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1.0 PURPOSE

1.1 To ensure that proper respiratory protection is provided and used correctly in work areas for job assignments where it is not feasible to adequately control exposures to airborne contaminants or oxygen deficient atmospheres to acceptable levels through the use of engineered controls or work practices.

1.2 This Program sets forth the standard operating procedures covering the selection, maintenance and use of respirators, and the employee training and record keeping requirements. It is intended to address the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

2.0 APPLICATION

2.1 This standard shall apply to all MPC and Contractor personnel that are required to use respiratory protection.

3.0 IMPLEMENTATION

3.1 All respiratory protective equipment usage at the LRD shall be conducted in accordance with this standard and any applicable regulatory standards.

4.0 RESPONSIBILITIES

4.1 All MPC employees and contract employees shall be responsible for:

4.1.1 The proper care and use of respiratory protective equipment;

4.1.2 Reporting damaged or lost respiratory protective equipment to their supervisor or to the ERBO on 5-Fire Protection (MPC);

4.1.3 Reporting used respiratory equipment that needs maintenance, inspection or cleaning to the ERBO on 5-Fire Protection (MPC);

4.1.4 Observing fellow workers to ensure the proper use of respiratory protection;

4.1.5 Reporting any hazards encountered requiring a change in respiratory protection; and

4.1.6 Wearing the same make, model, style and size of tight-fitting respirator that they are fit tested on.

4.2 Breathing Air Attendant

4.2.1 A breathing air attendant is required anytime airline respirators are being utilized.

4.2.2 Must be trained and qualified on the roles and responsibilities of a breathing air attendant.

4.2.3 Must ensure/verify that all breathing air lines are connected properly to cylinders of Grade D breathing air only.

4.2.4 Must ensure the breathing air bottles are located outside and upwind of the hazardous area.

4.2.5 The breathing air attendant is to remain with the air supply while airline respirator supplied breathing air work is in progress.

4.2.6 The breathing air attendant is to be identified by an orange or red vest.

4.2.7 The breathing air attendant is to swap to a full bottle when the low pressure alarm sounds.

4.2.8 The breathing air attendant is to stop work when the air supply is running low (All bottles are empty and the low pressure alarm bell sounds on the final bottle).

4.2.9 A breathing air attendant may also act as the backup person for breathing air jobs if approved by MPC Safety. Approval will be granted on a task by task basis and is to be noted on the Safe Work Permit.

4.3 Operations, Product Control Technicians and Maintenance Coordinators

4.3.1 Conduct work area atmosphere testing necessary to determine the appropriate level of respiratory protection required to perform the work safely;

4.3.2 Consult with supervision and/or the LRD Safety Department when questions arise regarding the appropriate level of respiratory protection required to perform the work safely;

4.3.3 Ensure that respiratory protection appropriate for the work to be conducted is specified on the work permit;

4.3.4 Ensure that all personnel have the respiratory protection specified on the work permit (Contractors shall be responsible for providing their own respiratory protection); and

4.3.5 Ensure that all personnel use respiratory protection consistently and properly.

4.4 MPC and contract employee Supervisors shall be responsible for:

4.4.1 Ensuring that all personnel are trained in the proper care and use of respiratory protection;

4.4.2 Ensuring that all personnel have the respiratory protection necessary to perform the work (Contractors shall be responsible for providing their own respiratory protection);

4.4.3 Ensuring that all personnel use respiratory protection consistently and properly;

4.4.4 Reporting any defective respiratory protection to the Safety Department and taking it

out of service;

4.4.5 Requesting assistance from the Safety Department in selecting approved respiratory protection; and

4.4.6 Coordinating the reduction in the required level of respiratory protection with the Safety Department.

4.5 The MPC Safety Department shall be responsible for:

4.5.1 Ensuring that Respiratory Protection Hazard Assessments are completed and certified for the types of inhalation hazards encountered in the work environment;

4.5.2 Ensuring that appropriate respiratory protection is identified for protection of workers;

4.5.3 Ensuring that training is provided to MPC personnel for respiratory protection they are expected to use; and

4.5.4 Observing the workplace to assure that respiratory protection is worn, used and cared for properly.

5.0 DEFINITIONS

5.1 **Air Purifying Respirator (APR):** A respirator with a filter, cartridge, or canister that removes contaminants from air drawn through them when a person inhales. **Not for use in oxygen deficient atmospheres, where contaminant concentration(s) are unknown or are greater than the maximum use concentration (MUC).**

5.2 **Assigned Protection Factor (APF):** The minimum protection provided by a properly functioning respirator or type of respirators (i.e. A respirator with APF of 10 can be used to protect against contaminant concentrations up to 10 times greater than the PEL).

5.3 **Covered Employees:** LRD employees who may need respiratory protection during the course of their work are included as Covered Employees in this Standard. Each Covered Employee is included in the Covered Job List.

5.4 **Covered Job List:** A list of job titles that indicates the necessary medical programs an employee must be included in per regulatory conformance (i.e. Respiratory Protection, Hearing Conservation).

5.5 **Damaged Respiratory Protection:** Respiratory protective equipment that is broken as a result of the work environment.

5.6 **Defective Respiratory Protection:** Respiratory protective equipment that malfunctions as a result of a manufacturer's flaw.

5.7 **Filtering Facepiece (dust mask):** A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

5.8 **Immediately Dangerous to Life and Health (IDLH) Concentrations:** Airborne contaminants concentration exposure that is "likely to cause death or immediate or delayed permanent

adverse health effects or prevent escape from such an environment."

5.9 **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. The MUC usually can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the PEL.

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

5.11 **Powered Air-Purifying Respirator (PAPR):** An air-purifying respirator that uses a battery powered blower to force ambient air through air-purifying cartridges and into the facepiece.

5.12 **Pressure Demand Respirator:** A positive pressure atmosphere-supplying respirator (SCBA or Airline) that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

5.13 **Marathon Occupational Exposure Limit:** A company identified exposure limit for a substance derived from the OSHA Permissible Exposure Limit (PEL), American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Value (TLV), or other sources of exposure criteria developed for the purpose of protecting the health and safety of workers.

5.14 **Qualitative Fit Test:** An assessment of the adequacy of respirator fit that relies on the individual's response when exposed to a test agent.

5.15 **Quantitative Fit Test:** An assessment of the adequacy of respirator fit that uses numerical measurement of the amount of leakage into the respirator.

5.16 **User Seal Check:** An action conducted by the respirator user to determine if the respirator is properly seated to the face.

6.0 REQUIREMENTS

6.1 HAZARD ASSESSMENTS

6.1.1 Hazard assessments performed to determine the level of respiratory protection required are based on:

6.1.1.1 Knowledge of the scope of work;

6.1.1.2 Knowledge of methods to be used to conduct the work;

6.1.1.3 Data from work area atmosphere testing conducted by Operations, Product Control or LRD Safety used in conjunction with the following references:

6.1.1.3.1 LRD Hazard Characterization and Respiratory Protective Equipment Selection Guide, RSW-A-002-GV; and

6.1.1.3.2 LRD Personal Protective Equipment Reference Guide, RSW-A-

001-GV.

6.1.1.4 The following references are based on exposure assessments developed from historical breathing zone and/or work area monitoring/sampling data:

6.1.1.4.1 LRD Exposure Control Measure Requirements for Maintenance/Construction Operations, RSW-A-003-GV;

6.1.1.4.2 Confined Space Data Sheets, RSW-A-031 through 040-GV; and

6.1.1.4.3 LRD HF Alky PPE Guide, RSW-A-004-GV

6.1.2 All reference documents noted above are available for reference in locations from which Operations and Product Control personnel issue work permits.

6.2 RESPIRATOR SELECTION/SPECIFICATION:

6.2.1 The appropriate respiratory protection shall be specified on the work permit by Operations, Product Control or LRD Safety and used by affected personnel to eliminate inhalation hazards identified during hazard assessment.

6.2.2 Affected personnel shall be made aware of the proper respiratory protection required by the hazard assessment through training, policies, procedures, safety meetings, signs, work permit, etc.

6.2.3 Respiratory protection requirements have been established to protect MPC and Contractor employees from contaminated or oxygen deficient atmospheres. The **LRD Hazard Characterization & Respiratory Protective Equipment Selection Guide, RSW-A-002-GV,** specifies the type of respiratory protection required for defined, anticipated or unknown inhalation hazards. This document is available for reference in locations from which Operations and Product Control personnel issue work permits.

6.2.4 In instances where the extent of work area atmosphere impact cannot be determined until a closed system is opened or undisturbed material is disturbed (i.e. tank bottoms), the maximum level respiratory protection is required.

6.2.5 **The LRD Exposure Control Measure Requirements for Maintenance/Construction Operations, RSW-A-003-GV,** specifies the type of respiratory protection required for certain maintenance and construction work based on exposure assessments developed from historical breathing zone and/or work area monitoring/sampling data.

6.2.6 The general guidelines for the LRD's respiratory protection requirements are provided in the American National Standards (ANSI) Z-88.2-1992.

6.2.7 The selection of the respirators required considers the assigned protection factor (APF) for each type of respirator. APFs of different types of respirators are listed below.

6.2.7.1 ½ mask air purifying (quantitative fit test) APF=10

6.2.7.2 Full face air purifying (quantitative fit test) APF=50
6.2.7.3 Half face powered air purifying (PAPR) APF=50
6.2.7.4 Full face powered air purifying (PAPR) APF=1000
6.2.7.5 Full face Pressure-Demand Airline SAR unit (quantitative fit test) APF=1000
6.2.7.6 Pressure-Demand SCBA APF=10,000

6.2.8 The maximum use concentration (MUC) for a respirator is determined by multiplying the exposure limit (i.e. PEL or STEL) for the substance of concern by the APF of the respirator.

6.2.8.1 MUC for a ½ mask, air purifying, organic vapor cartridge respirator (APF=10) is in a work area atmosphere that contains benzene (PEL=1.0 ppm) is determined as follows: 10 X 1.0 ppm = 10 ppm benzene.

6.2.8.2 The MUCs or *maximum use concentration limits for different types of respirators used at the LRD are listed for different LRD work area contaminants, on the LRD Hazard Characterization & Respiratory Protective Equipment Selection Guide.*

6.2.8.3 The typical MUC listed on the LRD Hazard Characterization & Respiratory Protective Equipment Selection Guide is approximately 10% lower than the calculated MUC.

6.2.8.4 If the IDLH of a contaminant is higher than the MUC for an APR, the MUC listed on the LRD Hazard Characterization & Respiratory Protective Equipment Selection Guide is 50% lower than the calculated MUC for the APR.

6.2.9 Respirators used by LRD personnel are models approved and certified by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA).

6.2.10 An inventory of the types of respirators used by LRD personnel covered by this Standard and specific instructions for their normal and emergency use is maintained by the Safety Department. The location of each type of respiratory protection used at the LRD is contained in the Safety Department database.

6.2.11 Factors that are considered during hazard assessment and the selection/specification of the appropriate respiratory protection include the following:

6.2.11.1 Oxygen content of the work area atmosphere;

6.2.11.2 The adverse respiratory and dermal health effects of the airborne contaminant(s);

6.2.11.3 The LRD exposure limits of the contaminant(s);

6.2.11.4 Measured airborne concentrations;

6.2.11.5 The potential for change in emission concentrations that could impact exposure levels.

6.2.11.6 The maximum use concentration of the respiratory protection.

6.2.11.7 The nature of the hazardous exposure including the following:

6.2.11.7.1 Warning properties (e.g. inability to detect or loss of ability to detect odor)

6.2.11.7.2 Form (gas, vapor, particulate)

6.2.11.7.3 Toxicity

6.2.11.8 The mechanical and functional characteristics of the respirators used such as the physical constraints of work in an area or access that may be complicated by the type/size of certain respiratory protection. For example:

6.2.11.8.1 Life of respirator cartridge can be extremely limited by airborne dust or water vapor concentrations.

6.2.11.8.2 The weight of the respirator or the potential for entanglement.

6.2.11.8.3 Access through a manway or ladder cage can be limited while wearing an SCBA.

6.2.11.8.4 Distance to be traveled in a work area is limited by an airline respirator.

6.2.11.9 The specific conditions and activities of respirator use and the nature of the work including:

6.2.11.9.1 Operational processes and associated process streams.

6.2.11.9.2 Period of time respiratory protection will be worn.

6.2.11.9.3 Adequacy of dilution and/or local exhaust ventilation.

6.2.11.9.4 Work activities carried out by MPC or Contractor personnel, such as:

6.2.11.9.4.1 Equipment preparation for maintenance that could result in the unexpected release of process stream, nitrogen or other residual gas or vapor from pipe or equipment.

6.2.11.9.4.2 Hot work on process pipe or equipment that results in the release of contaminants trapped in the pores of the metal.

6.2.11.9.4.3 Hot work on process pipe or equipment that results in the release of contaminant metal fumes when the metal is vaporized during

welding, cutting or grinding operations.

6.2.11.9.4.4 Disturbance of solid process streams (e.g. coke), waste streams (e.g. tank bottoms) or insulating materials (fibrous or castable) that release hydrocarbons, hazardous fibers or silica.

6.2.11.9.4.5 Under emergency conditions (spills, vessel or pipe ruptures, unexpected chemical reactions or other incidents where potentially hazardous materials are released) for escape, rescue, release response, repairs or shutdowns.

6.2.11.9.4.6 For fire-fighting operations.

6.3 RESPIRATOR USE

6.3.1 MPC and Contractor personnel are required to use respirators in accordance with manufacturer instructions and training provided.

6.3.2 Manufacturer's respirator manuals/instructions for the use of the various respirators provided by MPC are maintained in the Safety Department.

6.3.3 Employees wearing tight-fitting respirators must perform user seal checks, according to training, each time they don their respirator.

6.3.4 If the respirator user detects vapor or gas breakthrough, has changes in breathing resistance, or leakage of the facepiece, they must immediately leave the area to change out the cartridges or replace the facepiece.

6.3.5 Procedures to address the use of respirators in atmospheres where oxygen-deficiency or the concentrations of hazardous substances are unknown or potentially immediately dangerous to the life or health (IDLH) are reviewed in the LRD Respiratory Protection CBT and during In-Plant Training of new employees. Elements of these procedures must include:

6.3.5.1 The use of full face-piece, pressure-demand, self-contained breathing apparatus (SCBA) with a minimum service life of 30 minutes, or full face-piece pressure-demand supplied air airline respirators with a minimum 5 minute escape cylinder.

6.3.5.2 In IDLH or potentially IDLH atmospheres where personnel could be overcome if the respiratory protection fails, at least one additional person of equal skillset shall be a back-up person. Person(s) shall be readily equipped with an independent air supply (SCBA or Supplied Airline from different cylinders) shall be located outside the potential hazardous atmosphere, in communication and able to provide immediate emergency assistance.

Note: Oxygen-deficient atmospheres (less than 19.5%) are considered IDLH.
Note: Once an IDLH atmosphere has been re-characterized as non-IDLH and no

potential, stand-by personnel are not required.

6.3.5.2.1 This immediate assistance includes (*but is not limited to*):

- **Most importantly**, initiating request for emergency services,
- Stabilizing situation (e.g., Closing Valve),
- Isolate Hazard(s),
- Entering IDLH atmosphere to evaluate entrant's condition; and
- Assisting the entrant with breathing air.

Assistance does **not** entail extraction or removal from the IDLH atmosphere unless it can be done safely without creating additional hazards – the LRD Emergency Response Team(s) will typically perform this function.

Examples of tasks (not all inclusive):

- Unknown atmosphere with potential for IDLH.
- Activities involving 100+ ppm H_2S.
- Activities involving flare header.
- Purging with inert gas (N_2 or Argon)

6.3.5.3 Maintaining voice, visual or radio communication between employees in the IDLH environment and those located outside the area.

6.3.5.4 Provisions for rescue and notification of supervision prior to personnel entering an IDLH atmosphere.

6.3.5.4.1 Vertical descents into permit required confined spaces. If personnel must descend into a vessel with an IDLH or potentially IDLH atmosphere, the use of a full body harness, attached to a mechanical retrieval system is required. Should the entry person need rescue during the course of their task, the attendant shall perform non-entry rescue, utilizing the mechanical retrieval system. Persons entering permit required confined spaces shall follow the Permit Required Confined Space Entry Procedures.

6.3.5.4.2 The Shift Supervisor (001) must be notified in advance of when personnel are to enter a confined space, to ensure that an adequate number of rescue personnel are available.

6.3.6 Personnel who use respirators requiring a tight face to facepiece seal shall be clean shaven and have no conditions that prevent a proper seal. Examples of these conditions include facial hair interrupting the face to facepiece seal, absence of normally worn dentures, facial scars or headgear that projects under the facepiece seal. The LRD Facial Hair Policy is contained in Section 9.1.

6.3.7 Wearing glasses with temple pieces when using a full facepiece respirator is not permitted. Contact lenses may be worn while wearing a respirator. Personnel who

require corrective eyewear and do not wear contact lenses, must wear a spectacle kit with their respirator. MPC personnel can obtain spectacle kits, for use with Sperian respirators, from the Safety Store.

6.3.8 If directed or required to use a filtering facepiece, then its use falls under the requirements of this Standard, including medical approval to wear respiratory protection, training, fit testing, and the care, maintenance, use and storage of the filtering facepiece. The respirator must also protect against the hazards anticipated.

6.3.9 The only respirators permitted for voluntary use are filtering facepieces. If using a filtering facepiece voluntarily, then employees must be aware of the following information:

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

6.3.9.1.1 Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

6.3.9.1.2 Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the US Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

6.3.9.1.3 Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

6.3.9.1.4 Keep track of your respirator so that you do not mistakenly use someone else's respirator.

6.4 AIR PURIFYING RESPIRATOR CARTRIDGE CHANGE SCHEDULE

6.4.1 Air purifying respirator cartridges for gases or vapors are to be used for **A MAXIMUM OF ONE SHIFT UNLESS A MORE CONSERVATIVE CHANGE SCHEDULE IS ESTABLISHED OR AGREED TO BY LRD SAFETY DEPARTMENT.**

6.4.2 For APR use, dispose of respirator cartridges used to protect against chemical exposures (e.g. benzene, amines) at the end of each shift, if the airborne concentration is 25 ppm or less. If the airborne concentration is greater than 25 ppm but less than 50 ppm, follow the shorter APR Cartridge Use Time Limits indicated below.

Chemical Contaminant(s)	**Use Time Limit**
50 ppm Benzene/VOCs	**< 6 hours**
50 ppm Naphtha/VOCs	**< 8 hours**
50 ppm Sulfur Dioxide (SO_2)	**< 5 hours**
50 ppm Ammonia	**< 8 hours**

6.4.3 MPC and Contractor Supervisors must contact the LRD Safety Department if use of an APR is required:

6.4.3.1 For determination of the appropriate cartridge change schedule for work in an area that contains airborne chemical contaminant(s) other than noted above; or

6.4.3.2 To conducted work for over 5 hours if the airborne chemical contaminant concentration in the work area atmosphere is greater than 50 ppm; or

6.4.3.3 APR cartridges will be exposed to liquid or mists of water or hydrocarbon during the work to be conducted; or

6.4.4 **Cartridge use time limits** for common contaminants indicated above are based on use when the work area temperature is 90ºF, the relative humidity is between 81% and 100% and the user is conducting strenuous work. The useful life of an APR cartridge will be shortened if exposed to liquid or mists of water or hydrocarbon.

6.4.5 **IF ANY ODOR BREAKTHROUGH IS EXPERIENCED BY A USER OF A RESPIRATOR, THEY MUST IMMEDIATELY EXIT THE WORK AREA AND REPLACE THE AIR PURIFYING CARTRIDGES.**

6.4.5.1 **Benzene odor cannot be used as an indicator of APR cartridge breakthrough because the odor threshold of benzene is much greater than the exposure limit.**

Note: There are no pure benzene process streams at the LRD and other hydrocarbons (with much lower odor thresholds) contained in these streams would provide an indication of cartridge breakthrough before benzene concentrations exceed the exposure limit.

6.4.6 High efficiency particulate cartridges (P100) can be used, by the same respirator wearer, until breathing becomes restricted or the cartridge gets wet.

6.5 BREATHING AIR QUALITY

6.5.1 Compressed air, used by MPC personnel, is purchased in cylinders for use with supplied air and airline respirators.

6.5.2 A Scott Liberty I air compressor is used to fill SCBA cylinders used by MPC personnel.

6.5.3 Compressed air used for respiratory protection by MPC and contractor personnel must meet the following specifications for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7 1-1989:

6.5.3.1 Oxygen Content (v/v) 19.5 to 23.5 percent (atmospheric air).

6.5.3.2 Hydrocarbon (condensed) 5 mg per cubic meter of air or less.

6.5.3.3 Carbon Monoxide 10 ppm or less.

6.5.3.4 Carbon Dioxide 1,000 ppm or less.

6.5.3.5 Lack of noticeable odor.

6.5.4 Compressed oxygen or blended air SHALL NOT be used with supplied air respirators.

6.5.5 Breathing air cylinders shall be tested and maintained as prescribed in the Shipping Container Specifications Regulations of the Department of Transportation (49 CFR Part 173 and 178).

6.5.6 Each refilled single cylinder, “six-pack” or “twelve-pack” of compressed breathing air cylinders used by MPC and contractor personnel at the LRD must have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air and the moisture content does not exceed a dew point of -50 degrees (F) at one atmosphere.

6.5.7 A representative number of refilled breathing air cylinders provided by MPC and received for use by MPC personnel and designated contractors are tested by the LRD Safety Department in accordance with procedures outlined in Section 9.2, Breathing Air Cylinder Test Procedures.

6.5.8 SCBA cylinders used by MPC personnel are filled using a Scott Liberty I air compressor (1546E-1244).

6.5.8.1 The manufacturer’s representative for the Scott Liberty I conducts preventative maintenance and collects samples of air produced by the compressor quarterly.

6.5.8.2 The air samples collected are analyzed by Lab on Locale and quarterly certification that the compressor produces Grade D breathing air is provided to the LRD. A copy of the certificate is maintained with the compressor.

6.5.8.3 A RAE Systems MultiRAE is used to test the oxygen, carbon monoxide, carbon dioxide and volatile organic compound concentrations of compressed air any time SCBA cylinders are being filled.

6.5.9 Breathing air respirator and hose couplings must be incompatible with outlets for non-respirable plant air or other gas systems to prevent inadvertent servicing of airline

respirators with non-respirable gases or oxygen. Breathing air containers shall be marked in accordance with NIOSH 42CFR, Part 84.

6.6 FIT TESTING

6.6.1 All MPC and Contractor personnel required to wear a respirator with a tight-fitting face-piece, must be fit tested on the same make, model, style and size of respirator(s) that they could be expected to use.

6.6.1.1 A qualitative fit test is only permissible for half-mask air purifying respirators and filtering facepieces used under negative pressure.

6.6.1.2 All full face air purifying and supplied air respirators must be fit tested using a quantitative fit test protocol.

6.6.2 All personnel shall be given an opportunity to handle and become familiar with the respirator they will be fit tested to wear.

6.6.2.1 Demonstrations and practice in wearing, adjusting, and verifying the proper fit using qualitative fit-test methods (positive and negative pressure check) are provided. A qualitative fit test shall be conducted each time the employee dons a respirator.

6.6.2.2 The valves are to be checked to ensure they are operating properly prior to the fit test and prior to each use.

6.6.2.3 Initial quantitative fit-testing shall be performed prior to any MPC or Contract personnel conducting work that requires the use of respiratory protection and annually thereafter. Additional fit testing may occur if an employee reports, or the employer, licensed health care professional, supervisor or standard administrator make visual observations of changes in the employee's physical condition that could affect the respirator fit.

6.6.2.4 Quantitative fit testing of MPC and Contractor personnel shall be performed using a TSI Porta Count Plus or comparable fit testing device. An acceptable fit test requires that the wearer achieve a fit factor of 100 for half face respirators and 500 for full face respirators.

6.6.2.5 Positive pressure supplied air (breathing air) respirators will be fit tested in a negative pressure mode. Personnel who use respirators requiring a tight face-to-facepiece seal shall have no conditions that prevent such a seal. Examples of these conditions include facial hair, absence of normally worn dentures, facial scar or headgear that projects under the facepiece seal or eyeglasses with temple pieces.

6.6.3 Detailed fit-testing procedures can be found in Section 9.3, Fit Testing Procedures.

6.6.4 MPC fit test results are maintained as hard copies, for the past 2 years, by the Safety Department.

6.6.5 All MPC fit tests must be documented on the Respirator and Hearing Protector Fit Test Form, RSW-FORM 43-GV.

6.7 INSPECTION, MAINTENANCE, AND STORAGE

6.7.1 Respirator inspection, maintenance, and storage procedures, including inspection for defects, a leak check, cleaning and disinfecting, repair and storage guidelines must be followed as part of the LRD or Contractors' respiratory protection program. Respirator inspection, maintenance, and storage procedures are listed below:

6.7.1.1 Inspection

6.7.1.1.1 The RADAR System is used to document the monthly inspections of all LRD SCBA, airline, escape and air purifying respirators used by MPC personnel.

6.7.1.1.1.1 Respirator inspection includes a check of the various parts including, but not limited to, tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, regulators, alarms and cylinders used with SCBAs and portable air cart.

6.7.1.1.1.2 SCBA and portable air cart cylinders are maintained in fully charged condition and recharged when the pressure falls below 90% of a full tank. Rubber or elastomeric parts must be inspected for pliability and signs of deterioration.

6.7.1.1.2 Respirators used for emergency response or entry into/work in a potentially IDLH atmosphere are inspected monthly by Operations and before and after each use.

6.7.1.1.3 SCBA and airline respirators are inspected and tested annually by the manufacturer's representative.

6.7.1.1.4 All non-emergency, reusable respirators, including those in storage, are inspected before and after each use by a representative of the Safety Department. A record of inspections is maintained in the Safety Department database.

6.7.1.1.5 Emergency egress (escape only) respirators are inspected quarterly by members of Safety.

6.7.1.1.6 All defective and/or depleted respirators and/or equipment shall be reported to the Safety Department so replacement equipment can be provided as soon as possible.

6.7.1.2 Storage

6.7.1.2.1 Respirators shall be stored to protect against: dust, sunlight, heat, extreme cold, excessive moisture, and damaging chemicals.

6.7.1.2.2 Emergency SCBA equipment at the various operating units is stored inside bright yellow closed cabinets. Non-emergency SCBA equipment at the various operating units is stored inside blue closed cabinets. The cabinets and their contents are numerically marked and checked monthly by designated personnel assigned to the appropriate unit of the Operating Departments.

6.7.1.2.3 Emergency egress (escape only) respirators are stored inside bright yellow closed cabinets.

6.7.1.2.4 Non-emergency use air purifying respirator facepieces and cartridges are stored in the white cabinets (located in the Blend Building, Red Roof Inn, Machine Shop, all Zone Shops and Comfort Stations) in sealed plastic bags. They are stored so that the face-piece and exhalation valves rest in a normal position.

6.7.1.2.5 Replacement SCBAs and APRs are maintained in Station 2.

6.7.1.3 Maintenance

6.7.1.3.1 The interchanging of components or cartridges from different respirator manufacturers is strictly prohibited.

6.7.1.3.2 Repair of any type of respiratory protective equipment shall be performed only by properly trained personnel.

6.7.1.3.3 Under training or emergency conditions, face-pieces for emergency use respirators are cleaned and disinfected after each use:

6.7.1.3.3.1 Cleaning consists of washing the respirator with a mild soap and water solution or wiping down all face seal areas of the face-pieces with disinfecting wipes.

6.7.1.3.3.2 Disinfecting shall be performed by using a bleach/water solution. The solution shall consist of 1.5 cups of household chlorine bleach added to 1 gallon of tepid water. A manufacturer supplied disinfectant may also be used. Rinse units with clean water after disinfecting and hang to dry.

6.7.1.3.4 When inspection of emergency and non-emergency use respiratory protection indicates that a face-piece has been used (i.e. open bag) it must be cleaned, disinfected, inspected and bagged.

6.7.1.3.5 Face-pieces used by more than one user are typically cleaned and disinfected in an automatic respirator washer and dried in a face-piece dryer by members of Safety after each use.

6.7.1.3.6 Face-pieces used exclusively by one employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

6.7.1.3.7 Respirators are inspected by members of Safety prior to being sealed in plastic storage bags.

6.7.1.3.8 An inventory of respiratory protective equipment maintained in the Safety Department database.

6.8 MEDICAL EVALUATION

6.8.1 Prior to being fit tested and assigned a task requiring the use of respiratory protection, a determination must be made indicating that the MPC or contract employee is physically able to perform work while wearing respiratory protection equipment. This determination shall consist of a medical evaluation prior to being fit tested. Medical evaluations shall be conducted by a physician or other licensed health care professional (LHCP).

6.8.2 The frequency of medical clearance for MPC personnel is determined by age. Refer to Corporate HES&S Standard HLT-2025 Appendix E for the frequency of respiratory protection medical requirements.

6.8.3 Initial and periodic examinations include:

6.8.3.1 Respiratory Questionnaire
6.8.3.2 Physical Exam
6.8.3.3 Clinician's Written Opinion
6.8.3.4 Spirometry Test
6.8.3.5 Any additional tests as deemed appropriate by the examining practitioner
6.8.3.6 No further medical evaluation (questionnaire or exam) is required unless:

6.8.3.6.1 The employee reports medical signs or symptoms that are related to the ability to use a respirator;

6.8.3.6.2 The LHCP, supervisor or the program administrator informs the employer that an employee needs to be reevaluated;

6.8.3.6.3 Information from the Respiratory Protection Standard including observations made during fit testing and standard evaluation, indicates a need for employee reevaluation; or

6.8.3.6.4 A significant change occurs in the workplace.

6.8.3.7 The employee shall submit the completed questionnaire to the LRD Health Services Department.
6.8.3.8 LHCP will review the questionnaire and provide a written recommendation stating whether the employee has any detected medical condition which

would place the employee's health at increased risk of material impairment from respirator use and any recommended limitations for the use of respirators.

Note: The use of disposable dust masks, because they are classified as a respirator by NIOSH require that an employee be medically qualified before consideration of use. This requirement can be satisfied, however, by completion of a Respiratory Questionnaire, as long as the use is infrequent and exposure levels are not expected to exceed the established exposure limits. The Respiratory Questionnaire will be reviewed by Health Services to determine the need for further evaluation.

6.9 RECORDKEEPING & ACCESS TO RECORDS

6.9.1 The following records are required to be maintained per the Louisiana Refining Division Respiratory Protection Standard:

6.9.1.1 List of Employees Qualified to Wear a Respirator – This is synonymous with the Fit Test Records maintained in hard copy format in the LRD Safety Department.

6.9.1.2 Confidential employee medical evaluations maintained by the Health Services Department.

6.9.1.3 Employee Training Records – Contained in the Passport Based CBT Records Management System, SERT and VERT training rosters maintained by the LRD Training Department.

6.9.1.4 Respirator Inspection Records – maintained in the Safety Department database.

6.9.1.5 Standard evaluation summaries to be included as part of the annual policy review.

6.9.2 The files shall be maintained for the life of this Respiratory Protection Standard. When the Standard is discontinued, legal counsel will recommend procedures for proper retention of the required records.

6.9.2.1 Fit test records for respirator users only need be retained until the next fit test is administered.

6.9.3 Appropriate records in this policy are established, maintained, and available in accordance with 29 CFR 1910.20, Access to Employee Exposure and Medical Records.

6.10 PROGRAM REVIEW

6.10.1 This respiratory protection Standard shall be reviewed annually to ensure that the provisions of the Standard are being properly implemented. It shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use.

Refer to Form RSW-0164-16-GV – Respiratory Protection Program Self-Assessment to complete and document accordingly.

7.0 TRAINING

7.1 MPC and Contractor personnel must be trained and fit tested prior to being placed in a situation requiring the use of a respirator.

7.2 All respirator users are provided refresher training, at a minimum annually. Retraining shall also occur if:

7.2.1 There are changes in the workplace that could result in a potential for a significant increase in exposure(s) or changes in the type(s) of respirator;

7.2.2 The employee demonstrates a lack of understanding of the respirator and its applications; or

7.2.3 There is any other indication to suggest that retraining is needed.

7.3 MPC personnel demonstrate competency in the use of respiratory protection during training through:

7.1.1 Hands-on exercises of donning and doffing the respirators during quantitative fit testing;

7.1.2 Performing positive and negative fit tests as necessary to achieve fit adequate to meet quantitative fit test criteria;

7.1.3 Performing a respirator inspection; and

7.1.4 Completing Computer Based Training (CBT), SERT and/or In-Plant (New Hire) training that covers:

7.1.4.1 Engineering and administrative controls. Why respirators are needed if engineering and administrative controls are inadequate. Discussion shall also indicate how improper fit, usage, or maintenance will render the respirator ineffective;

7.1.4.2 Respiratory hazards as well as other health hazards and the consequences of not using respirators properly;

7.1.4.3 Explanation of the particular types of respirators provided and how selection of respirators is determined;

7.1.4.4 Discussions of how to recognize and handle emergency situations requiring the use of respirators, including situations where the respirator malfunctions;

7.1.4.5 Explanation of the operational limitations and capabilities of the selected respirators.

7.1.4.6 Instruction in procedures for inspection, donning and doffing, checking the fit and seals and in the wearing of the respirator.

7.1.4.7 Explanation of the procedures for maintenance and storage of the respirator, review of this Respiratory Protection Standard and the OSHA Respiratory Protection Standard, 29 CFR 1910.134, including the location and availability of these documents.

7.1.4.8 An explanation of medical fitness determination requirements and how to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.

8.0 REFERENCES

8.1 29 CFR 1910.134, OSHA Respiratory Protection Standard
8.2 Z-88.2-1992, American National Standard (ANSI) for Respiratory Protection
8.3 G-7.1, Compressed Gas Association, Inc. Specifications for industrial breathing air.
8.4 29 CFR 1910.1020, Access to Employee Exposure and Medical Records.
8.5 DOC. LIB. NO.: 311.17

9.0 APPENDICES

9.1 Facial Hair Policy

9.1.1 Purpose

9.1.1.1 The Louisiana Refining Division Facial Hair Policy is designed to increase personal health and safety, and not to regulate the appearance of a person.

9.1.1.2 Because of the potential for accidental release of toxic mists, fumes and vapors within the refinery area, personnel may have to use respiratory equipment. Facial hair in the respirator seal area can allow toxic gases to enter into or breathing air to escape from the mask area.

9.1.2 Policy

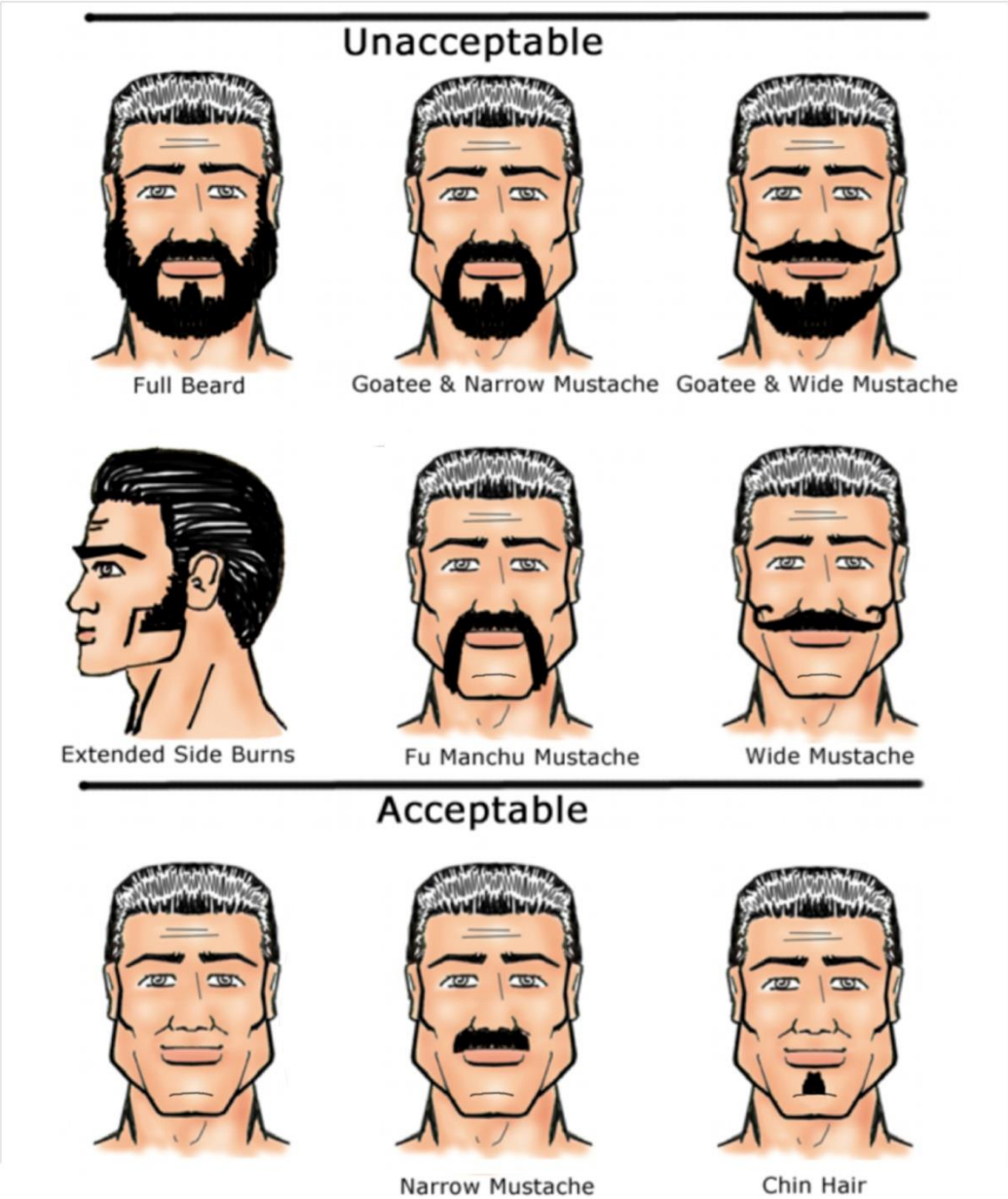
9.1.2.1 All persons who enter inside the fenced area of the refinery are required to be clean shaven. Mustache and sideburns are acceptable as long as the mustache does not extend beyond the corners of the upper lip and the sideburns do not extend below the ear lobes. No facial hair may extend into a respirator seal area. Refer to 9.1.3 for an Illustration of Facial Hair Limits.

9.1.2.2 This policy applies to all MPC employees, contractors, and bulk chemical truck drivers. Exceptions may be granted only by a Department Manager depending on the nature of the business or the area to be visited. This duty may not be delegated. Authorization must be given to Security personnel prior to entry.

9.1.2.2.1 Exceptions: The Facial Hair Policy does not apply to personnel making deliveries or pickups in the refinery and visitors covered under a visitor pass, as long as they are not required to wear a

respirator.

9.1.3 Illustration of Facial Hair Limits



9.2 Breathing Air Cylinder Test Procedures

9.2.1 Equipment / Supplies

9.2.1.1 Gas (O_2, VOCs, LEL, & CO) monitor calibrated on the day the breathing air cylinder contents are tested.

9.2.1.2 Demand Regulator with CGA-346 fitting.

9.2.1.3 Labels for tested cylinders that indicate passing test date and person who conducted the test.

9.2.2 Procedures for verifying the oxygen, carbon monoxide, volatile organic compound (O_2, VOCs, LEL, & CO) content of breathing air cylinders is outlined as follows:

9.2.2.1 Recipient must contact the Safety Department when a new shipment of breathing air cylinders arrives at their location, to arrange for testing of cylinder contents.

9.2.2.2 **Single cylinder test procedure (Test at least 25% of each lot)**

9.2.2.2.1 Connect demand regulator to threaded male outlet fitting on cylinder valve. Install finger tight, then snug with wrench.

9.2.2.2.1.1 Connect sample line from gas monitor to demand regulator and open cylinder valve.
9.2.2.2.1.2 Close cylinder valve.

9.2.2.2.2 Gas monitor readings should indicate:

9.2.2.2.2.1 O_2 concentration between 19.5% and 23.5%
9.2.2.2.2.2 Combustible concentration of 0 %
9.2.2.2.2.3 Volatile Organic Compounds (VOCs) < 0.1 ppm
9.2.2.2.2.4 Carbon Monoxide (CO) concentration of 0 ppm

9.2.2.2.3 If the gas monitor readings are consistent with the parameters outlined in paragraph above, place a sticker on the cylinder that provides the following information:

9.2.2.2.3.1 Date of test.
9.2.2.2.3.2 Person who conducted the test.

9.2.2.3 The Safety Department shall be notified if any cylinder tested does not meet the parameters outlined in paragraph above.

9.2.2.4 **Test procedure for cylinders in a “six pack” or “twelve pack”**

9.2.2.4.1 Connect demand regulator to threaded male fitting on one end of “six pack” manifold system. Connect sample line from gas monitor to demand regulator.

9.2.2.4.2 Depressure manifold by opening the valve on the manifold opposite the demand regulator. Close the valve after the manifold is depressured.

9.2.2.4.3 Open the valve of one cylinder in the “six/twelve pack” until the

demand regulator gauge indicates 2000 – 3000 psi then close the valve. This will ensure that the manifold contains a representative sample of the cylinder contents.

9.2.2.4.4 Gas monitor readings should indicate:

9.2.2.4.4.1 O_2 concentration between 19.5% and 23.5%
9.2.2.4.4.2 Combustible concentration of 0%
9.2.2.4.4.3 Volatile Organic Compounds (VOCs) < 0.1 ppm
9.2.2.4.4.4 Carbon Monoxide (CO) concentration of 0 ppm

9.2.2.4.5 If the gas monitor readings are consistent with the parameters outlined in paragraph above, place a sticker on the cylinder that provides the following information:

9.2.2.4.5.1 Date of test.
9.2.2.4.5.2 Person who conducted the test.

9.2.2.4.6 Repeat manifold purging and cylinder content testing procedures described in paragraphs above for 25% of the cylinders of the "six/twelve pack".

9.2.2.5 The Safety Department shall be notified if any cylinder tested does not meet the parameters outlined in paragraph above.

9.3 Fit Testing Procedures

9.3.1 PORTACOUNT TEST

9.3.1.1 The PortaCount fit test device can be used to fit test air purifying respirators or supplied air respirators with cartridge adapters. When fit testing, the respirators must be equipped with HEPA cartridges. The respirators used for fit testing must be retrofitted with a special probed adapter to perform PortaCount testing. The probed adapter must be removed from the respirator prior to the respirator being put back into operation for field service. Fit test procedures for the PortaCount follow:

9.3.1.2 The test subject shall don the probed face-piece, conduct a qualitative (positive/negative) fit check and wear for approximately five minutes. This time is to allow for the trapped particles in the respirator to be purged from the respirator.

9.3.1.2.1 Connect the clear hose to the sample probe port. Ensure there is a tight seal between the hose and the probe.

9.3.1.2.2 Follow the manufacturer's instructions for operating the PortaCount.

9.3.1.2.3 The test subject will perform the following exercises:

9.3.1.2.4 Normal breathing without talking

9.3.1.2.5 Deep breathing with slow deep breaths

9.3.1.2.6 Turning head side to side. The head shall be held at each extreme momentarily so the test subject can inhale at each side.

9.3.1.2.7 Moving head up and down with the subject inhaling in the up position.

9.3.1.2.8 Talking (Rainbow Passage)

9.3.1.2.9 Grimace by smiling or frowning

9.3.1.2.10 Bending over at the waist

9.3.1.2.11 Normal breathing again

9.3.1.3 Each employee is to perform each exercise until the PortaCount completes an exercise and moves to the next exercise.

9.3.2 OHD QUANTIFIT TEST

9.3.2.1 This test establishes and maintains a slight vacuum, or controlled negative pressure, inside the mask. Because the respirator inlets are sealed during testing, any leakage detected is through the face-to-facepiece seal. The Quantifit measures the leak rate through the facepiece, and determines the fit factor of the respirator on the user. The inhalation valves must be removed from the facepiece.

9.3.2.2 The employee shall don the respirator in the usual manner, and perform user seal checks.

9.3.2.3 The test subject will perform the following exercises:

9.3.2.3.1 Stand still, facing forward

9.3.2.3.2 Bend at the waist

9.3.2.3.3 Shake head vigorously while exhaling, then face forward and stand still

9.3.2.3.4 Remove respirator and redon, stand still and face forward

9.3.2.3.5 Remove respirator and redon, stand still and face forward

9.3.2.3.6 Employee must hold breath for at least 10 seconds for each exercise. Once the employee has held his/her breath, he/she will activate the trigger to initiate the test. The Quantifit will signal when the test is complete, at which time the employee must release the trigger.

9.3.3 In order to pass the fit test, the OVERALL FIT FACTOR shall meet or exceed the fit factors listed below:

9.3.3.1 ½ mask APR respirator 100 fit factor

9.3.3.2 full face-piece APR respirator 500 fit factor

9.3.4 If the employee passes the fit test, the overall fit factor shall be entered on the Fit Test Form. If the employee's overall fit factor does not meet the minimum levels listed above, the employee shall re-adjust the respirator or try a different respirator and proceed with the retest.

9.3.5 The fit test subject should be questioned on respirator comfort upon completion of the test.

10.0 REVISION HISTORY

Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
0	Converted to Control Format.	Chuck Whitman	Refinery Management Team	12/3/2008	12/3/2008
1	Revised to MPC Respiratory Protection Standard Practice	Safety Department	Refinery Management Team	3/5/2010	3/5/2010
2	Per Corporate, changed facial hair limits	Corporate HESS Standard	Safety	10/7/2011	10/7/2011
3	3 year review- Grammatical changes throughout. Added section 4.2 Breathing air attendant responsibilities. Changed review of procedure from annually to to every three years	Safety Department	VPP Committee	3/14/2013	3/14/2013
4	Revised the Refinery Facial Hair Policy	Safety Department	RLT	6/17/2013	6/17/2013
5	Changed the definitions of Category A, B and C to be in line with the Corporate definition	Amanda Hall	Safety	3/24/2014	3/24/2014
6	Updated section 6.7.1.1.1 to say monthly inspections are documented in RADAR	Amanda Hall	VPP Committee 7/17/2014 RLT-8/7/2014	8/21/2014	8/21/2014
7	3-year review. Updated definitions, removed Category A/B/C, included Fit Test Form, included egress respirators, described voluntary use of respirators, included OHD Quantifit Test,	Jessica Myers	Safety 8/10/2016 VPP Committee 8/11/2016 RLT 8/25/2016	8/25/2016	8/25/2016

8	**Changed the ORR service supplier to Safety Store, added respirators are inspected "by members of safety", removed make/model of gas monitor and made generic verbiage.**	**Jessica Myers**	**VPP Committee 7/27/2017 RLT 7/27/2017**	**7/11/2017**	**8/3/2017**
9	**Updated "Breathing Air Cylinder Test" process – removed requirement for checklist and truncated sticker content. Change is in line with Refining Breathing Air Memo Dated 7-3-19.**	**Alexander C. Mapel**	**Safety**	**7/15/19**	**7/15/19**
10	**Provided clarity to role & responsibility of a Standby / Rescue Person for IDLH environments. Additionally, developed form to document annual self-assessment.**	**Alexander C. Mapel**	**Maint. Team 8/10/20 VPP Committee 8/12/20 RLT 8/27/20**	**8/27/20**	**8/27/20**
11	**No changes/ Annual Review**	**Kristen Brickner**	**VPP & RLT**	**9/7/2023**	**9/7/2023**