

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, FACILITY SAFETY**
2. **PURPOSE OF TRANSMITTAL:** New Directive Revised Directive Page Change
3. **CONTRACTOR REQUIREMENTS:** Does directive contain requirements applicable to contractor(s)?
Check appropriate boxes:

 No (all contractors) Although DOE O 420.1 is applicable to contractors, no additional requirements are imposed in this ORO Chapter.

 Yes If yes, whom? LMES ORAU SURA LMER
 Other contractors (list by type)

4. **SUMMARY OF SIGNIFICANT PROVISIONS OR CHANGES:**

Incorporates Chapter I in the 420 Series (formerly ORIGs 5480.7B, 5480.24, and 5480.28B respectively).

	Robert C. McBroom	Technical Support Division, SE-32	576-9437
	Jim Hutton	Technical Support Division, SE-32	576-0857
5. CONTACT POINT:	<u>Lon Brock</u>	<u>Nuclear Safety Division, SE-33</u>	<u>576-2113</u>
	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>
ORIG 5480.7B	02-10-94	ORO Control Form	08-19-97
ORIG 5480.24	05-04-93		
ORIG 5480.28B	02-10-94	ORO O 420, Chapter I	08-19-97

ORO Orders are now available on the ORO Directives Management Home Page on the Internet. These Orders will be online at http://www.ornl.gov/doe_oro_dmg/orchklist.htm within 5-10 working days after you receive this Control Form. This address will allow you to directly enter the ORO Directives Checklist. 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:**

<i>Original Signed By Jennifer H. Cusick</i>	<i>08/19/1997</i>
Signature Management Analyst, AD-440	Date

U.S. Department of Energy

Oak Ridge Operations

ORO O 420 Chapter I

DATE: 08-19-97

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:
 - a. ORIG 5480.7B, FIRE PROTECTION, dated February 10, 1994;
 - b. ORIG 5480.24, NUCLEAR CRITICALITY SAFETY, dated May 4, 1993;
 - c. ORIG 5480.28B, NATURAL PHENOMENA HAZARDS MITIGATION, dated February 28, 1994.
3. APPLICABILITY. The provisions of this Chapter apply to ORO Principal Staff. Although DOE O 420.1 is applicable to contractors, no additional requirements are imposed in this Chapter.
4. RESPONSIBILITIES.
 - a. Assistant Manager for Administration (AMA), for facilities under his/her jurisdiction, ensures that the requirements of DOE O 420.1, subparagraph 4.4, are applied to the planning, design, and construction of new DOE-owned facilities and to modifications of existing DOE-owned facilities.
 - b. Assistant Manager for Environment, Safety, and Quality determines which actions are to be taken to ensure compliance with DOE O 420.1, subparagraph 4.2, and to provide and maintain a highly protected risk level of fire protection.
 - c. Assistant Manager for Construction and Engineering, for facilities under his/her jurisdiction, ensures that the requirements of DOE O 420.1, subparagraph 4.4 are applied to the planning, design, and construction of new DOE-owned facilities and to modifications of existing DOE-owned facilities.
 - 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.

- e. Director, Technical Support Division (SE-32).
 - (1) Is designated the ORO Authority Having Jurisdiction (AHJ).
 - (2) Performs oversight in support of ORO line organizations on the degree of compliance with DOE Fire Protection Orders and 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, shall 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 of DOE O 420.1, subparagraph 4.4, 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) Review and forward contractor requests for fire safety equivalencies to SE-32 for approval.

- (c) 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 NONREACTOR 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.