95-0005165

Department of Energy
Washington, DC 20585

NOVEMBER 1, 1995

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

Dear Mr. Conway:

Enclosed is the fourteenth and final bimonthly progress report on implementation of Defense Nuclear Facilities Safety Board Recommendation 92-6. The report covers activities through September 30, 1995, and addresses items discussed in your letter of April 29, 1994.

Based on the documentation included in this report, we consider that all commitments in the implementation plan are satisfactorily resolved.

This document is unclassified and is suitable for placement in the public reading room.

Sincerely,

Everet H. Beckner
Principal Deputy Assistant Secretary
for Defense Programs

Enclosure

cc w/enclosure:
M. Whitaker, EH-9

95/5165

ENCLOSURE

STATUS OF ACTIONS

for the

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

RECOMMENDATION 92-6

Report Number 14

August 1, 1995 - September 30, 1995

1.0 INTRODUCTION

This report provides the status of the Department of Energy (DOE) Implementation Plan dealing with Operational Readiness Reviews (ORRs) in response to the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 92-6.

2.0 TASK STATUS

2.1 TASK 1: DEVELOP A DOE ORDER ON STARTUP AND RESTART OF NUCLEAR FACILITIES - COMPLETE

2.2 TASK 2: DEVELOP A STANDARD ON THE PLANNING AND CONDUCT OF OPERATIONAL READINESS REVIEWS - COMPLETE (copy attached)

3.0 OTHER INFORMATION

The DNFSB's letter of April 29, 1994, among other things, provided comments on the current interim guidance for ORRs of weapons assembly and disassembly operations and requested specific schedules for revision of the interim guidance for ORRs of weapons assembly and disassembly operations. DNFSB letters of December 9, 1994, and January 20, 1995, provided additional comments regarding these documents.

Chapter 3.7, "Weapons Assembly/Disassembly Readiness," of the Albuquerque Development and Productions Manual is the guiding process document for readiness determination for weapons assembly/disassembly operations. Final DNFSB staff comments regarding the language of this chapter were discussed with the DNFSB staff (Moury) and resolved. The final resolution of comments in question were forwarded on September 27, 1995, and were accepted by the staff. This language will be incorporated into the new governing documents which will replace this chapter, which are Albuquerque Supplemental Directives 5610.10 and 5610.11. Completion of this task is being tracked under the response to DNFSB Recommendation 93-1 and will not be further tracked here.

This final report is provided to satisfy implementation plan requirements for Recommendation 92-6 as well as to provide status of actions in response to the DNFSB letters of April 29, 1994, December 9, 1994, and January 20, 1995. As the final actions associated with this recommendation are complete, this is the final status report.

U.S. Department of Energy

Washington, D.C.

ORDER

DOE O 425.1

Approved: 09-29-95
Sunset Review: 09-29-97
Expires: 09-29-99

SUBJECT: STARTUP AND RESTART OF NUCLEAR FACILITIES

1. OBJECTIVE. To establish the requirements for startup of new nuclear facilities and for the restart of existing nuclear facilities that have been shutdown. The requirements specify a readiness review process that shall, in all cases, demonstrate that it is safe to startup (or restart) the applicable facility. The facility shall be started up (or restarted), only after documented independent reviews of readiness have been conducted and the approvals specified in this Order have been received. The readiness reviews are not intended to be tools of line management to confirm readiness. Rather, the readiness reviews provide an independent review of readiness to start or restart operations.

2. CANCELLATION. DOE 5480.31, STARTUP AND RESTART OF NUCLEAR FACILITIES, of 9-15-93. Cancellation of an Order does not, by itself, modify or otherwise affect any contractual obligation to comply with such an Order. Canceled Orders incorporated by reference in a contract shall remain in effect until the contract is modified to delete the reference to the requirements in the canceled Orders.

3. APPLICABILITY.

   a. DOE Elements. Except for the exclusions in paragraph 3c, below, this Order applies to all nuclear facilities classified as hazard categories 1, 2, or 3.

   b. Contractors. Except for the exclusions in paragraph 3c, below, the Contractor Requirements Document (CRD), Attachment 1, sets forth requirements that are to be applied to the universe of contractors awarded contracts for the operation and management of a DOE-owned or -leased facility. Contractor compliance with the CRD will be required to the extent set forth in a contract. Contractors shall be directed to continue to comply with the requirements of Orders canceled by this Order until their contracts are modified to delete the reference to the requirements of the canceled Orders.

   c. Exclusions.

      (1) Activities regulated through a license by the Nuclear Regulatory Commission (NRC) or a State under an Agreement with NRC, including activities certified by the NRC under section 1701 of the Atomic Energy Act.

      (2) Activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Public Law 98-525.

DISTRIBUTION:
All Departmental Elements

INITIATED BY:
Office of Environment, Safety and Health

(3) Activities conducted under Nuclear Explosives and Weapons Safety Programs relating to the prevention of accidental or authorized nuclear detonations to the extent a requirement under this Order cannot be implemented for a particular facility in a manner that does not compromise the effectiveness of such activities

(4) Activities regulated by the Department of Transportation or pursuant to 49 CFR 173.7(b).

(5) DOE nuclear facilities that are classified as below hazard category 3.

4. REQUIREMENTS. DOE-STD-3006-95 provides guidance on approaches and methods approved as acceptable for implementing the requirements of this Order. Other approaches and methods may be used provided they are justified, documented, and approved as being in accordance with the requirements of this Order by the authorization authority for startup or restart.

a. General.

(1) Operational Readiness Review. DOE line management shall determine (and ensure that contractor management determines) if Operational Readiness Reviews are required for startup of new nuclear facilities or restart of a nuclear facility using the requirements given below. DOE shall conduct (and ensure that contractors conduct) an Operational Readiness Review in accordance with this Order when any of the following conditions occur:

(a) Initial startups of new hazard categories 1, 2, and 3 nuclear facilities.

(b) Restart after a nuclear facility unplanned shutdown directed by a DOE management official for safety or other appropriate reasons.

(c) Restart after an extended shutdown for hazard categories 1 and 2 nuclear facilities. Extended shutdown for a hazard category 1 nuclear facility is 6 months. Extended shutdown for a hazard category 2 nuclear facility is 12 months.

(d) Restart of hazard categories 1 and 2 nuclear facilities after substantial process, system, or facility modifications that require changes in the safety basis previously approved by DOE.

(e) Restart after a nuclear facility shutdown because of operations outside the safety basis.

(f) When deemed appropriate by DOE management officials, including restarts of hazard category 3 nuclear facilities.

(2) Readiness Assessment. For restarts of nuclear facilities not requiring an Operational Readiness Review, as defined in this Order, DOE line management shall evaluate (and ensure that contractor management evaluates) the need for performing a Readiness Assessment prior to restart. This includes the startup or restart of program work within operating facilities when the new or restarted program work does not require DOE approval of changes to facility limits or requirements as stated in Operational Safety Requirements/Technical Safety Requirements (OSRs/TSRs), Basis for Interim Operations/Safety Analysis Reports (BIO/SARs), or other equivalent authorization basis documents. When a Readiness Assessment is required, Operations Offices shall develop procedures and ensure that the contractors use these procedures to gain Operations Office approval of the startup or restart of nuclear facilities. If a Readiness Assessment is not to be performed, the contractor's standard procedures for startup or restart will be used. Other requirements for Readiness Assessments are provided in paragraph 4c, below.

(3) Authorization Authority. For nuclear facility startup or restart actions, the authorization authority for startup or restart approval shall be determined by the following.

(a) For initial startups of new hazard categories 1 and 2 nuclear facilities, the Secretary of Energy (or designee) shall approve startup. For initial startups of new hazard category 3 nuclear facilities, the Secretarial Officer (or designee) shall approve startup. If other DOE Orders require a higher level of startup authorization than this Order, the official described in this Order will recommend startup to the higher level official.

(b) For shutdowns directed by a DOE management official for safety or other appropriate reasons, authorization to restart shall be granted by an official of a level commensurate with the official ordering the shutdown unless a higher level is designated by the Secretarial Officer.

(c) For extended shutdowns of hazard category 1 nuclear facilities, the Secretarial Officer shall approve restart. For extended shutdowns of hazard category 2 nuclear facilities, the Secretarial Officer (or designee) shall approve restart.

(d) For shutdowns because of substantial plant or facility modifications of hazard category I nuclear facilities that require changes in the safety basis previously approved by DOE, the Secretarial Officer shall approve restart. For such shutdowns of hazard category 2 nuclear facilities, the Secretarial Officer (or designee) shall approve restart.

(e) For facility shutdowns due to operations outside the safety basis, the official approving restart shall be commensurate with the approval authority for the safety basis. If the safety basis was approved by a Headquarters official, the Secretarial Officer (or designee) shall approve restart. If the safety basis was approved by a field official, the Operations Office Manager (or designee) shall approve restart.

(f) For startups or restarts of nuclear facilities for which Operational Readiness Reviews were required as a result of a DOE official deeming it appropriate, the official approving startup or restart shall be of a level commensurate with the official directing the review. If a Headquarters official directed an Operational Readiness Review be performed, the Secretarial Officer (or designee) shall approve the startup or restart. If a field official directed an Operational Readiness Review, the Operations Office Manager (or designee) shall approve the startup or restart.

b. Requirements Applicable to Startups or Restarts of Nuclear Facilities Involving Operational Readiness Reviews. (These requirements are listed sequentially.)

(1) Operational Readiness Review Documentation. For Operational Readiness Reviews, DOE line management shall require contractors to prepare the following documents: startup/restart notification reports, plans-of-action, Operational Readiness Reviews Implementation Plans, and final reports. DOE line management shall prepare its plans-of-action, Operational Readiness Review Implementation Plans, and final reports. The resolution of all findings from the Operational Readiness Reviews shall be documented and maintained with the plans-of-action, Implementation Plans, and final reports.

(2) Breadth of Operational Readiness Review. DOE line management shall develop (and ensure the contractor develops) the breadth of the Operational Readiness Review and documents it in each plan-of-action. A minimum set of core requirements, as defined in paragraph 4d, below, shall

be addressed when developing the breadth of the Operational Readiness Review. The plan-of-action may reference a timely, independent review that addressed the requirement in a technically satisfactory manner to justify not performing further evaluation of a core requirement, or portion thereof. During conduct of the Operational Readiness Review, the breadth may be expanded by the Operational Readiness Review team, if appropriate.

(3) Operational Readiness Review Plans-of-Action, Approval, and Content. The contractor and DOE Operational Readiness Review plans-of-action shall be approved by the startup or restart authorities defined in paragraphs 4a(3)(a) through 4a(3)(f). DOE line management shall ensure the contractor's plan-of-action specifies the prerequisites for starting the responsible contractor's Operational Readiness Review; the prerequisites shall address each core requirement of section determined to be applicable when developing the scope of the Operational Readiness Review. The DOE plan-of-action shall specify additional prerequisites, such as certification of readiness to oversee facility operations by Operations Office and Headquarters management. The DOE and contractor plans-of-action shall be provided to EH for review and comment.

(4) Operational Readiness Review Teams.

(a) DOE line management shall appoint (and ensure that contractor management appoints) Operational Readiness Review teams in accordance with the following qualifications and training requirements:

1 Technical knowledge of the area assigned for evaluation, including experience working in the technical area.

2 Knowledge of performance-based assessment processes and methods.

3 Knowledge of facility-specific information.

(b) The Operational Readiness Review teams shall not include as senior members (including team leader) individuals from offices assigned direct line management responsibility for the work being reviewed; any exceptions require approval of the startup or restart authority. Additionally, no Operational Readiness Review team member should review work for which he or she is directly responsible.

(c) The Operational Readiness Review team leaders shall determine and document qualifications of Operational Readiness Review team members.

(5) Criteria and Review Approaches. DOE line management requires that the DOE Operational Readiness Review team determines (and ensures that the contractor's Operational Readiness Review team determines) the criteria and reviews approaches to be used for their review based on the approved breadth given in their plan-of-action and documents the criteria and review approaches in their Operational Readiness Review Implementation Plan.

(6) Approve and Use Implementation Plans. DOE line management requires that the DOE Operational Readiness Review team leader approves (and ensures that the contractor's Operational Readiness Review team leader approves) their respective Implementation Plans and use the Implementation Plans to conduct their Operational Readiness Reviews. DOE line management requires that the DOE Implementation Plan (and ensures that the contractor's Implementation Plan) is provided to EH for review and comment.

(7) Certification and Verification.

(a) The prerequisites for starting the DOE Operational Readiness Review are the following.

1 DOE line management has received correspondence from the responsible contractor certifying that the facility is ready for startup or restart and this has been verified by the contractor Operational Readiness Review.

2 DOE line management has verified that the contractor's preparations for startup or restart have been completed.

3 DOE line management has certified that it meets the DOE Plan-of-Action that includes, as a minimum, the applicable DOE-specific core requirements given in paragraph 4d, below.

(b) At the start of the DOE Operational Readiness Review, all actions required for startup or restart shall be complete with the exception of a manageable list of open prestart findings that have a well-defined schedule for closure to allow review of the results of the closure process by the DOE Operational Readiness Review team. In the certification and verification process, DOE Operations Office line management shall

document their actions taken to verify Operations Office and contractor readiness including review of closure of contractor Operational Readiness Review findings, assessments of completion of defined prerequisites, and other assessments performed to ascertain readiness. Specific events significant to the startup and restart process that occur prior to the formal commencement of the DOE Operational Readiness Review (e.g., site emergency response drills, integrated equipment testing, etc.) shall be reviewed by the DOE Operational Readiness Review team when they are conducted.

(8) Final Report.

(a) Upon completion of the contractor or DOE Operational Readiness Review, DOE line management shall ensure a final report is prepared and approved by the Operational Readiness Review team leader. The final report shall document the results of the Operational Readiness Review and make a conclusion as to whether startup or restart of the nuclear facility can proceed safely. There shall be a statement in each Operational Readiness Review final report as to whether all identified nonconformances or schedules for gaining compliance with applicable DOE Orders, Secretary of Energy Notices, and Standards/Requirements Identification Documents within the scope of the Operational Readiness Review have been justified in writing, have been formally approved, and in the opinion of the Operational Readiness Review team, maintain adequate protection of the public health and safety, worker safety, and the environment. This conclusion shall be based on:

1 Review of the program to document conformance with applicable DOE requirements, including a process to address new requirements; and

2 Extensive use of references to DOE requirements in the Operational Readiness Review documentation.

(b) Additionally, there shall be a "Lessons Learned" section of the final report that may relate to design, construction, operation, and decommissioning of similar facilities and future Operational Readiness Review efforts.

(9) Closure of Prestart Findings. The mechanism for closure of Operational Readiness Review prestart findings shall include the following:

(a) Development of plans-of-action approved by DOE to correct the findings. Action plans shall provide evaluation of any overall programmatic deficiencies or root causes.

(b) Documentation of completion of response actions responding to the findings in a closure package. Closure packages shall include a brief description of actual corrective actions taken and reasons for concluding that closure has been achieved.

(c) DOE verification of closure of prestart findings. The organization verifying the closure will be designated by the startup or restart authority.

(10) Resolution of Prestart Findings. DOE line management shall ensure the contractor has satisfactorily resolved all prestart findings of the DOE Operational Readiness Review prior to startup or restart of the facility.

(11) Submit Final Report. The final report shall be submitted to the startup/restart authority to be used as a basis to grant approval of the start or restart of the nuclear facility. A copy of the final report shall be provided to EH for review and comment.

c. Requirements Applicable to Startup or Restarts of Nuclear Facilities Involving Readiness Assessments.

(1) Readiness Assessment Procedures. Operations Offices shall establish procedures for their offices (and ensure the contractor establishes procedures) that define when a Readiness Assessment is required and provides requirements for conducting readiness assessments, including procedures by which contractors will gain Operations Office approval for the startup or restart of nuclear facilities. The procedures shall require submittal of a startup notification report to obtain approval to use a Readiness Assessment and preparation of a formal plan-of-action that includes, as a minimum, the breadth of the assessment, team leader designation, and prerequisites for the assessment and shall be approved by the startup or restart authority. For shutdowns directed by contractor management, these procedures may indicate that, except for serious safety reasons, the contractor management may be the startup or restart authority.

(2) Graded Approach. The Operations Offices Readiness Assessment procedures shall specify (and DOE line management shall ensure the contractor's Readiness Assessment procedures specify) a graded approach to the tenets of Operational Readiness requirements specified in this Order. The procedures should indicate that the Readiness Assessment may be as short and simple as a restart check procedure, or that it may approach the breadth and depth of an Operational Readiness Review, depending on the causes and duration of the shutdown and the modifications accomplished during the shutdown.

(3) Approval. The startup or restart authority, as designated by the Operations Office Manager (or designee) may approve the startups or restarts after any prestart findings are corrected.

d. Minimum Core Requirements. Each of the minimum core requirements listed below shall be addressed when developing the breadth of an Operational Readiness Review. Justification shall be provided in the plan-of-action, prepared in accordance with paragraphs 4b(2) and (3), above, if it is determined that a particular core requirement will not be reviewed. The plan-of-action may reference a timely, independent review that addressed the requirements in a technically sound manner to justify not performing further evaluation of a core requirement during an Operational Readiness Review.

(1) There are adequate and correct procedures and safety limits for operating the process systems and utility systems.

(2) Training and qualification programs for operations and operations support personnel have been established, documented, and implemented. (The training and qualification program encompasses the range of duties and activities required to be performed.)

(3) Level of knowledge of operations and operations support personnel is adequate based on reviews of examinations and examination results and selected interviews of operating and operations support personnel.

(4) Facility safety documentation is in place that describes the "safety envelope" of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. Safety systems and systems essential to worker and public safety are defined and a system to maintain control over the design and modification of facilities and safety-related utility systems is established.

(5) A program is in place to confirm and periodically reconfirm the condition and operability of safety systems, including safety related process systems and safety related utility systems. This includes examinations of records of tests and calibration of safety system and other instruments that monitor limiting conditions of operation or that satisfy Technical Safety Requirements. All systems are currently operable and in a satisfactory condition.

(6) A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor.

(7) A systematic review of the facility's conformance to applicable DOE Orders has been performed, any nonconformances have been identified, and schedules for gaining compliance have been justified in writing and formally approved.

(8) Management programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure operational support services (e.g., training, maintenance, waste management, environmental protection, industrial safety and hygiene, radiological protection and health physics, emergency preparedness, fire protection, quality assurance, criticality safety, and engineering) are adequate for operations.

(9) A routine and emergency operations drill program, including program records, has been established and implemented.

(10) An adequate startup or restart test program has been developed that includes adequate plans for graded operations testing to simultaneously confirm operability of equipment, the viability of procedures, and the training of operators.

(11) Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented with line management responsibility for control of safety.

(12) The implementation status for DOE 5480.19, CONDUCT OF OPERATIONS REQUIREMENTS FOR DOE FACILITIES, of 7-9-90, is adequate for operations.

(13) There are sufficient numbers of qualified personnel to support safe operations.

(14) A program is established to promote a site-wide culture in which personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high-priority commitment to comply with these requirements.

(15) The facility systems and procedures, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis.

(16) The technical and managerial qualifications of those personnel at the DOE Field organization and at DOE Headquarters who have been assigned responsibilities for providing direction and guidance to the contractor, including the Facility Representatives, are adequate (DOE Operational Readiness Review only).

(17) The breadth, depth, and results of the responsible contractor Operational Readiness Review are adequate to verify the readiness of hardware, personnel, and management programs for operations (DOE Operational Readiness Review only).

(18) Modifications to the facility have been reviewed for potential impacts on procedures and training and qualification. Procedures have been revised to reflect these modifications and training has been performed to these revised procedures.

(19) The technical and management qualifications of contractor personnel responsible for facility operations are adequate.

(20) DOE Operations Office Oversight Programs, such as Occurrence Reporting, Facility Representative, Corrective Action, and Quality Assurance Programs, are adequate (DOE Operational Readiness Review only).

e. Exemptions. Requirements for exemptions are provided in DOE O 251.1, DIRECTIVES SYSTEM.

f. Records Disposition. Requirements for maintaining documents, such as those pertaining to Operational Readiness Reviews or Readiness Assessments, are provided in DOE 1324.5B, RECORDS MANAGEMENT PROGRAM.

5. RESPONSIBILITIES.

a. DOE Line Management.

(1) Establish procedures (and ensure contractors establish procedures) as necessary to manage startup and restart actions in accordance with the requirements of this Order.

(2) Exercise the delegation authority and document all delegations of authority made under the provisions granted by this Order.

(3) Determine whether adequate protection can most effectively be achieved by continuing to operate under the terms of existing contracts requiring compliance with old Orders or by modifying the contract to incorporate the requirements of revised Orders.

(4) Determine that implementation of new rule or Order requirements will provide adequate protection prior to requesting contract modification to drop old Order requirements from contract.

b. Heads of DOE Elements shall ensure that initiators of procurement requests shall identify in procurement requests if the requirements in the Contractor Requirements Document (Attachment 1) are to be applied to the award or subawards resulting from the procurement request.

c. Assistant Secretary for Environment, Safety and Health (EH-1). In addition to the general Departmental responsibilities specified in the Functions, Assignments, and Responsibilities Manual (FAR), exercise independent oversight of the startup and restart process for nuclear facilities. This responsibility specifically entails the following:

(1) In coordination with the cognizant Secretarial Officer (CSO), perform independent reviews of startup and restart activities as appropriate and provide results of these reviews to DOE Operational Readiness Review team leaders, cognizant Operations Office Managers, and cognizant Secretarial Officers for resolution.

(2) Assess the Secretarial Officer, Operations Office, and contractor procedures for startup or restart of nuclear facilities and provide periodic reports to the Secretary on their effectiveness.

(3) Review and comment on contractor and DOE plans-of-action and Operational Readiness Review Implementation Plans for startup or restart of nuclear facilities, including the specification of the EH-proposed involvement in the startup or restart activities.

(4) Review and comment on the Operational Readiness Review final report recommendations regarding startup or restart to the DOE startup or restart approving official.

(5) Provide any dissenting opinion on the readiness of a facility to startup or restart to DOE line management or the Secretary if a significant safety concern is not being properly corrected.

(6) If requested by the Secretary, concur in the final decision to startup or restart a nuclear facility.

6. CONTACT. Questions concerning this Order should be referred to the Director, Office of Nuclear Safety Policy and Standards (EH-31), phone 301-903-3465.

BY ORDER OF THE SECRETARY OF ENERGY:

ARCHER L. DURHAM
Assistant Secretary for
Human Resources and Administration

CONTRACTOR REQUIREMENTS DOCUMENT

STARTUP AND RESTART OF NUCLEAR FACILITIES

1. DOE CONTRACTOR RESPONSIBILITIES. DOE contractors shall establish procedures as necessary to manage startup and restart actions in accordance with this Contractor Requirements Document (CRD).

2. CONTRACTOR REQUIREMENTS. DOE-STD-3006-95 provides guidance on approaches and methods approved as acceptable for implementing the requirements of this CRD. Other approaches and methods may be used provided they are justified, documented, and approved as being in accordance with the requirements of this CRD by the authorization authority for startup or restart.

   a. General.

      (1) Operational Readiness Review. Contractor management shall determine if Operational Readiness Reviews are required for startup of new nuclear facilities or restart of a nuclear facility using the requirements given below. Contractors shall conduct an Operational Readiness Review when any of the following conditions occur.

         (a) Initial startups of new hazard categories 1, 2, and 3 nuclear facilities.

         (b) Restart after a nuclear facility unplanned shutdown directed by a DOE management official for safety or other appropriate reasons.

         (c) Restart after an extended shutdown for hazard categories 1 and 2 nuclear facilities. Extended shutdown for a hazard category 1 nuclear facility is 6 months. Extended shutdown for a hazard category 2 nuclear facility is 12 months.

         (d) Restart of hazard categories 1 and 2 nuclear facilities after substantial process, system, or facility modifications that require changes in the safety basis previously approved by DOE.

         (e) Restart after a nuclear facility shutdown because of operations outside the safety basis.

         (f) When deemed appropriate by DOE management officials, including restarts of hazard category 3 nuclear facilities.

      (2) Readiness Assessment. For restarts of nuclear facilities not requiring an Operational Readiness Review, contractor management shall evaluate the need for performing a

Readiness Assessment prior to restart. This includes the startup or restart of program work within operating facilities when the new or restarted program work does not require DOE approval of changes to facility limits or requirements as stated in Operational Safety Requirements/Technical Safety Requirements (OSRs/TSRs), Basis for Interim Operations/Safety Analysis Reports (BIO/SARs), or other equivalent authorization basis documents. When a Readiness Assessment is required, the contractor shall use procedures developed by the Operations Offices to gain Operations Office approval of the startup or restart of nuclear facilities. If a Readiness Assessment is not to be performed, the contractor's standard procedures for startup or restart will be used. Other requirements for Readiness Assessments are provided in paragraph 2c, below.

(3) Authorization Authority. For nuclear facility startup or restart actions, the contractor shall determine the authorization authority for startup or restart approval by the following.

(a) For initial startups of new hazard categories 1 and 2 nuclear facilities, the Secretary of Energy (or designee) shall approve startup. For initial startups of new hazard category 3 nuclear facilities, the Secretarial Officer (or designee) shall approve startup. If other DOE Orders require a higher level of startup authorization than this CRD, the official described in this CRD will recommend startup to the higher level official.

(b) For shutdowns directed by a DOE management official for safety or other appropriate reasons, authorization to restart shall be granted by an official of a level commensurate with the official ordering the shutdown unless a higher level is designated by the Secretarial Officer.

(c) For extended shutdowns of hazard category 1 nuclear facilities, the Secretarial Officer shall approve restart. For extended shutdowns of hazard category 2 nuclear facilities, the Secretarial Officer, or designee, shall approve restart.

(d) For shutdowns because of substantial plant or facility modifications of hazard category 1 nuclear facilities which require changes in the safety basis previously approved by DOE, the Secretarial Officer shall approve restart. For such shutdowns of hazard category 2 nuclear facilities, the Secretarial Officer (or designee) shall approve restart.

(e) For facility shutdowns due to operations outside the safety basis, the official approving restart shall be commensurate with the approval authority for the safety basis. If the safety basis was approved by a Headquarters official, the Secretarial Officer (or designee) shall approve restart. If the safety basis was approved by a field official, the Operations Office Manager (or designee) shall approve restart.

(f) For startups or restarts of nuclear facilities for which Operational Readiness Reviews were required as a result of a DOE official deeming it appropriate, the official approving startup or restart shall be of a level commensurate with the official directing the review. If a Headquarters official directed an Operational Readiness Review be performed, the Secretarial Officer (or designee) shall approve the startup or restart. If a field official directed an Operational Readiness Review, the Operations Office Manager (or designee) shall approve the startup or restart.

b. Requirements Applicable to Startups or Restarts of Nuclear Facilities Involving Operational Readiness Reviews. (These requirements are listed sequentially.)

(1) Operational Readiness Review Documentation. For Operational Readiness Reviews, contractors shall prepare the following documents: startup/restart notification reports, plans-of-action, Operational Readiness Reviews Implementation Plans, and final reports. The resolution of all findings from the Operational Readiness Reviews shall be documented and maintained with the plan-of-action, Implementation Plan, and final report.

(2) Breadth of Operational Readiness Review. The contractor shall develop the breadth of the Operational Readiness Review and document it in the plan-of-action. A minimum set of core requirements, as defined in the core requirements (paragraph 2d, below) shall be addressed when developing the breadth of the Operational Readiness Review. The plan-of-action may reference a timely, independent review that addressed the requirement in a technically satisfactory manner to justify not performing further evaluation of a core requirement, or portion thereof, during the Operational Readiness Review. The breadth may be expanded at a later time by the Operational Readiness Review team, if appropriate.

(3) Operational Readiness Review Plans-of-Action, Approval and Content. The contractor's Operational Readiness Review plan-of-action shall be approved by the appropriate startup or restart authorities. The contractor's plan-of-action shall specify the prerequisites for starting the responsible contractor's Operational Readiness Review; the prerequisites shall address each core requirement of paragraph 2d, below, determined to be applicable when developing the scope of the Operational Readiness Review. The contractor plan-of-action shall be provided to EH for review and comment.

(4) Operational Readiness Review Teams.

(a) Contractor management shall appoint Operational Readiness Review teams in accordance with the following qualifications and training requirements:

1 Technical knowledge of the area assigned for evaluation, including experience working in the technical area.

2 Knowledge of performance-based assessment processes and methods.

3 Knowledge of facility-specific information.

(b) The Operational Readiness Review team shall not include as senior members (including team leader) individuals from offices assigned direct line management responsibility for the work being reviewed; any exceptions require approval of the startup or restart authority. Additionally, no Operational Readiness Review team member should review work for which he or she is directly responsible.

(c) The Operational Readiness Review team leader shall determine and document qualifications of Operational Readiness Review team members.

(5) Criteria and Review Approaches. The contractor's Operational Readiness Review team shall determine the criteria and review approaches to be used for the review based on the approved breadth given in the plan-of-action and document the criteria and review approaches in the Operational Readiness Review Implementation Plan.

(6) Approve and Use Implementation Plans. The contractor's Operational Readiness Review team leader shall approve the Implementation Plan and use it to conduct the Operational Readiness Review. The Implementation Plan shall be provided to EH for review and comment.

(7) Certification and Verification. The responsible contractor shall certify by correspondence to DOE line management that the facility is ready to startup or restart and that this has been verified by the contractor Operational Readiness Review.

(8) Final Report.

(a) Upon completion of the contractor or DOE Operational Readiness Review, DOE line management shall ensure a final report is prepared and approved by the Operational Readiness Review team leader. The final report shall document the results of the Operational Readiness Review and make a conclusion as to whether startup or restart of the nuclear facility can proceed safely. There shall be a statement in each Operational Readiness Review final report as to whether all identified nonconformances or schedules for gaining compliance with applicable DOE Orders, Secretary of Energy Notices, and Standards/Requirements Identification Documents within the scope of the Operational Readiness Review have been justified in writing, have been formally approved, and in the opinion of the Operational Readiness Review team, maintain adequate protection of the public health and safety, worker safety, and the environment. This conclusion shall be based on:

1 Review of the program to document conformance with applicable DOE requirements, including a process to address new requirements; and

2 Extensive use of references to DOE requirements in the Operational Readiness Review documentation.

(b) Additionally, there shall be a "Lessons Learned" section of the final report that may relate to design, construction, operation, and decommissioning of similar facilities and to future Operational Readiness Review efforts.

(9) Closure of Prestart Findings. The mechanism for closure of Operational Readiness Review prestart findings shall include:

(a) Development of action plans, approved by DOE, to correct the findings; and

(b) Documentation of completion of response actions responding to the findings in a closure package.

(10) Resolution of Prestart Findings. The contractor shall satisfactorily resolve all prestart findings of the DOE Operational Readiness Review prior to startup or restart of the facility.

(11) Submit Final Report. The final report shall be submitted to the startup/restart authority to be used as a basis to grant approval of the startup or restart of the nuclear facility. A copy of the final shall be provided to EH for review and comment.

c. Requirements Applicable to Startup or Restarts of Nuclear Facilities Involving Readiness Assessments.

(1) Readiness Assessment Procedures. The contractor shall establish procedures that define when a Readiness Assessment is required and provide requirements for conduct of readiness assessments including procedures by which contractors will gain Operations Office approval of the startup or restart of nuclear facilities. The procedures shall require submittal of a startup notification report to obtain approval to use a Readiness Assessment and preparation of a formal plan-of-action that includes, as a minimum, the breadth of the assessment, team leader designation, and prerequisites for the assessment and shall be approved by the startup or restart authority. For shutdowns directed by contractor management, these procedures may indicate that, except for serious safety reasons, the contractor management may be the startup or restart authority.

(2) Graded Approach. Contractor Readiness Assessment procedures shall specify a graded approach to the tenets of Operational Readiness requirements specified in this CRD. The procedures should indicate that the Readiness Assessment may be as short and simple as a restart check procedure, or that it may approach the breadth and depth of an Operational Readiness Review, depending on the causes and duration of the shutdown and the modifications accomplished during the shutdown.

(3) Approval. The startup or restart authority, as designated by the Operations Office Manager or designee, may approve the startups or restarts after any prestart findings are corrected.

d. Minimum Core Requirements. Each of the minimum core requirements listed below, shall be addressed when developing the breadth of an Operational Readiness Review. Justification shall be provided in the plan-of-action, prepared in accordance with paragraphs 2b(2) and (3), above, of this CRD, if it is determined that a particular

core requirement will not be reviewed. The plan-of-action may reference a timely, independent review that addressed the requirements in a technically sound manner to justify not performing further evaluation of a core requirement during an Operational Readiness Review.

(1) There are adequate and correct procedures and safety limits for operating the process systems and utility systems.

(2) Training and qualification programs for operations and operations support personnel have been established, documented, and implemented. (The training and qualification program encompasses the range of duties and activities required to be performed.)

(3) Level of knowledge of operations and operations support personnel is adequate based on reviews of examinations and examination results and selected interviews of operating and operations support personnel.

(4) Facility safety documentation is in place that describes the "safety envelope" of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. Safety systems and systems essential to worker and public safety are defined and a system to maintain control over the design and modification of facilities and safety-related utility systems is established.

(5) A program is in place to confirm and periodically reconfirm the condition and operability of safety systems, including safety related process systems and safety related utility systems. This includes examinations of records of tests and calibration of safety system and other instruments that monitor limiting conditions of operation or that satisfy Technical Safety Requirements. All systems are currently operable and in a satisfactory condition.

(6) A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor.

(7) A systematic review of the facility's conformance to applicable DOE Orders has been performed, any nonconformances have been identified, and schedules for gaining compliance have been justified in writing and formally approved.

(8) Management programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure operational support services (e.g., training, maintenance, waste management, environmental protection, industrial safety and hygiene, radiological protection and health physics, emergency preparedness, fire protection, quality assurance, criticality safety, and engineering) are adequate for operations.

(9) A routine and emergency operations drill program, including program records, has been established and implemented.

(10) An adequate startup or restart test program has been developed that includes adequate plans for graded operations testing to simultaneously confirm operability of equipment, the viability of procedures, and the training of operators.

(11) Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented with line management responsibility for control of safety.

(12) The implementation status for DOE 5480.19, CONDUCT OF OPERATIONS REQUIREMENTS FOR DOE FACILITIES, of 7-9-90, is adequate for operations.

(13) There are sufficient numbers of qualified personnel, to support safe operations.

(14) A program is established to promote a site-wide culture in which personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high priority commitment to comply with these requirements.

(15) The facility systems and procedures, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis.

(16) The technical and managerial qualifications of those personnel at the DOE Field organization and at DOE Headquarters who have been assigned responsibilities for providing direction and guidance to the contractor, including the Facility Representatives, are adequate (DOE Operational Readiness Review only).

(17) The breadth, depth, and results of the responsible contractor Operational Readiness Review are adequate to verify the readiness of hardware, personnel, and management programs for operations (DOE Operational Readiness Review only).

(18) Modifications to the facility have been reviewed for potential impacts on procedures and training and qualification. Procedures have been revised to reflect these modifications and training has been performed to these revised procedures.

(19) The technical and management qualifications of contractor personnel responsible for facility operations are adequate.

(20) DOE Operations Office Oversight Programs, such as Occurrence Reporting, Facility Representative, Corrective Action, and Quality Assurance Programs, are adequate (DOE Operational Readiness Review only).

e. Exemptions. Requirements for exemptions are provided in DOE O 251.1, DIRECTIVES SYSTEM.

f. Records Disposition. Requirements for maintaining documents, such as those pertaining to Operational Readiness Reviews or Readiness Assessments, are provided in DOE 1324.5B, RECORDS MANAGEMENT PROGRAM, of 1-12-95.