

PDCF Information Request

Information Requested (Note: Original NEPA analysis is documented in DOE/EIS-0283-SA-1 and MOX FFF EIS, NUREG-1767)	PDCF		
	Update to Baseline Scope in Current NEPA Analysis (using B-PDCF-1-02-033 as baseline)	Up to 9MT of Additional Future Surplus Material	SPD EIS Data (1999)
General			
Schedule - Design - Construction or Modification - Operation - Deactivation and decommissioning	Design 3Q 1999 – 4Q 2009 Construction 1Q 2011 – 4Q 2016 Operations 2Q 2019 – 2030 D&D NA	No changes to design or construction. Schedules for operation and D&D would require extension.	Construction start 2001, operations start 2004 (10-year operation); (SPD EIS, 2-51)
	Congressional Data Sheets FY 2008		

Comment: SAIC: Many of the responses indicate no changes. It is unclear what "no changes" is being measured against. B-PDCF-1-02-033? SPD EIS? RFR – "No changes" in this table is measured against B-PDCF-1-02-033.

In some cases it appears that changes have occurred from the SPD EIS, but no information is provided in B-PDCF-1-02-033. In these cases it appears that other sources must have been used? Conceptual Design Report? RFR – The Conceptual Design Report was not used. Not sure which specific items you are referring to (changes that have occurred from SPD EIS but not in B-PDCF-1-02-033). The design changes noted on the table were drawn from recent Replanning Issues which have been in process since 2005. These design changes are provided as a snapshot update to B-PDCF-1-02-033.

Please review all responses to ensure it is clear where the information can be found.

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Description of modifications to facility including: <ul style="list-style-type: none"> - Latitude and Longitude - Elevation above NGVD (units) - Floor space used (units) - Plot plan - Floor plan with equipment arrangement - Features that prevent unauthorized entry (unclassified description) - Features that ensure safeguards against malevolent acts or material diversion by internal and external entities (unclassified description) - Fire protection systems - Features that control releases of airborne contaminants (include diagram of treatment train) - Features that control releases of waterborne contaminants (include diagram of treatment train) - Features/procedures that prevent criticality - Description of liquid and non-liquid waste processing 	Recent design changes: <ul style="list-style-type: none"> -SRL furnace elimination -SRL gas extraction removed -Sanitization; microwave technology to replace furnaces. Not baseline change yet but appears to have verbal agreement. -Fire protection – added sprinklers to non-inerted gloveboxes -Hydride; Moved HEPA filters from across room to next to glovebox. Smaller volume of ductwork impacted -Hydride; replaced hydrogen getter beds with hydrogen generator -Hydride; added HEPA filter between hydride heat exchanger and vacuum pump. This allowed enclosure to be eliminated -Changed tiles at bottom of sandfilter. -Add staircase to outside of Pu Process Bldg to access liquid waste tanks in basement. -Routed condensate and blowdown from Upper Three Runs to Central Sanitary -No procedures yet for criticality -Added grouting process for floor sweepings in Waste Management area glovebox sweeping and lab concentrated liquids 	No changes to the General Arrangement to accommodate 9 MT. Facility is designed for 20 year life so 9MT should stay in this envelope.	Process building - 200,000 square feet (SPD EIS; 2-51) Utilities - 26,000 square feet (SPD EIS; 2-51) Hardened Facility (SPD EIS; 2-15) Removal of gallium (SPD EIS; 2-14) Hydride-oxidation (SPD EIS; 2-18)

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In some cases it appears that changes have occurred from the SPD EIS, but no information is provided in B-PDCF-1-02-033. In these cases it appears that other sources must have been used? Conceptual Design Report? RFR – The Conceptual Design Report was not used. Not sure which specific items you are referring to (changes that have occurred from SPD EIS but not in B-PDCF-1-02-033). The design changes noted on the table were drawn from recent Replanning Issues which have been in process since 2005. These design changes are provided as a snapshot update to B-PDCF-1-02-033.

Please review all responses to ensure it is clear where the information can be found.

Comment: SAIC: Please supply this information? RFR – the interface point for service water is N79800.00, E55389.00, Elevation 295'-2". This is on northwest portion of PDCF property per ICD-02-007-01.

Comment: SAIC: Please supply this information? RFR – Per Randy Yourchak, WSRC will make drawings available.

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Construction/modification			
Land disturbed (acres or hectares)	No changes	No changes	5 acres
Description of activities conducted (e.g., decontamination/removal/disposal of existing facilities/equipment, land clearing, onsite concrete plant) and modifications needed (e.g., floors, walls, support beams, roof, waste management, ventilation, new roads)	No changes	No changes	See SPD EIS pages 2-14 to 2-21
Describe type and quantity of air pollutant emitting equipment and frequency and duration of use.	No changes	No changes	See SPD EIS 4.4
Describe type and quantity of noise producing equipment and frequency and duration of use.	No changes	No changes	See SPD EIS 4.4
Emission release parameters – For any stack releases - release location (latitude & longitude), stack height, stack diameter, stack exhaust velocity or flow rate, exhaust air temperature – For fugitive releases - release location and dimensions of source area	No changes	No changes	See SPD EIS 4.4
Air emissions (point source and fugitive): - Criteria Pollutants (metric tons/yr) - HAPs (kilograms/yr) - Radioisotopes (curies/yr)	No changes	No changes	See SPD EIS Table G-57 through G-58

Comment: SAIC: Does this mean no changes to the SPD SEIS information, or no changes to the 50 acres described in B-PDCF-1-02-033? RFR – the latter, no changes to the 50 acres described in B-PDCF-1-02-033.

If the area disturbed has changed from 5 to 50 acres, then much of the information requested here for construction will have changed from that described in the SPD EIS. RFR – construction air emissions were calculated and shown on B-PDCF-1-02-033. See text added at end of this file for methodology discussion in PDCF Waste Management Plan. Estimates of waste quantities and air impacts during construction were made based upon available project data or engineering judgments – EIS data didn't impact estimates. So change from 5 acres to 50 acres does not have proportional impact.

Comment: SAIC: What is the total amount of land disturbed for construction of this facility? RFR – per B-PDCF-1-02-033, 50 acres for PDCF plus 7 acres for WSB. SPD EIS had 5 acres for PDCF (WSB not part of project at that time).

The response to the WSB Information Request reports that the WSB would disturb 9 acres. Is this consistent with the 5 acres reported here? RFR – No. The 5 acres is from the SPD EIS and specific to PDCF only. The concept of the WSB didn't exist until after SPD EIS. The latest estimate that we had for WSB was 7 acres. Apparently WSB is now reporting 9 acres.

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Liquid effluents - Location(s) of discharge(s) and copies of permit(s) - Rate(s) of discharge(s) (units/day) - Concentrations of contaminants (picocuries/liter or micrograms/liter)	No <u>data</u>	No changes	The only liquid waste estimate made in SPD EIS was for non-hazardous liquid, see page F-17. See SPD EIS Table H-27 for non-hazardous liquid waste estimate.
Employment for each year (FTEs)	No <u>data</u>	No change	See SPD EIS Table E-4
Shifts	No data	No change	No data
Worker radiological exposure - total dose (person-rem)	No <u>data</u>	No change	See SPD EIS Section 4.4.1.4
Number of exposed workers	Not calculated	Same as base case	See SPD EIS Section 4.4.1.4
Waste generated (provide solid and liquid separately) (units/yr): - TRU - LLW - MLLW - Hazardous - Non-Hazardous	No <u>TRU, LLW, MLLW</u> <u>5 m3/yr hazardous</u> <u>1,514 m3/yr liq non-haz</u> <u>120 m3/yr solid non-haz</u>	No changes in annual quantities	See SPD EIS Table H-27 <u>50m3/yr hazardous</u> <u>5,300 m3/yr liq non-haz</u> <u>120 m3/yr solid non-haz</u>

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Comment: SAIC: Would total waste quantities for construction change? If so, by how much? RFR – no expectation that annual or cumulative construction waste would change due to inclusion of 9 MT. Design will remain the same with or without the additional 9 MT. Note: During operations there would be no change in terms of annual waste quantities or products. However, there would be an increase in cumulative impacts although the timeframe for processing the additional 9MT still falls within the 15-year window provided in the SPD EIS.

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Operations			
<u>Land area occupied by the completed facility (acres or hectares)</u>			
Description of Process including: - Flowchart - Throughput (units/yr)	No changes in thruput Continual changes to process flow diagrams and P&IDs	No changes	See SPD EIS Sections 2.4.1.1, 2.4.1.2 and Figures 2.8, 2.9
Emission release parameters - For stack releases - release location (latitude & longitude), stack height, stack diameter, stack exhaust velocity or flow rate, exhaust air temperature - For fugitive releases - release location and dimensions (including height) of vents or louvers from which release would occur - Emissions from emergency generators, boilers, and other ancillary equipment	Stack height is under review, potential change No changes to fugitive emissions No changes from generators	No changes	See SPD EIS 4.4
Air emissions - Criteria Pollutants (metric tons/yr) - HAPs (kilograms/yr) - Radioisotopes (curies/yr)	Grouting concentrated liquids from analytical lab so reduced nitrogen oxides and sulfur oxides	No changes	See SPD EIS Tables G-59 through G-60
Liquid effluents - Location(s) of outfall(s) - Rate(s) of discharge(s) (units/day) - Concentrations of contaminants (picocuries/liter or micrograms/liter)	Condensate/blowdown new discharge point No changes in volumes	No changes	The only liquid waste estimate made in SPD EIS was for non-hazardous liquid, see page F-17. See SPD EIS Table H-28 for non-hazardous liquid waste estimate.

Comment: SAIC: Please provide this additional information RFR – Information provided in B-PDCF-1-02-033 did not include acreage for a completed facility. The acreage disturbed due to construction (50 acres) is larger than acreage occupied by completed facility

Comment: SAIC: Again.....no changes from the current design or from the SPD EIS? RFR – in this case, both. SPD EIS is based on 3.5MT of annual throughput. PDCF design must meet that value as a minimum. The 3.5MT of annual throughput is a cornerstone design value that is not expected to change.

B-PDCF-1-02-033 contain no information on thruput. RFR – No need to address in B-PDCF-1-02-033 since design target is constant.

Comment: SAIC: Please provide a revised flowchart if it has changed substantially. RFR – Per Randy Yourchak, WSRC will make PFDs and P&IDs available.

Comment: SAIC: Will this activity be performed in the WSB? RFR - No. Grouting will be performed at PDCF in laboratory glovebox. Grouting operation will be conducted in liter batches.

Comment: SAIC: Based on the increase in dose to the MEI (0.0037 to 0.0182 mrem) reported in B-PDCF-1-02-033, it would appear that radiological releases have increased. Please provide this information. RFR – This change was noted on B-PDCF-1-02-033. Supporting calc for 0.0182 is available but classified. This table notes there have been no changes since B-PDCF-1-02-033 last update.

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Employment (FTEs)	Peak of 550 FTEs in first full year of operation. Just under 500 FTEs for remaining years.	No changes	See SPD EIS Table E-6
Shifts	24/7 for 200 days per year; remainder for inventory, maintenance, holidays	No changes	Not provided
Employee radiological exposure - total dose (person-rem)	No change in previous calculation.	No changes	See SPD EIS Section 4.4.2.4
Number of exposed workers	Not calculated	Same as base case	See SPD EIS Section 4.4.2.4
Utilities needed - Potable water (units/yr) - Non-potable water (units/yr) - Electricity (kw/hr) - Natural gas (units/yr) - Coal (units/yr) - Gasoline (units/yr) - Diesel Fuel (transportation) (units/yr) - Heating fuel oil (units/yr)	No changes	No changes	See SPD EIS Table E-7
Resources needed - Metals (units/yr) - Chemicals (units/yr) - Gases (units/yr) - other materials (units/yr)	Small cylinder of sulfur dioxide added to lab for calibrations – not part of baseline yet	No changes	See SPD EIS Table E-7
Waste generated (solid or liquid) (units/yr): - TRU - Mixed TRU - LLW - MLLW - Hazardous - Non-Hazardous	No changes	Annual volumes stay the same	See SPD EIS Table H-28

Comment: SAIC: B-PDCF-1-02-033 says 600 staff. RFR – True. The information provided in this table is noted as a change from B-PDCF-1-02-033. The staffing projection decreased from 600 to 550/500.

Comment: SAIC: B-PDCF-1-02-033 states that electrical consumption has increased from 16,000 to 92,000 MWh. Has the use of other utilities increased? RFR – other utilities have not been calculated. However, an undocumented estimate is provided at the end of this file.

Comment: SAIC: No changes to the large changes reported in B-PDCF-1-02-033? RFR – Correct. Calculations supporting waste generation rates have not been updated since B-PDCF-1-02-033 last updated. Next revision to waste generation rates currently scheduled for later in CY2008.

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Please provide any safety documentation (e.g., safety assessments, safety analysis reports) for this facility.	See Rev B – Internal Draft	None developed	See SPD EIS Appendix K
List any accident scenarios (in existing safety or NEPA documents) that need to be modified because of changes produced by the proposed action. For any new or modified scenarios provide the information listed below:	No changes	No changes	Does not apply
Radiological accidents <ul style="list-style-type: none"> - Accident description (include release pathways and mitigating factors) - Accident frequency - Material at risk - Material characteristics - Source term released to environment (curies by isotope) - Release parameters: release fractions, release timing, location, release height, release duration, and heat of release - Filtration (specify efficiency) - Number of involved workers 	Does not apply	Does not apply	Does not apply

Comment: SAIC: What is this document? Can we get a copy? RFR – I didn't provide a complete reference. I am referring to the Preliminary Documented Safety Analysis (PSDA) (S-PSA-F-00001) which was issued as Rev B – Internal Draft in July 2005. It is not scheduled to be updated again until late 2011. Per Randy Yourchak, WSRC will make an electronic copy available.

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Chemical inventory for chemical accident analysis - List chemicals, total facility inventory, and annual usage of the chemical - Size and location of largest tank (storage container) for each chemical. Include floor area or diked area that would contain the spill when applicable. - Concentration of chemical in largest tank (identify if this is the highest concentration of the chemical being stored). If not, also list the other storage locations, size of tank and concentration of chemical being stored.	Does not apply	Does not apply	Does not apply
Design basis earthquake frequency and intensity	No changes	No changes	See SPD EIS Appendix K
Earthquake frequency that would result in loss of structural integrity	No changes	No changes	See SPD EIS Appendix K
Other natural phenomena that would result in loss of structural integrity and their frequency	No changes	No changes	See SPD EIS Appendix K
Aircraft crash frequency	No changes	No changes	See SPD EIS Appendix K

The text below was copied from the PDCF Waste Management Plan, Rev 1, June 30, 2005, Q-PRP-F-00001 (Construction air emissions)

The concentrations were estimated using the Industrial Source Complex, Short-Term, Version 3 (ISCST3) computer code based on hourly atmospheric data from 1992 through 1996. The 399 receptor locations used in the analysis were taken from the Mixed Oxide Fuel Fabrication Facility Environmental Report (NNSA 2001) and are at the SRS boundary. Fugitive, diesel, concrete batch plant, and vehicle emissions were modeled as volume sources. PDCF process area emissions were modeled as a point source.

The impacts from construction were based on a 60-month schedule and included the following: fugitive emissions, emissions from diesel construction equipment, a concrete batch plant, and employee vehicles. Fugitive emissions were based on AP-42, Compilation of Air Pollutant Emission Factors, Section 13.2.3. Emission factors for diesel construction equipment and employee vehicles were taken from the Mixed Oxide Fuel Fabrication Facility Environmental Report. Concrete batch plant emissions were based on AP-42, Section 11.12, and represent controlled emissions from a central mix concrete facility.

The impacts from operations considered potential emissions from the process area, diesel generators, and employee vehicles. Emission factors for employee vehicles were taken from the Mixed Oxide Fuel Fabrication Facility Environmental Report. Emission factors for diesel generators were taken from AP-42, Section 3.3. Process area emissions were taken from XCLC-F-00277 (WGI 2003h). The vehicle emissions dominated both the construction and operations categories because, conservatively, all vehicle emissions were modeled as coming from a volume source located at the PDCF.

Resources Needed – this is an undocumented estimate

	Pu Process Building	PDCF
Concrete	90,000 CY	128,000 CY
Reinforcing Steel	15,000 tons	21,000 tons
Conduit	168,000 LF	467,000 LF
Cable Tray	11,000 LF	16,000 LF
Power/Control Cable	2,000,000 LF	2,700,000
Piping	53,000 LF	97,000 LF
Facilities	126,000 Sq Ft	280,000 Sq Ft

Resources Needed – this is an undocumented estimate

Resource	SPD EIS	PDCF Estimate
Coal (t)	2,400	0
Fuel oil (l)	38,000	17,000
Water (l)	48,000,000	61,000,000
Hydrogen (m ³)	450	0
Nitrogen (m ³)	2,200	20,000
Oxygen (m ³)	330	1
Argon (m ³)	14,000	95,000
Chlorine (m ³)	62	0
Helium (m ³)	4,800	14,000