



95-0005153

Department of Energy
Washington, DC 20585

October 25, 1995

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DNE SAFETY BOARD

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

Dear Mr. Chairman:

The Department of Energy committed in revision 2 of its implementation plan for responding to the Defense Nuclear Facilities Safety Board (DNFSB) recommendation 91-6 to provide quarterly status reports to the DNFSB on the progress of completing commitments made in this implementation plan. The eighth quarterly report is enclosed.

Should you or your staff have any questions regarding this status report, please contact Mr. C. Rick Jones, Director, Office of Worker Protection Programs and Hazards Management, on 301-903-6061.

Sincerely,

A handwritten signature in black ink, appearing to read "Tara O'Toole".

Tara O'Toole, M.D., M.P.H.
Assistant Secretary
Environment, Safety and Health

Enclosure

Department of Energy
Quarterly Status Report - August 1995
Defense Nuclear Facilities Safety Board
Recommendation 91-6 Implementation Plan

Executive Summary

The Defense Nuclear Facilities Safety Board (DNFSB) staff has frequently requested information regarding how the Department manages its commitments under Recommendation 91-6. As the Assistant Secretary for Environment, Safety and Health (EH-1) stated in her January 20, 1995, letter to Mr. Robert M. Anderson, the Office of Environment, Safety and Health continues to be responsible for overall coordination and facilitation of the Department's response to Recommendation 91-6. On matters dealing with oversight in the Implementation Plan, the Deputy Assistant Secretary for Oversight is responsible to satisfy departmental commitments and provide status. On Implementation Plan commitments requiring line management action and status, the Deputy Assistant Secretary for Facility Transition and Technical Support of the Office of Defense Programs and the Deputy Assistant Secretary for Compliance and Program Coordination of the Office of Environmental Management are responsible.

The discussion below summarizes the progress of the Department in achieving its commitments for each task under the Implementation Plan for Recommendation 91-6. A detailed discussion on the current status for each individual commitment is provided as the status report following this summary information.

Task 1: Develop and issue a Department of Energy (DOE) policy statement on radiological health and safety.

Complete. On June 8, 1993, Secretary Hazel O'Leary issued the DOE policy statement on radiological health and safety. This policy statement was promulgated under DOE Notice 5480.8, sent to the DNFSB, and subsequently published in the Federal Register on June 21, 1993. The policy statement was included as a preface to Revision 1 of the *Radiological Control Manual*.

Task 2: Review existing radiation protection training programs at defense nuclear facilities and develop and implement a plan for an expanded training program at these facilities.

Subtask 2.1: Radiological Control Training

Four original standardized core courses

The Department developed standardized training materials for four courses identified in the *Radiological Control Manual*. These materials were issued in October 1992 for: General Employee Radiological Training; Radiological Worker I and II training; and Radiological Control Technician training. General Employee Radiological Training did not need to be revised. The training committees will continue to review and suggest changes, as warranted, to the standardized course training materials in 1995.

Note: Although Secretarial Offices and operations offices were to provide recommendations for changes to training materials, the training committees have taken this responsibility for suggesting changes. This process is more efficient for the Department as the personnel working with these materials provide the recommendations for improving and updating these materials. Two layers of review of recommendations, which would provide minimal added value, are effectively removed. However, the Secretarial Offices and operations offices still have ample opportunity to suggest course material changes to the Office of Worker Protection Programs and Hazards Management (EH-52) should they identify the need for any such changes. In addition, the course materials include a suggested change/revision form that may be submitted to the Department at any time.

The Department committed to implement training for the four original courses by December 31, 1994. The Department has received data from all defense nuclear facilities and is in the process of validation and verification. Preliminary results indicate that nine sites/contractors have not completed 100 percent training of all necessary individuals. The Department is identifying actions to be taken to complete the affected training and corrective measures to assure workers can continue to safely conduct radiological activities. A table identifying the status of training as of December 31, 1994, is attached as appendix B. The status for implementation of these four courses will be reported in the 1994 annual report on *Radiological Control Manual* implementation that will be forwarded to the DNFSB. The schedule for issuing the annual report is discussed in greater detail later in this report.

Additional standardized courses

On June 30, 1993, the Department informed the DNFSB of additional standardized courses and training guides that were being developed. Six of these courses and training guides have been completed and forwarded to the defense nuclear facilities complex for use.

An updated status for the remaining additional standardized courses currently under development is provided as appendix A to this status report. One course, Emergency Response Personnel, and one training guide, Training for Tour Groups and Visiting Dignitaries, have been canceled.

Annual report on *Radiological Control Manual* implementation

The 1994 annual report is currently under development by the Radiological Control Coordinating Committee (RCCC). The report has completed RCCC review and the RCCC expects the report to be issued by mid October 1995.

Subtask 2.2: Qualification and performance of radiation protection personnel

EH-52 developed a qualification criteria document identifying the requisite level of knowledge, skills, abilities (KSAs) and other qualifications for key radiation protection positions.

The Technical Personnel Program Office (HR-1.5) has developed a "crosswalk" between the qualification standards for Federal workers developed in response to DNFSB Recommendation 93-3 and the "KSA" document developed in response to DNFSB Recommendation 91-6. This "crosswalk" was developed to ensure that products from the Recommendation 91-6 response will be covered through this Recommendation 93-3 document. A presentation on the "crosswalk" was made to DNFSB staff. DNFSB staff requested a more detailed "crosswalk" in order to be able to ensure that the products committed to in the Recommendation 91-6 response would be adequately covered. DNFSB staff also requested that DOE explore issuing the "KSA" document, which would apply to contractors only if Federal workers were to be covered by the response to Recommendation 93-3, as an order or under some other mechanism that would ensure mandatory compliance. Both the detailed crosswalk as well as the method of issuance recommendation will be available in September 1995.

Task 3: Evaluate the adequacy of the DOE infrastructure and resources dedicated to radiation protection at defense nuclear facilities.

The Infrastructure Evaluation Team (IET) provided their recommendations resulting from their review of the infrastructure and resources dedicated to radiation protection at DOE defense nuclear facilities to EH-1 on January 10, 1995. EH-1 forwarded the IET report to the RCCC requesting their suggestions for responding to the IET recommendations. The RCCC provided their comments to EH-1 on April 7, 1995.

At the EH-1's request, EH-52 reviewed the RCCC comments and incorporated recommendations for corrective actions and milestones into a management action plan. This plan was signed by EH-1 on June 28, 1995. A copy was forwarded to the DNFSB in July 1995.

With respect to the IET recommendations which are beyond the control of EH, the management action plan committed to reviewing these against the results of the Department's Strategic Alignment Initiative. The Strategic Alignment Initiative was announced on August 3, 1995. Detailed staffing plans for individual offices were announced on September 15, 1995. This review will be completed by September 1995 and a report issued by October 1995.

Task 4: Analysis of reported occurrences and correction of radiation protection program deficiencies at defense nuclear facilities.

Complete. A task force was appointed in October 1993 to evaluate the occurrence reporting and processing system (ORPS) with the goal of identifying improvements for developing and using lessons learned, conducting operating experience feedback, and recommending other opportunities for communicating lessons learned and good practices across the DOE complex. The final report acknowledges the extensive progress in ORPS usage throughout the DOE complex since DNFSB Recommendation 91-6 was issued and recommends some measures and schedules to attain additional improvements. The final report was signed by EH-1 on August 14, 1995.

Task 5: Document technical basis for departmental radiation protection standards and remedial actions during standards implementation at defense nuclear facilities.

The Department committed to provide the Secretary an annual report on progress of implementation of the *Radiological Control Manual*, 10 Code of Federal Regulations (CFR) 835, and DOE 5480.11. The DNFSB was to receive a copy of each progress report. To date, the 1993 annual report on *Radiological Control Manual* implementation has been issued and provided to the DNFSB. The 1994 annual report on *Radiological Control Manual* implementation has been developed and coordinated by the RCCC and is in the chain for signature by the cognizant Secretarial Officers. The report should be issued by mid October 1995.

Reporting the progress of implementing DOE 5480.11 has been overtaken by subsequent events. First, DOE 5480.11 was changed in 1993 to basically defer to the *Radiological Control Manual*. Progress on *Radiological Control Manual* implementation is reported annually, as previously discussed. Next, all essential radiological protection requirements are codified in 10 CFR 835 where compliance is mandated by January 1, 1996. The Department has focused its resources on monitoring the progress of implementing 10 CFR 835 through recent review of documented radiation protection programs required by the rule. Finally, under the new directives system, DOE 5480.11 will be deleted.

Since the beginning of the year, the Department has been involved in an extensive effort reviewing radiation protection program documentation (RPPs) requiring DOE approval under 10 CFR 835. RPPs for all defense nuclear facilities have been submitted and approved by DOE.

Status Report

Task 1: Develop and issue a DOE policy statement on radiological health and safety.
[Responds to DNFSB specific recommendation 1.]

IMPLEMENTATION PLAN COMMITMENT:

"The 'Department of Energy Radiological Health and Safety Policy' was signed by the Secretary of Energy on June 8, 1993, and will be published in the Federal Register and as a DOE Notice as soon as possible. No further action is planned on this task."

STATUS:

- 1.a. COMPLETE: The policy statement was issued as DOE Notice 5480.8 on June 8, 1993.
- 1.b. COMPLETE: The signed policy statement was forwarded to the DNFSB on June 9, 1993.
- 1.c. COMPLETE: The policy statement was published in the Federal Register on June 21, 1993.

Task 2: Review existing radiation protection training programs at defense nuclear facilities, and develop and implement a plan for an expanded training program at these facilities.

Subtask 2.1: Radiological Control Training
[Responds to DNFSB specific recommendations
2a and g]

IMPLEMENTATION PLAN COMMITMENT 2.1.1:

"Based on the approved site-specific *Radiological Control Manual* implementation plans, the Department will provide the Board with a complete listing of standardized core training material implementation milestones by June 30, 1993. These milestones will identify when standardized core course materials will be fully implemented including development of the site-specific training materials. General Employee Radiological Training, Radiological Worker I and II Training, and Radiological Control Technician Training for all affected workers using the standardized core training material will be completed by December 1994. A brief explanation of the current development status, including milestones for development, use, and implementation, for each of the additional standardized core training courses will be provided to the Board by June 30, 1993. Since the Department is to update the Secretary on *Radiological Control Manual* implementation progress in an annual report that is expected to be issued at the end of each calendar year beginning in 1993, the Department will advise the Board of the status of efforts to fully implement the standardized core training courses during the first quarterly status report following the secretarial update."

STATUS:

- 2.1.1.a. COMPLETE: The Department provided a complete listing of standardized core training material implementation milestones for its defense nuclear facilities to the DNFSB on June 30, 1993.
- 2.1.1.b. IN PROGRESS: Preliminary status on implementation of the four original standardized core courses has been received. The Department will report on this status in the 1994 Annual *Radiological Control Manual* Implementation Progress report to the Secretary. The Department has received data from all defense nuclear facilities and is in the process of validation and verification. Preliminary results indicate that nine

sites/contractors have not completed 100 percent training of all necessary individuals. The Department is identifying actions to be taken to complete the affected training and corrective measures to assure workers can continue to safely conduct radiological activities. A table identifying the status of training as of December 31, 1994, is attached as appendix B.

- 2.1.1.c. IN PROGRESS: The schedule for developing additional courses, which was originally provided to the DNFSB, has been delayed. The Department has taken measures to expedite completion of the additional course material by contracting for program management for this effort. The program management plan was provided to the contractor on August 10, 1994. The Department has noted significant progress in the submission of these additional courses.

Six additional courses and training guides have been completed and issued for use within the defense nuclear facilities complex. These courses and training guides are:

- a. Higher Level Training for Supervisors;
- b. Plutonium Facilities Training;
- c. Radiological Control Manual Training for Managers;
- d. Radiological Assessor Training Fundamental Radiological Control;
- e. Radiological Assessor Training Applied Radiological Control; and
- f. Radiological Support Personnel Training Guide.

An updated status for the additional standardized courses currently under development is provided as appendix A to this status report. One course, Emergency Response Personnel, and one training guide, Training for Tour Groups and Visiting Dignitaries, have been canceled. During the mid-year meeting of the Training Resources and Data Exchange group, these courses were discussed and the decision was made not to continue with course development. The *Radiological Control Manual* article from which the course was derived was reviewed and it was determined that a training course was not necessary. Revision 2 of the *Radiological Control Manual* includes the necessary content of the training guide.

- 2.1.1.d. IN PROGRESS: The 1993 annual report to the Secretary on *Radiological Control Manual* implementation was completed on January 12, 1995. A copy of this report was provided to the DNFSB in February 1995. The 1994 annual report has been developed by the RCCC. The report has completed RCCC review and is in the chain for signature by the cognizant Secretarial Officers. The report is expected to be issued to the Secretary by mid October 1995.

IMPLEMENTATION PLAN COMMITMENT 2.1.2:

"By December 1993, for each of the existing standardized core training courses, the Department will document each course's technical basis, including a description of how pertinent references and standards were used or why certain documents were not used including, at a minimum, those references

suggested by the Board in Recommendation 91-6 and its attachment. In addition to the technical basis for each training course, the basis for any identified refresher or continuing training requirements will also be documented.

Similar technical basis documentation will be included during the development of future courses as well. As course materials are revised and updated, these technical bases will be updated as needed."

STATUS:

- 2.1.2.a. COMPLETE: The technical bases for the four original standardized core training courses have been developed. This information was provided to the DNFSB staff on March 8, 1994.
- 2.1.2.b. COMPLETE: The basis for refresher or continuing training requirements of the original four standardized core courses is included in the technical basis for developing the original standardized courses. These courses generally adopted industry standards that use similar requirements for refresher and continuing training.
- 2.1.2.c. IN PROGRESS: A technical basis was developed for the additional standardized courses discussed under commitment 2.1.1. Documentation of the technical basis for the training guide discussed in commitment 2.1.1 is being completed. As additional courses are developed or existing courses updated and revised, technical bases (including the basis for refresher/continuing training) will be documented.

IMPLEMENTATION PLAN COMMITMENT 2.1.3:

"The Department's defense nuclear facilities will also ensure the effectiveness of Department and contractor training provided to workers through post-training evaluations on a continuing basis. Post-training evaluations will be used to identify opportunities for improving course materials and upgrading instruction methods and techniques. These evaluations will also be used to identify needs for additional training. By October 1993, the Department will identify the criteria to be used for developing a post-training evaluation program. The post-training evaluation program will be developed and distributed to the DOE contractors by May 1994. Because not all defense nuclear facilities have fully implemented the standardized core training materials, contractors will be permitted 6 months to fully implement a post-training evaluation program following implementation of the standardized core training. Those defense nuclear facilities that have implemented the standardized core training materials prior to the availability of the post-training evaluation program must implement the program by December 1994.

At least annually, Secretarial Officers and operations offices will request and coordinate contractor recommendations to EH-52 for upgrading and improving standardized core training materials. These recommendations will be evaluated and incorporated, as appropriate. Additionally, the post-training evaluations

will be used to maintain and upgrade the site-specific portions of these training courses. The DOE oversight organizations will monitor program implementation and adequacy."

STATUS:

- 2.1.3.a. COMPLETE: Development of the post-training evaluation program was completed on September 8, 1994.
- 2.1.3.b. COMPLETE: The post-training evaluation program was distributed by EH-1 and the Office of Field Management to DOE sites and contractors on December 9, 1994. The post-training evaluation program includes the retention testing criteria discussed under commitment 2.2.7.
- 2.1.3.c. IN PROGRESS: The post-training evaluation program that was distributed on December 9, 1994, requested that post-training programs be in place by June 1995. EH-52 is working with line management to determine status on this commitment. Line management expects to know status on this commitment by September 1995 and will report this status to DNFSB in October 1995.
- 2.1.3.d. ONGOING: Concerning the updating of the four existing core courses, as discussed under subtask 2.2.4, course materials for three of the original standardized core courses have been revised. The materials for the Radiological Worker I and II and Radiological Control Technician training courses were revised and disseminated in October 1994. The revisions to these materials were based on direct feedback from the training committees representing contractors from across the DOE complex. No need to revise the General Employee Radiological Training course was identified.
- 2.1.3.e. ONGOING: Individual DOE sites and contractors are responsible for improving course materials and upgrading instruction methods and techniques. Consequently, when adopting the standardized course material, site-specific information is required. DOE sites and contractors are individually responsible for maintaining this site-specific material current. Line management retains responsibility and accountability for assuring that site-specific training material is current and accurate. Since maintenance of these site-specific materials is a local issue, DOE Headquarters does not typically monitor progress or status at each defense nuclear facility.
- 2.1.3.f. ONGOING: EH reorganized on December 18, 1994. At that time, the independent Office of Oversight was created. This office will report their status of monitoring program implementation and adequacy independently from this quarterly status report.

**Subtask 2.2: Qualification and Performance
of Radiation Protection Personnel [Responds
to DNFSB specific recommendations 2b through
f]**

IMPLEMENTATION PLAN COMMITMENT 2.2.1:

"The Department will determine the key radiation protection positions both as identified in the *Radiological Control Manual* and any additional positions with a discretionary decisionmaking role in radiological matters (e.g., Radiological Control Manager, Radiological Control Program Advisors, Health Physicists, Radiological Control/Health Physics Technicians, Dosimetrists, Facility Representatives, managers, and supervisors) at defense nuclear facilities by August 1993."

STATUS:

2.2.1. COMPLETE: The Department developed a definition for key radiation protection positions. The DNFSB staff was provided with the definition and listings of key radiation protection positions on August 4, 1994.

IMPLEMENTATION PLAN COMMITMENT 2.2.2:

"The Department will complete the identification of the level of knowledge, skills, abilities and other qualifications needed for each key radiation protection position consistent with Office of Personnel Management and DOE contracting procedures by February 1994. A comprehensive document describing the level of knowledge, skills, abilities and other qualifications for these key radiation protection positions will be developed by April 1994. Position descriptions and their corresponding training and qualification requirements for key radiation protection positions will be documented in the appropriate DOE Order, Notice, and/or the *Radiological Control Manual* by August 1994. As provided in the Board's specific recommendations 2a and 2b, the identification of the level of knowledge, skills, and abilities will include comparison with guidance on training contained in "Guide to Good Practice in Radiation Protection Training," Training Resources and Data Exchange Oak Ridge Associated Universities 88/H-99; and "Guidelines for Training and Qualification of Radiological Protection Technicians," Institute of Nuclear Power Operations 87-008. The Department will base the identification of the level of knowledge, skills, and abilities and other qualifications on professional and industry standards. In defining the qualification requirements for radiation protection positions, consideration will be given to including association or interaction with professional health physics organizations such as the Health Physics Society, the American Board of Health Physics certification, and the National Registry of Radiation Protection Technologists registration for appropriate professionals."

STATUS:

2.2.2.a. COMPLETE: The identification of the level of KSAs and other qualifications has been documented in qualification criteria for key radiation protection positions for DOE Headquarters and field staff and contractor personnel. This document entitled *Levels of Knowledge, Skills, Abilities, and Other Qualifications for Key Radiation Protection Positions at DOE Defense Nuclear Facilities* (qualifications document) was forwarded for review and comment throughout the DOE defense nuclear complex in November 1994. Comments received, as well as subsequent program office comments, were reviewed and addressed, and the revised document completed in July 1995.

2.2.2.b. IN PROGRESS: The Technical Personnel Program Office (HR-1.5) has developed a "crosswalk" between the qualification standards for Federal workers developed in response to DNFSB Recommendation 93-3 and the "KSA" document developed in response to DNFSB Recommendation 91-6. This "crosswalk" was developed to ensure that products from the Recommendation 91-6 response will be covered through this Recommendation 93-3 document. A presentation on the "crosswalk" was made to DNFSB staff. DNFSB staff requested a more detailed "crosswalk" in order to be able to ensure that the products committed to in the Recommendation 91-6 response would be adequately covered. DNFSB staff also requested that DOE explore issuing the "KSA" document, which would apply to contractors only if Federal workers were to be covered by the response to Recommendation 93-3 as an order or under some other mechanism that would ensure mandatory compliance. Both the detailed crosswalk as well as the method of issuance recommendation will be available in September 1995.

The final document requires an individual development plan (IDP) to be developed for each key position. Any training needs identified in the IDP process would be completed within 2 years and individual performance criteria will be developed that would support programmatic improvement in radiation protection programs. The IDP process is scheduled for completion within 6 months of issuing the qualifications document.

2.2.2.c. IN PROGRESS: The *Level of Knowledge, Skills, Abilities, and Other Qualifications for Key Radiation Protection Positions at DOE Defense Nuclear Facilities* requires the development of IDPs for each key radiation protection position. These IDPs will be sufficiently detailed containing position descriptions and the corresponding training and qualification requirement discussed in the Department's commitment under commitment 2.2.2. The final qualification document adopts industry standards and certifications in meeting qualification criteria for key radiation protection positions. These standards and certifications include: American National Standards Institute N3.1-1992; American Board of Health Physicists certification; and National Registry of Radiation Protection Technologists registration. Completion of IDPs for key radiation protection positions is expected within 6 months of the qualifications document being issued. The IDPs that will be developed for each key radiation protection position will contain the appropriate position descriptions and corresponding training and qualification requirements.

IMPLEMENTATION PLAN COMMITMENT 2.2.3:

"Radiological control performance criteria will be included in performance standards for each key position to provide management with measurable milestones to monitor the performance of individuals in key positions. Standardized radiological control performance criteria will be developed by April 1994 and incorporated into individual performance evaluation plans and standards by June 1994."

STATUS:

2.2.3.a. COMPLETE: Guidance for incorporating radiological control performance criteria into performance evaluations of individuals in key radiation protection positions is provided in *Levels of Knowledge, Skills, Abilities, and Other Qualifications for Key Radiation Protection Positions at DOE Defense Nuclear Facilities*. The approach contained in the qualifications document identifies standard performance indicators in use throughout the defense nuclear complex and how these indicators are to be used by management for monitoring the performance of individuals in key positions.

2.2.3.b. IN PROGRESS: The qualifications document requires that individual performance criteria be developed for each key radiation protection position within 6 months of distribution of the document. The development of individual performance criteria is integral to the individual development planning effort described above and forms the basis by which management will evaluate individual performance in key radiation protection positions.

IMPLEMENTATION PLAN COMMITMENT 2.2.4:

"In response to the Board's specific recommendations 2c and 2d, consistent with Office of Personnel Management regulations for Federal employees and the DOE contracting practices for contractor employees, the Department or contractor, as applicable, will compare the level of knowledge, skills, and abilities of incumbents in key positions to the criteria identified in the previous commitment above. The comparison will include a list of training courses attended with dates, duration of course, and sponsor, as well as a list of any professional certifications and affiliations. The Department or contractor, as applicable, will also compare the existing training and/or training that is concurrently under development for radiation protection positions against the level of knowledge, skills, and abilities and other qualifications and identify upgrades to the existing training, and/or the need for the development of supplemental training necessary to ensure that radiation protection personnel meet the qualifications for their respective positions. The comparison will be completed by August 1994. Based upon this comparison, the Department will develop and/or upgrade standardized core training courses, as necessary. New courses will be developed as needed and ongoing upgrades of the standardized core courses will be conducted on an annual basis."

STATUS:

2.2.4.a. IN PROGRESS: As part of the IDP process required by the *Level of Knowledge, Skills, Abilities, and Other Qualifications for Key Radiation Protection Positions at DOE Defense Nuclear Facilities*, the level of KSAs and other qualifications for incumbents in key positions will be evaluated and documented. The qualifications document requires that appropriate training, certifications, and affiliations be documented and plans made to complete supplemental training within specific periods of time. The evaluation and documentation is expected to be completed within 6 months of distribution of the qualifications document.

2.2.4.b. IN PROGRESS: The qualifications document also relies on the IDP process as a means to identify the need for any additional standardized training or to identify the need for upgrades to existing standardized training courses. The document requires that any such needs be brought to the attention of EH-52. The use of commercially available courses to satisfy specific supplemental training needs is encouraged. EH-52 expects that the need for additional standardized training will be identified by December 1995.

2.2.4.c. ONGOING: EH-52 has received no requests to upgrade existing courses or create new courses because the IDP process has not yet begun. Ongoing upgrades of standardized core courses will be conducted on an annual basis by EH-52. As previously discussed in this report, the training committees will play a critical role in developing these upgrades.

IMPLEMENTATION PLAN COMMITMENT 2.2.5:

"As a matter of management prerogative, two options are available for cases where an incumbent does not meet the level of knowledge, skills, and abilities required of their position. First, the employee can be reassigned to another position of equal grade, if available, or second, the incumbent may be offered supplemental training to ensure that they develop the level of knowledge, skills, and abilities necessary for their position. Where the supplemental training option is chosen by management, the Department or contractor and affected incumbent will mutually identify the supplemental training necessary to upgrade their level of knowledge, skills, and abilities by December 1994. The identified supplemental training requirements will be provided to the incumbent's direct supervisor for incorporation in each incumbent's individual development plan established for Federal employees and similar contractor programs. Supplemental training must be completed within 2 years of identification for incumbents to continue in their position. The need for interim measures will be identified and implemented by management. The incumbent's knowledge, skills, and abilities will be evaluated through appropriate written, oral, or practical examination at the conclusion of each supplemental training course to ensure that the course content is valid and effective for increasing the level of knowledge, skills, and abilities identified in the previous commitment number 2 above. The impact of the training on performance will be evaluated during the ongoing performance management process."

STATUS:

2.2.5.a. IN PROGRESS: No action regarding compensatory measures to augment incumbent qualifications in key radiation protection positions has been taken because the IDP process has not yet begun. Compensatory actions are expected to be taken on the schedule under which IDPs will be developed. See the status for commitment 2.2.2. discussed previously in this report.

2.2.5.b. IN PROGRESS: No action regarding supplemental training for incumbents in key radiation protection positions has been taken because the IDP process has not yet begun. Once an IDP has been developed, supplemental training necessary for an individual in a key position is expected to be completed within 2 years of being identified.

2.2.5.c. IN PROGRESS: No action regarding conducting appropriate examination of incumbents in key positions following supplemental training has been taken because the IDP process has not yet begun. The Department expects that such examination will occur within a reasonable period of time following the incumbent's completion of each supplemental training course.

2.2.5.d. ONGOING: The impact of training on performance of individuals in key positions is integral to the performance evaluation process and is previously discussed in this report under commitment 2.2.3.

IMPLEMENTATION PLAN COMMITMENT 2.2.6:

"The Department commits to have its oversight organizations specifically evaluate program performance to identify deficiencies in the knowledge, skills, and abilities of key personnel. These evaluations will be used to identify specific areas where improvements in performance and training are needed."

STATUS:

2.2.6. ONGOING: EH reorganized on December 18, 1994. At that time, the independent Office of Oversight was created. The Office of Oversight will report their status of monitoring program implementation and adequacy independently from this quarterly status report.

IMPLEMENTATION PLAN COMMITMENT 2.2.7:

"The criteria for adequate retention of knowledge, skills, and abilities will be developed as part of a retention testing program to help identify when individual performance or testing fails to meet expectations. One of the methods that will be utilized in developing and conducting the retention testing program will be the use of the radiological performance goals provided in article 131 of the *Radiological Control Manual*. Both independent and management radiological performance assessments will also be used to provide management with a series of indicators that can assist in the identification of adverse trends in performance. The retention criteria will be disseminated to contractors by May 1994. Sites will begin retention testing 6 months following scheduled implementation of the standardized core training material.

For sites that have already implemented the standardized core training, retention testing will begin by December 1994. Corrective actions for deficiencies detected as a result of the retention testing will be incorporated into the individual's development plan and the site's training program on an appropriate schedule."

STATUS:

2.2.7.a. **COMPLETE:** Retention testing is incorporated in the post-training evaluation program. Recognizing this is part of other commitments under commitment 2.1.3, progress related to development, dissemination, and implementation of the retention testing program has been incorporated into the status for post-training evaluation programs.

2.2.7.b. **IN PROGRESS:** The schedule for retention testing follows the schedule for the post training evaluation program discussed in commitments 2.1.3 and 2.2.1 through 2.2.5. Status will be collected by the end of September 1995 and available in October 1995.

2.2.7.c. **IN PROGRESS:** The performance in key positions is explicitly discussed in commitments 2.2.1 through 2.2.5. Therefore, any deficiencies in retaining supplemental training completed by individuals in key positions will be manifested in degraded performance which will be corrected following identification.

Task 3: Evaluate the adequacy of the Department infrastructure and resources dedicated to radiation protection at defense nuclear facilities. [*Responds to DNFSB specific recommendations 3 and 4*]

IMPLEMENTATION PLAN COMMITMENT 3.1:

"The Department will establish an Evaluation Team to conduct an independent, external evaluation of the Department Headquarters, Operations, and contractor radiation protection infrastructure and resources dedicated to radiation protection at defense nuclear facilities. The Evaluation Team is anticipated to be composed of members from other Federal agencies, private industry, and academia, with representation by the Department. The team members will be appointed by September 1993. The Department will notify the Board of the Evaluation Team's membership.

Consistent with the Board's third specific recommendation, the Evaluation Team will be tasked with examining the existing infrastructure for radiation protection program development and implementation at the DOE Headquarters to determine if resource, organizational, or managerial changes are needed to:

- a. emphasize the priority and importance of the radiation protection program to assuring public health and safety;
- b. communicate the importance of the radiation protection program from the highest level of management to all appropriate Department personnel;
- c. expand the radiation protection program and increase program resources to facilitate the rapid development and implementation of radiological protection standards throughout the defense nuclear facility complex; and
- d. make other changes as warranted.

In response to the Board's fourth specific recommendation, the Evaluation Team will also be tasked with examining the corresponding radiological protection organization units at the Department's operations offices and contractor organizations to determine if those organizations' radiological protection programs' infrastructure and responsibilities can be strengthened to expedite implementation of radiological protection standards. A critical aspect of this review will be the assessment of management's involvement and effectiveness in implementing radiological protection programs and management's ability to communicate the steps to be taken to implement an effective radiological protection program to all levels within relevant Department and contractor units, particularly with line organizations."

STATUS:

3.1.a. COMPLETE: The IET chairman and membership were identified in September 1993.

3.1.b. COMPLETE: IET membership was provided to the DNFSB on October 26, 1993.

IMPLEMENTATION PLAN COMMITMENT 3.2:

"The Evaluation Team will report directly to the Assistant Secretary for Environment, Safety and Health. The Evaluation Team will complete its evaluation by January 1994. As a result of their evaluation, the Team will prepare a report that summarizes their findings related to the organizations' radiological protection programs' infrastructure, resources, and delegation of responsibilities. Any recommendations made by the Team should include options to implement the recommendations, including necessary changes to implementing directives and taking into account available resources and identifying the need for additional resources. This report will be provided to the Assistant Secretary by March 1994, who will then submit a copy of the report to the Board by April 1994."

STATUS:

3.2. COMPLETE: The IET completed their evaluation in December 1994. The Team provided their report with 11 specific recommendations to EH-1 on January 10, 1995. A copy of the report was provided to the DNFSB on February 16, 1995.

IMPLEMENTATION PLAN COMMITMENT 3.3:

"The Assistant Secretary for Environment, Safety and Health will review the Evaluation Team's report and confer with the Radiological Control Coordinating Committee to obtain their views on the report. The Assistant Secretary will then identify those recommendations and options appropriate for the Office of Environment, Safety and Health to implement and those recommendations and options necessary for the Secretary's consideration. This review will be completed by April 1994. For those recommendations and options accepted by the Office of Environment, Safety and Health, the Assistant Secretary will develop corrective actions and schedules for completion by June 1994. Following consideration of the recommendations and options referred to the Secretary, corrective actions and schedules for those recommendations and options accepted will be developed by July 1994. For each corrective action accepted by either the Secretary or Assistant Secretary, aggressive schedules for identifying critical milestones to achieve successful implementation will be developed. To assure milestones in this Implementation Plan are achieved, the Department will conduct annual oversight assessments of progress toward implementing corrective actions. These assessments will be provided to the Secretary annually with a copy provided to the Board."

STATUS:

3.3.a. COMPLETE: EH-1 provided the IET report to the RCCC for review and requested comments by March 1995. The RCCC provided their comments to EH-52 on April 7, 1995, for incorporation into a management action plan being developed to respond to the IET's recommendations.

3.3.b. IN PROGRESS: At the Assistant Secretary's request, EH-52 reviewed the RCCC comments and incorporated recommendations for corrective actions and milestones into a management action plan. This plan was signed by the Assistant Secretary on June 28, 1995. A copy was forwarded to the DNFSB staff in July 1995.

With respect to IET recommendations that are beyond the control of EH, the management action plan committed to reviewing these against the results of the Department's Strategic Alignment Initiative. The Strategic Alignment Initiative was announced on August 3, 1995. Detailed staffing plans for individual offices were announced on September 15. This review will be completed by the end of September 1995 and a report issued by October 1995.

3.3.c. IN PROGRESS: The management action plan developed in response to the IET's recommendations suggests specific actions and schedules responding to each recommendation. Many organizational changes recommended by the IET have been addressed by the recent EH reorganization. These have been addressed in the management plan. More organizational changes are expected to result from the recommendations of the Strategic Alignment Initiative. As mentioned previously, the management action plan committed to review the results of the Strategic Alignment Initiative. This review is underway and is expected to be completed by the end of September 1995. At that time, if further Secretarial action is warranted, any issues that arise from the review will be referred to the Secretary.

3.3.d. ONGOING: EH reorganized on December 18, 1994. At that time, the independent Office of Oversight was created. This office will report their status of monitoring program implementation and adequacy independently from this quarterly status report.

IMPLEMENTATION PLAN COMMITMENT 3.4:

"The Department will centralize current contractor *Radiological Control Manual* implementation plans for defense nuclear facilities of the Offices of Defense Programs and Environmental Restoration and Waste Management, and these plans will be provided to the Board by October 1993."

STATUS:

3.4. COMPLETE: *Radiological Control Manual* implementation plans have been centralized and are available through the Radiological Control Program Advisor in the Office of Environmental Management. These plans were forwarded to the DNFSB on October 28, 1993.

IMPLEMENTATION PLAN COMMITMENT 3.5:

"The Department commits to providing the Board with the credentials and qualifications of individuals currently conducting the DOE internal oversight activities relating to radiological protection by October 1993."

STATUS:

3.5. COMPLETE: Credentials and qualifications of individuals conducting internal oversight activities related to radiation protection were provided to the DNFSB on October 29, 1993. Additional resumes were subsequently provided by EH.

Task 4: Analysis of reported occurrences and correction of radiation protection program deficiencies at defense nuclear facilities. [Responds to DNFSB specific recommendation 5]

IMPLEMENTATION PLAN COMMITMENT 4.1:

"By August 1993, meet with current DOE Headquarters Occurrence Reporting and Processing System program manager to determine current ORPS capabilities."

STATUS:

4.1. COMPLETE: ORPS capabilities are adequately described in DOE Order 5000.3B and supplemented in the "ORPS User's Manual."

IMPLEMENTATION PLAN COMMITMENT 4.2:

"By October 1993, complete an evaluation of defense nuclear facilities' use of the Occurrence Reporting and Processing System information, how useful is the information that is available, and solicit recommendations from users for improvement."

STATUS:

4.2. COMPLETE: A survey of users of ORPS for radiological occurrence data analysis was conducted by the task force described in commitment 4.3 in October and November 1993.

IMPLEMENTATION PLAN COMMITMENT 4.3:

"By November 1993, convene a task force of Headquarters, Operations, and contractor personnel to evaluate the data regarding the current use and capabilities of the Occurrence Reporting and Processing System and make recommendations for improvement by February 1994. The Occurrence Reporting and Processing System management and the Radiological Control Coordinating Committee will evaluate these recommendations and develop a schedule with milestones for implementing corrective actions by June 1994. Goals of the task force evaluation and areas for recommended improvements will include the following:

Develop lessons learned with supporting information from throughout the DOE defense nuclear facilities complex that includes input from top management to worker level. Improve worker performance through awareness of previous related occurrences. Management should identify adverse trends in performance to prevent occurrences.

- o Include lessons learned by management during training (both initial and periodic refresher), by safety committees, at meetings, and from reading files. Incorporate lessons learned into future assessments to ensure assessments are properly focused.
- o Operating experience feedback--similar to a formalized program used in the commercial nuclear power industry to identify generic problems, apprise the industry of these problems, and document measures at individual sites to prevent problems from occurring and recurring.
- o Other opportunities for communicating lessons learned and good practices across the DOE complex will be pursued, encouraged, and implemented."

STATUS:

4.3.a. COMPLETE: The task force was convened in November 1993. The task force was comprised of members from the Office of Health Physics and Industrial Hygiene (EH-411), ORPS program manager, Office of Environmental Management, and the Fernald Field Office. Contractor personnel were contacted regarding specific questions identified by the task force.

4.3.b. COMPLETE: The task force initially issued a draft report for review by the RCCC in March 1994. The draft report contained ORPS program management input since they were represented on the task force.

4.3.c. COMPLETE: The report has been completed and was issued on August 14, 1995, by EH-1.

Task 5: Document technical basis for departmental radiation protection standards and remedial actions during standards implementation at defense nuclear facilities. [*Responds to DNFSB specific recommendations 6 and 7*]

IMPLEMENTATION PLAN COMMITMENT 5.1:

"The Department will further document the technical basis for developing the *Radiological Control Manual* that will include a description of how pertinent references and standards were used or why certain documents were not used, including, at a minimum, those references suggested by the Board in Recommendation 91-6 and its attachment. This technical basis document will be completed and provided to the Board by December 1993."

STATUS:

5.1. COMPLETE: A technical basis data base for the *Radiological Control Manual* was developed and forwarded to the DNFSB on December 31, 1993.

IMPLEMENTATION PLAN COMMITMENT 5.2:

"In the event that the Department identifies any gaps in the standards used during the development of the *Radiological Control Manual*, DOE Order 5480.11, or 10 Code of Federal Regulations Part 835, the affected document will be corrected. Future oversight assessments of the Department's radiological protection programs and practices at defense nuclear facilities will be conducted based upon these upgraded standards."

STATUS:

5.2.a. ONGOING: No gaps have been identified in the Department's radiation protection requirements and standards. However, the Department recognizes that recent International Commission on Radiological Protection (ICRP) and National Council on Radiation Protection and Measurements (NCRP) recommendations provide guidance with respect to occupational radiation

protection standards that differ from those currently used domestically. The Department and other Federal agencies are in the process of evaluating ICRP Publications 60 and 65 and NCRP Report 116 to determine how these recommendations should be used in U.S. radiation protection policy.

The Department committed to provide the Secretary an annual report on progress of implementation of the *Radiological Control Manual*, 10 CFR 835, and DOE 5480.11. The DNFSB was to receive a copy of each progress report. To date, the 1993 annual report on *Radiological Control Manual* implementation has been issued and provided to the DNFSB. The 1994 annual report on *Radiological Control Manual* implementation is being developed by the RCCC and should be issued by mid October 1995.

Reporting the progress of implementing DOE 5480.11 has been overtaken by subsequent events. First, DOE 5480.11 was changed in 1993 to basically defer to the *Radiological Control Manual*. Progress on *Radiological Control Manual* implementation is reported annually, as previously discussed. Next, all essential radiological protection requirements are codified in 10 CFR 835 where compliance is mandated by January 1, 1996. The Department has focused its resources on monitoring the progress of implementing 10 CFR 835 through recent review of documented radiation protection programs required by the rule. Finally, under the new directives system, DOE 5480.11 will be deleted.

5.2.b. ONGOING: EH reorganized on December 18, 1994. At that time, the independent Office of Oversight was created. This office will report their status of monitoring program implementation and adequacy independently from this quarterly status report.

IMPLEMENTATION PLAN COMMITMENT 5.3:

"The Department will develop target dates for full implementation of the *Radiological Control Manual*, DOE Order 5480.11, and 10 Code of Federal Regulations Part 835 at defense nuclear facilities. For all defense nuclear facilities except those listed in Appendix D (of the Implementation Plan), the Department commits to full implementation of these three documents by October 1996 unless specific exception has been approved by the proper authority and concurred in by the Assistant Secretary for Environment, Safety and Health. To ensure expeditious implementation, the Department will evaluate and report on progress toward full implementation of these documents on an annual basis. These progress reports will be provided to the Secretary annually. The Department will provide a copy of these progress reports to the Board in the first quarterly status report (see Task 6, below) following the briefing of the Secretary."

STATUS:

5.3.a. IN PROGRESS: All contractors were required to submit documented radiation protection programs to the Department for approval by January 1, 1995. The Department has temporarily exempted two gaseous diffusion facilities from 10 CFR 835 because their activities will be conducted under certification by the U.S. Nuclear Regulatory Commission. All other contractors must achieve compliance with 10 CFR 835 by January 1, 1996.

5.3.b. IN PROGRESS: The status of the schedule for full implementation of the *Radiological Control Manual* at defense nuclear facilities has been discussed between the DOE Office of the Departmental Representative to the DNFSB and the DNFSB staff. The Department has reevaluated the schedule for full implementation of the *Radiological Control Manual*. As stated in the letter from the Secretary to the DNFSB dated May 10, 1994, all facilities are scheduled for full implementation by October 1996, except for Rocky Flats, when full implementation is scheduled for December 1, 1996.

5.3.c. IN PROGRESS: The Department is currently upgrading its directives system. DOE 5480.11 will be deleted. The essential radiological protection requirements of DOE 5480.11 are contained in 10 CFR 835. All contractors must achieve compliance with 10 CFR 835 by January 1, 1996, unless an exemption has been specifically granted by EH-1.

IMPLEMENTATION PLAN COMMITMENT 5.4:

"The Radiological Control Coordinating Committee will become more involved in the evaluation of implementation plans for the *Radiological Control Manual*. Evaluations of the adequacy of interim actions being taken by contractors prior to full implementation are being performed by the Cognizant Secretarial Officers and supported by the Radiological Control Coordinating Committee based on the information provided in the implementation plans. The status of *Radiological Control Manual* implementation is provided by the Cognizant Secretarial Officers to the Secretary in an annual report that is expected to be issued at the end of each calendar year beginning in 1993. The Department will provide a copy of the next annual report to the Board in the first quarterly status report following the availability of the report."

STATUS:

5.4.a. ONGOING: The RCCC has provided the DNFSB staff with copies of meeting minutes for each of its meetings. As reflected in these minutes, the RCCC has been more involved in evaluating the adequacy of actions taken to achieve full implementation of the *Radiological Control Manual*. In particular, over the past year, the RCCC has focused tremendous efforts toward the process for review and approval of radiation protection program documentation required under 10 CFR 835. The RCCC continues to provide copies of its meeting minutes to the DNFSB staff to demonstrate their continued emphasis on evaluating the adequacy of implementation actions.

5.4.b. ONGOING: The 1993 annual report on *Radiological Control Manual* implementation was completed in January 1995. This report, issued by the cognizant Assistant Secretaries, discusses the status and adequacy of *Radiological Control Manual* implementation. As noted in the report, the RCCC facilitates the exchange of cost-effective implementation processes and discussion of proposed *Manual* changes that may enhance implementation. The DNFSB was provided a copy of the report in February 1995. The 1994 annual report on *Radiological Control Manual* implementation is expected to be issued by mid October 1995.

Task 6: Status reports for the DNFSB

IMPLEMENTATION PLAN COMMITMENT 6:

"The Department will provide quarterly status reports to the Board on the progress of completing commitments made in this implementation plan."

STATUS:

6. ONGOING: Status reports have been provided to the DNFSB in October 1993, January 1994, April 1994, September 1994, January 1995, and July 1995. Interim status reports were provided to the DNFSB staff on March 11, 1994, June 3, 1994, and August 4, 1994. Periodic briefings have also been conducted with the DNFSB staff and will continue through 1995. Additionally, the Department has worked with the DNFSB staff to improve the format and content of these reports. Because the April 1995 and July 1995 status reports were delayed, we expect to issue an interim status report to DNFSB in mid November 1995.

***Department of Energy
Quarterly Status Report - August 1995
DNFSB Recommendation 91-6 Implementation Plan***

**APPENDIX A
Status of Additional Standardized Courses**

Status of Additional Standardized Courses

Article Number	Article Title	C/G *	Course Leader	Due Date	Estimated Completion	Status
652/653	Technical Support Personnel (ALARA) and Schedulers	C	Pete Seilhymer (WHC)	11/94	10/95	Final comments received and incorporated. Course piloted by WHC for the last several months. Materials need formatting before shipping to DOE-HQ for approval by EH and the RCCC. THIRD PRIORITY
654	Radiological Support Personnel	G	Harold Reynolds (EG&G Rocky Flats)	11/94	6/95	Training guide completed and in process of distributing to the complex. SECOND PRIORITY
655	Radiographers and RGD Operators	G	Bill Egbert (LLNL)	11/94	10/95	Final Comments received. Guide needs formatting prior to shipment to DOE-HQ for approval by EH and the RCCC. FOURTH PRIORITY
656	Emergency Response Personnel	C	Pete Seilhymer (WHC)	11/94	NONE	Course no longer under development.
657	Training for Tour Groups and Visiting Dignitaries, Scientists and Specialists	G	Pete Seilhymer (WHC)	10/94	NONE	Course no longer under development.
N/A	Contamination Control for Biomedical Researchers	C	Paula Trinoskey (LLNL)	11/94	11/95	Final materials received require extensive formatting based on conversion from MAC to IBM-PC. Once formatted, materials ready to ship to DOE-HQ for review by EH and RCCC. EIGHTH PRIORITY
N/A	Health and Safety Technicians	G	Laura Lee Fry (LLNL)	3/95	NONE	Currently polling complex as part of a needs assessment.

Article Number	Article Title	C/G *	Course Leader	Due Date	Estimated Completion	Status
662	Uranium Facilities	G	Gerald Eaton (WHC)	5/95	12/95	First draft comments received. Comments need incorporation into materials and then pilot session(s). Once team restarts work on this guide, completion should occur quickly. FIFTH PRIORITY
663	Tritium Facilities	G	Paula Trinoskey (LLNL)	4/95	12/95	Final draft materials received from Paula Trinoskey. Materials need formatting and shipment to DOE-HQ for approval by EH and RCCC. SIXTH PRIORITY
664	Accelerator Facilities	G	James Allen (SLAC)	4/95	12/95	Final draft materials require formatting before shipment to DOE-HQ for approval by EH and RCCC. SEVENTH PRIORITY
N/A	General Employee Radiological Training	C	Brian Thomson (SNL)			No revision completed since original issue in 10/92. Need to meet during FY96 to update materials.
N/A	Radiological Worker	C	Chris Liner (WSRC)			Materials revised and under distribution as on 8/95. Most recent changes included editorial changes and combining RWI and RWII lesson plans and study guides, along with exam banks. FIRST PRIORITY
N/A	Radiological Control Technician	C	Brian Killand (WHC)			Materials revised and under distribution as of 8/95. Most recent changes were extensive editorial and format changes, exam bank updates, and addition of more graphics. FIRST PRIORITY

* C = Course and G = Guide

APPENDIX B
Radiological Core Training Implementation Status
December 31, 1994

Summary of Core Radiological Protection Training Implementation Status - 12/31/94

Site	Gen. Employee Rad. Trng.			Radiological Worker I			Radiological Worker II			Radiological Control Tech.		
	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained
Albuquerque Operations Office												
LANL ²	8730	8730	100	1753	1753	100	3018	3018	100	127	66	52
Pantex	2477	2477	100	493	493	100	1003	1003	100	39	39	100
Pinellas	500	500	100	8	8	100	140	140	100	-	-	100
SNL ²	8400	8400	100	1196	550	46	231	210	91	41	27	66
WIPP	814	814	100	--	--	--	9	9	100	3	3	100
Idaho Operations Office												
B&WI	94	94	100	30	30	100	225	225	100	9	9	100
EGG	1628	1628	100	485	485	100	1162	1162	100	63	63	100
MKF		110			172			733			0	
WINCO	1971	1971	100	466	466	100	994	994	100	54	54	100
Nevada Operations Office												
NTSYM ²	5000	5000	100	250	250	100	500	500	100	45	12	27
Ohio Field Office												
Fernald	5703	5703	100	1053	1053	100	2847	2847	100	123	123	100
Mound	600	400	67	--	--	--	730	190	26	44	0	0
WVDP	980	980	100	450	450	100	723	723	100	38	38	100
Oakland Operations Office												
LLNL	9000	9000	100	2000	2000	100	200	116	58	37	0	0
Oak Ridge Operations Office												
MKF	2200	2200	100	--	--	--	1255	1255	100	9	7	78
K25 ²	2995	2995	100	--	--	--	1800	1800	100	129	125	97
ORNL ²	5000	5000	100	200	200	100	1000	1000	100	106	106	100
Y12 ²	3050	3050	100	--	--	--	1548	1548	100	79	79	100
Rocky Flats Field Office												
RFETS	2288	656	29	2500	99	4	2500	678	27	410	238	58

Site	Gen. Employee Rad. Trng.			Radiological Worker I			Radiological Worker II			Radiological Control Tech.		
	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained	To Be Trained	Number Trained	% Trained
Richland Operations Office												
PNL ³	257	257	100	389	389	100	821	821	100	54	54	100
WHC ³	13137	13137	100	110	110	100	3539	3539	100	400	367	92
Savannah River Operations Office												
SRS	20500	20500	100	1000	1000	100	13229	13229	100	338	337	100
TOTALS	95224	93492	98	12746	9699	76	37474	35007	93	2148	1747	81

Notes:

- Did not indicate numbers "Trained" or "To Be Trained", but provided total percentages.
- Indicates no personnel identified as requiring the particular category of training.
- 1. Did not indicate whether "Trained" or "To Be Trained." Figures not included in totals and percentages.
- 2. Employees operating defense nuclear facilities are fully trained.
- 3. Changes in status, new hires, and terminations affect the validity of the baseline and percentages.