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1.0 PURPOSE AND SCOPE

(5.1.1, 5.1.3, 5.1.4)

The Tank Operations Contractor (TOC) fire protection program is administered through the TOC Safety & Health organization and applies to all TOC employees, subcontractors, and managed facilities, programs, projects, and activities. The purpose of the program is to ensure that the TOC's commitment to uncompromising integrity and adherence to the highest safety standards is met in the area of fire protection by providing employees with the information necessary to ensure related safety requirements are met.

The Hanford Fire Department is responsible for the permitting process, fire suppression, fire system inspection/testing/maintenance and repair activities (except those belonging to the Facilities listed in Attachment A of this plan), Hanford Site specific fire system design criteria, hazardous material (HAZMAT) response, emergency rescue, and medical response. The Hanford Fire Department requirements are outside the scope of the TOC fire protection program, but the services they provide are maintained in [TFC-ESHQ-FP-STD-12](#). The TOC Safety & Health fire protection organization's fire protection engineer(s) are deputies of the Hanford Fire Marshal's Office and administer the permitting process for the TOC.

2.0 POLICY STATEMENT

The Tank Operations Contractor shall:

1. Ensure the Fire Protection Program represents DOE's commitment to fire protection and fire suppression capabilities sufficient to minimize losses from fire and related hazards consistent with highly protected risk status in private industry. To this end, the basic minimum objectives shall include:
 - A reliable water supply of adequate capacity for fire suppression
 - Noncombustible construction
 - Automatic fire extinguishing systems
 - Hazards protection
 - Access to a fully staffed and trained Fire Protection Engineer and maintenance staff
 - Access to a fully staffed, trained, and equipped fire department
 - A means to summon the fire department in the event of a fire
 - A means to notify and evacuate building occupants in the event of a fire
 - Application of mandatory fire protection criteria in accordance with 10 CFR 851 implementation criteria.
2. Minimize the potential for the occurrence of a fire or related perils.
3. Ensure the fire does not cause an unacceptable onsite or offsite release of hazardous material that will threaten the public health and safety or the environment.

4. Establish requirements consistent with the National Fire Protection Association ®¹ (NFPA®) NFPA 101® “Life Safety Code®” that will provide an acceptable degree of life safety to the TOC.
5. Ensure that vital U. S. Department of Energy (DOE) programs will not suffer unacceptable delays (defined by the program senior official) as a result of fire and related perils.
6. Ensure that property damage from fire and related perils does not exceed DOE established levels.
7. Ensure that process control and safety systems are not damaged by fire or related perils.
8. Maintain a minimum of one qualified fire protection engineer on staff and provide additional qualified staff as necessary to perform the functions and meet DOE requirements.

NOTE: A qualified fire protection engineer is an engineer that is a graduate of an accredited university or college with a Bachelor of Science in an engineering or related technical field and meeting the qualifications for Member Grade in the Society of Fire Protection Engineers, or an engineer that has a member grade in the Society of Fire Protection Engineers, or an engineer that is a Registered Professional Fire Protection Engineer.

3.0 RESPONSIBILITIES

3.1 All Employees

1. Perform their activities safely to prevent the occurrence of a fire.
2. Notify their immediate manager or team coordinator of hazardous conditions that could result in a fire.
3. Notify the Hanford Fire Department if there is an indication of a fire, hazardous material spill, emergency rescue, or medical need by calling 911 or 373-0911 (cell phone) or other effective means.

NOTE: Off-site locations (e.g., Stevens Center) shall notify the City of Richland Fire Department by calling 911 or other effective means. The TOC Fire Protection Engineer shall be informed (372-9418) in a timely manner for trending.

4. Park all vehicles (private and government) so that they do not block fire equipment or delay emergency response vehicles.

¹ NFPA, National Fire Protection Association, NFPA 101, and Life Safety Code are all registered trademarks of the National Fire Protection Association, Quincy, Massachusetts, 02169.

5. Shall receive basic fire prevention training that includes the following items (as a minimum):
- Good housekeeping practices
 - Proper response/notification in the event of a fire
 - Instruction on the use of portable fire extinguishers
 - Recognition of potential fire hazards.

Employees who are designated to use a portable fire extinguisher as part of an emergency action plan or as a fire watch (such as for a welding/cutting operation) shall receive hands-on training in accordance with [TFC-ESHQ-FP-C-01](#).

All fire protection training shall be documented in accordance with training administration procedures.

3.2 Facility Management

(5.1.2)

1. Provide and maintain the necessary staff and resources to develop, implement, and maintain the TOC fire protection program.
2. Implement and adhere to the requirements of the TOC fire protection program for the facilities, programs, and/or operations under their jurisdiction.
3. Implement compensatory measures until compliance is achieved or an equivalent level of protection is provided whenever the requirements of the TOC fire protection program cannot be met.
4. Assist fire protection personnel with facility assessments, appraisals, investigations, and analyses.
5. Develop corrective action plans, provide timely resolution, and provide the necessary support for resolving fire protection deficiencies identified during appraisals, audits, and assessments, and fire protection system restrictions and emergency impairments.
6. Ensure serious fire protection deficiencies are funded and corrected with minimum delays.
7. Report fire and property losses in accordance with the requirements of [TFC-OPS-OPER-C-24](#).
8. Ensure designs, specifications, modifications, fire system acceptance test procedures, and fire equipment procurement are reviewed and approved by a qualified Fire Protection Engineer.
9. Ensure a fire hazards analysis is prepared for all new facilities and existing nuclear facilities in accordance with [TFC-ESHQ-FP-STD-06](#). Where assumptions are made in the fire hazards analysis regarding the combustible loading of a facility, facility-specific controls shall be developed which will prevent exceeding the limits analyzed.

10. Coordinate with the Hanford Fire Department and Fire Systems Maintenance to ensure that fire protection system testing and maintenance are completed within the required frequency.
11. Ensure procedures and staffing are in place to complete weekly/monthly facility required fire protection system inspections are completed.

NOTE: Attachment A of this plan specifies which components are the responsibilities of TOC facility/operation personnel to perform. (If assistance is needed contact the TOC fire protection engineer.)

12. Ensure documented, monthly facility inspections are performed in accordance with NFPA 801, "Standard for Fire Protection for Facilities Handling Radioactive Materials." To this end, documentation shall:

- Include provisions for remedial actions to correct conditions that increase the hazards.
- Locate and identify unnecessary transient combustibles.
- Identify uncontrolled ignition sources, and
- Detect obstructions to the means of egress.

13. Ensure compliance with 10 CFR 851 implementation for the requirements of 29 CFR 1910.39, "Fire Prevention Plans."

NOTE: Attachment B of this document, "10 CFR 851 Implementation Fire Prevention Plan Requirements," lists the applicable requirements of 29 CFR 1910.39 and the plans, processes, and/or procedures in place to meet prevention planning requirements.

3.3 TOC Safety & Health Fire Protection Organization

1. Provide fire protection engineer technical support to the project organizations and facilities to assist with implementation of the TOC fire protection program, assist line management with fire investigations, assist in the resolution of fire system discrepancies, and support the preparation of exemptions/equivalency/deviation requests.
2. Disseminate fire protection information to management to keep them advised of changes, special problem issues, and/or new requirements related to the TOC fire protection program.
3. Establish and interpret fire protection policies, standards (including Life Safety Code²) and requirements, and maintain program procedures applicable to TOC operations, activities, projects, and facilities.
4. Ensure a fire hazard analysis is conducted at all nuclear and new facilities by performing or coordinating preparation, reviewing, and approving all TOC-related fire hazard analyses and assist in acquiring DOE approval.

² NFPA, National Fire Protection Association, Life Safety Code, and National Electrical Code are all registered trademarks of the National Fire Protection Association, Quincy, Massachusetts, 02169

5. Review fire protection designs, specifications, modifications, fire system acceptance test procedures, and fire equipment procurement to ensure compliance with DOE and statutory fire protection requirements, standards, and recommended practices.
6. Review and approve, as appropriate, requests for exemptions, variances, deviations, or equivalency evaluations from fire protection standards and requirements; and ensure a Hanford Fire Marshal review is performed in accordance with the Fire Marshal Charter before being submitted to DOE.
7. Establish and maintain a list of those facilities that require fire protection facility assessments, and ensure new facilities are added to the list for review.
8. Perform fire protection facility assessments to determine compliance with applicable DOE Orders (DOE O 420.1B), and prescribed standards per the frequencies and category areas identified in ENS-ENG-IP-05, R0 and ensure any deficiencies are maintained in the deficiency tracking system until corrected.
9. Assist with fire protection operational readiness reviews to verify that the facility, staff, procedures, and technical safety bases for operation are in place and ready for the defined operation.
10. Ensure that the working copies of files and records of fire protection activities (e.g., internal procedures, corrective action files, interpretations, etc.) are maintained and are accessible.
11. Attend training courses to maintain proficiency in the mandatory fire protection standards of the program.
12. Prepare the Annual Property Loss Summary report.
13. Provide fire protection overview of subcontractor activities and facilities.
14. Provide technical assistance to DOE.

3.4 Engineering

1. Ensure that design requirements for nuclear facilities' interior finish materials are implemented in design procedures. Requirements include:
 - a. Interior finish materials (decorations, furnishings, and exposed wall or insulating materials) shall have an Underwriters Laboratories (ASTM E-84/NFPA 255) flame spread rating of 25 or less, and smoke-developed rating of 50 or less
 - Except acoustical materials shall have a smoke-developed rating of 100 or less.
 - b. Floor covering material shall have a minimum average critical radiant flux of 0.45 watts per square centimeter when tested in accordance with ASTM E-648/NFPA 253.

2. Interface with the TOC fire protection engineer and the Hanford Fire Marshal to ensure fire protection concerns are adequately addressed, that designs and modifications comply with the applicable requirements, and applicable permits are obtained.
3. Specify (when available) only fire protection equipment and components that have been approved or listed for application by a nationally recognized testing laboratory.
4. Ensure that [TFC-ESHQ-FP-STD-02](#), "Fire Protection Design Criteria," is referenced in appropriate Engineering procedures.

4.0 DEFINITIONS

No terms or phrases unique to this procedure are used.

5.0 SOURCES

5.1 Requirements

1. 10 CFR 851, "Worker Safety and Health."
2. 29 CFR 1910.39, "Fire Prevention Plans."
3. DOE O 420.1B, "Facility Safety."
4. ENS-ENG-IP-05, R0, "ORP Fire Protection Program."

5.2 References

1. NFPA 101®, "Life Safety Code®," current edition.
2. NFPA 801, "Fire Protection for Facilities Handling Radioactive Materials."
3. [TFC-ESHQ-FP-C-01](#), "Controls for Safe Hot Work."
4. [TFC-ESHQ-FP-STD-02](#), "Fire Protection Design Criteria."
5. [TFC-ESHQ-FP-STD-04](#), "Fire Protection System Inspection, Testing, Maintenance, and Discrepancies Management."
6. [TFC-ESHQ-FP-STD-06](#), "Fire Hazards Analysis and Fire Protection Assessment Requirements."
7. [TFC-ESHQ-FP-STD-12](#), "Hanford Fire Department Services."
8. [TFC-OPS-OPER-C-24](#), "Occurrence Reporting and Processing of Operations Information."

ATTACHMENT A - APPLICABLE TOC ADMINISTRATION FIRE PROTECTION PROCEDURES

The Hanford Fire Department personnel or other organizations using site-wide procedures perform many of the required activities, but the routines listed below are the responsibility of the facility management of the applicable building(s). (For inspection details see TFC-ESHQ-FP-STD-04.)

1.0 Project Management Team and Team Coordinator Responsibilities:

1. Riser Pressure Gages Inspections (monthly/5 years)
2. Control Valve Inspections (weekly/monthly)
Includes PIVs, control, backflow, and alarm isolation valves
3. Fire Extinguisher Inspections (monthly)
4. Fire Barrier Inspections (2 years)
5. Fire Damper Operation (2 years)
6. Fire Door Inspection (yearly)
7. Emergency Light Inspection/Test (monthly/yearly)
8. Exit Sign Inspections (monthly/yearly)

ATTACHMENT B - 10 CFR 851 IMPLEMENTATION – FIRE PREVENTION PLAN REQUIREMENTS.

29 CFR 1910.39	Plan/Procedure/Process Implementation	Description
1910.39(a)	Fluor Hanford, Inc., DE-AC06-6RL13200 - Modification M281, Specifically Part I, Section C, Statement of Work: <ul style="list-style-type: none"> • C.4.2.14, Fire Department • C.4.2.15, Fire Systems Maint. TFC-PLN-13, “Fire Protection Program”	Application – Fire Prevention Plan
1910.39(b)	TFC-PLN-13, “Fire Protection Program” Access to this document is maintained on the Hanford Procedures Web Site at all times. HGET (All badged personnel require this training)	Written/oral – Fire Prevention Plan
1910.39(c)	TFC-ESHQ-FP-C-01, “Controls for Safe Hot Work” TFC-ESHA-FP-STD-01, “Fire Marshal Permits, Combustible Controls, and Construction/Occupancy Requirements” HNF-SD-WM-FHA-020, “Tank Farm Fire Hazards Analysis” Job specific work place hazard analysis Job specific work packages	Minimum elements - Fire Prevention Plan
1910.39(c)(1)	HNF-SD-WM-FHA-020, “Tank Farm Fire Hazards Analysis” HNF-SD-WM-FHA-024, “Fire Hazard Analysis for the Evaporator Facility (242-A)” HNF-SD-CP-FHA-003, “222-S Laboratory Fire Hazards Analysis Reports” TFC-ESHQ-FP-STD-01, “Fire Marshal Permits, Combustible Controls, and Construction/Occupancy Requirements”	List of major hazards

**ATTACHMENT B - 10 CFR 851 IMPLEMENTATION – FIRE PREVENTION PLAN
REQUIREMENTS (cont.)**

29 CFR 1910.39	Plan/Procedure/Process Implementation	Description
1910.39(c)(2)	TFC-ESHQ-FP-STD-01, “Fire Marshal Permits, Combustible Controls, and Construction/Occupancy Requirements” TFC-ESHQ-FP-STD-13, “Fire Protection Requirements for Hazardous Material & Used Waste Absorbing Material Storage”	Procedures to control flammables/combustible wastes
1910.39(c)(3)	Heat producing equipment at the Hanford Site is ordinary industrial equipment available on the open market and manufactures’ safeguards are utilized. HNF-SD-WM-FHA-020, “Tank Farm Fire Hazards Analysis” HNF-SD-WM-FHA-024, “Fire Hazard Analysis for the Evaporator Facility (242-A)” HNF-SD-CP-FHA-003, “222-S Laboratory Fire Hazards Analysis Report” TFC-ESHQ-FP-C-01, “Controls for Safe Hot Work” TFC-ESHQ-FP-STD-01, “Fire Marshal Permits, Combustible Controls, and Construction/Occupancy Requirements” TFC-ESHQ-FP-STD-09, “Fire Protection System Winterization and Portable Heater Use”	Procedures for safeguards on heat producing equipment
1910.39(c)(4)	Fluor Hanford, Inc., DE-AC06-6RL13200 - Modification A255, Specifically Part I, Section C, Statement of Work: <ul style="list-style-type: none"> • C.4.2.15, Fire Department Services TFC-ESHQ-FP-STD-04, “Fire Protection System Testing, Inspection, and Maintenance.” TFC-ESHQ-FP-STD-12, “Hanford Fire Dept Services” TFC-PLN-13, “Fire Protection Program” Due to the nature and diversity of the Hanford Site activities and processes, responsibility for maintaining equipment include multiple processes such as the Flammable Equipment Review Board and personnel designated by job in accordance with specific work packages and associated Job Site Hazards Analysis. The responsible building employees’ contact information is located on the “Emergency Response Information” board located in every facility having 11 or more employees.	Employee responsibility for maintaining equipment to prevent or control sources of ignition or fires

**ATTACHMENT B - 10 CFR 851 IMPLEMENTATION – FIRE PREVENTION PLAN
REQUIREMENTS (cont.)**

29 CFR 1910.39	Plan/Procedure/Process Implementation	Description
1910.39(c)(5)	<p>HGET provides information for the typical employee on common industrial hazards and where to get additional information on any products that may be found in the work environment.</p> <p>Fuel source hazards are evaluated and addressed in the DSA, Facility FHAs, Fire Marshal Permits, Work Packages, and Job Site Hazard Analysis.</p> <p>The Shift Manager is responsible for field activities.</p> <p>The responsible building management employees' contact information is located on the "Emergency Response Information" Board located in every facility having 11 or more employees in the facility.</p>	Employee responsibility Fuel source hazards
1910.39(d)	HGET FEHIC Training – Course #350561	Employee information - Initial assignment