Respiratory Protection Program

Nuclear Secured / Radiation Safety

NS-RS-PG-002, 0

Date Effective: 11 August 2019

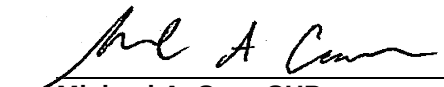
Electronic documents, once printed, are uncontrolled and may become outdated.
Refer to the Intraweb or the document control authority for the current revision.

History and Approvals

History

Revision	Intent Y/N	Purpose description
0	Y	For Issue (Rebranded CS-RS-PG-002)

Approvals

Preparer:  8/5/2019

Michael A. Carr, CHP
Radiation Safety Officer
Date

Reviewer  8/8/2019

Annette White, MS, CIH
Industrial Hygiene Program Manager
Date

Approver:  8/14/2019

Dutch Conrad
Senior Vice President Field Services
Date

Table of Contents

Chapter Pages

Electronic documents, once printed, are uncontrolled and may become outdated.
Refer to the Intraweb or the document control authority for the current revision.

1. Purpose and Scope

All reasonable efforts shall be considered to control the generation and concentration of radioactive materials in the air prior to the use of respiratory protection. The use of respiratory protection equipment can impose both physical and psychological stresses on workers. These include the obstruction of vision, hindered movement, reduced worker efficiency, heat stress, claustrophobia and it can also make communications difficult. Methods for the protection against airborne radioactive materials such as the use of engineering controls, access controls, limitation of exposure times, and area decontamination should be considered before the use of respiratory protection.

1.1. Purpose

This Program procedure specifies the Respiratory Protection standards and controls that shall be implemented, as applicable, during Nuclear Secured (NS) field operations (projects) using our Respiratory Protection Program. The purpose of this Program is to establish a uniform set of guidelines to be implemented by NS during the use of respiratory protection against radionuclides in order to comply with the specific regulations as laid out in 10CFR20 Subpart H*, Energy – Standards for Protection against Radiation; Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas*, US NRC, NUREG-0041, *Manual of Respiratory Protection against Airborne Radioactive Materials*, 2001, and US NRC, Regulatory Guide 8.15, *Acceptable Programs for Respiratory Protection*, October, 1999. These regulatory guidance documents provide the minimum requirements and program elements of an acceptable Respiratory Protection Program which are required to be implemented when respiratory protection is worn. The specific elements addressed within this program and the applicable implementing procedures include the following:

- Program goals and when respiratory protection should be worn,
- Personnel Medical Evaluations,
- Personnel Training,
- ALARA Evaluations,
- Fit Testing,
- Selection and Use of Respiratory Protection Equipment,
- Voluntary Respirator Use
- Inspection, Maintenance and Control of Respiratory Protection Equipment,
- Air Monitoring Programs,
- Personnel Monitoring / Bioassay Programs, and
- Program Assessments

This Program, as part of the NS Radiation Protection Program (RPP), shall ensure the protection of the project staff and subcontractor personnel. It should be noted that this program only addresses airborne radioactive hazards, most commonly particulate. Personnel exposure to non-radiological hazards shall be addressed by NS-SH-PR-308, *Respiratory Protection*

and/or site specific Work Plans and procedures. When respiratory protection is required for both radiological and non-radiological hazards, Health and Safety and Radiation Protection shall coordinate respiratory protection requirements as applicable.

1.2. Scope

This Program is for the exclusive use of Nuclear Secured and subcontractors personnel at temporary job sites where the NS RPP is implemented and/or NS has the primary role in controlling exposures to on-site personnel to airborne radioactive materials.

2. References

2.1. ANSI Z88.2, *Practices for Respiratory Protection*, 2015

2.2. ANSI Z88.6, *Respiratory Protection – Respirator Use – Physical Qualification for Personnel*, 2006

2.3. ANSI/AIHA Z88.10, *Respirator Fit Test Methods*, 2010

2.4. OSHA 29CFR1910.134, *Labor – Respiratory Protection*

2.5. 10CFR20 Subpart H*, Energy – Standards for Protection against Radiation; Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas*

2.6. US NRC, NUREG-0041, *Manual of Respiratory Protection against Airborne Radioactive Materials*, 2001

2.7. US NRC, Regulatory Guide 8.15, *Acceptable Programs for Respiratory Protection*, October, 1999

2.8. AE-SH-PR-002, *Incident Reporting and Notification*

2.9. AE-SH-PR-401, *Medical Surveillances*

2.10. NS-RS-PG-001, *Radiation Protection Program*

2.11. NS-RS-PR-102, *Project Records Management*

2.12. NS-RS-PR-205, *Contamination and Airborne Radiation Control*

2.13. NS-RS-PR-501, *Air Sampling and Analysis*

2.14. NS-RS-PR-502, *Bioassay Sampling*

2.15. NS-RS-PR-600, *Respirator Fit Testing*

2.16. NS-RS-PR-601, *Selection and Use of Respiratory Protection Equipment*

2.17. NS-RS-PR-602, *Inspection, Maintenance and Control of Respiratory Protection Equipment*

2.18. NS-SH-PR-308, *Respiratory Protection*

3. General

3.1. Definitions

3.1.1. *Airborne Radioactivity Area* – A room, enclosure or area in which airborne radioactive materials composed wholly or partially of licensed material exist in concentrations (1) in excess of the Derived Airborne Concentration (DAC) as specified in 10CFR20 Appendix B Table 1 or (2) such a degree that an individual present in the area without respiratory protection equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the Annual Limit on Intake (ALI) or 12 DAC-hours.

3.1.2. *Air Purifying Respirator (APR)* – A respirator with an air purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air purifying element.

3.1.3. *ALARA (As Low As Reasonably Achievable)* - Making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical consistent with the purpose for which licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to benefits to public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

3.1.4. *Annual Limit on Intake (ALI)* – The derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year, that results in either a committed effective dose equivalent (CEDE) of 5 rem to the whole body (stochastic) or a committed dose equivalent of 50 rem (non-stochastic) to any individual organ or tissue.

3.1.5. *Assigned Protection Factor (APF)* – The expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users.

3.1.6. *Bioassay* – Determination of kinds, quantities or concentrations, and, in some cases, the location of radioactive material in the human body, whether by direct measurement (in-vivo counting) or by analysis and evaluation of materials excreted or removed from the human body (in-vitro counting).

3.1.7. *Derived Air Concentration (DAC)* - The concentration of a given radionuclide in air which, if breathed by the reference man for a working year of 2,000 hours under conditions of light work (inhalation rate at 1.2 m^3 /hour), results in an intake of one ALI.

3.1.8. *Filtering Facepiece (Dust Mask)* A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

3.1.9. *Fit Test* – A protocol used to either quantitatively or qualitatively evaluate the fit of a respirator to an individual.

3.1.10. *Negative Pressure Respirator* – A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

3.1.11. *Positive Pressure Respirator* – A respirator in which the pressure inside the respirator inlet covering exceeds the ambient air pressure outside the respirator.

3.1.12. *Powered Air Purifying Respirator (PAPR)* – An air purifying respirator that uses a blower to force the ambient air through the air purifying element to the inlet covering.

3.1.13. *Qualitative Fit Test* - A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

3.1.14. *Quantitative Fit Test* – A measurable assessment of the adequacy of the respirator fit by numerically measuring the amount of leakage into the respirator.

3.1.15. *Respiratory Protection Device* – An apparatus, such as a respirator, usd to reduce the individual intake or airborne radioactive materials.

3.1.16. *Self-Contained Breathing Apparatus (SCBA)* – An atmosphere supplying respirator for which the breathing air source is designed to be carried by the user.

3.1.17. *Supplied Air Respirator or Air-line Respirator* – At atmosphere supplying respirator for which the source of breathing air is not designed to be carried by the user.

3.1.18. *Voluntary Use* - The use of respiratory protection by an employee when it is not required.

3.2. Responsibilities

Depending on personnel qualifications and the size of the project, project personnel may be assigned multiple roles and/or responsibilities.

3.2.1. NS Radiation Safety Officer

The NS Radiation Safety Officer (RSO) maintains and oversees the implementation of the NS RPP. The RSO shall ensure that radiation safety, radioactive materials management, and radiological operations procedures and programs are kept up to date such that they comply with current regulations and incorporate current and relevant industry practices and regulatory guidance.

3.2.2. Project Manager

The Project Manager (PM) is responsible for ensuring that the proper program procedures and programs are implemented on the project site as required by customer agreements and contracts. The PM is responsible for ensuring that these programs and procedures are properly incorporated into project specific plans and procedures. The PM is responsible for ensuring that the NS RPP and client programs and procedures, as applicable, are available for use by project personnel.

3.2.3. Project Health Physicist

The Project Health Physicist (PHP) is responsible for assisting the RSO in providing health physics support to the PM and Radiation Protection Supervisor (RPS). This includes technical support to ensure procedural and regulatory compliance and to ensure that the project-specific Data Quality Objectives (DQOs) are met.

3.2.4. Radiation Protection Supervisor

The Radiation Protection Supervisor (RPS) is responsible for implementing the NS RPP at the project location. The RPS manages and oversees the project personnel in regards to radiation and respiratory protection and reports directly to both the PM and the RSO.

3.2.5. Project Personnel

All project personnel are responsible for safety at the project site including radiation safety and have the responsibility for maintaining exposures to themselves and their peers to ALARA. Each individual has the ability and responsibility to stop work as necessary and to bring any safety issues including radiation safety to the attention of the RPS, the PM, and/or the RSO.

3.3. Precautions and Limitations

3.3.1. This procedure specifically addresses repriatory protection for airborne radioactive hazards; however, the same program elements generally apply for other airborne particulate hazards.

3.3.2. Although dose is considered dose whether it is from external or internal sources, there is often a perceived difference between the two. There should be a clear justification to not wear respiratory protection; otherwise alternate controls should be considered such as time limitations and rotating personnel to help minimize individual exposures.

3.3.3. For filtering face-piece respirators (i.e., dust masks), the medical evaluation and fit testing requirements are not required; however, limited training shall be performed as long as no Assigned Protection Factor (APF) is used.

3.3.4. During voluntary respirator use, the respirator APF should not be applied.

4. Pre-Requisites / Requirements

4.1. Engineering and administrative controls shall be implemented to the maximum extent practical to limit personnel internal exposure; however, when these controls are not feasible or they are not adequate enough, respiratory protection shall be used.

4.2. Respiratory Protection is recommended for the following situations unless otherwise determined through the implementation of engineering controls, an approved ALARA evaluation or by demonstration through actual air sampling data that respiratory protection is not required.

- If an individual may exceed 12 DAC-hours in any one week,
- Surface contamination levels exceed the levels as provided in Table 4-1, or
- As determined necessary based on professional judgment.

Table 4-1
Recommended Surface Contamination Limits

Work Activity	Contamination Limit (dpm/100 cm^2)	
	Alpha	Beta-Gamma
Light Work (i.e., general area access or activities not expected to generate minimal airborne activity)	1,000 (removable)	100,000 (removable)
Moderate Work (i.e., work activities requiring a lot of physical movement which may cause the surface activity to be re-suspended in air)	200 (removable)	20,000 (removable)
Heavy Work (i.e., work activities which may aggressively disturb contaminated surfaces and cause activity to go airborne)	100 (removable)	10,000 (removable) 2.5 mrad/hr (fixed)
Breach of System	Judgment	Judgment

The contamination levels as provided in Table 4-1 are for general guidance only. Several factors such as the type of planned activities, the radionuclide(s) of concern and their corresponding DAC values and the exposure duration may impact the decision to wear respiratory protection. This falls into the category of professional judgment and should be verified through general area air sampling.

4.3. Individuals shall not be fit tested or assigned tasks requiring the use of respiratory protection unless it has been medically determined that they are physically able to wear a respirator by a Medical Review Officer (MRO) or a Licensed Occupational Physician.

4.4. If the MRO or physician determines that the individual has a medical condition that may place the individual at risk while wearing a negative pressure air purifying respirator (APR) they may still find that the individual can wear a powered air purifying respirator (PAPR).

4.5. Nuclear Securred shall provide the proper respiratory protection equipment as necessary in accordance with the MRO or physician's recommendations.

4.6. Respiratory Protection training and medical clearance shall be completed prior to donning any respirator.

5. Procedure

5.1. ALARA Evaluation

5.1.1. In the event that personnel will receive significant external Deep Dose when there is a potential for airborne contamination or when airborne contamination is anticipated or known to exist, an ALARA evaluation shall be performed in order to determine whether respiratory protection should be worn or not. A determination shall be made on whether wearing respiratory protection would either result in more or less personnel dose from a combination of both external and internal exposure.

5.1.2. The threshold at which the ALARA evaluation shall be performed is if the Deep Dose Equivalent to an individual is anticipated to exceed 100 mrem.

5.1.3. The ALARA evaluation shall be documented and approved by the RSO. Factors that should be considered when performing the ALARA evaluation include:

- Reduced worker efficiency when wearing respiratory protection,
- Anticipated task duration,
- Area dose rates and airborne concentration levels, and
- Safety concerns

5.2. Medical Evaluation

5.2.1. The medical evaluation shall determine if the individual can tolerate both the physical and psychological burdens associated with respirator use.

5.2.2. The medical evaluation shall include the OSHA medical questionnaire or equivalent.

5.2.3. The following information shall be provided to the MRO or physician in order for them to make the proper recommendations regarding the individual's ability to wear respiratory protection.

- The type, model and weight of the respirator that will be used,
- The duration and frequency of respirator use,

- The anticipated physical work effort and stresses,
- The Personnel Protective Equipment (PPE) that will be worn,
- The workplace conditions including the temperature and humidity extremes,
- Any pre-existing respiratory or cardiovascular diseases that the individual may have, and
- Any medications that they may currently be on.

5.2.4. The MRO or physician shall provide a written recommendation on a medical evaluation form, Attachment 7.1 or equivalent, regarding the individual's ability to use respiratory protection. Any restrictions on respirator use and the need for any follow up re-evaluations as necessary shall be noted and an evaluation peformed regarding any personnel accomodations necessary prior to issuing respiratory protection.

5.2.5. All employees shall be medically re-evaluated on an annual basis or when it is determined that a re-evaluation is necessary caused by a change in the individuals health, any reported medical signs or symptoms relevant to their ability to use a respirator or a change in the workplace conditions that may result in a substantial increase in the physiological burdens.

5.2.6. To ensure continuous uninterrupted qualification, the annual medical exam should be scheduled at least 2 weeks prior to the evaluation expiration date and be performed before the end of the month in which the prior exam was performed, not to exceed 30 days.

5.2.7. A copy of the individual's medical evaluation shall be maintained with the individual's training records with a copy maintained at the project site in accordance with NS-RS-PR-102, *Project Records Management*.

5.3. Training

5.3.1. Respiratory Protection training shall be given annually to all personnel requiring respiratory protection. This training shall cover the following information as a minimum. An example of a typical training course outline or syllabus is provided as Attachment 7.2 and may be used as the basis to provide training.

- Purpose of the Respiratory Protection Program,
- Types of respiratory hazards,
- Routes of exposure to airborne hazards,
- When and why respiratory protection is required,
- Types, limitations and capabilities of respirators,
- Medical evaluations and fit testing,
- Facial hair policies,

- Proper inspection of respirators,
- Proper donning and doffing procedures,
- Required seal checks,
- Proper maintenance, repair and storage,
- When relief may be sought when wearing respiratory protection,
- How to recognize medical signs and symptoms that may limit the ability to wear respiratory protection, and
- How to recognize and cope with emergencies while wearing a respirator.

5.3.2. Site specific hands-on instruction should be provided as part of the training to ensure personnel are familiar with the respiratory protection equipment that will be used on site and how to properly inspect, don, doff, care for and store the equipment.

5.3.3. On review and approval by the RSO, respiratory protection training given by another NRC licensee or DOE facility may be recognized as current provided the prior training has been performed within the last 12 months, is equivalent to the training required by this Program and proof of training is provided in writing.

5.3.4. Respirator training shall be provided annually for the manufacturer and model respirator(s) used. To ensure continuous uninterrupted qualification, retraining should be scheduled at least 2 weeks prior to the training aniversary date and be performed before the end of the month in which the prior training was performed, not to exceed 30 days.

5.3.5. Respiratory protection training shall be documented and copies of the training record(s), Attachment 7.3 or equivalent, maintained at the project site in accordance with NS-RS-PR-102, *Project Records Management*.

5.4. Fit Testing

5.4.1. All personnel wearing a tight fitting (i.e., face sealing) respirator shall be fit tested to the make, model, style and size respirator that they will wear in the field in accordance with NS-RS-PR-600, *Respirator Fit Testing*.

5.4.2. Fit testing shall be performed at the following frequencies:

- Prior to the first use and annually thereafter,
- When the wearer reports and unacceptable fit during the daily seal check when respirators are worn,
- When the wearer reports or their supervisor notices any change in their physical condition that could affect the respirator fit (i.e., weight gain or loss (± 10%), dental changes or cosmetic surgery).

5.4.3. To ensure continuous uninterrupted qualification, there is a 30 day grace period in order to retest.

5.5. Selection and Use

5.5.1. The selection and use of respiratory protection shall be performed in accordance with NS-RS-PR-601, *Selection and Use of Respiratory Protection Equipment*.

5.5.2. All respiratory protection shall be NIOSH approved and approved by the RSO in writing for field use by an approved formal request or documented email.

5.5.3. No personal equipment shall be allowed for use. All respiratory protection equipment shall be provided and issued by NS, including filtering face-pieces for voluntary use.

5.6. Voluntary Use

5.6.1. If an employee requests respiratory protection, a filtering face-piece (i.e., dust mask) will be provided by NS provided the employee reads and signs the voluntary use form, Attachment 7.4, showing their understanding of the requirements for voluntary use. The filtering face-piece should be discarded after each use (i.e., one time use).

5.6.2. In the event that the employee requests additional respiratory protection, (i.e., a fitted or face sealing respirator), NS will provide the respiratory protection equipment as approved by the RSO, on a case by case basis, provided the employee meets **all** the requirements for this Respiratory Protection Program.

5.7. Inspection, Maintenance and Control

5.7.1. The proper inspection, maintenance and control of respiratory protection equipment shall be performed in accordance NS-RS-PR-602, *Inspection, Maintenance and Control of Respiratory Protection Equipment*.

5.7.2. All issued respirators shall be clean, sanitary and in good working order and shall be inspected prior to use.

5.8. Air Monitoring Program

5.8.1. As part of the Respiratory Protection Program, a comprehensive airborne control and air monitoring program shall be implemented in accordance with NS-RS-PR-205, *Contamination and Airborne Radiation Control* and NS-RS-PR-501, *Air Sampling and Analysis*.

5.8.2. Air monitoring shall be established to monitor personnel and to ensure that the proper respiratory protection is being provided and that the APRs are adequate.

5.8.3. Air monitoring results shall be adequate to estimate personnel exposure through dose tracking as necessary.

5.9. Personnel Monitoring and Dose Tracking

5.9.1. Personnel exposure to airborne radioactivity shall be monitored through the implementation of the air monitoring program such as DAC-hour tracking; however, the RSO and the PHP should consider a bioassay monitoring program, NS-RS-PR-502, *Bioassay Sampling*, to evaluate the effectiveness of the Respiratory Protection Program.

5.9.2. If a bioassay monitoring program is implemented, the bioassay monitoring results may be used in lieu of DAC-hour tracking; however, bioassay monitoring shall not replace the need for a comprehensive air monitoring program.

5.10. Program Evaluation and Inspection

5.10.1. The RSO or designee shall perform an evaluation of the Respiratory Protection Program on an annual basis provided respiratory protection is used on a project site. If respiratory protection is not used during the calendar year, then the evaluation will be performed on the first available project where respirator protection is worn.

5.10.2. The annual review of the Respiratory Protection Program shall include an inspection of any active NS field projects where respiratory protection is being worn.

5.10.3. Air sample results, bioassays and other personnel monitoring shall be reviewed to assess the Programs effectiveness for the proper implementation of engineering controls and the selection and use of respiratory protection.

5.10.4. Each program evaluation should include the following:

- Is the on-site individual responsible for the program knowledgeable and can the individual coordinate all aspects of the program?
- Are engineering controls being implemented?
- Are the proper procedures being implemented?
- Are areas being properly monitored and personnel exposures tracked?
- Are the proper respirators being used for the site specific hazards and conditions?
- Are the proper training records and medical assessments current and on site?
- Are only approved respirators being used?
- Have proper fit tests been performed?
- Are respirators properly stored?
- Are respirators being properly maintained and disinfected?

- Are respirators being inspected prior to each use?
- Are personnel properly trained to the equipment being used on site?

5.10.5. The annual review shall be documented and submitted to the Radiation Safety Committee for review.

6. Records

6.1. ALARA Evaluation

6.2. Medical Evaluation Form

6.3. Respiratory Protection Training

6.4. Voluntary Respirator Use Form

6.5. Fit Testing Results

6.6. Respirator Issue or Sign-out Log

6.7. Air Monitoring Results

6.8. Bio-assay Results

6.9. Program Evaluation Report(s)

7. Appendices and Forms

7.1. Medical Evaluation Form

7.2. Respiratory Protection Training Syllabus

7.3. Respiratory Protection Training Record

7.4. Voluntary Respiratory Use Form

Attachment 7.1 **Medical Evaluation Form**

Name: _____

ID: _____
(e.g., Last 4 Digits SSN; Employee ID)

This is to certify that the above named individual has been medically evaluated for the physical and mental condition, in accordance with the guidelines of 29CFR1910.134, for wearing respiratory protection equipment.

This individual: is qualified to use respiratory equipment

is not qualified to use respiratory equipment

Date: _____

Physician: _____
M.D. (signature)

Address: _____

_____

_____

Comments/Restrictions: _____

_____

_____

Attachment 7.2 **Respiratory Protection Training Syllabus**

A. Discuss the general radiological airborne hazards, physical and psychological stresses, consequences if the respirator is not worn properly, and the capabilities and limitations of each device that may be used:

- General Radiological Airborne Hazards
- Physiological and psychological stresses
- Insufficient seal (facial hair policy, etc.)
- Capabilities and limitations of each device (APR, PAPR, Air Supply, SCBA)

B. Discuss the airborne radioactive hazards to which the wearer is most likely to be exposed including its physical properties, means of detection, and personnel monitoring:

- Particulate vs. Gases
- Air Sampling and Analysis
- Bioassay
- ALARA evaluation(s) and results

C. Discuss the selection of the proper respirator:

- Identify the hazard,
- Anticipated levels of airborne contamination
- Selection of the proper respirator (Required Protection Factors)
- Negative Pressure APR vs. Supplied Air
- Full face vs. half-face
- Safety Concerns
- Selection of the proper cartridges

D. Discuss respirator and cartridge limitations:

- Particulate vs. Gases
- Air Deficient Atmosphere
- Different cartridges for different hazards

E. Discuss the reason for using a respirator and the use of engineering controls:

- Engineering controls are the primary defense against airborne contamination
- Tents, glove bags, strippable coatings, local ventilation
- Precautionary measures

F. Review emergency procedures and how to recognize and cope with equipment malfunctions:

- Filter loading and breakthrough
- Physiological or psychological stress
- Notify co-worker(s) in the area and leave the area following normal exit procedures

G. Discuss the value and reasons for the medical surveillance and evaluation program:

- Determine if you are physically able to wear respirators
- Identify any restrictions on respirator use (duration, PAPR, etc)

H. Instruct wearers on the proper inspection of the respirator:

- Face to face-piece rubber seal
- Face-shield

- Straps
- Exhalation and inhalation valves,
- Cartridges
- Gaskets
- Spectacle kits vs. contacts
- Cracking, dry rot, etc.
- PAPR flow checks

I. Instruct the wearers how to properly inspect, don and doff the respirator:

- Demonstrate proper inspection and use
- Skull caps to keep respirator straps from entangling hair
- Invert straps, place on face and pull straps over the head
- Tighten the straps
- Perform seal check
- Lean forward, grab bottom of respirator and lift up and away

J. Instruct the wearers how to properly clean and maintain the respirator:

- Remove and discard used filters
- Wash the face-piece in warm water with detergent or a cleaner/disinfectant solution
- Use a soft brush as necessary
- Disinfectant solutions may be obtained by the manufacturer or can be made by adding 2 tablespoons of chlorine bleach to one gallon of water.
- Rinse
- Air dry
- Survey
- Inspect
- Replace valves, gaskets, etc as necessary
- Individually bag

K. Instruct the wearers how to properly store the respirators:

- Individually bag
- Store to prevent damage

L. Demonstrate the use of corrective lenses (spectacle kits):

- Contacts are acceptable
- Proper installation and use of spectacle kits

M. Advise each user that they are permitted to leave the restricted area at any time for relief from respirator use in the event of equipment malfunction, physical or psychological stress, procedural or communications failure, significant deterioration of operating conditions or any other conditions that might require such relief.

N. Advise each wearer that respirators should not normally be worn for periods in excess of 2 hours and that a 1-hour relief period between respirator use should be taken depending on working conditions and the types

Attachment 7.3 **Respiratory Protection Training Record**

Location of Training: _____

Date of Training: _____

Type of Training: _____

(type, manufacturer, model, etc)

Topics Discussed: See Syllabus

Hazards to which personnel may be exposed
Proper selection and use of the respirator
Proper inspection, cleaning, maintenance, repair and storage
How to don and doff the respirator
How to perform a seal check and ensure a proper fit
How to identify physiological and psychological effects and when to leave the area

_____

_____

_____

Employee (Print)	Last 4 Digits SSN	Signature

Trainer: _____

Signature: _____

Attachment 7.4 **Voluntary Respiratory Use Form**

Appendix D to §1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Respiratory Protection Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

I have read and understood the above, allowing me to wear a respirator for my personal comfort as an employee or subcontractor of Nuclear Secured. I have read the manufacturers usage and limitations as identified on the manufacturers packaging. In addition, I understand that the use of this respirator is voluntary and is only allowed for the specific work activity listed below.

I do not have any pre-existing medical condition that would preclude my voluntary usage of the respirator, such as asthma, claustrophobia, bronchitis, uncontrolled high blood pressure, heart disorder, emphysema, or any other known medical condition.

Nuclear Secured has:

1. Air monitoring data representative of the work activity that I am performing, which allows me to wear this respirator in accordance with Appendix D of the OSHA Respiratory Protection Standard as printed above. I have reviewed this air monitoring data, OR
2. Air monitoring will be performed for the work activity(s) that I will be performing to verify that I will not be exposed to an airborne contaminant above OSHA established Permissible Exposure Limits. I will be provided a copy of this air monitoring data once the results are available; in addition, copies of the air monitoring data will be posted in a prominent location in the work place.

Work Activity: _____

_____	_____	_____
Name (Print)	*Signature*	*Date*