THE NATION'S URANIUM PROCESSING FACILITY

Preparer:

Anton R. Panev
UPF Issues Management
09/26/23
Date

Approval:

Kieran S. Kelly
UPF BNI ES&H Manager
09/26/23
Date

Gary J. Cough
UPF Site Manager
09/27/23
Date

09/27/2023
Effective Date

RC-UPF DMC
09/27/23 09:40

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: Steve Buffalo Date: 09/27/23

REVISION LOG

Revision 2 ☒ Intent ☐ Non-Intent

- No forms have been edited as part of this revision
- An evaluation determination has been performed confirming that this Procedure does implement requirements tracked in the Programmatic Requirements Management System (PRMS)
- Other changes include:
  - Updated Section 2.1, *Site Manager*
  - Updated Section 3.3.1, *Respirator Types*
  - Updated Section 4.0, *Records*
  - Updated references
  - Updated acronyms
  - Editorial changes
  - Updated Appendix B

Revision 1 ☒ Intent ☐ Non-Intent

- These changes are in response to Condition Report 25774-000-GCA-GAM-03593, Action 1, *BNI UPF ES&H Respirator Program Administrator to review applicable UPF Command Media to Determine Compliance to ANSI Z88.2-2015 Requirements*
  - Added wording to Section 1.2, *Scope*, stating that Self-Contained Breathing Apparatus is not used on the UPF Project
  - Added bullet to Section 2.3, *Respiratory Protection Program Administrator*, to specify "an independent evaluation of the respirator program by any knowledgeable person not directly associated with the program (e.g., Field Engineering, Quality, or an outside third party)" will be conducted periodically
- These changes are in response to Condition Report 25774-000-GCA-GAM-03903, *Finding 1 – Requirements from ANSI/ASSE Z88.2-2015 Not Effectively Flowed-down or Defined in UPF-CP-318, Respirator Use and Issuance (CAA-SH-801768-FY22-001)*
  - Roles and Responsibilities for the Respiratory Protection Program Administrator are defined in Section 2.3
  - Information and direction for program evaluation and auditing is addressed in Section 2.3
  - Emergency use respirators are not used or maintained for use by UPF Personnel as specified in Section 1.2. Requirements for emergency use respirator selection process, inspections and inspection records do not apply
  - The corrective action process for malfunctions and respirator defects is addressed in Section 3.4.2.1
  - Does not define position requirements for the Respiratory Protection Program Administrator. This is addressed in Section 2.3. The IH Lead is the RPPA
- These changes are in response to Condition Report 25774-000-GCA-GAM-03912, *Observation 1 – Procedure Enhancements for UPF-CP-318, Respirator Use and Issuance (CAA-SH-801768-FY22-001)*
  - Reference to Y17-95-64-823, U*PF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis Program (STAART/JHA),* is in Sections 3.2.1 and 5.1, *Source References*
  - Note added to Section 2.5, *Occupational Medical Provider*, stating that CNS Y-12 will provide Occupational Medical Services to CNS, BNI, and Subcontractor personnel for Respiratory Protection
  - Reference to ICD-PM-801768-A011, Appendix N, added to Section 3.6.1

- Bullet added to Section 2.4, *Supervisor*, stating that Craft Foremen with workers using respirators receive Supervisor training from the UPF Training Department

- PRCN information:
  - This revision incorporates the changes identified in and supersedes PRCN-UPF-CP-318-R00-01: Reworded Section 3.1, *Respirator Qualification*, paragraph 1.0, to add Y78-001 and Y78-002 as source of definition for worker medical respiratory evaluation. Also added Y78-001 and Y78-002 to Section 5.2, *Interfacing References*
  - This revision incorporates the changes identified in and supersedes PRCN-UPF-CP-318-R00-02: Removed "…unless used for weekends or off normal shifts." from first bullet of Section 3.3.2
- Forms changes:
  - UCN-23309, *UPF Air Purifying Respirator and Cartridge Issuing* – Revised
  - UCN-23310, *UPF Filtering Facepiece Approval/Issue for Voluntary Use* – Revised
- An evaluation determination has been performed confirming that this Procedure does implement requirements tracked in the Programmatic Requirements Management System (PRMS)
- Other changes include:
  - Added bullets to Section 1.2, *Scope*
  - Updated Section 2.3, *Respiratory Protection Program Administrator*
  - Updated Section 2.6, *Industrial Hygiene*
  - Updated Section 2.7, *Respirator Use*
  - Added note to Section 3.3.5, *General Use Requirements*
  - Made changes in Sections 3.5 and 3.6
  - Updated Section 3.4.2.1, *Respirator Malfunction*
  - Deleted Sections 3.4.3 through 3.4.5
  - Updated Section 4.0, *Records*
  - Updated references
  - Updated acronyms
  - Editorial changes
- This revision is a total rewrite; due to the extent of changes, revision bars are not shown

Previous revisions on record

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1.0 INTRODUCTION

1.1 Purpose

This Procedure describes the requirements for the use, cleaning and sanitation, storage, inspection, maintenance, medical evaluation, and training for respiratory protective equipment by the Respirator User, Issuer, and Cleaner. Respiratory equipment includes dust masks, half- and full-face air purifying respirators, powered air-purifying respirators (PAPR), and atmosphere-supplying respirators.

1.2 Scope

This Procedure applies to construction craft and non-manual workers assigned to locations within the UPF construction site and/or support areas. Applicability to subcontractors is in accordance with the contract language. This Procedure addresses the following topics:

- Respirator qualifications
- Respirator user
- Respirator issuance
- Seal checks
- General use requirements
- Respirator return and exchange
- Voluntary respirator use
- Respirator cleaning and sanitation
- Respirator inspection and storage
- Respirator out of service and maintenance repairs
- Breathing air quality
- Hazard assessment
- Respiratory protection selection
- Required training in compliance with American National Standards Institute (ANSI)/American Society of Sanitation Engineers (ASSE) Z88.2-2015, *Respiratory Protection*, Section 8

This Procedure does not provide details on respiratory protection use, care, or maintenance of emergency use respirators (Self-Contained Breathing Apparatus). Emergency use respirators are not used or maintained for use by UPF Project personnel (see ICD-PM-801768-A011, *Interface Control Document (ICD) for CNS ES&H,* Appendix N).

2.0 RESPONSIBILITIES

2.1 Site Manager

The Site Manager ensures that the necessary resources are made available and is responsible for the implementation of this procedure.

2.2 Environmental, Safety, and Health Manager, BNI

The Environmental, Safety, and Health (ES&H) Manager, BNI, is responsible for the following:

- Interpretation of the regulations associated with this Procedure
- Interpretation of this Procedure as to intent and application
- Approval of procedure variances

2.3 Respiratory Protection Program Administrator

The position of Respiratory Protection Program Administrator (RPPA) is assigned by the ES&H Manager. For the UPF Project, the Industrial Hygiene Lead is the RPPA. Responsibilities include the following:

- Measurement, estimation, or review of information on the concentration of air-borne contaminant(s) in the work area prior to respirator selection and periodically during respirator use
- Ensure medical evaluations, training, and fit testing are performed
- Selection of the appropriate type or class of respirator that will provide adequate protection for each contaminant, present or anticipated
- Evaluate the respirator program annually to ensure the program reflects the requirements of current regulations and standards (ANSI/ASSE Z88.2-2015) and to ensure effective implementation of this Procedure
- Have an independent evaluation of the respirator program by any knowledgeable person not directly associated with the program (e.g., Field Engineering, Quality, or an outside third party). The frequency of this independent audit should be determined by the size and complexity of the respirator program and previous audit findings.
- RPPA is required to lead investigation into respirator malfunctions
- Program evaluations (Annual and Independent) will be in accordance with ANSI/ASSE Z88.2-2015, Section 5.3.2 and will be performed in per the requirements of Y60-95-803, *General Assessments*
- Provide revisions of the program as necessary

2.4 Supervisor

The Supervisor is responsible for the following:

- Reviewing and planning work to ensure personnel are medically qualified, fit tested, and trained for tasks requiring respiratory protection
- Ensuring Respirator User wears proper personal protection equipment in accordance with the job hazard analysis (JHA)
- Coordinating the development of JHA
- Ensuring all Craft Foremen (FM) that have respirator users working for them receive the required Supervisor training. This training will be provided by the UPF Training Department with Supervisor-required elements included along with user-required training elements

2.5 Occupational Medical Provider

The Occupational Medical Provider is responsible for the following:

- Conducting medical evaluations for the Respirator User
- Conducting medical respirator fit tests
- Issuing respirator qualification card to Respirator User

NOTE: *CNS will support the UPF Project by providing Occupational Medical Services to CNS, BNI, and subcontractor personnel for Respiratory Protection (see ICD-PM-801768-A011, Appendix N).*

2.6 Industrial Hygiene

Industrial Hygiene is responsible for the following:

- Assisting with developing the JHA that specifies the respirator, cartridge/canister type, and change out schedules
- Evaluating proposed and ongoing work activities
- Incorporating controls from the worker exposure assessments into the work control document
- Issuing dust masks under voluntary use only
- Evaluating Medical Surveillance requirements to ensure compliance with requirements in ANSI/ASSE Z88.2-2015, Section 5.3.3

2.7 Respirator User

The Respirator User is responsible for understanding the requirements of this Procedure as it relates to their responsibilities, including the following:

- Obtaining a respirator qualification, which is a successfully completed medical evaluation, fit testing, and training, prior to using a respirator
- Providing, as requested, valid respirator qualification card to respirator issuer
- Reporting to work clean-shaven and with hair cut or secured as necessary to ensure a proper fit when wearing a respirator
- Using only approved/designated respiratory equipment
- Inspecting respirators and performing a seal check each time the respirator is donned and periodically while in use
- Reporting damaged respirators and turning them in to the RPPA
- Using respirators in accordance with manufacturer’s instructions and safe work processes
- Exiting hazardous areas if problems are encountered, and contacting Supervisor and/or Industrial Hygiene
- Returning respirator to cleaning station/issue point

2.8 Respirator Issuer

The Respirator Issuer, for the UPF Project, is the RPPA (BNI Industrial Hygiene Lead) and designated UPF IH who are responsible for understanding the requirements of this Procedure as it relates to their responsibilities, including the following:

- Issuing respirators for which the Respirator User is qualified to wear based upon the respirator qualification card
- Issuing cartridge/canister to respiratory user, as applicable
- Coordinating the replacement of respiratory protective equipment resulting from deterioration and/or damage

3.0 PROCESS

This Procedure provides information to the field personnel (Respirator User and Issuer, and Cleaner) on the steps to be taken throughout the cycle of respirator use on the UPF Project.

3.1 Respirator Qualification

Any employee assigned work that requires respiratory protection must first be medically evaluated and cleared for respirator use by the Occupational Healthcare Provider. The Y-12 National Security Complex (Y-12) Occupational Health Services will be the medical provider for direct hire craft and Bechtel National, Inc. (BNI) employees. The worker's evaluation is effective for a 12-month period, after which an annual re-evaluation is required by the Occupational Healthcare Provider. To establish a worker as respirator-qualified involves three components:

1. A physical examination performed by the Occupational Healthcare Provider to determine if the worker's health/physical condition can support the added stresses imposed by respirator use. The process for worker medical respiratory evaluation is defined in Y78-001, *Occupational Medicine Program*, and Y78-002, *Identification of Employees Requiring Medical Certification, Qualification, or Surveillance*.
2. A Fit Test for use of negative pressure respirators to ensure the worker, when wearing the respirator, can be adequately protected by the respirator.
3. Completion of the required training for Respirator Users.

Medical records are maintained by the Y-12 Occupational Medical department, and are controlled by the Health Information Privacy Act of 1999.

3.2 Supervisor

The Supervisor shall perform the following:

- Provide scope of task, in accordance with Y17-95-64-823, *UPF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis Program (STAART/JHA*), and respiratory requirements for designated task
- Designate respirator-qualified workers for tasks requiring respiratory protection
- Ensure the correct respiratory protection is being worn in accordance with the JHA, and procedures outlined in the document are being followed

3.3 Respirator Use

Direct hire and BNI employees are only allowed to use respirators issued by their employer on the UPF Project, including dust masks.

The following subsections address the respiratory protection procedures conducted and/or completed by the Respirator User. The items include issuance, inspections, seal checks, general use requirements, respirator return and exchange, and voluntary respirator use.

3.3.1 Respirator Types

Respirator configurations are summarized below and in **Table 1**.

An air-purifying respirator (APR) is a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

A negative pressure respirator (tight fitting) is a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator. Examples of tight-fitting respirators include:

- Filtering face piece (dust mask)–A negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium
- Tight-fitting face piece (half-mask respirator and full-face piece respirator)–A respiratory inlet covering that forms a complete seal with the face

A positive pressure respirator is a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator. Examples include the following:

- PAPR–An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering. Respirator types that may be used include tight-fitting face piece, hood/helmet, and loose-fitting face piece.
- Supplied-air respirator (SAR), or airline respirator–An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. Respirator types that may be used include tight-fitting face piece, hood/helmet, and loose-fitting face piece. These respirators have three possible modes of operation:
    - Demand
    - Continuous flow
    - Pressure-demand, or other positive-pressure

A tight-fitting face piece is a respiratory inlet covering that forms a complete seal with the face.

A hood/helmet is a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

A loose-fitting face piece is a respiratory inlet covering that is designed to form a partial seal with the face.

Table 1. Mask Configuration for Each Type of Respirator

Type of Respirator	Half-Mask	Full Face Piece	Helmet/ Hood	Loose-Fitting Face Piece
1. Air-Purifying Respirator	X	X	--	--
2. Powered Air-Purifying Respirator (PAPR)	X	X	X	X
3. Supplied-Air Respirator (SAR) or Airline Respirator				
• Demand Mode	X	X	--	--
• Continuous flow mode	X	X	X	X
• Pressure-demand or other positive pressure mode	X	X	--	--

NOTE: *Emergency Use Respirators are not required for the UPF during construction (See ICD-PM-801768-A011, Appendix N).*

3.3.2 Respirator Issuance

The process used during issuance of respirators from the issue point is as follows:

- User must be clean shaven for tight-fitting face-piece respirators and hooded PAPR with a seal along the face. User will meet requirements for being clean shaven at time of use
- User must provide a current respirator qualification card to the Respirator Issuer indicating the user is qualified to wear a respirator (make, model, and size), and respiratory training is current
- User checks the plastic bag containing the respirator to ensure it is sealed
- User verifies the correct make, model, and size of the respirator has been issued by the Respirator Issuer
- User checks cartridges/canisters provided by the respirator issuer to verify the appropriate cartridges/canisters were provided and the expiration date has not been exceeded
- User completes and signs the UCN-23309, *UPF Air Purifying Respirator and Cartridge Issuing*, at the time of initial issuance of a respirator
- Users will be issued a respirator, filters/cartridges, a storage bag, and respirator wipes. The user wipes and will install cartridges/canisters on the respirator, if applicable, prior to use

There are two types of respirator cartridges:

- In general, P100 filters (particulate filters) are not required to be replaced unless conditions warrant change out, but no less than monthly
- Chemical cartridges are currently not required for use by any direct hire and BNI personnel on site during construction. This may change as conditions during

startup and commissioning change. If required, a change out schedule will be documented in the respective JHA(s). The change out schedule will typically be daily, unless otherwise stipulated

NOTE: *Chemical cartridges will be disposed of daily (no more than one shift use) and the user will have to obtain another set of cartridges from the BNI RPPA or designated ES&H Advisors.*

3.3.3 Respirator Inspections

The Respirator User shall adhere to Occupational Safety and Health Administration (OSHA) inspection check procedures and/or manufacturer's recommendations prior to each use.

The user inspects the following items before donning respirator:

- Tightness of connection
- Condition of face-piece
- Cleanliness of face-piece/visor
- Head straps
- Valve and connecting tube
- Cartridge/canister
- Elastic parts (for pliability)
- Respirator function

3.3.4 Respirator Seal Checks

The Respirator User shall follow the OSHA seal check procedure or manufacturer's recommendations prior to each use.

The following are the procedures identified by OSHA:

- The user shall conduct negative-pressure seal check on tight-fitting respirators each time they don the respirator and prior to entering the hazardous atmosphere, using the following procedures:
  - Close off inlet openings of the respirator, canister(s), cartridge(s), or filter(s) by covering with palm of hands; by replacing the inlet seal on the canister(s); or by squeezing a breathing tube or blocking its inlet to stop the passage of air
  - Inhale gently and hold breath for ten seconds
  - A satisfactory fit is achieved if the face-piece collapses slightly and no inward leakage of air into face-piece is detected
- The user shall conduct positive-pressure seal check on tight-fitting respirators each time they put on the respirator and prior to entering the hazardous atmosphere using the following procedures:
  - Close exhalation valve or breathing tube, or both, then exhale gently
  - A satisfactory fit is achieved if a slight buildup of positive pressure is generated on the inside of the face-piece and no outward leakage between the sealing surface and the face is detected
  - If outward leakage is detected, reposition the face seal and/or straps and repeat this sequence until a satisfactory seal check is obtained

3.3.5 General Use Requirements

NOTE: *If repeated adjustments will not allow for a proper fit, stop work and contact RPPA for additional guidance.*

The Respirator User Requirements during general use are as follows:

- Users may make adjustments to respirators (e.g., head straps), but Respirator Users are not allowed to make modifications or interchange parts from other respirators
- Users don respirator in clean areas
- Users shall not remove their respirator while in a hazardous atmosphere
- Users shall leave the work area to wash face and respirator face piece as necessary to prevent eye or skin irritation associated with respirator use
- Users shall leave the hazardous atmosphere immediately if they smell, taste, or otherwise detect vapors inside an air-purifying mask, or if breathing difficulty occurs
- When using respirators during a work shift, users are to store and protect their assigned respirators when the respirators are not being worn. The respirators are to be kept clean (e.g., place them back in the bag they came in) and out of the elements, including direct sunlight (e.g., kept in job boxes, in shaded areas, or returned to a drop off location, if no longer required for task). If using for longer than one shift, then respirator shall be cleaned after each shift and stored appropriately (e.g., a cabinet in a temperature-controlled area)
- Users are responsible for knowing and following the change-out schedule for cartridges/canisters used
- Users' filter/chemical cartridge change out schedule is provided in the JHA
- Users contact the supervisor and/or Industrial Hygiene after experiencing respirator mechanical failure, and shall leave the work area immediately

3.3.6 Voluntary Respirator Use

Dust masks/filtering face-pieces are only issued under voluntary use.

Employees can request voluntary use of a dust mask by contacting Industrial Hygiene and providing the information about the task being conducted and the reason the dust mask is being requested. Industrial Hygiene evaluates the information and approves the request if no additional hazards will be introduced to the task by the use of a dust mask.

Employees approved for voluntary dust mask use shall be provided the information contained in UCN-23310, *UPF Filtering Facepiece Approval/Issue for Voluntary Use.*

Voluntary Respirator Users, whose sole use of respirators involves the voluntary use of dust masks, are not included in the requirements of the respiratory protection program.

3.4 Respirator Issuer/Cleaner

The following subsections address the respiratory protection procedures conducted and/or completed by the respirator issuer. The items include verification and

issuance, return and exchange, cleaning and sanitation, inspection and storage, and out of service and maintenance repairs.

3.4.1 Respirator Use Verification and Issuance

Respirator Issuers shall:

- Observe Respirator User to confirm that they are clean shaven for tight-fitting face-piece respirators and hooded PAPR with a seal along the face, unless off shift work or weekend work requires early distribution
- View user's respirator qualification card prior to issuing respirator and cartridges/canisters
- Locate the respirator (make, model, and size) requested by the user
- Verify the respirator container storage device (plastic bag) is sealed and that no tampering has occurred and writes expiration date on the bag along with the user's name
- Provide respirator to Respirator User
- Complete respirator use form, UCN-23309, along with the user
- Remove appropriate respirator cartridge/canister from storage area, if applicable, and verify items have not expired
- Provide user with appropriate respirator cartridge/canister, if applicable

3.4.2 Respirator Return and Replacement

Respirator Users may take the respirator issued to them to the Tool Crib or to BNI ES&H/IH personnel and have it replaced with a new respirator. This may be done when the respirator is excessively worn or has been damaged with normal use.

3.4.2.1 Respirator Malfunction

If a respirator malfunctions at any time during the shift:

- Immediately leave the area
- Report the malfunction to the supervisor and to BNI-IH and BNI RRPA

The BNI RPPA shall conduct respiratory malfunction investigations in accordance with UPF-CP-108, *UPF Event Management and Investigation*.

NOTE: *Used half-face and full-face APRs will not be cleaned and re-issued but will be disposed of after use.*

3.4.3 Respirator Cleaning and Sanitation

Respirator users are responsible for the daily cleaning and proper storage of respirators issued to them, including the following:

- Thoroughly inspect the respirator for damage and replace as needed
- Store the clean respirator in a storage bag and keep separate from used P100 filters

3.5 Breathing Air Quality

Breathing air is not required for use on site for any construction task by direct hire BNI personnel.

3.6 Respirator Selection for the UPF

The Respiratory Protection Program Administrator evaluates the respiratory hazard(s) in the workplace, and identifies relevant workplaces and user factors for respirator needs to conduct work on the UPF site. The types of respirators available for selection and their limits include the following:

- Filtering face piece (dust mask)–for voluntary use only
- Negative pressure respirator (tight fitting: half-mask respirator, and full-face piece respirator)–for other than Immediately Dangerous to Life or Health (IDLH) atmospheres as stated in the JHA
- PAPR–for other than IDLH atmospheres as stated in the Hazard Control Document (HCD)
- SAR or airline respirator–not used on site by CNS or BNI personnel

The Respiratory Protection Program Administrator monitors the need for new types and styles of respirators, based on changes to current and new hazards, with consideration for location where work is to be conducted, to determine the need for the following:

- Respirators for IDLH atmospheres (full face piece pressure demand supplied-air respirator with auxiliary self-contained air supply)
- Respirators for Emergency Situation means any occurrence, such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may, or does, result in an uncontrolled significant release of an airborne contaminant
- Respirator for Escape-Only means a respirator intended to be used only for emergency exit

3.6.1 **Emergency Response Coverage**:

The Y-12 Fire Department is the emergency response provider for the UPF Project. The group is trained and qualified to respond to all types of emergency situations, including the use of respirators for various conditions including and IDLH atmosphere. (See ICD-PM-801768-A011, Appendix N).

4.0 RECORDS

Records generated by this Document shall be maintained in accordance with Y15-95-800, *UPF Document Management*.

The following records generated are:

Record or Form Number	Record Title	System/ Location	Document Type
UCN-23309	*UPF Air Purifying Respirator and Cartridge Issuing*	InfoWorks	APRC
UCN-23310	*UPF Filtering Facepiece Approval/Issue for Voluntary Use*	InfoWorks	FFAI

5.0 REFERENCES

5.1 Source References

10 Code of Federal Regulations (CFR) 851.23(9), *Safety and Health Standards*

29 CFR 1910.134, *Respiratory Protection*

29 CFR 1926.103, *Respiratory Protection*

CP-309, *Respiratory Protection*

ML-CM-801768-A019, *UPF Construction Hazard Tree*

5.2 Interfacing References

ANSI/ASSE Z88.2-2015, *Respiratory Protection*

ICD-PM-801768-A011, *Interface Control Document (ICD) for CNS ES&H,* Appendix N

UPF-CP-108, *UPF Event Management and Investigation*

Y15-95-800, *UPF Document Management*

Y60-95-803, *General Assessments*

Y78-001, *Occupational Medicine Program*

Y78-002, *Identification of Employees Requiring Medical Certification, Qualification, or Surveillance*

5.3 Forms

UCN-23309, *UPF Air Purifying Respirator and Cartridge Issuing*

UCN-23310, *UPF Filtering Facepiece Approval/Issue for Voluntary Use*

6.0 SUPPLEMENTAL INFORMATION

Appendix A, *Acronyms and Definitions*

Appendix B, *Qualifications for Trainers, Supervisors, and Wearers*

APPENDIX A
Acronyms and Definitions
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Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
APR	Air Purifying Respirator
ASSE	American Society of Sanitation Engineers
CFR	Code of Federal Regulations
ES&H	Environmental, Safety, and Health
ESLI	End of Service Life
IDLH	Immediately Dangerous to Life or Health
JHA	Job Hazard Analysis
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PAPR	Powered Air-Purifying Respirator
RPPA	Respiratory Protection Program Administrator
SAR	Supplied Air Respirator
TWA	Time Weighted Average

Definitions

Cartridge/Canister	A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.
Don	To put on one's respiratory protection equipment.
Immediately Dangerous to Life or Health (IDLH)	An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
Occupational Exposure Limit (OEL)	A health-based work place standard to protect workers from adverse exposure. These are based on 8-Hour Time Weighted Average (TWA), 15-minute TWA (Short Term Exposure Limits [STEL]), or other applicable standards as described by OSHA or the American Conference of Governmental Industrial Hygienists (ACGIH). The OELs are the lowest value obtained by comparing the OSHA Permissible Exposure Limit (PEL) to the ACGIH Threshold Limit Value (TLV) (10 CFR 851.23[9], *Safety and Health Standards*).

APPENDIX A
Acronyms and Definitions
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Occupational Health Hazard	A chemical or biological agent in the workplace having a recognized potential to cause detrimental effects to humans.
Respirator Issuer/Cleaner	An employee who issues and/or cleans respiratory protective equipment.
Respirator Qualified	A worker is deemed respirator qualified when he/she has completed respirator training, is determined physically fit by medical, and received and passed a fit test when required for negative pressure respirators.
Respirator User	An employee who is medically qualified and trained in the need, use, and limitations of the respiratory protective equipment.
Respiratory Protection Program Administrator	An individual who is responsible for administration or oversight of the Respiratory Protection Program.
Seal Check	An action conducted by the Respirator User each time a respirator is donned and periodically while in use to determine if the respirator is properly sealed to the face.

APPENDIX B
Qualifications for Trainers, Supervisors, and Wearers

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Trainers

Anyone providing respirator training shall:

A. Be knowledgeable in the application and use of the respirator(s)
B. Have practical knowledge in the selection and use of respirator(s) and work practices at the site
C. Have an understanding of the site's respirator program
D. Be knowledgeable of applicable regulations

Supervisors

A workplace supervisor, who has the responsibility of overseeing the work activities of one or more persons who are assigned to a work area where respirator use is required, shall be trained to perform their responsibilities effectively. Training shall include the following subjects, as applicable:

A. Basic respiratory protection practices
B. Nature and extent of respiratory hazards encountered by persons under their supervision
C. Recognition and resolution of respirator use problems
D. Principles and criteria for selecting respirators used by persons under their supervision
E. Training respirator wearers
F. Fit testing and issuing respirators
G. Respirator inspection
H. Proper respirator use, including monitoring respirator use
I. Specific air-purifying element change schedule
J. Supplied breathing air quality requirements
K. Respirator maintenance and storage
L. Regulations concerning respirator use

Users

The Wearer is responsible for knowing the following information:

A. Need for respiratory protection
B. Nature, extent, and effects of respiratory hazards in the workplace and why a particular type of respirator has been selected for a specific respiratory hazard
C. Need to inform their workplace supervisor of any respirator problems experienced by them or their co-workers
D. Need to inform their workplace supervisor and Physician or Other Licensed Healthcare Professional (PLHCP) of changes that may impair their ability to wear a respirator

APPENDIX B
Qualifications for Trainers, Supervisors, and Wearers
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E. Why engineering controls are not being applied or are not adequate and what effort is being made to reduce or eliminate the need for respirators

F. Operation, capabilities and limitations of the respirator selected

G. Instructions for inspecting, donning and doffing the respirator. This includes a requirement, for tight-fitting respirators, that a wearer seal check shall be conducted each time the respirator is donned or adjusted

H. Importance of proper respirator fit and use

I. Specific air-purifying element change schedule

J. The significance of odor, taste or irritation properties of the gas or vapor. These shall not be relied upon to determine the end of service

K. How to maintain and store the respirator

L. Instructions in emergency respirator use and procedures

M. Regulations concerning respirator use

N. Requirements that permit the wearer to leave the hazardous area for any respirator-related cause

   a. Immediately leave the contaminated area if the wearer detects contaminant by odor, taste or irritation, if an End of Service Life Indicator (ESLI) indicates end of cartridge service life, or if a respirator malfunction occurs

   b. Immediately report the condition to the RPPA

O. Hazards from accidently using inert gas instead of breathing air to atmosphere-supplied respirator wearers