The Secretary of Energy
Washington, DC 20585

February 13, 1996

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W.
Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

As discussed in my letter of July 7, 1995, enclosed is the Department of Energy's Revised Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 93-6, Maintaining Access to Nuclear Weapons Expertise.

The Department accepted the Defense Nuclear Facilities Safety Board's Recommendation 93-6 on February 2, 1994. The enclosed plan meets the intent of Recommendation 93-6 for safe weapons operations, although it does not explicitly address the subrecommendations relating to weapons operations at the Pantex Plant. The Department has taken a different approach for Recommendation 93-6 from the original implementation plan in order to build on programs that are either developed or under development to ensure safe weapons operations at Pantex. This approach, Seamless Safety 21, will be used to meet the intent of the specific subrecommendations for weapons operations at Pantex. Specific details are delineated in the enclosed plan. All other concerns expressed in Recommendation 93-6 are met as accepted.

We will keep the Board informed of the Department's implementation progress through quarterly reports and other deliverables detailed in the enclosed plan.

Sincerely,

Hazel R. O'Leary

Enclosure

DEPARTMENT OF ENERGY

IMPLEMENTATION PLAN FOR

DNFSB RECOMMENDATION 93-6

REVISION 1

MAINTAINING ACCESS TO NUCLEAR

WEAPONS EXPERTISE IN THE

DEFENSE NUCLEAR FACILITIES COMPLEX

January 30, 1996

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EXECUTIVE SUMMARY

On December 10, 1993, the Defense Nuclear Facilities Safety Board (Board) transmitted Recommendation 93-6, Maintaining Access to Nuclear Weapons Expertise, to the Department of Energy, which was accepted on February 2, 1994. The original Recommendation 93-6 Implementation Plan was issued on July 5, 1994, and accepted by the Board on August 2, 1994. On April 5, 1995, the Board sent a letter to the Secretary of Energy expressing concern over the lack of progress. After a meeting of Department of Energy (DOE) principals, attended by the Board Staff, it was agreed that a revised Implementation Plan was required in order to bring proposed actions into a tighter focus on the Board's concerns. This Revised Implementation Plan represents a modified approach from the original implementation plan for achieving the original objectives.

The Revised Implementation Plan also focuses on ensuring that the Department maintains the capability to conduct safe dismantlement, modification, assembly, and testing operations. The Department has developed the Stockpile Stewardship and Management Plan, which provides broad guidance for all future weapons activities within Defense Programs. This Revised Implementation Plan complements the Stockpile Stewardship and Management Plan by providing action steps to maintain safety-related competency as the weapons complex evolves.

This Revised Implementation Plan continues to recognize the need to maintain and document the high level of competency necessary to ensure safe operations. It reflects how the Department will capture and document the critical and unique skills and knowledge of identified personnel before they are lost as a result of personnel reductions and reduced operations. The retention of these skills and knowledge will not only provide a means to maintain competency in the near term, but will also provide an essential element in training a new generation of scientists and engineers. New scientists and engineers will further benefit from the overall guidance provided by the Stockpile Stewardship and Management Plan.

In order to preserve vital skills and knowledge already developed within the Department's workforce and to ensure that the capability is maintained to disassemble or modify and test nuclear weapons safely, the Revised Implementation Plan:

Assigns Mr. Victor Stello, Jr., DP-3, as the Implementation Plan integrator and Mr. Richard D. Crowe, DP-20.1, as senior manager.

Identifies safety criteria for performing safe weapons operations and documents weapon-specific hazard information for each weapon while personnel with those unique skills and knowledge are still available.

Strengthens the disassembly and modification process by including all system-specific relevant safety information and increases the involvement of personnel with system-specific weapon design knowledge, including retirees, in the development of the Weapon Safety Specification (WSS), a comprehensive design and safety specification that is used to develop weapon operation procedures.

Institutionalizes the documentation and review of all safety-related information necessary for conducting safe nuclear weapon tests.

Institutionalizes processes to maintain expertise in operations key to the safe conduct of nuclear testing operations at the Nevada Test Site.

The Department's actions, identified above, together with those started and completed under the original Implementation Plan, address the concerns described in the Board's recommendation and provide a formal process to maintain competency within the Department. This Revised Implementation Plan will complement future policy, budget, and operations developed in forthcoming stockpile documents.

INTRODUCTION

On December 10, 1993, the Defense Nuclear Facilities Safety Board issued Recommendation 93-6, which focuses on retaining access to capability and capture of the unique knowledge of individuals who have been engaged in certain critical defense nuclear activities in order to avoid future safety problems in these and related activities. The Department of Energy (DOE) accepted Recommendation 93-6 on February 2, 1994. The original Recommendation 93-6 Implementation Plan was issued on July 5, 1994, and accepted by the Board on August 2, 1994. On April 5, 1995, the Board issued a letter to the Secretary of Energy expressing concern that delays in completing commitments had jeopardized the overall schedule and effectiveness of the DOE's implementation of Recommendation 93-6. Although significant work has been accomplished under the original Implementation Plan (See Actions Completed in the Original Implementation Plan Section), on April 6, 1995, an executive-level summit was conducted to bring proposed actions into a tighter focus on the Board's concerns. It was determined that a Revised Implementation Plan was required. This Revised Recommendation 93-6 Implementation Plan supersedes the original 93-6 Implementation Plan, but does not supersede existing initiatives or commitments under other Board-accepted implementation plans.

A goal of the Department of Energy Strategic Plan is to maintain nuclear weapons technology and competencies that are responsive to national security needs within expected fiscal constraints. In line with this plan, the Department has developed a Stockpile Stewardship and Management Plan that provides broad guidance for all future weapons activities within Defense Programs. This plan addresses problems caused by aging and downsizing of the engineering and nuclear design staffs and recognizes the need to establish programs to preserve and pass on the competency base developed during the years when nuclear testing was permitted. The highest priority of the Stockpile Stewardship and Management Plan is to ensure the safety, reliability, and performance of the enduring stockpile by the preservation and expansion of the core intellectual and technical competencies of the United States in the field of nuclear weapons. This Revised Implementation Plan complements the Stockpile Stewardship and Management Plan by developing programs to document skills and knowledge of departing personnel to maintain safety-related competencies as the nuclear weapons complex evolves. Competencies will be maintained through nuclear weapon work, training, exercises, and recruitment of new personnel to the nuclear weapons complex.

The following definitions and assumptions formed the basis for developing this plan:

(1) Current national and DOE policy regarding dismantlement, modification, and test readiness is maintained;

(2) Funding for archiving, dismantlement, modification, and maintenance of test-readiness activities is available;

(3) For dismantlement, modification, and testing activities, this plan applies to personnel of the national weapons laboratories and relevant management and operating contractors, as well as Federal employees of the Department of Energy. Personnel in the Retiree Corps are considered to be available;

(4) All nuclear weapons that will remain past 1995 and that are not currently being dismantled will be included, and all weapons operations (modification, retrofit, surveillance, and dismantlement) at Pantex will be considered;

(5) For weapons operations, the nuclear weapon system includes only the primary and secondary, and for testing, a nuclear test device contains special nuclear material (SNM); and

(6) If approved, two- to three-year test readiness will be maintained through the conduct of subcritical experiments with SNM.

In Recommendation 93-6, the Board provided 8 subrecommendations to improve the Department's ability to dismantle or modify nuclear weapons and to maintain the capability for testing nuclear explosives. These subrecommendations can be broken down into three major areas:

- o Weapons Operations,
- o Testing Operations, and
- o Archiving

The Board's subrecommendations with respect to these three areas are briefly described in the following paragraphs.

Weapons Operations

The Board recommended that the Department start a formal process to identify the skills and knowledge required to develop or verify safe dismantlement and modification procedures and conduct relevant safety analyses for existing types of United States nuclear weapons. Furthermore, the Board recommended the Department institute a practice of reviewing personnel losses at the nuclear weapons laboratories and DOE Federal staff to anticipate the overall degradation of knowledge and skills brought about by the departure of personnel.

The recommendation also stated that personnel with system-specific expertise be used to develop procedures for the safe disassembly of weapons systems. Personnel with system-specific expertise should also contribute to analysis of the possibility of hazard resulting from age-related degradation of remaining nuclear weapons. These procedures and analyses should be developed as much as practical while the system-specific experts are still available to the Department.

Although the recommendation only addressed nuclear weapon operations at Pantex, DOE has included weapon component operations at Y-12.

Testing Operations

The Board also recommended that the Department start a formal process to identify the skills and knowledge required to conduct nuclear testing operations safely, including the ability to conduct relevant safety analyses. Furthermore, the Board recommended the Department institute a

practice of reviewing Nevada Test Site and DOE Federal staff losses to anticipate the overall degradation of knowledge and skills brought about by the departure of personnel.

To ensure that testing can be safely resumed at some future time, the recommendation also urged the development of a program to maintain expertise in operations key to the safe conduct of nuclear testing at the Nevada Test Site. Program components could include activities and experiments that would be permitted within the limitations of nuclear weapons treaties.

Given the loss of experienced personnel, the Board recommended that the Department determine whether nuclear explosive safety at the Nevada Test Site should rely on traditional administrative controls or the use of engineered safeguards. The concern raised by the Board was that it may become necessary to develop an approach for ensuring nuclear explosive safety in the testing program that is less dependent on the performance of highly trained personnel.

Archiving

The Board recommended initiating programs to obtain and record from expert personnel (involved in weapons and testing operations) undocumented anecdotal technical information that would be valuable in augmenting the technical knowledge and experience of successor personnel. The archiving of information should be done prior to the departure of retiring personnel or shortly thereafter.

The Department has established a policy, DOE Notice 3131.1, to maintain continued availability to its retired scientists and engineers that worked in the defense nuclear facilities. DOE Notice 3131.1 has been provided to the Board.

ACTIONS COMPLETED IN THE ORIGINAL IMPLEMENTATION PLAN

The following actions were accomplished during the original Implementation Plan.

Completed Board Subrecommendations:

* **Identify Skills and Knowledge for Testing**
Developed a list of key positions critical to the safe conduct of nuclear testing operations at the Nevada Test Site. Job and Task Analyses for all key positions were completed. (Completed Board Subrecommendation 2)

* **Retirement Policy Statement**
Developed a Department of Energy policy, DOE Notice 3131.1, statement concerning the availability of retired personnel for archiving purposes. (Completed Board Subrecommendation 4)

* **Administrative Controls/Engineered Safeguards at the Nevada Test Site**
The evaluation of administrative controls for nuclear explosive safety at the Nevada Test Site concluded that existing administrative controls, in conjunction with the identified critical positions, currently provide sufficient assurance of nuclear explosive safety. The group also agreed that qualified and experienced personnel using approved administrative controls could not be replaced by engineered safeguards, but their effectiveness could be enhanced with engineered safeguards. The group recommended that the current safety systems at the Nevada Test Site be supplemented with new engineered safeguards as they become available. (Completed Board Subrecommendation 8)

Completed Original Implementation Plan Commitments:

* **Defense Programs Headquarters Staffing**
Provided the DNFSB with a letter on current Defense Program Headquarters staffing. (Completed Commitment 3.1)

* **Management Responsibility for Archiving**
Identified line management responsibility for the archiving mission. (Completed Commitment 5.1)

* **Stockpile Evaluation Program Description**
Provided supporting documentation on the accelerated aging and Stockpile Evaluation Programs (SEP) to the Board. (Completed Commitment 6.1) Note: Although Commitment 6.1 is complete, this Revised Implementation Plan requires that relevant safety information acquired under the SEP be formally added to the weapon safety specifications.

* **Test Readiness Exercise/Activity Schedule** [1]
Developed a Test Readiness Exercise/Activity Schedule that describes the exercise/activity location, description, and date of every exercise and activity related to the safe conduct of nuclear testing operations. (Completed Commitment 7.1.1)

* **Test Readiness Exercise/Activity Plan** [1]
Developed a Test Readiness Exercise/Activity Plan that ensures the identified key personnel are exercised. (Completed Commitment 7.1.2)

* **Nevada Test Site (NTS) Annual Completion Report** [1]
Provided an annual completion report that summarized the accomplishments and lessons learned during the exercises and experiments conducted at the Nevada Test Site. (Completed Commitment 7.1.2)

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[1] Institutionalization will be accomplished with the publication of NV 56XE.1, and Subrecommendation 7 will be completed upon publication of NV 56XE.1 (see Commitment C.1.).

MAJOR INITIATIVES

WEAPONS OPERATIONS

Albuquerque Operations Office

A Formal Process to Develop and Verify Safe Weapons Operations.

Purpose:

The Board recommended that the Department initiate a formal process to identify the skills and knowledge required to develop and verify safe dismantlement and modification procedures and conduct relevant safety analyses for existing types of United States nuclear weapons. Furthermore, the Board recommended the Department institute a practice of reviewing personnel losses at the nuclear weapons laboratories and DOE Federal staff to anticipate the overall degradation of knowledge and skills brought about by the departure of personnel.

The recommendation also states that personnel with system-specific expertise be used to develop procedures for the safe disassembly of weapons systems. Personnel with system-specific expertise should also contribute to analyses of the possibility of hazards resulting from age-related degradation of remaining nuclear weapons. These procedures and analyses should be developed as much as practical while the system-specific experts are still available to the Department.

Discussion:

To address the Board's recommendation concerning weapons operations at Pantex, the Department developed a formal process (known as Seamless Safety 21 or Stockpile Stewardship 21 (SS-21)) that specifies the safety criteria for developing weapon operation processes. The Department took this approach because safe weapons operations are dominated by three factors: (1) the strength of process design requirements, (2) the technical competence of current staff, and (3) rigorous review of the weapon operation process. The 93-6 Implementation Plan addresses factors one and two (the third factor is a deliverable under Recommendation 93-1).

The process design requirements are strengthened by implementation of an integrated safety process for assembly and disassembly of nuclear weapons. This process, SS-21, establishes the Weapon Safety Specification (WSS) and is implemented by Engineering Procedure EP401110. The WSS is the comprehensive safety specification used to conduct safety hazard analyses and develop procedures for safe weapon operations. Sources that are considered to identify any applicable safety hazards for incorporation into the WSS include: (1) those inherent in the original design, (2) those introduced through aging, (3) those associated with the normal assembly/disassembly process, and (4) those associated with credible deviations (e.g., expected occasional damage of parts). Weapon-specific design, hazard, and safety information necessary for developing the weapon

process are documented in the WSS. The WSS document development methodology will be institutionalized in the revision of EP401110.

The WSS is used to identify and document the applicable safety criteria from EP401110. The weapon-specific safety criteria, in conjunction with the WSS, are used for the development of weapon operations procedures. The primary EP401110 safety criteria are:

- Weapon Status,
- Personnel,
- Operating Procedures,
- Operating Facility,
- Equipment and Layout, and
- Tooling Design.

Because the WSS is the foundation for developing safe weapons operations, the Department has placed priority on developing the WSS while personnel with system-specific expertise are available. Timely development of weapon-specific WSSs, along with the EP401110 safety criteria, provides a complete reference source for completion of safety hazard analyses and development of safe weapon operations at a time when the operation is to be performed. By developing the process close to when it is planned, the Department will also be able to effectively and efficiently utilize its limited resources. Additionally, this method will enable the Department to: incorporate lessons learned from ongoing weapons operations and effectively incorporate up front all safety hazards uncovered through the Stockpile Evaluation Program (instead of reviewing an existing process against newly identified safety hazards). This method will also enhance our ability to take advantage of technological advancements, improved process development techniques, and future tooling designs and safety features.

The Department has prioritized development of a WSS for each weapon type that will exist at the end of FY 1995, based on both retirement status and weapon safety design information (e.g., conventional vs. insensitive high explosives). A WSS development and archiving schedule was established from this prioritized list based on available resources. The weapons that are currently being dismantled (W48, W55, and B61-CHE) have extensive documented safety reviews and, therefore, they are not included in this plan. The W79 will use a graded approach. The W79 has benefited from lessons learned during both the W48 process development and the independent verification of contractor readiness phases. Additionally, national laboratory involvement in the design and development of the W79 dismantlement process flow, tooling, equipment layout, and procedures parallel that of the SS-21 Project Team process. The W79 Project Team compared each SS-21 safety criteria against the W79 process. This attribute list, which is available for review on request, documents which SS-21 safety criteria apply specifically to the W79 process. The next step for the W79 Project Team is to document which of these SS-21 safety criteria have been or can be met and, if not met, what compensatory measures will be taken. The schedule for the remaining weapons follows:

FY 1996		FY 1997		FY 1998	
LANL	LLNL	LANL	LLNL	LANL	LLNL
W69	W56	W78	B83	B61 IHE	W84
B53	W62	W88	W87	W80	
W76					

Responsibility:
The Albuquerque Operations Office (AL) is responsible for the implementation of this task, subject to the final approval and acceptance from the Deputy Assistant Secretary for Military Application and Stockpile Management. Relevant operations office elements, management and operating contractor(s), and the nuclear weapons laboratories will be an integral p? . of the implementation of this task.

Commitment A.1 - Development of a WSS for each weapon. The final WSS describes the weapon disassembly and inspection process for enduring weapons and the dismantlement operation for retired weapons. It also identifies all hazards that the SS-21 Project Teams will consider when conducting safety hazard analyses, when developing the weapons operation process, and when determining appropriate safety criteria from the point of weapon shipping and handling through final disposition of materials. The WSS will capture safety aspects from all relevant weapon-specific documentation, including safety-related information from: (1) design individuals from the laboratories who are or were active in the original design of the specific weapons, (2) weapon operation experts from Pantex who participated in the assembly or disassembly of the weapons, (3) any other unique skills and knowledge drawn from technically competent laboratory and Pantex personnel, and (4) relevant safety information gained through the weapon surveillance program. Incorporating the archiving program information as an input to the WSS will also ensure that relevant historical safety information from all personnel, including retired and those about to retire, will be included. As a result, the WSS will be the single source document for all safety- related information, including that archived from Pantex and the nuclear weapons laboratories personnel (items 1, 2, and 3 above).

Deliverables:

001-001

Deliverable A: A description of how archiving and surveillance results, including significant findings and relevant safety hazards analysis, will be used to update the weapon-specific WSSs.

Due Date: February 29, 1996

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Deliverable B: A completed W69 WSS and W56 WSS.

Due Date: May 30, 1996

Commitment A.2 - AL supplemental directives that integrate Recommendation 93-1 analysis, SS-21, and the improved safety evaluation and Nuclear Explosive Safety Study verification procedures will provide detailed guidance for development of safe weapons operations. As such, they will address WSS requirements, safety criteria, and technical disciplines for developing the weapons operations, safety evaluations, and Nuclear Explosive Safety Study guidance for verifying the processes are safe and predictable. Following implementation of the revised supplemental directives, the SS-21 EP401110 will be modified to reflect upgraded WSS requirements.

Deliverable: Copy of revised EP401110.

Due Date: May 31, 1996

Commitment A.3 - Institutionalize a practice of reviewing the personnel losses at the nuclear weapons laboratories to ascertain if any experts that are knowledgeable in the technical competencies of the safety criteria are projected to be lost through the departure of personnel.

Deliverable: The document institutionalizing a semiannual formal presentation to the Deputy Assistant Secretary for Military Application and Stockpile Management Weapons Panel, which illustrates that the nuclear weapons laboratories and Pantex have conducted personnel reviews to verify that their necessary level of personnel expertise is confirmed.

Due Date: February 29, 1996

Oak Ridge Operations Office

The Knowledge Preservation Program

Purpose:
Oak Ridge will complete the development of a Knowledge Preservation Program that reviews and builds on existing safety documentation and knowledge capture efforts at the Y-12 Plant in order to preserve processing, assembly, disassembly, or quality evaluation capabilities and to establish a programmatic approach for preserving additional knowledge with an emphasis on safety. Accomplishing this task will ensure that access to capabilities is maintained for Oak Ridge and the unique knowledge, skills, and abilities of individuals who have been engaged in critical defense nuclear activities are captured.

Discussion:
A large portion (approximately 70-90 percent) of the knowledge concerning the operation and safety aspects of Y-12 processes, quality evaluation, assembly/disassembly, and safety support functions already exists at the Y-12 Plant in documented form. Examples include safety authorization basis documents, health and safety procedures, criticality safety

approvals, Class I operating procedures, quality evaluation photographs/videotapes and procedures, weapon materials master characterization lists, dismantlement procedures, build-book records, and other existing records. The goal of the Knowledge Preservation Program for Oak Ridge will be to capture as much of the previously undocumented knowledge related to safety as possible and to use that information to enhance current and future procedures, and workforce knowledge and skills in a time of minimal use of these processes. Former (both reassigned and retired) personnel who held key functional positions will be included in the program. The information obtained will be archived in text, videotapes, or other formats as required. Based on the Secretary of Energy Notice 3131.1, the Y-12 Plant and Oak Ridge Operations Office will ensure a mechanism is in place for the continued availability of former key personnel as needed.

The Oak Ridge Knowledge Preservation Program will utilize existing information and build upon current initiatives, such as the Y-12 restart effort and the Recommendation 94-4 Implementation Plan, the training and qualifications effort (Recommendation 93-3), and the Production Capability Assurance Program (PCAP). Critical functional areas, key positions, and associated skills and knowledge will be identified, and an assessment of projected personnel losses from key positions will be conducted to ensure knowledge and skills will be transferred and preserved. This process will include involvement from the nuclear weapons laboratories of Los Alamos, Lawrence Livermore, and Sandia for safety input and response to problems that might be encountered.

The knowledge and skills of Oak Ridge Operations Office Federal staff with oversight responsibilities for the assembly/disassembly, quality evaluation, processes, and safety support functions of the Y-12 Plant are also included in the program.

Responsibility:
The Manager, Oak Ridge Operations Office, is responsible for the implementation of this task, subject to the final approval and acceptance from the Deputy Assistant Secretary for Military Application and Stockpile Management. Relevant operations office elements, management and operating contractor(s), and the nuclear weapons laboratories will be an integral part of the implementation of this task.

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Commitment B.1 - Issue the Knowledge Preservation Program document for the Y-12 Plant and Oak Ridge Operations Office, which describes the steps used to capture and utilize anecdotal safety aspects of quality evaluation, assembly/disassembly, processes, and safety support skills and knowledge.

Deliverable: Provide a program document, which describes each step of the Knowledge Preservation Program for the Y-12 Plant and Oak Ridge Operations Office.

Due Date: January 31, 1996

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Commitment B.2 - Provide a status report detailing the progress on the implementation of the approved program document in Commitment B.1.

Deliverable: Status report.

Due Date: September 30, 1996

TESTING OPERATIONS

Purpose:
To institutionalize a program for maintaining expertise in operations key to the safety of nuclear testing at the Nevada Test Site to ensure that if testing were resumed at any future time it can be performed safely.

Discussion:
Significant progress was made to complete Nevada Operations Office actions required to address Recommendation 93-6 in the original Implementation Plan. This Revised Implementation Plan institutionalizes and continues the work described by the Principal Deputy Assistant Secretary for Defense Programs' letter of December 6, 1994, to the Board and accomplished by the original Implementation Plan. This Revised Implementation Plan provides for a formal and enduring mechanism that: identifies and provides a record of the critical and unique skills and knowledge of personnel from the nuclear weapons laboratories, relevant management and operating contractor(s), and Federal staff of the U.S. Department of Energy who have these skills and knowledge; maintains personnel expertise in operations key to the safety of nuclear testing at the Nevada Test Site through limited exercises and experiments; and establishes a requirement for the annual review and update of these records. This mechanism is the formal addition of specific requirements into the Nevada Operations Office Order NV 56XE.1, Underground Nuclear Testing. These requirements include: (1) an annual qualitative assessment of the critical functional areas, key positions, Job and Task Analyses (JTAs), and personnel of each organization involved in nuclear testing activities be conducted to determine whether the descriptions are current and sufficient to meet the Nevada Operations Office mission and to determine if additional, technically competent personnel are required; this assessment will consider information captured in the archiving program and learned from the test exercise program; (2) the development of an annual exercise/activity plan to ensure that key positions, facilities, management systems, and controls are maintained within national policy limits; and (3) an annual completion report of accomplishments in developing and maintaining personnel in key positions and of lessons learned for each exercise or experiment consistent in concept with other recognized technical training programs (e.g., Navy Nuclear Power Program).

Responsibility:
The Manager, Nevada Operations Office, is responsible for the implementation of this task, subject to approval from the Deputy Assistant Secretary for Research and Development. Relevant Nevada management and operating contractor(s) and the nuclear weapons laboratories will provide assistance as required.

Commitment C.1 - The Nevada Operations Office will revise NV 56XE.1, Underground Nuclear Testing, to include: (1) an annual qualitative assessment of the critical functional areas, key positions, Job and Task Analyses (JTAs), and personnel of each organization involved in nuclear testing activities to determine whether the descriptions are current and sufficient to meet the Nevada Operations Office mission and to determine if additional,

technically competent personnel are required; this assessment will consider information captured in the archiving program and learned from the test exercise program; (2) the development of an annual exercise/activity plan to ensure that key positions, facilities, management systems, and controls are exercised; and (3) an annual completion report of accomplishments in developing and maintaining personnel in key positions and of lessons learned for each exercise or experiment.

Deliverable: Revised NV 56XE.1, Underground Nuclear Testing

Due Date: January 31, 1996

ARCHIVING

Purpose:
To develop a program to capture and document safety-related experience and knowledge that may affect nuclear weapons operations at Pantex and the safe conduct of testing operations at the Nevada Test Site.

Discussion:
Defense Programs has developed the Stockpile Stewardship and Management Plan to meet the challenges involved in ensuring the safety, reliability, and performance of the enduring stockpile. This plan charts a course that will be continued over the long term to provide responsible and effective stewardship and management of the Nation's nuclear deterrent. One aspect of the Stockpile Stewardship and Management Plan is a well-coordinated archiving program. This archiving program must provide useful data, experiences and knowledge, and other forms of information for activities such as the Enhanced Surveillance Program, weapon disassembly and modification operations, the Weapon Safety Specification, and Test Readiness Programs. The Weapons Archiving Program must also be directly connected and tied into the program that it will support.

To this end, Defense Programs will use a two-step process to define its Recommendation 93-6 Weapons Archiving Program. The first step is the tasking of the Albuquerque Operations Office for weapons operations safety and the Nevada Operations Office for testing operations with the responsibility for the development of an integrated, multiyear, archiving program. Both Albuquerque and Nevada are required to provide a description of archiving activities, schedules, milestones, and performance metrics for weapons activities under their cognizance. Furthermore, Albuquerque and Nevada will specify resources and list problems that may hinder the Department of Energy while completing the archiving efforts. This program will use methods such as individual tasking, interviews, and other possible methods to most effectively elicit information in an individuals' area(s) of expertise. The scope of this program will be on documenting, in a consistent and usable format, experiences and knowledge that may affect the safety of weapons operations at Pantex and testing operations at the Nevada Test Site. The priority for obtaining information from personnel (retirees, reassigned, etc.) will be determined by these two programs using information from the reviews conducted by the Deputy Assistant Secretary for Military Application and Stockpile Management Weapons Panel

Nevada Operations Office. The second step, after the submittal of these two programs to Defense Programs Headquarters, is the development of a coordinated Defense Programs Recommendation 93-6 Weapons Archiving Program. This program will use the two individual programs to establish requirements for the operations offices and the laboratories concerning archiving activities for their respective operations. These requirements will include mandates for specific archiving activities, such as the integration of the laboratories archiving efforts into the Seamless Safety 21 process for specified weapon systems, the use of the Joint Test Organization (JTO) CD ROM system for testing activities at the Nevada Test Site, the establishment of multiyear funding requirements, and other activities deemed appropriate. After development, the Defense Programs Recommendation 93-6 Archiving Program will be issued for implementation by the respective organizations.

Responsibility:
The Assistant Secretary for Defense Programs has the overall programmatic responsibility for this section. Defense Programs Headquarters is responsible for implementation of this section. Relevant DOE management and operating contractor(s) and the nuclear weapons laboratories will provide assistance as required.

Commitment D.1 - Defense Programs will develop a program for the capture and documentation of safety-related experience and knowledge that may affect safe weapons operations at Pantex and the safe conduct of operations at the Nevada Test Site.

Deliverable: Structured information-recovery Defense Programs Weapons Archiving Program to document experience and knowledge.

Due Date: January 31, 1996

Commitment D.2 - Conduct televideo conference to provide status on the implementation progress of the approved program plan in Commitment D.1.

Deliverable: Televideo conference with a formal summary provided to the Board.

Due Date: Bimonthly for 8 months

REPORTING REQUIREMENTS

The Department will prepare quarterly reports updating the progress and significant accomplishments made in implementing Recommendation 93-6 initiatives. Reports will be generated to cover quarterly periods and will be submitted within 30 days at the end of the reporting period. The quarterly reports will highlight ongoing efforts, review completion dates and upcoming milestones, discuss upcoming activities, note any concerns, and will be approved by the Assistant Secretary for Defense Programs. After September 1996, the Department will issue annual reports. The purpose of these reports will be to ensure continued tracking and accountability of the issues covered under this Recommendation.

CHANGE CONTROL

The implementation plan for DNFSB Recommendation 93-6 is a complex and long-range plan. Flexibility is needed to address changes in commitments, actions, or completion dates where modifications are necessary due to additional information, project refinements, or changes in the Department's baseline assumptions. If outyear funding, full-time equivalent levels, or mission changes occur, the original date for commitments may require modification. Any significant changes in completion dates and Departmental commitments will be promptly brought to the attention of the Board prior to the passing of the completion date formally discussed in the quarterly progress reports, including appropriate corrective actions and, where appropriate, submitted to the Board as a revision to the Implementation Plan.

ATTACHMENT A: GLOSSARY

This glossary is intended to provide clarity to the Implementation Plan. It is recognized that some of the terms listed below may be defined in other ways. The definitions provided below reflect the meaning of the term as used in this Plan.

Engineered Safeguards	Precautionary and mitigatory devices or physical features.
Functional Area	A specific category representing a group of activities or functions that must be performed.
Hazard	A source of danger with the potential to cause illness, injury, or death to personnel or damage to a facility or to the environment.
Modification	A change to a major assembly that alters its operational capabilities. This kind of change involves the user and requires positive control to ensure that the operational capability is clearly defined. A change in operational capability results from a design change that affects yield, delivery, fuzing, ballistics, or logistics.
Nuclear Explosive	Any assembly containing fissionable and/or fusionable materials and main charge, high explosive parts or propellants capable of producing a nuclear detonation (e.g., a nuclear weapon or test device) (Reference DOE Orders 5610.10 and 5610.11).
Joint Test Organization	An organization made up of 16 different entities formed for the purpose of conducting nuclear tests at the Nevada Test Site, the composition of which may be readily adjusted or changed in response to the needs and technical objectives of the U.S. Department of Energy, Nuclear Test Program (Reference NTS-SOP-1102).
Nuclear Weapon	A nuclear explosive configured for operational use by the Department of Defense.

ATTACHMENT B:
MATRIX OF BOARD SUBRECOMMENDATIONS VS 93-6 DELIVERABLES

	Weapons Operations					Testing C.1	Archiving	
	Pantex			Y-12			D.1	D.2
	A.1.A	A.1.B	A.2	B.1	B.2			
SubRec 1	XX	XX		XX	Note 1			
SubRec 2						Complete Note 2		
SubRec 3				XX	Note 1	XX	XX	
SubRec 4				XX	Note 1		XX	
SubRec 5				XX	Note 1		XX	Note 3
SubRec 6	XX		XX	XX	Note 1			
SubRec 7						Complete Note 2		
SubRec 8						Complete		

XX - Indicates applicable deliverable to that specific subrecommendation

Notes:

1 - Status report concerning Commitment B.1

2 - Institutionalization into NV 56XE.1

3 - Televideo conference on implementation status of Commitment D.1