being tested during inactive periods to ensure reliability or demanded upon loss of normal electrical power. Additional language has been added to the text in Volume 1, Section 5.2.3.9.1 of the CLWR EIS to clarify the nature of the emissions and the risk they pose to workers.

14.02 The commentor reports that, according to the International Geological Society and the National Geology Group, it is improper to use a 50-mile radius around each of the TVA plants for impact analyses in this particular region. The commentor believes the maximum meteorological impact assumed in the CLWR EIS is understated. The commentor suggests shaping these areas more like an oblong than a circle to account for the narrow corridor in which the prevailing winds move.

Comment Summarized: 703-10

Response: Chapter 5 of the CLWR EIS describes the radiological health impacts on the entire population residing within a 50-mile radius of the candidate sites. Radiological health impacts are not diluted by selection of a 50-mile radius-of-effects because the total population dose within the 50-mile distance is the sum of estimated doses received by each member of the potentially exposed population. For example, the total population dose described in Volume 1, Chapter 5 of the EIS is the sum of the estimated doses to persons within 15 miles of the site added to the sum of estimated doses to persons at a distance larger than 15 miles, but no more than 50 miles, from the site. The 50-mile radius-of-effects is used because potential impacts due to air and water contamination would not be limited to the area immediately surrounding the candidate sites. The meteorological data used in the calculations are discussed in Volume 1, Appendix C, Section C.3.2 of the CLWR EIS.

The meteorological data used to analyze radiological impacts under normal operations at each of the sites are in the form of joint frequency distribution files from each site. These data are representative of the historical meteorological conditions at the specific plants. A joint frequency distribution is a table listing the fractions of time the wind blows in a certain direction, at a certain speed, and within a certain atmospheric stability class. Contributions to dose from other TVA plants along the Tennessee River Valley are considered in the doses to the general public shown in Volume 1, Tables 4-9, 4-21, and 4-37. These doses are used in the assessment of cumulative impacts in Volume 1, Section 5.3.2 of the CLWR EIS. The dose contribution from other nuclear plants along the Tennessee River to doses to the public in the vicinity of any one plant is a very small part of the overall dose.

DOE believes the 50-mile radius provides a valid basis for assessing CLWR impacts and for comparing alternatives considered in the CLWR EIS.

14.03 The commentor asks whether DOE's analyses of the impacts of tritium production on the affected environment are based on current prevailing winds. The commentor points out that, according to the National Weather Service, 90 percent of the prevailing winds in the local area come straight up from Alabama to the [Tennessee] state line and do not expand widely. The commentor states that the graphics in the CLWR EIS used to illustrate the area should be corrected because the lines run 50 miles in any one direction and do not reflect the national average for these valleys.

Comment Summarized: 703-8

Response: The meteorological data used to analyze the radiological impacts of normal operations at each of the sites are in the form of joint frequency distributions from each site. These data are representative of the historical meteorological conditions at the specific plants. These data are considered to be more representative of dispersion conditions at these sites than data taken from more remote meteorological stations operated by the National Oceanographic and Atmospheric Administration. A joint frequency distribution is a table listing the fractions of time the wind blows in a certain direction, at a certain speed, and within a certain atmospheric stability class. Contributions to dose from other TVA plants along the Tennessee River Valley are considered in the background doses to the general public shown in Volume 1, Tables 4-9, 4-21, and 4-37. These background doses are used in the assessment of cumulative impacts in Volume 1, Section 5.3 of the CLWR EIS. The dose contribution from other nuclear plants along the Tennessee River to doses to the public in the vicinity of any one plant is a very small part of the overall dose.

14.04 Several commentors express opposition to the proposed action because of concerns about safety, cancer incidence, health problems and other harmful effects on people, and environmental pollution to air and water. One of the commentors expresses opposition to both CLWR and accelerator production of tritium.

Comments Summarized: 11-2, 12-2, 13-1, 17-2, 30-1, 33-2, 39-1, 48-3, 51-2, 52-2, 53-4, 80-1, 84-2, 99-5, 100-1, 105-1, 106-1, 108-1, 109-3, 112-3, 113-2, 115-2, 116-26, 122-2, 132-1, 136-10, 138-2, 208-1, 212-6, 213-2, 241-2, 610-5, 712-2, 811-5, 815-4, 818-2

Response: The radiological releases to the environment that could result from the proposed action under normal operating conditions and various hypothetical accident scenarios are conservatively estimated in Volume 1, Chapter 5 of the CLWR EIS for each candidate reactor site. The potential impacts to the environment and the radiological doses and risks to the public from these releases are assessed and discussed in Chapter 5. The assumptions and methodology used for the assessment are described in detail in Volume 1, Appendix C and D of the CLWR EIS for normal operation and accident conditions, respectively. The methodology used is based on scientific standards accepted in the nuclear industry and dictated by Federal and state regulatory authorities. As discussed in Chapter 5 of the EIS, the environmental impacts and the potential radiological doses to the public are well within the limits considered acceptable by the regulatory authorities.

Before tritium is produced at any of the reactor sites considered in this EIS, the NRC will review all aspects of the design and operation of the plant(s) related to tritium production. The NRC will then issue a license amendment only upon finding that the operation is not expected to endanger the health and safety of the public. The commentor's additional opposition to the accelerator production of tritium is noted.

14.05 One commentor refers to tables and sections in the CLWR Draft EIS where tritium releases and resulting potential exposures with and without TPBARs are presented. The commentor suggests that the EIS highlight the fact that releases of tritium to the air and water at Watts Bar and Sequoyah, as well as radiological doses from normal operation and potential accidents, would be multiple times those of operation without TPBARs. The commentor suggests that this is not immediately apparent in the tables in the CLWR Draft EIS and is important in light of the fact that DOE, in previous meetings, assured the public that the TPBARs were virtually leakproof.

Comments Summarized: 94-25, 702-10, 825-2

Response: DOE maintains that the performance of the "getter" is such that there is virtually no tritium in the TPBARs available in a form that could permeate through the TPBAR cladding. In assessing the potential release of tritium, the CLWR EIS assumes that annually about 1 Curie of tritium could permeate through a TPBAR cladding and be released to the environment; and that two TPBARs fail in each core load of TPBARs and release their entire tritium inventory to the reactor coolant and then to the environment. As discussed in the CLWR Draft EIS, these assumptions are extremely conservative, but they were made to provide a bounding estimate for environmental and human health effect analyses. Because of the relatively low actual radioactive releases at both Watts Bar and Sequoyah reported in Chapter 4 of the CLWR Draft EIS, the ratio of the conservatively estimated releases and doses with tritium production to the actual releases and doses without tritium production tends to be exaggerated. Even with the conservative assumptions, the incremental tritium production doses estimated in the CLWR EIS are a small fraction of those resulting from natural background radiation.

It should be noted that the assumption of two TPBAR failures has been modified in the CLWR Final EIS. As discussed in Volume 1, Section 1.9 of the CLWR Final EIS, in light of Westinghouse data concerning the historic failure rate of standard burnable absorber rods, the CLWR Final EIS still evaluates the failure of the two TPBARs, but this event is now categorized as "abnormal" and not part of normal operations. Consequently many of the numbers referred by the commentor have been changed in the CLWR Final EIS.

14.06 One commentor who reviewed the CLWR Draft EIS on behalf of the U.S. Public Health Service, Department of Health and Human Services, concludes the risks to the public health from the operation, transportation, and accident scenarios expressed by the CLWR Draft EIS are low and reasonable expectations from the operation of CLWRs. The U.S. Department of the Interior and U.S. Fish and Wildlife Service also reviewed the CLWR Draft EIS and concludes that tritium production would not adversely impact Federally threatened and endangered species. The draft also was reviewed by the Tennessee Department of Environmental Compliance, which concludes that the proposed action does not compromise the health and safety of the citizens in Tennessee. The Tennessee State Historic Preservation Office comments that the proposed action will have no impact on the National Register of Historic Places listed or eligible properties.

Comments Summarized: 101-1, 126-1, 142-1, 145-1

Response: The reviews of the CLWR Draft EIS by the U.S. Department of Health and Human Services, U.S. Department of the Interior, the Tennessee Department of Environmental Compliance, and the Tennessee State Historic Preservation Office are appreciated, and the conclusions presented by the commentors are noted.

14.07 The commentor, referring to a statement made on page 25 of the Summary of the CLWR Draft EIS that Watts Bar radiation exposure within 50 miles is 0.55 person-rem per year, asks how the value was derived.

Comment Summarized: 22-1

Response: Volume 1, Table 5-4 (formerly Table 5-3) of the CLWR EIS, Section 5.2.1.9.1, provides the data presented in the CLWR EIS Summary. Note "a" in Table 5-4 has been revised to read that the 1997 measurements and the associated population dose estimates were adjusted for estimated changes in the population for the year 2025.

14.08 Although agreeing with the radiation exposures to the workers and the public estimated in the CLWR Draft EIS, the commentor notes that the CLWR Draft EIS does not adequately address the fact that the commercial reactor industry does not possess the infrastructure and experience to deal with the magnitude of tritium contamination and exposures. The commentor suggests that the cost for building this infrastructure for radiation protection be folded into the cost assessment for producing tritium in a CLWR.

Comment Summarized: 31-1

Response: The commercial reactor industry has the infrastructure and experience to handle the postulated incremental increase in radiation exposure to workers due to tritium production. Reactor coolant radioactivity levels including tritium are routinely monitored, and corrective actions are taken to reduce the activity levels when required. No additional monitoring or sampling points requirements in the reactor coolant system and plant effluent streams have been identified as a result of tritium production. With the exception of TPBAR handling, TPBAR storage, transportation cask handling, and transportation cask shipping procedures, no new procedures have been identified as a result of tritium production. The projected additional costs were considered by TVA and were incorporated into their proposal to DOE. In the unlikely event that high activity levels are attributable to tritium production upset conditions, existing procedures would be used to reduce the level of tritium contamination in the reactor coolant system.

14.09 The commentor opines that the potential impact on workers involved in fuel operations should be evaluated, since it is likely that air-supplied plastic suits may be needed for their protection due to increased tritium oxide levels in the air above the refueling water canal and fuel storage pool. Adequacy of air supply, the need for communication systems, and the potential for increased chance of error all need to be included in the evaluation. The commentor also states the CLWR Draft EIS does not mention the role of the refueling water storage tank in the holdup of tritium as a liquid waste. This applies to all of the reactor options. If not vented or disposed of, the tritium in this tank and (subsequently) in the refueling water can increase with each refueling and would require personnel to wear air-supplied plastic suits for protection during this operation. This would be an impediment in refueling operations.

Comment Summarized: 41-9

Response: As discussed in Volume 1, Chapter 5 of the CLWR EIS, the analyses estimating the dose to the public postulated that all tritium added to the reactor coolant system as a result of tritium production would be released to the environment during the operating cycle (10 percent via air pathways and 90 percent via water pathways). The analyses did not credit the holdup and buildup of tritium in the reactor coolant to reduce plant emissions. Worker dose was calculated based on the tritium concentration in the reactor coolant system resulting from conservative assumptions regarding tritium permeation/leakages from the TPBARs. These calculations concluded that the tritium concentration in neither the reactor coolant system nor the refueling/spent fuel pool would reach a limit requiring the use of special protective gear to perform activities in the refueling area. The tritium concentration in the reactor coolant system would be maintained at an acceptable limit through the use of a reactor coolant water treatment system that maintains the coolant activity

levels within operational limits and allows a portion of the treated volume to be released to the environment via controlled water pathways. The refueling water storage tank was not considered for the holdup of tritium as a liquid waste. When the reactor is shut down, the water in this tank is used to fill the reactor cavity during the refueling operation. The tank is refilled with this water, which could contain some level of tritium contamination. The tank is vented to the atmosphere, but no detectable concentration of tritium escapes through this route. Therefore, there will be no impact on the workers.

14.10 The commentor, referring to Section 4.2.2.4 of the CLWR Draft EIS, states that a significant source of tritium release to the river can occur if the reactor continues to operate with primary to secondary leakage and the cooling tower is bypassed. Alternately, a significant increase of airborne tritium oxide would occur if the cooling tower were in full use. This is an important distinction that needs to be made when evaluating the radiation impact on persons both on and off site. The commentor suggests that a projected use pattern should be incorporated into projected dose calculations based on past meteorological data and the projected power level of the reactor. Projected estimates of tritium concentration should be made at each of the drinking water supply intakes downstream of the site, based on cooling tower use and the projected buildup of tritium in Chickamauga Lake during various net flows.

The commentor also points out that Table 4-21 lists the sources of background radiation exposure to individuals in the vicinity of the Sequoyah site. In reality, the table lists the average exposure to the U.S. population from these sources and not the actual "measured" levels at the site. The commentor suggests that this point be clarified to avoid being misleading.

The commentor further points out that there are eight municipal water supplies downstream from the Bellefonte site, and suggests that a similar analysis should be made of the projected tritium concentration at each intake based on cooling tower usage, river flow, dam holdup, and meteorological conditions, as suggested for the Sequoyah site.

Comment Summarized: 41-12

Response: Primary to secondary leakage will not result in a direct pathway to the river or the air via the cooling tower. There is a potential for a direct pathway to the air if there is a sudden major drop of turbine load and the secondary side safety valves or atmospheric dump valves are actuated. This off-normal mode of operation could release some of the steam generator steam to the atmosphere. This effect was taken into consideration when the EIS conservatively assumed that all tritium released to the reactor coolant by the TPBARs would be released to the environment during normal operation. The EIS took no credit for the holdup or retention of tritium in the reactor coolant during sequential reactor operating cycles to reduce the effects of radioactive effluents on workers and on the general public. In accordance with NRC guidance for effluent releases, 10 percent of the tritium was assumed to be released via air pathways and 90 percent via water pathways. The dose estimates were based on past meteorological data and the reactor operating at 100 percent power.

The projected estimates of the tritium concentration at downstream drinking water supply intakes have been included in the revised Volume 1, Sections 5.2.1.4, 5.2.2.4, and 5.2.3.4 of the CLWR Final EIS.

The data presented in Volume 1, Table 4-21 reflect the average exposure to the U.S. population from the sources indicated. Notes have been added to Volume 1, Tables 4-9, 4-21, and 4-37 of the CLWR Final EIS to provide clarification.

14.11 The commentor states that the definition of "measurable health effects" was not included in the CLWR Draft EIS.

Comment Summarized: 86-2

Response: The term was used at the public meetings by DOE to characterize the results included in Chapter 5. The term "measurable health effects" does not appear in the CLWR Draft EIS. A measurable health effect is assumed to be a statistically measured health impact (i.e., risk of cancer incidence) resulting from the proposed operations. This impact is the estimated quantity above the normally occurring cancer mortality rate of 0.2 percent from all causes.

14.12 The commentor, referring to the terminology used in the CLWR Draft EIS for "affected environment," asks whether the term refers to "current prevailing winds."

Comment Summarized: 86-8

Response: The term "affected environment area" refers to the area within an 80-kilometer (50-mile) radius centered at the Watts Bar, Sequoyah, and Bellefonte reactor sites. Current prevailing wind patterns were used to estimate the potential environmental impacts on the affected environment area. The meteorological data used in the calculations are discussed in Volume 1, Appendix C, Section C.3.2 of the CLWR EIS.

14.13 The commentor suggests that Tables 3-9 and 3-16 of the CLWR Draft EIS include a breakdown of the isotopes that comprise the "other radionuclides" entry and the unidentified unit of measure in Table 3-9.

Comment Summarized: 94-19

Response: The breakdown of the isotopes identified as "other radionuclides" in Tables 3-5 and 3-9 of the CLWR Draft EIS have been added in Volume 1, Appendix C of the CLWR Final EIS as new Tables C-9 and C-10. Curies have been added as the unit of measure in the revised Table 3-9.

14.14 The commentor, referring to the limiting concentration of tritium in drinking water (20,000 picocuries per liter) in Table 5-24 of the CLWR Draft EIS, requests information on the meaning of the limit.

Comment Summarized: 116-14

Response: The EPA drinking water regulation tritium limit of 20,000 picocuries per liter, issued on July 9, 1976, was derived on the basis that the annual dose equivalent to the total body or any internal organ shall not be greater than 4 millirem per year. The 4 millirem dose was estimated based on a total water intake of 3 liters per day—2 liters per day by fluid intake and the balance by food and food oxidation. The dose conversion factors used as the basis for the 20,000 picocuries per liter limit have been refined since the limit was issued. Using current methodology and dose conversion factors, the dose estimate is reduced by approximately a factor of four. Using the conservative methodology presented in Volume 1, Section C.2.1.2 of the CLWR EIS to estimate health effects on an individual receiving a 4-millirem dose per year, the individual was estimated to have a 2.0×10^{-6} increased likelihood of cancer fatality per year.

14.15 The commentor expresses the opinion that the production of tritium at the Sequoyah and/or Watts Bar and/or Bellefonte Nuclear Plants as described in the CLWR Draft EIS does not appear to create a significant risk to the environment or human health, provided the tritium production is at a level that allows efficient power production. Less efficient power production would result in additional spent nuclear fuel and associated environmental and transportation risks.

Comments Summarized: 126-2, 127-1

Response: The primary mission of the Watts Bar and Sequoyah Plants is the generation of electricity. Production of tritium at these facilities is a potential secondary mission and would be based on agreements between TVA and DOE; it would not degrade the ability of these facilities to generate electricity. If no more than 2,000 TPBARs are irradiated in a reactor, no additional spent fuel would be generated. The generated spent fuel would be stored on site. Volume 1, Sections 5.2.1.12, 5.2.2.12, and 5.2.3.12, discuss the spent nuclear fuel management at each site, and Section 5.2.6 discusses the environmental impacts from the construction and operation of a generic ISFSI should one be needed. If Bellefonte is completed, the primary mission for this facility will be tritium production and the secondary mission will be generation of electricity. Based on agreements between TVA and DOE, the nominal 18-month operating cycle can be reduced to meet tritium production requirements. The operating power level would not be altered for tritium production. As stated under the Preferred Alternative in Volume 1, Section 3.2.7 of the CLWR Final EIS, DOE and TVA would minimize, to the extent practicable, the generation of additional spent nuclear fuel.

14.16 The commentor, while agreeing that the doses from tritium releases would be within Federal guidelines, suggests that the presentation in the CLWR Draft EIS implies that the increase in the quantity of tritium released is not significant. The commentor refers to numbers and sections in the CLWR Draft EIS where tritium releases with and without tritium-producing rods are compared.

Comment Summarized: 128-2

Response: The additional release of tritium as a result of tritium production at each potential reactor site is presented in Volume 1, Chapter 5 of the CLWR Draft EIS under "Air Quality" and "Water Resources." The estimated releases were based on the assumptions that 1 Curie of tritium per TPBAR per year could permeate through the cladding during irradiation and that two TPBARs could fail and release the entire inventory of tritium into the reactor coolant and eventually to the environment. These assumptions are very conservative and were used to provide a bounding estimate for the environmental analyses. The CLWR Draft EIS provided an assessment of the significance of these releases by estimating the resulting health and safety effects to the public and workers. While the TPBARs are not expected to fail during reactor operation, a failure rate of two TPBARs per cycle was chosen in the CLWR Draft EIS for conservatism. However, as discussed in Volume 1, Section 1.9, the CLWR Final EIS has been changed to reflect recent Westinghouse data on the failure rate of burnable absorber rods, which have characteristics similar to TPBARs. The CLWR Final EIS still evaluates the failure of two TPBARs per cycle as an abnormal event and not normal operation. As a result, the numbers quoted by the commentor have been changed in the CLWR Final EIS.

14.17 The commentor, referring to Section 5.2.7 of the CLWR Draft EIS notes that the text states that the environmental impacts from increasing the enriched uranium use in the reactor "would be minimal." The commentor asks how this compares with the tritium in liquid/air releases. The commentor also asks DOE to quantify the statement.

Comment Summarized: 143-8

Response: The basis for estimating radioactive releases during normal operation and potential accident conditions is the generation of fission products in the core during the operation of the reactor. As stated in Volume 1, Appendix A, Section A.3.1, tritium production would require an increase in fuel enrichment to just under 5 percent from the approximately 4.2 to 4.5 percent used currently (less than the licensing limit of 5 percent). The somewhat higher enrichments and reduced fuel assembly burnups associated with the tritium production core, as compared to the conventional core designs, can influence the radiological source term used in the calculation of radiological emissions other than tritium during normal operation and accident conditions. The *Tritium Production Core Topical Report* (WEC 1998) quantified the effect and concluded that, overall, the fission product inventories were the same or lower in the tritium-producing core. Therefore, the analysis presented in the CLWR EIS, which does not account for the increased enrichment, is conservative.

Tritium releases from TPBARs to the air or the water are independent of the fuel enrichment used.

14.18 The commentor refers to Section 4.2.1.9 of the CLWR Draft EIS where it states that conservative assumptions are used for both individual and population exposure times. The commentor recommends these conservative assumptions be expressly discussed in the CLWR Final EIS.

Comment Summarized: 146-3

Response: The exposure-time assumptions presented in Volume 1, Section 4.2.1.9 are cited directly from the *Annual Radiological Environmental Operating Report, Watts Bar Nuclear Plant 1997*, (TVA 1998b). Exposure-time assumptions associated with the health impact analyses for the alternatives presented in the EIS, however, are discussed in Volume 1, Appendix C, Section C.3.2 of the CLWR EIS.

14.19 The commentor, referring to Table 5-46 of the CLWR Draft EIS, notes that the assumption of one-month refueling is optimistic and recommends that an average refueling outage duration be used.

Comment Summarized: 146-21

Response: The one-month refueling assumed in the CLWR EIS is based on TVA experience at Watts Bar and Sequoyah.

14.20 The commentor notes that the health risks and impacts analyses in the CLWR Draft EIS deal with tritium production only, and not the risks and impacts of the plant itself (without tritium production). The commentor asks to know the health risks and impacts resulting from both tritium and nuclear power production. The commentor is concerned that people already are affected by nuclear power production and an additional 1.1 percent, or about 1,500 people, would die of cancer as a result of the proposed action.

Comment Summarized: 600-3

Response: As stated in Volume 1, Section 3.2.1 of the CLWR EIS, for the currently operating reactors (Watts Bar 1 and Sequoyah 1 and 2), the EIS assesses the incremental environmental impacts of tritium production at the reactors. This information is presented in Volume 1, Sections 5.2.1 and 5.2.2. The CLWR EIS addresses the impacts from the existing operation of these reactors under the No Action alternative and reports the total sum of the impacts in Volume 1, Section 5.3 of the CLWR EIS under Cumulative Impacts. The environmental impacts from the proposed action at Bellefonte, discussed in Section 5.2.3, include the impacts from the completion and the operation of the plant as a tritium-producing plant.

With respect to the commentor's assertion that an additional 1.1 percent, or about 1,500 people, would die of cancer as a result of the proposed action, the commentor is referred to Volume 1, Appendix C, Section C.2.1.2, where the CLWR EIS presents examples of how health effect risk factors are used and how latent cancer fatalities are calculated. One of the examples explains the calculation of latent cancer fatalities among people exposed to the natural background radiation of 300 millirem per year over a lifetime of 72 years. The proposed action will not result in the death of 1,500 people, and the resulting 1.1 percent risk is clearly not a risk resulting from the proposed action.

14.21 The commentor asks if his chances of winning the Georgia Lottery without buying a ticket are better than his chances of dying from radiation released by a tritium-producing Bellefonte Nuclear Plant.

Comment Summarized: 601-1

Response: The commentor's chances of receiving a fatal exposure to radiation produced by a completed, tritium-producing Bellefonte Nuclear Plant are equal to 1.6×10^{-7} per year or less than one in 6 million years (see Table 5-34 of the CLWR EIS). The commentor's chances of winning the Georgia lottery without buying a ticket are zero. The likelihood would be much higher that the commentor would die from causes other than radiation exposures resulting from tritium releases during Bellefonte operation. For example, an individual's chances of dying from cancer caused by natural background radiation (which is independent of the Bellefonte operation) over a 72-year lifetime are about 1.1 percent, or about 1,000 times more than that caused by Bellefonte operation.

14.22 The commentor states that the radiation exposure for residents of Jackson County, including background radiation and radiation from the Bellefonte reactor operations, would be 355.26 millirem per year, a lower dose than the average for U.S. citizens overall, which is 363 millirem per year.

Comment Summarized: 627-4

Response: As stated in the revised Volume 1, Appendix C, Section C.2.1.1 of the CLWR EIS, the average American receives a total of approximately 364 millirem per year from all sources of radiation, of which approximately 300 millirem is from natural background radiation and the rest from manmade sources. The commentor's statement is correct, but it should be noted that the background dose numbers are approximate and that the uncertainty associated with the approximation could be much larger than the 0.28 millirem per year contribution estimated in Volume 1, Section 5.2.3.9.1 of the CLWR EIS.

14.23 The commentor thinks the DOE presentation failed to sufficiently emphasize the high radioactivity of tritium.

Comment Summarized: 704-3

Response: Throughout the CLWR EIS, the health effects of tritium production on workers and members of the public have been analyzed. The analyses considered normal incident-free operation, plant upset events (i.e., abnormal occurrences), and a spectrum of accident scenarios. Tritium exists in the environment in two forms, elemental tritium and oxidized tritium. Of the two forms of tritium, oxidized tritium has a much more significant potential impact on human health. All analyses of tritium releases assumed that the tritium released would be in oxide form. In addition, Volume 1, Appendix C, Section C.2.2 of the CLWR EIS, summarizes the characteristics and biological properties of tritium. The CLWR EIS clearly identifies the impact of radiological releases due to tritium production on workers, the public, and the environment.

14.24 The commentor believes the cancer fatalities listed under environmental impacts in the EIS are exceedingly low and inaccurate, if recent newspaper stories are true.

Comment Summarized: 707-17

Response: The cancer fatality estimates presented in the CLWR EIS were made using accepted methods and data for estimating health impacts and industry-approved methodology, data bases, and computer analysis codes. Analysis results presented in this EIS have been reviewed for technical adequacy and accuracy. DOE cannot comment on the technical adequacy and accuracy of information published in newspapers.

14.25 A commentor expresses concern that low levels of tritium have been found in soil and water, and that DOE has said there is no easy way to treat it. The commentor further feels that DOE's position that a single dose or short-term exposure is not hazardous leads people to believe tritium is not dangerous. The commentor provides several examples of health effects from exposure to unspecified materials, and concludes that TVA and DOE are bringing nuclear thalidomide to the community.

Comments Summarized: 241-3, 811-6

Response: The environmental and biological behavior of tritium, as well as its health effects, are well understood and were the basis of the impact analyses presented in this EIS. The CLWR EIS provides a detailed analysis of the potential health effects from tritium production in Volume 1, Chapter 5 of the CLWR EIS. Conservative assumptions were used in those analyses as indicated in Volume 1, Appendix C of the CLWR EIS. In determining health effects, DOE treats all doses as having potentially adverse affects. The research studies indicated by the commentor do not concur with the results described in this EIS. Appendix C also includes studies on the health impacts of exposure to tritium.

CATEGORY 15: OCCUPATIONAL & PUBLIC HEALTH & SAFETY--ACCIDENT CONDITIONS

15.01 The commentor states that insurance companies do not cover any losses resulting from any type of nuclear power plant accident and asks if TVA and DOE would provide 100 percent of the cost of replacement for any losses suffered by the residents of Jackson County that are related to tritium production. The commentor suggests that, if the people of Jackson County are going to have tritium production at Bellefonte, maybe 100 percent coverage should be part of the plan—because they would be taking a risk in addition to receiving some advantages. The commentor asks for the name of an expert on Price-Anderson coverage.

Comments Summarized: 86-12, 623-3, 703-12

Response: The Price Anderson Act requires TVA, like all other owners of nuclear plants in the United States, to carry nuclear liability insurance. This insurance provides coverage for personal injury or property damage as a result of a nuclear accident. Under the current Price Anderson Act there would be over $9.5 billion available to pay claims. In *Resources Available for Nuclear Power Plant Emergencies Under the Price-Anderson Act and the Robert T. Stafford Disaster Relief and Emergency Assistance Act* (NUREG 1457) (NRC 1992), some examples of the type of assistance that is available under the Price Anderson Act are provided. NUREG 1457 states, for property that is deemed uninhabitable as a result of a nuclear accident, the insurer will reimburse for present real estate value, based on a pre-accident assessment. Information on the Price-Anderson Act may be obtained at: American Nuclear Insurers, Town Center, Suite 300S, 29 South Main Street, West Hartford, Connecticut, 06107-2430.

15.02 The commentor expresses opposition to use of the unfinished Bellefonte plant or any other commercial nuclear reactor for the production of tritium. The commentor regards this as a dangerous and highly undesirable course of action for several reasons. These include the effects of tritium on the human body and its DNA, DOE's history of tritium-releasing accidents at its other production facilities, the implication for accidental tritium releases from Bellefonte, and the effects of the resulting radioactive contamination of the Tennessee River water supply. The commentor suggests that such accidents are more likely to occur at a facility that is not designed for tritium production.

Comment Summarized: 25-1

Response: The commentor's opposition to the use of Bellefonte for tritium production is noted. The CLWR EIS analyzes the potential water quality impacts associated with the operation of Bellefonte 1 or Bellefonte 1 and 2 for tritium production. In analyzing the impacts to the health and safety of the public, the EIS takes into consideration the radiological and biological characteristics of tritium as discussed in Appendix C, Section C.2.2 of the CLWR EIS. The results of these analyses are presented in Volume 1, Sections 5.2.3.4 and 5.2.3.9. TVA, which would be the licensed operator of the Bellefonte Nuclear Plant, possesses a permit from

the NRC to construct two nuclear power generation units at the Bellefonte site. As part of the construction permit approval process, the NRC reviewed the design of the two units and the projected chemical and radiological releases to the environment during normal operation, postulated operational upset events, and accidents. Operation of nuclear power generation units at the Bellefonte site and associated operational and accidental releases would be within the limits established by the NRC as the licensing basis for the safe operation of the Bellefonte Nuclear Plant. DOE has made environment, safety, and health considerations paramount in all operations at DOE sites through the use of internal and external regulations, appropriate controls in contracts, and day-to-day management and oversight of nuclear operations. DOE is confident that TVA is capable of safely operating the Bellefonte reactors. Although the Bellefonte reactors were not designed specifically to produce tritium, they can easily accommodate TPBARs. There is a very small increase in reactor accident consequences due to the irradiation of TPBARs at Bellefonte, as discussed in Volume 1, Section 5.2.3.9.2.

15.03 Several commentors oppose the implementation of the proposed action because of concerns about potential accidents. One commentor asserts that, since all of the DOE's former tritium production plants have had accidents resulting in leaks into the environment, there is no doubt that commercial reactors inherently unsuited for weapons production will leak and destroy the Tennessee River, the Tennessee Valley, and peoples' lives. The commentor also asserts that tritium can cause cancers, genetic mutations, and problems in unborn babies, and that there is no safe dose. Other commentors state that accidents would undoubtedly occur that could ruin the state, or that a chance of an accident occurring would be too risky considering the magnitude of a nuclear disaster.

Comments Summarized: 13-2, 80-3, 138-1, 252-2

Response: As discussed in Volume 1, Chapter 5 of the CLWR EIS, the environmental impacts and potential doses to the public from the proposed action are well within the standards adopted by the regulatory authorities. Sections 5.2.1.9.2, 5.2.2.9.2, and 5.2.3.9.2 of the CLWR EIS provide the results of the analyses of the incremental risk resulting from hypothetical accident scenarios during tritium production at CLWRs. These analyses are performed using generally accepted methods for design-basis and beyond design-basis accident analyses in support of the reactor operations promulgated by the NRC. The analyses used special models for the evaluation of consequences of accidental releases of tritium (tritiated water vapor) to the environment. Volume 1, Appendix C, Section C.2.2 of the CLWR EIS summarizes the characteristics and biological health effects of tritium. This appendix also provides the health effect standards used to estimate the potential lifetime cancer mortalities resulting from exposure to tritium and other radioactive materials. These health effects were calculated using a linear extrapolation from the nominal risk estimated for lifetime total cancer mortality at a dose of 10 rad to a very low dose level (i.e., zero dose). The impacts from the application of this model are considered to be an upper bound estimate. There is scientific uncertainty about the cancer risk in the low dose region below the range of epidemiological observation, and the possibility of no risk, or even a health benefit, cannot be excluded. The low dose region is defined as a dose level (~0.01 rad) where DNA repair can occur in a short period (a few hours) after irradiation-induced damage.

As explained in Volume 1, Section 3.1.1 of the CLWR EIS, CLWRs are well suited to produce tritium because they require no elaborate and complex engineering and test programs. This conclusion is based on numerous studies, analyses, and tests performed as part of new production reactor efforts in the early 1990s. The results of the EIS accident analyses indicate that only very small impacts would occur for any of the credible accident scenarios for tritium production in a CLWR.

15.04 The commentor expresses the opinion that a new safety analysis will have to be performed to consider the potential increased internal pressure in the reactor vessel during a melt-down that could result from partial fusion of the large quantities of tritium in a degraded core with uncontrolled recriticality. Temperature data from the Three Mile Island accident should be used in the analysis.

The commentor further asserts that, although beyond design-basis accidents were analyzed, the analysis was done using the MACCS2 accident analysis computer code (SNL 1997) for a standard pressurized water reactor core. However, if a significant increase in energy can be released in the reactor vessel due to fusion of tritium gas in the core during a meltdown accompanied with uncontrolled recriticality, the code would not be useful for assessment of accident conditions. The commentor suggests that Table 5-49 in the CLWR Draft EIS also should list under the beyond design-basis accident an evaluation of energy release from possible fusion of tritium in the core, using the Three Mile Island temperature data in the event of a recriticality of the degraded core.

Comment Summarized: 41-3

Response: Analyses of tritium production reactors have shown that only reactor cores with an enrichment greater than 7.5 percent uranium-235 have the potential for uncontrolled recriticality during severe core melt accidents. Since all CLWRs operate with a core enrichment of less than 5 percent, recriticality is not an issue during core melt accident sequences. In addition, the temperature distribution following a severe core melt accident is insufficient to promote any fusion reaction involving tritium or lithium. A fusion reaction requires a "confinement medium" corresponding to temperatures on the orders of tens of millions of degrees, which is not possible in a reactor accident. The analyses presented in the CLWR EIS correctly reflect the conditions expected in a severe core damage accident, and no change to Table 5-58 (formerly Table 5-49) is needed. Revised Volume 1, Appendix D, Section D.1.1.10 of the CLWR Final EIS states that the core enrichments in the CLWRs preclude any potential for uncontrolled recriticality after a severe core melt accident.

15.05 The commentor asserts that Section S.3.1.1 of the Summary of the CLWR Draft EIS, under Accident Conditions, should spell out that a reanalysis of the design-basis accident conditions would be needed because of reactivity changes to the core and no mention is made of the use of boron as a chemical shim early in core life and its relationship with the TPBARs, nor of the increased reactivity needed, if any, to accomplish the project. The commentor further asserts that a potential impact not mentioned is the effect of different metals such as zircaloy on corrosion interaction with parts of the core and on other primary systems.

Comment Summarized: 41-8

Response: DOE has produced a technical report documenting the design and analysis of a maximum tritium production core using a reference Westinghouse reactor similar to the Watts Bar 1 reactor titled, *Tritium Production Core Topical Report*, (WEC 1998). This report, which is currently being reviewed by the NRC, contains the evaluations of various design-basis accident scenarios performed in the plant safety analysis report. The report has concluded that the insertion of TPBARs would not change the progression of the design basis accidents previously analyzed. Prior to operating the reactor, the NRC will approve the analyses of specific tritium production reactor core configurations. NRC license holders must submit core reload analyses and demonstrate that core performance for a new core configuration, including tritium production cores, are within the licensing basis performance envelope for the plant.

As stated in Volume 1, Appendix A, Section A.3.2 of the CLWR EIS, the normal burnable absorber rods are clad with either type-304 stainless steel or zircaloy-4. The TPBAR cladding and end plugs are manufactured from 20 percent cold-worked type-316 stainless steel. The introduction of TPBAR type-316 stainless steel cladding into the reactor core will not introduce any new and unanalyzed corrosion condition with parts of the core and other primary systems. In September 1997, 32 TPBARs were inserted into the reactor core at Watts Bar 1 as part of a confirmatory demonstration program. To date, the TPBARs and their type-316 stainless steel cladding are performing as designed.

15.06 The commentor, referring to Appendix A, page A-18 of the CLWR Draft EIS, states that the last paragraph indicates that more new fuel assemblies may have to be loaded into the core during each refueling

and that the enrichment of these assemblies may need to be increased. The commentor suggests that analysis be included on flux density, the interaction of chemical shim control on this density over time, and the total impact of this added reactivity on control systems. The commentor further suggests that a safety analysis is needed to determine the increased risk to personnel as a result of an out-of-core criticality incident and the steps taken to prevent one from occurring.

Comment Summarized: 41-13

Response: As indicated in Volume 1, Appendix A, Section A.3.1 of the CLWR EIS, the maximum enrichment for CLWR fuel is limited by the NRC to 5 percent. The *Tritium Production Core Topical Report,* NPD-98-181 (WEC 1998), submitted to the NRC for review in July 1998, evaluated the flux density of a reference tritium production core over time and concluded that no changes to reactivity control systems are required due to the introduction of TPBARs into the core with fuel assembly enrichment approaching 5 percent. In addition, each license holder must submit core reload analyses to the NRC prior to refueling and demonstrate that core performance for a new core configuration, including tritium production cores, is within the licensing basis performance envelope for the plant. Since all CLWRs are currently licensed to handle fuel assemblies with enrichments up to 5 percent, there is no increased risk to personnel as a result of an out-of-core criticality incident. Existing approved plant operating procedures are adequate to handle reactor fuel enriched up to 5 percent and ensure the safety of operating personnel.

15.07 One commentor asserts that the evaluation of human health effects from facility accidents (Appendix D of the CLWR Draft EIS) is not adequate, with three deficiencies:

1. The basis for estimating that 10 percent of the tritium released from the melted targets will be in the oxide form within the containment atmosphere is not documented (Table D-1). In some past safety analysis reports, DOE has assumed that 100 percent of released tritium is in the oxide form and is available for release to the environment. The commentor requests an explanation for the basis of and revision of the analysis.

2. Elemental tritium may be available in the containment atmosphere and released to the environment. The EIS analysis needs to quantify the estimated release of elemental tritium and the resultant safety and environmental effects.

3. The analysis does not address the disposition of tritium remaining in the reactor facility after the first 30 days (Table D-2). Since tritium is very mobile and cannot be easily removed from contaminated coolant water, how much additional tritium will be released to the environment, and with what effects? Also, what are the long-term disposition mechanism and associated environmental impacts for tritium that remain within the containment structure? The CLWR Draft EIS needs to be corrected to address the environmental impacts associated with the disposition of all tritium released in a design-basis accident.

Comment Summarized: 45-6, 503-9

Response:

1. Volume 1, Appendix D, Section D.1.1.2 of the CLWR EIS discusses the reasons for the reduction of tritium water vapor in the containment after a large-break loss-of-coolant accident. It states that the reduction in the amount of tritium available for release would result from post-accident processing and cooling of the containment atmosphere, operation of the hydrogen recombiners, and the absorption of elemental and oxidized tritium by water in the containment. This assumption is consistent with previous DOE analysis performed in support of the *Light Water Reactor (WNP-1) Plant Description-New Production Reactor* (New Production Reactor EIS), documented in a Westinghouse report (WHC 1991).

As a result of these removal processes, the analysis assumes that only 10 percent of the tritium released to the containment would be in the form of tritiated water vapor and would be available for release over a 30-day period following an accident. Tritium and tritiated water vapor would be released to the atmosphere through containment leak paths only. Potential leak pathways from containment are discussed in Volume 1, Appendix D, Section D.1.2.5.2 of the CLWR EIS.

2. The analysis assumed that all tritium released from the containment to the environment was in oxide form. This assumption is very conservative because the dose conversion factors for tritium in oxide form are much greater (by a factor of 10,000) than for elemental tritium gas. As stated in Volume 1, Appendix C, Section C.2.2.2, the total effective dose from a tritium gas exposure is about 10,000 times less than the total effective dose from an equal exposure to airborne tritium oxide.

3. As stated in Volume 1, Appendix D, Section D.1.1.2 of the CLWR EIS, the analysis assumed that, after 30 days, all of the tritiated water vapor in the containment atmosphere would be condensed and would not be available for further release. As part of the post-accident cleanup and restoration activities, the contaminated water remaining in the containment would be treated to remove radioactive fission products and the treated water would be tanked and stored on site to allow the tritium to decay as appropriate before it is recycled and released to the environment via controlled pathways.

15.08 The commentor asserts that it is irresponsible to state that an explosion of the Bellefonte facility is outside of the scope of this EIS. The commentor adds that the Chernobyl Plant accident is a mere decade behind us and that residents around such facilities need to be informed of the results of such an explosion.

Comment Summarized: 116-25

Response: The CLWR EIS was searched for all references to the word "explosion" to identify what postulated explosion the commentor was referencing. Two references to "explosion" were identified:

1. Volume 1, Appendix F addressed issues raised during the Public Scoping Process. One of the issues raised was the possible explosion of a nuclear warhead. DOE's position on this issue has not changed. Appendix F of the CLWR EIS states, "The environmental impacts associated with a possible explosion of a nuclear warhead are speculative and beyond the scope of the CLWR EIS."

2. Volume 1, Section 5.2.10, Safeguards and Security, addresses design-basis threats from a dedicated adversary group with suitable weapons and explosives. The section describes the provisions of the DOE Safeguards and Protection Program. Section 5.2.10 of the CLWR EIS states, "Accidents initiated as a result of sabotage are considered speculative and, accordingly, have not been addressed in the CLWR EIS." DOE has not changed their position on this issue. However, it should be noted that the EIS did evaluate the consequences of severe reactor accidents (i.e., core-disruptive accidents with containment bypass or breach of containment). The consequence of any act of sabotage, including an explosion, is bounded by the analysis of severe reactor accidents. The commentor references the Chernobyl accident and infers that it was an explosion. The accident at Chernobyl is classified as a severe reactor accident, not an explosion. As stated above, this EIS did evaluate severe reactor accidents. The Chernobyl reactor design differs markedly from the reactors proposed for tritium production. The Chernobyl initiating events, accident sequences, and resulting consequences could not occur at U.S. NRC-licensed reactors.

15.09 The commentor refers to Section 5.2.1.9.2 of the CLWR Draft EIS under Radiological Impacts where it states that the assessment of dose and associated cancer risk to the noninvolved worker is not applicable for beyond design-basis accidents. The commentor believes that the rationale given following this statement is of dubious validity and explains that the assumption of a slow-moving accident is not a general case; many scenarios of fast-moving, beyond design-basis accidents exist. The commentor further refers to a statement

made that the public within 10 miles would have been evacuated. The commentor remarks that this evacuation would not occur immediately and most likely would take hours to accomplish. The commentor recommends that the dose and associated cancer risk be evaluated for the noninvolved worker.

Comment Summarized: 146-10

Response: The severe accidents evaluated include containment failure and bypass scenarios, which lead to releases. Each scenario has a warning time and a release time. The warning time is the time at which notification is given to offsite emergency response officials to initiate protective measures for the surrounding population. The release time is the time when the release to the environment begins. At Sequoyah and Watts Bar, the minimum time between the warning time and the release time is two hours. At Bellefonte, the minimum time is one hour. The minimum time of one hour is more than enough time to evacuate onsite personnel. This also conservatively assumes that an onsite emergency has not been declared prior to initiating an offsite notification. Releases from these scenarios take place on an even longer time frame. Therefore, the assumption that consequences to the noninvolved worker need not be considered for beyond design-basis accidents is justified. Volume 1, Sections 5.2.1.9.2, 5.2.2.9.2, and 5.2.3.9.2 of the CLWR EIS have been revised for clarity. The offsite population within the 10-mile Emergency Planning Zone is not evacuated prior to release. The offsite evacuation is initiated at the warning time, as mentioned above. There is a delay time for notification and then a significant time for evacuation, usually on the order of a few hours.

15.10 The commentor remarks that, while Table 5-6 of the CLWR Draft EIS presents risk increments associated with various accidents, the paragraph following this table describes these numbers as the actual risk. The commentor suggests that the terminology between narratives and tables be made consistent.

Comment Summarized: 146-11

Response: Volume 1, Sections 5.2.1.9.2 and 5.2.2.9.2 of the CLWR EIS have been revised to address the commentor's concern.

15.11 The commentor refers to Table 5-32 of the CLWR Draft EIS where the assumption of mean (50 percent) meteorological conditions for the maximally exposed offsite individual is made. The commentor recommends that the worst case credible meteorological conditions be used to bound the risks.

Comment Summarized: 146-14

Response: As stated in Volume 1, Appendix D, Section D. 1.2.4 of the CLWR EIS, the impact analyses were performed in accordance with guidance provided in NRC Regulatory Guide 4.2. This guide recommends using an atmospheric diffusion value (X/Q) corresponding to one tenth of the value determined in Safety Guide No. 4. This safety guide has been revised and reissued as Revision 2, Regulatory Guide 1.4. In 1983, the NRC issued Regulatory Guide 1.145, providing guidance in determining 95th percentile X/Q values using a site meteorological direction-dependent approach. In this analysis, DOE assumes the 95th percentile direction-dependent X/Q values to be consistent with the guidance provided in Safety Guide 4 and Regulatory Guide 1.4. The GENII computer code, which is based on the NRC's current acceptable direction-dependent approach, was used to determine the 50th and 95th percentile meteorological conditions at each site. The results indicated that the estimated doses using 50th percentile meteorological conditions were more than one tenth times the 95th percentile meteorological doses. Therefore, the 50th percentile meteorological condition at each site was used to estimate the consequences.

CATEGORY 16: WASTE MANAGEMENT

16.01 The commentor notes that there likely will be an increase in the generation of low-level radioactive waste which must be stored somewhere and asks about plans to store this waste on site.

Comment Summarized: 116-27, 800-3

Response: As discussed in Volume 1, Sections 5.2.1.11, 5.2.2.11, and 5.2.3.11 of the CLWR EIS, tritium production would increase low-level radioactive waste by 0.1 percent. Low-level radioactive waste would not be stored on site, but would be transported and managed at the low-level radioactive waste facility at Barnwell, South Carolina, or the Savannah River Site. The 40-year production of tritium at CLWRs would produce a total amount of low-level radioactive waste that would fill 0.06 percent of the capacity of one of a series of existing vaults at the Savannah River Low-Level Radioactive Waste Disposal Facility, which has been operational since 1994.

16.02 The commentor remarks that DOE's assertion that waste will be produced and that the waste may be stored on site or in a Federal storage facility does not satisfy the requirements of NEPA.

Comment Summarized: 116-3

Response: The CLWR EIS has been prepared in accordance with the Council on Environmental Quality regulations (40 CFR 1500-1508) and DOE's NEPA regulations (10 CFR 1021) and procedures. To the extent that potential environmental impacts associated with waste management could be identified for the alternatives analyzed, they are included in the CLWR EIS. DOE believes that it has complied with requirements of NEPA for actions analyzed in this EIS including, as applicable, NEPA documentation at disposal sites. This analysis includes the direct, indirect, and cumulative environmental consequences of the production of tritium in three operating CLWRs and the completion and operation of two partially completed commercial reactors.

With respect to the waste produced, the EIS addresses low-level radioactive waste in Volume 1, Sections 5.2.1.11, 5.2.2.11, and 5.2.3.11; it also addresses spent nuclear fuel management in Sections 5.2.1.12, 5.2.2.12, and 5.2.3.12. The CLWR EIS states that additional low-level waste associated with tritium production would be transported and managed at either the Barnwell, South Carolina or the Savannah River Site. Both options are possible and in accordance with the Council on Environmental Quality regulations; both options are evaluated in the CLWR EIS. The CLWR also states that any additional spent nuclear fuel would be stored on site in a dry cask ISFSI facility until a national repository is available. In accordance with the Council on Environmental Quality regulations, the impacts from a generic dry cask ISFSI facility are evaluated in Section 5.2.6 of the CLWR EIS. NEPA documentation would be prepared if and when it becomes necessary to construct a dry cask ISFSI facility at each of the proposed sites.

16.03 The commentor is concerned with onsite leakage of radioactive and other toxic waste.

Comment Summarized: 136-2

Response: As discussed in Volume 1, Chapter 5 of the CLWR Draft EIS, there would be no onsite accidental leakage of radioactive and other toxic waste during normal operations. However, the EIS assumes conservatively that some liquid and gaseous radioactive material could be released. The CLWR EIS addresses the impacts of normal operation releases in Sections 5.2.1.9.1, 5.2.2.9.1, and 5.2.3.9.1. The CLWR EIS addresses the impacts of releases during accident conditions in Sections 5.2.1.9.2, 5.2.2.9.2, and 5.2.3.9.2.

16.04 Commentors oppose tritium production in general and Bellefonte in particular because of concerns about waste removal capabilities from TVA facilities.

Comments Summarized: 50-1, 84-3, 712-3

Response: Currently operating nuclear power plants effectively manage all radioactive waste without any impact to public health and safety. Significant reductions in the quantity and volume of radioactive waste have been achieved during the past 10 years. Low-level radioactive waste is currently subject to volume reduction by compaction and incineration and then shipment to one of several available low-level waste disposal sites in the United States. The Bellefonte plant represents one of the CLWR options for producing tritium (the other options are use of the Watts Bar and/or Sequoyah Nuclear Plants), but the Bellefonte plant, if selected, would also produce electric power for the TVA system.

16.05 The commentor expresses opposition to the proposed action because it would produce at least 50 percent more low-level waste, and disposal of nuclear waste is already a serious problem that this proposal can only exacerbate.

Comment Summarized: 25-3

Response: Volume 1, Sections 5.2.1.11, 5.2.2.11, and 5.2.3.11 of the CLWR EIS state that the additional low-level waste generated due to tritium production at the CLWRs would constitute approximately 0.1 percent of the low-level waste currently being generated at the operating nuclear power plants, or 0.1 percent of the electric power production-associated low-level waste that would be generated at the Bellefonte plant. This small additional low-level waste would be transported to the low-level radioactive waste disposal facility at the Savannah River Site or the low-level radioactive waste facility at Barnwell, South Carolina, where the low-level radioactive waste of the reactor facilities is normally transported and disposed. The 40-year total low-level radioactive waste generated from tritium production represents 0.06 percent of the capacity of one vault at the facility at the Savannah River Site, which contains a series of vaults for low-level radioactive waste storage. The amount of additional low-level radioactive waste produced at a CLWR due to tritium production is a very small fraction (0.1 percent) of that already produced. United States CLWRs have been successfully reducing the activity, amount, and volume of low-level waste they produce by using advances in technology and improving operational and maintenance procedures. Further reductions in low-level radioactive waste production are expected to be far greater than the small increase due to tritium production. CLWRs send low-level radioactive waste to operating licensed low-level waste disposal facilities.

CATEGORY 17: SPENT NUCLEAR FUEL MANAGEMENT

17.01 The commentor states that the generation of additional spent fuel waste and removal and shipment of TPBARs is not the "normal" operation of a CLWR. DOE must be forthright about the changes in normal operations required to produce tritium.

Comment Summarized: 94-12

Response: The impacts of tritium production on reactor operations are discussed qualitatively in Section 3.1.3 of the CLWR EIS. As indicated in this section, tritium could be produced with only a few impacts on the normal operation of the reactor. The terminology used ("normal operation") reflects that a CLWR can continue to operate and produce electricity with no disruption. The environmental impacts resulting from these operations and differences are evaluated and presented in detail in Volume 1, Chapter 5.

17.02 The commentor expresses opposition to the proposed action because production of tritium at a commercial nuclear plant will produce much more nuclear waste—three times more high-level waste than the plant would produce under normal operating conditions by DOE's own estimate.

Comment Summarized: 25-2

Response: Volume 1, Sections 5.2.1.12, 5.2.2.12, and 5.2.3.12 of the CLWR EIS address spent nuclear fuel management at each of the sites and present the fact that up to 2,000 TPBARs can be irradiated in the reactor core of each CLWR without generating any additional spent nuclear fuel. In implementing the proposed action, DOE and TVA would manage the tritium production process to minimize, to the extent practicable, the generation of additional spent nuclear fuel. The CLWR EIS addresses the impacts of additional spent nuclear fuel generation in Section 5.2.6.

17.03 The commentor expresses concern about the storage of spent fuel. If the Nuclear Waste Policy Act of 1982 mandates that spent fuel will be managed at a national repository, then DOE needs to expedite and assist in resolving the siting issues and not create additional onsite spent fuel storage facilities. The commentor further recommends that the last major planning assumption of paragraph S.3.2.1 on page 17 of the CLWR Draft EIS Summary be revised to state that spent fuel rods resulting from the tritium project will be stored at an existing spent fuel storage facility until the national repository becomes operational in accordance with the Nuclear Waste Policy Act of 1982.

Comments Summarized: 58-4, 610-4

Response: DOE is committed to the development of a licensed national spent nuclear fuel waste repository. This commitment is being actively pursued by DOE. Siting and development of a repository is ongoing, and the location and opening date for a suitable repository has not been determined. The last major assumption in Section S.3.2.1 of the CLWR EIS Summary correctly states that additional spent nuclear fuel would be generated if more than 2,000 TPBARs were irradiated in a fuel cycle. In implementing the proposed action, DOE and TVA would manage the tritium production process to minimize, to the extent practicable, the generation of additional spent nuclear fuel. The assumption on Summary page 17 of the CLWR Draft EIS correctly states that, for the purposes of calculating conservative and bounding environmental impacts, the maximum possible additional spent nuclear fuel generated due to irradiating 3,400 TPBARs in each fuel cycle is assumed. The environmental impacts of a dry cask ISFSI designed specifically for this conservatively assumed amount of additional spent nuclear fuel are presented in the CLWR EIS as a bounding case. The CLWR EIS conservatively assumes that dry spent fuel storage will be required without the availability of a national repository during the tritium production time frame. This assumption bounds the environmental impact of spent fuel storage since the availability of a national repository would result in a smaller environmental impact than that presented in the CLWR EIS.

17.04 The commentor, referring to Section 3.2.1 of the CLWR Draft EIS regarding the explanation (according to the commentor) that DOE essentially is deferring questions about the management/storage of spent fuel, remarks that, since Watts Bar does not have fuel storage capacity for the time period under consideration in this proposed action (40 years), issues of spent fuel storage and management cannot be finessed, but must be discussed in detail, specific to each reactor under consideration.

Comment Summarized: 94-18

Response: The CLWR EIS specifically addresses the most conservative scenario with regard to spent nuclear fuel storage at Watts Bar (and all the CLWRs being considered for tritium production). This scenario assumes that no spent nuclear fuel national waste repository will be available for the entire 40-year tritium production time frame, so additional dry cask spent nuclear fuel storage would be required. Volume 1, Sections 4.2.1.11,

4.2.2.11, and 4.2.3.11 of the CLWR EIS, in conjunction with the projected spent nuclear fuel generation numbers in Chapter 5, also show that the spent nuclear fuel pool storage capacity of each nuclear power plant would not be adequate for the amount of spent nuclear fuel discharged during the entire licensed electric power production time period without any consideration of tritium production. Therefore, each considered CLWR would need to provide additional spent nuclear fuel storage capacity even if it is not used for tritium production.

17.05 The commentor refers to Section 4.2.3.11, where the CLWR Draft EIS describes storage capacity at Bellefonte and says that each unit has a storage pool which has the capacity to hold 1,058 spent fuel assemblies. The commentor asks whether the pool can or cannot accommodate 3,400 TPBARs every 18 months for 40 years.

Comment Summarized: 94-22

Response: The 3,400 TPBARs would be inserted into all 141 fuel assemblies in the Bellefonte reactor core. When the fuel is discharged to the storage pool, the TPBARs would only remain in the pool for a period of one to two months before being consolidated and loaded into transportation casks for shipment to the Savannah River Site. Therefore, the Bellefonte spent nuclear fuel storage pool can accommodate the 3,400 TPBARs that would be discharged every 18 months for the one- to two-month time period after each fuel cycle prior to their shipment to the Savannah River Site.

17.06 The commentor refers to Table 5-42 of the CLWR Draft EIS, where the environmental impacts for dry cask storage are considered generically. The commentor asserts that the information about earthquake and tornado damage is not sufficient to allow the reader to determine the adequacy of this method of estimating environmental impacts.

Comment Summarized: 94-23

Response: The information in Volume 1, Table 5-51 (formerly Table 5-42) of the CLWR EIS, regarding earthquake and tornado accidents, reflects the fact that all NRC-licensed dry spent nuclear fuel storage designs are required by law to withstand earthquakes and tornadoes without posing any unacceptable risk to public health and safety. The environmental impact of dry cask spent nuclear fuel storage presented in Volume 1, Section 5.2.6 of the CLWR EIS assumes that any storage system used for spent nuclear fuel would be licensed by the NRC. The NRC evaluates the safety of each spent nuclear fuel storage system and confirms that, for accidents such as tornadoes and earthquakes, they meet all regulatory requirements, including design safety and acceptable consequences. All currently NRC-licensed dry cask spent nuclear fuel storage designs present safety analyses that show that earthquakes and tornadoes would result in no radiological consequences to the public.

17.07 The commentor refers to page A-23 of Appendix A of the CLWR Draft EIS. The commentor remarks that the numbers on that page indicate that Bellefonte would produce an additional 1,863 spent fuel assemblies if it were selected to produce tritium. The commentor adds that this number exceeds the total capacity of Bellefonte's current spent fuel pools.

Comment Summarized: 94-26

Response: As indicated in Volume 1, Appendix A, Table A-1, the operation of each of the Bellefonte units without tritium production would generate approximately 1,944 spent nuclear fuel assemblies over a 40-year period (i.e., 72 fuel assemblies per operating cycle x 27 operating cycles of 18 months each.) This number also exceeds the total capacity of Bellefonte's current spent nuclear fuel pools. Therefore, additional spent nuclear fuel storage beyond the pool capacity would be required at Bellefonte whether or not it is used for tritium

production. The environmental impacts of a dry cask ISFSI system are presented in Volume 1, Section 5.2.6 of the CLWR EIS. This section presents the environmental impacts from construction, operation, and postulated accidents.

17.08 The commentor states that, if tritium is produced at levels that increase reactor fuel consumption, the EIS should clarify who owns the additional spent nuclear fuel and who will pay for its eventual treatment, storage, and disposal.

Comment Summarized: 127-4

Response: As the licensee for the CLWRs under consideration for tritium production, TVA is responsible for all spent nuclear fuel. A DOE interagency agreement with TVA would provide the financial terms for the treatment, storage, and disposal of any additional spent nuclear fuel that may be generated from the production of tritium.

17.09 The commentor states that the CLWR Draft EIS does not discuss the fact that there is no disposal site for spent fuel, so the environmental effects of tritium production could include centuries of on site spent fuel storage at commercial reactor site(s).

Comment Summarized: 137-9

Response: The operating and shut-down CLWRs in the United States are expected to have generated over 183,000 spent nuclear fuel assemblies (85,000 metric tons of uranium) by the end of their licensed lifetime. The additional spent nuclear fuel generated for 40 years of tritium production represents approximately 1 percent of this spent fuel inventory. Currently licensed technology exists for interim storage of spent nuclear fuel. DOE is committed to the development of a licensed national spent nuclear fuel waste repository. This waste repository will be required for the spent nuclear fuel that has been produced while generating electric power. The tritium production contribution to this spent nuclear fuel of about 1 percent will not affect the design or schedule for completion of this repository. The impacts from an onsite dry cask ISFSI are discussed in Volume 1, Section 5.2.6 of the CLWR EIS.

17.10 The commentor states that the CLWR Draft EIS mentions numerous times that production of tritium in a CLWR may result in more spent fuel, and this fuel will have higher enrichments and lower burnup than fuel currently discharged to the spent fuel pools; thus, it will have higher reactivity. The commentor remarks that the CLWR EIS contains no discussion of the effects of this high reactivity fuel on spent fuel pool design parameters or spent fuel pool fuel handling accidents. The commentor recommends that a detailed analysis be done to determine the effects of this high reactivity fuel on the various plants' spent fuel pools, and on fuel pool and fuel handling accident analyses, and a discussion of the results should be included in the CLWR Final EIS.

Comment Summarized: 146-1

Response: Full production loading of TPBARs may require the use of slightly higher enriched fuel (up to approximately 4.9 percent, compared to approximately 4.5 percent currently used). Such an increase would be allowed by the current NRC licenses (current licensing provisions allow for up to 5 percent enrichment); thus, the reactor systems and equipment are already designed to accommodate fuel enriched to the level required for tritium production. The somewhat higher enrichments and reduced fuel assembly burnups associated with the tritium production core, as compared to the conventional core designs, can influence the radiological source term used in the calculation of radiological emissions other than tritium during normal operation and accident conditions. The *Tritium Production Core Topical Report* (WEC 1998) quantified this effect and concluded that, overall, the fission product inventories were the same or lower in the tritium-

producing core. Therefore, the analysis presented in the CLWR EIS, which does not account for the increased enrichment, is conservative. It is also not expected that the higher enrichments and reduced fuel assembly burnups would affect the design parameters of the existing spent fuel pools. The NRC will review these parameters when the reactor facility applies for a licensing amendment to operate in a tritium-producing mode.

17.11 The commentor states that there is no discussion of the effect of the high reactivity fuel on the postulated geologic repository. The commentor poses the following questions: Since there will be much more spent fuel generated by this process, will this affect the capability of the geologic repository to accept fuel from other CLWRs? Will its high reactivity make it ineligible for geologic storage or cause it to require special handling? The commentor recommends that these issues should be evaluated and discussed in the CLWR Final EIS.

Comment Summarized: 146-2

Response: The maximum number of additional spent nuclear fuel assemblies (e.g., 1,863 at Bellefonte) generated for the 40-year CLWR production of tritium represents less than 1 percent of the total mass of spent nuclear fuel expected to be placed in a future geologic repository. The maximum uranium-235 enrichment of this spent fuel would be approximately 4.9 percent (less than 5 percent). The TVA reactors under consideration use commercial nuclear fuel with uranium-235 enrichments as high as 4.5 percent. The trend in reload fuel at nuclear power plants has been toward higher uranium-235 enrichments. Since current and future projected nuclear fuel is expected to be similar in enrichment to the fuel used in tritium production, and the spent nuclear fuel associated with tritium production represents less than 1 percent of all the spent nuclear fuel to be discharged into the repository, the CLWR spent nuclear fuel associated with tritium production is expected to be compatible with repository requirements and should have no significant effect on repository reactivity and require no special handling.

17.12 The commentor, referring to the Uranium Fuel Cycle and Waste Management entry of Table 5-38 in the CLWR Draft EIS, remarks that it discusses only transportation. The commentor recommends that issues associated with additional onsite storage capacity for spent fuel also be discussed.

Comment Summarized: 146-16

Response: Environmental impacts of onsite spent nuclear fuel storage are analyzed in Volume 1, Section 5.2.6 of the CLWR EIS. As discussed in Section 5.2.4.2 of the CLWR EIS, Table 5-47 (CLWR Draft EIS Table 5-38) includes the issues that need to be addressed by the licensees as part of the life extension license renewal application. Issues of lesser importance which appear in 10 CFR 51, Subpart A, Appendix B, were not included in Table 5-47. The finding under Onsite Spent Fuel in the 10 CFR 51 table states: "SMALL. The expected increase in the volume of spent nuclear fuel from an additional 20 years of operation can be safely accommodated on site with small environmental effects through dry or pool storage at all plants if a permanent repository or retrievable storage is not available." Section 5.2.6 of the CLWR EIS reaffirms this NRC finding for storage of spent nuclear fuel in a dry cask ISFSI.

17.13 The commentor asks that the EIS include the assumptions behind the conservatively estimated dose to a worker from the ISFSI, CLWR Draft EIS, page 5-94, top of the page.

Comment Summarized: 146-18

Response: These assumptions are presented in the two references, DUKE 1988 and BGE 1989b as indicated on the referenced page. The nature of this conservatism is due principally to the time and dose rate estimates for each operation in loading a dry spent nuclear fuel storage cask.

17.14 The commentor states the following: Page 5-94 of the CLWR Draft EIS, second paragraph, states no chemical, biocide, or sanitary wastes would be generated in the operation of the ISFSI. This disagrees with Table 5-41, which implies that small amounts of these would be generated. The commentor suggests that the two references should be consistent.

Comment Summarized: 146-19

Response: The information presented in Volume 1, page 5-94 and in Table 5-41 of the CLWR Draft EIS is consistent. The waste generation presented in Table 5-41 (now Table 5-50 in the CLWR Final EIS) occurs only during the process of loading the fuel from the spent nuclear fuel pool into the transfer cask and subsequently into the storage cask. Once the storage casks are loaded, they do not generate any chemical, biocide, or sanitary waste. This is explained in the second paragraph on page 5-94 of the CLWR Draft EIS. There was no change to this text in the CLWR Final EIS.

17.15 The commentor remarks that the United States has yet to find a safe, permanent storage facility for radioactive waste and adds that, until it does so, creating more radioactive waste, no matter how small, is environmentally and socially irresponsible.

Comment Summarized: 102-4

Response: DOE would be responsible for the low-level radioactive waste generated by tritium production. The amount of low-level radioactive waste resulting from tritium production would represent approximately 0.1 percent of the total low-level radioactive waste currently generated at the site. The 40-year production of tritium at CLWRs would produce a total amount of low-level radioactive waste which would fill 0.06 percent of the capacity of one of a series of existing vaults at the Savannah River Low-Level Radioactive Waste Disposal Facility, which has been operational since 1994. Additional spent nuclear fuel would be generated for tritium production if more than 2,000 TPBARs were irradiated in a single reactor core. The impacts from storing the additional spent nuclear fuel are discussed in Volume 1, Section 5.2.6 of the CLWR EIS. In implementing the proposed action, DOE and TVA would manage the tritium production process to minimize, to the extent practicable, the generation of additional spent nuclear fuel.

17.16 The commentor asks if the speaker at the public hearing meant to say that: (1) reactor units at either the Watts Bar or Sequoyah plants would generate 75 percent more spent fuel if they were run at the higher rate required for tritium production; and (2) spent fuel generation would double if tritium were produced in one of the Bellefonte units.

Comment Summarized: 700-5

Response: The commentor's statements are accurate. Impacts associated with tritium production and the generation of spent nuclear fuel are summarized in Volume 1, Section 3.2.6.2 of the CLWR Final EIS for Watts Bar, Sequoyah, and Bellefonte.

17.17 The commentor states that tritium production in excess of 2,000 targets per year would generate additional spent fuel. The commentor requests clarification concerning whether any of the three TVA nuclear power plants is capable of managing their existing and projected spent fuel load and whether adding to it would only complicate the situation.

Comment Summarized: 700-7

Response: Volume 1, Sections 5.2.1.12, 5.2.2.12, and 5.2.3.12 of the CLWR EIS address spent nuclear fuel management at each of the sites and indicate that all three TVA nuclear power plants are capable of managing

their existing and projected spent nuclear fuel load. The management of spent nuclear fuel is a well-understood process at nuclear power plants. Many nuclear power plants are managing their spent nuclear fuel by constructing supplementary dry cask storage facilities on site. The proposed action would add more spent nuclear fuel if more than 2,000 TPBARs were irradiated in any one reactor core. With 2,000 or less TPBARs, there would be no impact on spent nuclear fuel storage requirements. If more than 2,000 TPBARs were irradiated in a reactor, the additional spent nuclear fuel would be accommodated in the same manner in which TVA would manage its projected additional spent nuclear fuel without tritium production. In implementing the proposed action, DOE and TVA would manage the tritium production process to minimize, to the extent practicable, the generation of additional spent nuclear fuel.

CATEGORY 18: TRANSPORTATION

18.01 The commentor questions how much additional risk is involved in transporting the TPBARs to South Carolina to remove tritium versus transporting the TPBARs somewhere else for disposal.

Comment Summarized: 23-2

Response: The TPBARs would be transported to the Tritium Extraction Facility at the Savannah River Site in Aiken, South Carolina, as stated in Volume 1, Sections 1.5.2.2 and 3.2.1 of the CLWR EIS. The Tritium Extraction Facility is an integral part of the program to produce tritium in a CLWR. Volume 1, Appendix E provides a conservative analysis of the health and environmental impacts along the transportation routes. Volume 1, Tables E-7 and E-8 show the per-shipment risk analysis, and Table E-9 summarizes the risk of transporting hazardous materials.

18.02 The commentor cannot find the definition for “associated impacts of transporting.”

Comment Summarized: 86-3

Response: The phrase quoted by the commentor appears in the CLWR EIS Summary, S.1.6.1.2, in the context of topics addressed in the environmental assessment document for the Lead Test Assembly. Section 5.5 of the *Environmental Assessment, Lead Test Assembly Irradiation and Analysis, Watts Bar Nuclear Plant, Tennessee and Hanford Site, Richland, Washington* (DOE/EA-1210) (DOE 1997a) describes the impacts associated with transporting both unirradiated and irradiated TPBAR lead test assemblies. The CLWR EIS addresses the environmental impacts associated with the transportation of TPBARs in Volume 1, Section 5.2.8 and Appendix E. In both documents, the NEPA analysis addresses incident-free transportation impacts and transportation accident impacts. Those impacts include external radiation exposures (in-transit doses to the public or transport workers), nonradiological impacts due to pollutants emitted by the transport vehicles, vehicular accident fatalities, and maximum individual doses (on site and off site) resulting from breaches in the shipping cask or damage to the cask shielding.

18.03 The commentor states that the analysis for transportation impacts should consider the expected timing of shipments (regular basis stretched throughout the year or in bursts over a brief period every 18 months).

Comment Summarized: 94-16

Response: TPBARs would be transported in batches as a core load of irradiated TPBARs becomes ready for shipment. TPBARs do not come out of the reactor core on a regular basis spread throughout the year. They are only removed from the core when the core is refueled. In any case, the timing does not affect the risk, since the number of TPBARs per shipment is solely a function of the cask, and the number of shipments is a

function of the production rate. The transportation analysis considered this in the per-shipment analysis shown in Volume 1, Appendix E, Tables E-7 and E-8, and reported the risks for the entire program (40 years) in Table E-9.

18.04 The commentor states that the risks associated with the leakage of radioactive material that could occur during the transportation of irradiated TPBARs should not be taken.

Comment Summarized: 136-4

Response: The Type B packages that would be used to transport irradiated TPBARs associated with the CLWR program are designed to withstand test conditions (described in Volume 1, Appendix E, Section E.3.2 of the CLWR EIS) representing extremely severe accidents (estimated to be more severe than over 99 percent of all accidents that could occur), while maintaining the packaged radioactive contents. Type B packages have been used for years to ship radioactive materials in the United States and around the world. To date, no Type B package has ever been punctured or has released any of its contents, even in actual highway accidents. As described in Volume 1, Section E.3.2 of the CLWR EIS, the Type B package is extremely robust and provides a high degree of confidence that, even in extremely severe accidents, the integrity of the package would be maintained with essentially no loss of the radioactive contents or serious impairment of the shielding capability. Section 5.2.8 of the CLWR EIS summarizes the impacts from transporting TPBARs from each reactor site to the Savannah River Site under incident-free and accident scenarios. Appendix E provides specific details on the transportation impact evaluations.

18.05 The commentor asks whether transporting TPBARs from three different reactors in two states would increase the opportunities for a transportation accident.

Comment Summarized: 703-4

Response: The likelihood of a transportation accident is proportional to the distance traveled. The per-shipment accident risk factors are shown in Volume 1, Appendix E, Table E-8 of the CLWR EIS. Since each of the possible CLWR sites is about the same distance from the Savannah River Site, the per-shipment accident risk is within 10 percent for each. The number of shipments required to transport the TPBARs is independent of the site chosen, but is related to the number of TPBARs produced. Appendix E, Table E-9, shows the traffic accident risks associated with different production rates at different sites.

18.06 The commentor asks whether DOE plans for a single truck to pick up irradiated TPBARs at each reactor and transport them collectively to the Savannah River Site.

Comment Summarized: 703-5

Response: A truck is capable of carrying one and only one of the Type B transportation casks that would be used for irradiated TPBARs. A cask would be loaded at a CLWR site, placed on a truck, and transported directly to the Savannah River Site. It would not stop at other CLWRs to pick up additional material.

18.07 The commentor says he believes the additional shipping requirements for tritium production are likely to cause accidents and traffic problems. The commentor states that the transportation accident risk found in the CLWR Draft EIS is exceedingly low—less than one fatal accident per 100,000 years is unrealistic. The commentor is concerned about the potential effect of transportation accidents on interstate traffic. The commentor wonders whether other agencies like the Tennessee Emergency Management Agency or the Federal Emergency Management Agency have plans to deal with any accidents, because accidents are inevitable in any line of work.

Comment Summarized: 707-2

Response: DOE has analyzed accident risks based on the best available transportation statistics and believes that it is unlikely that a traffic fatality will occur as a result of the 40-year program. The results of the analysis shown in Volume 1, Appendix E, Table E-9 of the CLWR EIS indicate that, depending on the alternative selected, the transportation accident risk is significantly lower than one fatal accident per 100,000 years. DOE would develop emergency plans with the carrier and state, local, and Tribal officials and would provide training courses for first responders along the transportation routes to enhance their capabilities to respond appropriately in the unlikely event of an accident. Technical assistance would also be provided to supplement existing resources if any deficiencies are identified. State, local, and some Tribal governments have the basic capabilities and training that would be required in order to take initial measures to respond to a transportation accident by virtue of their preparation for responding to accidents involving hazardous materials (e.g., assess the scene, administer emergency care, control the area, and call for a hazardous materials special team). In the unlikely event that a serious accident does occur, state and local responders would be the first to arrive at the scene, as they would to any overland shipment involving hazardous materials. If requested by state, Tribal, or local government, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country.

18.08 The commentor opposes the radioactive waste associated with TPBARs being transported for disposal to the Savannah River Site or the Barnwell disposal facility.

Comment Summarized: 18-3

Response: Volume 1, Appendix E, Section E.5.3 of the CLWR EIS describes the amount of low-level radioactive waste generated during tritium production at a CLWR. Tables E-7 and E-8 show the per-shipment risk analysis, and Table E-9 summarizes the risk of transporting hazardous materials. The two to eight shipments of low-level waste over the entire program do not significantly increase the traffic or the risk in the State of South Carolina. The commentor's objection to the shipments is noted. Radioactive waste, similar to that associated with tritium production, is currently being shipped safely to the Savannah River Site and the Barnwell facility as part of their ongoing operations.

18.09 The commentor suggests that the CLWR EIS be revised to include an explanation of the response to a transportation accident and the impacts if a spill occurred.

Comment Summarized: 27-1

Response: DOE would develop emergency plans with the carrier and state, local, and Tribal officials and would provide training courses for first responders along the transportation routes to enhance their capabilities to respond appropriately in the unlikely event of an accident. Technical assistance also would be provided to supplement existing resources if any deficiencies are identified. State, local, and some Tribal governments have the basic capabilities and training that would be required to take initial measures to respond to a transportation accident by virtue of their preparation for responding to accidents involving hazardous materials (e.g., assess the scene, administer emergency care, control the area, and call for a hazardous materials special team). In the unlikely event that a serious accident does occur, state and local responders would be the first to arrive at the scene, as they would to any overland shipment involving hazardous materials. If requested by state, Tribal, or local governments, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country. Volume 1, Section 5.2.8 of the CLWR EIS summarizes the impacts from transporting TPBARs from each reactor site to the Savannah River Site under incident-free and accident scenarios. Appendix E provides specific details on the transportation impact evaluations.

18.10 The commentor states that the risks associated with the leakage of radioactive material that could occur during the transportation of spent fuel rods and other wastes should not be taken.

Comment Summarized: 136-5

Response: Transportation of spent fuel rods (or spent fuel assemblies) is not in the scope of the CLWR EIS, as described in Volume 1, Chapter 1. The irradiated TPBARs and TPBAR-related low-level radioactive wastes are transported in Type B packages, as described in the response to Comment Summary 18.04.

18.11 The commentor is concerned with environmental factors and the health and safety of the population along the transport routes, particularly at and near the vicinity of the Savannah River Site.

Comment Summarized: 18-4

Response: Volume 1, Section 5.2.8 and Appendix E of the CLWR EIS provide a conservative analysis of the health and environmental impacts along the transportation routes. Some impacts are in the area of the Savannah River Site. The analysis shows that impacts on the environment and human health and safety are minor; the EIS finds that it is unlikely that transportation of hazardous materials will cause an additional latent or immediate fatality.

18.12 The commentor states that the transportation of raw materials to the TPBAR fabrication facility should be discussed in Section 5.2.8.

Comment Summarized: 146-20

Response: Volume 1, Section 5.2.7 of the CLWR EIS describes the materials needed for the fabrication of TPBARs. Raw materials required include stainless steel, zircaloy, aluminum, zirconium, lithium carbonate, and aluminum oxide. None of these raw materials is considered to be hazardous, and none is radioactive. These materials are commercially available. As stated in Section 5.2.7, no environmental consequences of any significance are expected from activities other than fabrication and assembly of the TPBARs.

CATEGORY 19: DESIGN AND FABRICATION OF TPBARs

19.01 The commentor, referring to Section 5.1.2 of the CLWR Draft EIS, suggests that the statement, "Experience with boron burnable absorber rods bounds what would be expected from tritium production burnable absorber rods," needs more amplification. The commentor further notes that there are several types of boron burnable absorber rods with different materials of construction, and that the number of boron burnable poison rods installed in a core is much less than the possible number of TPBARs that would be installed for tritium production.

Comment Summarized: 146-9

Response: The subject assumption has been removed in the CLWR EIS. The CLWR Draft EIS assumes that two TPBARs fail in each core load of TPBARs and that the entire tritium inventory is released to the reactor coolant and then to the environment. This is extremely conservative, since there has not been a single burnable absorber rod failure in the last 18 years, during which time over 500,000 such rods made by Westinghouse have been irradiated. As discussed in Volume 1, Section 1.9, the CLWR EIS has been revised to reflect the recent Westinghouse data on burnable absorber rods (WEC 1999). While the CLWR EIS still evaluates the

failure of two TPBARs, this event is now categorized as an “abnormal" event that could happen in a given operational cycle, not normal operation.

19.02 The commentor requests information on the Pacific Northwest National Laboratory tests performed to show that tritium targets are satisfactory; they do not leak tritium during irradiation; and that tritium can be quantitatively recovered. The commentor requests a copy of the test results.

Comment Summarized: 4-2

Response: The question refers to the Lead Test Assembly program in Watts Bar 1. Prior to September 1997, the specific TPBAR design described in the CLWR EIS had not been used in a commercial reactor. DOE developed a series of experimental test designs between 1974 and 1992. The series of designs concluded with an irradiation test of 10 5-foot long rods in the Advanced Test Reactor at Idaho National Engineering and Environmental Laboratory in 1990-1991. The test conditions were similar to conditions that are found in a typical pressurized water reactor. Test data indicated that the rod performance was consistent with the performance expectations that existed prior to the tests. Post-irradiation examination of those test rods indicated that there were no failures and confirmed that the performance met the design requirements as defined in 1990.

The TPBAR design that would be employed in commercial reactors was developed using those early DOE designs as a basis; however, additional improvements have been made to those designs. DOE has relied upon the irradiation test information from those previous programs to provide insight into the operational characteristics of the TPBARs. Based on knowledge gained from those programs, DOE designed and fabricated the lead test assemblies. During the design process, specific performance requirements for the TPBAR components were mandated to assure satisfactory target performance during operation.

During those early test programs, research and development were also initiated on techniques to extract tritium from the targets. In the last several years, DOE has performed extraction experiments both on previously irradiated test specimens and on "simulated" TPBARs (using deuterium instead of tritium). The results of these tests have indicated that DOE will be able to efficiently recover tritium from the TPBARs.

The analytical conclusions of the test program can be found in the Lead Test Assembly Technical Report, *Report on the Evaluation of the Tritium Producing Burnable Absorber Rod Lead Test Assembly*, Rev. 1 (PNNL 1997). The NRC assessment of the technical report can be found in NUREG-1607 (NRC 1997).

19.03 The commentor requests information on the structural design to keep the TPBARs stable in the reactor and suggests that, since the target design appears to be a cantilevered-top-attached target, it would be subject to damage during irradiation from water flow vibration.

Comment Summarized: 4-3

Response: The TPBAR design is a cantilevered-top-attached target, as the commentor suggests. The external dimensions and design features of the TPBAR are virtually identical to the design used for discrete burnable absorber rods used for reactivity control in many commercial pressurized water reactors. The TPBAR was intentionally designed to be mechanically similar to these commercial burnable absorbers. Many thousands of the commercial burnable absorbers have been irradiated to date with no damage from flow-induced vibration. Elimination of flow-induced vibration was one of the many functional criteria placed upon the TPBAR design.

19.04 The commentor, referring to information contained in a PNNL report (PNNL-11419) questions the validity of the quantity of tritium release (1,890 Curies) which appeared in Table 3-13 of the CLWR Draft EIS under "Radioactive Emissions." The commentor suggests that the quantity should be 22,780 Curies.

Comments Summarized: 44-8, 501-10

Response: Pacific Northwest National Laboratory Report No. 11419 (PNNL 1997) is the technical report for the lead test assembly rods that were inserted into the Watts Bar 1 reactor in 1997. The functional design criterion on leakage was established as 6.7 Curies per rod per year. [This is a limit; not a leakage rate.] For full core production, a leakage of 6.7 Curies per rod per year was deemed unacceptable. DOE has considered the "lessons learned" from the Lead Test Assembly program and has designed and analyzed an improved production TPBAR model. The production TPBAR is designed to an average permeation rate of 1 Curie per rod per year. The commentor used the 6.7-Curie per rod per year leakage to arrive at 22,780 Curies. The design and analysis is found in NDP-98-181, *Tritium Production Core Topical Report* (WEC 1998).

19.05 The commentor refers to a statement in the CLWR Draft EIS that the system is so effective that the rods will have to be heated to 1,000° C (1,800° F) to recover the tritium captured. The commentor also refers to another area in the CLWR Draft EIS where the design temperature maximum of the extraction furnace at the Tritium Extraction Facility is said to be 1,100° C. The commentor suggests that operating the equipment within 10 percent of the maximum temperature is not a good practice and that the recovery process may be flawed.

Comments Summarized: 44-9, 501-11

Response: DOE has performed extensive research and development on techniques to extract tritium from the targets. The results of these tests have indicated that DOE will be able to efficiently recover tritium from the TPBARs within the temperature limitations noted in the Tritium Extraction Facility EIS and Volume 1, Section 3.1.2 of the CLWR EIS. These research and development efforts have been used to establish the furnace design values. Specific warranties and limitations with respect to furnace lifetime will be addressed during the furnace procurement process.

19.06 The commentor suggests that the CLWR Draft EIS should have used a TVA experience statistic for the "fuel rod burns" rather than a national statistic.

Comments Summarized: 86-6, 703-7

Response: It is assumed that the commentor is questioning the validity of the assumption that two TPBARs could fail per cycle. This assumption is, in fact, extremely conservative. Because of similarities between the TPBAR design and commercial burnable absorber rods used in nuclear reactors, the TPBAR failure rate is expected to be as low as the failure rate for these commercial burnable absorbers. Electric Power Research Institute Report NP-1984, *Control Rod Materials and Burnable Absorbers* (November 1981) (EPRI 1981) indicates statistics for burnable absorber rod failures through 1980 as 2 in 29,700 rods. The two failures were attributed to early manufacturing defects that were corrected in later fabrication campaigns. In the 17 years since that report was written, Westinghouse has fabricated over 500,000 burnable absorber rods with no observable failures. This includes the burnable absorber rods irradiated in the TVA reactors.

While TPBARs are not expected to fail during reactor operation, a failure rate of two TPBARs per cycle was chosen in the CLWR Draft EIS to provide a conservative and bounding estimate for environmental analysis. The impact of two failed TPBARs was assessed to show that the plant is capable of safely operating and that plant releases can be maintained within regulatory limits even in the unlikely event of two TPBAR failures. As indicated in Volume 1, Section 1.9, the CLWR Final EIS has been revised to reflect the recent

Westinghouse data (WEC 1999). While the CLWR Final EIS still evaluates the failure of two TPBARs, this event is now categorized as an abnormal event and is not part of normal operations.

19.07 Referring to the material composition of the TPBARs, the commentor questions whether all the lithium-6 necessary for the fabrication of the TPBARs is already available or needs to be produced. The commentor suggests that, if lithium-6 needs to be produced, the environmental impacts of its production need to be documented in the EIS.

Comment Summarized: 94-13

Response: As discussed in Volume 1, Section 5.2.7 of the CLWR EIS, the quantities of lithium required for the fabrication of the TPBARs have been mined and processed and are part of DOE's inventory of material resources. Therefore, no environmental consequences are expected from activities other than the fabrication and assembly of the TPBARs.

19.08 The commentor requests an explanation of the fact that, while during the public hearings for the Environmental Assessment of the Lead Test Assembly DOE assured the public that leakage from TPBARs was virtually impossible, the CLWR Draft EIS states in Volume 1, Section 3.1.3 that, "some tritium is expected to permeate through the TPBARs during normal operation."

Comment Summarized: 94-14

Response: The performance of the TPBAR getter is such that there is virtually no tritium in the TPBARs available in a form that could permeate through the TPBAR cladding. For conservatism, the CLWR EIS makes the assumption that 1 Curie of tritium per year could permeate through the cladding and be released to the environment. In comparison to the total quantity of tritium produced (nominally 10,000 Curies per TPBAR), this permeation rate is very small, and yet a conservative quantity.

19.09 The commentor opines that the discussion of environmental impacts in the CLWR Draft EIS is flawed because it does not fully explain that TPBARs are a new technology, so there are great uncertainties in their use, including the actual leakage rate, which could be much larger than the 1 Curie per year estimate, or explain the environmental effects of handling, storing, and transporting them.

Comment Summarized: 137-8

Response: The TPBAR concept is not entirely new. Prior to September 1997, the specific TPBAR design described in the EIS had not been used in a commercial reactor. Between 1974 and 1992, DOE developed a series of experimental test designs. The series of designs concluded with an irradiation test of 10 5-foot-long rods in the Advanced Test Reactor in 1991. The test conditions in the loop were similar to conditions that are found in a typical pressurized water reactor. Test data indicated that the rod performance was consistent with the performance expectations that existed prior to the tests. Post-irradiation examination of those test rods indicated that there were no failures during operation.

The TPBAR design was developed using those early DOE designs as a basis; however, additional improvements have been made to those designs. DOE has relied upon the irradiation test information from those previous programs to provide insight into the operational characteristics of the TPBAR design. Based on knowledge gained from those programs, DOE designed and fabricated 32 TPBARs that were inserted into the Watts Bar 1 Nuclear Reactor in lead test assemblies in September 1997. To date, these lead test assemblies are performing as expected and there are no indications of failure. When the TPBAR lead test assemblies are removed from the Watts Bar 1 in the spring of 1999, they will be examined extensively, both in a nondestructive and destructive manner.

Therefore, prior to the initiation of a production mission, DOE will have experience and irradiation data from a broad range of tests, including the lead test assemblies that are prototypic of the production TPBAR design. The cumulative DOE experience with the target technology has provided high confidence that the design and operation of the TPBARs will be within the defined safety and environmental limits.

Issues involving the environmental effects of handling, storing, and transporting radioactive materials in the United States, including tritium, have been well analyzed and documented and are generally well understood. There are no new issues raised by the transportation of TPBARs, as compared to other radioactive materials, other than design-specific accident responses. Conservative analysis of accident responses has been made in the CLWR EIS using the design and experience base noted above.

19.10 The commentor, referring to a statement made in Section 3.1.2 of the CLWR Draft EIS that, "The tritium produced would be bound to the getter and extracted only after heating to a high temperature...," questions whether there is no release potential of any form of tritium that contributes to the doses calculated in the EIS. Even with the very conservative assumptions used to assess impacts from the potential leakage of tritium from the TPBARs, the estimated impacts on human health are very small.

Comment Summarized: 143-5

Response: The performance of the getter is such that there is virtually no tritium in the TPBARs available in the form that could permeate through the TPBAR cladding. For conservatism, the CLWR EIS makes the assumption that 1 Curie of tritium per TPBAR per year could permeate through the cladding and be released to the environment. It is also assumed, as an abnormal event, that two TPBARs could fail in a core load of TPBARs and that the entire tritium inventory is released to the reactor coolant and then to the environment. This is extremely conservative, since there has not been a single burnable absorber rod failure in the last 18 years, during which time over 500,000 such rods made by Westinghouse have been irradiated. Notwithstanding these conservative assumptions, the assumed tritium releases give rise to the doses calculated for workers and the public and are included in Volume 1, Section 3.1.3, Chapter 5, and Appendix C, Section C.3.4 of the CLWR EIS. Even with the very conservative assumptions used to assess impacts from the potential leakage of tritium from the TPBARs, the estimated impacts on human health are very small.

19.11 Referring to Appendix A, page A-12 of the CLWR Draft EIS, the commentor states that the text does not go into any detail about the differences between using TPBARs and standard burnable poison rods. The commentor suggests that more details be provided.

Comment Summarized: 143-9

Response: For the purposes of this EIS, a qualitative description of the rods is considered to be sufficient to demonstrate the significance of the design to the environmental impacts. These descriptions are provided in Volume 1, Section 3.1.2 (including Table 3-1), and Appendix A, Sections A.2 and A.3. Further details on the differences between the two types of poison rods (burnable absorber rods versus tritium-producing burnable absorber rods) are discussed in the *Tritium Production Core Topical Report* (WEC 1998), which has been provided to the NRC and which will become the basis of the safety review, should tritium be produced in any of the TVA reactors. It should be noted that neither rod contains fissile material or is radioactive prior to reactor operation.

19.12 In response to a statement made by Steven Sohinki of DOE at the public hearing, the commentor asks why DOE says that TPBARs would be under less stress in the reactor core than standard burnable absorber rods.

Comment Summarized: 704-5

Response: As discussed in Volume 1, Section 1.9 of the CLWR EIS, the only two early observed failures among standard burnable absorber rods were attributed to slumping of the absorber material, a failure mechanism that cannot occur in the TPBARs. Therefore, assuming that the TPBARs are designed and fabricated under the same standards and with the same margins to failure as the standard burnable absorber rods, it could also be assumed that the TPBAR failure rate would be similar to the standard commercial burnable absorber rods.

19.13 The commentor, referring to a request previously made to DOE, reiterates the request for DOE to provide the State of Tennessee and interested stakeholders the TVA sampling data from the primary coolant at the Watts Bar Pilot Project, both before and during actual production of tritium. The commentor asks DOE to send the data as it becomes available. Measurements of tritium in particular should be provided. The commentor remarks that, since the TPBARs contain different materials than standard burnable absorber rods, other relevant neutron activation products should be included in the data. The commentor requests the detection limits and bounding statistics.

Comment Summarized: 127-5

Response: The requested information was provided by TVA to Mr. Monroe of the State of Tennessee on October 8, 1998. Additional information was provided on December 14, 1998.

19.14 A commentor asks who is going to fabricate the tritium rods that DOE plans to use in the Watts Bar reactor. The commentor asks whether DOE will examine the fabricator's past performance specifically with regards to cladding. The commentor notes that there is a massive decay going on with the cladding in the rods that will cut down on the production of electricity at Watts Bar and suggests that DOE is going to derate the plant even more.

Comment Summarized: 811-2

Response: DOE will issue a request for proposals to commercial fuel fabricators to determine who will fabricate the TPBARs. As part of the selection process, the fabricator's past performance with regard to cladding will be evaluated. The production of tritium does not impact the rated power of a CLWR.

CATEGORY 20: DECONTAMINATION AND DECOMMISSIONING

20.01 Two commentors ask who is responsible for the cleanup of the tritium production site. The commentor asks who will pay the additional cost.

Comments Summarized: 86-1, 707-14

Response: Any costs associated with the normal nuclear site decontamination and decommissioning are the responsibility of TVA. Any cleanup of tritium-related contamination is the subject of the contract negotiations between DOE and TVA.

20.02 The commentor states that the CLWR Draft EIS fails to include a comparison of the eventual costs of decontaminating and decommissioning Bellefonte as a nuclear site and as a fossil fuel electricity-generating plant—which it should do, since those are the two possible futures for the plant.

Comment Summarized: 702-16

Response: It is a well-established principle under NEPA that the purpose and need of a proposed action should delineate the limits of the reasonable alternatives to that action. That is, an alternative which does not accomplish the agency's goals is not a reasonable alternative. As explained in Volume 1, Chapter 3 of the CLWR EIS, the purpose of the EIS is to assess reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. DOE believes that the CLWR EIS discusses all of the reasonable alternatives for producing tritium in one or more CLWRs to satisfy national security requirements as directed by the President. The alternative of converting the Bellefonte reactors to fossil fuel electricity-generating plants is discussed in the CLWR EIS (see Volume 1, Section 1.5.2.4). As discussed in that section, TVA has completed a Final EIS for the Bellefonte Conversion Project (TVA 1997) which analyzes the reasonably foreseeable environmental impacts associated with converting the Bellefonte plants to fossil fuel plants. However, with respect to the CLWR EIS, conversion of the Bellefonte plants to fossil fuel electricity-generating plants would not accomplish DOE's purpose and need as stated in the CLWR EIS. As such, conversion of the Bellefonte plants to fossil fuel plants is not a reasonable alternative for the CLWR EIS and, thus, is not analyzed in the CLWR EIS.

20.03 The commentor thinks DOE and TVA should consider the long-term effects and the cleanup and the decontamination aspects of CLWR tritium production, which are all parts of the process, before starting such a project.

Comment Summarized: 707-18

Response: Volume 1, Section 5.2.5 of the CLWR EIS addresses the subject of decommissioning and decontamination. Section 3.2.1 delineates the underlying assumptions used in calculating decontamination and decommissioning of the tritium production CLWRs. The most important assumption is that the production of tritium at a CLWR is not expected to affect the radiological condition of the reactor at the end of its lifetime.

20.04 Two commentors question who would be responsible for the costs associated with decontamination and decommissioning of the Bellefonte reactor plant if it were completed and used for tritium production. One commentor is concerned with the cost of decontamination and decommissioning, stating that it will be high and that the issue is not addressed in the CLWR Draft EIS.

Comments Summarized: 41-11, 707-12

Response: Impacts associated with decontamination and decommissioning are assessed in Volume 1, Section 5.2.5 of the CLWR EIS. The eventual costs of decontamination and decommissioning would be the responsibility of TVA. See also the response to Comment Summary 20.01.

CATEGORY 21: REACTOR LICENSING ISSUES

21.01 The commentor asks whether TVA would expect the operational technical specification limits to remain the same under tritium production.

Comment Summarized: 705-1

Response: At this time, it is unclear whether the operational technical specification limits would remain as they are currently. As part of the license amendment to produce tritium, these limits will be reviewed by the NRC.

21.02 One commentor, referring to the 25-year-old design of the Bellefonte plant, suggests that an evaluation of the aged equipment (reactor vessel, instrumentation, wiring) be made to ensure that today's safety requirements are met. Another commentor opposes the use of Bellefonte as a tritium plant because the reactor design is old and outdated. The commentor thinks that using an outdated reactor design would place all of the people in the area in jeopardy from a potential accident.

Comment Summarized: 41-10, 49-1

Response: As discussed in Section 3.2.5.3 of the CLWR Draft EIS, the equipment at Bellefonte has been maintained in a lay-up mode. No fuel has been added to the reactor, and there has been no degradation of the reactor vessel. The NRC makes periodic inspections to verify that the lay-up procedures are being followed and that the conditions for the equipment defined by the plant procedures are maintained. The lay-up approaches and procedures used to maintain the equipment at Bellefonte are similar to those that were used at Watts Bar 1. Watts Bar is currently in its second operating cycle and has maintained an outstanding performance record since the start of operation. The NRC would review the "as built" condition of the Bellefonte plant, as well as updated design and safety information, prior to the start of operation. Some of the plant instrumentation, including the plant computer, would be upgraded prior to operation. Additional plant modifications would be implemented to bring the plant configuration up to today's safety and licensing requirements. The NRC also would hold public hearings and address concerns raised by the public prior to granting an operating license for either of the units.

21.03 The commentor raises the question of whether Watts Bar and Sequoyah will be available after the existing operating licenses expire. The commentor also states that it doesn't make sense to produce tritium until it is needed.

Comments Summarized: 94-3, 702-12

Response: The CLWR EIS addresses license renewal in Volume 1, Section 5.2.4.1. DOE assumes that the reactors will be capable of meeting the NRC licensing extension requirements. In the event that a reactor is unable to meet these requirements, it is assumed that other reactors will be available. DOE also has the option of increasing the production of tritium during the life of the existing reactors in the event that life extension is not a viable option. The commentor references another scenario concerning when the tritium is required. DOE is required to accept the mandates of the President in the Nuclear Weapons Stockpile Plan. If these requirements are reduced, DOE has the flexibility of reducing the level of irradiation services purchased from TVA.

21.04 The commentor asks when the NRC's review of the Production Core Topical Report and its plant-specific reviews will be available to the public.

Comment Summarized: 704-13

Response: The safety evaluation report on the Production Core Topical Report is expected to be issued by the NRC in March 1999. The plant-specific application for a licensing amendment will be submitted for review after the Record of Decision for the CLWR EIS is published.

21.05 The commentor opposes tritium production at a CLWR because the NRC may delay any DOE programs assigned to a CLWR.

Comments Summarized: 14-2, 504-2

Response: There is no credible evidence that the NRC will intentionally delay a licensing associated with the production of tritium in a civilian nuclear plant. DOE has been working with the NRC for the last three years. DOE and the NRC have entered into a Memorandum of Understanding that governs the roles and responsibilities of each agency. The NRC acted in a timely manner in approving the use of the lead test assemblies currently in place at the Watts Bar facility. NRC has very specific and important safety requirements that must be met before any licensing actions can occur. If questions arise, it is anticipated that there will be more than one reactor alternative DOE can rely on in order to produce tritium in a timely manner. DOE's schedule allows sufficient time for licensing issues to be resolved satisfactorily.

21.06 The commentor believes there are uncertainties in the ability to obtain a license for CLWR tritium production based on public concerns over safety and environmental hazards resulting from releases of tritium and public discomfort with the commingling of military purposes in a civilian reactor.

Comments Summarized: 45-2, 503-2

Response: The commentor is correct that, as with any project, there are uncertainties. The purpose of the CLWR EIS is to address environmental impacts of the production of tritium in a CLWR. The issues raised by the commentors will be taken into consideration during the final decisionmaking process and will be reflected in the Record of Decision. DOE believes that the issues raised by the commentors, while accurate, will not preclude the CLWR as a viable option to produce tritium. The NRC does not issue licenses based on public opinion. The NRC considers public concerns in the licensing process; however, they make decisions based on safety.

21.07 A commentor asks what the NRC time line for licensing would be once a decision has been made to use Watts Bar for tritium production.

Comment Summarized: 812-2

Response: A license amendment would be necessary, and one is expected to be submitted to the NRC by the Spring of 2000.

21.08 A commentor asks whether the license to finish the Bellefonte unit is still in effect.

Comment Summarized: 810-1

Response: Yes. TVA has construction permits from the NRC for the completion of the Bellefonte Nuclear Plant Units 1 and 2 that are valid until October 1, 2001, and October 1, 2004, respectively.

CATEGORY 22: SAFEGUARDS AND SECURITY

22.01 Commentors have suggested that the use of civilian reactors will make them attractive targets for attack by terrorists and foreign powers. The commentor states that, since the Sequoyah Plant is located only 7.5 miles from Chattanooga, it is a comparatively attractive target for terrorists. Furthermore, the commentor points out that such a CLWR would be the "weak link" in the nuclear weapons complex security system and, accordingly, such an attack should be analyzed by the CLWR EIS. Another commentor indicates the EIS, at a minimum, should assume the CLWR would be bombed by a foreign power nuclear weapon and the impacts of such an action should be included in the EIS. Another commentor indicates that it is unreasonable for DOE to dismiss accidents resulting from sabotage as speculative. The World Trade Center bombing proves that the United States is no longer impervious to terrorist activities. Another commentor states that DOE does not consider

the possible attack on the transport of TPBARs from the production site to either the Savannah River Site or the Richland, Washington, site. Another commentor suggests that the conclusion reached in the CLWR Draft EIS that no environmental impacts are expected as a result of compliance with the NRC and DOE safeguard and security provisions illustrates the cursory analysis in the EIS.

Comments Summarized: 6-4, 13-4, 41-2, 80-2, 94-20, 116-7, 136-1, 702-13

Response: Facilities and activities associated with the production of tritium are required to comply with the stringent security provisions of DOE Orders 5632.1C and 5633.3A. These Orders require a graded protection for all safeguard and security interests, classified matter, property, and sensitive information from theft, diversion, industrial sabotage, radiological sabotage, espionage, unauthorized access or modification, loss or compromise, or other hostile acts which could cause unacceptable adverse impacts on national security, our business partners, or on the health and safety of employees and the public. The DOE Orders further require a facility associated with the production of tritium to provide protection against a design-basis threat. DOE has further security provisions specifically designed to ensure that the transport of materials, equipment, and articles utilized in the defense mission are not subject to sabotage, terrorism, or mishandling. Transportation of national defense-sensitive materials must comply with the extensive provisions of DOE Order 5610.14. Similar to facility security requirements, these transportation security requirements necessitate that DOE guards against a design-basis threat.

In order for a CLWR to produce tritium, it would be required to comply with the NRC and DOE security requirements. Requirements for developing a safeguards and security system sufficient to protect against a design-basis threat may be found in 10 CFR Parts 73 and 74. Prior to the operation of any TVA reactor to produce tritium, compliance with these regulatory requirements must be demonstrated to NRC's satisfaction.

The safeguard and security procedures of the TVA facilities have already been reviewed for the Lead Test Assembly program (an ongoing program which is currently testing 32 TPBARs in TVA's Watts Bar reactor) and have been found to be sufficiently protective of Federal property, employees, and the general public. As indicated in Volume 1, Section 5.2.10 of the CLWR EIS, no environmental impacts are expected as a result of compliance with both NRC and DOE safeguard and security provisions. Prior to the placement of additional, production-quantity TPBARs in any of the TVA reactors, an additional, similar, site-specific review of security procedures would be conducted. This analysis would include transportation of all materials associated with the program. If it were determined that the requirements of either the NRC or DOE security provisions could not be met, additional procedures would be implemented to achieve compliance with these requirements.

DOE has presented what it believes to be a site-specific probabilistic assessment of severe accidents, including the effects of external events such as fires, floods, and earthquakes. The severe accident analysis in the CLWR EIS includes a loss-of-coolant accident which results in core overheating, fuel melting, loss of containment, and release of radionuclides to the environment.

It is not possible to assign a probability to an attack by either a terrorist or a foreign nuclear power. Such analysis is considered to be beyond the state-of-the-art of probabilistic risk assessment. However, if one were to assume such an event occurred, the environmental impacts resulting from such an event are expected to be similar to the severe accident scenario which is analyzed in the CLWR EIS and which is presented in Volume 1, Section 5.2.1.9.2 for the Watts Bar Nuclear Plant, Section 5.2.2.9.2 for the Sequoyah Nuclear Plant, and Section 5.2.3.9.2 for the Bellefonte Nuclear Plant.

CATEGORY 23: COST ISSUES

23.01 The commentor asserts that the ratepayers in Tennessee are ultimately responsible for the costs currently being incurred by TVA for the construction of Bellefonte (TVA issues bonds, but the bonds are the responsibility of the ratepayers). The commentor states that, as a result, the Federal Government's argument that it already owns the TVA plants is thin.

Comment Summarized: 704-12

Response: As explained in Volume 1, Section 1.3.6 of the CLWR EIS, TVA was established by an Act of Congress in 1933, as a Federal corporation. All of the TVA reactors are the property of the United States.

23.02 A commentor expresses the opinion that DOE has significantly underestimated the cost associated with the CLWR option and that these estimates should be subjected to an independent third-party review. Another commentor is concerned about cost overruns in view of TVA's history.

Comments Summarized: 503-3, 600-1, 800-2

Response: The TVA estimate to complete Bellefonte Unit 1 has undergone several reviews by independent organizations, including Bechtel, Ebasco, and Fluor Daniel. These reviews have confirmed the estimate. The total life cycle cost of the CLWR option includes not only the cost to complete Bellefonte, but also all other DOE program costs, such as the completion of the Tritium Extraction Facility and the cost of shipping irradiated TPBARs from the reactor facility to the Tritium Extraction Facility. The capital costs to complete Bellefonte are fixed under TVA's proposal. Should any additional monies be needed to complete the reactor, TVA would be responsible for the additional cost. The TVA Bellefonte offer includes the use of the Watts Bar Unit 1 reactor at no additional cost to DOE. Use of both of these reactors would meet START I requirements, including any tritium requirements associated with replenishing the tritium reserve. [See also the response to Comment Summary 03.03.] DOE management issued an official summary of the cost for the two options, including life cycle costs (DOE 1998c). This official DOE summary showed the Bellefonte offer to be significantly less expensive than the APT.

23.03 The commentor asks, since DOE and the TVA plants are government-owned, when will everybody in the nation be responsible for TVA's $29 billion in debt, and how soon can ratepayers expect a rate reduction from the current TVA debt (i.e., why should the ratepayers be responsible for the proposed action, which they will be, since TVA has so magnanimously offered some of the money they will be making on the production of electricity to DOE, and why isn't the rest of the nation paying for the proposed action?).

Comment Summarized: 623-2

Response: TVA's $29 billion debt financed total construction needs, not just for the nuclear program construction. This debt is not the responsibility of the U.S. Government and is not part of the national debt. TVA's power program is financially self-sufficient and relies on bond proceeds and revenues from the sale of power. Since TVA bonds are not the obligation of the U.S. Government, they are not part of the national debt. TVA's Board has already established a cap on the outstanding debt and is implementing a 10-Year Business Plan that will reduce the $29 billion amount by one-half by the end of Fiscal Year 2007. This will allow TVA to attain a competitive, reduced delivered price of power by the end of the plan period. The TVA-proposed arrangement with DOE to complete Bellefonte for tritium production would allow for the effective use of a TVA asset and would result in a significant benefit to all TVA ratepayers, both in debt reduction and in reduced operating costs. The Board of Directors will continue to review TVA's power rates annually and make adjustments based on sound business decisions.

23.04 The commentor asks who would benefit from electricity sales revenues from a completed Bellefonte Nuclear Plant—the taxpayers, TVA, or DOE?

Comment Summarized: 700-4

Response: The benefit from electricity sales revenues at Bellefonte could be split between TVA and DOE, depending on the outcome of contract negotiations. Since DOE funding to complete Bellefonte would come from Congress, any revenue returned to DOE to offset initial expenditures would benefit U. S. taxpayers. Any revenue returned to TVA would benefit TVA and the TVA ratepayers.

23.05 The commentor expresses his belief that cost overruns are likely if TVA plants are used for tritium production. The commentor requests DOE to guarantee that the CLWR Final EIS will contain more discussion and analysis of the potential risks and consequences of cost overruns. The commentor states that not doing so would be a mischaracterization of the NEPA process.

Comment Summarized: 700-10, 803-8

Response: TVA believes the estimate to complete Bellefonte is accurate and conservative. This estimate has been reviewed by several independent outside organizations, including Fluor Daniel, Ebasco, and Bechtel. TVA's 10-Year Business Plan does not assume any benefit from the completion of Bellefonte and sale of electricity from the plant. To the extent the plant generates positive cash flow, TVA's 10-Year Business Plan objective would be realized earlier than projected. Should cost overruns occur, the ratepayer would see no negative impact until the cost to complete is greater than the cumulative net cash flow generated from power sales. The probability of negative socioeconomic impacts is therefore minimized and considered negligible.

23.06 The commentor is disconcerted as a TVA ratepayer to learn that, first, Chairman Crowell stated in TVA's 1996 Integrated Resource Plan that TVA will not engage in further nuclear power plant construction without a full partner, and now, under one of DOE's tritium production scenarios, TVA would invest $4.5 billion (essentially its current expenditures for construction of Bellefonte) into the partnership with DOE, resulting in someone else (DOE) completing the reactor at no additional cost to the ratepayers. The commentor believes DOE's CLWR tritium production proposal is nothing more than a thinly veiled attempt to subsidize TVA's attempts to complete the Bellefonte reactor with taxpayer money.

Comment Summarized: 700-17

Response: DOE's purpose and need, as described in the CLWR EIS, is to provide a source of tritium and not to complete Bellefonte. DOE would only select the Bellefonte option if producing tritium at Bellefonte is in the best interest of the United States. TVA's proposal for the completion of Bellefonte is fully consistent with TVA Chairman Crowell's statements regarding future nuclear power plant construction.

23.07 The commentor expresses his belief that DOE needs to understand how delicate and fragile the contractual situation is with TVA's distributors, as well as the liabilities related to TVA's ability to meet the obligations of its 10-Year debt [reduction] plan and the restructuring of the electric utility environment. The commentor further states that these issues are significant and should be addressed socioeconomically to evaluate their long-term implications for the Valley and for U.S. taxpayers. Another commentor asks whether residents of Scottsboro would see their rates go up or down as a result of tritium production at Bellefonte.

Comment Summarized: 700-18, 806-2

Response: TVA believes the estimate to complete Bellefonte is accurate. This estimate has been reviewed by several independent outside organizations including Fluor Daniel, Ebasco, and Bechtel. In the unlikely

event of a cost overrun, TVA would delay debt reduction from its currently planned level. The revenues from the sales of electricity generated by Bellefonte likely would offset the amount of delay. These revenues are not realized in TVA's current debt reduction program. TVA would use these revenues to offset any cost overrun. TVA does not envision any impact to the ratepayer.

23.08 The commentor asks if TVA's offer for tritium production includes a fixed price.

Comment Summarized: 706-2

Response: TVA's offer to produce tritium at Bellefonte is a fixed price to DOE.

23.09 The commentor expresses the opinion that the EIS would benefit from including more information about the actual costs of the various alternatives and the implications of the costs for the specific economic proposals being considered (e.g., if the project costs $1.9 billion, who will be responsible for supplying the rest of the money if the costs exceed the fixed price?).

Comment Summarized: 706-3

Response: Actual costs of the various tritium production alternatives are not part of the EIS process. However, DOE has issued an official cost summary that compares tritium production alternatives, including life cycle costs (DOE 1998c).

23.10 Commentors ask whether TVA plans to pass on the cost of an overrun on its fixed price contract with DOE to ratepayers and, if not, whether TVA is subsidized by some other means.

Comments Summarized: 703-11, 704-16, 706-4

Response: TVA believes the estimate to complete Bellefonte is accurate and conservative. This estimate has been reviewed by several independent outside organizations including Fluor Daniel, Ebasco, and Bechtel. TVA's 10-Year Business Plan does not assume any benefit from the completion of Bellefonte and sales of electricity from the plant. To the extent the plant generates positive cash flow, TVA's 10-Year Business Plan objective would be realized earlier than projected. Should cost overruns occur, the ratepayer would see no negative impact until the cost to complete is greater than the cumulative net cash flow generated from power sales. The probability of negative socioeconomic impacts is, therefore, minimized and considered negligible.

23.11 The commentor is concerned about TVA's debt, suggesting that maybe TVA should take a little breather before starting another project and incurring more debt.

Comment Summarized: 707-11

Response: The funds needed to complete Bellefonte would be received from DOE. There would be no additional TVA funding needed to complete Bellefonte.

23.12 A commentor asks how the $2.9 billion will be dispersed if tritium production takes place at the Watts Bar plant.

Comment Summarized: 816-2

Response: The commentor misspoke; the estimated dispersement presented at the December 14, 1998, meeting was $1.9 billion. The procurement process is ongoing. It is impossible to determine how much money TVA might receive until the negotiations are complete.

23.13 Several commentors express disagreement with spending money for tritium production. Commentors opine that money would be spent better on social needs, education, environmental restoration, and other matters. Some commentors opine that the CLWR program was an effective use of taxpayers' money.

Comments Summarized: 2-3, 3-2, 7-3, 40-1, 53-3, 84-4, 99-3, 103-4, 108-2, 112-2, 115-1, 119-3, 125-2, 137-7, 141-2, 208-5, 212-8, 223-1, 239-4, 248-4, 250-5 621-2, 707-8, 712-6, 828-2

Response: Congress determines how funds are allocated. DOE spends monies consistent with Congressional direction. DOE is not in a position to make the difficult tradeoffs that may be required between alternative Federal programs and spending priorities. The issue of spending money for tritium production is beyond the scope of the CLWR EIS.

23.14 The commentor questions whether the $1.9 billion to complete Bellefonte Unit 1 included the costs of TPBAR transportation and the cost of the extraction facility. The commentor also questions whether TVA is a Government agency.

Comments Summarized: 86-10, 501-3

Response: Official DOE cost estimates for both the APT and the CLWR were made available at the CLWR public hearings. Additional copies of those cost estimates are available by contacting the CLWR program office. The $1.9 billion figure cited by the commentor is a fixed-price quote of the investment cost to complete the Bellefonte Unit 1. The costs associated with TPBAR transportation and the extraction facility are included in the official DOE cost estimate. As explained in Volume 1, Section 1.3.6 of the CLWR EIS, TVA was established by an Act of Congress in 1933 as a Federal corporation. All of the TVA reactors are the property of the United States.

23.15 Several commentors express support for the CLWR over the APT due to lower costs. Some commentors question whether the cost comparisons between the APT and the CLWR were equitable. One commentor asks what percentage of the accelerator program would pay for the design.

Comments Summarized: 4-10, 44-10, 45-8, 90-1, 114-1, 501-12, 605-1, 702-5, 713-2, 719-2

Response: Official DOE cost estimates for both the APT and the CLWR were made available at the CLWR public hearings. Those official cost estimates are DOE's best estimates of the costs for both the CLWR and the APT. Any assumptions and basis for analysis in developing those cost estimates are contained within the cost estimates. Cost issues associated with the CLWR and the APT are beyond the scope of the CLWR EIS.

23.16 Several commentors request that DOE be explicit concerning the costs associated with tritium production. Another commentor requests that the costs associated with spent fuel management be included in the EIS. Another commentor asserts that cost should not be the major factor in determining where tritium is produced. Another commentor asks whether DOE economic analysis includes the costs of pursuing the CLWR and APT options as both primary and backup alternatives to each other.

Comments Summarized: 127-3, 143-1, 245-2, 501-13, 504-5, 700-3, 702-4

Response: The CLWR EIS was prepared in accordance with NEPA, the Council on Environmental Quality's regulations on implementing NEPA (40 CFR Parts 1500 through 1508), and DOE's NEPA implementation procedures (10 CFR Part 1021). None of these require inclusion of a cost analysis in an EIS. As discussed in Volume 1, Section 3.2.1 of the CLWR EIS, the basic objective of this EIS is to provide the public and DOE decision-makers with a description of the reasonable alternatives and their potential environmental impacts.

While costs could be an important factor in DOE's decision regarding the production of tritium in a CLWR, the focus of an EIS is on the environmental consequences. DOE has performed several cost analyses on the various proposals associated with the production of tritium and made these cost analyses available to the public at the three public hearings DOE held in October, 1998. DOE is pleased to provide the public with these analyses upon request.

23.17 One commentor expresses concern regarding a number of issues related to costs: that costs to complete Bellefonte were underestimated and not subjected to independent third-party review, while the APT costs have been reviewed; that costs would overrun the TVA estimated cost of $2.44 billion to complete the cost of the Bellefonte 1 reactor; that the Government Accounting Office states that TVA estimates are very unreliable; that another utility estimates over $4 billion would be required to complete Bellefonte; that Bellefonte would not meet START I tritium requirements; that there is serious question concerning the ability of Bellefonte to generate sufficient revenues to offset costs; and that Watts Bar and Sequoyah, although discussed at length, are being withdrawn.

Comments Summarized: 45-3, 503-4

Response: The TVA estimate to complete Bellefonte Unit 1 has undergone several reviews by independent organizations, including Bechtel, Ebasco, and Fluor Daniel. These reviews have confirmed the estimate. The $2.44 billion cited in the comment is the total life cycle cost of the CLWR option, which includes not only the cost to complete Bellefonte, but also all other DOE program costs, such as the completion of the Tritium Extraction Facility, and the cost of shipping irradiated TPBARs from the reactor facility to the Tritium Extraction Facility. The capital costs to complete Bellefonte are fixed under TVA's proposal. Should any additional monies be needed to complete the reactor, TVA would be responsible for the additional cost. The TVA Bellefonte offer includes the use of the Watts Bar Unit 1 reactor at no additional cost to DOE. Use of both of these reactors would meet START I requirements, including any tritium requirements associated with replenishing the tritium reserve. [See also the response to Comment Summary 03.03.] DOE management issued an official summary of the cost for the two options, including life cycle costs. When considering the life cycle costs of the completion and utilization of the Bellefonte facility for producing tritium, the revenues to be generated from the sales of electricity, which TVA would share with DOE, would offset the initial, up-front costs. These up-front costs, however, are quite sizable. The Watts Bar/Sequoyah offer gives DOE an attractive alternative based upon an annual fee for irradiation services, without any large up-front costs. In addition, this flexible offer becomes even more attractive, considering the possibility of smaller, future tritium requirements as a result of additional cuts in the size of the nation's nuclear weapons stockpile.

23.18 The commentor states that the Congressional Research Service review raises a serious question on the ability of Bellefonte to generate sufficient revenue to offset operating costs, much less amortize construction.

Comment Summarized: 503-12

Response: TVA's Watts Bar 1, Sequoyah 1 and 2, and Browns Ferry 2 and 3 nuclear units generate power at an operating cost significantly lower than current market price for firm baseload power. TVA expects the same level of low-cost efficient generation at Bellefonte 1. With the margin between the cost of generation at a nuclear unit and the market price of power, TVA would be able to cover both fixed and variable operating costs of generating power at Bellefonte 1, while also reducing TVA debt and sharing revenue with DOE.

23.19 The commentor wants to know what guarantees exist that TVA can finish completion of Bellefonte within the stipulated costs. The commentor asks if all funding for the completion of Bellefonte will be up front prior to completion and before an NRC license is obtained.

Comment Summarized: 506-3

Response: In response to the Secretary of Energy's request that TVA provide its best and final offers, DOE received several proposals for the completion of the Bellefonte facility (see Volume 1, Section 1.1.4 of the CLWR EIS). All of these proposals were for a fixed price, with varying programs for completion funding by DOE. These programs range from two annual up-front payments to six such payments. In all instances, funding would be prior to the operation of this facility and, in all probability, most funding would be prior to obtaining an NRC operating license.

There are no guarantees for the completion of the facility within the stipulated costs. It should be noted, however, that these cost projections are for the completion of a facility which is already 90 percent complete. Furthermore, the cost proposals have been reviewed by three separate, independent, outside groups.

23.20 The commentor expresses belief that the capital costs for the Bellefonte reactors will be significantly more than for the APT and that life cycle costs will be comparable.

Comment Summarized: 503-6

Response: Cost issues associated with the CLWR and the APT are beyond the scope of the CLWR EIS. Nevertheless, official DOE cost estimates for both the APT and the CLWR were made available at the CLWR public hearings (DOE 1998c). Those official cost estimates are DOE's best estimates of the costs for both the CLWR and the APT. Any assumptions and basis for analysis in developing these cost estimates are contained within the cost estimates.

23.21 The commentor asks whether the fixed price for completing the Bellefonte plant would also include defense of the project against any nuclear activist suits or intervenors.

Comment Summarized: 506-4

Response: The costs for potential litigation are not within the scope of the CLWR EIS.

23.22 The commentor states that using the Watts Bar plant only for tritium production clearly is the least expensive reactor option and asks why TVA let this option expire. The commentor suggests TVA's reason was to preclude the lower-priced option (Watts Bar only) so that Federal monies could be obtained to finish the Bellefonte plant. Another commentor asks why TVA did not include negative EIS comments in their latest offer letter to DOE.

Comments Summarized: 232-3, 700-2, 806-5

Response: DOE is not in a position to explain TVA's decisions during the procurement process. As discussed in Volume 1, Section 1.1.4 of the CLWR EIS and in the response to Comment Summary 06.03, TVA resubmitted a proposal for irradiation services at the Watts Bar plant and the Sequoyah plant after the issuance of the CLWR Draft EIS.

23.23 A commentor feels that, as part of the decision process, TVA and DOE should compensate local government, thereby helping local ratepayers and taxpayers. Another commentor asks what effect irradiation services at the Watts Bar and Sequoyah plants would have on ratepayers, and whether electric rates would change. Another commentor asks whether residents of Rhea County would receive a tax break.

Comments Summarized: 230-2, 802-2, 809-1

Response: If Watts Bar and Sequoyah were selected, DOE expects to enter into an interagency agreement with TVA under the Economy Act, discussed in Volume 1, Section 1.1.4 of the CLWR EIS. Under that

agreement, DOE would pay TVA for the cost of tritium production. This would have no effect on ratepayers or taxpayers. If Bellefonte were selected, the benefit from electricity sales revenue could be split between TVA and DOE, depending on the outcome of contract negotiations. Because DOE funding to complete Bellefonte would come from Congress, any revenue returned to DOE to offset initial expenditure would benefit U.S. taxpayers. Any revenue returned to TVA would benefit the agency and its ratepayers.

23.24 A commentor asks for clarification regarding the numbers given for the Watts Bar and Sequoyah plants in the presentation. The commentor also asks about the breakdown that led to TVA's estimate of $85 million for irradiation services. The commentor suggests that TVA is inflating the taxpayer costs to make the Bellefonte alternative more attractive.

Comment Summarized: 803-1

Response: Negotiations are currently ongoing between TVA and DOE to determine the cost of irradiation services. Details of the negotiation process are procurement-sensitive.

23.25 A commentor asks how TVA can reduce its estimated costs for completing the Bellefonte plant for tritium production. The commentor asks whether ratepayers would have to pay more to make up the $.5 billion difference.

Comment Summarized: 806-1

Response: In the latest proposal, TVA assumes a share of the costs to complete Bellefonte. TVA would borrow money to do this; the rates would not be increased, but the debt pay-down plan would be delayed.

23.26 A commentor asks whether TVA is paying back the principal on its debt yet.

Comment Summarized: 810-2

Response: The principal on the Bellefonte debt is included as part of the 10-year debt package that is currently being paid.

23.27 A commentor asks whether DOE has determined over the 25- or 30-year production period which reactor method is the most economical way to produce tritium.

Comment Summarized: 810-3

Response: Because the procurement process in ongoing, definitive costs have not been finalized yet and, therefore, it is not possible to say with absolute certainty which of the reactor alternatives is the most economical. Based on current estimates on a life cycle cost basis, TVA's proposal to complete Bellefonte and produce tritium is the least costly alternative, but in the near term, the irradiation services proposal to use Watts Bar and Sequoyah is less costly than completing and operating Bellefonte.

CATEGORY 24: MISCELLANEOUS

24.01 The commentor questions whether DOE and TVA can effectively communicate.

Comment Summarized: 501-8

Response: The effectiveness of communication between TVA and DOE is beyond the scope of the EIS.

24.02 The commentor expresses concern that nuclear energy is a complicated process and wonders if using highly complicated processes makes mistakes and failures more likely.

Comment Summarized: 707-13

Response: The CLWR EIS assesses the environmental impacts associated with tritium production in one or more CLWRs. Included in the EIS is an assessment of the probabilities, consequences, and risks associated with potential accidents. Currently, tritium is being produced in Watts Bar 1 as part of the Lead Test Assembly demonstration. Results from that demonstration are confirming that tritium production in a CLWR is straightforward and safe.

24.03 The commentor asks if the amount of tritium now possessed by the United States is losing its efficiency or leaking somewhat and, if so, is there no way to prevent this loss.

Comment Summarized: 707-4

Response: Tritium is a radioactive form (or isotope) of the hydrogen atom and, like all radioactive isotopes, will spontaneously change into a different isotope (Helium-3) through a process called "radioactive decay." There is no known way to stop tritium from decaying.

24.04 The commentor questions, "What is the current uranium-235 enrichment, 4.0 percent? Why would DOE supply the higher-enriched uranium, and not the U.S. enrichment plants? Is it because of the uranium surplus at DOE?" The commentor wonders if releases from higher enrichment fuel would be greater.

Comment Summarized: 143-7

Response: As discussed in Volume 1, Appendix A, normal enrichment of fuel used in CLWRs is from 4.2 to 4.5 percent. Full production loading of TPBARS may require the use of slightly higher enriched fuel (4.6 to 4.9 percent). Such an increase would be allowed by the current NRC licenses (current NRC licensing provisions allow for up to 5 percent enrichment).

DOE has offered to provide TVA with any required uranium of higher enrichment levels to avoid causing TVA any cost increases for normal operations. DOE already has specific quantities of highly enriched uranium which could be blended down to the appropriate concentration levels (within the NRC licensing limitations), should such fuel be required. DOE has clarified this in Volume 1, Section 5.2.7 of the CLWR EIS. The somewhat higher enrichments and reduced fuel assembly burnups associated with the tritium production core, as compared to the conventional core designs, can influence the radiological source term used in the calculation of radiological emissions other than tritium during normal operation and accident conditions. The *Tritium Production Core Topical Report* (WEC 1998) quantified this effect and concluded that, overall, the fission product inventories were the same or lower in the tritium-producing core. Therefore, the analysis presented in the CLWR EIS, which does not account for the increased enrichment, is conservative.

24.05 The commentor asks how a one-year delay in completing construction at Bellefonte 1 would impact the schedule to complete the Tritium Extraction Facility by 2005. Another commentor questions why DOE would want to run the Tritium Extraction Facility furnaces within the top 90th percentile of their maximum temperature, and why there is no data in the CLWR Draft EIS that addresses recovery efficiency in the Tritium Extraction Facility.

Comment Summarized: 500-3

Response: The Tritium Extraction Facility construction is not related to the completion of Bellefonte. Therefore, any delay associated with completing Bellefonte would have no impact on the construction of the Tritium Extraction Facility. While specific comments regarding the Tritium Extraction Facility are beyond the scope of the CLWR EIS, these comments have been forwarded to the preparers of the Tritium Extraction Facility EIS for response and inclusion in the Tritium Extraction Facility EIS.

24.06 The commentor asks where the tritium produced by a CLWR would go and what would be done with it. Another commentor asks whether the tritium would be extracted immediately at the Tritium Extraction Facility or stored at the site.

Comments Summarized: 603-1, 629-2, 704-7

Response: As explained in Volume 1, Chapter 1 of the CLWR EIS, tritium produced at a TVA reactor would be shipped to the Savannah River Site for extraction from the TPBARs. This tritium would then undergo purification and would be loaded into the tritium reservoir for use in the nuclear weapons stockpile. Tritium would be extracted at the Tritium Extraction Facility as necessary to meet stockpile demands. The Tritium Extraction Facility would have the capability to store irradiated TPBARs until extraction is necessary.

24.07 The commentor remarks that the actual tritium extraction occurs in areas already overexposed to mismanagement. TVA would only expose special control rods and ship them to the extraction plant. It appears that this in no way adds significantly to any existing situation.

Comment Summarized: 103-2

Response: The potential environmental impacts associated with the irradiation of TPBARs at any of five TVA reactors are presented in the CLWR EIS. Following irradiation, TPBARs would be shipped to the proposed Tritium Extraction Facility that would be constructed at the Savannah River Site. As discussed in Volume 1, Section 1.5.2.2 of the CLWR EIS, a separate EIS has been prepared for this facility to evaluate the potential environmental impacts of the tritium extraction. A summary of the environmental consequences related to the construction and operation of the Tritium Extraction Facility appears in Section 5.3.4 of the CLWR EIS.

24.08 The commentor expresses the opinion that to establish a new use for civilian nuclear power reactors is counter to the growing worldwide consensus that nuclear power should be eliminated as a source of energy since it is inherently unsafe, uneconomic, and most importantly, unnecessary.

Comment Summarized: 110-6

Response: Whether there is any worldwide consensus regarding nuclear power is beyond the scope of the CLWR EIS. Nonetheless, the position for many of the world's governments in developed countries is that nuclear power will continue to play an important role in the next century in meeting substantially increasing energy demands and may be essential to cope with global warming. The construction of new nuclear plants outside of the United States continues to increase, especially in the Far East, to satisfy the rising demand for energy in the fast-expanding economies of Japan, the Republic of Korea, and China. The strengthening of nuclear safety is now an international collaborative effort. TVA takes its responsibility seriously to maintain competitive rates and growth in the Tennessee Valley while protecting the health and safety of the environment and the public; the performance records of its nuclear program support this priority. For example, last year TVA's nuclear plants generated 27 percent of the total TVA generation, allowing TVA to meet record peak demands during the summer and winter. TVA's operating nuclear plants have been named among the most efficient nuclear utilities in the country and as leaders in cost reduction.

24.09 The commentor states that, when his group of retired engineers, scientists, and physicists met in April of last year, someone told them there was absolutely no increase in any kind of disease, including cancer, in areas where TVA facilities are operating.

Comment Summarized: 620-2

Response: A National Cancer Institute survey in the *Journal of the American Medical Association*, March 20, 1991 (NCI 1991), showed no general increased risk of death from cancer for people living in the 107 counties containing or closely adjacent to 62 nuclear facilities. Included in the study were 52 commercial nuclear power plants, 9 DOE research and weapons plants, and 1 commercial fuel processing plant. TVA's Brown's Ferry and Sequoyah Nuclear Plants were included in this survey.

24.10 The commentor asks for clarification of a statement found in the CLWR Draft EIS Summary that indicates no design changes would be necessary to complete Bellefonte for tritium production. The commentor suggests clarification be added to the summary document.

Comment Summarized: 706-5

Response: Minor modifications would be required for radiological, security, and operational impacts. Additional radiological monitoring equipment such as portable monitors, discrete air samplers, and liquid scintillation counters would be procured, and air and water sampling station equipment would be installed for environmental monitoring. Some minor tooling modifications may be made to facilitate handling of TPBARs in the spent fuel storage pool. Also, some security enhancements would be made to accommodate storage of classified documents and TPBARs. However, no major modifications would be required for tritium production, as discussed in Section 3.2.5.3 of the CLWR EIS.

24.11 The commentor wants clarification that TVA will own the facility and at no time will it be sold or given to DOE.

Comment Summarized: 714-2

Response: TVA has no plans or intent to transfer ownership to DOE. Since TVA facilities such as Watts Bar and Bellefonte are government-owned, there is no reason to sell these facilities to DOE. As discussed in Volume 1, Section 1.1.1 of the CLWR EIS, DOE is only interested in the purchase of irradiation services, not the purchase of a reactor.

24.12 Commentors note editorial changes to be made to the CLWR Draft EIS, including the addition of words and sentences to clarify the text, the correction of the sequence of footnotes to some tables, the elimination of inconsistent terminology, and the correction of typographical or grammatical errors.

Comments Summarized: 89-1, 94-1, 146-4

Response: The text cited by the commentors has been revised. Additional edits have been made throughout the document as necessary. A list of sections affected by this type of revision is included in Volume 1, Section 1.9 of the CLWR EIS.

24.13 Commentors request clarification concerning the cumulative effects of using multiple reactors.

Comments Summarized: 146-23, 703-6

Response: Volume 1, Section 3.2.6 explains that the impacts of using more than one CLWR for tritium production can be determined by adding the impacts of each individual CLWR together. Tables 5-59, 5-60, and 5-62 in the CLWR Final EIS present the cumulative impacts at each site. For the sites with two potential units operating (Sequoyah, Bellefonte) the CLWR Draft EIS assumed that one of the units is operating in a tritium-producing mode while the other is operating in a normal electricity-producing mode. Tables 5-51 and 5-53 have been revised in the CLWR Final EIS to reflect tritium production in both units at the same time; the tables appear as Tables 5-60 and 5-62 in the CLWR Final EIS.

24.14 The commentor notes that the CLWR Draft EIS fails to list and examine mitigation measures for the increased risks due to the proposed action.

Comment Summarized: 116-5

Response: The CLWR Draft EIS discusses the need for mitigation measures right after the presentation of the impacts for each environmental resource, if such need is warranted. The CLWR Final EIS includes a summary of these discussions in a new Volume 1, Section 5.5.

24.15 The commentor requests information on the effect on the reactor physics and asks about the differences between regular burnable absorber rods and TPBARs.

Comment Summarized: 143-6

Response: Regular burnable absorber rods are depleted during a normal reactor cycle. That is, at the end of a normal operating cycle, regular burnable absorber rods no longer have the ability to absorb neutrons. In general, the TPBARs will continue to absorb neutrons throughout the entire fuel cycle. Since the TPBARs will absorb more neutrons than regular burnable absorber rods during a reactor operating cycle, they could require higher enriched fuel to have equivalent core performance characteristics at the end of the operating cycle. Prior to operating the reactor, the NRC will approve the analyses of specific tritium production reactor core configurations. NRC license holders must submit core reload analyses and demonstrate that core performance for a new core configuration, including tritium production cores, is within the licensing basis performance envelope for the plant. The NRC currently licenses CLWRs to operate with fuel enrichments up to 5 percent.

24.16 The commentor notes that Table 4-11 in the CLWR Draft EIS did not contain a reference to the source of the data presented in the table. The commentor recommends the inclusion of the reference.

Comment Summarized: 146-5

Response: The reference (TVA 1998e, now TVA 1998d) is shown at the bottom of Table 4-11 of both the Draft and Final versions of the CLWR EIS.

24.17 The commentor notes that the first assumption listed in Section 5.1.2 of the CLWR Draft EIS is not an assumption, but a statement concerning the conservatism of the model used. The commentor suggests that the statement be moved from the list of assumptions up into the paragraph which precedes the list of assumptions.

Comment Summarized: 146-8

Response: The list of assumptions provides numerous examples of how the analysis was conservatively performed. Part of this conservative approach was the use of computer models, which conventionally overestimate health risks associated with low dose rates. Thus, the inclusion of this passage within the assumptions list is deemed appropriate.

24.18 The commentor, referring to Sections 5.2.1, 5.2.3, 5.2.7, and Tables 5-46 and 5-47 of the CLWR Draft EIS, questions the consistency of the use of the terms "baseline" and "baseline configuration." The commentor recommends that the baseline assumed in Section 5.2.9 be stated explicitly and the tables be checked for consistency.

Comment Summarized: 146-22

Response: Volume 1, Section 5.2.9 and associated tables have been revised to reflect consistency in the use of the term "baseline" between text and tables.

24.19 A commentor asks if DOE and TVA are in Y2K [Year 2000] compliance.

Comment Summarized: 800-8

Response: All Federal agencies have a coordinated and aggressive program underway to ensure compliance with Y2K requirements so that they can enter the millennium without any disruptions to required activities. Y2K compliance is outside the scope of the CLWR EIS.

24.20 The commentor, referring to Table 5-32 of the CLWR Draft EIS, remarks that the table does not give units for the data presented. The commentor recommends that units be provided in the table.

Comment Summarized: 146-15

Response: Note "a" of Table 5-42 (Volume 1) of the CLWR EIS (Draft EIS Table 5-32), which is cited in the heading for each column of data, identifies the units as "Increased likelihood of cancer fatality per year."

24.21 A commentor asks what DOE would do if TVA were dismantled as a result of deregulation.

Comment Summarized: 800-7

Response: Speculation as to the continuance or dismantlement of TVA is beyond the scope of the CLWR EIS.

24.22 The commentor asks how many TPBARs were inserted into the Advanced Test Reactor.

Comment Summarized: 704-10

Response: Eleven.

24.23 The commentor, referring to the discussion of a "real" individual in Section 5.2.6 of the CLWR Draft EIS, recommends that information should be included concerning what is meant by placing the word "real" in quotes.

Comment Summarized: 146-17

Response: The term is often used by the NRC in their safety evaluations. The term "real" in quotations indicates that the dose is calculated for actual individuals living near the ISFSI, as opposed to a hypothetical individual. A hypothetical individual is used often in analyses when the results are purposely overestimated for conservatism. Such a hypothetical individual, for example, may be assumed to stand, completely exposed, at the worst possible location for radiological exposure. Volume 1, Section 5.2.6 is revised to include an explanation of a "real" individual.

24.24 A commentor asks what "point of departure" means as used in the slide presentation.

Comment Summarized: 800-1

Response: This phrase was used in the DOE slide presentation on December 14, 1998, to refer to the starting point of discussions between DOE and TVA on all the elements of the Watts Bar/Sequoyah proposal. In other words, DOE considers that TVA proposal negotiable.

24.25 A commentor notes that both the Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) say they have Memorandums of Understanding with TVA that allow an exchange of paperwork instead of onsite inspections. The commentor asks where copies of these Memorandums of Understanding can be obtained.

Comment Summarized: 811-3

Response: According to TVA's Office of General Council, there are no specific memoranda of understanding between TVA and these agencies.

24.26 A commentor asks whether tritium production would shorten the life span of the Watts Bar or Sequoyah units.

Comment Summarized: 814-1

Response: As discussed in Volume 1, Section 3.2.1 of the CLWR EIS, tritium production is not expected to shorten the life span of the Watts Bar or Sequoyah plants.

24.27 A commentor asks how many organizations are qualified to do this job that did not want it. The commentor asks why TVA bid on DOE tritium production. The commentor asks why TVA had no competition.

Comments Summarized: 813-1, 815-1

Response: There are approximately 72 pressurized water reactors in the United States that potentially could be used for tritium production, as discussed in Volume 1, Section 3.2.2. It is unknown how many utilities are represented by that number. TVA bid on the DOE tritium production proposal because it felt that responding to DOE's request for proposals is in the best interest of TVA. With regard to why TVA had no competition, DOE will not speculate on why other utilities did not bid.

24.28 A commentor asks when the last environmental impact study was done that used Bellefonte as a nuclear reactor without tritium production.

Comment Summarized: 816-1

Response: The *Final Environmental Impact Statement Related to Construction of Bellefonte Nuclear Plant Units 1 and 2 at the Tennessee Valley Authority* was published in June 1974 (TVA 1974). TVA reviewed the continuing validity of this document in 1994. This document addressed construction and operation of Bellefonte Units 1 and 2 as nuclear-powered electrical generation facilities only, and did not address tritium production.

24.29 A commentor states that tritium is a weapons component, and DOE should be honest about that fact.

Comment Summarized: 835-3

Response: DOE recognizes that tritium is a component of nuclear weapons and addresses this point in Volume 1, Section 1.3.2 of the CLWR EIS. Within that section the following statement is made: "Tritium is not a fissile material and cannot be used by itself to construct a nuclear weapon. However, tritium is a key component of all nuclear weapons presently in the nation's nuclear weapons arsenal. Tritium enables weapons to produce a larger yield while reducing the overall size and weight of the warhead."

24.30 A commentor expresses concern about the impacts from tritium production on uranium mine workers and people living in the vicinity of uranium mines.

Comment Summarized: 835-4

Response: As indicated in Volume 1, Section 5.2.7 of the CLWR EIS, the enriched uranium that would be used for fuel assemblies in tritium production has already been mined and processed. Additionally, DOE may provide blended-down highly enriched uranium from its inventory that has been set aside for national security purposes. Section 5.2.7 discusses the environmental impacts associated with blending down this highly enriched uranium. No additional environmental consequences of any significance are expected from TPBAR fabrication activities other than the fabrication and assembly of TPBARs and the conversion of highly enriched uranium to commercial reactor fuel.

24.31 Several commentors ask why TVA's irradiation services proposal is for 25 years, when the original programmatic proposal was for 40 years. The commentor also asks whether the requirements changed.

Comment Summarized: 803-4, 808-4

Response: In the original request for proposals, DOE asks for a minimum 10-year contract for irradiation services. The commentor is correct that the programmatic plan calls for 40 years of tritium production. TVA has offered 25 years, anticipating that DOE may issue another request for irradiation services proposals at some time.

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