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United Cleanup Oak Ridge LLC

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SUBJECT MATTER AREA: Fire Protection	PREPARER: Justin Durham	Page 1 of 28
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This document is approved for public release per review by:

David Lannom 6/21/22
 UCOR Classification Date
 Information and Control Office

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REVISION LOG			
Revision	Effective Date	Description of Changes	Pages Affective
9	1/23/23	Intent change. Updated Attachment C for demolition and contract additions. Updated definitions, references, standards, and dates throughout. Added Section L for training and professional development. Added Section C.1 for Documentation and Methods. Changes throughout document to align program with Chg. 3 of DOE O 420.1C, <i>Facility Safety</i> . Made PPD applicable to leased facilities. Performed general housekeeping to entire document. Updated to transition terminology and logo.	3-7, 10-16, 18-20, 22-23, 25-28
8	11/10/20	Intent change. Updated Attachment C for demolitions and contract additions. Updated reference standards dates throughout. Added Section C.2 to discuss leased facilities. Added implementation of good housekeeping practices to Section E.1.g.	5, 6, 10, 14, 24-28
7	7/8/19	Intent change. Section E.2.d shows Department of Energy (DOE) Oak Ridge Office of Environmental Management(OREM) delegating the Fire Protection Authority Having Jurisdiction responsibility to the UCOR President and Program Manager who then delegates to a qualified UCOR Fire Protection Engineer. Section E.2.d also states that DOE OREM must be notified by UCOR of Authority Having Jurisdiction Determinations as they are made. Attachment B adds that a quarterly report will be made to DOE OREM regarding Authority Having Jurisdiction actions. Numerous demolished structures have been removed from Attachment C regarding assessment frequencies.	3, 12, 21, 23-26
6	10/1/18	Intent change. Section C.1 extends the frequency of the Fire Protection Program Assessment and also of individual Facility Fire Protection Assessments (FFPAs) if the facilities are scheduled to undergo decontamination and decommissioning(D&D) in the near future. Section D.1 adds that fire protection design of lesser hazard relocatable structures valued under \$1 million can be documented via standard UCOR work control processes. Definition of “fire barrier” was modified. Attachment B, Excessive System Impairments, was updated to note that the reporting period for impairments at nuclear facilities is 30 days. Attachment C was updated to delete demolished facilities and to modify assessment frequencies per Section C.1.	5, 6, 16, 22-26
5	4/1/18	Non-intent change. Grammatical changes.	11, 13, 17
4	4/1/18	Intent change. Added description of the Fire Protection Design Analysis process in Sections D.1 and E.2.b and Definitions. Comment added to B.1 that it must be documented when other prime contractors adopt UCOR’s Fire Protection program. Updated Attachment C to change assessment frequencies and to delete facilities no longer existing, no longer required to be assessed, or are no longer under UCOR control. Added Low Hazard facilities to Attachment C that will be assessed on a five-year frequency.	4, 5, 10-13, 17, 22, 23, 25
3	4/17/17	Intent change. Added description of UCOR Configuration Management Program. Added reference to PROC-FP-2009 for Authority Having Jurisdiction(AHJ) determinations, equivalencies, exemptions, and fire protection system deactivations. Added description of role of Fire Protection subject matter expert. Updated facilities list in Attachment C. Revised Definitions to match document content.	All
2	5/2/16	Intent change. Removed Attachment C, removed building assessment requirements for several non-required facilities, and updated references.	All
1	12/15/15	Intent change. Program description updated to align more closely with contents of DOE O 420.1C. Changes address opportunities for improvement noted in DOE-15-0392, “Final Report of DOE ORO-EM Assessment of Fire Protection Program.”	All
0	8/11/14	Initial release.	All

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PURPOSE

The purpose of this program description is to comprehensively outline and describe in narrative form the essential elements of the United Cleanup Oak Ridge LLC (UCOR) Fire Protection program (FPP).

The objective of the FPP is to minimize the likelihood of occurrence of a fire-related event; minimize the consequence of a fire-related event affecting the public, workers, environment, property, and missions; and provide a level of safety protection consistent with the “highly protected risk” class of industrial risks.

SCOPE

The UCOR FPP encompasses all facilities and activities, in whole or part, for which UCOR has responsibility at the Oak Ridge Reservation (ORR) including the East Tennessee Technology Park (ETTP), the Oak Ridge National Laboratory (ORNL), the Y-12 National Security Complex (Y-12), various associated facilities within the ORR, and UCOR-leased facilities. These responsibilities are delegated by the U.S. Department of Energy (DOE) through the UCOR Project Contract and DOE Order 420.1C Change 3, *Facility Safety*; specifically, Attachment 2, Chapter II, “Fire Protection” hereafter referred to as DOE O 420.1C.

The FPP described herein is implemented through PROC-FP-2001, *Fire Protection Program Procedure*. PROC-FP-2001 specifies roles and responsibilities, actions for “who,” and the “how” of program description implementation. Additional UCOR procedures elaborate on the implementation details.

NOTE: Subcontractors should contact their subcontract coordinators/subcontract technical representatives for assistance in understanding or complying with this program.

EXPECTATIONS AND STRATEGY

The FPP applies to all UCOR employees and subcontractors and shall be established in all facilities and adjoining areas that are under UCOR responsibility. If conditions are discovered that represent a significant new and unmitigated fire risk, appropriate compensatory actions will be taken to mitigate the hazard until final resolution is achieved. The FPP is implemented and maintained through a combination of: engineered fire protection systems; procedures; work control processes; emergency response services provided at each site; and UCOR safety oversight responsibilities.

REQUIREMENTS

- 10 Code of Federal Regulations (CFR) 851, Worker Health and Safety Program, Appendix A
- 29 CFR 1910, Occupational Safety and Health Standards
- 29 CFR 1926, Safety and Health Regulations for Construction
- DOE O 420.1C Change 3, *Facility Safety*, Attachment 2, Chapter II, “Fire Protection”
- DOE-STD-1066-2016, *Fire Protection*
- Federal Wildland Fire Management Policy
- International Building Code
- National Fire Protection Association codes and standards contained in UCOR Contract No. 89303322DEM000067, Section J2

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**PROGRAM
ELEMENTS**

A. Fire Protection Program Overview

Implementation of the UCOR FPP ensures credible fire hazards for DOE sites, structures, and equipment operated by UCOR are identified and the measures provided and maintained to mitigate the impact of those hazards are in place. This includes maintaining adequate fire safety for the operations staff, onsite workers, the public, and the environment from radiological and toxic material releases resulting from fire.

Where necessary, UCOR implements certain FPP requirements through site services agreements between UCOR and other DOE prime contractors. Emergency response services for ETTP are provided by the city of Oak Ridge Fire Department (ORFD). Emergency response for the various UCOR facilities in Bear Creek Valley, outside the emergency service boundary of Y-12, is also provided by the ORFD. Emergency response services for UCOR-managed facilities at Y-12 and ORNL are provided by the onsite prime contractor fire departments.

B. General Fire Protection Program Requirements

1. This program description addresses facility fire safety requirements for design, construction, operation, management, decontamination, decommissioning, and demolition of DOE facilities. To ensure compliance with the DOE fire safety requirements under DOE O 420.1C, UCOR flows them down to subcontractors at any tier as necessary.

2. Company Policy Statement

a. The UCOR FPP policy statement is found in POL-UCOR-014, *Fire Protection*. The policy affirms UCOR’s commitment to providing a comprehensive fire protection and emergency response program that complies with DOE O 420.1C.

3. Codes and Standards

a. UCOR’s Fire Protection programs meet or exceed the intent of applicable building code (at minimum, the *International Building Code* [IBC]) and National Fire Protection Association (NFPA) codes and standards, as required by DOE O 420.1C. Design and construction of new facilities and major modifications thereto, shall be constructed to meet codes and standards in effect when design criteria are approved (otherwise known as the code of record [COR]). Other facility changes must meet the most recent applicable codes and standards to the extent determined by the applicable Authority Having Jurisdiction (AHJ).

State, regional, and local building codes may be used in lieu of the IBC if approved by the DOE Oak Ridge Office of Environmental Management (OREM) field manager, upon submission by UCOR of a report demonstrating the substituted code meets or exceeds the level of protection provided by the IBC.

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- b. UCOR shall satisfy the requirements (i.e., mandatory requirements) in DOE technical standards and industry codes and standards identified as applicable unless relief is approved in accordance with Attachment 1, Section 2 of DOE O 420.1C, “Relief from Requirements, Codes and Standards.”
- c. Provisions of subsequent editions of codes or standards (promulgated after the COR is established) are mandatory only to the extent that they are explicitly stated to be applicable to existing facilities. Conflicts between DOE O 420.1C, NFPA codes and standards, and the applicable building code must be resolved as follows:
 - i. Requirements of DOE O 420.1C take precedence over all NFPA and building code requirements and are subject to the relief requirements of DOE O 420.1C.
 - ii. The DOE Head of Field Element approves proposed resolution of compliance conflicts with DOE orders and standards. The UCOR AHJ reviews modifications to code compliance for codes and standards that explicitly allow such review. These are documented as AHJ interpretations/determinations.

C. Fire Protection Program Administration

1. Documentation and Methods

- a. The UCOR FPP has a suite of procedures, forms, and guidance documents to implement the requirements of DOE O 420.1C. The documents provide procedural requirements to UCOR projects, programs, and management to ensure a fire safe work environment. Procedures, guidance documents, and forms provide direction for the FPP staff for implementation of requirements.
- b. Methods of implementation of DOE O 420.1C by the UCOR FPP include: a corporate Fire Protection policy statement; corporate and project level fire protection specific procedures; design review; work control review and input; facility and project assessments; Fire Protection subject matter expert services; recognized Authority Having Jurisdiction for Fire Protection; participation on functional and project review committees; and interface with fire protection stakeholders (facility managers, project managers, contractor fire protection staffs, Oak Ridge and contractor fire departments).

2. Self-Assessments

- a. As required by DOE O 420.1C, Chapter II, 3.b.(2) of, “A documented comprehensive self-assessment of the fire protection program must be performed at least every three years or at a frequency with appropriate justification approved by the DOE head of field element.” Frequency extension to five years for Fire Protection program assessments has been concurred with by DOE OREM’s acceptance of PPD-FP-2001, Rev. 7 due to the consistently positive previous results and the cost and time of conducting such self-assessments (approximately 400 hours).

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Drafts of these assessments, along with the findings, are shared with stakeholders. Comments are resolved prior to final publication. Findings are managed in the UCOR Corrective Action Management system until final remedial action is implemented. The nature of the assessment follows PROC-PQ-1420, *Assessments*.

D. Fire Safety Design Oversight

1. Process

New UCOR facilities, modifications to existing buildings, relocatable structures, and all newly installed or modified fire protection systems and features are required to conform to governing fire protection requirements (e.g., CFR, DOE, and NFPA codes and standards). A UCOR Fire Protection Engineer (FPE) reviews plans, specifications, procedures, and acceptance tests. Design of nuclear and high value facilities (+\$177 million in 2018 dollars) or facilities as directed by DOE shall be documented in a Fire Hazards Analysis (FHA) or Preliminary FHA (PFHA). Design of non-nuclear and facilities valued at \$177 million (in 2018 dollars) and under may be documented in a Fire Protection Design Analysis (FPDA). The process for both is described in PROC-FP-2004, *Fire Hazard Analysis*. Design of relocatable structures valued at \$1 million or below and used as offices/change trailers/step-off pads or similar hazards and are under 5,000 sq. ft in area (in aggregate) may be documented through the standard UCOR work control process such as work package review and input, as an acceptable graded approach to a FPDA.

2. Protection thresholds

NOTE: Refer to DOE O 420.1C for **2.a.** – **2.e.** below. Refer to DOE-STD-1066-2016 for **2.f.** below.

- a. New facilities (non-relocatable) exceeding 5,000 sq. ft of floor area must be of Type I or Type II construction, as defined in the IBC.
- b. Automatic fire suppression systems must be provided throughout new facilities that exceed 5,000 sq. ft of floor area or where a maximum possible fire loss (MPFL) exceeds \$5.9 million (in 2018 dollars) unless specific relief is allowed within NFPA codes for the facility.
- c. Automatic fire suppression systems must be provided throughout facilities in which any of the following conditions exist:
 - i. Where required by safety basis documents (e.g., to prevent loss of safety functions or provide defense-in-depth);
 - ii. Significant life safety hazards;
 - iii. Where fire may cause unacceptable mission or program interruption if automatic fire suppression systems are not provided;
 - iv. Where a modification to a facility would cause the MPFL to exceed \$5.9 million (in 2018 dollars); or,
 - v. Where a modification causes a facility to exceed 5,000 sq. ft of floor area.

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- d. For property protection, multiple fire protection approaches, such as a fire suppression system and a fire detection and alarm system, will be provided in areas where the MPFL exceeds \$177 million (in 2018 dollars).
- e. For property protection, fire areas will be established such that the MPFL does not exceed \$412 million (in 2018 dollars). Fire area walls or other separation approaches may be used to meet this requirement.
- f. In addition to the fire suppression requirements of DOE O 420.1C, automatic fire suppression should be provided for relocatable structures as follows:
 - i. In structures where the MPFL will affect a vital program for a period longer than that specified as acceptable by the AHJ;
 - ii. In structures where quantities of hazardous materials are used or stored in excess of the limits delineated in NFPA 400, *Hazardous Materials Code*, or alternate model fire code as determined by the AHJ; and,
 - iii. In structures used for sleeping quarters (for such structures, “quick-response” sprinklers should be used.)
 - iv. In structures where radioactive material can be released by a fire.

NOTE 1: Limited supply suppression systems may be used when a reliable water supply is not available, or when the application of water would increase the overall hazard in the event of a fire.

NOTE 2: Automatic sprinkler systems are not required in fabric or membrane-type structures when alternate means of fire protection will provide an acceptable level of protection. Such means include but are not limited to: fire detection systems combined with foam fire extinguishing systems and other special total flooding fire suppression systems.

3. Fire Protection and Life Safety Systems

The UCOR FPP includes requirements for physical fire protection systems and equipment that are intended to provide early warning of fire, limitations on the effects of fire, fire control, emergency egress, and effective fire extinguishment by qualified and trained personnel and organizations. These systems and equipment include, but are not necessarily limited to the following:

- a. **Fire suppression.** Administrative controls are in-place to mitigate the inadvertent operation or failure of fire suppression systems to cause a loss of function for safety-class or safety-significant systems, where installed.
- b. **Fire barriers.** Complete fire rated construction and barriers, commensurate with the applicable codes or safety basis requirements, will be provided to isolate hazardous areas and minimize fire spread, and loss potential consistent with limits as established in Section D.2.e, above. Fire barrier locations and construction shall be thoroughly documented.

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- c. **Fire detection.** Automatic fire detection shall be provided to the extent required by applicable industry codes and standards.
- d. **Life safety.** Requirements for life safety and means of egress as specified in 10 CFR Part 851, Worker Health and Safety Program; NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*; as well as in other codes and standards contained in the IBC and NFPA 101, *Life Safety Code*,[©] determine UCOR activities in providing this protection.
- e. **Water supply and distribution.** A reliable and adequate water supply and distribution system shall be maintained for fire suppression. Such reliability and adequacy is documented through analysis reports and records of inspections, tests, and maintenance (IT&M).
- f. **Emergency notification.** UCOR maintains a means to notify responders and building occupants of a fire including the use of fire alarm signaling, where required. In the case of major incidents affecting the entire site, site-wide mass notification capabilities are used.

4. DOE Special Hazards

Where special hazards exist, UCOR will establish and maintain fire protection systems, programs, and procedures to address fire and related hazards, that are special or unique to DOE, and which are not addressed by fire protection industry codes and standards.

E. Operations

- 1. **Criteria and procedures.** UCOR has established written procedures and fire protection criteria implementing the FPP. The following list of requirements are created and administered by UCOR directly.

For UCOR facilities at the ORNL and Y-12 sites, similar requirements and procedures (e.g., IT&M) are administered by the appropriate site organization servicing those facilities under Memorandum of Agreement (MOA) amongst prime contractors.

- a. **Site-specific requirements:**

PROC-MSRE-573, *Control of Transient Combustibles*

- b. **Staff organization, resources, training, roles and responsibilities:**

PROC-FP-2001, *Fire Protection Program Procedure*

PROC-FS-1001, *Integrated Work Control Program*

PROC-TC-0710, *Training Position Descriptions and Position Assignment Forms*

PROC-PQ-1170, *Control of Subject Matter Area Designations and Subject Matter Expert Assignments*

UCOR-4144, *System Engineer Program Description for URS | CH2M Oak Ridge LLC, Oak Ridge, Tennessee*

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c. Inspection, testing, and maintenance of fire protection systems:

PROC-FP-2003, *Fire Extinguisher Inspection and Maintenance*
 PROC-ETTP-1213, *ETTP Fire Extinguisher Program*
 PROC-ETTP-2567, *Inspection, Test and Maintenance of Fire Water System Valves*
 UCOR-4107, *UCOR List of Active Safety Systems (LASS) and List of Design Features (LDF)*
 UCOR-4144, *System Engineer Program Description for URS | CH2M Oak Ridge LLC, Oak Ridge, Tennessee*

ORNL procedures affecting UCOR systems:
 LPD-FD-ADM-030621, *Dry Pipe ITM in UCOR Facilities*
 LPD-FD-ADM-030622, *Wet Pipe ITM in UCOR Facilities*
 LPD-FD-ADM-030623, *Standpipe ITM in UCOR Facilities*
 LPD-FD-ADM-030604, *Fire Alarm Systems Inspection and Testing*

d. Use and storage of combustible, flammable, radioactive and hazardous materials:

PROC-FP-2006, *UCOR Program for Controlling Combustibles and Ignition Sources*

e. A hot work control program:

PROC-FP-2008, *Hot Work*

f. Identification and tracking of fire protection system impairments:

PROC-FP-2007, *Compensatory Measures for Automatic Fire Protection System Impairment/Outages*

ORNL procedures affecting UCOR systems:
 LPD-FD-ADM-030101, *Water-Based Fire Protection System Isolating, Draining, and Restoring*
 LPD-FD-ADM-030104, *Building Compensatory Action For Unplanned Fire Suppression and Alarm System Impairments*

g. Fire prevention measures to control combustible loading, hot work, and ignition sources, and implement good housekeeping practices:

PROC-FP-2006, *UCOR Program for Controlling Combustibles and Ignition Sources*
 PROC-FP-2008, *Hot Work*

h. Facility and fire hazard analysis (FHA) assessment program:

PROC-FP-2004, *Fire Hazard Analysis*
 PROC-FP-2005, *Facility Fire Protection Assessment Procedure*
 PROC-OS-1001, *Records Management, Including Document Control*
 PROC-PQ-1210, *Issues Management Program*
 UCOR-4309, *Fire Hazards Analysis Application Guide, Oak Ridge, Tennessee*

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i. Design and construction oversight:

PROC-FS-1001, *Integrated Work Control Program*

j. AHJ determinations, equivalencies, exemptions, and fire protection system deactivations:

PROC-FP-2009, *AHJ Determinations; Equivalencies or Exemptions; and Fire Protection System Deactivations*

2. Implementation. UCOR ensures effective implementation of the criteria and requirements in Step E.1.a, above, by the following means:

a. Staffing. UCOR has access to qualified FPEs (see Definitions) that possess in-depth knowledge of fire protection principles and practices.

The expectations are that the staff will be qualified and competent. UCOR has an “in-house” qualification path for Fire Protection specialists. Prior to qualification, non-qualified staff may operate under the direct oversight of qualified IT&M supervisors.

A UCOR qualified Fire Protection subject matter expert is designated per PROC-PQ-1170, *Control of Subject Matter Area Designations and Subject Matter Expert Assignments*. Their primary responsibilities include acting as the interface with DOE personnel on technical matters and ensuring compliance with fire protection standards and requirements among the fire protection staff and UCOR project as a whole.

Staffing for emergency response capabilities (i.e., fire department) are provided by three fire departments. For ORNL and Y-12 proper, these services are provided through site service agreements with the DOE prime contractors for those locations. At the ETTP site, and for UCOR facilities in Bear Creek Valley outside the Y-12 emergency service boundary, the ORFD provides fire response.

The capabilities of the three fire departments are confirmed by individual assessments and documented under current DOE approved Baseline Needs assessments (BNA).

b. Design Reviews. New UCOR facilities, modifications to existing buildings, and all newly installed or modified fire protection systems and features are required to conform to fire protection requirements in applicable CFRs, DOE orders, consensus codes, and NFPA codes and standards.

Confirmation that the design is conducted under the requisite codes and standards is documented in a fire protection design review incorporated into a FHA or PFHA or in a FPDA document as outlined in Section D.1. Design packages that include fire safety issues or fire protection features are reviewed by a UCOR qualified FPE. Review comments are documented. Issues arising from these reviews are managed by the fire protection staff until final resolution is achieved. After construction or modifications commence, progress is observed by an FPE to ensure code compliance is maintained. When work is completed, a final inspection, including acceptance testing of fire protection systems, is performed to ensure the system meets its requirements and functions satisfactorily.

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- c. **Equivalencies and Exemptions.** Authority to approve requests for exemptions and also to approve requests for equivalencies to DOE orders is the responsibility of the DOE Environmental Management Headquarters program office.

The authority to approve requests for equivalencies other than to DOE orders resides with the OREM Head of Field Element.

UCOR documents requesting exemption or equivalency approvals are coordinated with the OREM AHJ for fire protection prior to submittal. Submittals requesting exemptions would be coordinated with the OREM program office. All exemption requests submitted for approval from DOE Headquarters are required to have concurrence from the OREM AHJ for fire protection.

Exemptions and equivalencies approved by DOE are reviewed annually to assess the on-going status of any conditions-of-approval supporting the granting of an exemption or equivalency. Field assessments of conditions related to exemptions or equivalencies are conducted concurrently with facility fire protection assessments and/or FHA revisions.

A description of the documentation necessary to support an exemption or equivalency request is provided in PROC-FP-2009, *AHJ Determinations; Equivalencies or Exemptions; and Fire Protection System Deactivations*.

Additionally, the FPP shall provide input to the UCOR report required by 10 CFR Part 851, Worker Safety and Health Program, related to hazard identification and assessment, specifically, Section 851.21 of the rule, which requires contractors to submit to the Head of DOE Field Element a list of closure facility hazards and the established controls within 90 days after identifying such hazards.

- d. **Assigned Authority.** DOE OREM has designated limited authority to each contractor-approved Fire AHJ for routine matters involving fire and life safety. The UCOR President and Chief Executive Officer (CEO) delegates this responsibility to qualified engineers, formally designating them, and, in accordance with the requirements included in DOE O 420.1C, under “Assigned Authority”, notifying DOE OREM of such delegation. The delegated AHJ responsibilities shall be exercised by an individual who is qualified and experienced in the field of fire protection engineering. DOE OREM must be notified of AHJ determinations as they occur and report to DOE OREM quarterly on AHJ actions taken.

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F. Emergency Response

1. **Baseline Needs Assessment.** The scope and adequacy of the emergency services provided for UCOR facilities at ETTP, ORNL, and Y-12 are described and evaluated in BNAs. The prime contractor at each site is responsible for conducting, documenting, and approving the BNA with review included from the fire department serving the site. The BNAs must be in compliance with DOE orders and standards as well as with NFPA codes. The BNA assesses the capabilities of emergency response organizations to provide effective: response to extinguish fires; emergency medical and rescue services; hazardous materials response; and pre-incident planning. Additional elements assessed for adequacy include: staffing, training, apparatus, facilities, equipment, procedures, and mutual aid agreements.

Preparation and maintenance of the ETTP BNA is UCOR's responsibility. The BNA shall be reviewed at least triennially or when a significant new hazard that is not covered in the most recent BNA revision is introduced and it becomes appropriate to update the report. If no update is required, that result will be documented as well. Once a BNA is conducted, or revised, it shall be submitted to OREM for approval. Once approved, the results are incorporated into the site emergency plans, FHAs, and safety basis documents as necessary.

BNAs for Y-12 and ORNL are the responsibility of the prime contractors for those DOE sites. UCOR reviews the prime contractor's BNA to determine if the BNA is adequate for UCOR facilities at the site and then documents this review. UCOR incorporates these results into FHAs, safety basis documents, and other parts of the UCOR FPP where needed.

2. **Pre-incident Plans.** The establishment of pre-incident strategies, plans, and standard operating procedures for emergency response services are within the scope of responsibility of the respective fire departments that provide emergency services to UCOR facilities (i.e., ORFD, ORNL-FD, Y-12 FD). UCOR is responsible for assuring that pre-incident plans exist for UCOR facilities and comply with orders, standards, and codes.

In order to enhance the effectiveness of manual fire suppression activities, the UCOR FPP provides information to, and supports walkdowns by, the fire departments to apply as appropriate in their pre-incident planning activities. Additionally, any pre-incident plan involving areas within or adjacent to moderator-controlled areas are addressed by the FHAs for that facility.

3. **Manual Fire Suppression Activities.** Manual fire suppression activities for protecting UCOR facilities is provided by the respective fire departments that provide emergency services to UCOR facilities (i.e., ORFD, ORNL-FD, Y-12 FD). The adequacy of the capabilities of the three fire departments are confirmed by individual assessments and documented under current DOE approved BNAs.

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G. Facility Assessments

1. **Fire Hazards Analyses (FHA).** UCOR FHAs are developed in accordance with PROC-FP-2004, *Fire Hazard Analysis*, and guidance contained in UCOR-4309, *Fire Hazards Analysis Application Guide, Oak Ridge, Tennessee*, and conducted for all hazard category 1, 2, and 3 nuclear facilities and major modifications thereto, facilities that represent unique fire safety risks, new facilities or modifications to existing facilities with value greater than \$177 million (in 2018 dollars), and when directed by DOE authority. An acceptable means of addressing specific fire protection issues relevant to a FHA may also be preparing a calculation in accordance with PROC-DE-0704, *Project Calculations*.

FHAs are conducted under the direction of a UCOR qualified FPE. Reviews of Nuclear Facility FHAs are performed annually. FHAs in non-nuclear facilities are reviewed every three years and revised as appropriate. If no revision is required, the result will be documented as well.

FHAs will be revised when changes to the facility structure or layout, processes, occupancy, safety basis documentation, or BNA impacts the analysis in the FHA, a modification to an associated facility or process adds significant new fire safety risk, or the periodic review identifies the need for changes. Information from the FHA is integrated into safety basis documentation.

2. **Transitional Fire Hazard Analyses (TFHA).** UCOR transitional facilities are those that have undergone or are undergoing a significant change in their purpose. They may have been placed in a “safe-shutdown” condition or are undergoing decontamination and decommissioning (D&D) work for ultimate demolition. For these facilities, a Transitional Fire Hazards Analysis (TFHA) is conducted under the direction of an FPE and in accordance with DOE-STD-1066-2016 and its Appendix D. TFHAs typically include justifications and remedies for reduced levels of fire protection coincident with reduced fire hazards in the facility. For these facilities, a TFHA is conducted under the direction of a UCOR qualified FPE and in accordance with PROC-FP-2004, *Fire Hazard Analysis*, and guidance contained in UCOR-4309, *Fire Hazards Analysis Application Guide, Oak Ridge, Tennessee*. The TFHA may be cancelled when the hazards that required the original FHA are removed or otherwise eliminated.

The scope and depth of the analysis is commensurate with the complexity of the facility, the nature of the fire risks, and the type of activities. If approved equivalencies embedded in a TFHA need to be revised to address changes in conditions, then the TFHA with the proposed equivalency revision must be submitted to the OREM fire protection AHJ for approval. The TFHA and equivalencies must also be processed in accordance with PROC-FP-2004, *Fire Hazard Analysis*, and PROC-FP-2009, *AHJ Determinations; Equivalencies or Exemptions; and Fire Protection System Deactivations*.

The TFHA shall be revised, as appropriate, when significant changes occur in occupancy or hazards and influence fire safety as determined by the UCOR Fire Protection program manager. Fire safety features that have been previously required by analysis of fire hazards or otherwise by DOE, may be rendered inoperable or considered no longer needed if justified by the analysis. Such features may be abandoned in place until they are dismantled as part of planned demolition activities.

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3. **Facility Fire Protection Assessments (FFPA).** FFPAs are conducted under the direction of a UCOR qualified FPE and in accordance with PROC-FP-2005, *Facility Fire Protection Assessments Procedure*:
 - a. Annually, or at a frequency with appropriate justification approved by the DOE Head of Field Element, for buildings with a replacement value in excess of \$118 million (in 2018 dollars), facilities considered a high hazard, or those in which vital programs are involved, as defined by the responsible DOE authority.
 - b. Other facilities will be assessed as listed in Attachment C, Frequencies of Fire Protection Assessments for UCOR Facilities.
4. By October 31, UCOR shall make available to DOE a schedule of facility assessments for the coming fiscal year and a status of assessments for the previous year. After appropriate justification and approval by the OREM AHJ for fire protection, UCOR may schedule assessments at a different frequency than that described in the preceding subsections.

H. Wildland Fire

1. The UCOR *Fire Protection Program Procedure* (PROC-FP-2001) and *Integrated Work Control Program* (PROC-FS-1001) both contain procedures and practices intended to control sources of ignition that would initiate a wildland fire. These include restrictions on certain types of work (e.g., cutting and welding) unless appropriate hot work safeguards are in place to mitigate the hazard. Work packages that involve significant fire hazards are routinely reviewed by the UCOR Fire Protection engineering staff.
2. Control of potential exposure hazards for facilities from wildland/facility interfaces is accomplished through application of the *Oak Ridge Reservation Wildland Fire Implementation Plan* as implemented by the Oak Ridge Reservation Office's Forestry and Wildland Fire Program. This plan is intended to comply with the *Federal Wildland Fire Management Policy*. The effectiveness of these controls are reviewed and confirmed for UCOR facilities during development of FHAs, FHA reviews, and FFPAs.

I. Specific Fire Protection Program Guidance

1. The specific criteria as contained in DOE-STD-1066-2016, *Fire Protection*, are used as guidance for acceptable methods to implement the fire protection requirements in DOE O 420.1C.
2. A schedule of program deliverable reports is presented in Attachment B, Program Deliverable Reports.

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J. Leased Facilities

In accordance with Chapter 5.3 of DOE-STD-1066-2016, *Leased Facilities*, UCOR uses a graded approach in application of fire protection requirements to UCOR-leased facilities, with emphasis on DOE criteria for personnel safety and protection of DOE programs and property. The graded approach is tailored to the leased facility according to (a) facility hazard; (b) DOE liabilities for injuries and accidents; (c) mission importance; and (d) remaining facility lifetime. The graded approach includes an initial facility assessment performed by UCOR, with the need for continuing assessments contingent on the owner performing assessments in accordance with local jurisdictions. UCOR's application of the FPP will be re-evaluated for new leased facilities or major changes to existing leased facilities based on the hazards and values involved.

UCOR currently leases a number of facilities used for support functions including general office space and shipping and receiving areas. Fire protection responsibilities in areas such as fire alarm reporting requirements, IT&M, and records retention will be delineated between the lessor and the lessee when leases are renewed. Facilities with a MOA from another prime contractor will be treated the same as leased facilities with regard to the UCOR FPP.

K. Configuration Management (CM) and Configuration Management Program

CM at DOE facilities is governed by DOE-STD-1073, *Configuration Management*. DOE-STD-1073 summarizes CM specifically for DOE facilities as follows: "The objectives of configuration management are to: (1) establish consistency among design requirements, physical configuration, and documentation (including analysis, drawings, and procedures) for the activity, and (2) maintain this consistency throughout the life of the facility or activity, particularly as changes are being made." It also describes five key CM elements, which are: design requirements, work control, change control, document control, and assessments. CM is noted to be a coordinated process with the Integrated Safety Management System and other UCOR design and documentation processes. CM is not meant or developed to be a stand-alone process but is a complement to the standard UCOR design and control systems.

CM at UCOR is conducted under the direction of Engineering and is controlled by PPD-DE-1044, *Configuration Management Program Description*, and by PROC-NS-1016, *Configuration Management Plans for Nuclear and Non-Nuclear Facilities*. The primary components of the Configuration Management Plans (CMP) are the Configuration Items (CIs) and the Configuration Documents (CDs). The CIs are the physical structures, systems, and components (SSCs) that are to be maintained as described within the CMP and the CDs are the documents used to define the SSCs and their performance criteria and are the vital reference sources used for maintaining CM.

System Descriptions (SDs) are a vital component in establishing and maintaining CM for active safety systems such as Safety Significant sprinkler systems. Each SD has a qualified Cognizant System Engineer assigned to it for the purpose of maintaining the SD's integrity, part of whose duties includes verifying compliance with the CM function. In addition, each design feature (passive, credited SSC) has a dedicated system engineer responsible for maintaining CM. Details regarding the Safety Systems/Design Features, associated references, and assigned System Engineer/Cognizant System Engineer are listed in UCOR-4107, *UCOR List of Active Safety Systems (LASS) and List of Design Features (LDF)*.

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L. Training and Professional Development

Each FPE, in concert with the Fire Protection program manager, develops a plan, to be reviewed annually, to further their fire protection knowledge. Group activities are also introduced such as presentations by vendors, fire protection educators, or allied field experts such as firefighters, etc. Contingent on support (funding and time) from UCOR management to provide for continuing professional education, advancement towards Fire Protection Professional Engineer certifications, membership in fire protection professional societies, and attendance at professional conferences may be achieved. Professional development also assists the FPEs in remaining current on fire protection topics and research in accordance with the DOE definition of a Qualified FPE.

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Active Safety System—Paraphrased from PROC-DE-1015, *Update and Control of the Lists of Active Safety Systems (LASS) and Design Features (LDF)*: Active Safety Systems are either safety-class or safety-significant facility systems identified in a Documented Safety Analyses (DSA) and for which Technical Safety Requirements (TSR) are developed. Active Safety Systems are identified in UCOR-4107, *UCOR List of Active Safety Systems (LASS) and List of Design Features (LDF)*, as “active (i.e., “engineered”)”. Engineered systems can be defined as a combination of components that work together in synergy to collectively perform a function (National Science Foundation).

Authority Having Jurisdiction (AHJ)—An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure. In DOE, the Head of Field Element is the AHJ, but responsibility can be delegated to another federal official and routine activities can be delegated to a contractor. The contractor AHJ must be designated in writing to the DOE field office. <DOE-STD-1066-2016>

BNA—Baseline Needs Assessment

CD—Configuration Document

CFR—Code of Federal Regulations

CI—Configuration Item

CMP—Configuration Management Plan

Combustible—Any material that, in the form in which it is used and under the conditions anticipated will ignite and burn, or will add appreciable heat to an ambient fire. <DOE-STD-1066-2016>

Configuration Management (CM)—At DOE facilities, per DOE-STD-1073, *Configuration Management*, as follows: “The objectives of configuration management are to: (1) establish consistency among design requirements, physical configuration, and documentation (including analysis, drawings, and procedures) for the activity, and (2) maintain this consistency throughout the life of the facility or activity, particularly as changes are being made.” It also describes Five Key Configuration Management elements, which are: design requirements, work control, change control, document control, and assessments.

COR—Code of Record

D&D—Decontamination and decommissioning

Defense-in-depth—Typically associated with the facilities that can be classified as a Highly Protected Risk or an Improved Risk. This means that reliance is not placed on any single fire protection feature to ensure an acceptable level of fire safety.

Design Feature—From UCOR-4659, *Inspection of Design Features Application Guide, Oak Ridge, Tennessee*: A design feature is an SSC credited in the DSA as mitigating or eliminating the consequences of some hazard. Design features are typically passive features (e.g., walls, structures, barriers, and containers) and may be components, structural elements, or physical arrangements. While design features contribute to the operational or functional safety of a facility, they are not an Active Safety System, and therefore are not governed by the System Engineering program.

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Documented Safety Analysis (DSA)—A documented analysis of the extent to which a nuclear facility can be operated safely with respect to the workers, the public, and the environment, including a description of the conditions, safety boundaries, and hazard controls that provide the basis for ensuring safety. <DOE-STD-1066-2016>

DOE—U.S. Department of Energy

Equivalency—An alternative means of providing an equal or greater degree of fire safety than that afforded by strict conformance to prescribed codes and standards. <DOE-STD-1066-2016>

ETTP—East Tennessee Technology Park

Exemption—The release from one or more requirements in a directive. Unless specified otherwise in a directive, exemptions are granted by the Program Secretarial Officer, or their designee. <DOE-STD-1066-2016>

Facility Fire Protection Assessment (FFPA)—A formal, documented review conducted by DOE or contractors, in accordance with DOE requirements that examines the essential fire protection elements as they relate to a specific facility or an overall fire protection program. <DOE-STD-1066-2016>

Fire—Unplanned destructive and uncontrolled burning, including detonation and deflagration, as manifested by any or all of the following: flame, heat, or smoke. Fire does not include the following unless they cause a fire or occur as a consequence of a fire: lighting or electrical discharge; rupture of a pressure vessel not caused by internal combustion; detonation of munitions; or overheating (without damage to initiating material). <DOE-STD-1066-2016>

Fire Area—An area that is physically separated from other areas by space, barriers, walls, or other means in order to contain fire within that area. <DOE-STD-1066-2016>

Fire Barrier—A fire separation system component that limits for a specified period of time (the fire resistance rating) the transfer of thermal energy from one side of the barrier to the other, thereby preventing a fire on one side of the barrier from starting a fire or affecting hazardous materials stored on the other side of the barrier. <DOE-STD-1066-2016>

Fire Department—An emergency response organization providing rescue, fire suppression, and related activities, including any public, governmental, private, industrial, or military organization engaging in this type of activity. <DOE-STD-1066-2016>

Fire Hazards Analysis (FHA)—A comprehensive assessment of the hazards of and potential damage from fire in a building or group of buildings, which takes one of the following forms: (a) Building/Facility FHA that establishes the fire safety of the facility at the time it is issued; (b) Preliminary/Project FHA which establishes the fire protection requirements for a new building or a modification to an existing building; or, (c) Transitional FHA which evaluates the minimum fire protection needs during a major transition from an operating status to some other status. <DOE-STD-1066-2016>

Fire Loss—The dollar cost of restoring damaged property to its pre-fire condition. <DOE-STD-1066-2016>

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Fire Protection Defense-in-Depth (DID)—Typically associated with facilities that can be classified as a Highly Protected Rids (HPR) or an Improved Risk. HPE and Improved Risk are terms used by the insurance industry to identify properties that meet their requirements for the best class of industrial risk. Properties that meet these requirements would qualify for the lowest rates of insurance. Reliance is not placed on any single fire protection feature to ensure an acceptable level of fire safety. Multiple lines of defense should be demonstrated to achieve DID with regard to protection facilities from fire.

Fire Protection Design Analysis (FPDA)—An engineering analysis for non-nuclear facilities during or preceding the preliminary design to establish fire protection design criteria, including applicable national codes and consensus standards. Updated during the design process, the FPDA provides a comprehensive design review that ensures the fire protection requirements are incorporated into the design. <DOE-STD-1066-2016>

Fire Protection Engineer (FPE)—A graduate of an accredited engineering curriculum who has completed not less than four years of engineering practice, three of which were in responsible charge of diverse fire protection engineering work. If not such a graduate, an engineer should either: demonstrate knowledge of the principles of fire protection engineering showing evidence by specific academic courses and written examination in the related curriculum of physical, mathematical, and engineering sciences, and having completed not less than six years engineering practice, three of which in responsible charge of diverse fire protection engineering projects, or be a registered professional engineer in fire protection; or be a “Professional Member (formerly Member Grade)” in the Society of Fire Protection Engineers. FPE as used in this procedure refers to a UCOR qualified FPE unless otherwise stated.

FPP—Fire Protection program

Fire Protection Program Manager—Responsible for developing, implementing, maintaining, and overseeing the Fire Protection program. Assigns and deploys fire protection engineers to UCOR project organizations. Provides project and function level support to projects.

Fire Protection System—Any system designed to detect, extinguish, and limit the extent of fire damage or enhance life safety, and as defined by DOE.

Hazard Category (1,2,3) Nuclear Facilities—Hazard category 1, 2, and 3 nuclear facilities as defined in 10 CFR Part 830, Nuclear Safety Management, are as follows: hazard category 1 has the potential for significant offsite consequences; hazard category 2 has the potential for significant onsite consequences beyond localized consequences; and hazard category 3 has the potential for only locally significant consequences. <DOE-STD-1066-2016>

Highly Protected Risk—Indicates that both the frequency and severity of potential fire loss for a facility have been reduced to the greatest practicable extent by active and passive engineered methods that are designed, installed, inspected, and maintained to industrial insurance industry standards typified by those of FM Global, such that the facility would qualify for the best-protected class of property insurance premiums. HPR also assumes a high level of management commitment to loss prevention.

IBC—International Building Code

Impairment—A condition that prevents a fire protection system from performing its intended function. Impairments may be classified as emergency (unplanned) or pre-planned such as for maintenance or modifications.

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Improved Risk—Property protection that reduces risk to such level that would qualify for complete insurance coverage by the FM Global, Industrial Risk Insurers, or other industrial insurance companies that limit their insurance underwriting to the best protected class of industrial risk; also known as **HIGHLY PROTECTED RISK**.

IT&M—inspections, tests, and maintenance

Maximum Possible Fire Loss (MPFL)—The dollar cost of restoring damaged property in a single, well-defined fire area, from a hypothetical fire event, assuming the failure of both automatic fire suppression systems and manual fire-fighting efforts. <DOE-STD-1066-2016>

MOA—Memorandum of Agreement

NFPA—National Fire Protection Association

Nuclear Facility—A reactor or nonreactor facility where a nuclear activity subject to the requirements of 10 CFR 830 is conducted for or on behalf of DOE and includes any related area, structure, facility, or activity to the extent necessary to ensure proper implementation of the requirements established by 10 CFR 830.

OREM—Oak Ridge Office of Environmental Management

ORFD—Oak Ridge Fire Department

ORNL—Oak Ridge National Laboratory

ORR—Oak Ridge Reservation

PFHA—Preliminary Fire Hazards Analysis

Pre-incident Plan—A document, owned and developed by a fire department, that provides information to responding personnel that will help them safely and effectively manage incidents with available resources at a specific facility or area. <DOE-STD-1066-2016>

Qualified Fire Protection Engineer—A graduate of an accredited engineering curriculum and having completed not less than four years of engineering practice, three of which shall have been in responsible charge of diverse fire protection engineering work. If not such a graduate, a qualified engineer shall either: demonstrate knowledge of the principles of engineering and have completed not less than six years engineering practice, three of which shall have been in responsible charge of diverse fire protection engineering projects; be a registered professional engineer in fire protection; or meet the requirements for a Grade 11 or higher FPE as defined by the Office of Personnel Management; and have completed the FPE qualifications described in UCOR-4113, *UCOR LLC Nuclear and Radiological Facilities Qualification Standard, Oak Ridge, Tennessee*.

Safety Basis—The documented safety analyses and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that adequately protects the workers, the public, and the environment.

Safety Significant Structures, Systems, or Components—Structures, systems, and components which are not designated as safety class SSCs, but whose preventive or mitigative function is a major contributor to defense-in-depth and/or worker safety as determined from safety analyses. <DOE STD-1066-2016>

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SD—system description

SSC—structure, system, or component

Subcontractor—A supplier, distributor, vendor, or firm who furnishes supplies or services for UCOR in the performance of their prime contract.

Subject Matter Expert (SME)—A person assigned to a system, program, project, discipline, equipment, or other topic who has comprehensive knowledge and relevant expertise based on qualification, training, experience, or education. Their responsibilities include serving as the authority for interpretation of performance documents within their subject matter area. The SME’s working-level knowledge is characterized by a detailed understanding of the subject matter and the ability to apply this knowledge to assigned tasks. SME qualification requires the demonstration of experience, training, knowledge, and skills to fulfill management’s expectations and responsibilities.

Transitional Facility—A hazard category 1, 2, or 3 nuclear or other significant facility that has changed from one major operational state to another (such as transitioning from operational to cold standby or deactivated state, or from shutdown to operational state) or a facility that has been placed in a safe-shutdown condition and may or may not be maintained, or is undergoing decontamination and decommissioning work and ultimately demolition.

Transitional Fire Hazard Analysis (TFHA)—A comprehensive and qualitative assessment of the potential for a fire in a transitional facility in relation to existing safeguards. A TFHA is conducted to help ensure that the risk to the public, site workers, the environment and the facility is within acceptable limits. It also assesses the degree that the facility conforms to applicable DOE and industry fire safety requirements.

UCOR—United Cleanup Oak Ridge LLC

Vital Program—A DOE program, so defined by the Program Secretarial Officer.

Y-12—Y-12 National Security Complex

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Information	Description	Due Date
Contractor Fire Protection Authority Having Jurisdiction Determinations	Approve minor field compliance conditions and minor code deviations as discussed in Section B.3.c.ii. of this document. A quarterly report of the UCOR FP AHJ actions shall be submitted to DOE OREM.	Quarterly
Fire Protection Program	<p>A documented fire protection program that includes the elements and requirements identified in DOE O 420.1C, Att. 2, Chapter II for design, operations, emergency response, fire analysis and assessments, and specific fire protection program criteria must be developed, implemented, and maintained by the contractor. It is understood that UCOR's fire protection program is described in two documents: PPD-FP-2001, <i>Fire Protection Program Description</i>, and PROC-FP-2001, <i>Fire Protection Program Procedure</i>.</p> <p>The documented fire protection program must be submitted to the DOE OREM for approval, and this may be accomplished in conjunction with the Worker Safety and Health Program Description submittal required by 10 CFR Part 851.</p>	As required
Fire Protection Program Annual Report	This report should address, in summary form, UCOR's compliance with its fire protection contractual requirements, DOE Headquarters' imposed fire safety reporting requirements, fire protection system performance, and the relevant DOE Fire Safety Committee-promulgated fire protection program performance metrics.	March 1 st
Annual Fire Protection Summary	Required by DOE O 231.1B, <i>Environment, Safety, and Health Reporting</i> . Provides a summary of fire protection information for the previous calendar year. Details for submitting this information can be found in the <i>Annual Fire Protection Summary Information Reporting Guide</i> .	April 30 th
Facility Assessment Schedules	A schedule of the upcoming fiscal year's fire protection and life-safety facility assessments and a status report on the previous year's facility assessments. If frequencies are not in accordance with OREM guidance in Section 1.a, the schedule must be approved by the OREM AHJ for fire protection. (Attachment C contains the schedule.)	October 31 st

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Information	Description	Due Date
Equivalency and Exemption Status	The status of all DOE-approved exemptions and equivalencies, as well as the continued need for the equivalencies/exemptions, should be evaluated annually. A record of this review shall be made available to DOE OREM.	July 31st
Excessive System Impairment	Active fire protection systems in nuclear facilities, which are impaired for greater than 30 days, or active fire protection systems in other facilities impaired for greater than 90 days shall be reported to DOE OREM. Outages for greater than 180 days shall be reported, along with a formal action plan for returning the system(s) to service, a schedule for repairs, and justification for continued operations approved by DOE.	After 30 days of impairment for nuclear facilities and 90 days for other facilities. Every 30 days thereafter for nuclear facilities and 90 days thereafter for other facilities.
Baseline Needs Assessment	Required by DOE O 420.1C, <i>Facility Safety</i> , to be updated every three years. Must be approved by the DOE OREM AHJ for fire protection.	Upon completion
Fire Protection Program Self-Assessment	Required by DOE O 420.1C, <i>Facility Safety</i> , to be performed every three years or of lesser frequency with DOE approval. Frequency extension to five years for Fire Protection program assessments has been concurred with by DOE OREM's acceptance of PPD-FP-2001, Rev. 7. Provided to DOE OREM for information only.	Upon completion
Fire Hazards Analyses	Provided for information only, when requested.	When requested
Transitional Fire Hazards Analyses	Initial revision requires approval by the OREM AHJ for fire protection if equivalencies or exemptions are requested. If changes to the conditions of approved alternative approaches are made, subsequent revisions must be re-approved.	Upon completion
Fire Protection Program AHJ Qualifications	It is expected that qualifications are comparable to fire protection engineer (FPE) qualifications contained in DOE-STD-1066-2016, <i>Fire Protection</i> (i.e., FPE definition, Section 5.2.1.3, and Appendix E).	Upon completion
Outdoor Hot Work Permits on Very-high or Extreme fire risk days	Outdoor Hot Work permits issued on days that the risk of fire is Very-high or Extreme are required to be submitted annually by the OREM Wildland Fire Implementation Plan.	Annually

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NOTE: Five year frequencies are for facilities scheduled as of August 2018 to undergo demolition or for other less important facilities.

Facility Number	Facility Description	Type of Assessment	Site	HazCat 2, 3, High Haz, or Vital to Prog	Freq (year)
K1417/A-Yard	Transportation Hub and A-Yard	FFPA	ETTP		3
2500 Area and Portal 16	NDA Shop, 2500AB Rubb Tent, Portal 16 and associated support structures	FFPA	ETTP		3

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Facility Number	Facility Description	Type of Assessment	Site	HazCat 2, 3, High Haz, or Vital to Prog	Freq (year)
2101	Change House	FFPA	ORNL		3
2099, 2531-35, 2537, 2539, 2568, and 2650	LLLW Evaporator, Tanks, Filter Pits, Filters and MCS for 2026 (LLW Tanks)	FFPA	ORNL	X	1
2528	Radiation Protection Offices	FFPA	ORNL		3
2649	Decontamination, Inspection and Repair Facility	FFPA	ORNL		3
2660	Surveillance and Maintenance Offices	FFPA	ORNL		3
3001	Oak Ridge Graphite Reactor	FFPA	ORNL		1
3005	Low-Intensity Test Reactor	FFPA	ORNL		3
3010	Bulk Shielding Reactor Facility	FFPA	ORNL		3
3026	3026D Pad and Hot Cells	FFPA	ORNL		1
3028 & 3029	Alpha Powder Facility	FFPA	ORNL		3
3030, 31, 32,33, 33A, 34, 36	Radioisotope Production Laboratory (aka: Isotope Circle)	FFPA	ORNL		3
3038	Isotope Development Laboratory	FFPA	ORNL		1
3042	Oak Ridge Research Reactor	FFPA	ORNL		3
3125 at al	Backup Power for 3039 Ventilation Fans	FFPA	ORNL		3
3127	LGWO Decontamination Management Storage	FFPA	ORNL		3
3130	Waste Operation Control Center (WOCC)	FFPA	ORNL		3
3517	Fission Products Development Lab	FFPA	ORNL	X	1
3544 et al	BV Storage Tanks, Process Waste, Treatment Complex, Filter Process	FFPA	ORNL		1

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Facility Number	Facility Description	Type of Assessment	Site	HazCat 2, 3, High Haz, or Vital to Prog	Freq (year)
4507	High Radiation Level Chemical Development Lab	FFPA	ORNL		1
6556 Complex	UCOR Nuc Ops Support Shops and Offices	FFPA	ORNL		3
7078 Complex	UCOR Nuc Ops Electrical Maintenance	FFPA	ORNL		3
7500	HRE - Homogeneous Reactor Experiment	FFPA	ORNL		3
7503 and 7509	Molten Salt Reactor Experiment (MSRE) Facility	FFPA	ORNL	X	1
7506	LGWO Maintenance Support Facility	FFPA	ORNL		3
7507W	ORNL S&M Interim Storage	FFPA	ORNL		3
7516	MSRE Field Service Shop	FFPA	ORNL		3
7524	Melton Valley Portable Office	FFPA	ORNL		3
7572 and 7574	CH-TRU Waste Storage	FFPA	ORNL	X	1
7582, E, F, G	LGWO Warehouse	FFPA	ORNL		3
7600, 7602, 7609, 7610, and 7614	Experimental Gas-Cooled Reactor (ECGR) Complex	FFPA	ORNL		3
CT8-7800	Storage Pad	FFPA	ORNL	X	1
7822K	Storage Pad	FFPA	ORNL	X	1
7823-B/C/D	TRU Waste Storage Facilities	FFPA	ORNL	X	1
7823-E, 7823-G, 7824, 7824-A, and 7824-E	Waste Examination and Assay Facility (WEAF)	FFPA	ORNL		3
7826, 7827, and 7834	Underground Bunkers/Wells	FFPA	ORNL	X	1
7830, 7856, 7863, 7877, 7887	Melton Valley Storage Tanks (Tanks W-24/31) Solidification, Separation and General Storage; and MVST Annex	FFPA	ORNL	X	1
7830A	RCRA-closed Melton Valley Storage Tank	FFPA	ORNL		3

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Facility Number	Facility Description	Type of Assessment	Site	HazCat 2, 3, High Haz, or Vital to Prog	Freq (year)
7831	Solid Waste Compactor Facility	FFPA	ORNL		3
7835	Nuc Ops Field Equipment Shop	FFPA	ORNL		3
7841, 7874, and 7862	D&D Storage Buildings SWSA 4	FFPA	ORNL		3
7841 B and C	HF-S1 Portable Office Complex	FFPA	ORNL		3
7842-B	Layout Area	FFPA	ORNL		3
7855	RH-TRU Waste Storage	FFPA	ORNL	X	1
7860A	Retrievable RH TRU Storage Tent	FFPA	ORNL	X	1
7860B Pad	Storage/Staging Pad	FFPA	ORNL	X	1
7879	CH-TRU Waste Storage	FFPA	ORNL	X	1
7883	RH-TRU Waste Storage Facility	FFPA	ORNL	X	1
7966	LLLW Monitor and Control Station	FFPA	ORNL	X	1
EMWMF	EMWMF Site	FFPA	ORNL	X	1
STTs	Shielded Transfer Tanks	FFPA	ORNL	X	1
7899	Well Drillers' Steam Cleaning Facility	FFPA	ORNL		3
Material Storage Facility (MSF)	Material Storage Facility (MSF)	FFPA	ORNL		3

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Facility Number	Facility Description	Type of Assessment	Site	HazCat 2, 3, High Haz, or Vital to Prog	Freq (year)
9201-2	Alpha-2	FFPA	Y-12	X	1
9201-4	Alpha 4 Production Building	FFPA	Y-12	X	1
9204-1	Beta-1	FFPA	Y-12	X	1
9401-01	Maintenance/Recycle Storage Building (Old Steam Plant)	FFPA	Y-12		3
9401-2	Y-12 Plating Shop	FFPA	Y-12		3
9616-11	Y-12 Industrial Landfill Administrative Buildings	FFPA	Y-12		3
9809-1, 9825-1, and 9825-2	Three Sided Storage Building and Uranium Oxide Storage Vaults	FFPA	Y-12		3
9720-60	DARA storage facility	FFPA	Y-12		3
HEY, 9983-KA, 9983-JZ	HEY Site and Support Structures	FFPA	Y-12		3
NA	Other Low Hazard UCOR Facilities	FFPA	All		5/10