




Operations: HSE
Health and Industrial Hygiene
GoM Region Respiratory Protection Policy

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8	29-Oct-19	Revised - Issued for GOM Use	Industrial Hygienist	Health Manager
7	15-Oct-14	Revised - Issued for GoM Use	Industrial Hygienist	Health Manager
6	25-Aug-14	Revised - Issued for GoM Use	Health Manager	HSE Manager
5	15-Aug-12	Revised - Issued for GoM Use	Health & Industrial Hygiene Team leader	Director of Health & Safety
4	31-Aug-09	Revised - Issued for GoM Use	GoM HSSE SWPs Manager	GoM HSSE Director
Rev	Date	Document Status	Custodian/Owner	Authority

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AMENDMENT RECORD

Amendment Date	Revision Number	Amender Initials	Amendment
05-Feb-02	0		Initial issue as controlled document. Prior revision history located in hard-copy consolidated manual.
31-Jan-06	1		Reviewed no content changes. Changed 3 authorities and one custodian name. Changed CD # from 10069 to UPS-US-SW- GOM-HSE- DOC-00128-2.
31-Oct-08	2		Changes include: expanded definition section, expanded respirator selection matrix, expanded section on approved equipment, detailed key responsibilities and new site specific respiratory protection SWP form(s). Revised authority and custodian.
20-Jun-09	3		Added supplied air respirator regulator inspection/flow/function test requirement every two years to Section 4.2. and 5.8.
31-Aug-09	4		Added Scott AV-3000 as an approved respirator to Appendix E. Updated Toluene TLV in Appendix D.
15-Aug-12	5		Changed all BP Occupational Health Services to GoM Health Team. Eliminated WL Health Services. Changed Supervisors in section 4.4 to Site Leaders. Clarified section 4.6 by naming the duties for GoM Health Team, and creating a new section (4.6) specifically for GoM Health Team. Added RN in Sec. 5.5. Changed as to a in Sec.5.5. Updated hyperlinks for 29CFR1910.1020 in Sec. 5.5 and Appendix A in Sec. 5.6. Updated hyperlinks for 1910.134 and 142.39 in Sec. 6.1. Updated Table 6.2-1 values for PEL/TLV for Chlorine, Benzene, and H2S. Updated Appendix D for PEL/TLV and STEL values for Benzene and Ethyl Benzene.
25-Aug-14	6	VDM	No revisions made to document.
15-Oct-14	7	KBT	Changes to format. Deleted definition for Atmosphere supplying respirator, employee

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			<p>exposure, National Institute for Occupational Safety and Health, and Physician or other licensed health care professional. Added definition for Issuing Authority and Performing Authority. Removed training content requirements and instead referred to requirements set by OSHA. Moved specific record retention information to site specific plan. Condensed program evaluation requirements and added self-verification section. Changed key responsibilities for OIM and H&S Site Lead, split GoM Health Team responsibilities into Industrial Hygiene and Occupational Health responsibilities and added responsibilities for Issuing Authority and Performing Authority. Removed Administration section and added Site Specific Respiratory Protection Plan section. Changed Exposure Assessment section to Hazard and Risk Assessment and aligned with GoM Health Risk and Exposure Assessment Plan. Split Inspection, Maintenance and Care section into individual Inspection, Maintenance, and Use sections. Incorporated appendices into either SWP or site specific plan template. Deleted GoM Respirator Selection Matrix, checklist for respirator SWP evaluation, and respirator issuance record. Revised and added Monthly SCBA checklist to site specific plan making UPS-US-SW-GOM-HSE-DOC-00601-2 obsolete.</p>
29-Oct-19	8	DL, MG	<p>Changed the document title from “Respiratory Protection Safe Work Practice” to “ GoM Region Respiratory Protection Policy”.</p> <p>Changed HS Site Lead to HSE Site Advisor.</p> <p>Updated the roles and processes for the medical clearance and respirator fit testing according to the current GoM practice.</p> <p>Clarified the application areas of the air-purifying respirator and supplied-air respirator.</p> <p>Rephrased the requirements for the breathing air sample testing, SCBA regulator flow check and the breathing air cylinder hydrotesting.</p> <p>Added the respiratory protection self-verification form, program evaluation form, respirator cleaning procedure, quantitative and qualitative fit test instructions in the Appendices.</p>

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1 Purpose / Scope

This Policy provides processes for selection, use, and care of respiratory protection equipment to protect personnel from potential exposures to airborne contaminants. This Policy conforms to the Occupational Safety and Health Administration (OSHA) 1910.134 Respiratory Protection Standard and BP's Operating Management System (OMS) framework.

This Policy applies to BP GoM employees who are required to wear a respirator to perform assigned duties as well as individuals who utilize respiratory protection on a voluntary basis. Contractors who utilize respiratory protection while performing work for BP GoM shall implement a written Program that meets the requirements of the OSHA Respiratory Protection Standard 29 CFR 1910.134 and this BP GoM Respiratory Protection Policy.

2 Key Responsibilities

2.1 Offshore Installation Manager (OIM), Person In Charge (PIC) or designate

Verify risk assessments are conducted to identify activities that require respiratory protection.

2.2 Health, Safety and Environmental (HSE) Site Advisor

- A. Review or participate in risk assessments to access respiratory protection requirements.
- B. Notify GoM Health and Industrial Hygiene (IH) Team:
 - a. When changes occur in workplace hazards and/or when work tasks change, that could affect respirator fit.
 - b. Prior to purchase or rental of respiratory protection equipment used on site, including compressor units used to supply breathing air.
 - c. Of exposure complaints relating to the use or misuse of respiratory protective equipment.
- C. Perform annual respirator fit testing and maintain records of annual fit-tests.
- D. Complete and update annually the GoM Site-Specific Respiratory Protection Plan Form found in Appendix 9.1 Site-Specific Respiratory Protection Plan Template.
- E. Arrange for the visual and functional inspection of supplied air respirator regulators with a flow check by a certified technician. The regulator must be flow checked according to the manufacturer's recommendation; typically annually for regulators used in fire service and biannually for industrial service.
- F. Verify that only Grade D breathing air is supplied by monitoring the air supply systems and by sampling air from supply systems quarterly for laboratory analysis.

2.3 Issuing Authority (IA)

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- A. Ensure that the team recognizes inhalation risks for the task.
- B. Request HSE / Industrial Hygiene evaluation when needed for tasks involving respirator usage.
- C. Review the risk assessment to ensure the inhalation hazards are adequately identified, assessed and mitigated. Work closely with the Performing Authority to confirm that appropriate controls and respiratory protection are identified for each identified inhalation hazard.
- D. Conduct a worksite inspection to ensure the appropriate control measures, including breathing air systems, respiratory protection, are in place prior to a work permit being issued.

2.4 Performing Authority (PA)

- A. Inspect the worksite to identify the inhalation hazards and planned controls prior to completion of the risk assessment for the task being planned.
- B. Document the task hazards associated with inhalation, risks and controls, jobsite and process safety hazards on the work permit.
- C. Select work crew members who are competent and have been medically cleared and fit tested to execute the task detailed on the WCC-Permit.
- D. Conduct a pre-job toolbox talk with the work crew to communicate the work permit content including the respiratory protection requirement if applied, and verify their understanding before the work crew sign the work party declaration section of the permit.
- E. Reports unsafe conditions such as incorrect respirator usage, facial hair, etc to IA immediately for evaluation and appropriate action.

2.5 Workers Assigned / Volunteer to Wear Respirators

- A. Complete and submit the annual Respirator Medical Evaluation Questionnaire to the occupational health team.
- B. Complete annual fit testing.
- C. Use respirators in accordance with the work permit.
- D. Advise Occupational Health, IA / PA or the HSE Site Advisor of any medical, physical, or psychological condition that would preclude use of a respirator.
- E. Ensure that nothing is allowed to interfere with a proper respirator to skin seal (An employee with facial hair, including stubble, mustache, sideburns, beard, low hair hairline, bangs, which interferes with the skin to mask seal shall not be permitted to wear a respirator. See Section 3.4 Facial Hair).
- F. Inspect the respirator before use to ensure it is in proper working condition. Perform a positive/negative fit check before each use or when adjusted to assure the respirator is properly seated to the face.
- G. Stop the job and report to the IA / PA for any odor, malfunction or problem while using the respirator.
- H. Clean, sanitize, and properly store the respirator according to section 4.8 Cleaning and Storage.
- I. Provide input /feedback to HSE Site Advisor, Team Leader, or IA / PA regarding respiratory protection program.

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2.6 Industrial Hygienist (IH)

- A. Select respirators based on job task and exposure level.
- B. Conduct workplace exposure assessments including air-monitoring as necessary.
- C. Evaluate exposure complaints relating to the use or misuse of respiratory protective equipment.
- D. Verify sites are completing the quarterly breathing air analysis for breathing air generated by the air compressor onsite.
- E. Conduct site-specific respirator program evaluation.

2.7 Occupational Health Advisor

- A. Maintain the Occupational Health Database listing workers enrolled in the Respiratory Protection Program. The database contains records pertaining to required respirator medical clearance.
- B. Provide list of respiratory surveillance participants to My Talent & Learning (MT&L) to assign training requirements.
- C. Review annual respirator questionnaire for changes in health status affecting workers' ability to wear a respirator. Medic will assist in collecting data as required (example: physical examination, blood pressure, notify of medical status change).
- D. Refer employee to physician for further evaluation when indicated.
- E. Notify the affected employee, employee's supervisor, and HSE Site Advisor when an employee is not medically cleared to wear respiratory protective equipment.
- F. Upload the annual fit test records to Cority.
- G. Assist in the evaluation of exposure complaints relating to the use or misuse of respiratory protective equipment.

3 General Requirements

3.1 Site Specific Respiratory Protection Plan

Each site utilizing respiratory protection shall complete the GoM Region Site-Specific Respiratory Protection Plan Template. The site-specific plan shall contain the following (Appendix 9.1):

- Selection of respirators based on task
- Medical evaluations
- Fit testing procedures
- Use, inspection, maintenance and care of respirators
- Breathing air quality
- Training and Recordkeeping
- Program Evaluation

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3.2 Exposure Assessment

Exposure assessments (i.e. workplace exposure to chemical or dust) shall be conducted according to the [GoM Region Health Risk and Exposure Assessment Process](#).

3.3 Voluntary Use

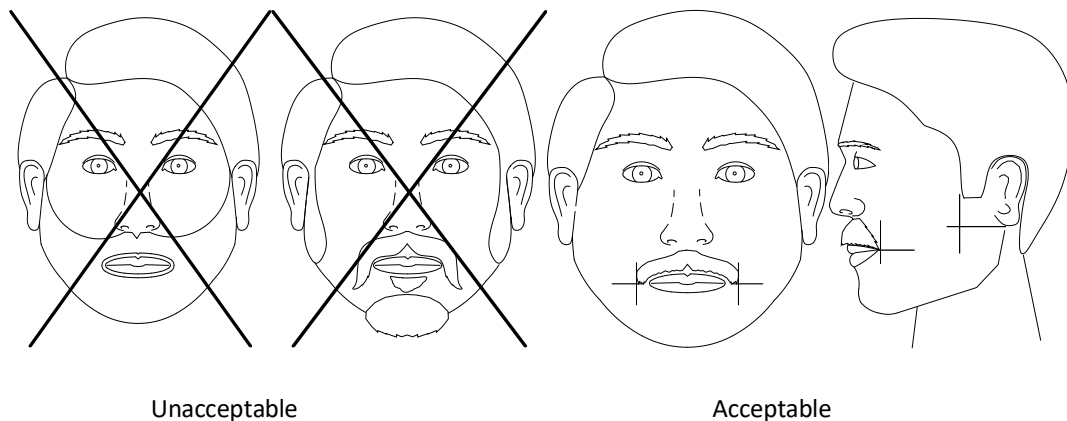
Dust masks and tight fitting respirators can be used voluntarily in atmospheres that do not require respiratory protection provided the respirator use will not create a hazard to the worker and the worker obtains approval from the HSE Site Advisor or IH. Tight fit respirator use requires **medical clearance, fit testing and training on how to clean, store and maintain the respirator**.

3.4 Facial Hair

Facial hair that passes between the face and the sealing surface of the respirator is not permitted.

Facial hair is defined as beard, mustache, sideburns, and stubble of greater than 24 hours growth, low hairline, or bangs. Additionally, any growth of facial hair must not be of such length as to interfere with the functioning of the respirator. The diagram below depicts unacceptable and acceptable facial hair.

Figure 1. Facial Hair Requirements



3.5 Types of Respirators

3.5.1 Air Purifying Respirators

Use air purifying respirators (APRs) when contaminants are present in concentrations which exceed the Occupational Exposure Limits (OELs) but are less than IDLH. APRs shall only be used in accordance with manufacturer's guidelines for the contaminants they are designed to protect against at or below the Maximum Use Concentration (MUC).

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Filters, cartridges and canisters shall be:

- Legibly labeled and color coded with the National Institute for Occupational Safety and Health (NIOSH) approval labels and in good condition.
- Appropriate for the contaminant to be protected against.
- Replaced when:
 - The task ends or at the end of the full shift, whichever comes first
 - Chemical odor breakthrough
 - Breathing resistance increases
 - Indicated by the End of Service Life Indicator (ESLI), where applicable

3.5.2 Supplied-Air Respirators

- A. Supplied-air respirators (SARs) are either self-contained breathing apparatus (SCBA) with a minimum service life of 30 minutes, or airline respirators and shall be the "positive-pressure" type with an emergency egress air supply. The emergency egress air supply shall only be used in emergencies.
- B. SARs shall be used when an employee is exposed to oxygen deficient (less than 19.5%) or enriched (greater than 23.5%) atmospheres, inert (e.g., nitrogen) atmospheres, and air contaminants that cannot be protected against by APRs or their concentration is unknown, unstable, or exceeding the MUC or IDLH limit.
- C. In confined space work, SARs shall be equipped with 5-minute escape bottles, regardless of backup air outside the confined space.
- D. Regulators used with SARs must be flow checked in accordance with manufacturer's requirements.
- E. Bottled Air System Installation, Breathing Air Compressor Installation, and Breathing Air Systems Daily Operations checklists to help ensure proper installation and operation are located in the Site-Specific Plan.

3.5.3 Compressed Air Systems

3.5.3.1 *Breathing Air Quality*

Breathing air will meet the specifications for Grade D Air described in ANSI/Compressed Gas Association Commodity Specification for Air G-7.1-1989 (Table 1).

Table 1 : Grade D Breathing Air Specifications

Contaminant	Specification
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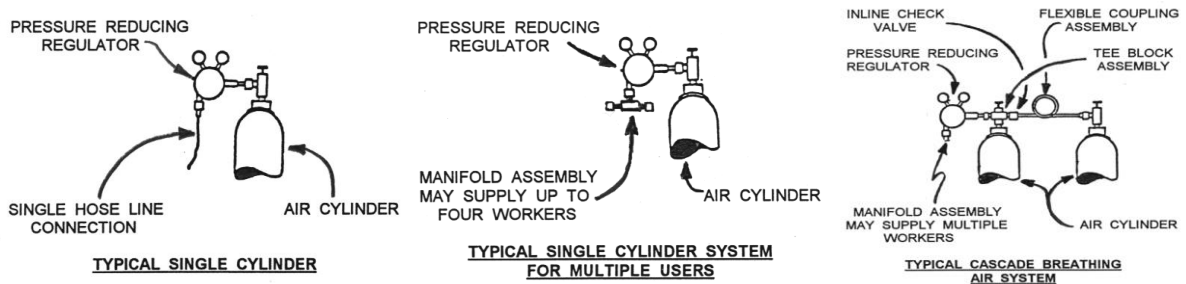
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Carbon Monoxide	10 ppm (Maximum)
Carbon Dioxide	1000 ppm (Maximum)
Oxygen	19.5 – 23.5 percent by volume
Oil Mist (condensed hydrocarbon)	5 mg/m ³ (Maximum)
Odor	Free from noticeable odor
Water	Line pressure dew point should be at least 10°F below the minimum ambient temperature for that location.

3.5.3.2 Breathing Air Cylinders

Typical air cylinder systems for field use of supplied air respiratory protective equipment is shown below.

Figure 2. Typical Air Cylinder Systems



Breathing air cylinders shall meet the following requirements:

- A. Shall be labeled Grade D breathing air and be marked in accordance with NIOSH Respirator Certification Standard (42CFR part 84)
- B. The supplier of compressed air used for respirators shall furnish, at each batch filling of air cylinders, written documentation certifying that the air meets or exceeds specifications for Grade D breathing air
- C. Air moisture content shall not exceed a dew point of -50F at 1 atmosphere pressure
- D. No asphyxiates shall be introduced into the air lines
- E. Air cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.
- F. Airline couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with non-respirable gases or oxygen.
- G. A person shall monitor compressed breathing air cylinders at **all** times while equipment is in use.
- H. Compressed breathing air cylinders shall be properly secured in an upright position.
- I. If a backup person is necessary due to working environment, the backup person shall work off of a separate breathing air cylinder or SCBA.
- J. Hoses for cylinder air supply shall be inspected prior to use and protected from damage including cutting, kinking, crushing, or burning. Hose couplings shall be protected against inadvertent

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- disconnection. Hoses shall be arranged to minimize tripping hazards and to permit escape. No individual hose line shall exceed 300 feet in length or three couplings.
- K. The compressed breathing air cylinders shall be hydrostatically tested according to the manufacturer's recommendations.
 - L. If an SCBA cylinder has not been used for a period in excess of one year, air in the cylinder must be slowly depressurized to atmosphere and refilled with Grade D breathing air.

3.5.3.3 Breathing Air Compressors

Breathing air compressors shall meet the following requirements:

- A. Grade D breathing air quality (Refer to section 3.5.3.1 Breathing Air Quality).
- B. Company-owned breathing air compressors shall have breathing air samples tested quarterly or before use (whichever is less frequent) to verify that the air meets Grade D specifications.
- C. Prevent contaminated air from entering the air supply
- D. Minimize moisture content so that the dew point at 1 atmosphere pressure is 10F below ambient temperature
- E. Have in-line air purifying sorbent beds and filters
- F. Have a tag on the compressor with the name of the person and date the person changed the sorbent/filters
- G. Have alarms to indicate compressor failure and overheating
- H. If an oil-lubricated compressor is used, it shall be equipped with high-temperature and carbon monoxide alarms
- I. For airline respirator system use, an attendant shall be positioned where he/she can monitor the supplied air system, react to alarms, and remove workers from the work area in the case of an air supply malfunction.
- J. To prevent cross-contamination of the lines, the breathing air system must be supplied from a certified source that is never used with any other tools or equipment.

4 Process

4.1 Program Evaluation

Workplace evaluations will be conducted to ensure that the facility site-specific plan is effective for the hazards. The site-specific plan shall be reviewed, evaluated (using the GoM Respiratory Protection Program Evaluation Form, Appendix 9.2) and updated by the HSE Site Advisor as necessary to reflect changes in workplace conditions that affect respirator use or following personnel changes. The site-specific plan shall be approved by the Occupational Health and Industrial Hygiene Advisors.

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4.2 Self-Verification

Table 2 : Self-Verification Frequency & Rationale

Checklist / Audit	Frequency	Responsible Person	Rational
GoM Region Respiratory Protection Program Evaluation Form	Annual	Industrial Hygienist / HSE Site Advisor	Assesses compliance and effectiveness of the workplace respiratory protection program and the facility site-specific plan.
HSE Field Respiratory Protection Self-Verification Form	As Required	Industrial Hygienist / HSE Site Advisor	A review of the site implementation of the respiratory protection program.
Breathing Air Systems Daily Operations Checklist	As Required	Operator / User, Instrument / Electrical Technician, HSE Site Advisor	Provide daily verification of the integrity of installed breathing air systems.
Breathing Air Compressor Installation Checklist	As Required	IA / PA, HSE Site Advisor	Ensure consistent installation and utilization of breathing air systems from compressor sources during operations where supplied air respiratory protection is specified.
Bottled Air System Installation Checklist	As Required	IA / PA, HSE Site Advisor	Ensure consistent installation and utilization of breathing air systems from bottled air sources during operations where supplied air respiratory protection is specified.
Monthly SCBA Inspection Checklist	Monthly	Fire Team Members	Provide monthly verification of the integrity of SCBA equipment.
Respirator Inspection Checklist	As Required	Individual donning respiratory protection	Provide verification of the integrity of respiratory protection equipment.

4.3 Respirator Selection

NIOSH certified respirators shall be selected and approved for use by the GoM Health Team.

Respirator selection is based upon

- A. Task based exposure assessment
- B. Physical and chemical properties of air contaminants
- C. Workplace processes

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- D. Contaminant concentration likely to be encountered
- E. Assigned protection factor and maximum use concentration

Note: If employees have any questions regarding the respirator selection for a specific application, they should contact the HSE Site Advisor and / or GoM Health Team.

4.4 Medical Evaluation

Employees included in the GoM Respiratory Protection Program (i.e., required use and voluntary use) shall complete a medical evaluation. A determination of the employee's ability to wear a respirator will be made prior to fit testing and respirator use and periodically (at least annually) thereafter unless the employee's work no longer requires a respirator.

The process for medical evaluation is:

1. Employee completes the on-line "OSHA Medical Evaluation Questionnaire".
2. Questionnaire is reviewed by GoM Occupational Health.
3. Additional information is collected as needed (e.g., blood pressure, spirometry, physical examination). Refer employee to physician for further evaluation when indicated.
4. GoM Occupational Health provides a medical recommendation (medical clearance letter).
5. The employee will be provided the opportunity to review the medical evaluation and / or examination result with GoM Occupational Health.

Additional medical evaluations may be required based on the following conditions;

- A. Employee reports medical signs or symptoms related to his or her ability to use a respirator,
- B. Supervisor or HSE Site Advisor informs Occupational Health or Medic of employee who needs to be re-evaluated or requires a follow up evaluation,
- C. Observations made during fit testing and program evaluation indicates a need for employee re-evaluation, or
- D. A change occurs in workplace conditions (i.e., physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase in the physiological burden placed on an employee.

4.5 Fit Testing

- A. Respirator fit testing is conducted by the HSE Site Advisor. Employees shall have medical clearance prior to fit testing.
- B. Employee must be fit-tested with the same make, model style, and size of respirator that will be used. Facial hair that comes between the sealing surface of the face piece, or any condition that interferes with the respirator valve function as defined in Section 3.4 Facial Hair, is not permitted during fit testing.
- C. Quantitative fit testing (QNFT) with a PortaCount is the preferred method of fit testing. To pass a QNFT, the fit factor for a half-face respirator is 100 or greater and for a full-face respirator is 500

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- or greater. Refer to Appendix 9.5 for the instruction to perform quantitative fit testing.
- D. Positive pressure tight-fitting respirators will be fit-tested in the negative pressure mode. Supplied-air respirators and powered air-purifying respirators (PAPRs) must be tested in the negative pressure mode.
 - E. It is preferred to wear the employee's own respirator to do the fit testing. If using shared respirator, the respirator must be cleaned and disinfected with alcohol-free respirator cleaning wipes in between employees being fit tested, and be thoroughly cleaned at the end of each day (refer to Section 4.8 Cleaning and Storage).
 - F. Fit testing will be done initially upon employee assignment to an area where respirators are required and repeated at least every 12 months thereafter. Additional fit testing may be required when there are changes in the employee's physical condition (e . g . , weight changes, dental work or scarring, etc.) or changes in the brand/model of the respirator.
 - G. If it is determined that an individual cannot obtain an adequate fit with any negative pressure respirator, another respirator may be selected by Occupational Health or a powered air purifying or supplied air respirator may be required instead.
 - H. Employees who need corrective lenses while wearing full-face respirators may wear contact lenses or can request spectacle kits.
 - I. Qualitative fit test (QLFT) apparatus may be used to perform fit test on the half-face air-purifying respirators, in the case that the quantitative fit test equipment is not available and the fit test needs to be done urgently. Refer to Appendix 9.6 for instruction to perform qualitative fit testing.
 - J. Contractors who are required to wear respirators to perform jobs at the GoM facilities shall follow their company's respiratory protection program and obtain the medical clearance from their company. They may have their fit test done at the GoM facility by the HSE Site Advisor if needed.

4.6 Fit Checks

Each individual who uses a tight-fitting respirator must perform a positive and negative pressure seal check to ensure that an adequate seal is achieved each time the respirator is put on.

Directions on performing user seal checks will be given to employees during respirator protection training and are located in the Site Specific Plan.

4.7 Inspection, Maintenance and Use

4.7.1 Inspection

Respirators used in routine and voluntary situations shall be inspected before each use and during cleaning.

SCBA's and respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations and shall be checked for proper function before and after each use. Monthly inspections (inspection checklist can be found in the facility site-specific plan) shall verify that the regulator and warning devices function properly.

Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

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Respirator inspection(s) shall include the following:

- A. a check of respirator function,
- B. tightness of connections,
- C. condition of the facepiece respiratory inlet covering, head harness, valves, connecting tubes, harness assemblies, hoses, filters, cartridges, canisters and shelf life date(s),
- D. proper function of regulators, alarms, and other warning systems, and
- E. Each rubber or other elastomeric part shall be inspected for pliability and signs of deterioration.

Employees' assigned responsibility for inspecting respirators maintained for emergency use shall do the following.

- A. Certify the respirator by documenting the date the inspection was performed including;
 - 1. the name or (signature) of the person who made the inspection,
 - 2. the findings, required remedial action(s) and
 - 3. a serial number or other means of identifying the inspected respirator.
- B. Provide the above information on a tag or label attached to the storage compartment for the respirator and include in the inspection reports.

Respirators that fail an inspection or are otherwise found to be defective shall be removed from service and are either discarded or repaired. The HSE Site Advisor shall be contacted immediately before any item is replaced or repaired.

4.7.2 Maintenance

Maintenance to respirators shall be performed using only the manufacturer's NIOSH - approved parts designed for the specific type of respirator.

No attempt will be made to replace components or make adjustments, modifications or repairs beyond the manufacturer's recommendation. Hydrostatic testing of cylinders and flow check of regulators shall be done in accordance with manufacturer's requirements.

4.7.3 Use

Employees are required to leave the contaminated area to replace their cartridges/filters/canisters and to notify their Supervisor, HSE Site Advisor and/or GoM Health Team of any of the following issues:

- A. Malfunction of the respirator,
- B. Detection of leakage of contamination into the respirator (odor, taste, irritation),
- C. Increased breathing resistance of the respirator is noted,
- D. Severe discomfort, or
- E. Illness including sensation of dizziness, nausea, weakness, breathing difficulty, coughing,

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sneezing, itching, fever and chills.

4.8 Cleaning and Storage

Respirators must be cleaned and disinfected as often as necessary to be maintained in a sanitary condition following guidelines in Appendix 9.4.

Respirators shall be stored in a clean, dry plastic bag or other air tight container. Respirators shall be packed or stored with the face piece and exhalation valve resting in a position that does not damage or impair the elastomer face piece. Respirators shall not be stored in places such as lockers or tool boxes unless they are in a sealed carrying case, bag, or carton. **Supplied-air respirators placed at stations and work areas for emergency use shall be stored in compartments built for that purpose, be quickly accessible, and clearly marked as emergency use respirator.**

5 Training

The GoM Health Team is responsible for maintaining respiratory protection training that meets requirements set by OSHA 29 CFR 1910.134.

The Respiratory Protection (OSHA) training is available on MT&L and shall be provided to employees required to use respirators prior to the start of their job and annually thereafter or when;

- A. changes in the workplace or the type of respirator render previous training obsolete,
- B. inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the required understanding or skill,
- C. a workplace situation arises in which retraining appears necessary to ensure safe respirator use.

6 Record Keeping

The following records shall be kept:

- A. Employee Medical Evaluations
- B. Respirator Fit Test results
- C. Certificate of analysis from supplier for Grade D breathing air
- D. Company owned breathing air compressor quarterly test results
- E. Self-contained breathing apparatus inspection records (including flow test results)
- F. Respirator Inspection Records
- G. Daily Verification of the Integrity of Installed Breathing Air Systems
- H. Verification for Correct Installation of a Breathing Air Compressor
- I. Verification for Correct Installation of Bottled Air System
- J. Respiratory Protection Safe Work Practice
- K. Site-Specific Respiratory Protection Plan
- L. Training Records

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Records will be maintained according to the record retention period stated in the Site Specific Plan.

7 Definitions

Table 3: Definitions

Term	Definition
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 minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users.
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.
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.
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.
Escape-only respirator	A respirator intended to be used only for emergency exit. Escape respirators, which also are known as escape hoods, come in two types. One type, called a self-contained escape respirator, consists of a hood with a tightly fitting neckpiece and a contained source of breathing air. The hood provides a barrier against contaminated outside air, and the user breathes air from the attached source. The other type, called an air purifying escape respirator, has a filter canister mounted on the hood. The user breathes outside air through the canister, which filters out harmful contaminants before the air is breathed.
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.

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Term	Definition
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.
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.
Immediately dangerous to life or health (IDLH)	An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
Maximum use concentration (MUC)	The product of the assigned protection factor times the Permissible Exposure Limit.
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.
Oxygen deficient atmosphere	An atmosphere with an oxygen content below 19.5% by volume.
Oxygen enriched atmosphere	An atmosphere with an oxygen content above 23.5% by volume.
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.
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.
Qualitative fit test (QLFT)	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)	An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
Self-contained breathing apparatus (SCBA)	An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
Service life	The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.
Supplied-air respirator (SAR) or airline respirator	An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.
Tight-fitting face piece	A respiratory inlet covering that forms a complete seal with the face.
User seal check	An action conducted by the respirator user to determine if the respirator is properly sealed to the face.

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8 Key Documents, Tools, References

[OSHA 29 CFR 1910.134 Respiratory Protection](#)

ANSI/Compressed Gas Association Commodity Specification for Air G-7.1-1989

[Coast Guard 33 CFR 142.39](#)

9 Appendices

9.1 Site Specific Respiratory Protection Plan Template



Site-Specific
Respiratory Protector

9.2 GoM Respiratory Protection Program Evaluation Form



Respiratory
Protection Program E

9.3 HSE Field Respiratory Protection Self-Verification Form



HSE Field Self
Verification Respirato

9.4 Respirator Cleaning Procedure



Respirator Cleaning
Procedure.pdf

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9.5 Quantitative Fit Testing Instruction



Quantitative Fit Test
Instruction.pdf

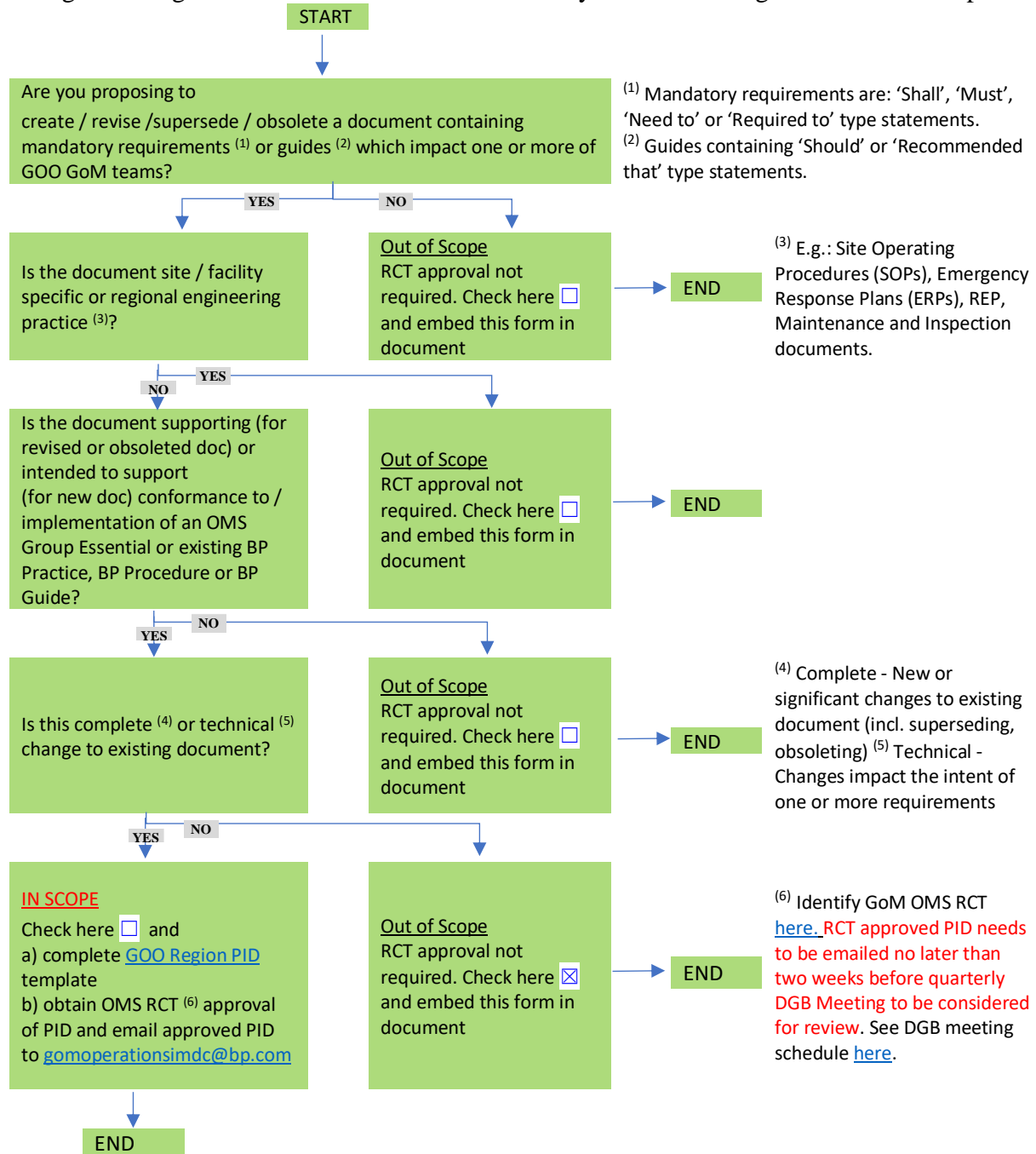
9.6 Qualitative Fit Testing Instruction



Qualitative Fit Test
Procedure.pdf

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Document Number	UPS-US-SW-GOM-HSE-DOC-00128-2	Revision	8
Document Title	GoM Region Respiratory Protection Policy		
Next Review Date	10/31/2022		
Reason for Issue: (check applicable)	<input type="checkbox"/> New <input checked="" type="checkbox"/> Revise <input type="checkbox"/> Supersede <input type="checkbox"/> Obsolete		

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Communication Completed <small>(if not applicable, put N/A in front of Name & Title, then sign and date)</small>	N/A, Diane Liu, Industrial Hygienist	<i>Diane Liu</i>	10/29/2019
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Authority - Name & Title, then sign and date)	Valerie Murray, Health Manager	<i>Valerie Murray</i>	10/30/2019
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