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<b>CH2M HILL Hanford Group, Inc.</b>	<b>Manual</b>	<b>ESHQ</b>
<b>RESPIRATOR ISSUANCE AND CONTROL PROCESSES</b>	<b>Document</b>	<b>TFC-ESHQ-S_IH-CD-05.1, REV B-8</b>
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	<b>Issue Date</b>	<b>August 8, 2007</b>
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## [Ownership matrix](#)

### **1.0 PURPOSE AND SCOPE**

This guidance document provides guidance to implement the respirator issuance and control processes outlined in [TFC-ESHQ-S\\_IH-C-05](#). These instructions cover the responsibilities for both respirator issuers and users.

### **2.0 IMPLEMENTATION**

This guidance document is effective on the date shown in the header.

### **3.0 RESPONSIBILITIES**

Responsibilities are contained within Section 4.0.

### **4.0 GUIDANCE**

#### **4.1 Mask Issuers Core Team**

This team will be made up of representatives from each organization that issues respirators and the CH2M HILL Safety & Health Respiratory Protection program administrator. The team will meet at least quarterly, or more often, as needed. The team will review the program, address issues, and be proactive members to correct any deficiencies and make improvements. Operations managers will support this effort.

Operations managers will ensure that any employee tasked with issuing masks is familiar with the requirements of this guidance document prior to making the work assignment. Specifically, issuers shall be familiar with the roles and responsibilities of issuers and users, the guidance for issuing the various respirators, and proper respirator control expectations.

#### **4.2 General Guidance for Issuing Respirators**

##### **4.2.1 Respirator Issuers**

1. Respirator issuers must ensure that the respirator issued to a user is the exact make, model, and size specified by accessing the database, examining an electronic copy or printing out a hard copy from the database, referring to the users mask fit test card and training document.
2. Respirator issuers shall ensure that both the user's mask fit and respiratory protection training are current by checking the front of the users mask fit card and by accessing the database, examining an electronic copy or printing out a hard copy from the database, or a legible copy of the card.
3. For tight fitting respirators, respirator issuers shall confirm that the physical appearance of the user matches their mask fit card (e.g., users are clean shaven).

4. Respirator issuers are responsible to complete applicable portions on the respiratory equipment sign in/sign out log ([TFC-ESHQ-S\\_IH-C-05](#), Figures 5 and 6) and ensure the respirator user completes the user portion.
5. Refer to [TFC-ESHQ-S\\_IH-C-05](#), Section 4.13, for voluntary use requirements.
6. Respiratory equipment may be checked out from the issue station and issued to personnel in the field. Respirator issuers are responsible to complete applicable portions on the respiratory equipment sign in/sign out log ([TFC-ESHQ-S\\_IH-C-05](#), Figures 5 and 6) and ensure the respirator user completes the user portion. The original log sheet will be returned to the issue station.

#### 4.2.2 Respirator Users

1. Users must ensure that the respirator issued to them is the exact make, model, and size specified on their mask fit card by accessing the database, examining an electronic copy or printing out a hard copy from the database, referring to their mask fit card, or a legible copy of the card.
2. Respirator users shall ensure that they are able to wear a respirator by assuring that their mask fit and respiratory protection training are current by checking the front of their mask fit card and by accessing the database, examining an electronic copy or printing out a hard copy from the database, or a legible copy of the card.
3. Users complete the respiratory equipment sign in/sign out log.

#### 4.3 Guidance for Issuing Mine Safety Appliance (MSA) UltraTwin Full Face Respirators

MSA UltraTwin face pieces are available in three sizes (S, M, L), made from two materials (hycar, silicon), for a total of six variations. Respirator users must be fit-tested on the specific variation they wish to be issued and use.

##### 4.3.1 Respirator Users

Users must ensure that they are issued the specific respirator variation they are fit-tested for.

#### 4.4 Guidance for Issuing Scott O-Vista® and AV-2000 Full Face Respirators

Three models of Scott face pieces are used at CH2M HILL: the Scott O-Vista, AV-2000, and with Comfort Seal available for both. Two Scott face piece models come in three sizes (S, L, XL). The Comfort Seal face piece comes in large size only. Scott face pieces are also available in several strap/harness configurations. The various models/configurations can be recognized as follows.

- The Scott O-Vista can be recognized because it has no nose cup or communication diaphragms.
- The Scott AV-2000 and AV-2000 Comfort Seal can be recognized because they have a nose cup and/or communication diaphragm. The nose cup cannot be removed from the AV-2000 face piece.
- Comfort Seal face pieces are different from regular AV-2000 face pieces. The Comfort Seal face piece is recognized as having an additional fold on the forehead sealing surface when compared to the standard Scott O-Vista and AV-2000 face seals. The color is black.
- Scott mask with poly harness – Black.
- Scott mask with kevlar harness – Yellow.

The model, size, and strap/harness configuration all affect the fit of Scott face pieces. Each user is fit for the model, size, and strap/harness configuration that provides the best fit and applicability to their work.

##### 4.4.1 Respirator Issuers

Prior to issuing the Scott respirator, confirm that the face piece, model, size, and strap/harness configuration for which a user is fit are specified on their mask fit card (i.e., correction).

##### 4.4.2 Respirator Users

Confirm that the Scott face piece, model, size, and strap/harness configuration that are issued are as specified on their mask fit card (i.e., correction).

#### 4.5 Guidance for Issuing 3M Breathe Easy Powered Air Purifying Respirators

The 3M Breathe Easy Powered Air Purifying Respirator (PAPR) unit is composed of a motor blower unit, battery, three respirator cartridges, a butyl rubber breathing tube, and a Tyvek<sup>1</sup> QC hood. The breathing tube connects to the motor blower unit with a hose clamp and to the hood with a snap-in connector. The 3M Breathe Easy PAPR is used with the FR-57 cartridge, a combination cartridge that provides protection from particulates, including radionuclides, volatile organic compounds and ammonia. A high-efficiency particulate air (HEPA)-only cartridge is available. PAPR units are provided by CH2M HILL Respiratory Protection to respirator issue stations for issuance. Breathe Easy (BE)-10 PAPR hoods have a protective paper layer over the

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<sup>1</sup> Registered trademark of E.I. du Pont de Nemours and Company.

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face piece lens. Cartridges will be supplied sealed individually in foil packaging. PAPR units will be issued from, and returned to, current respirator issue stations. Used respirator units will be returned to CH2M HILL Respiratory Protection when maintenance or testing is required. Industrial Hygiene will pick up and deliver the PAPR units, as needed, from the respirator issue station.

**4.6 Guidance for Issuing MSA OptimAir 6A Powered Air Purifying Respirators**

The MSA OptimAir 6A Powered Air Purifying Respirator consists of the motor blower module, battery, two cartridges, a 30 inch breathing tube for tight fitting facepiece (MSA Part No. 486364), 36 inch breathing tube for tight fitting facepiece (MSA Part No. 492197), breathing tube for Tyvek Hood (MSA part No. 481980), and belt (MSA Part No. 10023039). The MSA OptimAir 6A PAPR can used with a combination cartridge that provides protection from particulates, including radionuclides and volatile organic compounds, but ONLY with a tight fitting facepiece. A high-efficiency particulate air (HEPA)-only cartridge is available that can be used with the Tyvek hood or tight fitting facepiece. PAPR units are provided by CH2M HILL Respiratory Protection to respirator issue stations for issuance. PAPR units will be issued from, and returned to, current respirator issue stations. Used respirator units will be returned to CH2M HILL Respiratory Protection when maintenance or testing is required. Industrial Hygiene will pick up and deliver the PAPR units, as needed, from the respirator issue station.

**4.7 Guidance for Issuing 3M 6000 Series Full Face Respirators**

The 3M 6000 series full face APR is available in three sizes, small (6700DIN), medium (6800DIN), and large (6900DIN). All 3M 6000 series APRs are made of silicone. Users are fit for one of the three sizes. 3M 6000 series APRs and 3M 7500 series APRs use the same cartridge models. We use Multi-Gas, Multi-Gas/P-100, and P-100 cartridges. Several different P-100 cartridge models are available for this respirator. Mask sizes are verified by S, M, or L on the forehead of the face piece.

**4.8 Guidance for Issuing 3M 7500 Series Half Face Respirators**

The 3M 7500 series is a multiple use, disposable, half face respirator. The 3M series respirator is available in three sizes, small (7501), medium (7502), and large (7503). All 3M 7500 series APRs are made of silicone. Users are fit for one of the three sizes. 3M 6000 series APRs and 3M 7500 series APRs use the same cartridge models. We use Multi-Gas, Multi-Gas/P-100, and P-100 cartridges. Several different P-100 cartridge models are available for this respirator.

**4.9 Guidance for Issuing MSA Advantage 200 LS Half Face Respirators**

The MSA Advantage 200 LS is a multiple use, disposable, half face respirator. The MSA Advantage 200 LS respirator is available in three sizes, small, medium, and large. All MSA Advantage 200 LS APRs are made of silicone. Users are fit for one of the three sizes. GME and GME/P-100, different from the cartridges used for the MSA UltraTwin APR, are used with the MSA Advantage 200 LS APR.

**4.10 Guidance for Issuing Scott Carri-Air Portable Air Supply**

The Scott Carri-Air Portable Air Supply system is used to accommodate persons that are unable to carry an air bottle on their back or to accommodate persons performing certain work activities such as operating vehicles, cranes, LOWs, etc. However, any person using the Scott Carri-Air

Portable Air Supply system must have received the proper training, which includes course # 020601, "Supplied Air Entry/Exit Systems Training." Any person using the SKA-PAK must be trained to course #020032.

#### 4.10.1 Respirator Issuers

1. Verify the user has received the proper training prior to issuing the Carri-Air system.
2. Only issue Scott Carri-Air Portable Air Supply units that have a built-in alarm system.
3. Ensure that a maximum hose (Scott labeled air line) length of 25 feet or less is used between the Carri-Air system and the user where it attaches to the SKA-PAK or EZ Airline.

NOTE: CH2M HILL no longer uses the drag bags that were supplied by Air Systems International.

#### 4.10.2 Respirator User

1. Ensure you have received the proper training prior to using the Scott Carri-Air Portable Air Supply system.
2. Verify the low air alarm functions properly prior to use.
3. Be aware the Carri-Air system can be used with either the SKA-PAK system or the EZ Airline system.
4. DO NOT use the EZ Airline system in IDLH atmospheres.
5. Be responsible to monitor air pressure in the cylinder. While performing work activities, position the carrier so that the low air alarm can be easily heard. If working in a noisy environment, employ a tender to help monitor air pressure levels.
6. The SKA-PAK may be repositioned as necessary to conduct work provided the SKA-PAK is in the control of the user for emergency egress.

#### 4.11 General Guidance for Respirator Use

1. When the ambient temperature is 32 degrees Fahrenheit or below a full-face piece respirator is required to be equipped with a nose cup.
2. If fogging cannot be alleviated or personnel safety is at risk for any reason that is aggravated by wearing a mask, remove the mask and immediately proceed to the nearest tank farm exit.

NOTE: To reduce fogging of the face piece it may be treated with commercial products designed to inhibit fogging and/or by using a respirator equipped with a nose cup.

3. Respirators shall be used for a maximum duration of up to two consecutive shifts. Radiological release procedures apply to respirators used strictly for protection in air monitoring zones. New respirator cartridges must be obtained when cartridges cannot be

radiologically released. New respirators may have to be obtained if radiological release cannot be obtained, especially on back shifts. If daily return is impractical, contact the Respiratory Protection program administrator or safety management to establish alternate return cycles.

#### 4.12 Control of Respirators

Respirators (includes Air Purifying Respirator (APR)/PAPR masks and hoods, PAPR blowers, respirator cartridges, and canisters) shall be properly controlled from the time they are issued until the time they are returned to the issue station (except used cartridges). Respirator users are responsible for proper control of respirators issued to them. When not in use, respirator users shall control respirators issued to them.

##### 4.12.1 Respirator Users

1. Respirators not in use should be in the physical possession of the user, or in a locked area, or an area that requires access control for entry. Designate a person who can turn respirators back into the mask issue station if necessary.
2. Users shall store their respirators in a secure location:
  - Outside areas where respiratory protection is required
  - Outside of radiological buffer areas except during times when respiratory protection equipment is waiting to be surveyed and radiologically released to the user. During this time period, users should wait to receive their respirators or if they must leave, the respirator should be placed into a bag or other type of contamination control device and labeled appropriately, until it has been released.
  - In a place where the respirator is protected from tampering, physical damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.
3. Respirator users shall be responsible to return respirator equipment to the mask station from where they were issued or contact the mask issuing station if the respirator units cannot be returned by the end of the shift.

#### 5.0 DEFINITIONS

No terms or phrases unique to this guidance document are used.

#### 6.0 RECORDS

No records are generated during the performance of this guidance document.

#### 7.0 REFERENCES

1. TFC-ESHQ-S\_IH-C-05, "Respiratory Protection."