93-0005233

The Secretary of Energy
Washington, DC 20585

September 15, 1993

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:

This is in response to the Defense Nuclear Facilities Safety Board Recommendation 92-6 regarding Operational Readiness Reviews. I am enclosing the Department's revised Implementation Plan to the Recommendation, the Department of Energy Order on Startup and Restart of Nuclear Facilities, and the Department of Energy Standard on the Planning and Conduct of Operational Readiness Reviews. These documents have been closely coordinated with members of your staff.

The Department has decided to include those aspects of Recommendation 92-6 related to weapons assembly and disassembly operations in the implementation of Defense Nuclear Facilities Safety Board Recommendation 93-1 on Standard Utilization in Defense Nuclear Facilities. This is further discussed in the enclosed Implementation Plan.

Implementation of this Order and Standard should address the Board's Recommendation on Operational Readiness Reviews.

Sincerely,

Hazel R. O'Leary

3 Enclosures

SEPARATION

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IMPLEMENTATION PLAN FOR DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 92-6

OPERATIONAL READINESS REVIEWS

It is the Department of Energy policy that all facilities and activities shall be operated with adequate safety and health protection provided for the workers and the public and adequate protection for the environment. Furthermore, all operations shall be conducted in accordance with applicable Department of Energy orders, requirements, and regulations.

Preparations for new start or restart of nuclear facility operations shall be disciplined, systematic, and documented and shall provide an adequate basis for authorization to proceed. The primary components of the new start/restart determination shall be an Operational Readiness Review conducted by the responsible contractor and an evaluation of readiness by a Department of Energy Operational Readiness Review. The contractor shall focus on the readiness of hardware, personnel, and procedures and compliance with requirements. The objective of the Department of Energy Operational Readiness Review is to ascertain, with a qualified team of experts, that approved standards for facility operations including the safety envelope have been effectively implemented, through a performance-based examination of facilities, equipment, personnel, procedures, and administrative control systems.

The breadth and depth of the contractor and Department of Energy Operational Readiness Reviews shall be appropriately adjusted to the planned mission and associated risks of the facility. This systematic approach to readiness determination shall be adjusted to correspond to the hazard potential, complexity, and present and future mission of the facility or activity. This concept is referred to as a graded approach and is not a precise process but notional guidance upon which to plan individual Operational Readiness Reviews.

Responses to individual recommendations contained in Defense Nuclear Facility Safety Board Recommendation 92-6

Recommendation 1

Department of Energy expeditiously develop an effective set of rules, procedures, orders, directives, and other requirements to govern safety aspects of the Operational Readiness Review process, subject to the principle that the purpose of such a Review is confirmation of an acceptable state of readiness.

Department of Energy Response

The Department of Energy has developed an Order on startup and restart of nuclear facilities which is enclosed.

This Order supersedes those aspects of the Secretary of Energy Notice SEN-16B-91, dated November 12, 1991, on Approval for Restart of Facilities Shut Down for Safety Reasons and the Startup of Major New Facilities relevant to nuclear facilities, and the Program Secretarial Officer-approved Office of Nuclear Energy Memorandum on DOE Procedure for Restart of Reactors and Non-Reactor Nuclear Facilities dated February 26, 1992.

To support this Order, a standard on the planning and conduct of Operational Readiness Reviews has been developed by senior representatives from the Offices of: Defense Programs (Chairman); Environmental Restoration and Waste Management; Nuclear Energy; Environment, Safety and Health; Nuclear Safety; Human Resources and Administration; and Energy Research. This Standard incorporates the precepts contained herein and those in the Department of Energy Order and, in addition, institutionalizes the successful approaches and lessons learned from recent Operational Readiness Reviews conducted by the Department. The Standard is enclosed with this plan.

These documents provide detailed procedures, specific guidance, and policies to follow regarding requirements for contractor, Department of Energy Operations Office, and Department of Energy Headquarters in the planning and conduct of readiness reviews and assessments.

Applicability of Department of Energy Order on Startup and Restart of Nuclear Facilities and Operational Readiness Review Standard to Weapon Operations

Weapon operations are not addressed in the Department of Energy Order on Startup and Restart of Nuclear Facilities and Standard. Weapon operations employ the same general principles and philosophies as in the Order and Standard, but they cannot be easily related to the specific requirements embodied in such a facility-oriented policy. For example, the Order describes the process to be used for authorizing startup or restart of a nuclear facility. This process does not apply to authorizing weapon operations, for which there is a unique process that includes a different chain of command. In addition, the activities typically assessed by a facility readiness review are not totally compatible with the activities necessary to assess readiness for weapon operations. Unique activities must be included, and many facility-related activities are not applicable. Authorization of readiness review requirements for weapon operations are contained in the 5610 series of Orders and supplemental directives, including AL54XA, Operational Readiness Reviews and applicable directives for the Nevada Operations Office.

The comparison of requirements in the Department of Energy Order on Startup and Restart of Nuclear Facilities versus those currently promulgated by the 5610 Orders will be completed during execution of the Implementation Plan for Recommendation 93-1. Departmental Policy will be updated, if necessary, to ensure the level of safety assurance associated with weapon operations is at least as rigorous as that for nuclear facilities.

Prerequisites for an Operational Readiness Review

The Order and Standard reflects our basic approach to readiness determination and validation which includes certification by the contractor and the Department of Energy Operations Office that necessary prerequisites have been met prior to the start of a Department of Energy Operational Readiness Review. The following are prerequisites that should be met commensurate with the scope of the Operational Readiness Review:

- Technical Specifications, or equivalent, and supporting safety documentation are approved;
- Configuration management system is in place;
- An order compliance system is in place;
- Formal programs have been established for training and qualification, procedure development, conduct of operations, radiological controls, issues management, and quality assurance; and
- The contractor Operational Readiness Review is complete.

Team Training and Qualification for Operational Readiness Reviews

Operational Readiness Reviews shall be conducted by personnel qualified in the technical activities involved. Qualification and training requirements to ensure technical competence and assessment expertise of Operational Readiness Review team members are specified in the Operational Readiness Review Standard. To summarize these requirements, each Operational Readiness Review team member should be technically qualified, thoroughly familiar with the activity being reviewed and have experience or training in performance-based review techniques.

Recommendation 2

Department of Energy develop specific criteria for which Operational Readiness Reviews are required and when they are not.

Department of Energy Response

The new Department of Energy Order referred to above defines the type of readiness determination to be followed by the contractor, Department of Energy Operations Office, and Department of Energy Headquarters for that facility, based on the hazard category of the facility and the reason for the facility shutdown. In general, new facility startups, and restarts following a Department of Energy Management official directed shutdown will require contractor and Department of Energy Operational Readiness Reviews before startup/restart. Specific criteria are presented in the Department of Energy Order on Startup and Restart of Nuclear Facilities for other situations in which Operational Readiness Reviews will be required. In

lesser situations when an Operational Readiness Review is not required, the Department of Energy Operations Office and contractor will conduct Readiness Assessments.

Recommendation 3

The plan for each Operational Readiness Review incorporate the features discussed above as desirable as well as those that were recommended in the Board's Recommendation 90-4.

Department of Energy Response

The Department of Energy Order on Startup and Restart of Nuclear Facilities and the Operational Readiness Review Standard include the following elements that are responsive to features listed in the Board's recommendation:

- The Department of Energy Operational Readiness Review Team Senior members shall be independent from the facility under scrutiny such that they will not have any responsibility for accomplishing the work being reviewed.

- The Department of Energy Operational Readiness Review and the contractor Operational Readiness Review will be conducted in serial fashion. That is, the Department of Energy Operational Readiness Review will not commence until the contractor has notified the Department of Energy in writing that the facility is ready to commence operations.

- As the first step in the review process, the Team Leader and technical experts shall develop the Department of Energy Operational Readiness Review Implementation Plan which will include a description of the process to be followed; a statement of the review objectives; and identification of the oversight groups and Department of Energy organizations to be involved in the review. The Implementation Plan shall also identify the criteria and review approaches. It also shall include the criteria by which findings will be categorized as findings (pre-restart) or observations (post-restart). The Department of Energy Operational Readiness Review Implementation Plan shall be provided to appropriate oversight groups and higher level Department of Energy management, as identified in the Implementation Plan, for review and comment prior to commencement of the Department of Energy Operational Readiness Review.

- The Scope of the Operational Readiness Review should include consideration of the following within the graded approach concept:

    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 or records of tests and calibration of safety system and other instruments monitoring 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 review of the facility's conformance to applicable Department of Energy orders has been performed and nonconformance issues have been addressed;

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 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 Department of Energy Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," is adequate for operations;

13. There are sufficient numbers of qualified personnel, to support safety operations;

14. A program is established to promote a site-wide culture and 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 plant systems and procedures as affected by plant modifications are consistent with the description of the plant, procedures and accident analysis in the safety basis;

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

17. The results of the responsible contractor Operational Readiness Review are adequate to verify the readiness of hardware, personnel, and management programs for operations (Department of Energy 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. Department of Energy Operations Office Oversight Programs such as Occurrence Reporting, Facility Representative, Corrective Action, and Quality Assurance Programs, are adequate (Department of Energy Operational Readiness Review only).

- The Operational Readiness Reviews will use Department of Energy requirements including orders, directives, Secretary of Energy Notices, and Standards/Requirements identification documents (S/RIDS) as primary references for determining acceptance criteria and standards for specific review categories. A prerequisite to the Department of Energy Operational Readiness Review is that both the contractor and Department of Energy have established programs to document conformance with applicable Department of Energy requirements including orders, directives, Secretary of Energy Notices, and Standards/Requirements identification documents (S/RIDS). As part of the management review conducted under that criteria in the Operational Readiness Review, these programs will be examined and nonconformances examined for justification and formal approval. The examination of requirement conformance by the Department of Energy Operational Readiness Review team shall be sufficient to make an informed judgement regarding adequate protection of the public health and safety, working safety, and the environment.

Progress Reports

Bi-monthly progress reports will be provided to the Defense Nuclear Facilities Safety Board regarding the milestones listed in Attachment A of the Implementation Plan.

Attachment: Commitments and due dates for Defense Nuclear Facilities Safety Board Recommendation 92-6 Implementation Plan.

ATTACHMENT

COMMITMENTS AND DUE DATES FOR DEFENSE NUCLEAR FACILITIES
SAFETY BOARD RECOMMENDATION 92-6 IMPLEMENTATION PLAN

	Commitment	Due Date
1.	Department of Energy Order on Startup and Restart of Nuclear Facilities approved	9/15/93
2.	Operational Readiness Review Standard approved	9/15/93
3.	Revised AL54XA on Weapons Operations approved	60 days after issuance of Department of Energy Order on Startup and Restart of Nuclear Facilities

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U.S. Department of Energy

Washington, D.C.

ORDER

DOE 5480.

SUBJECT: STARTUP AND RESTART OF NUCLEAR FACILITIES

1. PURPOSE. To establish the actions to be taken, and to assign the responsibilities and authorities necessary for authorizing the startup or restart of Department of Energy (DOE) nuclear facilities.

2. CANCELLATION.

   a. The Department's PROCEDURE FOR RESTART OF REACTORS AND NONREACTOR NUCLEAR FACILITIES, as approved by the Senior Nuclear Managers Group, and promulgated by memorandum from the Assistant Secretary for Nuclear Energy on February 26, 1992.

   b. Those aspects of Secretary of Energy Notice, SEN-16B-91 APPROVAL FOR RESTART OF FACILITIES SHUTDOWN FOR SAFETY REASONS AND FOR STARTUP OF MAJOR NEW FACILITIES, relevant to nuclear facilities.

3. SCOPE. The provisions of this Order apply to all Departmental elements, except for the exclusions in paragraph 5.

4. APPLICATION TO CONTRACTS. Except for the exclusions in paragraph 5, this Order includes requirements that are to be applied to the universe of contractors involved with the startup or restart of a nuclear facility and awarded a procurement contract or a subcontract.

5. EXCLUSIONS. The provisions of this Order do not apply to the following: (a) The Naval Nuclear Propulsion Program which is separately covered under Executive Order 12344, Public Law 98-525 (42 United States Code (U.S.C.) 7158, Note); (b) Those activities subject to the Nuclear Regulatory Commission or the Nuclear Regulatory Commission Agreement State licensing; and (c) Nuclear explosive operations and processes (including nuclear weapons assembly and disassembly) which are covered separately by DOE 5610 series Orders.

6. REFERENCES AND DEFINITIONS. See Attachment 1.

7. ASSISTANCE. Questions concerning this policy should be referred to William Kinney, EH-73, on (301) 903-5087.

8. POLICY. It is the Department's policy that new nuclear facilities shall be started up, and existing nuclear facilities which have been shutdown shall be restarted, only after documented reviews of readiness have been conducted and the approvals specified in this Order have been received. The readiness review shall, in all cases, demonstrate that it is safe to startup (or restart) the applicable facility. 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.

9. REQUIREMENTS.

a. General Requirements.

(1) In a shutdown condition, a nuclear facility must still meet all applicable Technical Safety Requirements and applicable Departmental environmental, safety, and health requirements.

(2) Heads of Departmental Elements shall develop, and ensure that contractors develop, procedures to implement the requirements of this Order. DOE Standard, DOE-STD-3006-93, "Planning and Conduct of Operational Readiness Reviews (ORRs)," provides additional guidance for the development and conduct of Operational Readiness Reviews as required by this Order.

(3) 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. If Operational Readiness Reviews are not required, Readiness Assessments shall be conducted in accordance with subparagraph (3)(b) below.

(a) Determination of when an Operational Readiness Review is performed is based on the hazard category of the facility as defined in DOE 5480.23 and Attachment 1. DOE shall conduct and ensure that contractors conduct an Operational Readiness Review in accordance with this Order when any of the following conditions occur:

1 Initial startups of new hazard category 1, 2, and 3 nuclear facilities;

2 Restart after a nuclear facility unplanned shutdown directed by a DOE management official for safety or other appropriate reasons;

3 Restart after an extended shutdown for hazard category 1 and 2 nuclear facilities. Extended shutdown for a category 1 nuclear facility is 6 months. Extended shutdown for a category 2 nuclear facility is 12 months;

4 Restart of hazard category 1 and 2 nuclear facilities after substantial plant or facility modifications required for future program work and/or for enhanced safety which

require changes in the safety basis previously approved by DOE;

5 Restart after a nuclear facility shutdown because of operations outside of the safety basis; or

6 When deemed appropriate by DOE management officials, including those restarts of nuclear facilities that have a hazard category less than 1 or 2.

(b) Startups and restarts of nuclear facilities not requiring an Operational Readiness Review as defined in this Order shall be evaluated as to the need for performing a Readiness Assessment prior to startup or restart. Responsibility for establishing procedures for Readiness Assessments and the startup or restart authority for nuclear facilities undergoing Readiness Assessments resides with the Operations Office Manager or designee. Additional requirements for Readiness Assessments are provided in paragraph 9c, below.

(4) DOE line management shall determine who is the proper authority to approve the startup of new nuclear facilities or the restart of existing nuclear facilities requiring Operational Readiness Reviews using the following requirements. The startup and restart authority is based on the hazard category of the facility as defined by DOE 5480.23 and Attachment 1.

(a) For initial startups of new hazard category 1 and 2 nuclear facilities, the Secretary of Energy, or designee, has startup authority. For initial startups of new hazard category 3 nuclear facilities, the Secretarial Officer, or designee, has startup authority. If other DOE Orders (e.g., DOE 4700.1) 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 restarts of nuclear facilities, the following shall be used to determine the restart authority:

1 For shutdowns directed by a DOE management official for safety or other appropriate reasons, the restart authority is commensurate with the level of official ordering the shutdown unless a higher level is designated by the Secretarial Officer.

2 For extended shutdowns of hazard category 1 nuclear facilities, the Secretarial Officer is the restart authority. For extended shutdowns of hazard category 2

nuclear facilities, the Secretarial Officer, or designee, is the restart authority.

3 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 is the restart authority. For such shutdowns of category 2 nuclear facilities, the Secretarial Officer, or designee, is the restart authority.

4 For facility shutdowns due to operations outside of the safety basis, the restart authority is commensurate with the approval authority for the safety basis. If the safety basis was approved by a headquarters official, the Secretarial Officer, or designee, is the restart authority. If the safety basis was approved by a field official, the Operations Office Manager, or designee, is the restart authority.

(c) 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 startup or restart authority is commensurate with the official directing the review. If a headquarters official directed an Operational Readiness Review be performed, the Secretarial Officer, or designee, is the startup or restart authority. If a field official directed an Operational Readiness Review, the Operations Office Manager, or designee, is the startup or restart authority.

b. Requirements applicable to startups or restarts of nuclear facilities involving Operational Readiness Reviews.

(1) A formal plan-of-action, Operational Readiness Review Implementation Plan, and final report shall be prepared. The resolution of all findings from the Operational Readiness Review shall be documented and maintained with the plan-of-action, Implementation Plans, and the final report.

(2) The Operational Readiness Review is a verification of line management having achieved readiness to startup or restart the facility. Therefore, the prerequisite for starting the Operational Readiness Review is that line management certifies that readiness has been achieved. The plan-of-action approved by DOE shall specify the prerequisites for starting the responsible contractor's Operational Readiness Review; the prerequisites shall address each core requirement of Attachment 2 determined to be applicable when developing the scope of the Operational Readiness Review. For the

DOE Operational Readiness Review, as a minimum, the responsible contractor must have certified by formal correspondence that readiness to startup or restart the facility has been achieved as documented by the responsible contractor Operational Readiness Review. In addition, the DOE plan-of-action shall specify additional prerequisites such as certification of readiness to oversee facility operations by Operations Office and Headquarters management.

(3) Line management will 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 Attachment 2, shall be addressed when developing the breadth of the Operational Readiness Review. The plan-of-action may reference a timely, independent review which 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 at a later time by the Operational Readiness Review team, if appropriate. The graded approach, as defined in Attachment 1, may be applied to develop the depth of evaluation of the core requirements.

(4) The contractor and DOE Operational Readiness Review plans-of-action shall be approved by the startup or restart authorities defined in paragraphs 9a(4)(a), (b) and (c). DOE line management will provide the contractor and DOE plans-of-action to the Assistant Secretary for Environment, Safety and Health for review and comment and to other Departmental organizations which, because of the technical reasons for shutdown of a nuclear facility, may have to be involved in the restart activities. For example, if the facility was shutdown due to inadequate emergency planning procedures, the Office of Emergency Planning and Operations should be involved. These Departmental organizations will then specify their office's desired involvement in the startup or restart activities.

(5) DOE line management shall appoint and ensure that contractor management appoints Operational Readiness Review teams in accordance with the following requirements. Operational Readiness Reviews shall be conducted by personnel qualified in the technical activities involved. The DOE and contractor Operational Readiness Review team leaders will determine and document qualifications of Operational Readiness Review team members. Qualification and training requirements to ensure technical competence and assessment expertise of Operational Readiness Review team members are specified in the Operational Readiness Review Standard. To summarize these requirements, each Operational Readiness Review team member should be technically qualified, thoroughly familiar with the activity being reviewed and have experience or training in performance-based review techniques. The training requirements may

indicate that the Operational Readiness Review team members visit the facility and/or review appropriate facility documentation prior to the start of the Operational Readiness Review to gain familiarization with the facility and any proposed changes. The Operational Readiness Review teams shall not include as senior members individuals who are responsible for accomplishing the work being reviewed. Additionally, no Operational Readiness Review team member should review work for which he or she is directly responsible.

(6) The Operational Readiness Review team shall determine the criteria and review approaches to be used for the review based on the approved scope given in the plan-of-action and document the criteria in the Operational Readiness Review Implementation Plan. The Operational Readiness Review Implementation Plan is developed by the Operational Readiness Review team utilizing the approved Operational Readiness Review plan-of-action. Many of the elements for development of the Operational Readiness Review Implementation Plan are described in the Operational Readiness Review Standard.

(7) The Operational Readiness Review Implementation Plan is approved by the Operational Readiness Review team leader and used by the Operational Readiness Review team leader to execute the Operational Readiness Review. The team leader will provide the Operational Readiness Review Implementation Plan to the Office of Environment, Safety and Health for review and comment for all startups and restarts and to other Departmental organizations for restarts when the reason for shutdown falls in their technical area of responsibility.

(8) The contractor will be required to perform its Operational Readiness Review after its line management certifies that the facility is ready to operate.

(9) The DOE shall initiate the conduct of its Operational Readiness Review when the contractor and DOE line management up to the approval authority have documented in writing their readiness to start or restart operations. 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. Some specific events significant to the startup or restart process may occur prior to the formal commencement of the Operational Readiness Review (e.g., site emergency response drills, integrated equipment testing, etc). These limited and specific events may be reviewed by the DOE Operational Readiness Review team when they are conducted.

(10) The contractor will be required to satisfy all prestart findings of the DOE Operational Readiness Review prior to startup or restart of the facility.

(11) Upon completion of the contractor or DOE Operational Readiness Review, a final report shall be prepared and approved by the Operational Readiness Review team leader. The final report will 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 any identified nonconformances or schedules for gaining compliance with applicable DOE Orders, directives, Secretary of Energy Notices, and Standards/Requirements Identification Documents 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, or the environment. This conclusion will be based on:

(a) Review of the program to document conformance with applicable DOE requirements, including a process to address new requirements. This type of program may be a compliance review program, safety basis development program, or any other appropriate program documenting conformance with applicable requirements;

(b) Extensive use of references to DOE requirements in the Operational Readiness Review documentation.

Additionally, there shall be a "Lessons Learned" section of the final report which may be applied to future Operational Readiness Review efforts. This section may be completed subsequent to facility startup or restart.

(12) The mechanism for closure of DOE Operational Readiness Review prestart findings is described in the Operational Readiness Review Standard. This process includes:

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

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

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

(13) The final report will be submitted to the approval authority identified in paragraphs 9a(4)(a), (b), and (c) and used by the

approval authority as a basis to grant approval of the start or restart of the nuclear facility.

(14) A copy of the final report will be provided to the Office of Environment, Safety and Health for review and comment. The Office of Environment, Safety and Health will provide the approval authority with any comments/concerns on the recommendations in the final report to start or restart the facility.

(15) Once the DOE process has been completed and all prestart findings are satisfactorily resolved, permission to startup or restart will be granted by the approval authority.

c. Requirements applicable to startups or restarts of nuclear facilities involving Readiness Assessments.

(1) Operation Offices will establish procedures for their Offices and the contractor to follow which define when a Readiness Assessment is required and provide requirements for gaining Operation Office approval of the startup or restart of nuclear facilities. These procedures may indicate that for shutdowns directed by contractor management, unless for serious safety reasons, the contractor management may be the startup or restart authority.

(2) The Operations Offices should use a graded approach to the tenets of Operational Readiness Reviews provided in this Order and the Operational Readiness Review Standard as a basis for developing their Readiness Assessment procedures. The procedures should indicate when a Readiness Assessment may be as short and simple as a determination of the specific reason for shutdown and that the corrective actions have been satisfactorily completed; and when a more comprehensive Readiness Assessment, approaching the breadth and depth of an Operational Readiness Review, may be required.

(3) The Office of Environment, Safety and Health in its role as independent oversight shall provide any dissenting opinion on the readiness to startup or restart to DOE line management or the Secretary if a significant safety concern is deemed to exist that is not being properly acted upon.

(4) The approval authority, as designated by the Operations Office Manager or designee, approves the startups or restarts after any prestart findings are corrected.

d. DOE independent oversight of the Operational Readiness Review and Readiness Assessment process is the responsibility of the Office of Environment, Safety and Health. To assure that the startups and restarts of DOE nuclear facilities proceed in a timely fashion, it is incumbent upon the contractors, Operations Office Managers, and

Secretarial Officers to assure that the Office of Environment, Safety and Health is provided with appropriate documentation to review throughout the process. It is also incumbent upon the Office of Environment, Safety and Health to perform reviews and provide comments to these organizations in a timely fashion to assure that their concerns are addressed with minimal impact on the startup and restart schedule.

To provide for these assurances this Order has built in decision gates at which points the process requires resolution of environmental, health and safety concerns in order to avoid costly, last minute objections or roadblocks to the startup/restart of the facility. In addition, the Office of Environment, Safety and Health may opt to participate on the DOE Operational Readiness Review Team as observers in order to further assure the elevation of environment, safety, or health issues on a "real time" basis.

The following requirements establish the criteria for establishing timely and decisive DOE independent oversight for startups and restarts of DOE nuclear facilities:

(1) A DOE Dispute Resolution Team will be established prior to the preparation of the formal plan-of-action. This Dispute Resolution Team will consist of three (3) DOE senior management members. One member will be selected by the line organization; one member will be selected by the Office of Environment, Safety and Health; and one member will be selected based on agreement between both organizations. This Team will resolve any environmental, safety, or health concerns raised by team members or the Office of Environment, Safety and Health at any time during the startup or restart process for the particular nuclear facility.

(2) At any point in the startup and restart process, and particularly at the decision gates identified below, environmental, safety, or health concerns that have been identified to line management or the Operational Readiness Review Team, but are not being adequately addressed, may be brought to the DOE Dispute Resolution Team.

If resolution is not obtained from the DOE Dispute Resolution Team or if the team member or the Office of Environment, Safety or Health determines that the resolution is still unsatisfactory, the cognizant Secretarial Officer and the Assistant Secretary for Environment, Safety and Health will be briefed and attempt to resolve the concern. If resolution at this level is not obtained, the matter will be referred to the Deputy or Under Secretary for resolution.

(3) The first decision gate in the startup and restart process shall be prior to the approval of the plans-of-action by the startup/restart approval authority. Having been provided the plans-of-action for review and comment per paragraph 9b(4), the Office of Environment,

Safety and Health will review the plans-of-action and provide their comments to line management. Line management will indicate to the Office of Environment, Safety and Health how these comments are to be resolved and identify any comments which will not be addressed. If the Office of Environment, Safety and Health determines that their comments are not adequately resolved, they may enter the dispute resolution process identified in paragraph 9d(2) above.

(4) The second decision gate in the startup and restart process shall be after the preparation and approval of the Operational Readiness Review Implementation Plan by the team leader. Having been provided the Operational Readiness Review Implementation Plan for review and comment per paragraph 9b(7), the Office of Environment, Safety and Health will review the Plan and provide their comments to the team leader. Comments or concerns raised and resolved at a previous decision gate cannot be revisited unless significant new information has come forward which puts the previous decision into question. The team leader will indicate to the Office of Environment, Safety and Health how these comments are to be resolved and identify any comments which will not be addressed. If the Office of Environment, Safety and Health determines that their comments are not adequately resolved, they may enter the dispute resolution process identified in paragraph 9d(2) above.

(5) Any environmental, safety, or health concerns, discovered by the Office of Environment, Safety and Health during their oversight of the contractor's conduct of their Operational Readiness Review, will be brought to the immediate attention of DOE line management for resolution.

(6) The third decision gate shall be prior to the initiation of the DOE Operational Readiness Review but after the contractor and DOE line management, up to the approval authority, have documented in writing their readiness to start operations. At this point any remaining environmental, safety, or health concerns that the Office of Environment, Safety and Health has concerning startup/restart activities which have transpired since the approval of the Implementation Plan will be provided to DOE line management for resolution. Comments or concerns raised and resolved at a previous decision gate cannot be revisited unless significant new information has come forward which puts the previous decision into question. DOE line management will indicate to the Office of Environment, Safety and Health how these concerns are to be resolved and identify any concerns which will not be addressed. If the Office of Environment, Safety and Health determines that their concerns are not adequately resolved, they may enter the dispute resolution process identified in paragraph 9d(2) above.

(7) Any environmental, safety, or health concerns, discovered by the Office of Environment, Safety and Health during their oversight of

DOE's Operational Readiness Review or by a DOE team member, will be brought to the immediate attention of the DOE Operational Readiness Review team leader for resolution.

(8) The final decision gate is prior to the approval authority giving authorization for the facility to startup or restart but following the submittal by the team leader of the final Operational Readiness Review report, which contains the DOE Operational Readiness Review team recommendations. Having been provided the Operational Readiness Review final report for review and comment per paragraph 9b(14), the Office of Environment, Safety and Health will review the final report and provide their comments/concerns to the approval authority. These may include any remaining environmental, safety, or health concerns that the Office of Environment, Safety and Health has concerning startup/restart activities which have transpired since the previous decision gate. Comments or concerns raised and resolved at a previous decision gate cannot be revisited unless significant new information has come forward which puts the previous decision into question. The approval authority will indicate to the Office of Environment, Safety and Health how these comments/concerns are to be resolved and identify any comments/concerns which will not be addressed. If the Office of Environment, Safety and Health determines that their comments/concerns are not adequately resolved, they may enter the dispute resolution process identified in paragraph 9d(2) above.

(9) The Office of Environment, Safety and Health, in its role of providing independent oversight to the Department, may:

(a) At any time in the process, provide a dissenting opinion to the Secretary if a significant safety concern is deemed to exist that is not being acted upon by line management; and

(b) At the specific request of the Secretary, concur in the final decision to startup or restart the facility.

e. All documents pertaining to Operational Readiness Reviews or Readiness Assessments shall be maintained in accordance with DOE Order 1324.2A, Records Disposition.

10. RESPONSIBILITIES AND AUTHORITIES.

a. The Secretary, or designee, shall approve the initial startups of new hazard category 1 and 2 nuclear facilities.

b. DOE Secretarial Officer, or designee, shall:

(1) Prepare implementing procedures for headquarters to use in performing startup and restart actions in accordance with this Order;

(2) Ensure that the Operations Office Manager and the contractor facility manager are apprised of the startup and restart requirements set forth herein and have local procedures prepared, approved, and in place to implement them;

(3) Prepare and/or approve plans-of-action for Operational Readiness Reviews for startups or restarts that require headquarters officials' approval;

(4) Provide plans-of-action and other appropriate documents for startups and restarts to the Assistant Secretary for Environment, Safety and Health for review and comment in a timely manner, and to other Departmental organizations for restarts when the reason for shutdown falls in their technical area of responsibility;

(5) Conduct Operational Readiness Reviews in accordance with the provisions of this Order;

(6) Approve the initial startup of new hazard category 3 nuclear facilities.

(7) Approve the restart of any facility shut down by a DOE headquarters official for safety reasons;

(8) Approve the restart following an extended shutdown of a hazard category 1 and 2 nuclear facility;

(9) Approve the restart following substantial plant or facility modifications of hazard category 1 and 2 nuclear facilities involving changes in the safety basis previously approved by DOE;

(10) For cases in which the safety basis for a facility was approved by a headquarters official, approve any restart following a shutdown for operations outside of the safety basis;

(11) When an authorized DOE headquarters official has deemed an Operational Readiness Review to be appropriate for a startup or restart that does not otherwise require an Operational Readiness Review under the provisions of this Order, approve the DOE Operational Readiness Review plan-of-action and the facility startup or restart; and

(12) Monitor the performance of Operations Office Operational Readiness Reviews to ensure that the requirements of this Order are met.

c. The Office of Environment, Safety and Health has overall Departmental policy responsibility for startup or restart of nuclear facilities, and specifically shall:

(1) Develop, promulgate, and maintain policies necessary to implement this Order;

(2) Provide formal Departmental interpretations of the requirements of this Order;

(3) Develop, promulgate, and maintain guidance materials, and conduct workshops, as necessary, for implementing the requirements of this Order; and

(4) Monitor reports relative to startup and restart activities at DOE nuclear facilities to assess implementation of this Order to identify needed improvements.

In addition, Assistant Secretary for Environment, Safety and Health, acting as the independent element responsible for environment, safety, and health oversight of line management of the Department, shall:

(5) In coordination with the cognizant Secretarial Officer, 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;

(6) 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;

(7) Review and comment upon contractor and DOE plans-of-action and Operational Readiness Review Implementation Plans for startup or restart of nuclear facilities, including the specification of their proposed involvement in the startup or restart activities, in a timely fashion;

(8) Review and comment upon the Operational Readiness Review final report recommendations regarding startup or restart to the DOE startup or restart approving official;

(9) 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; and

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

d. DOE Operations Office Manager or designee shall:

(1) Prepare implementing procedures for the Operations Office to use in performing startup or restart actions in accordance with this Order;

(2) Assure that the Operations Office and contractor nuclear facility startup or restart procedures include all applicable requirements in accordance with this Order;

(3) Provide recommendations to the DOE approval authority on the contractor's plans-of-action;

(4) Prepare and/or approve plans-of-action for Operational Readiness Reviews for startups or restarts that require Operations Office approval;

(5) Provide day-to-day oversight of startup or restart activities;

(6) Provide verification to the DOE approval authority that the contractor's preparations for startup or restart have been completed; the DOE Operations Office is ready to oversee operations; and the facility is ready for the DOE Operational Readiness Review;

(7) If designated, approve the restart of any facility shut down by a DOE Operations Office official for safety reasons;

(8) If designated, approve the restart of a hazard category 2 nuclear facility following an extended shutdown;

(9) If designated, approve the restart of a hazard category 2 nuclear facility following substantial plant or facility modifications which require changes in the safety basis previously approved by DOE;

(10) For cases in which the safety basis was approved by a DOE Operations Office official, approve any restart following a shutdown for operations outside of the safety basis;

(11) When an authorized DOE Operations Office official has deemed an Operational Readiness Review to be appropriate for a startup or restart that does not otherwise require an Operational Readiness Review under the provisions of this Order, approve the DOE Operational Readiness Review plan-of-action and the facility startup or restart;

(12) Conduct Operational Readiness Reviews in accordance with the provisions of this Order;

(13) If designated, approve the initial startup of a new hazard Category 3 nuclear facilities;

(14) Inform contractor management of DOE startup and restart approvals;

(15) Prepare implementing procedures for Readiness Assessments in accordance with this Order and the Operational Readiness Review Standard; and

(16) Approve the startup or restart of nuclear facilities requiring Readiness Assessments.

e. The contractor shall be required to:

(1) Prepare implementing procedures for use in performing startup and restart activities in accordance with this Order;

(2) Prepare plans-of-action for all contractor Operational Readiness Reviews and submit them to the cognizant DOE Operations Office for review prior to conduct of the Operational Readiness Reviews;

(3) Notify the cognizant DOE Operations Office of planned Operational Readiness Reviews and Readiness Assessments;

(4) Conduct Operational Readiness Reviews and Readiness Assessments in accordance with the provisions of this Order; and

(5) Notify the cognizant Operations Office of readiness of the facility to startup or restart, after completion of the contractor Operational Readiness Review or Readiness Assessment.

f. Director, Naval Nuclear Propulsion Program. Presidential Executive Order 12344, statutorily prescribed by Pub. L. 98-525, 42 U.S.C. § 7158 note (1984), establishes the responsibilities and authorities of the Director, Naval Nuclear Propulsion Program (who is also the Deputy Assistant Secretary for Naval Reactors within the Department) over all facilities and activities which comprise the Program, a joint Navy-DOE organization. These executive and legislative actions establish that the Director is responsible for all matters pertaining to naval nuclear propulsion for all program facilities and activities. Accordingly, the provisions of this Order do not apply to the Naval Nuclear Propulsion Program.

11. EXEMPTION. After obtaining the concurrence of the Assistant Secretary for Environment, Safety and Health, a Secretarial Officer may formally request the Secretary of Energy to grant permanent exemptions to the requirements of this Order. Temporary exemptions to the requirements of this Order, up to 1 year in duration, may be granted by the responsible Secretarial Officer. Prior to approval of the temporary exemptions by the Secretarial Officer, the Assistant Secretary for Environment, Safety and Health shall be notified in a timely manner in order to discharge his/her assigned responsibilities.

12. IMPLEMENTATION. The requirements of this Order shall be implemented in accordance with this paragraph.

    a. Within 45 calendar days of the date of this Order, all the requirements of this Order shall be implemented, with the exception of paragraph 9c.

    b. Within 90 calendar days of the date of this Order, all the requirements of this Order shall be implemented.

REFERENCES

a. DOE 1324.2A, RECORDS DISPOSITION, of 9-13-88, as changed 4-9-92, which described policies, procedures, standards, and guidelines for the disposition of records of the Department of Energy and its management and operating contractors.

b. DOE 4700.1, PROJECT MANAGEMENT SYSTEM, of 3-6-87, as changed 6-2-92, which establishes the project management system for the execution of the Department's outlay program.

c. DOE 5480.19, CONDUCT OF OPERATIONS REQUIREMENTS FOR DOE FACILITIES, of 7-9-90, as changed 5-18-92, which provides requirements and guidelines for Departmental Elements to use in developing directives, plans, and/or procedures relating to the conduct of operations at facilities.

d. DOE 5480.21, UNREVIEWED SAFETY QUESTIONS, of 12-24-91, which sets forth the definitions and basis for determining the existence of an Unreviewed Safety Question.

e. DOE 5480.22, TECHNICAL SAFETY REQUIREMENTS, of 2-25-92, which establishes the requirements to have Technical Safety Requirements prepared for DOE nuclear facilities.

f. DOE 5480.23, NUCLEAR SAFETY ANALYSIS REPORTS of 4-10-92, which establishes requirements for developing and documenting the results of the facility safety analysis.

g. DOE STD 1027-92, HAZARD CATEGORIZATION AND ACCIDENT ANALYSIS TECHNIQUES FOR COMPLIANCE WITH DOE ORDER 5480.23, NUCLEAR SAFETY ANALYSIS REPORTS, of 12-92, which establishes guidance for a uniform methodology for hazard categorization under the Order.

h. DOE STD 3006-93, PLANNING AND CONDUCT OF OPERATIONAL READINESS REVIEWS (ORRs), which provides additional guidance for the development and conduct of Operational Readiness Reviews.

DEFINITIONS

1. DESIGNEE. A person delegated responsibility or authority by a formal memorandum or letter.

2. FACILITY SHUTDOWN.

   a. The situation in which the reactor is taken subcritical either manually or automatically to a safe shutdown condition.

b. The condition in which a nonreactor nuclear facility ceases operations for which the facility was being operated and is placed in a safe condition (i.e., program work ceases).

3. GRADED APPROACH. A process by which the level of analysis, documentation, and actions necessary to comply with a requirement in this Order are commensurate with:

   a. The relative importance to safety, safeguards, and security;

   b. The magnitude of any hazard involved;

   c. The life cycle stage of a facility;

   d. The programmatic mission of a facility;

   e. The particular characteristics of a facility; and

   f. Any other relevant factor.

4. HAZARD CATEGORIES. The consequences of unmitigated releases of radioactive and/or hazardous material are evaluated as required by DOE 5480.23 and classified by the following hazard categories:

   a. Category 1. The hazard analysis shows the potential for significant offsite consequences.

   b. Category 2. The hazard analysis shows the potential for significant onsite consequences.

   c. Category 3. The hazard analysis shows the potential for only significant localized consequences.

5. NONREACTOR NUCLEAR FACILITY. Those activities or operations that involve radioactive and/or fissionable materials in such form and quantity that a nuclear hazard potentially exists to the employees or the general public. Included are activities or operations that:

   a. Produce, process, or store radioactive liquid, solid waste, fissionable materials, or tritium;

   b. Conduct separations operations;

   c. Conduct irradiated materials inspection, fuel fabrication, decontamination, or recovery operations;

   d. Conduct fuel enrichment operations; or

   e. Perform environmental remediation or waste management activities involving radioactive materials.

Incidental use and generating of radioactive materials in a facility operation (e.g., check and calibration sources, use of radioactive sources in research and experimental and analytical laboratory activities, electron microscopes, and X-ray machines) would not ordinarily require the facility to be included in this definition. Accelerators and reactors and their operations are not included. The application of any rule/Order to a nonreactor nuclear facility shall be applied using a graded approach.

6. NUCLEAR FACILITY. For purposes of this Order, means reactor and nonreactor nuclear facilities.

7. OPERATIONAL READINESS REVIEW. A disciplined, systematic, documented, performance based examination of facilities, equipment, personnel, procedures, and management control systems to ensure that a facility will be operated safely within its approved safety envelope as defined by the facility safety basis. The Operational Readiness Review scope is defined based on the specifics of the facility and/or the reason for the shutdown as related to a minimum set of core requirements. A graded approach will be used in defining the depth of the Operational Readiness Review based on these core requirements.

8. OPERATIONAL READINESS REVIEW BREADTH. The set of core requirements which will be evaluated by the Operational Readiness Review team during conduct of the Operational Readiness Review.

9. OPERATIONAL READINESS REVIEW DEPTH. The level of analysis, documentation, and/or actions necessary to evaluate an applicable core requirement.

10. OPERATIONAL READINESS REVIEW IMPLEMENTATION PLAN. The plan developed by the Operational Readiness Review team describing the specifics of the approach, methodology and reporting requirements of the Operational Readiness Review.

11. OPERATIONAL READINESS REVIEW SCOPE. The overall magnitude of the Operational Readiness Review as defined by the breadth of core requirements selected and the depth of evaluation of these core requirements during conduct of the Operational Readiness Review.

12. PLAN-OF-ACTION. The high level document describing the scope and pre-requisites of the Operational Readiness Review, the composition of the team performing the review, and the designated startup or restart authority.

13. PRESTART FINDING. A finding that must be corrected before an activity can be started.

14. PROGRAM WORK. Work in a nonreactor nuclear facility or reactor that is accomplished to further the goals of the facility mission and/or the

program for which the facility is operated. Program work does not include work that would be required to maintain the facility in a safe shutdown condition or to accomplish modifications and correct deficiencies required before program work can recommence.

15. REACTOR. Means, unless it is modified by words such as containment, vessel, or core, the entire nuclear reactor facility, including the housing, equipment, and associated areas devoted to the operation and maintenance of one or more reactor cores. Any apparatus that is designed or used to sustain nuclear chain reactions in a controlled manner, including critical and pulsed assemblies and research, test, and power reactors, is defined as a reactor. All assemblies designed to perform subcritical experiments that could potentially reach criticality are also to be considered reactors. Critical assemblies are special nuclear devices designed and used to sustain nuclear reactions. Critical assemblies may be subject to frequent core and lattice configuration change and may be used frequently as mockups of reactor configurations.

16. READINESS ASSESSMENT. A review that is conducted to determine a facility's readiness to startup or restart when an Operational Readiness Review is not required.

17. RESPONSIBLE CONTRACTOR. The organization with contractual responsibility for carrying out program work at a government owned facility.

18. RESTART. Recommence reactor critical operations and/or program work in nuclear facilities.

19. SAFETY BASIS. The combination of information relating to the control of hazards at a nuclear facility (including design, engineering analyses, and administrative controls) upon which Department depends for its conclusion that activities at the facility can be conducted safely.

20. SENIOR OPERATIONAL READINESS REVIEW TEAM MEMBERS. Members of the Operational Readiness Review team which include as a minimum, the Operational Readiness Review team leader, senior nuclear safety experts, and other supervisory or advisory personnel who draft the Operational Readiness Review Implementation Plan, oversee and review the activities of other team members or materially assist the Operational Readiness Review team leader in developing the final Operational Readiness Review report.

21. UNPLANNED SHUTDOWN. An unplanned facility shutdown for any cause, such as equipment malfunction, personal error, or onshift operator response to indications of an unsatisfactory situation, or a situation that would have had unsafe consequences without shutdown. Also, an unplanned shutdown directed by contractor management, local DOE officials, or by DOE Headquarters.

Each of the core requirements listed below, as a minimum, must be addressed when developing the breadth of an Operational Readiness Review. Justification must be provided in the plan-of-action, prepared in accordance with Paragraph 9b(2) and (3) of this Order, if it is determined that a particular core requirement is not applicable or will not be reviewed. The plan-of-action may reference a timely, independent review which addressed the requirements in a technically sound manner to justify not performing further evaluation of a core requirement during conduct of an Operational Readiness Review. A graded approach, defined in Attachment 1, will be used to determine the level of analysis, documentation, and/or actions necessary to evaluate the core requirements listed below or other core requirements in the defined breadth of the Operational Readiness Review.

Minimum Core Requirements:

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 which 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 responsible for control of safety;

12. The implementation status for DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," 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 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; and

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).

SEPARATION

PAGE

NOT MEASUREMENT SENSITIVE

DOE-STD-3006-93
Sept. 9, 1993

DOE STANDARD

PLANNING AND CONDUCT OF OPERATIONAL READINESS REVIEWS (ORR)

U.S. Department of Energy
Washington, D.C. 20585

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