THE NATION'S URANIUM PROCESSING FACILITY

UPF CHANGE NOTICE (PCN) FORM

PCN Number:	PRCN-Y73-95-802-R01-01	PCN Rev: 0	Effective Date: 09-08-2020
Associated Document Number:	Y73-95-802		Rev: 1
Associated Document Title:	*Confined Space Entry Program*		

This PRCN clarifies placement of confined space signage and record retention.

Section 3.3, Confined Space Postings/Signs

Change From

NOTE 1: *NPCS signage is NOT required on rebar wall structures or similar rebar structures that have limited/restricted means of access/egress when there is no potential for a hazardous environment or engulfment hazard. For these types of structures, supervision reviews UCN-23272, Classification of Potential Confined Spaces, and emergency response protocols during Safety Task and Risk Reduction Talks.*

Change To

NOTE 1: *NPCS signage is NOT required on rebar wall structures or similar rebar structures. The Entry Supervisor shall evaluate the means of access/egress, the environmental conditions and brief the affected project personnel regarding the health and safety requirements related to the specific entry. NPCS and PRCS signage is NOT required for spaces where inadvertent entry is not possible (i.e. confined spaces equipped with covers that require specialty tools to be removed, confined spaces that have entry points at locations that cannot be physically reached, etc.)*

Implements Quality Requirements (Choose One)			
☒ None	☐ BNI	☐ CNS	☐ BNI & CNS

Preparer			
UPF Construction Issues Management Procedure Compliance:	Tammy D. Threat		09/01/20
	Printed Name/Signature		Date

Approval			
UPF BNI ES&H Manager:	David B. Harold		09/01/20
	Printed Name/Signature		Date
CNS UPF ES&H Manager:	Jamie M. Horning		09/03/20
	Printed Name/Signature		Date
UPF Site Manager:	W. Dave Ross		09/03/20
	Printed Name/Signature		Date
Senior Vice President and UPF Project Director :	Catherine Flavin for John P. Howanitz		09/04/20
	Printed Name/Signature		Date

THE NATION'S URANIUM PROCESSING FACILITY

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PCN Number: PRCN-Y73-95-802-R01-01	PCN Rev: 0

Section 8.0, Records

Change From

Record or Form Number	Record Title	Record Holder	System/ Location	Quality Type
UCN-23272	*Classification of Potential Confined Spaces*	UPF DMC	InfoWorks	QA-NP
UCN-23273	*Confined Space Entry Evaluation*	UPF DMC	InfoWorks	QA-NP

Section 8.0, Records

Change To

Record or Form Number	Record Title	Record Holder	System/ Location	Quality Type
UCN-23272	*Classification of Potential Confined Spaces*	UPF DMC	InfoWorks	Non-QA
UCN-23273	*Confined Space Entry Evaluation*	UPF DMC	InfoWorks	Non-QA
RP-SH-801768-A000	*Confined Space Program Annual Review*	UPF DMC	InfoWorks	Non-QA

*****UCN-23273, *Confined Space Entry Evaluation*, for permit-required entries will be retained in InfoWorks to be reviewed during the Confined Space Annual Review. UCN-23273 records generated from non-permit-required entries will not be retained past their expiration date as stated in the record.

Confined Space Entry Program

THE NATION'S URANIUM PROCESSING FACILITY

Preparer: 10/15/19

Doug Marshall
BNI UPF Lead Industrial Hygienist

Date

Approval: 10/09/19

David Harold
UPF BNI ES&H Manager

Date

10/10/19

Jamie Horning
CNS UPF ES&H Manager

Date

10/15/19

Dave Ross
UPF Site Manager

Date

10/18/19

John P. Howanitz
Senior Vice President and UPF Project Director

Date

Pen & Ink for minor correction per Y15-95-800

Page Numbers Affected: 8 Reason for Change:
Changed "Caution" to "Danger" on Bullet 2

10/21/2019

Effective Date

Minor correction to a revision-controlled document requires the requestor to make the corresponding correction to the authoring database and/or native file.
Selection Required:

☒ Native File ☐ Authoring Database ☐ N/A for non-revision controlled

Signatures below verify that this is a minor correction and that the required changes have been made as checked above.

Douglas J. Marshall 10/22/19
Requestor - Printed Name / Signature Date

David Harold 10/22/19
Approver - Responsible Manager Printed Name / Signature Date

Implements Quality Requirements

☒ None ☐ BNI ☐ CNS ☐ BNI and CNS

REVISION LOG

Revision 1	☐ Major intent ☒ Minor intent ☐ Non-intent

- An evaluation determination has been performed confirming this Command Media implements no quality requirements, as tracked in the Programmatic Requirements Management System (PRMS).
- This procedure has been edited to clarify the requirement for posting NPCSs on rebar wall structures (Section 3.3) in response to CR 01798, *UPO-F1-CNS has Not Adequately Implemented Requirements Pertaining to Identification and Classification of Confined Spaces and Authorization to Enter Confined Spaces (ASRP-C&ESH-5.23.2019-839039)*.
- This procedure has been edited to include the copyright statement on all pages.

Revision 0	☒ Major intent ☐ Minor intent ☐ Non-intent

Initial Issue

This procedure:

- Establishes the responsibilities for personnel involved in evaluating, preparing, supervising, entering, and attending a Confined Space.
- Applies to all situations involving Permit-Required Confined Space (PRCS) entries, as well as NPCS entries, and to all personnel involved in entering or supporting a Confined Space at the UPF Project.
- Provides a construction CS program that follows the Occupational Safety and Health Administration (OSHA) Standard in Title 29 of the *Code of Federal Regulations* (CFR) §1926.1200, “Confined Spaces in Construction.”

CONTENTS

1.0 INTRODUCTION

1.1 Purpose

This procedure establishes the responsibilities for personnel involved in evaluating, preparing, supervising, entering, and attending a Confined Space at the Uranium Processing Facility (UPF) Project. It was developed in accordance with Occupational Safety and Health Administration (OSHA) Standard 29, Code of Federal Regulations (CFR) §1926.1200, *Confined Spaces in Construction*, for the purpose of implementing and maintaining an effective confined space entry program.

1.2 Scope

This procedure applies to UPF personnel, including contractors and subcontractors, who may be required to enter a Permit-Required Confined Space (PRCS) or Non-Permit-Required Confined Space (NPCS) or support a confined space entry.

This document describes the measures required to:

- Prevent unauthorized entry into confined spaces.
- Identify and evaluate confined space hazards.
- Provide safe entry operations and rescue for confined spaces.

2.0 RESPONSIBILITIES

2.1 Site Manager

The Site Manager is responsible for:

- Ensuring that this procedure is implemented.
- Providing support, facilities, training, and other resources necessary to effectively carry out this procedure.

2.2 Project Industrial Hygienist

The Project Industrial Hygienist (PIH) or designee is responsible for:

- Implementing and administering this procedure, in conjunction with the Site Manager.
- Conducting an annual review of the Confined Space Entry Program to ensure that the location, hazards, and controls are current for each confined space.
- Serving as the final authority in matters related to the identification, evaluation, and classification of NPCSs and PRCSs.
- Assisting the confined space Attendant and Entry Supervisor with continuous or periodic monitoring, as required.
- Assigning a qualified Environment, Safety, and Health (ES&H) Representative to fulfill limited PIH responsibilities, as necessary.

2.3 Environment, Safety, and Health Representative

The ES&H Representative is responsible for:

- Supporting and administering this procedure, in conjunction with the Site Manager and PIH.
- Performing initial atmospheric testing.
- Assisting the confined space Attendant and Entry Supervisor with, completion of permits, and pre-entry briefings, as required.
- Completing limited PIH duties, as necessary.

2.4 Project Superintendent

The Project Superintendent is responsible for:

- Reviewing and approving confined space classifications within their area(s) of responsibility.
- Ensuring that NPCSs and PRCSs are properly identified with a required signage.
- Notifying ES&H of any confined space configuration or operational status change that may require a reclassification of the space.

2.5 Entry Supervisor

The Entry Supervisor is responsible for:

- Implementing and enforcing the confined space entry requirements for workers under their supervision.
- Verifying that personnel who support a confined space entry activity are current with required training.

2.6 Attendant

The Attendant is responsible for overseeing entry into PRCSs.

2.7 Authorized Entrants

Employees who enter PRCSs are responsible for understanding and complying with the requirements of this procedure.

2.8 Employee

Employees who are not authorized or trained to enter a confined space must not enter any posted or suspected confined space.

3.0 CONFINED SPACE CLASSIFICATION PROCESS

3.1 Identification of Confined Spaces

When a known or suspected confined space is identified, the Site Manager or designee notifies ES&H, who then conducts an evaluation of the space. As a result of this evaluation, the space will be classified as one of the following:

- Not a confined space
- NPCS
- PRCS.

3.2 Requesting a Confined Space Evaluation/Classification

As construction advances, new spaces may be created, changes may occur in the use and configuration of existing spaces, and existing confined space signs may deteriorate or become displaced.

IF anyone identifies these or similar conditions, THEN the following actions should be taken:

- IF a suspect space is confined AND you cannot confirm that a confined space classification was conducted, THEN DO NOT enter the space.
- Contact supervision to determine if the space was evaluated and classified.
- IF supervision cannot provide a confirmation, THEN request that ES&H classify the space (see **Figure 1**).

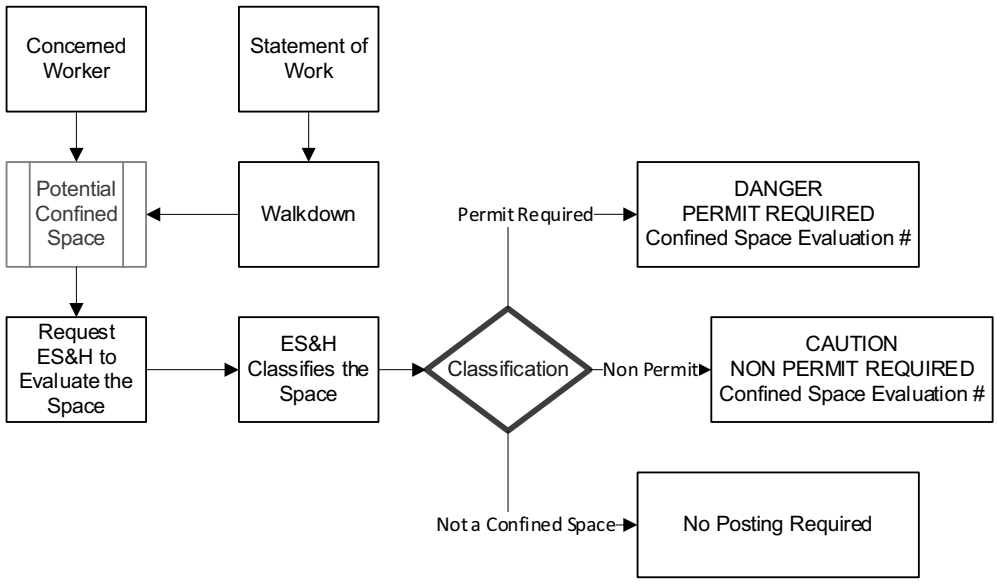

Figure 1. Evaluation/Classification of a confined space.

3.3 Confined Space Postings/Signs

NOTE 1: *NPCS signage is NOT required on rebar wall structures or similar rebar structures that have limited/restricted means of access/egress when there is no potential for a hazardous environment or engulfment hazard. For these types of structures, supervision reviews UCN-23272,* Classification of Potential Confined Spaces*, and emergency response protocols during Safety Task and Risk Reduction Talks.*

Each NPCS and PRCS is assigned a unique identification number. This number and the space's classification are identified on a sign located at or near access/entry points to the classified space. Signs should also include the following information:

- For an NPCS:

CAUTION
NON-PERMIT CONFINED SPACE
DO NOT ENTER Without Authorization
Contact Your Entry Supervisor Prior to Starting Work

- For a PRCS:

~~CAUTION~~ DANGER **Initials:** BJ **Date:** 10/22/19
PERMIT-REQUIRED CONFINED SPACE—DO NOT ENTER
Contact Your Entry Supervisor Prior to Starting Work

4.0 CONFINED SPACE ENTRY PROCESS

4.1 General Requirements

Step 1 The Site Manager, or delegate, performs the following:

- Ensures training is provided for employees based on assigned duties in this procedure (i.e., Entry Supervisor, Authorized Entrant, Attendant, and Non-Entry Rescue [NER]).

Step 2 The PIH performs the following:

- Reviews training of confined space-authorized personnel and evaluates confined space identification, entry protocol, and emergency rescue equipment.
- Performs and documents the annual review for the UPF Project Confined Space Program.

Step 3 The Entry Supervisor performs the following:

- Determines if conditions are acceptable for a confined space entry
- Authorizes, oversees, and terminates entry
- Responds when new or changing conditions are identified that may necessitate changes to the entry documentation
- Notifies an ES&H Representative of changes within the confined space that may require a reclassification or reevaluation of that confined space and/or the entry documentation
- Notifies ES&H and the Superintendent when it is NOT feasible to set-up the equipment associated with an NER for work in a PRCS
- Ensures safe entry into a confined space by:
  - Reviewing the completed UCN-23272, *Classification of Potential Confined Spaces* and completing UCN-23273, *Confined Space Entry Evaluation*
  - Understanding the hazards associated with each entry, including information on the mode, signs, symptoms, and consequences of exposure to the posted hazards
  - Verifying that Y-12 Emergency Services (i.e., Rescue Services) are available and the methods for summoning them are in place and operable

- Verifying that Attendants and Authorized Entrants are trained for their duties regarding Confined Spaces
- Ensuring that Attendants and Authorized Entrants have received training in the use of rescue equipment and atmospheric testing equipment that may be used during entry
- Verifying that specified tests have been conducted, necessary permits have been obtained, and specified hazard controls (listed on UCN-23273) are in place prior to authorizing the entry
- Terminating entry and canceling or suspending the permit when an unanticipated condition arises in or near the PRCS.

NOTE: *IF the Entry Supervisor changes during the job, THEN the replacement Entry Supervisor shall also sign the permit and receive a turnover that ensures that entry operations are consistent with the requirements of the entry permit.*

- Cancels the confined space Entry Permit when the work is completed or at the end of the shift, whichever comes first, AND returns the permit to ES&H.

Step 4 The Authorized Attendant performs the following:

- Reviews and signs the confined space Entry Permit
- Reviews the classification
- Understands the hazards associated with each entry, including information on the mode, signs, symptoms, and consequences of exposure to a posted hazard
- DOES NOT perform other duties while acting as an Attendant
- Remains outside of the space during entry and/or rescue operations until relieved by another Attendant
- Communicates any changing conditions or hazards (e.g., monitoring alarms, changing conditions near or in the confined space) to the Entry Supervisor
- Maintains a continuous and accurate count of Authorized Entrants into and out of the confined space
- Communicates with Authorized Entrants to monitor their status and alert them of the need to evacuate a confined space
- Monitors activities both in and out of the confined space to ensure that unauthorized individuals do not enter
- Notifies Authorized Entrants and the Entry Supervisor if an unauthorized individual attempts to enter the space
- Performs an NER (when necessary) AND summons rescue/emergency services when Authorized Entrants require assistance
- Evaluates atmospheric testing, as required by the permit, to ensure the safety of Authorized Entrants
- Orders the evacuation of a confined space under the following conditions:
  - Atmospheric testing equipment sounds an alarm.
  - A prohibited condition (e.g., loss of ventilation system or other safety equipment) arises.
  - Observes nearby activities that may negatively affect the confined space atmosphere.

- Authorized Entrants exhibit conditions/behaviors associated with hazard exposure (e.g., dizziness, confusion, illness).
- A situation that could endanger the Authorized Entrants occurs outside of the confined space.
- An Authorized Attendant's ability to effectively and safely perform his/her duties is compromised.
- Other hazardous conditions arise.

Step 5 Authorized Entrants perform the following:

- Review and sign the confined space Entry/Evaluation Permit
- Understand the hazards associated with each entry, including information on the mode, signs, symptoms, and consequences of exposure to the posted hazards
- Ensure that the required equipment (e.g., personal protective equipment [PPE], ventilation, communication, lighting) is operable prior to and during entry
- Understand the application, proper use, and limitations of safety equipment required during confined space entry (e.g., rescue equipment, monitor alarms)
- Maintain communication with the Authorized Attendant to enable him/her to monitor Authorized Entrant status
- Communicate changing conditions or unforeseen hazards to the Authorized Attendant
- Alert the Authorized Attendant and other Authorized Entrants to evacuate the PRCS when the following conditions occur:
  - Someone recognizes any warning signs or symptoms of exposure.
  - Someone recognizes a dangerous situation or unanticipated hazard.
  - Atmospheric testing equipment sounds an alarm.
  - Someone detects a prohibited condition (e.g., loss of ventilation system or safety equipment failure).
- Exit the PRCS as quickly and as safely as possible.

4.2 Non-Permit Confined Space Entry Process

A trained and qualified Entry Supervisor must oversee the work AND ensure that the space remains an NPCS. Entrants of an NPCS do not require confined space training (unlike Authorized Entrants, who require training to enter a PRCS). However, they must receive authorization from the Entry Supervisor prior to entering the confined Space.

Step 1 The Entry Supervisor performs the following:

- Reviews UCN-23272 to ensure that the confined space configuration has not changed and that no potential hazards were introduced
- Ensures that a copy of the classification must be available at the confined space work location

- Reviews the planned work with the workers
- Confirms that the activity will not introduce unanticipated hazards into the confined space.
  - IF the work introduces an unanticipated hazard, THEN the Entry Supervisor shall contact ES&H to reevaluate the confined space.
- Completes UCN-23273, Part 1, Sections A, B, and D
  - For Section D, check the "NPCS" entry box and sign.
- Ensures that a trained monitor (e.g., Authorized Attendant, PIH or designee) performs pre-entry air monitoring, when necessary.

NOTE: *Monitoring is warranted when hazardous materials or gases, heavy vehicle traffic, or other sources of contaminants are outside of the confined space but in close enough proximity that they could impact the safety of Entrants.*

Step 2 Entrants perform the following:

- Enter the confined space only when authorized by the Entry Supervisor
- IF hazardous conditions arise, THEN notify other Entrants, immediately exit the confined space, AND notify the Entry Supervisor.

4.3 Permit-Required Confined Space Entry Process

There are three types of PRCS entries:

1. Permit Required
2. Alternate Entry Process (used when the only hazard is a potential hazardous atmosphere that can be fully controlled by the use of ventilation)
3. Temporary Reclassification to NPCS (used when there is no potential for a hazardous atmosphere and all other serious hazards are eliminated without entering the confined space).

Step 1 The Entry Supervisor performs the following:

- Obtains the corresponding UCN-23272 and requests a confined space permit number from ES&H
  - IF no classification exists, THEN contact an ES&H representative to complete a classification.
- Reviews the hazards and controls identified in UCN-23272
- Discusses planned work with an ES&H Representative AND uses UCN-23273 to document the hazards and controls for the specific conditions present at the time of entry and any that may be introduced by the planned work
- With assistance from the ES&H representative, determines if either the Alternate Entry Process or Temporary Reclassification as an NPCS applies to the entry
- Identifies the necessary rescue planning and response mode for the entry AND contacts ES&H for support (refer to **Section 5.0, *Non-Entry Rescue And Rescue Services***, for further information)
- Obtains the necessary entry support equipment (refer to **Section 6.0, *Equipment/Communications***, for further information)

- Eliminates any conditions that would make the removal of a confined space cover unsafe BEFORE removing the cover (e.g., guard the opening with a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and protect works inside the confined space from falling objects)
- Requests that the air quality of the confined space be measured by a trained worker with a calibrated direct-reading instrument that measures oxygen content and detects flammable gases, flammable vapors, and potential toxic air contaminants (in that order)
- Documents the results of air monitoring on UCN-23273

NOTE 1: *Continuous air monitoring is required.*

- Installs forced-air ventilation, when required
  - Ventilation must be sufficient to establish and maintain safe atmospheric conditions.
- Manages forced-air ventilation, as follows:
  - Ensures that air supply is from a clean source and does not increase the hazard in the confined space
  - Initiates ventilation at the entry of the confined space
  - Provides continuous ventilation until all workers have left the confined space
  - Directs ventilation to the immediate areas where workers are located.
- Inspects the condition and functionality of NER gear
- Sets up NER gear
- Verifies that all required hazard controls and rescue measures are in place.
- Conducts a pre-entry briefing for the entry team regarding the hazards, required controls, rescue plan, and communication process for the confined space
- IF air quality is within requirements, all control measures are in place, and all permit requirements are met, THEN sign the permit AND authorize entry.

NOTE 2: *Normal ambient air concentrations are as follows:*

- *Oxygen 20.9%*
- *Lower explosive limit [LEL] 0%*
- *Carbon monoxide 0 parts per million [PPM]*
- *Hydrogen sulfide 0 PPM.*

IF there are deviations, THEN consult ES&H prior to entry.

Step 2 The Attendant and Authorized Entrants perform the following:

- Sign UCN-23273 upon entry
- Prevent workers from entering the confined space until forced-air ventilation has eliminated any hazardous atmosphere
- Continuously monitor the atmosphere within the confined space to ensure that forced-air ventilation prevents the accumulation of a hazardous atmosphere
- Suspend entry immediately IF the following conditions occur:
  - The air quality changes and triggers an alarm

- Authorized Entrants experience any sign or symptom of a hazardous atmosphere or personal illness (e.g., dizziness, confusion)
- New hazards not addressed in the permit are introduced or recognized.

- When work is complete, remove tools and equipment AND exit the confined space.

Step 3 The Entry Supervisor performs the following:

- Determines how a hazardous atmosphere developed during entry (if applicable) AND implements actions to protect workers from the hazardous atmosphere before subsequent entries take place
- Closes the space
- Terminates/cancels the permit AND returns it to ES&H.

4.4 Confined Space Alternate Entry

An alternate entry procedure is still a Permit-Required condition but allows for entry without the implementation of an NER or stand-by rescue plan.

The following requirements must be met for an Alternate Entry procedure:

- All physical hazards must be eliminated or isolated by engineering controls so that the only hazard posed by the confined space is an actual or potential hazardous atmosphere.
- Continuous forced-air ventilation (alone or combined with exhaust ventilation) is sufficient to keep the confined space safe for entry.
- Authorized Entrants can exit the space safely if the ventilation system stops working.
- Continuous air-monitoring indicates a safe atmosphere.
- The work to be performed does not introduce additional hazards.

Step 1 The Entry Supervisor, Attendant, and Authorized Entrants follow the steps for a PRCS entry EXCEPT for those that pertain to NER gear and rescue.

4.5 Temporary Reclassification of PRCS

A space classified as a PRCS may be reclassified as an NPCS when BOTH of the following conditions are met:

- All hazards within the space can be eliminated or isolated without entry into the space.
- The PRCS poses no actual or potential atmospheric hazards.

NOTE: *Control of atmospheric hazards by forced-air ventilation does not constitute elimination of the atmospheric hazard. Temporary reclassification is not an option in this scenario.*

IF these conditions are met, THEN ES&H may reclassify the confined space as an NPCS for as long as the non-atmospheric hazards are eliminated. This reclassification is noted on UCN-23273.

IF it is necessary to enter the PRCS to eliminate hazards, THEN such entry must be performed as a PRCS entry until testing and inspection demonstrate that the hazards

within the PRCS have been eliminated. The PRCS may be reclassified as an NPCS for as long as the hazards are eliminated.

Step 1 The Entry Supervisor performs the following:

- Ensures that workers exit a space temporarily reclassified as NPCS immediately if hazards arise
- Contacts ES&H to reevaluate the confined space to determine whether or not it must be reclassified as a PRCS or can remain in the temporary NPCS status
- Terminates/cancels the permit AND returns it to ES&H.

5.0 NON-ENTRY RESCUE AND RESCUE SERVICES

5.1 General Requirements

- The Entry Rescue Service used by the UPF Project is the Y-12 Fire Department (Alarm Room, 865-576-1889).
- NER is required unless it will increase the overall risk of entry or would not contribute to the rescue of an Entrant/Authorized Entrant.
- Use and maintenance of NER equipment must meet the manufacturer's requirements.
- Each PRCS Authorized Entrant must wear a rescue harness, when it is identified on the Permit, to facilitate timely rescue from the confined space.
- A NER device (e.g., tripod and retrieval device that can be connected to the rescue harness) must be provided to extract the Entrant/Authorized Entrant in the event that he/she is unable to self-rescue.
- NER equipment must be inspected annually by the designated person. This inspection must be documented.

5.2 Rescue Process

IF NER cannot be used, then the Entry Supervisor shall:

- Document the decision and reasoning on UCN-23273.
- Notify the Y-12 Fire Department at least 24 hours prior to the planned entry. When relying solely on entry rescue (i.e., no NER), this ensures that the Y-12 Fire Department will have sufficient time to conduct a pre-entry walk down, if requested. Entry cannot begin or continue if the Y-12 Fire Department is committed to another emergency.

NOTE: *Response times must be commensurate with the risk to an Entrant (e.g., atmospheres that are Immediately Dangerous to Life and Health [IDLH] require onsite Rescue Services to facilitate rescue and eliminate delays that may be caused by extra communication steps).*

- Cancel the entry if the Y-12 Fire Department cannot support it.
- Ensure that Entrants exit the Confined Space if the Y-12 Fire Department cannot support entry but entry has already begun.
- Document the notification to Rescue Services of entry and/or termination of entry on the confined space Permit.

6.0 EQUIPMENT/COMMUNICATIONS

6.1 Equipment

Use of the following equipment is required prior to and during Confined Space entry activities:

- **Air Monitoring Equipment**: A calibrated, direct-reading instrument must be available for the PRCS entry. Instruments are maintained by the Industrial Hygiene department.
- **Ventilation**: Confined space ventilation equipment must be available to obtain and maintain acceptable entry conditions in a PRCS.

NOTE: *Equipment should be listed on the confined space Permit.*

6.2 Communication

A means of communication must be available to keep the Attendant in constant contact with the Entrants when direct visual contact cannot be maintained. Communication with rescue and emergency services is also needed (when applicable). The Plant Shift Superintendent (865-574-7172) will be the emergency director for communication with rescue and emergency services.

7.0 ANNUAL REVIEW

This program will be evaluated by the PIH or designee at least once per year to ensure that it is effective and that employees who are participating in entry operations are protected from Confined Space hazards. The annual evaluation will consist of a review of regulations, procedure content, and canceled permits.

8.0 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 Document Management Center (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:

Record or Form Number	Record Title	Record Holder	System/ Location	Quality Type
UCN-23272	*Classification of Potential Confined Spaces*	UPF DMC	InfoWorks	QA-NP
UCN-23273	*Confined Space Entry Evaluation*	UPF DMC	InfoWorks	QA-NP

9.0 REFERENCES

9.1 Source References

4SM-6BH-10000, *NS&E Environmental, Safety and Health Management System Manual* (Bechtel Manual)

10 CFR 851, *Worker Safety and Health Program*

ACGIH, 2016, *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*

Y17-95-64-801, *UPF Construction Phase System and Equipment Safety Lockout/Tagout*

Y17-95-64-822, *UPF Site Excavation and Backfill*

9.2 Interfacing References

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

OSHA Standard 29, CFR §1926.1200, *Confined Spaces in Construction*

OSHA Standard 29, CFR §1926.57, *Ventilation*

Y15-95-800, *UPF Document Management*

10.0 SUPPLEMENTAL INFORMATION

Appendix A, *Acronyms and Definitions*

Attachment A, *Flow Diagram of Confined Space Entry*

APPENDIX A
Acronyms and Definitions

(Page 1 of 5)

Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
BNI	Bechtel National, Inc.
CFR	Code of Federal Regulations
CNS	Consolidated Nuclear Security, LLC
DMC	Document Management Center
ES&H	Environment, Safety, and Health
IDLH	Immediately Dangerous to Life and Health
LEL	Lower Explosive Limit
LFL	Lower Flammability Limit
NER	Non-Entry Rescue
NPCS	Non-Permit Confined Space
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PIH	Project Industrial Hygienist
PPE	Personal Protective Equipment
PPM	Parts per Million
PRCS	Permit-Required Confined Space
TLV	Threshold Limit Value
UPF	Uranium Processing Facility
Y-12	Y-12 National Security Complex

Definitions

Acceptable Entry Conditions	The necessary prerequisite conditions that ensure that involved workers can safely enter into and work within the PRCS
Attendant	An individual stationed outside one or more PRCSs who assesses the status of Authorized Entrants and who must perform the duties specified in this procedure
Authorized Entrant	An employee who is authorized to enter a Confined Space
Barrier	A physical obstruction that blocks or limits access
Blanking or Blinding	The absolute closure of a pipe, line, or duct by fastening a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the solid plate
Confined Space	A space that fits the following criteria: • Is large enough and so configured that a worker can bodily enter it • Has limited or restricted means for entry and exit • Is not designed for continuous employee occupancy.

APPENDIX A
Acronyms and Definitions

(Page 2 of 5)

Confined Space Entry Permit	The written or printed document that allows and controls entry into a Confined Space
Control	The action taken to reduce the level of any hazard inside a Confined Space using engineering methods (e.g., by ventilation) to maintain the reduced hazard level; also refers to the engineering methods used for this purpose **NOTE:** *PPE is not a control.*
Controlling Contractor	This is the employer with the overall responsibility for construction at the worksite. BNI is the Controlling Contractor on the UPF Project unless otherwise identified in contracting documents.
Early Warning System	This is the method used to alert Authorized Entrants and Attendants when an engulfment hazard may be developing. Examples of early-warning systems include but are not limited to: • Alarms activated by remote sensors • Lookouts with equipment for immediately communicating with the Authorized Entrants and Attendants.
Emergency	Any occurrence (including any power failure, hazard control, or monitoring equipment), either internal or external to the Permit Space, that could endanger Entrants
Engulfment	Engulfment means the surrounding and effective capture of a person by a liquid or finely-divided self-moving solid substance that can cause death via asphyxiation by filling or plugging the respiratory system or that exerts enough force on the body to cause death by strangulation, constriction, or crushing.
Entry	The action by which any part of a person passes through an opening into a PRCS Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the Entrant's body breaks the plane of an opening into the space, regardless of whether such action is intentional or if any work activities are actually performed in the space.
Entry Employer	Any employer (i.e., BNI, subcontractors) that decides whether an employee whom they direct will enter a permitted space
Entry Rescue	Occurs when a rescue service enters a Permit Space to rescue one or more employees
Entry Supervisor	The qualified person (e.g., superintendent) responsible for: • Determining if acceptable entry conditions are present at a Permit Space where entry is planned. • Authorizing entry and overseeing entry operations. • Terminating entry as required by this standard.
Hazard	A physical hazard or hazardous atmosphere (see the following entry for definitions)

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Hazardous Atmosphere	An atmosphere that may expose workers to the risk of death, injury, acute illness, incapacitation, impairment of one's ability to self-rescue (i.e., escape unaided from a PRCS) from one or more of the following causes: • Flammable gas, vapor, or mist in excess of 10% of its lower flammability limit (LFL) • Airborne combustible dust at a concentration that meets or exceeds its LFL **NOTE 1:** *This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.* **NOTE 2:** *The terms LFL and LEL are used interchangeably. Monitoring equipment can be used accordingly (i.e., LEL results may be recorded as LFL).* • Atmospheric oxygen concentration below 19.5% or above 23.5% • Atmospheric concentration of any substance for which a threshold limit value (TLV) is established by the American Conference of Governmental Industrial Hygienists (ACGIH) or for which a permissible exposure limit (PEL) is established by OSHA and that could result in employee exposure in excess of its TLV or PEL. **NOTE 3:** *The lower exposure limit between the limit established by the ACGIH TLV and the limit established by OSHA PEL is being applied* **NOTE 4:** *An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.* • Any other atmospheric condition that is IDLH.
Host Employer	The employer that owns or manages the property where the construction work is taking place CNS is the host for all preexisting confined spaces on the UPF Project. BNI is the host for all new Confined Spaces created/installed on the UPF Project.
Immediately Dangerous to Life and Health (IDLH)	Any condition that would interfere with an individual's ability to escape unaided from a PRCS (self-rescue) and that poses a threat to life or would cause irreversible, adverse health effects
Inerting	Displacing the atmosphere in a Permit Space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible
Isolate or Isolations	The process by which a PRCS is removed from service and is completely protected against the release of energy and material into the space by such means as blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; Lockout/Tagout of all sources of energy; or blocking or disconnecting all mechanical linkages
Limited or Restricted Means for Entry or Exit	A condition that has a potential to impede a worker's movement into or out of the Confined Space, which includes but is not limited to trip hazards, poor illumination, slippery floors, inclined surfaces, and ladders

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Lower Explosive Limit (LEL)	The minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion
Monitor or Monitoring	The process used to identify and evaluate the hazards after an Authorized Entrant enters the space and to check for changes that is performed in a periodic or continuous manner after the completion of the initial testing or evaluation of that space
Non-Entry Rescue (NER)	Occurs when a rescue service, usually the Attendant, retrieves employees from a Permit Space without entering the Permit Space
Non-Permit Confined Space (NPCS)	Any space that meets the definition of a Confined Space but does not meet the definition of a PRCS
Oxygen Deficient Atmosphere	An atmosphere containing less than 19.5% oxygen by volume
Oxygen Enriched Atmosphere	An atmosphere containing more than 23.5% oxygen by volume
Permit-Required Confined Space (PRCS) Program	Any space that meets the definition of a Confined Space and has one or more of the following characteristics: • Contains or has the potential to contain a hazardous atmosphere • Contains a material that has the potential to engulf an Entrant • Has an internal configuration in which an Entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section • Contains any other recognized potential serious safety hazard.
Physical Hazard	An existing or potential hazard that can cause death or serious physical damage, which includes but is not limited to explosives; mechanical, electrical, hydraulic, and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces Physical hazards also include chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).
Prohibited Condition	Any condition in a PRCS that is not allowed by the permit during the period when entry is authorized A hazardous atmosphere is a prohibited condition unless the employer can demonstrate that PPE will provide effective protection for each employee in the Permit Space, and the employer provides the appropriate PPE to each employee.
Qualified Person	One who possesses a recognized degree, certificate, or professional standing or who has extensive knowledge, training, and experience to successfully demonstrate his or her ability to solve or resolve problems related to the subject matter, the work, or the Project

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Representative Permit Space	A mock-up of a Confined Space that has entrance openings that are similar to and are of similar size, configuration, and accessibility to the Permit Space into which Authorized Entrants will move
Rescue	Retrieving and providing medical assistance to one or more employees who are in a Permit Space
Rescue Service	The personnel designated to rescue employees from Permit Spaces
Retrieval System	The equipment (including a retrieval line, chest or full-body harness, wristlets or anklets, if appropriate, and a lifting device or anchor) used for NER of persons from PRCSs
Serious Physical Damage	An impairment or illness in which a body part is made functionally useless or is substantially reduced in efficiency Such impairment or illness may be permanent or temporary and includes but is not limited to loss of consciousness, disorientation, or other immediate and substantial reduction to mental efficiency. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional.
Site Manager	The individual with managerial responsibility for the activities of the jobsite and support areas
Test or Testing	The process by which the hazards that may confront the Entrants of a Permit Space are identified and evaluated. Testing includes specifying the tests that will be performed in the Permit Space. **NOTE:** *Testing enables employers to devise and implement adequate control measures for the protection of authorized Entrants and determine if acceptable entry conditions are present immediately prior to and during entry.*
Ventilate or Ventilation	Controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of OSHA Standard 29, CFR §1926.57, *Ventilation*, or equivalent

ATTACHMENT A
Flow Diagram of Confined Space Entry