

Fire Prevention and Protection



Preparer: Rhonda Martin 02/04/19
 Rhonda Martin
 BNI Senior Safety Specialist Date

Concurrence: [Signature] 02/04/19
 Jeffery E. Sipes
 Fire Protection – Design Authority, CNS Date

Approval: Jamie M Horning 02/04/19
 Jamie Horning
 UPF BNI ES&H Manager Date

[Signature] 02/06/19
 Gary F. Hagan
 UPF ES&H Manager Date

[Signature] 02/11/19
 Dave Ross
 UPF Site Manager Date

[Signature] 02/06/19
 John P. Howanitz
 Senior Vice President and UPF Project Director Date

02/12/19
Effective Date

Implements Quality Requirements

None
 BNI
 CNS
 BNI & CNS

RC-UPF DMC
 02/12/19 07:49

This document has been reviewed by a Y-12 DC / UCNI-RO and has been determined to be UNCLASSIFIED and contains no UCNI. This review does not constitute clearance for Public Release.
 Name: A. L. Glover Date: 02/11/19
 A. L. Glover

REVISION LOG

Revision	Description	Intent	Non Intent
8	<p>Section 2.5: added Indirect Manager/ Superintendent responsibilities.</p> <p>Section 3.3: added Indirect, Superintendents, or designee.</p> <p>Added Form UCN-23356 (per Condition Report 25774-000-GCA-GAM-00895, <i>F6 - Fire Extinguishers Monthly Inspection Not Properly Documented/IMA-PM-801768-FY18-028</i> Action 5).</p> <p>Section 4.8: Removed verbiage and added reference to designated smoking areas per UPF-CP-200, <i>General Safe Work Practices</i>.</p> <p>Section 5.1: Added Y79-001, <i>Y-12 Fire Protection Program Manual</i>.</p> <p>Section 5.4.2: Removed extra verbiage redundant to UPF-CP-205, <i>Personal Equipment</i>.</p> <p>Section 7.0: References-added S&E Manual 4SM-6BH-F0001 NS&E 211 Fire Prevention and protection.</p> <p>Section 8.0: Supplemental Information-removed Appendix D.</p> <p>Changed terminology from Construction Manager to UPF Site Manager.</p> <p>An evaluation determination has been performed confirming this Command Media does not implement Quality requirements, as tracked in PRMS.</p>	X	
7	Corrected a reference to 29 CFR 1926 in Section 4.7.2. Removed spelling out of ANSI in document number in reference section.		X
Previous revisions	On record	NA	

CONTENTS

1.0	INTRODUCTION	5
1.1	Purpose	5
1.2	Applicability.....	5
2.0	RESPONSIBILITIES	5
2.1	UPF Site Manager	5
2.2	Environmental, Safety and Health (ESH) Manager	5
2.3	Field Safety Representative (FSR).....	5
2.4	Discipline Superintendent (DS)	5
2.5	Indirects Manager/Superintendent	5
2.6	Supervisor	6
2.7	Subcontract Technical Representative (STR)	6
2.8	Worker	6
2.9	Contractor Authority Having Jurisdiction (CAHJ).....	6
3.0	FIRE PROTECTION	6
3.1	If A Fire Occurs.....	6
3.2	Means of Egress/Exits	7
3.3	Portable Firefighting Equipment.....	7
3.4	Fixed Firefighting Equipment	7
3.5	Fire Cutoffs	8
4.0	Fire prevention.....	8
4.1	Ignition Hazards.....	8
4.2	Relocatable Structures/Temporary Buildings	8
4.3	Temporary Enclosures	9
4.4	Open Yard/Outdoor Storage	9
4.5	Indoor Storage	9
4.6	Flammable and Combustible Liquids	9
4.7	Buildings under Construction	11
4.8	Construction Facilities/Areas.....	12
5.0	HOT WORK.....	12
5.1	Classification of Hot Work.....	12
5.2	Fire Prevention	13
5.3	Protection of the General Area.....	13
6.0	RECORDS	13
7.0	REFERENCES	13

Fire Prevention and Protection

7.1 Source References 13

7.2 Interfacing References 14

8.0 SUPPLEMENTAL INFORMATION 14

APPENDIX A Acronyms and Definitions..... 15

APPENDIX B Monthly Fire Extinguisher Inspection Requirements..... 17

1.0 INTRODUCTION

1.1 Purpose

The purpose of this procedure is to present fire prevention and protection guidelines and requirements to protect workers and property at the Uranium Processing Facility (UPF) construction site and other support areas, including the Mechanical Electrical Building (MEB) Warehouse, K-1065-E Warehouse, East Tennessee Technology Park (ETTP) Fabrication Facility, and ETTP Storage Facility.

1.2 Applicability

This procedure is applicable for UPF site personnel, subcontractors, vendors, and visitors during the course of the project.

2.0 RESPONSIBILITIES

2.1 UPF Site Manager

The UPF Site Manager has the overall responsibility of ensuring the implementation of this procedure and ensuring that all project personnel actively participate. Additionally, the UPF Site Manager provides worker support, facilities, and other resources necessary to carry out this procedure effectively.

2.2 Environmental, Safety and Health (ESH) Manager

The ESH Manager, in conjunction with the UPF Site Manager, is responsible for implementing and administering the procedure, providing periodic monitoring of the construction site and support areas for fire hazards, and recommending mitigation of these hazards to line management.

2.3 Field Safety Representative (FSR)

The FSR is responsible for compliance oversight with the procedure via periodic field inspections and supplying technical advice.

2.4 Discipline Superintendent (DS)

The DS is responsible for implementing requirements identified in this procedure on the UPF construction site/support areas, including the following:

- Addressing housekeeping, access/egress, and storage and staging of materials in accordance with the procedure in Pre-Job and Safety Task Analysis and Risk Reduction Talk (STARRT) Card meetings
- Monitoring site conditions on a daily basis and implementing any remedial actions required
- Ensuring that sufficient attention is given to housekeeping of the worksite, including cleaning up leftover combustible/flammable materials, scraps, and spent materials/containers

2.5 Indirect Manager/Superintendent

- The Indirect Manager/Superintendent is responsible for the following:

- Ensuring that fire extinguishers are inspected monthly and annually
- Ensuring that Fire Extinguisher Checkout logs are maintained
- Ensuring that maintenance is performed as needed

2.6 Supervisor

The Supervisor is responsible for being familiar with this procedure and specific responsibilities regarding implementation as well as managing work activities to allow sufficient time at the end of each shift to perform housekeeping of the worksite.

2.7 Subcontract Technical Representative (STR)

The STR is responsible for being familiar with this procedure and specific individual responsibilities regarding implementation as well as providing this procedure to subcontractors working at the UPF construction site with directions to follow the procedure.

2.8 Worker

The worker is responsible for understanding and complying with this procedure as it applies to the work that said individual performs.

2.9 Contractor Authority Having Jurisdiction (CAHJ)

The FPDA also fills the role of the CAHJ where authorized by Consolidated Nuclear Security, LLC (CNS) Policy 0029 and in accordance with Y79-001, *Y-12 Fire Protection Code Manual*. The Fire Protection Design Authority is responsible for supplying technical advice and interpretation of fire protection codes and standards included in the procedure.

3.0 FIRE PROTECTION

3.1 If A Fire Occurs

In the event of a fire, employees are primarily responsible for evacuating themselves and others safely from the fire area. The discoverer of the fire should complete the following:

- Yell "FIRE" to notify those in the immediate vicinity.
- Notify the Y-12 National Security Complex (Y-12) Fire Department (FD)/Plant Shift Superintendent (PSS) via the following steps:
 - Activate a fire alarm (pull box), if available.
 - Call 911 from a Y-12 landline.
 - Call (865) 574-7172 from a cell phone.
 - By project Radio use channel 1 to contact PSS.
 - Contact the supervisor/superintendent and provide any information regarding the fire and its location (to be forwarded to FD/PSS).
- **ONLY AFTER** reporting the fire, employees may voluntarily attempt to fight a small, early stage fire using available portable fire extinguishers. This voluntary action should be taken only if personnel believe it is within their capability to safely extinguish or contain the fire, a safe escape route is readily available, and there is no immediate danger.

3.2 Means of Egress/Exits

The following requirements shall apply to means of egress/exits:

- In every building and structure, arrange and maintain exits to provide free and unobstructed egress from all parts of the building or structure at all times when it is occupied.
- Fire escapes/exits shall not be locked or secured (e.g., chained) to prevent unhindered escape/exit from inside any building.
- Mark exits by a readily visible sign. Access to exits are marked by readily visible signs in all cases where the exit, or way to reach it, is not immediately visible to all occupants.
- Maintain means of egress free of all obstructions or impediments to full instant use in case of fire or other emergency.
- Every building designed for human occupancy shall be provided with exits sufficient to permit the prompt egress of occupants in case of emergency.
- In areas determined to be hazardous (e.g., combustible/flammable storage rooms) OR where employees may be endangered by the blocking of any single means of egress from fire or smoke, there shall be at least two means of egress remote from each other.
- All exits shall discharge directly to the street or other open space that gives safe access to a public way.
- Any door, passage, or stairway that is not an EXIT or a way of exit access, but which is located or arranged such that it could be mistaken for an exit, shall be identified by a sign reading "Not an Exit".

3.3 Portable Firefighting Equipment

A master list of all fire extinguishers shall be maintained by Indirect Manager, Superintendents, or designee.

The following portable firefighting equipment requirements shall apply:

- Provide a fire extinguisher, rated no less than 2A-10BC (5lb ABC), for each 3,000 square feet of protected building area or major fraction thereof. Ensure travel distance from any point of the protected area to the nearest fire extinguisher does not exceed 75 feet for ordinary combustibles or 50 feet where flammable/combustible liquids are used/stored.
- Provide one or more fire extinguishers, rated no less than 2A-10BC (5lb ABC), on each floor. In multistory buildings, locate at least one fire extinguisher adjacent to each stairway on each floor.
- Portable fire extinguishers will be inspected monthly and maintained in accordance with **Appendix B**.
- Use only fire extinguishers that have been listed or approved by a nationally recognized testing laboratory.
- Each fire extinguisher will be replaced immediately after discharge with another fire extinguisher that is fully charged and of the proper size and type.
- If a fire extinguisher is checked out to provide coverage for hot work or other mobile work activity, UCN-23356, *UPF Fire Extinguisher Check-Out Log* shall be completed.

3.4 Fixed Firefighting Equipment

The following requirements for fixed firefighting equipment shall apply:

- If the facility being constructed includes the installation of automatic sprinkler protection and standpipes, ensure the installation closely follows construction completion and is placed in service as soon as feasible.
 - Ensure a temporary or permanent water supply is available and capable of the volume, duration, and pressure required to operate fixed firefighting equipment
- Provide and maintain free access from the street to fire hydrants and to outside connections for standpipes, sprinklers, or other fire-extinguishing equipment, whether permanent or temporary (see **Section 4.7.1, Access Roadways**).

3.5 Fire Cutoffs

Ensure firewalls and exit stairways (including fire doors and automatic closing devices) are installed closely following construction completion and are placed in service as soon as feasible.

Fire doors shall be maintained in a closed position unless being used.

No penetrations to fire barriers shall be made without an approved work package.

4.0 FIRE PREVENTION

4.1 Ignition Hazards

In addition to this procedure, in regard to controls for cutting and welding, reference the following:

- Fire protection and prevention requirements for welding and cutting activities are described in the following procedures:
 - Y17-95-64-877, *UPF Hot Work Permit*
 - UPF-CP-227, *UPF Safety Watches*
- Install all electrical wiring and equipment for light, heat, or power purposes in compliance with local codes and standards.
- Locate exhausts of internal combustion engine-powered equipment away from combustible materials.
- For smoking needs, refer to Section 4.8, *Construction Facilities/Areas*.

4.2 Relocatable Structures/Temporary Buildings

Relocatable structures/temporary buildings shall meet the following criteria:

- Do not erect a building where it can adversely affect any means of exit.
- Buildings, specifically those not used for storage, handling, or use of flammable or combustible liquids, flammable gases, explosives or blasting agents, or similar hazardous occupancies, must be located at least 10 feet from another temporary building or structure.

When a temporary building is located within another building or structure, ensure that it is made of noncombustible material. If it is made of combustible material, ensure that it has a fire resistance of no less than one hour.

NOTE: *Deviations may be evaluated and approved with Environment, Safety, and Health (ES&H) and CAHJ concurrence.*

- Vegetation within 30 feet of buildings/structures will be maintained.

4.3 Temporary Enclosures

- Only non-combustible panels, flame-resistant tarpaulins, or approved materials of equivalent fire-retardant characteristics shall be used for temporary enclosures.

4.4 Open Yard/Outdoor Storage

Open yard storage shall meet the following criteria:

- Stack/store combustible materials no higher than 20 feet.
- Do not store combustible material outdoors within 30 feet of a building or structure.

4.5 Indoor Storage

Indoor storage shall meet the following criteria:

- Ensure storage does not obstruct or adversely affect means of exit.
- Maintain a clearance of at least 36 inches between the top level of the stored material and in-service sprinkler deflectors.
- Maintain clearance around lights and heating units to prevent ignition of combustible materials.
- Maintain a clearance of 36 inches around the path of travel of fire doors unless a barricade is provided, in which case no clearance is needed.

4.6 Flammable and Combustible Liquids

4.6.1 General Requirements

- Flammable and combustible liquids will be handled and used only in approved, properly labeled safety cans or the manufacturer's original shipping container.
- Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. Approved safety cans will be used for the handling of flammable liquids in quantities greater than one US gallon (gal). For quantities less than one gal, only the original container or approved safety cans will be allowed.
- *Storage areas shall be appropriately posted as "No Hot Work/Open Flame" areas.*
- Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or passageways, and will not adversely affect a means of egress.

4.6.2 Indoor Storage of Flammable and Combustible Liquids

Indoor storage of flammable and combustible liquids shall meet the following criteria primarily in 1065E warehouse:

- Incidental Quantities of flammable and combustible liquid not located within an approved cabinet or storage room shall not exceed the following quantities:
 - The maximum quantity of liquids permitted for incidental operations in a single fire area shall not exceed the greater of the following:
 - The amount required to supply incidental operations for one continuous 24-hour period.
 - The aggregate sum of the following:
 - 25 gal (95 L) of Class IA liquids in containers

- 120 gal (454 L) of Class IB, Class IC, Class II, or Class III liquids in containers

Where the quantities of flammable and combustible liquids exceeds the incidental quantities, the liquids shall be stored as follows:

- Approved metal storage cabinets.
- Label cabinets with conspicuous lettering “Flammable—Keep Fire Away”.
- Do not exceed the approved storage cabinet labeled volume capacity of stored flammable and combustible liquids.

4.6.3 Outside Cabinet Storage of Flammable and Combustible Liquids

For a set of approved cabinets that are grouped together, do not exceed the total capacity of all the cabinets for the aggregate volume of flammable and combustible liquids.

4.6.4 Outside Bulk Storage of Flammable and Combustible Liquids

Storage of flammable and combustible liquids not in storage cabinets outside of buildings shall meet the following criteria:

- Storage of containers (e.g., drums/barrels no more than 60 gal each) cannot exceed a total of 1,100 gal in any one pile or group.
 - Separate piles or groups of containers by a five-foot clearance.
 - Do not place piles or groups of containers closer than 30 feet to a building.
 - Grade the storage area in a manner to divert possible spills away from buildings or other exposures, or surround the storage area by a curb or earth dike at least 12 inches high. When curbs or dikes are used, make provisions to drain off accumulations of ground or rain water, or spills of flammable or combustible liquids. Terminate drains at a safe location and ensure they are accessible to operation under fire conditions.
- For outdoor portable tank storage:
 - Do not place tanks closer than 30 feet to any building.
 - Separate two or more portable tanks grouped together, having a combined capacity in excess of 2,200 gal, by a five-foot clear area.
 - Separate individual portable tanks exceeding 1,100 gal by a five-foot clear area.
- Provide portable tanks with emergency venting and other devices required by NFPA 30.
- Protect outside bulk storage areas against collision damage.

4.6.5 Fire Control for Flammable or Combustible Liquid Storage

Fire control for flammable or combustible liquid storage shall consist of:

- Locate at least one 20lb Class ABC fire extinguisher no less than 25 feet, and no more than 75 feet, from any flammable liquid storage area located outside.
- Provide at least one 20lb Class ABC fire extinguisher on all tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids.

4.6.6 Dispensing Flammable and Combustible Liquids

The following requirements shall apply when dispensing flammable and combustible liquids:

- Separate from other work operations by 25 feet (or by a fire-resistant barrier of at least one hour) areas wherein flammable liquids are transferred in quantities greater than five gal from one tank/container to another tank/container.

- Provide drainage or other means to control spills.
- Provide adequate natural or mechanical.
- Use only approved dispensing devices and nozzles for flammable liquids.

4.6.7 Service and Refueling Activities (Fuel Truck Only)

The following requirements shall apply to service and refueling activities:

- Ensure tank trucks comply with the requirements covered in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*.
- Ensure dispensing hose is an approved type and in good operating condition.
- Ensure dispensing nozzle is an approved automatic-closing type without a latch-open device.
- Shut off the motors of all equipment being refueled before refueling operations begin.
- Refueling of vehicle and portable equipment shall not be located within structures under construction, alteration, or demolition.

4.6.8 Flammable and Combustible Gases

For requirements and guidelines for flammable and combustible gases, see UPF-CP-225.

4.7 Buildings under Construction

4.7.1 Access Roadways

Establish roadways for fire apparatus access to each building, having:

- An all-weather driving surface.
- At least 20 feet of unobstructed width.
- A vertical clearance of a minimum of 13.6 feet.
- The ability to withstand the loads of a fire apparatus.
- Roads not appropriate for fire apparatus should be flagged or barricaded.

4.7.2 Escape Facilities and Stairs

In buildings under construction, adequate escape facilities (e.g., doors, walkways, stairs, ramps) shall be maintained at all times and arranged in accordance with the general requirements of NFPA 101, *Life Safety Code*.

For buildings under construction, the following are stair requirements:

- In all buildings over one story in height, at least two stairway shall be provided that is in usable condition at all times.
- This stairway shall be extended upward as each floor is installed in new construction.
- The stairway shall be lighted.

4.7.3 Construction Material and Equipment Storage

When equipment to be installed is stored temporarily in unprotected structures under construction, associated combustible construction and packing materials shall be minimized.

4.7.4 Temporary Heating Devices

The following requirements shall apply to temporary heating devices:

- Use only properly installed and approved heating devices in temporary buildings.

- Supply fresh air in sufficient quantities to maintain health and safety of workers. Where fresh air supply is inadequate, provide mechanical ventilation.
- Temporary heating equipment shall be listed, installed, used, and maintained in accordance with the manufacturer's instructions.
- Install temporary heating devices to provide clearance to combustible materials.
- Ensure that heaters, when in use, are set horizontally level, secured, and immobilized during operation unless otherwise noted by the manufacturer.
- Solid fuel salamanders are prohibited.
- Portable heaters, regardless of fuel source, will be equipped with an approved automatic device to shut off the flow of gas to the main burner and pilot, if used, in the event of flame failure. Heaters having inputs above 50,000 BTUs per hour will be equipped with either a pilot, which must be lighted and proved before the main burner can be turned on, or an electrical ignition system.
- Fuel supplies for liquefied petroleum gas-fired heaters shall comply with NFPA 58, *Liquefied Petroleum Gas Code*, and UPF-CP-225.

4.7.5 Fire Protection Self-Inspections

For facilities under construction, weekly informal and formal assessments will be conducted by Construction Supervisor, STR, or designee to ensure the provisions of this procedure are being met. Formal assessments will be documented in Bechtel National, Inc. (BNI) electronic database (e.g., Chekhov).

4.8 Construction Facilities/Areas

- Every building shall be accessible by fire department apparatus by means of roadways having an all-weather driving surface of no less than 20 feet of unobstructed width, the ability to withstand the live loads of the fire apparatus, and a minimum of 13.6 feet of vertical clearance.
- Do not block roads or fire lanes provided for emergency access by the fire department with vehicles, staged material, or equipment.
- Maintain walkways, aisles, stairways, and passageways in a clear and unobstructed condition.
- Where the construction of a building is nearing completion, all combustible and flammable waste shall be removed from the building as it is generated and before the end of every shift. The UPF Site Manager shall make the determination as to when the facility is "nearing completion".
- Smoking in designated areas only per UPF-CP-200, *General Safe Work Practices*.

5.0 HOT WORK

5.1 Classification of Hot Work

- Hot work is performed either within or outside of an Approved Designated Area.
- Approved Designated Areas shall be in accordance with Y79-001.
- Approved Designated Areas shall be track and inspected in accordance with CFN-1137, *UPF Designated Area Tracking and Inspection Log*.
- Approved Designated Areas shall be posted in accordance with CFN-1138, *UPF Designated Area for Hot Work Placard*.

- Hot work outside of an Approved Designated Area shall be in accordance with Y17-95-64-877.
- Where hot work is performed outside of an approved Designated Area, a Hot Work Permit in accordance with CFN-1139, *UPF Hot Work Permit* shall be completed and posted at the location of the hot work.

5.2 Fire Prevention

- Welding operations performed outside designated areas are allowed only after a Designated Area Permit is generated per Y17-95-64-877.
 - Fire watches are activated through the Designated Area Permit, and roles are defined in UPF-CP-227.
- For compressed gas cylinder requirements, reference UPF-CP-225.

5.3 Protection of the General Area

Locate welding equipment, machines, cables, and other related apparatuses such that these items do not present hazards to personnel. Keep passageways, ladders, and stairways clear. Route hoses, cords, and leads such that they do not create a tripping hazard and are not subject to physical damage. Post signs in accordance with UPF-CP-214, *Barricade and Signs*, as needed.

6.0 RECORDS

Records generated by this procedure shall be maintained in accordance with Y15-95-800, *UPF Document Management*. Record types for documents submitted to the UPF DMC are identified in ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*. Quality Type is listed as Quality-Lifetime (QA-L), Quality-Nonpermanent (QA-NP), or Non-Quality (Non-QA).

Records generated during the performance of this procedure include:

Master location list for all fire extinguishers

Record Number	Record Title	Record Holder	System/ Location	Quality Type
UCN-23356	UPF Fire Extinguisher Check-Out Log	UPF ES&H	ES&H	Non-QA

7.0 REFERENCES

7.1 Source References

29 CFR 1926, Subpart F, *Fire Protection and Prevention*

29 CFR 1926, Subpart J, *Welding and Cutting*

29 CFR 1926.151, *Fire Prevention*

29 CFR 1926.152, *Flammable and Combustible Liquids*

ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*

Bechtel NS&E 201, *Housekeeping*

Bechtel NS&E 211, *Fire Prevention and Protection*

Bechtel NS&E ES&H Manual 4SM-6BH-F0001

NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*

NFPA 51B, *Standard for Fire Prevention during Welding, Cutting, and Other Hot Work*

Y17-95-64-837, *UPF Housekeeping*

7.2 Interfacing References

ANSI Z87.1-1968, *Practice for Occupational and Educational Eye and Face Protection*

CFN-1137, *UPF Designated Area Tracking and Inspection Log*

CFN-1138, *UPF Designated Area for Hot Work Placard*

CFN-1139, *UPF Hot Work Permit*

International Fire Code® (IFC) Table 5003.1.1(1)

ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*

NFPA 10, *Standard for Portable Fire Extinguishers*

NFPA 30, *Flammable and Combustible Liquids Code*

NFPA 31, *Standard for Installation of Oil-Burning Equipment*

NFPA 54, *National Fuel Gas Code*

NFPA 58, *Liquefied Petroleum Gas Code*

NFPA 101, *Life Safety Code*

NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*

UPF-CP-200, *General Safe Work Practices*

UPF-CP-205, *Personal Protective Equipment and Safe Work Apparel*

UPF-CP-214, *Barricades and Signs*

UPF-CP-225, *Compressed Gas Cylinders, Liquefied Petroleum Gas, and Liquefied Inert Gas*

UPF-CP-227, *UPF Safety Watches*

Y15-95-800, *UPF Document Management*

Y17-95-64-877, *UPF Hot Work Permit*

Y73-750, *Confined Space Entry Program*

Y79-001, *Y-12 Fire Protection Program Manual*

8.0 SUPPLEMENTAL INFORMATION

Appendix A, *Acronyms and Definitions*

Appendix B, *Welding Filter Lenses and Plates*

Appendix C, *Monthly Fire Extinguisher Inspection Requirements*

APPENDIX A Acronyms and Definitions

(Page 1 of 2)

ACRONYMS:

CAHJ	Contractor Authority Having Jurisdiction
CNS	Consolidated Nuclear Security LLC
DS	Discipline Superintendent
ES&H	Environment, Safety, and Health
ETTP	East Tennessee Technology Park
FSM	Field Safety Manager
FSR	Field Safety Representative
FPDA	Fire Protection Design Authority
gal	US gallon (unit of measurement)
IFC	International Fire Code
JHA	Job Hazard Analysis
MAQ	Maximum Allowable Quantities
MEB	Mechanical Electrical Building
MIG	Metal Inert Gas
NFPA	National Fire Protection Association
PSS	Plant Shift Supervisor
STARTR	Safety Task Analysis and Risk Reduction Talk
STR	Subcontract Technical Representative
UPF	Uranium Processing Facility
Y-12	Y-12 National Security Complex

DEFINITIONS:

Approved	Acceptable to the Authority Having Jurisdiction / Contractor Authority Having Jurisdiction.
Closed Container	A container so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures.
Combustible Liquids	Any liquid having a flash point at or above 140°F and below 200°F.
Combustible Material	A material that, in the form in which it is used and under the conditions anticipated, will have the potential to ignite and burn.
Enclosed Spaces	Any space, other than a confined space, enclosed to the extent that natural ventilation is not favorable.
Fire Resistance	Resistant to fire such that, for a specified time and under conditions of standard heat intensity, structural failure will not occur, nor will the side furthest from the fire be permitted to become hotter than a specified temperature. For the purpose of this procedure, fire resistance is determined by NFPA 251, <i>Standard Methods of Tests of Fire Resistance of Building Construction and Materials</i> .

APPENDIX A Acronyms and Definitions

(Page 2 of 2)

DEFINITIONS:

Flammable	Capable of being easily ignited and burning intensely or rapidly.
Flammable Liquids	Any liquid having a flash point below 140 °F and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 °F.
Flammable Material	Materials (solid, liquid, or gas) that are easily ignited and capable of burning rapidly.
Fuel Gas	Acetylene; hydrogen; natural gas; LP-Gas; methylacetylene-propadiene, stabilized; and other liquefied and non-liquefied flammable gases that are stable because of their composition or because of the conditions of storage and utilization.
Gas Cylinders “In Storage”	A gas cylinder is considered “In Storage” when it is reasonably anticipated that gas will not be drawn from the cylinder within 24 hours (overnight hours included).
Gas(es)	Propane, argon, nitrogen, mixed gases, or other fuel gases used with or without oxygen for cutting and welding activities.
Hot Work	Work involving burning, welding, grinding, or a similar operation capable of initiating fires or explosions (excluding Tungsten inert gas [TIG] welding).
In Use – Gas Cylinders “In Use”	A gas cylinder is considered “In Use” when it is reasonably anticipated that gas will be drawn from the cylinder within 24 hours, based on the welding work being planned.
Mechanical Ventilation	Work-environment air-movement systems are of two types for the purpose of this procedure:
General Mechanical Ventilation	Systems that move air for an identified area (building or room), such as roof or wall exhaust fans. Coppus blowers, used for areas without established general mechanical ventilation, are also considered general ventilation.
Local Exhaust Ventilation	Air-movement systems that are equipped with freely movable intake hoses or hoods, which can be placed close to a source; that have a determined capacity; that can remove airborne fumes and dust; and that can maintain safe breathing conditions.
Portable Tank	A closed container having a liquid capacity of more than 60 gal and not intended for fixed installation.
Safety Can	An approved closed container, with a capacity of no more than five gal, having a flash-arresting screen, a spring-closing lid, and a spout cover; designed so that it will safely relieve internal pressure when subjected to fire exposure.
Temporary Enclosures (Construction)	A building or structure fabricated from noncombustible panels, flame-resistant tarpaulins, plastic films, or approved materials of equivalent fire-retardant characteristics; intended to remain in place for construction activities (e.g., pipe welding enclosure).
Welding/Cutting Operations	Processes such as arc welding, oxy-fuel gas welding, MIG welding, grinding, open-flame soldering, brazing, thermal spraying, oxygen cutting, and arc cutting.

APPENDIX B

Monthly Fire Extinguisher Inspection Requirements

Present and Secured	A fire extinguisher is provided at each location designated by the inventory list
Accessible	The fire extinguisher is accessible with an area provided around the extinguisher to allow access to the extinguisher. Also, trash is not placed on or in any component of the fire extinguisher or blocking access to the extinguisher.
Identification	Permanently installed extinguisher locations are marked with a placard that is mounted above the extinguisher or cabinet and is clearly visible.
Seal Intact	Each pressurized portable fire extinguisher is provided with a plastic seal. The seal must be intact and not broken to ensure the extinguisher has not been discharged.
Pressure or Volume is Adequate	For extinguishers with a pressure gauge, the needle indicator is within the operable range or position.
Damage	The fire extinguisher appears in good condition with no obvious physical damage, corrosion, leakage, or clogged nozzle.
Tagged	Check extinguisher tag to confirm that the annual inspection has been completed.

Deficiencies identified with the elements Present and Secured, Seal Intact, Pressure or Volume is Adequate, Damage or Accessible Tagged shall be reported to DS promptly for corrective action.

Monthly visual inspections shall document that each required inspection element has been verified for each of the portable fire extinguisher units on the inventory list and shall include the signature/initials of the inspector and the date of inspection. Inspection records shall be retained and dispositioned in accordance with the requirements of **Section 6.0, Records**.

Extinguisher inspection items should include:

- The extinguisher is located in its designated place.
- There are no obstructions to access or visibility of the extinguisher.
- The pressure gauge reading or indicator is in the operating range or position.
- The extinguisher is full (determined by weighing or hefting).