

DIRECTIVES CONTROL FORM - ORO O FINAL DIRECTIVE

PART A (To be completed by the Division of Primary Interest (DPI))

1. **NUMBER AND TITLE OF DIRECTIVE:** ORO O 420, Chapter I, Chg. 2, FACILITY SAFETY
2. **PURPOSE OF TRANSMITTAL:** New Directive Revised Directive Page Change
3. **THIS DOCUMENT MAY AFFECT THE WORK PERFORMED BY THE FOLLOWING CONTRACTORS:** (Check appropriate boxes)
- No (all contractors) Although the CRD attached to the correlating DOE Order is applicable to contractors, no additional contractor requirements are imposed in this Chapter.
- Yes If yes, whom? LMES LMER ORAU SURA
 Bechtel Jacobs Company
 Other contractors (list by type)

Many ORO contractors have approved S/RIDs or WSS sets that may affect applicability of contractor requirements from this directive. Applicability of contractor requirements must take into account the approved standards set for each particular contract.

4. **SIGNIFICANT PROVISIONS:** Are there any significant changes or impact?
 No Yes If yes, describe: This ORO Chapter is part of the ORO sunset review process. Changes to this Chapter include minor editorial revisions to reflect the current organizational title of the ORO Assistant Manager for Uranium and Engineering Services. To address Federal responsibilities for flowdown of pass-through requirements, subparagraphs 4a, b, c, d, e(2), g(1), and g(2)(b) and (c) have been revised.
- | | | | |
|--------------------------|-------------------|-----------------------------------|-----------|
| | Robert C. McBroom | Technical Support Division, SE-32 | 576-9437 |
| | Jim Hutton | Technical Support Division, SE-32 | 576-0857 |
| 5. CONTACT POINT: | Narsaiah Karne | Nuclear Safety Division, SE-33 | 574-6955 |
| | Name | Organization | Telephone |

PART B (To be completed by the Directives Management Group (DMG)):

6. **FILING INSTRUCTIONS:**
- | | | | |
|--------------------------------------------------------|--------------|------------------------------------------------------------------------------|--------------------------|
| <u>Remove</u> | <u>Dated</u> | <u>Insert</u> | <u>Dated</u> |
| ORO O 420, Chapter I,
Chg. 1, Pages I-1 through I-5 | 03/31/1998 | ORO O Control Form
ORO O 420, Chapter I,
Chg. 2, Pages I-1 through I-5 | 09/13/1999
09/13/1999 |

*ORO Orders are available on the ORO Directives Management Home Page
[http://www.ornl.gov/doe_oro_dmg/orchklst.htm] within 5-10 working days after receipt of this Control Form.
The ORO Orders will no longer be mailed in printed copy unless you do not have Internet capabilities.*

7. **APPROVED FOR DISTRIBUTION IN ACCORDANCE WITH THE OFFICIAL DIRECTIVES DISTRIBUTION LIST:**

Original signed by

Jennifer Hamilton Cusick, AD-440
Signature Management Analyst, AD-440

09/13/1999
Date

INSTRUCTIONS TO ADDRESSEES: THIS FORM IS TO BE FILED WITH THE DIRECTIVE AND RETAINED
Rev. 08/04/1998

U.S. Department of Energy

Oak Ridge Operations

ORO O 420 Chapter I Change 2

DATE: 09/13/1999

SUBJECT: FACILITY SAFETY

1. PURPOSE. This Chapter correlates to DOE O 420.1, FACILITY SAFETY, dated October 13, 1995, by assigning responsibility and accountability and providing administrative guidance to Oak Ridge Operations (ORO). This Chapter establishes the policy and process within ORO for facility safety requirements related to: nuclear safety design, criticality safety, fire protection, and natural phenomena hazards mitigation. This Chapter is not intended to be a stand-alone document, but is to be used in conjunction with DOE O 420.1. Nothing in this issuance changes any requirements contained in any DOE Order.
2. CANCELLATION. This Chapter cancels and replaces ORO O 420, Chapter I, Chg. 1, FACILITY SAFETY, dated March 31, 1998.
3. APPLICABILITY. The provisions of this Chapter apply to ORO Principal Staff. Although the Contractor Requirements Document attached to DOE O 420.1 is applicable to contractors, no additional requirements are imposed in this Chapter.
4. RESPONSIBILITIES. Many ORO contractors have developed Standards/Requirements Identification Documents (S/RIDs) or Work Smart Standards (WSS) sets that may not include requirements referenced or included in DOE O 420.1, its attached CRD, or this Chapter. Interpretation and performance of Federal responsibilities outlined below must take into account the approved standards set for each particular contract and must not be deemed to add any requirements to the approved set.
 - a. Assistant Manager for Administration (AMA) ensures that all DOE facilities under his/her jurisdiction are designed, constructed, maintained, modified, and operated so that the general public, workers, and the environment are protected from the impact of Natural Phenomena Hazards (NPHs), including seismic, wind, flood, and lightening (see DOE O 420.1, subparagraph 4.4).
 - b. Assistant Manager for Environment, Safety, and Quality determines which actions are to be taken to meet the fire protection objectives of DOE O 420.1, subparagraph 4.2, and to provide and maintain a highly protected risk level of fire protection. This includes participation in determining the appropriate set of contractual fire protection standards to be included in prime contracts.
 - c. Assistant Manager for Uranium and Engineering Services ensures that all DOE facilities under his/her jurisdiction are planned, designed, constructed, maintained, and modified so that the general public, workers, and the environment are protected from the impact of Natural Phenomena Hazards (NPHs), including seismic, wind, flood, and lightening (see DOE O 420.1, subparagraph 4.4).

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INITIATED BY: NUCLEAR SAFETY DIVISION

- d. Director, Nuclear Safety Division, provides documented independent review and recommendations of natural phenomena hazards assessments and evaluations for new and existing DOE-owned or -leased facilities, when requested by the Contracting Officer's Representative (COR) or the AMA. Assessments and evaluations may include compliance with contractual standards related to natural phenomena hazards and the adequacy of such standards to meet the objectives of DOE O 420.1, subparagraph 4.4.
- e. Director, Technical Support Division (SE-32).
 - (1) Is designated the ORO Authority Having Jurisdiction (AHJ) for fire protection matters.
 - (2) Performs oversight in support of ORO line organizations on the degree of compliance with established contractual fire protection standards and, where noncompliance is noted, recommends corrective action and provides appropriate assistance to ORO line management in achieving compliance.
 - (3) Coordinates appropriate fire protection requirements with Headquarters (HQ), the COR, Engineering Project Teams, and other appropriate organizations to ensure consistency of purpose and compliance with applicable codes and standards.
 - (4) Ensures that Program Managers are kept advised of requirements, incidents, lessons learned, and applicable information generated by HQ, other agencies, organizations developing standards, and other facilities; and ensures that such information is disseminated among ORO facilities.
 - (5) At the request of the COR, will accomplish the following:
 - (a) Reviews nuclear criticality safety evaluations and changes thereto.
 - (b) Assists in the review and development of nuclear criticality codes, standards, and guides.
 - (c) Advises contractors and subcontractors on matters involving policies, standards, codes, guides, and procedures for nuclear criticality safety.
- f. Principal Staff, under whose supervision procurement requests are initiated, perform that task identified in DOE O 420.1, subparagraph 5e.
- g. Contracting Officer's Representatives.
 - (1) As relates to natural phenomena hazards, review contractor exemption requests for requirements contained in the CRD to DOE O 420.1, to the extent those requirements are included in the contract, and transmit them to the cognizant Secretarial Officer (CSO) for approval.

(2) As relates to fire protection:

- (a) Review and coordinate field implementation of recommendations resulting from fire protection appraisals.
- (b) To the extent that requirements contained in the CRD to DOE O 420.1 are included in the contract, review and forward contractor requests for fire safety equivalencies to SE-32 for approval.
- (c) To the extent that requirements contained in the CRD to DOE O 420.1 are included in the contract, review and forward contractor requests for fire protection exemptions to SE-32 for appropriate action.

(3) As relates to nuclear criticality safety:

- (a) As directed by the CSO, assume line management responsibility for the criticality safety of assigned nuclear facilities.
- (b) Ensure criticality safety issues related to protection of environment, safety, and health (ES&H) are included in the safety analyses for siting, design, construction, operation, maintenance, modification, and decommissioning of assigned nuclear facilities.
- (c) Take appropriate action, including curtailment and suspension of operations, when such operations may result in undue ES&H risk.
- (d) Review the nuclear criticality safety program policies and procedures to assure that there exists a documented rationale demonstrating the safety of the operational processes for the prevention of inadvertent criticality and mitigation of the consequences of a criticality accident.
- (e) Assess for adequacy the basis for criticality safety supporting the facility safety analysis report along with any associated safety limits, limiting control settings and conditions of operation, administrative controls, and administrative program for criticality safety included in the facility technical safety requirements.
- (f) Assure that the program is in place to provide the technical justification of the basis of the subcritical operating values.

5. REQUIREMENTS AND PROCEDURES. None.

6. REFERENCES. The following standards and guidelines are not mandatory. They are recommended as references on good practice.

- a. DOE-STD-1020-94, NATURAL PHENOMENA HAZARDS DESIGN AND EVALUATION CRITERIA FOR DEPARTMENT OF ENERGY FACILITIES, dated April 1994.

- b. DOE-STD-1022-94, NATURAL PHENOMENA HAZARDS CHARACTERIZATION CRITERIA, dated March 1994.
- c. DOE-STD-1023-95, NATURAL PHENOMENA HAZARDS ASSESSMENT CRITERIA, dated September 1995.
- d. DOE-STD-1024-92, GUIDELINES FOR USE OF PROBABILISTIC SEISMIC HAZARD CURVES AT DEPARTMENT OF ENERGY SITES FOR DEPARTMENT OF ENERGY FACILITIES, dated December 1992.
- e. DOE-HDBK-1062-96, DOE FIRE PROTECTION HANDBOOK.
- f. DOE-STD-1066-97, FIRE PROTECTION DESIGN CRITERIA, dated March 1997.
- g. DOE-HDBK-1081-94, PRIMER ON SPONTANEOUS HEATING AND PYROPHORICITY, dated December 1994.
- h. DOE-STD-1088-95, FIRE PROTECTION FOR RELOCATABLE STRUCTURES, dated June 1995.
- i. DOE-STD-3007-93, GUIDELINES FOR PREPARING CRITICALITY SAFETY EVALUATIONS AT DEPARTMENT OF ENERGY NON-REACTOR NUCLEAR FACILITIES, dated April 1994.
- j. DOE Department-wide Functional Area Qualifications Standard, "FIRE PROTECTION QUALIFICATION STANDARD COMPETENCIES FOR DEFENSE NUCLEAR FACILITIES TECHNICAL PERSONNEL," dated May 1995.
- k. DOE IMPLEMENTATION GUIDE FOR USE WITH DOE ORDERS 420.1 AND 440.1, FIRE SAFETY PROGRAM, dated September 30, 1995.
- l. DOE IMPLEMENTATION GUIDE OF MEDICAL STANDARDS FOR DEPARTMENT OF ENERGY FIREFIGHTERS, dated April 14, 1995.
- m. Memorandum from Dennis Kubicki, DOE-HQ, to Distribution, subject: "Interim Guidelines for Fire Protection of Abandoned Facilities and for Facilities Undergoing Decontamination and Decommissioning," dated March 7, 1995.
- n. Draft Guidance prepared by Roy F. Weston, Inc., for Office of Energy Research, DOE-HQ, Office of Environment, Safety, and Health Technical Support, subject: "Guidance for the Quality Assurance of Fire Protection Systems," dated October 1994.
- o. Memorandum from Neal Goldenberg, DOE-HQ, to John J. Schinkle, DOE-AL, et al, subject: "NFPA 1500 Implementation Plan," dated September 29, 1988.

- p. Memorandum from Dennis Kubicki, DOE-HQ, to Distribution, subject: "Implementation of NFPA Standard 25," dated March 7, 1995.
 - q. Memorandum from Neal Goldenberg and Joseph E. Fitzgerald, Jr., DOE-HQ, to Distribution, subject: "Managed Phase Out of Halon Fixed Fire Suppression Systems," dated May 5, 1993.
 - r. Memorandum from Joseph E. Fitzgerald, Jr. and Neal Goldenberg, DOE-HQ, to Distribution, subject: "Guidance on Performance of Fire Hazards Analyses," dated November 7, 1991.
 - s. Memorandum from Robert Barber and Robert Weller, DOE-HQ, subject: "Interim Position On The Installation of New Halon 1301 Fixed Fire Suppression Systems and Halon Portable Fire Extinguishers," dated September 27, 1990.
 - t. "Oak Ridge Operations Office Fire Prevention and Protection Programs," (current edition).
7. DEFINITIONS. **Highly Protected Risk/Improved Risk** is a rating given to property that qualifies for complete insurance coverage by the Factory Mutual System, the Industrial Risk Insurers, and other industrial insurance companies that limit their insurance underwriting to the best protected class of industrial risk.
8. CONTRACTOR REQUIREMENTS DOCUMENT. None.
9. ATTACHMENTS. None.