



## Respiratory Protection Program

Facility: **Marathon - Gallup**

**SAF-SF-0020**

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Unit: **50 Safety**

**Safety**

Approved By: Nielson, Lars

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### Purpose

The purpose of the Western Gallup respiratory protection program is to establish respiratory protection procedures for routine operations to ensure that respirators are properly selected, fitted, used, and maintained to protect the health of the employees.

### Objective

This program applies to all personnel (Western employees, contractors, and visitors) who are required to wear a respirator within Western Gallup. While respirators can be effectively used to prevent overexposures, where practical, the primary emphasis should be placed on personal protection through engineering and work practice controls.

### Safety Equipment

N/A

### Environmental Considerations

N/A

### Reference Material

- OSHA Respiratory Protection Standard (29CFR 1910.134)
- OSHA Benzene Standard (29CFR 1910.1028)
- NIOSH Respiratory Protection Standard (42CFR Part 84)
- ANSI American National Standard for Respiratory Protection (Z88.2-1992)
- ANSI/CGA G-7.1 - 1989 - Commodity Specifications for Air
- ANSI Z88.6 - 1984 - Medical Guidelines for Respiratory Protection
- NIOSH Guide to Industrial Respiratory Protection (Publication #87-108 (1987))
- NFPA Standard on Fire Department Occupational Safety and Health Program

- Gallup Refinery Handling Refinery Insulation Procedure S – 303
- [SAF-SF-0002 CONFINED SPACE ENTRY PERMITS](#)

## Definitions

**ACGIH** - American Conference of Governmental Industrial Hygienists

**ANSI** - American National Standards Institute

**Air-purifying respirator** -a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element

**Assigned protection factor (APF)** - the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section

**Atmosphere-supplying respirator** -a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units

**Canister or cartridge** -a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container

**Clean-Shaven** - a condition where, in compliance with Western Gallup's clean shaven philosophy, a tight-fitting face-piece would contact and seal with the skin (see Attachment II)

**Demand respirator** -an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation

**Emergency situation** - 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

**Employee exposure** -exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection

**End-of-service-life indicator (ESLI)** - a system that warns the respirator user of the approach of the end of adequate respiratory protection; for example, that the sorbent is approaching saturation or is no longer effective

**Emergency Escape Breathing Air Device (EEBD)** - primary components of a EEBD are a protective hood and a life – support cylinder supplying breathing air that provides an individual with respiratory and eye protection in an atmosphere that will not support life; it is to be worn until the individual you can get topside during evacuation from below deck spaces.

**Filter or air purifying element** -a component used in respirators to remove solid or liquid aerosols from the inspired air

**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

**Fit factor** -a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn

**Fit test** -the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual (see also Qualitative fit test (QLFT) and Quantitative fit test (QNFT))

**Helmet** -a rigid respiratory inlet covering that also provides head protection against impact and penetration

**High efficiency particulate air (HEPA) filter** -a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters

**Hood** -a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso

**Immediately Dangerous to Life and Health Atmosphere (IDLH)** -any atmospheric concentration of any toxic, corrosive or asphyxiating substance that:

- poses an immediate threat to life; or
- would cause irreversible or delayed adverse health effects; or would interfere with an individual's ability to escape from a dangerous atmosphere

**Industrial Hygiene** – the science that deals with the anticipation and control of unhealthy conditions in workplaces in order to prevent illness among employees

**Inhalation Hazard** - any dust, mist, vapor, or gas which, when inhaled at the concentration of interest, will produce, may reasonably be expected to produce, or significantly contribute to an injury or illness

**Interior structural firefighting** -means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage (see 29 CFR 1910. 155)

**Loose - fitting face piece** -a respiratory inlet covering that is designed to form a partial seal with the face

**Maximum use concentration (MUC)** -the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance; can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit; when no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment

**Negative pressure respirator (tight fitting)** -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

**National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA)** -these two groups approve respiratory equipment for industrial use

**Non-Routine Task** -tasks that arise unexpectedly, as a result of upset or emergency conditions, or which have elements that vary significantly from event to event

**Occupational Exposure Limit (OEL)** - an upper limit on the acceptable concentration of a hazardous substance in workplace air for a particular material or class of materials; it is typically set by competent national authorities and enforced by legislation to protect occupational safety and health

**Oxygen deficient atmosphere (ODA)**- an atmosphere with an oxygen content below 19.5% by volume

**Permissible Exposure Limits (PELs)** - these are the Occupational Safety and Health Administration (OSHA) exposure limits for air contaminants

**Physician or other licensed health care professional (PLHCP)** - an individual whose legally permitted scope of practice (i. e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section

**Positive pressure respirator** - a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator

**Powered air - purifying respirator (PAPR)** - an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering

**Personal Protective Equipment (PPE)** - equipment worn to minimize exposure to a variety of hazards and include such items as gloves, foot and eye protection, protective hearing devices (earplugs, muffs) hard hats, respirators and full body suits

**Pressure demand respirator** - a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation

**Program Administrator** - an individual qualified by appropriate training or experience and selected by plant management to oversee or administer the respiratory protection program

**Qualitative fit test (QLFT)** - means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent

**Quantitative fit test (QNFT)** - means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator

**REL (Recommended Exposure Limit)** - this is a NIOSH recommended exposure limit for air contaminants

**Respiratory inlet covering** - that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp

**Respiratory System** - includes the mask/face-piece and any attachments, including regulator, hose, manifold, air-supply, cartridge or canister

**Routine Task** - tasks performed as part of normal operations or planned outages, which consist of predictable steps or procedures, and which display little variance from event to event

**Self-Contained Breathing Apparatus (SCBA)** - An atmosphere-supplying respirator for which the breathing air source is meant to be carried by the user. For the purposes of testing and maintenance, five-minute escape pack cylinders are also considered SCBAs

**Supplied-Air Respirator (SAR) or airline respirator** - an atmosphere-supplying respirator for which the breathing air source is not meant to be carried by the user. Is typically comprised of a mask, regulator and hose assembly. An SAR can have a small SCBA cylinder attached for the purpose of escape. The entire assembly is connected to a large breathing air cylinder or multi-pack supply. Also referred to as a breathing air respirator/mask and hose assembly

**Service life** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer

**Tight-fitting respirator** - any respiratory protection device in which the face-piece is worn in direct contact with the individual's face with the intent of creating a seal between the face-piece and the wearer's skin

**TLV-TWA (Threshold Limit Value-Time Weighted Average)** - the time-weighted average concentration for a normal 8-hour workday and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect; these exposure levels are from the American Conference of Governmental and Industrial Hygienist

**User seal check** - an action conducted by the respirator user to determine if the respirator is properly seated to the face

**Warning Properties** - any apparent odor, taste, eye irritation, or respiratory irritation

**Workplace Environmental Exposure Levels (WEEL)** - published by American Industrial Hygiene Association (AIHA)

## Precautions / Prerequisites

N/A

**\*\*Procedure Starts on Next Page\*\***

**Procedure****Step/Action****1. Personnel Required in Respiratory Protection Program**

- 1.1. All Western Gallup and Contractor personnel who will be performing any work that requires respiratory protection are required to comply with this procedure. Personnel that may be exposed to chemicals must also comply with this procedure.

**2. Respiratory Equipment**

- 2.1. Western Gallup employees will be given a choice of respiratory protection. Respirators available within the respiratory program are listed in Attachment III. Only respirators which have NIOSH/MSHA certification can be used.
- 2.2. All employees who utilize a positive or negative pressure respirator must be clean shaven on the area of the face where the mask seal and face make contact (see [11.3.b](#)).
- 2.3. Supplied - air respirators (SARs) with an escape cylinder and SCBA respirators are considered "full/fully charged" when the actual pressure in the cylinder is maintained above 90% of the assigned pressure of the cylinder.

**3. Respirator Selection**

- 3.1. The selection of the proper respiratory protection will be made according to the guidance of the Respirator Decision Logic flow sheet (Attachment I). The First Line Supervisor, Lead Operator, or a Safety Department representative can assist with the decision concerning the appropriate type of respiratory equipment to employ.
- 3.2. Factors to consider for choosing respiratory protection include:
  - a. level of O<sub>2</sub>
  - b. chemical state
  - c. physical form
  - d. duration of wearing respirator
  - e. expected physical work
  - f. work environment (ex. temperature, humidity)
  - g. level (PPM) of contaminant(s)
  - h. potential IDLH conditions
  - i. cartridge service life
  - j. accepted exposure limit

**Procedure****Step/Action****3. Respirator Selection** (*Continued*)

- k. warning properties
  - l. possible overexposure
  - m. skin absorption
  - n. a reasonable estimate of exposure based on actual, historical, or objective data
- 3.3. Respirator selection criteria will be on the basis of the most hazardous chemical. Choosing the proper respirator, including the appropriate type of cartridge, will be determined by using the Respirator Selection Guide (13.1. ).
- 3.4. Supplied air respirators are required for most activities in the facility. However, there are some exceptions for specific tasks. Half - face respirators can be issued for work involving:
- a. painting
  - b. pesticides
  - c. approved welding tasks
  - d. refractory ceramic fibers
  - e. approved tasks involving lead
- 3.5. Approved tasks involving asbestos such as removing asbestos insulation and working with vehicular brakes that contain asbestos can be performed using the appropriate half – face respirator.
- 3.6. Filtering face - piece respirators (aka dust masks) can only be utilized for protection from dusts or welding fumes generated during hot work activities or during cleanup activities involving nuisance dusts at concentrations less than 10 times the OEL and in atmospheres that are not oxygen-deficient or enriched. APRs are not allowed to be worn - except for escape purposes – in IDLH or unknown atmospheres

**4. Use of Respirators**

- 4.1. Routine and non - routine respirator use is required when:
- a. personnel exposure to an inhalation hazard exceeds, or can reasonably be expected to exceed, the occupational exposure limit
  - b. a qualitative exposure assessment indicates a level of risk considered unacceptable by the Safety Department or Supervision
  - c. designated by a facility procedure or Operating Manual



**Procedure****Step/Action****4. Use of Respirators (Continued)**

- d. required through the work permit process

**5. Special Considerations****5.1. Confined Space Entry - Hot Work (welding/cutting/grinding/arc-gouging)**

- a. considered both routine and non-routine operations
- b. minimum level of air flow must be established or an SAR will be required for all welding, cutting, grinding, arc-gouging work
- c. all personnel in the confined space must wear the same level of respiratory protection while hot work is being performed
- d. half - face or filtering face-piece N - 100/P - 100 respirators are the minimum level of protection when hot work is occurring in a confined space
- e. a higher level of protection is required whenever IH data supports increasing PPE protection or if there is a different requirement for minimum PPE in another procedure or OSHA mandated procedure

**5.2. Fabrication – Maintenance Shop (welding/cutting/grinding/arc-gouging)**

- a. considered both routine and non - routine operations
- b. local exhaust ventilation must be used whenever possible/practical
- c. all personnel within a 6 foot radius of hot work must wear at a minimum the same level of respiratory protection
- d. half-face filtering face piece is considered the minimum level of protection during welding/cutting/grinding or other hot work activities where the IH sampling or an exposure assessment has determined that the level of exposure could be above the “action level” or up to 10 times the OEL
- e. a higher level of protection is required whenever IH data supports increasing PPE protection or if there is a different requirement for minimum PPE in another procedure or OSHA mandated procedure



SCBAs in the Operations areas, Safety Buildings, and on mobile emergency equipment are for emergency use only and are not to be used to perform non – emergency tasks.

**5.3. Use of SCBAs in Non – Emergencies**

- a. The following is required for the use of SCBAs in non – emergencies:
  - 1) SCBAs will be acquired through the Fire and Safety Technicians

<b>Procedure</b>
<b>Step/Action</b>

**5. Special Considerations (Continued)**

- 2) usage by non – Operations personnel will be documented through the work permit process
- 5.4. Use of Respirators for Inspection of Containments and in Asbestos or Lead Abatement Activities
- a. the Safety Department will be:
    - 1) allowed to wear HEPA cartridge respirators for the above mentioned activities
    - 2) responsible for maintaining supplies, inspecting, and keeping clean individually issued respirators for these activities
- 5.5. Respirator Selection for Air Contaminants With No Exposure Limit
- a. An atmospheric respirator will be utilized if the air contaminant:
    - 1) has a known health hazard
    - 2) there is a significant potential for exposure
    - 3) it does not have a PEL, TLV, REL, or WEEL

**6. Air Purifying Respirators (APRs)**

Air purifying respirators cannot be used in **any** of the following situations:

- in atmosphere that contains greater than 1000 PPM of total hydrocarbons, *or* whenever the chemical – specific IDLH concentration has been reached, *or* if contaminant – specific data is unavailable

- 6.1. Using an air-purifying respirator (APR) for non - routine tasks requires:
- a. approval/authorization from the Supervisor of the area in which the task is being performed; *or*
  - b. documentation within a written Operations/Maintenance SOP; *or*
  - c. determination through previous IH sampling that the exposure potential does not exceed the protection of an APR
- 6.2. The following criteria must be considered prior to using an air purifying respirator:
- a. the work area must have an atmosphere that is not oxygen deficient
  - b. the approximate concentration and type of contaminant must be known
  - c. the contaminant must have adequate warning properties

## Procedure

### Step/Action

#### 6. Air Purifying Respirators (APRs) (Continued)

- d. the proper color-coded cartridge/canister for the contaminant will be selected ([13. Replacement and Repair](#))
  - e. cartridges/canisters and filtering face - pieces may not be used beyond their designated service or shelf life
  - f. cartridges/canisters and filtering face - pieces must be disposed of at the end of their service life or at the end of the shift in which they were used, whichever comes first
- 6.3. Air purifying respirator cartridges are changed out when the cartridge indicator indicates the end of service life or according to the Cartridge Service Life Table ([13.2.](#) ).
- 6.4. Filtering face-piece air-purifying respirators are changed out after their use or, at a minimum, before lunch and at the end of the shift in those situations where they are to be required for use the entire day/shift.
- 6.5. Adequate warning properties are required before an air - purifying respirator can be utilized. The odor threshold must be equal to, or less than, the occupational exposure limit in order to use an air-purifying respirator (Attachment V)



Filtering – face piece respirators can only be utilized for nuisance dust or welding/cutting fume concentrations that are less than 10 X the OEL/non - IDLH atmosphere.

## 7. Atmospheric - Supplying Respirators

- 7.1. Atmosphere supplying respirators provide greater respiratory protection than air purifying respirators since a slight positive pressure of breathing air is maintained within the respirator face - piece at all times.
- 7.2. Supplied Air Respirators are supplied with breathable air through an "air line". Supplied air respirators, each of which must include an egress (escape) cylinder, are required in situations which are or have the potential of becoming immediately dangerous to life or health (IDLH). A Stand - by equipped with an SCBA or an SAR with a separate primary air supply, is required for all work in IDLH atmospheres.

## 8. Respirators for Emergency Use

- 8.1. SCBAs, with the exceptions noted in [5.3.](#) , are for emergency use only. These are self - contained and provide a 30 - 60 minute air supply for the user. SCBAs should be considered emergency respirators and not used for other purposes, i.e., routine maintenance.

**Procedure****Step/Action****8. Respirators for Emergency Use (Continued)**

- 8.2. Emergency SCBAs are located in respirator cabinets throughout the Operations areas. Additional emergency SCBAs are located in the Safety Building and also on various pieces of mobile emergency response equipment. SCBAs are inspected monthly by the Fire and Safety Technicians with non – conformances addressed promptly.

**9. Immediately Dangerous to Life or Health (IDLH) Atmospheres**

- 9.1. If the IDLH situation is an interior structural fire, then the “two-in/two out” requirements of NFPA 1500 must be followed. If the IDLH situation is other than an interior structural fire, ensure that at least one standby person is located outside the IDLH area at all times.
- 9.2. Visual, voice, or signal line communication must be maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere. The individual(s) located outside the IDLH atmosphere must be trained and equipped to respond appropriately in the event of an emergency.

**10. Medical Suitability (Gallup Employees)**

- 10.1. No one can be assigned to jobs requiring the use of a respirator unless it has been determined that they are physically able to perform the work and use the equipment (ANSI Z88.6 - 1984 - Medical Guidelines for Respiratory Protection). The Program Administrator and Licensed Health Care Provider will determine what health and physical conditions are pertinent with respect to wearing respiratory equipment. The medical assessment for each individual will be made initially during initial physicals and annual examination by a Licensed Health Care Provider.

**11. Fit Testing and Protection Factors**

- 11.1. All employees that are in the respiratory protection program will be fit tested to assure that the face-to-face-piece seal is acceptable. The fit test is accomplished by quantitative testing and performed annually. Complete annual records of all fit tests will be maintained by the HR Department.
- 11.2. Assigned protection factors (APFs) are a measure of the degree of protection provided by a respirator. APFs are affected by several factors, such as capabilities and limitations of the respiratory equipment and the results of respirator fit tests. A list of the APFs used in administering the respiratory protection program can be found in NIOSH Guide to Industrial Respiratory Protection and are also contained in 29 CFR 1910.134 Table 1.
- 11.3. Detailed records are maintained in the HR Department for all respirator fit tests. These records can include:

<b>Procedure</b>
<b>Step/Action</b>

**11. Fit Testing and Protection Factors (Continued)**

- a. name of employee
- b. last four digits of SSN/employee ID number
- c. date
- d. manufacturer of respirator and size
- e. results of fit testing
- f. name and signature of individual conducting the fit-testing/training
- g. signatures of individuals being fit tested and acknowledgment of fit test



Employees are issued a fit - test card listing the respiratory equipment for their specific use; this card should be available for their reference and also upon request.

**Note****12. Issuance of Respirators**

- 12.1. Cabinets containing cleaned and serviced respirators are found throughout the facility. These cabinets are specifically marked and strategically located.
- 12.2. All clean respirators are bagged and tagged indicating ready for use. Clean Respirators will be stocked in the appropriate cabinet. Various sizes will be available for use by Gallup employees. Individuals are to retrieve another respirator out of the cabinet if the bag seal has been broken.
- 12.3. All used non - disposable respirators will be placed in a specifically marked receptacle for used/dirty respirators. They will be picked up for cleaning and servicing from these points.

**13. Replacement and Repair**

- 13.1. Respirators are to be fully inspected by each respirator user prior to use. A respirator that is found to be in need of repair or that does not function normally is to have a "Danger Do Not Use Tag" attached and placed in the used/dirty respirator receptacle for evaluation and repair by a trained Technician.
- 13.2. Once the respirator has been used, cartridges are removed and the respirator is then placed in the "dirty" respirator container. Respirators will be collected by the Fire and Safety Technicians. The Fire and Safety Technicians are responsible for restocking each area cabinets, shops, and air carts with the appropriate type of respiratory equipment. Only trained personnel will inspect, clean, service or repair respiratory equipment.

**Procedure****Step/Action****14. Issuance of Supplied Air Respirators**

- 14.1. All non-emergency supplied breathing equipment will be issued through the Fire and Safety Technicians. This equipment will be signed out and signed back in immediately after the completion of the task unless prior approval has been obtained from the Safety Department.

**15. Inspection, Cleaning, Maintenance/Repairs, and Storage of Respirators**

- 15.1. Every respirator wearer will inspect the respirator prior to each use. Respirators that have been placed in the cabinets in the field will be inspected by trained Respiratory Technicians at the time the respirator is cleaned and serviced. The respirator bags will be dated for future reference
- 15.2. Respiratory equipment maintained for emergency use will be inspected after each use, during cleaning, and at least monthly unless the bag remains in a sealed condition. The inspection is performed to ensure that the respiratory equipment is in satisfactory working condition.
- 15.3. An inspection of respiratory equipment includes the following:
- a. a check of the tightness of connections and the condition of the face-piece, headbands, valves, connecting tube, and cartridges
  - b. inspection of rubber or elastomeric parts for pliability and signs of deterioration
- 15.4. Emergency respiratory units (SCBAs, emergency escape breathing air devices, etc.) will be inspected by Operations personnel weekly and the Fire and Safety Technicians monthly. The inspection will include the items below:
- a. Operations are required to check and ensure that the tamper seal is intact on the respirator cabinet; a broken seal is to be reported to the Fire and Safety Technicians before the end of the Operations shift
  - b. Fire and Safety Technicians are required to perform the following monthly checks:
    - 1) ensure that air cylinders are fully charged to the manufacturer's recommended pressure level (> 90% of rated capacity)
    - 2) determine that the regulator, high pressure hoses, and warning devices function properly
    - 3) check the rubber or elastomeric parts for pliability and signs of deterioration

**Procedure****Step/Action****15. Inspection, Cleaning, Maintenance/Repairs, and Storage of Respirators (Continued)**

- 4) check the straps, and backpack assembly for signs of wear
- 15.5. A record (Respiratory Protection Inspection Report) will be kept in order to document the inspection dates, name of person making the inspection, unique identification number of the SCBA, inspection findings, and required maintenance for respirators designated for emergency use. Respirators that do not pass inspection will be **immediately** removed from service.
- 15.6. Respirators and regulators will be cleaned and disinfected after their use to ensure the proper protection is provided for the wearer.
  - a. routinely used respirators will be collected, cleaned, and disinfected
  - b. a respirator showing signs of wear must be returned and exchanged for another
  - c. respirators should never be cleaned or wiped with an alcohol-based cleaner (i. e. Windex, Glass Cleaners, etc.) as the alcohol will deteriorate the respirator face-piece
- 15.7. Maintenance or repairs of respiratory equipment are the sole responsibility of the Western Gallup Safety Department. No attempt will be made to replace components or to make repairs outside of those coordinated by the Safety Department.
- 15.8. Respirators should not be stored in tool boxes, offices, vehicles, or other unauthorized locations.
- 15.9. Air purifying respirators used for routine tasks will be stored in a respirator cabinet located in Process areas and Shops. The cabinet must protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
- 15.10. Emergency respiratory units (SCBAs, emergency escape breathing air devices, etc.), stored in specially designed wall cages, are located at strategic locations in the Operations areas.

**16. Other Special Considerations**

- 16.1. Since temple bars on glasses can interfere with the respirator face-piece-to-face seal, plain safety glasses should be removed when wearing full face-piece respirators. Personnel who must have corrective prescription glasses will be provided with special respirator eye glass inserts through the eyeglass program upon request. Contact lenses are allowed to be worn with respirators.
- 16.2. Suitable breathing air to respirators can be provided from cylinders or air compressors. Breathing air will meet at least the minimum requirements of the specification for Grade D breathing air as described in ANSI/CGA G-7.1-1989. Vendors/suppliers will be able to certify, in writing, that air quality of each cylinder meets these specifications.

**Procedure****Step/Action****16. Other Special Considerations (Continued)**

- 16.3. Industrial Hygiene monitoring efforts continuously evaluate routine and non-routine jobs for exposure assessment and use of respiratory protection. Respirators will be utilized until exposure monitoring can be performed for tasks where:
- a. a chemical exposure exists
  - b. an IH evaluation has not been performed

**17. Program Evaluation**

- 17.1. The respiratory protection program will be reviewed periodically by the Fire and Safety Technicians. The Program Administrator will coordinate a documented annual evaluation.
- 17.2. The annual evaluation will include:
- a. an assessment of work-place conditions to ensure that respirators are adequate for the contaminants and concentration typically encountered.
  - b. an evaluation of actual respirator usage:
    - 1) visual inspection of employees on the job to see that respirators are worn properly and utilized on the job(s) specified
    - 2) examination of respirators in storage to check for proper maintenance
  - c. solicitation of wearer comments/employee involvement
  - d. an evaluation of supplied breathing air checks
    - 1) Grade D breathing air quality checks
  - e. a check of respirator cabinets
    - 1) proper storage of respirators
    - 2) structural integrity of cabinet
  - f. evaluate adequacy of respiratory protection training
    - 1) proper use, inspection, and cleaning
    - 2) cartridge selection criteria
    - 3) storage during use
- 17.3. Areas of improvement identified during the evaluation will be tracked to resolution. Standard respirator operating procedures will be modified as required.

**\*\*End of Procedure\*\***



## Responsibilities

### Area and Departmental Supervision

- Ensure that the respiratory protection program is implemented and utilized as outlined in this document and that respiratory protective equipment is available as needed.
- Auditing their areas to monitor the use of respirators.
- Adjusting employee schedules so that individuals may receive the required medical evaluation, fit testing and training.

### Backup Person for Airline Respirator Usage

- Stand watch in a safe area adjacent to the work site where workers are visible.
- Have an air supplied respirator on a separate air supply ready at all times for immediate use while personnel are in a hazardous area.
- Maintain communications at all times between the workers and the person monitoring the air cylinders.
- Notify the workers to leave the work area in the event of an emergency.
- Summon rescue personnel, and assist, in the event of an emergency.

### Bottle Watch (individual monitoring supplied breathing air cylinders for SARs)

- Must be trained in the requirements of airline respirator systems. (see Attachment VI)
- Monitor breathing air cylinders at all times while in use.
- Verify air cylinder regulator is set to maintain an operating pressure of 80 - 100 psi.
- Ensure all airline connections are tight.
- Maintain communication with workers at all times (hand signals, voice, radio, etc.).
- Notify backup person prior to a cylinder transfer (air cylinder drops to 500 psi or less).

### Contractor Companies and Contractor Employees

**Note**

Western Gallup will not supply Contractors, other than those contracted for emergency response or involved with work in the HF Alkylation Unit, with respiratory equipment (respirators, hoses, cartridges, supplied breathing air, etc.) The contractor company is responsible for administering a respiratory protection program meeting or exceeding Western Gallup's respiratory protection program.

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- Implementation of their Company's respiratory protection program in accordance with the requirements of 29 CFR 1910.134 and the respiratory protection program.
- Their policy and procedures meeting, or exceeding, Western Gallup's respiratory protection program.
- Providing and maintaining their own respiratory systems.
- Providing a copy of their respiratory program through the Western purchasing process.
- Maintaining all documentation to demonstrate compliance with Federal and State regulatory requirements.

### **Departmental Trainers**

- Coordinating with the Safety Department the content of respiratory training in new hire orientation classes (on – boarding).
- Helping Supervision track the timely completion of respiratory protection training for all affected employees assigned to their department.

### **Employee's First Line Supervisor**

- Providing assistance with decisions on respiratory protection for routine and non - routine tasks, decisions concerning the type of cartridge used for air purifying respirator, and proper selection and use of respiratory protection devices by following the Respirator Decision Logic Flow Chart (Attachment I)
- Periodically confirming that respirator equipment in their areas are maintained and inspected as described within this document.
- Ensuring adherence of all personnel to the facial hair policy (Attachment II), that respirator training/fit – testing of employees is completed prior to assignment of a task that requires the use of a respirator, and annual update training and fit - testing is completed for personnel in their groups whose job duties require the use of a respirator.
- Consult with the Safety Department prior to making changes to SOPs that would impact respiratory protection.

### **Employees in the Respiratory Protection Program**

- Utilize the respiratory protective equipment in accordance with the instructions, written SOPs, work permits, and training received.
- Assist in identifying situations that may require respiratory protection.
- Adhere to the requirements concerning facial hair and respirator usage (Attachment II).
- Visually inspect respirators prior to each use.

- Perform a "fit check" to assure that an adequate respirator – to – face fit is achieved each time the respirator is worn.
- Receive annual medical clearance, fit – testing, and training prior to use of any respirator.
- Properly store clean/used respirators during breaks. While in use, place the respirator back in the plastic bag. After completing the job, place respirators in a used/dirty container for cleaning.
- Remove from service, attach a "Danger: Do Not Use" tag, and report to their immediate Supervisor, Fire and Safety Technician, or Program Administrator any respiratory equipment that malfunctions or has a defect.
- Have current fit testing documentation (Fit Test Card) available at all times.
- Ensure that their respiratory protection training is current.

#### **Licensed Health Care Provider**

- Conduct medical evaluations on designated employees whose job requirement includes the ability to wear a respirator.
- Provide an annual list to the Program Administrator concerning changes in employee respirator medical status.

#### **Program Administrator**

- Coordinate the maintenance and repair of all respiratory equipment at the facility.
- Assess and document routine tasks for respiratory protection requirements.
- Define, and provide as a component of this document, a list of specific respiratory equipment approved for use by Western Gallup personnel.
- Facilitate employee medical evaluations concerning respirator usage through a licensed health care professional, as well as annual fit testing for personnel in the respiratory program, and the training content pertaining to the respiratory protection program with Departmental Trainers for affected employees.
- Audit the respiratory protection program to ensure compliance as well as assess current practices.

#### **Purchasing and Warehouse Personnel**

- Order, stock, and issue only those respiratory protection devices approved by the Safety Department for use at the facility.

#### **Safety Department**

- Designate a member of the Safety Department as the Administrator of the respiratory protection program.

- Provide consultation on the application (cartridge selection, etc.) of respiratory equipment.

### **Trained Respirator Technicians**

- Perform and document monthly SCBA inspections.
- Perform and document annual SCBA performance testing.
- Maintain the manufacturer's required level of certification as an authorized Respirator Technician.
- Maintain inventory control for all approved respiratory equipment.
- Perform and maintain documentation associated with cleaning, proper storage, use, and care of all respiratory equipment.
- Perform, as directed, fit testing of employees.

## **Field of Application**

N/A

## **Record Retention**

N/A

## **Training**

Employees, if respiratory usage is a part of their job description, will be trained in the proper use of respirators. The training will be completed prior to any assignment requiring the use of a respirator. Annual update training and fit - testing is required to be completed for all personnel required to wear a respirator in performance of their job activities.

### **Content of Training**

Hands - on training will provide the employee an opportunity to handle the respirator, have it fitted properly, test its face-to-face-piece seal, and finally, to wear it in a test atmosphere.

Training will include the following:

- instruction in the nature, extent, and effects of respiratory hazards in the workplace
- explanation of the operation, limitations, and capabilities of the selected respirator(s)

- a discussion of why this is the proper type of respirator for the particular respiratory hazard
- instruction in procedures for inspection, donning and removal, use of respirator for emergency use, wearing and adjusting the respirator, and checking its fit and seals by performing a fit check
- instruction in the proper maintenance and storage of the respirator
- classroom and field training to recognize and handle emergency situations
- explanation of the written respiratory protection program
- explanation of the engineering controls that are in place and the explanation that includes recognition that every reasonable effort is being made to reduce or eliminate the need for respirators

## Forms and Attachments

### Attachment I – Respiratory Decision Logic Flow-Chart

[Attachment I - Respiratory Decision Logic Flow Chart](#)

### Attachment II - Respiratory Protection Program Facial Hair Requirements

The purpose of this policy is to protect the safety and health of employees that may wear respiratory protection. This policy ensures compliance with OSHA Safety and Health Standard CFR 1910.134 - Respiratory Protection, Section (e), subpart (i):

"Respirators will not be worn where conditions prevent a good face seal. Such conditions may be a growth of beard, side burns, skull cap that projects under the face - piece or temple pieces on glasses."

#### **Responsibility**

##### **Management**

Management is responsible for seeing that all employees in the respiratory protection program comply with this policy.

##### **Employees in the Respiratory Protection Program or who may be required to wear a respirator:**

- must be cleanly shaven on the areas of the face where the mask seal and face make contact
- will adjust personal grooming as necessary in order to conform with this requirement;
- are responsible to ensure that facial hair does not prevent a good face seal.

##### **Contractors**

Contractors are responsible to comply with this policy, ensuring that facial hair does not prevent a good face seal for each contract employee.

##### **Beard Guidelines**

Beard growth between the mask seal area of a respirator and the face will not be allowed on the following personnel working within the facility:

- any employee in the respiratory protection program

- any employee of a contract company whose job duty may involve wearing a respirator
- 



**Contractor companies may impose more stringent regulations, at their discretion, concerning facial hair and respirator usage.**

**Note**

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**Variance**

A variance may be granted for the following situations:

- Visitors who are being walked through the plant by an employee who will be responsible to remove the individual(s) from the area in the event a respirator is needed.
- Medical condition(s) which prohibit being clean shaven. Prohibitions must be submitted in writing from a Western approved medical physician. Written variances from personal physicians will not be accepted.



The shaded portions are your respirator seal areas. Facial hair is Not Permitted on these portions of the face.

**Unacceptable**



Full Beard



Goatee & Narrow Mustache



Goatee & Wide Mustache



Extended Side Burns



Fu Manchu Mustache



Wide Mustache

**Acceptable**



Clean Shaven



Narrow Mustache



**Attachment III - Approved List of Respirator Face Pieces for Western Gallup Personnel**

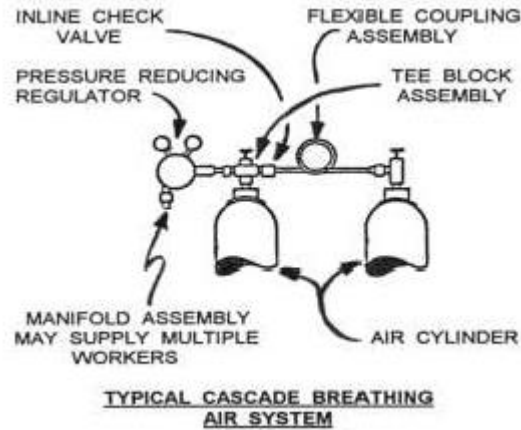
<b>FACE-PIECES</b>			
<b>Style</b>	<b>Manufacturer</b>	<b>Description</b>	<b>Size</b>
Full-face (FF)	Scott	AV-2000 AV-3000	S/M/L/XL
Half-face (HF)	3M	5101 (attached OV cartridges)	Small
Half-face (HF)	3M	5201 (attached OV cartridges)	Medium
Half-face (HF)	3M	5301 (attached OV cartridges)	Large
Half-face (HF)	3M	(attached P-100 HEPA cartridges)	Small
Half-face (HF)	3M	(attached P-100 HEPA cartridges)	Medium
Half-face (HF)	3M	(attached P-100 HEPA cartridges)	Large
Filtering Face-Piece (FFP)	3M	N-100 HEPA 8233	OSFA

## Attachment IV - Respirator Cartridge Color Coding Chart

MANUFACTURER	COLOR CODE	CARTRIDGE NUMBER	WAREHOUSE STOCK #	CHEMICAL CLASS USES	SPECIFIC USES
3M	BLACK	642-OV	TBD	Organic Vapors	
3M		642-OA	TBD	Organic Vapors, Chlorine, Hydrogen Chloride, Sulfur Dioxide	
3M	Color: yellow & purple	GMC-H	TBD	Organic Vapors, Acid Gas, Hydrogen Fluoride, and Particulates Fumes, Mists, Radionuclides, Radon Daughters and for escape only from Hydrogen Sulfide (escape only)	
3M	Color: yellow & purple	642-OA-H	TBD		
3M	Color: purple	642-H	TBD	Dust, Fumes, Mists, Radionuclides and Radon Daughters	
3M	Color: green	642-AM	TBD	Ammonia and Methyl Amine	

## Attachment V - Respirator Selection Guide

HAZARD	RANGE	RESPIRATOR
Oxygen	<19.5%	Fresh Air
H <sub>2</sub> S	10-100 ppm	Full Face Respirator with Acid Gas Cartridge or Fresh Air
CO	35-350 ppm	Supplied Air Welding Hood
	>350 ppm	Fresh Air
	>1200 ppm	Fresh Air
SO <sub>2</sub>	2-20 ppm	Half Face Respirator with Acid Gas Cartridge
	20-50 ppm	PAPR Hood
	50-100 ppm	Full Face Respirator with Acid Gas Cartridge
	≥100 ppm	Fresh Air
Ammonia	25-300 ppm	PAPR Hood
	≥300 ppm	Fresh Air
Benzene	1-10 ppm	Half Face Respirator with Organic Vapor Cartridge
	10-50 ppm	Full Face Respirator with Organic Vapor Cartridge
	50-500 ppm	Fresh Air
	≥500 ppm	Fresh Air
H <sub>2</sub> SO <sub>4</sub>	1-15 mg/m <sup>3</sup>	Supplied Air Hood or PAPR Hood
	≥15 mg/m <sup>3</sup>	Fresh Air
Red Oil	≥0.2 - 2 mg/m <sup>3</sup>	Full Face Respirator with Organic Vapor/Particulate Cartridge
	≥80 mg/m <sup>3</sup>	Fresh Air
Asbestos	≥0.1 f/cc	Half or Full Face Respirator with P-100 Cartridge
Caustic	1-15 mg/m <sup>3</sup>	Supplied Air Hood or PAPR Supplied Hood
	≥10 mg/m <sup>3</sup>	Fresh Air
Cobalt Catalyst	≥0.02 mg/m <sup>3</sup>	Half or Full Face Respirator with Particulate Cartridge
Other Catalyst	≥10 mg/m <sup>3</sup>	Half or Full Face Respirator with Particulate Cartridge
Dusty Conditions	≥10 mg/m <sup>3</sup>	Half or Full Face Respirator with Particulate Cartridge
Hexavalent Chromium	5-50 µg/m <sup>3</sup>	Half or Full Face Respirator with Particulate Cartridge
	≥50 µg/m <sup>3</sup>	Fresh Air
Refractory Ceramic Fibers	≥0.2 f/cc	Half or Full Face Respirator with Particulate Cartridge
Crystalline Silica	≥0.05 mg/m <sup>3</sup>	Half or Full Face Respirator with Particulate Cartridge

**Attachment VI - Typical Portable Breathing Air Cylinder System for SAR Equipment****General Notes**

- Only compressed breathing air cylinders or trailers will be used.
- Maximum allowable hose length per worker: 300 feet
- An individual will monitor the portable compressed breathing air cylinders at ALL times while equipment is in use.
- Ensure all hose line connections are tight and not leaking.
- All compressed breathing air cylinders will be properly secured
- A “Stand – by” person, if required by the task or work environment, will work off of a breathing air supply separate from the workers the Stand – by is monitoring.

<b>DATE OF APPROVAL</b>	<b>CONTENT OF REVISION</b>
TBD	

## Summary of Revisions

<u>Location</u>	<u>Reason</u>
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Step 2.2.

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Step 2.3.

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Section 3.

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Step 3.1.  
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Step 3.2.j  
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Step 3.2.k  
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Step 3.2.l  
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Step 3.3.  
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Step 3.4.  
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Step 3.4.a  
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Step 3.4.b  
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Step 3.4.c  
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Step 3.4.d  
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Step 3.4.e  
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Step 3.5.  
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Step 3.6.  
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Section 4.  
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Step 4.1.a  
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Step 4.1.b  
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Step 4.1.c  
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Step 4.1.d  
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Section 5.  
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Step 5.1.a  
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Step 5.1.b  
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Step 5.1.c  
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Step 5.1.d  
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Step 5.1.e  
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Step 5.4.  
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Step 5.4.a  
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Step 5.4.a1  
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Step 5.5.  
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Step 6.1.c  
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Step 6.2.a  
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Step 6.2.b  
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Step 6.2.c  
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Step 7.2.  
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Section 8.  
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Step 8.1.  
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Step 8.2.  
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Section 9.  
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Step 9.2.  
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Section 10.  
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Step 10.1.  
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Section 11.  
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Step 11.1.  
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Section 13.  
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Step 13.2.  
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Section 14.  
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Step 15.4.b  
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Step 16.3.a (Added)	
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Step 17.2.e1 (Added)	
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Step 17.2.e2 (Added)	
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Step 17.2.f (Added)	
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