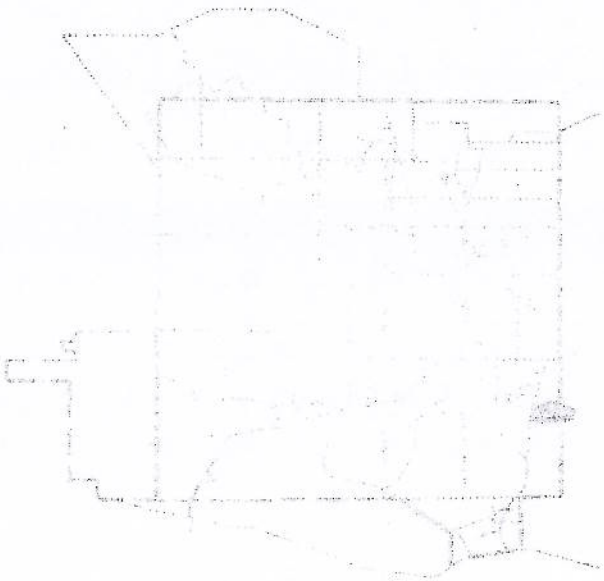
DRAFT

FY 2007
MISSION NEED STATEMENT

NEVADA TEST SITE (NTS)

MERCURY COMPLEX RECONFIGURATION



SEPTEMBER 26, 2007

PREPARED FOR THE U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION, NEVADA SITE OFFICE
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NNSA
National Nuclear Security Administration

National Security Technologies LLC
Vision • Service • Partnership

DRAFT Mission Need Statement
Nevada Test Site (NTS)

Mercury Complex Reconfiguration

SEPTEMBER 26, 2007

Revision Log				
Revision	Date	Description of Revision	Commentor	Pages

Mission Need Statement
Nevada Test Site (NTS)

Submitted by: D. Michael Jones 9/26/07
D. Michael Jones — *Date*
Manager, Site and Infrastructure Planning
Infrastructure Division
National Security Technologies, LLC

Concur: _____ / / Date
TBD
REOP Holder, NTS Facility Manager
National Security Technologies, LLC

Concur: _____ 9/27/07
Greg B. Mitchem — *Date*
Division Manager, Infrastructure Planning & Projects
National Security Technologies, LLC

Recommended by: _____ / / Date
Thomas E. Stephens, PE, PMP
Federal Project Director
Infrastructure Management Group, Nevada Site Office
National Nuclear Security Administration

Recommended by: _____ / / Date
John R. Mallin, PE, PMP
Deputy Assistant Manager for Safety and Operations
Nevada Site Office
National Nuclear Security Administration

Recommended by: _____ / / Date
Gerald A. Talbot, Jr.
Manager
Nevada Site Office
National Nuclear Security Administration

Approved by: _____ / / Date
TBD
Program Manager
NA-54, Office of Project Management & System Support
National Nuclear Security Administration

Approved by: _____ / / Date
TBD
Acquisition Executive
NA-50 Associate Administrator Infrastructure & Environment
National Nuclear Security Administration

Mission Need Statement
Mercury Complex Reconfiguration
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1.0 STATEMENT OF MISSION NEED

1.1 Background/Scope

The Department of Energy's National Nuclear Security Administration (NNSA) has released a report outlining plans to modernize the nation's aging, Cold War-era nuclear weapons complex. The plan called *Complex Transformation* seeks to transform today's complex into one that is smaller, more efficient, more secure and better able to respond to technical problems in the stockpile and emerging national security needs.

Complex Transformation refers to the configuration of the nuclear weapons complex that NNSA envisions by the year 2030. It will include fewer facilities that are safer and more secure, consolidating special nuclear materials, eliminating duplicate capabilities, establishing a consolidated plutonium center, and implementing more efficient and uniform business practices throughout the complex.

The Nevada Test Site (NTS), as a part of the nuclear weapons complex, is the national asset that supports experimentation, testing, training, and demonstration for defense systems and advances in high hazard operations. NTS operations are important for rapidly and safely designing, developing, and implementing the technological support required for experiments and tests of our national defense partners. However, to maintain its position of importance within the complex the NTS must also begin to transform by reconfiguring to meet the strategic intent of the *Complex Transformation* vision.

Major NNSA missions at the NTS include Directed Stockpile Work (DSW), Campaigns 1, 2, and 4, and Readiness in Technical Base and Facilities (RTBF), as well as major efforts from the Department of Defense (DOD). In addition, there are missions associated with the storage of radiologically contaminated hazardous wastes. Another NNSA stated goal is to restore, rebuild, and revitalize the physical infrastructure of the Nuclear Weapons Complex. There is also a focus on reducing deferred maintenance while significantly increasing the operational efficiency and effectiveness of the NNSA Weapons Complex.

1.2 Mission Need

The Mission Need is to reconfigure the Mercury Complex in a manner that will provide the necessary modern facilities and infrastructure to support the advanced experimentation and production at the NTS required by the Nuclear Weapons Complex well into the 21st Century.

This project also supports the recommendation of the December 2001 Nuclear Posture Review to revitalize the defense infrastructure to increase confidence in the deployed forces, eliminate unneeded weapons, and mitigate the risks of technological surprise. It directly contributes to the Department of Energy (DOE)/NNSA Strategic Plan's (September 30, 2006) Defense Strategic Goal: To transform the Nation's nuclear weapons stockpile and supporting infrastructure to be more responsive to the threats of the 21st Century. This project will directly contribute to the safety of one of the nation's most sensitive nuclear weapons sites.

The Mercury Complex is the major NTS Administrative Center. Its permanent structures and services include: office space, cafeteria, recreation facilities, a motor pool, laboratory facilities, administration offices, an emergency medical facility, a fire station, warehousing, craft shops and overnight living quarters for personnel. Most of these facilities and the supporting infrastructure are thirty to fifty years old and are rapidly deteriorating. In addition, as a consequence of time and a disregard to master planning, evolution has created a somewhat fragmented and mixed land use pattern in the Mercury Complex that has produced incompatible functional relationships. Also, existing facility space in the Mercury Complex is utilized inefficiently for the required functional use.

As the center for administrative services and activities, it is inevitable that, along with the existing occupants, new occupants will require a large presence in the Complex. This presence will require that the condition of the facilities and infrastructure be adequate to accommodate present requirements as well as future additions and/or expansions.

The requirements for this mission need are as follows:

- Demolish facilities and infrastructure that are no longer economically salvageable.
- Identify a land-use concept of Mercury that will create functional zones to facilitate groupings of similar activities. Replacement and new facilities should be relocated to the appropriately designated land-use group.
- Replace facilities that are obsolete, but functionally necessary.
- Recapitalize selected facilities and infrastructure to extend useful life to accommodate existing and future support requirements.

1.3 Program Requirements

Various statutes and Presidential Directives drive Defense Programs, an element of the NNSA mission at the NTS. The RTBF mission is an integral component of the NNSA Strategic Goal "**NNSA-1**" which is to provide *state-of-the-art* facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements.

NTS is an integral part of NNSA's Nuclear Weapons Complex. According to NNSA's "Report on the Plan for Transformation of the National Nuclear Security Administration Nuclear Weapons Complex" (January 31, 2007), the NTS missions for nuclear testing readiness and high hazard experiments are not proposed to change under the *Complex Transformation* vision. NTS is being evaluated as a potential site for consolidated hydrotesting, high explosive R&D, and environmental testing. In addition, the NTS will be considered as a potential site for the consolidated plutonium center, the storage of weapons program Category I/II nuclear materials, and the conduct of flight testing currently performed at the Tonopah Test Range.

As a result of NNSA's report on Plans for Transformation of the Nuclear Weapons Complex, and the potential role of the Nevada Test Site, the objectives of the Nevada Site Office (NSO) is to develop and execute an NNSA/NSO Strategic Plan in support of *Complex Transformation* and the NA-10 "Getting the Job Done" list. The goal of the plan is to develop a versatile Test Site that will bring integrated solutions to NNSA missions and priorities between now and the year 2030, and beyond.

In order to reasonably meet the intent of the overriding goal of the NSO Strategic Plan, a rationale was established to implement a series of doable, mini-transformations that will modify the operations and configuration of the Test Site to reflect the *Complex Transformation* vision. One of the measures in the strategic plan is to execute infrastructure improvements to support the national security transformation initiative and future NTS missions. The reconfiguration of the Mercury Complex was selected as the first of the mini-transformations to be accomplished.

The following is a listing, with a brief explanation of function, of some of the more important programs and/or facilities that are directly or indirectly supported by the Mercury Complex.

1.3.1 The Device Assembly Facility (Area 6). This is a 100,000 square foot facility designed to be the primary location of all nuclear explosive operations at NTS. Nuclear explosive operations include assembly, disassembly, or modification; staging; transportation; testing; maintenance; repair; retrofit; and surveillance. This area also supports the relocated Criticality Experiments Facility (CEF).

1.3.2 U1a/U1h Complex (Area 1). This complex is utilized for dynamic experiments (including subcritical experiments involving special nuclear materials) and hydrodynamic tests that cannot be conducted above ground because they may contain hazardous materials.

1.3.3 The Control Point (CP) Complex (Area 6). This complex serves as the command center, air operations center, and timing and firing center for the Yucca Flat test basin, Frenchman Flat, Pahute Mesa, and surrounding areas. It also houses the fire fighting center for the forward area (Fire Station No. 2).

1.3.4 The Area 6 Construction Facilities. This complex includes a variety of equipment storage facilities, a heavy-duty maintenance and equipment repair facility, and a decontamination facility. Facilities in the complex houses resources that provide craft and logistical support to activities in the forward areas of NTS. It also includes the Atlas Machine facility; a major new addition to Area 6.

1.3.5 High Explosives Facilities (Area 4). The Big Explosives Experimental Facility is an aboveground high-explosives test bed for weapons physics experiments, shaped charge development, and render-safe technologies.

1.3.6 An Explosive Ordnance Disposal Site (Area 11). This is a Resource Conservation and Recovery Act permitted treatment unit. Typically, up to six detonations are conducted annually.

1.3.7 The Area 3 Radioactive Waste Management Site (Area 3). Bulk low-level waste is disposed of in selected subsidence craters. This area also provides storage for hazardous wastes, including mixed wastes that are generated at Mission Essential facilities prior to disposal offsite.

1.3.8 Industrial Complex (Area 1). This is the maintenance and storage area for an over $20,000,000 inventory of large-hole drilling equipment and miscellaneous supplies. This complex also includes a concrete batch plant and storage areas for bulk construction materials, as well as a shaker plant that produces stemming material and concrete aggregate.

1.3.9 Area 12. This area contains the P- and U-Tunnel complexes. The Department of Defense currently operates a high-explosive research and development effort in Area 12. This reusable test bed supports programs involving the detonation of conventional or prototype explosives and munitions.

1.3.10 Test Readiness (Areas 6, 2, 3, 12, 19, and 20)

One of the primary missions of DOE/NNSA/NSO is national security. This mission supports the Stockpile Stewardship Program through subcritical and other weapons physics experiments, emergency management, test readiness, work for other national security organizations, and other experimental programs.

Test Readiness has been mandated by the President of the United States as a means to maintain the critical technologies, staff skills, and infrastructure at NTS to enable resumption of nuclear testing if and when mandated by the President. This resumption of activities must be carried out within a time frame of 24 to 36 months.

1.3.11 Unusual Missions by others (some classified) are scattered west and north of Mercury Highway such as X-Tunnel DEMIL, Dipole Hail, Counter Terrorism, and Exercises at multiple sites.

1.3.12 Future Missions (All Areas of NTS). Most new missions will utilize the Mercury Complex to support their activities.

2.0 ANALYSIS TO SUPPORT MISSION NEED

2.1 Justification of Mission Need

NTS supported the seventh nuclear test conducted by the United States in January, 1951. Since that time and the following 1047 nuclear tests, the facilities and infrastructure evolved to meet the increased demands for services that peaked in the mid and late 80's when up to 18 tests per year were conducted. At that time the Mercury Complex had increased to over 300 buildings and structures that consisted of uninsulated Quonset huts, wood structures with minimal insulation, trailers, boxcars, transportainers, and cinder block buildings that were built through the 1970's. Today Mercury is unchanged except for the demolition and removal of the Quonset

huts and a number of the other temporary and failing buildings. The buildings that remain are neither energy efficient nor modern. Many have been retrofitted to support new computer technology, but the retrofits are limited due to cost.

The Mercury Complex requires rebuilding to meet the needs of the National Laboratories and the National Security customers that will utilize the NTS for the next 30 years and beyond. The completion of this effort will place Mercury and the NTS Operations organization in a position to better cope with current programmatic requirements and look to the future with the capability to be responsive to a broad scope of new initiatives that may be related to the NTS.

2.2 Alternatives Considered

Alternatives for meeting the requirements and validating the need for the Mercury Complex Reconfiguration project are summarized below. These will be considered and evaluated during the conceptual design phase. The criteria to be used to evaluate each alternative will include:

- Life Cycle Cost
- Authorization Basis Compliance
- Deferred maintenance buy-down
- Reliability, Maintainability, and Availability
- NEPA compliance
- Institutional impacts – ability to sustain and perform current and projected work; productivity

2.2.1 *Do Nothing*

Scope: This alternative will consist of discontinuing the current minimum maintenance effort (status quo) and operate facilities and infrastructure to total failure.

Evaluation: This is not best management practice. Based on this observation this alternative was not considered to be a viable option.

2.2.2 *Maintain Status Quo*

Scope: This alternative of maintaining the *status quo* represents the maintenance effort that provides maintenance as required. This effort covers as much maintenance as available funds will allow.

Evaluation: This is necessary to exist but not to grow as a viable modern complex. Based on these observations this alternative was not considered to be the most viable option.

2.2.3 *Demolish Mercury Camp and Rebuild (Single Project)*

Scope: This alternative will reconfigure Mercury by demolishing all existing facilities and constructing new facilities along with a compatible infrastructure. Construction will be as a single project over a relatively short period of time. This approach would allow

some of the complex functions to be located outside the NTS boundary as well as onsite or all functions could be located at the current site. A project of this magnitude would require funding as a major line item or third party financing must be obtained.

Evaluation: Siting some of the Mercury Complex functions outside the boundaries of the NTS will create additional security concerns. New infrastructure provisions, including water, power and communication, will be required. The physical separation of functions from the main complex would also create disjointed logistic issues. Demolishing the Mercury Complex in its entirety and reconstructing required facilities as a single project would entail a huge funding commitment from the government or alternative funding sources. In addition, missions would be interrupted. Pursuing third party financing would involve legal issues such as legislative land withdrawal requirements. Based on these observations this alternative was not considered to be the most viable option.

2.2.4 *Demolish, Replace and Recapitalize (Phased Sub-Projects)*

Scope: This alternative will reconfigure Mercury by utilizing a combination of demolition, replacement and recapitalization of the existing Complex in accordance with the current Ten Year Site Plan process.

Evaluation: This approach would allow the Mercury Complex to continue to function in its present state and be reconfigured over time, as funds are available, using various government funding strategies including GPP and Line Item funds. This effort would also allow future programs to participate in the reconfiguration effort by funding their requirements to be a part of the NTS. This approach is being addressed in this Mission Need Statement as the better solution.

2.3 Impact of Project Deferred Maintenance Backlog

The deferred maintenance backlog included in the Condition Assessment Information System (CAIS) for the Facilities and Infrastructure at Mercury Complex is approximately $XXX million. The NTS Mercury Complex Reconfiguration project is estimated to eliminate approximately $XXX million of this backlog. If subprojects are not completed, the deferred maintenance will be reduced accordingly.

3.0 IMPORTANCE OF MISSION NEED AND IMPACT IF NOT APPROVED

If this project is not approved, the impact will be as follows:

The facilities and infrastructure associated with the Mercury Complex will continue to deteriorate over the next several years to standards not conducive to requirements necessary to meet the needs of existing programs.

The Mercury Complex will not be positioned to meet the needs of potential Programs that fit into NNSA's vision of the *Complex Transformation*.

4.0 CONSTRAINTS AND ASSUMPTIONS

4.1 Constraints

4.1.1 *Limitations Associated with the Organizational, Geographic, or Environmental Location.* There are no known limitations associated with the organizational makeup (Nevada Site Operations or the Performance Based Management Contractor) that will hinder this proposed project. The geographic location for the project is more than sixty miles from the nearest city; however this has not been an issue of notable consequence relative to performance on facility and infrastructure projects undertaken in the past. NTS is covered by a site-wide Environmental Impact Statement (EIS) and environmental issues with projects of this type have not been a significant problem in the past.

4.1.2 *Legal and Regulatory Constraints and Requirements.* No special legal issues are anticipated for this project. All subcontracts will be reviewed to ensure compliance with all applicable laws and regulations prior to award. Also, all permit applications will be reviewed for compliance with applicable regulations before submittal.

4.1.3 *Limitations Associated with the Program Structure, Competition, and Contracting.* No limitations associated with the program structure, competition, or contracting are envisioned. The program structure will be dependent on funding appropriations in accordance with the Congressional fiscal system. Competition and contracting have been a problem at the NTS due to the tremendous building boom in Southern Nevada which is approaching a population of two million. At times there have been a very limited number of contractors willing to work at the NTS and there has been a limitation on qualified crafts persons willing to travel to the NTS for work. This issue has increased costs significantly on a number of projects at the NTS.

4.2 Assumptions

4.2.1 *Standardization and Standards Requirements.* The proposed facilities and infrastructure project must meet applicable DOE Orders and Standards as well as Industry Standards.

4.2.2 *Operational Limitations.* Technological systems utilized in this proposed project will provide facilities and the associated infrastructure that are in full compliance with current codes, standards, and regulations. Infrastructure and facilities will be designed to achieve the maximum expected service life that can be obtained through good maintenance practices.

4.2.3 *Environmental, Safety, and Health.* A National Environmental Policy Act (NEPA) review and evaluation will be performed to determine the impact that project activities will have on the local environment including the impact to any threatened or endangered species; historical, prehistoric of paleontological sites; or Critical Environmental Areas. The NEPA analysis will determine whether the project can be categorically excluded from further NEPA review and documentation. Since the project

is the renovation of an existing developed site, any threatened or endangered species are not expected to be affected; nor is it anticipated that there will be any adverse impact any site or structure of historic, pre-historic, or paleontological importance or any site designated as a Critical Environment Area. Based on past experience with projects of this type at the NTS, it is expected that this project will qualify for a Categorical Exclusion (CX) per 10 CFR 1021, Appendix B1.13, B.15, B1.18, B1.22, B2.2, and B5.4.

It is not anticipated that this project will create pollution issues beyond those produced from standard construction activities associated with a project of this nature. Waste minimization activities associated with this project will be conducted in accordance with the management and operating (M&O) contractor, National Security Technologies, LLC (NSTec), waste management and waste mitigation program requirements. The M&O has developed and implemented Pollution Prevention goals for all areas. Executive Order 12873 (Federal Acquisition, Recycling, and Waste Prevention) mandates the implementation of acquisition programs that encourage the use of environmental preferable and recycled products. Construction products with recycled content will be used whenever they meet performance standards and are feasible and cost effective. Integrated Safety Management (ISM) will be implemented by following all applicable DOE/NNSA directives relating to ISM.

4.2.4 *Safeguards and Security*. The proposed project is located within the boundaries of the NTS, which is a controlled-access area. Subcontractor personnel will be provided with adequate security badging or cleared escorts as required. There are no other foreseeable security concerns or requirements for additional security.

4.2.5 *Interfaces with Existing and Planned Acquisitions*. There are no expected interfaces with planned acquisitions.

4.2.6 *Affordability Limits*. This project will be composed of a number of sub-projects that will be funded as General Plant Projects and/or Line Item Projects over a multi-year time frame in accordance with Congressional appropriations.

4.2.7 *Goals for Limitations on Recurring or Operating Costs*. This project is expected to significantly impact the deferred maintenance cost against the existing facilities and infrastructure. As a result of the project, deferred maintenance cost is expected to be reduced by approximately $XXX,000,000 as stated in the Facilities Information Management System (FIMS) database and is also tied into the FY 03 DM baseline.

4.2.8 *Stakeholder Considerations*. Major Stakeholders for this project are the following NNSA/NSO organizations: Site Operations; Environment, Safety, and Health; Safeguards and Security; as well as NTS users (i.e., National Laboratories, Department of Defense, and Homeland Security).Stakeholder input and approval for the Functional and Operating Requirements will ensure stakeholder involvement in the project. Formal design reviews will provide an opportunity for stakeholders to review and comment on the technical scope of the designs. A formal readiness assessment will ensure that all stakeholders participate in the decision to start operation.

4.2.9 *Energy Conservation.* All new buildings and building alterations will be evaluated for life cycle cost-effective energy-efficient technologies. New building commissioning principles will be used in all new design and construction projects.

5.0 APPLICABLE CONDITIONS AND INTERFACES

5.1 Significant Conditions Affecting Project

The most significant aspect affecting this project is the need for the overall complex to continue to function as a viable community throughout the duration of the reconfiguration process. Facilities and the infrastructure must be constructed and or repaired within an operating site. The sub-projects must be designed to fit into the overall complex plan as well as meet appropriate standards.

5.2 Compatibility with Existing and Future Systems

This project essentially replaces or upgrades existing capabilities and facility systems with in-kind, albeit improved and more efficient, capabilities and systems. Therefore, the new project is compatible with existing and planned systems for both facilities and Defense Programs mission needs. System compatibility will be ensured through the further development and maturation of functional and operational requirements.

5.3 Functional and Operational Requirements

The reconfigured complex will continue to perform the same operations; however, due to the requirement to conform to the proposed zoning categories, some facility functions may be relocated. The facilities will be designed to accommodate the required functions and operations necessary to abide by applicable codes and standards relative to their particular operation.

5.4 Method of Accomplishment

5.4.1 *Project Management*

Throughout the duration of the project the Federal Project Director, in consultation with the M&O Project Manager will define significant milestones that are expected to be included in performance based incentives on the capital construction portion of the project in accordance with DOE O 413.3A requirements.

5.4.2 *Integrated Project Team (IPT) - Federal and M&O*

- Program Representatives: NA-54 Office of Project Management and Support Systems, TBD.

- Federal Project Director: The Federal Project Director will be Thomas E. Stephens, PE, PMP representing NNSA/NSO as approved by the Acquisition Executive. The Federal Project Director will be responsible for providing oversight management of the Project with responsibilities as defined in DOE M 413.3-1 as well as the – IPT Leader.

- M&O Project Manager: The M&O Project Manager will be TBD. TBD will be responsible for providing day-to-day hands on management of the project with responsibilities defined in DOE O 413.3A and NSTec Company Directive 2000.C16.

- Contracting: The contracting representative will be TBD, Contract Specialist, NNSA/NSO.

- Environmental, Safety and Health (ES&H): The ES&H representative will be TBD, representing NNSA/NSO.

- Legal: The legal representative will be TBD, Chief Counsel, NNSA/NSO.

- NEPA Compliance Officer: The NEPA Compliance representative will be TBD, representing NNSA/NSO.

- Budget Officer: The Budget Office representative will be TBD, representing NNSA/NSO.

- Safeguards and Security: The Safeguards and Security representative will be TBD, representing NNSA/NSO.

- Facility Operations: The Nevada Test Site facility representative will be TBD, M&O NTS Facility Manager.

- Subcontractor Oversight: The M&O subcontractor oversight expert will be TBD, M&O Construction Subcontract Technical Representative.

5.4.3 *Preliminary Acquisition Strategy*

Project Management will be provided by the M&O, National Security Technologies (NSTec).

Conceptual designs (pre-Critical Decision-1) will be accomplished by the M&O. Acquisition alternatives will be considered when preparing the Conceptual Design Report (CDR) and the Preliminary Execution Plan (PEP) for the project/sub-projects in accordance with DOE Order 413.3 requirements.

All work involving remediation, design, and construction will be accomplished by or through the M&O.

The M&O will provide Title III (construction) inspection services on the entire project.

5.4.4 *Preliminary Risk Assessment*

Risk Analysis will be developed and continued during all phases of the project. The M&O earned value management system (EVMS) will be used as a primary tool for risk reduction after the baseline is set. Mitigation strategies will be developed in accordance with the Risk Management Plan. Typically, a risk mitigation strategy will be timely reviewed and addressed through review meetings between the NNSA/NSO Integrated Project Team and the M&O project team.

5.4.4.1 Scope (Technical Risk):

There are no major technical obstacles to the completion of this project. The design of facilities and infrastructure sub-projects will be to industry standards. There are no expectations that new technologies will be involved. The technical risk is considered low.

5.4.4.2 Cost Risk:

Costs will be refined during the Critical Decision (CD)-1 process; however, economic conditions could influence the accuracy of the estimate and could leave the budget vulnerable after final funding approval. As an example, higher costs may occur due to the relative remoteness of the project site. DOE approved project management principles will be used throughout the project to identify, control, and report cost management issues.

Other risks affecting costs include funding delays, low contractor competition, NTS security requirements, and skilled labor force shortage. Overall, cost risk is considered moderate to high.

5.4.4.3 Schedule Risk:

There are no technical issues anticipated that would cause delays in the project. However, funding availability is considered critical to the successful completion of the project. The risk to the project caused by delays in the availability of or inadequate funding is considered moderate to high.

6.0 SCHEDULE AND RESOURCE REQUIREMENTS

6.1 Preliminary Schedule – Key Milestones

A summary of the range for key project milestones is shown in the following table.

Milestone Schedule	Early Completion	Late Completion
CD-0, Approve of Mission Need	TBD	TBD
CD-1, Approve Alt. Selected & Cost Range	TBD	TBD
CD-2, Approval of Performance Baseline	TBD	TBD
CD-3, Approval of Start of Construction	TBD	TBD
External Independent Review (EIR)	TBD	TBD
CD-4, Approve Start of Operations/Project Closeout	TBD	TBD

6.2 Estimated Cost Range

The Total Project Cost (TPC) range is $327.1 Million to $538.7 Million. (Range is approximately 15 percent below and 40 percent above $384.8 million.)

Cost Element	Range of Cost ($ in Millions)*		
	Low-Range	Mid-Range (Estimated Cost)	High-Range
Total Estimated Cost (TEC)	323.9	381.0	533.4
PE & D	64.8	76.2	106.7
Construction	259.1	304.8	426.7
Other Project Cost (OPC)	3.2	3.8	5.3
Total Project Cost (TPC)	327.1	384.8	538.7

6.3 Preliminary Funding Profile

Selecting an alternative is a CD-1 activity; *Alternative 2.2.4* (Page 6) was used to create the Rough Order of Magnitude planning estimate. Appropriate cost and escalation allowances will be determined during the conceptual design work done for CD-1 approval.

Preliminary Funding Profile (dollars in thousands)

Cost Element	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013 & Beyond	Total
Facility and Infrastructure Project Cost						
Management, Design, and Construction			TBD	TBD	TBD	381,000
TEC (Total Estimated Cost)			TBD	TBD	TBD	381,000
CD-1 Documents	2,000	1,800	0	0	0	3,800
Other Project Related Cost	0	0	0	0	0	0
Total OPC	**2,000**	**1,800**	**0**	**0**	**0**	**3,800**
Total Project Cost (TPC)	**2,000**	**1,800**	**TBD**	**TBD**	**TBD**	**384,800**

6.4 Work Breakdown Structure (WBS)

A preliminary WBS is on Page 16.

7.0 DEVELOPMENT PLAN

The planning to date has been pre-conceptual in order to develop the Mission Needs Statement. This document discusses the mission need and project alternatives; establishes minimum technical requirements; develops a preliminary acquisition strategy; establishes preliminary project cost ranges and funding schedule; evaluates strategies for addressing environmental, health, safety, and security issues; assesses performance, cost, and schedule risks; and develops a plan for accomplishing the conceptual design leading to CD-1, Approval of Preliminary Baseline.

The cost for preparing the CD-1 package including the Project Acquisition Strategy, the Preliminary Project Execution Plan, and the development of all related conceptual activities is shown in the following table. See Appendix B for a schedule of the CD-1 package.

Summary of Cost for CD-1 Package (OPC)* ($000)	
Item	**Estimated Cost**
Project Manager	340
CD-1 Package • Project Execution Plan (PEP) • Alternatives Analysis • Project Data Sheet • Risk Management Plan • Acquisition Strategy • Integrated Project Team Charter • Preliminary Safety Analysis • Preliminary Hazard Analysis • NEPA documentation • Permitting Requirements • Initial Quality Assurance Plan • Contingency	3,460
Total Cost (OPC)	3,800

- Other Project Cost (OPC) - The OPC is approximately 1.0% of the Preliminary Total Estimated Cost of the project and is based upon the Ten-Year Site Plan historical data, engineering judgment, and experience with similar type construction projects.

8.0 REFERENCES

The proposed project must meet applicable DOE Orders and Standards as well as Industry Standards.

The following documents or their successors are the primary DOE references used to manage and design this project (specific Codes and Standards will be included in the outline specifications accompanying the Final Design for this project):

DOE P 413.1, *Program and Policy Management Policy for the Planning, Programming, Budgeting, and Acquisition of Capital Assets*, issued 6/20/00

DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, issued 10/13/00

DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*, issued 3/28/03

DOE O 414.1B, *Quality Assurance*, issued 4/29/04

DOE O 430.1B, *Real Property Asset Management*, issued 9/24/03

DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, issued 3/27/98

DOE O 450.1, *Environmental Protection Program*, issued 1/15/03

DOE P 450.4, *Safety Management System Policy*, issued 10/15/96

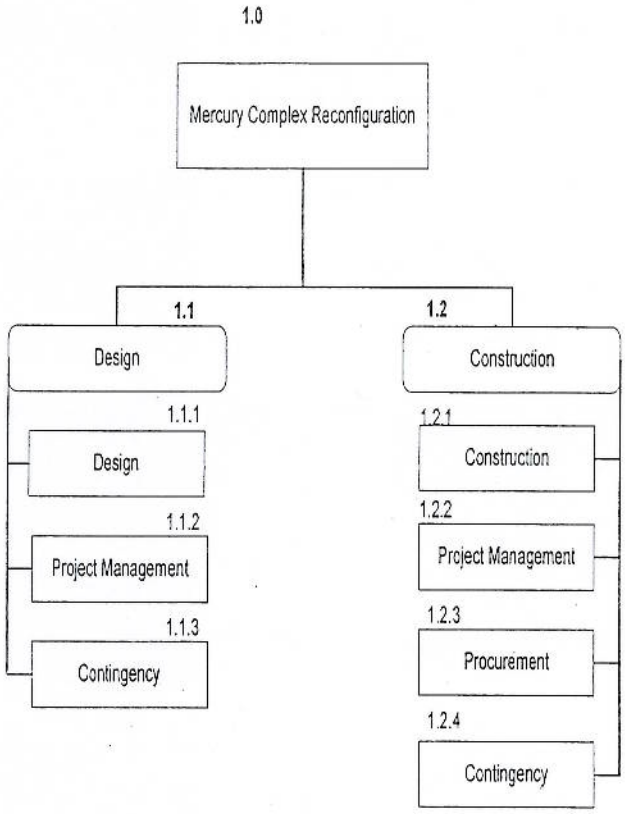
DOE O 451.1B, *National Environmental Protection Policy Act Compliance Program*, issued 9/28/01

NSO O 413.XA, *Project Management Principles and Practices*, change 2 issued 4/20/06.

American Association of State Highway Officials
American National/Standards Institute (ANSI)
American Society of Testing Materials (ASTM)
Code of Federal Regulations (CFR)
National Bureau of Standards (NBS) Handbook
State of Nevada Department of Highways (SNDH)
Occupational Safety and Health Administration (OSHA)
Uniform Traffic Control Devices
U. S. Department of Commerce Commercial Standards

APPENDIX A

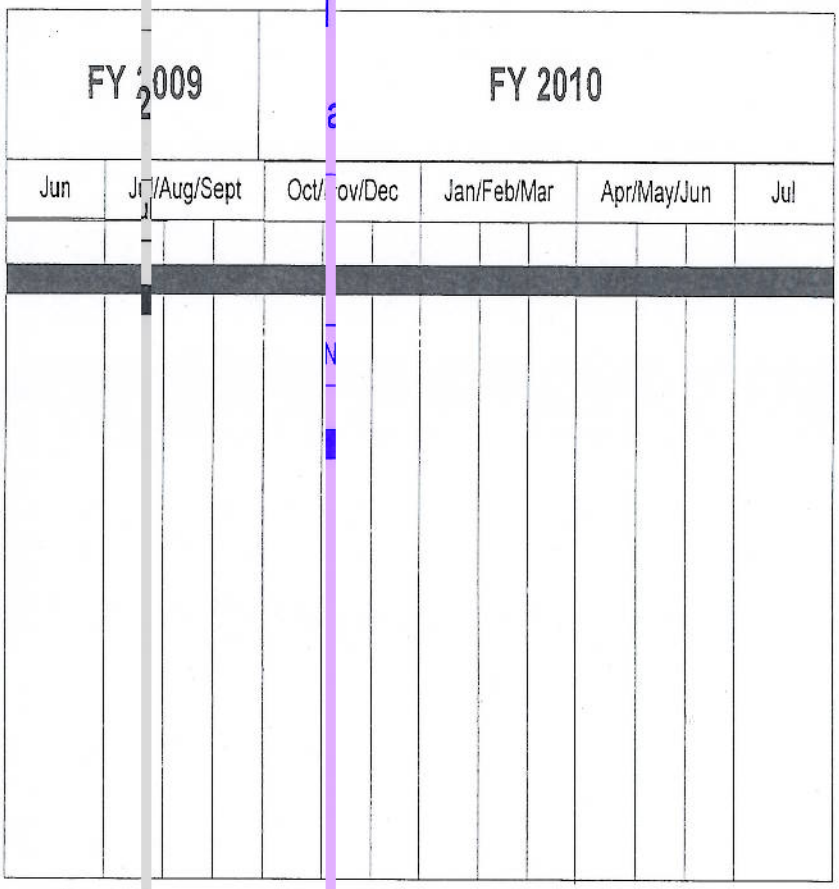
Work Breakdown Structure (WBS)



APPENDIX B

Schedule: Critical Decision-1 Package

By Quarters



Note: Timeframes for individual elements of the CD-1 package will be determined before the finalization of the CD-0 package.

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