1.0 PURPOSE

The purpose of this plan is to establish guidelines covering the selection and use of respiratory protection in work areas or job assignments where it is not feasible to control exposures to airborne contaminants or oxygen-deficient atmospheres to acceptable levels using engineering controls and work practices.

This plan also addresses requirements of the Occupational Safety and Health Administration (OSHA) Respiratory Protection Standard 29 CFR 1910.134, Michigan Occupational Safety and Health Administration (MIOSHA) Part 451 Respiratory Protection, and relevant company guidelines.

2.0 SCOPE

This document applies to all Contractors, Subcontractors, and Employees working on Marathon Petroleum Company LP (MPC) Michigan Refining Division (MRD) owned, controlled, or permitted locations, as well as work performed under a contract to MPC MRD.

3.0 PROCEDURE

3.1 Marathon Industrial Hygiene (IH) Exposure Assessment Methodology (EXAM)

3.1.1 Determine the need for respiratory protection by performing the Marathon IH EXAM process or similar exposure assessment process on job assignments, routine tasks, or emergency response activities to determine where there is reasonably foreseeable employee exposure to airborne contaminants above the applicable Occupational Exposure Limits (OELs) or potentially Immediately Dangerous to Life or Health (IDLH) atmospheres.

3.2 Covered Employees

3.2.1 A list of job classifications which require respiratory protection is found in Covered Job Categories and can be viewed by contacting the site IH

3.2.2 Contractors are required to develop and maintain a list of their jobs/tasks that require respiratory protection.

3.3 Respirator Selection

3.3.1 General guidelines for selection of respirators are provided in the American National Standards Institute (ANSI) Z88.2-1992, Practices for Respiratory Protection (or more recent editions as available). Appropriate respirators are selected from among those approved and certified by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR, Part 84 when they exist.

3.3.1.1 The selection of suitable classes of respirators is assisted by reference to NIOSH Respirator Selection Logic 2004.

3.3.2 Factors that were considered in the selection of the appropriate respirator include the following:

3.3.2.1 The adverse health effects of the hazard—respiratory and dermal.

3.3.2.2 The relevant hazardous exposure levels.

3.3.2.3 The potential exposure levels.

3.3.2.4 The actual measured exposure levels.

3.3.2.5 The nature of the hazardous exposure including the following:

3.3.2.5.1 Warning properties (e.g., odor)

3.3.2.5.2 Form (gas, vapor, particulate)

3.3.2.5.3 Toxicity

3.3.2.6 The mechanical and functional characteristics of the respirators used.

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

3.3.2.7.1 Operational processes

3.3.2.7.2 The period of time the respirator will be worn

3.3.2.7.3 The work activities of the employees

3.3.3 Industrial hygiene surveys will be used to identify work locations, job assignments, and specific tasks where the use of respirators may be required and the appropriate type of respirator to be used.

3.3.4 Where the exposure cannot be reasonably estimated, the atmosphere will be considered IDLH.

3.3.5 The following respirators are provided to MPC employees:

3.3.5.1 3M 5000 series and 6000 series air purifying respirators,

3.3.5.2 North by Honeywell/Sperian Model RU 6500 full face air purifying respirators,

3.3.5.3 Survivair, Cougar SCBA and Panther Hip-Pac supplied air respirators, and

3.3.5.4 MSA G1 SCBAs for the emergency response team.

3.3.6 MPC Detroit Refinery employees are **not** permitted to wear dust masks.

3.3.6.1 Contractors are permitted to use dust masks if the MIOSHA requirements are satisfied.

3.4 Respirator Use

3.4.1 In order to use a respirator, employees and contractors must receive a medical evaluation, a fit test on the same make, model, style and size of respirator they will be expected to use, and training.

3.4.2 Voluntary Use of Respirators

3.4.2.1 Contractors must establish procedures for the voluntary use of respirators.

3.4.2.2 Voluntary use of respirators still requires a medical evaluation, fit test and training, however voluntary use of dust masks does not require a person to be enrolled in the respiratory protection program so the above requirements do not pertain to this situation.

3.4.2.3 MPC employees who wish to use a respirator, but are not a part of the respiratory protection program, must contact the safety department before using a respirator.

3.4.3 Employees who use respirators requiring a tight face piece-to-face seal (pressure demand, negative or positive pressure respirators) must not allow anything between the sealing surface of the respirator and their skin or that interferes with valve function. Examples of prohibited objects include, but are not limited to:

3.4.3.1 Facial Hair (See the Facial Hair Poster)

3.4.3.2 Headgear that projects under the face piece seal

3.4.3.3 Glasses with temple pieces when using full face piece respirators

3.4.4 Conditions such as absence of normally worn dentures or facial scars that were not present during fit testing. Conduct a user seal check each time the employee dons the respirator. If a proper fit cannot be achieved, do not use the respirator or enter the contaminated area. See Appendix B: Standard Operating Procedures for the Use of the 3M 5000 Series & 6000 Series Respirators.

3.4.5 If respirator users detect or experience the following, they must leave the area where respirator use is required:

3.4.5.1 Eye or skin irritation associated with respirator use that may require washing of the face or respirator face pieces as necessary,

3.4.5.2 Vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece that may require adjustment of the face piece or other changes to the respirator, and

3.4.5.3 Other malfunctions of the respirator where SCBA cylinder replacement is needed,

3.4.6 Air Purifying Respirators (APRs)

The Respirator User must complete the following:

3.4.6.1 Before use, read and understand the user instructions provided by the manufacturer of the respirator.

3.4.6.2 Inspect the respirator and its components prior to each use.

3.4.6.3 Dispose of APRs with any damaged or deteriorated components.

3.4.6.4 Do not alter, abuse, or misuse the respirator.

3.4.6.5 Do not use APRs in atmospheres containing less than 19.5% oxygen because they do not supply oxygen.

3.4.6.6 Do not use APRs in IDLH atmospheres.

3.4.6.7 Do not use APRs in emergency situations.

3.4.6.8 Verify cartridges and filters are appropriate for the contaminant and the concentration of the contaminant.

3.4.6.8.1 Half mask APRs have an Assigned Protection Factor of 10, meaning they may only be used up to 10x the PEL for the contaminant if the IDLH concentration for the contaminant is not exceeded.

3.4.6.8.2 Full face APRs have an Assigned Protection Factor of 50, meaning they may be used up to 50x the PEL for the contaminant if the IDLH concentration for the contaminant is not exceeded.

3.4.6.8.3 Refer to the Respirator Poster and/or Appendix B: Standard Operating Procedures for the Use of the 3M 5000 Series & 6000 Series Respirators to determine the appropriate cartridge and/or filter for the contaminant and the level to which it may be worn.

3.4.6.9 Replace cartridges and filters in air-purifying respirators at the **end of each shift** or sooner as required. See Appendix B: Standard Operating Procedures for the Use of the 3M 5000 Series & 6000 Series Respirators for more information.

3.4.6.9.1 Contractors must establish their own change out schedule based on objective data developed by the respirator's manufacturer.

3.4.6.10 If the contaminant can be smelled or tasted while wearing the respirator, exit to a clean air area and adjust the face piece seal. Discard the entire respirator assembly if the contaminant can continue to be smelled or tasted after adjusting the face piece seal.

3.4.7 Atmosphere Supplying Respirators

3.4.7.1 Inspect all respirators prior to each use.

3.4.7.2 Wear contact lenses with full-face respirators if necessary.

3.4.7.2.1 Upon request, MPC Employees are provided with the appropriate lenses and lens insert holders for use with supplied air respirator face pieces.

3.4.7.3 Wear hard hats while using SCBAs and supplied air respirators.

3.4.7.3.1 Goggles are not required to be attached to Petzl hard hats while wearing SCBA or supplied air respirators.

3.4.7.4 A stand-by employee is required for the use of all atmosphere supplying respirators (SCBAs, Supplied Air Respirators, TubeTrailer use, etc.). A stand-by employee or, when needed, more than one stand-by employee is located outside the hazardous atmosphere. The stand-by employee must be equipped with either an SCBA or supplied air respirator that is fully charged or connected to an air hose. The employee will have the facemask in hand ready to respond in the event of an emergency, maintaining constant visual, voice, or signal line communication with the employees in the hazardous atmosphere.

<u>Important</u>: Under no circumstances will the stand-by person utilize the same breathing air source as the worker

3.4.7.4.1 Wear the same PPE as the worker during the job task.

3.4.7.4.2 Be equipped with a radio to call for assistance if necessary.

3.4.7.4.3 Be physically capable of providing assistance to the personnel. These duties may include, but are not limited to:

3.4.7.4.3.1 Providing safety assistance such as untangling breathing air hose and reconnecting disconnected air hose(s), and

3.4.7.4.3.2 Closing a valve.

3.4.7.4.4 Watch multiple workers/tasks if visual, voice, or signal line contact is maintained with the workers. If the stand-by person provides assistance to one of the work groups, stop all other tasks that they are serving as backup for and exit the hazardous atmosphere.

3.4.7.4.5 Consider additional stand-by personnel when the total number of people on fresh air for all work parties that the stand-by person is monitoring is 6 people or more.

3.4.7.5 For Confined Space Entries, the stand-by person is the confined space attendant. See RSW-SAF-010-DT Confined Space Entry for attendant responsibilities and rescue procedures.

Note: The stand-by person/confined space attendant may not enter the space to provide assistance or rescue.

3.4.7.6 Supplied Air Respirators

3.4.7.6.1 Equip Airline Respirators with an escape cylinder, a minimum 5-minute service life, and verify that they are full.

3.4.7.7 Bottle Watch - Use of Supplied Air Respirators/Tube trailers requires a bottle watch in addition to the stand-by person. (These roles may not be filled by the same person). The bottle watch:

3.4.7.7.1 Remains in the “cold” zone which will not require the use of respiratory protection,

3.4.7.7.2 If the cart cannot be placed in the “cold” zone, then the bottle watch must have a 4-gas monitor and SCBA worn with mask ready to be donned.

3.4.7.7.3 Verifies the levels in all air cylinders before work begins,

3.4.7.7.4 For tube trailers and breathing air compressors, sets manifold and airline equipment to manufacturers’ recommendations. See Appendix C: Standard Operating Procedures (SOPs) for the Use of the Panther Hip-Pac™ Supplied-Air Respirator for MPC SOPs.

3.4.7.7.5 Checks that the safety relief valve activates at the appropriate pressure.

3.4.7.7.6 Notifies the work crew when the low-pressure air alarm activates on the primary supply gauge.

3.4.7.7.7 Uses one cylinder at a time until pressure reaches the low air alarm activation point on the primary supply gauge. If no other bottles are available, the work crew must be pulled out of the area once the low-pressure alarm sounds.

3.4.7.7.8 Informs the work crew when switching from one bottle to another and when changing any of the connections to or from the manifold.

3.4.7.7.9 Watches for signs of regulator malfunction such as sudden changes in manifold or cylinder pressure, a build-up of frost on the valves or manifold, or the sound of air leaking.

3.4.7.7.10 Establishes a communication method with the work crew, such as radio, and has a backup plan to the primary method.

3.4.7.7.11 Limits air hose length and/or connections to the manufacturer’s recommendations.

3.4.7.7.12 Alerts entrants to changing conditions that may affect work personnel. If there is an emergency, alerts personnel and has the workers exit the job.

3.4.7.7.13 Monitors multiple fresh air systems (carts, 12 packs, tube trailers, etc.) if the fresh air systems are within a close proximity to perform the duties listed above.

3.4.7.8 Tube Trailer (additional requirements to those above)

3.4.7.8.1 Inspects trailer and cylinders for damage and defects. Follows manufacturer recommendations for inspection and maintenance requirements.

3.4.7.8.2 Verifies that wheels are chocked and trailer secured to prevent sudden movement.

3.4.7.8.3 Inspects and verifies pressure gauge operation by pressurizing the system.

3.4.7.8.4 Inspects pressure regulator to verify adjustments can be made to the manifold(s)

3.4.7.8.5 Inspects remote manifolds, including:

3.4.7.8.5.1 Gauges,

3.4.7.8.5.2 Pressure regulator, and

3.4.7.8.6 Fittings that are incompatible with sources other than breathing air.

3.4.7.8.7 The remote manifolds' set pressure for breathing air should be at the supplied air respirator manufacturers' recommended range.

3.4.7.8.8 Verify that the safety relief valve is set at manufacturer's recommended psi rating.

3.4.7.8.9 Inspect hoses and fittings for wear and damage. Verify hose fittings cannot become dislodged when connected due to snagging or entanglement.

3.4.7.8.10 Hose lengths and number of connections must comply with manufacturers' specifications. NOTE: Hose lengths cannot exceed 300 feet from a point of connection for any reason.

3.4.7.8.11 Hoses must be placed to prevent being trip hazards, being run over by vehicles, or preventing access to equipment. Hoses shall be elevated and out of walkways. Hose "trees", "S" hooks or similar devices should be used to elevate hoses.

3.4.7.8.12 A bottle watch must be present for each manifold in use. Bottle watch will adjust pressure regulator to recommended pressure. See Section 3.3.7.7 for details on bottle watch responsibilities.

3.4.7.8.13 A bottle watch may monitor multiple manifolds if they are within close proximity and the person can perform the duties listed in Section 3.3.7.7

3.4.7.8.14 A stand-by person (See Section 3.3.7.4 for details) must be present for fresh air tasks

3.4.7.8.15 The stand-by person must be on an independent air source separate from the work party

3.4.7.8.16 Workers must be equipped with an emergency egress bottle with a minimum service life of 5 minutes. The egress bottle must be incorporated into the supplied air system. It cannot be a separate piece of equipment that has to be donned.

3.4.7.8.17 When fresh air job is complete, communicate with tube trailer operator to isolate the system to depressurize the manifold(s) and hoses.

3.4.7.8.18 Depressurize the system by opening the red bypass valve counterclockwise until the air flow stops. Close the bypass valve and components can be disconnected for storage.

3.4.7.9 SCBAs

3.4.7.9.1 Crew members will don, use, and remove SCBAs following the instructions in the appropriate user manual

3.4.7.9.2 Emergency Procedures while using atmosphere supplying respirators

3.4.7.9.3 Affected employees or others who learn of the emergency should communicate to the stand-by person there is a problem and assistance is required. This may be verbal or through signals.

3.4.7.9.4 The standby and others will:

3.4.7.9.4.1 Inform the local Operations complex of the situation by calling on the radio before the standby person enters the hazardous atmosphere.

3.4.7.9.4.2 The local Operations complex will obtain additional assistance as necessary.

3.4.7.9.4.3 Ensure the victim(s) has an adequate air supply and assist as necessary.

3.4.7.9.4.4 WARNING: An unconscious victim generally should not be moved due to the potential for neck and spine injuries. Only under life threatening circumstances would it be advisable to remove an unconscious victim from the area.

3.4.7.9.4.5 Affected employees or others who learn of the emergency will prepare the scene for additional resources by securing the equipment (tightening flanges, closing valves, etc) and attempting to remove or barricade hazards, if it is safe to do so and personnel are appropriately equipped and protected.

3.4.7.10 Escape Breathing Apparatus (EBA)

3.4.7.10.1 5-minute EBAs are staged in various occupied refinery buildings per MPC facility siting standards (RSP-1314). Locations are depicted on the Safety Apparatus and Hazardous Location plot plans.

3.4.7.10.2 The EBAs are to be used for evacuation of buildings during toxic (i.e. H2S) release events.

3.4.7.10.3 Training on the use of EBAs may be hands-on or via computer based training (CBT) module.

3.4.7.10.4 To use, follow manufacturer instructions included on the EBA carrying pouches or the user manual (Don EBA, Pull Open Flap, Deploy Hood, Open Valve, Position Hood, and Escape Safely).

3.4.7.10.5 Monthly visual inspections, biennial operational flow test, and 5-year hydrostatic test are required per RSP-1308 PSM/RMP Mechanical Integrity (Appendix D.6 Matrix 5 - Emergency Response Equipment Minimum Inspection, Test and Preventative Maintenance Matrix). Biennial operational flow test and hydrostatic test will be performed by a 3rd party vendor. Monthly inspections will be documented by Owning Departments using form RSW-SAF-EE21-Form11-DT (Maintenance), or inspection card on EBA, or the RADAR system (Operations).

3.5 Maintenance and Storage

3.5.1 All respirators must be stored in convenient, clean and sanitary locations.

3.5.2 Respirators used by more than one person are thoroughly cleaned and disinfected after each use.

3.5.3 Respirators maintained for emergency use and those used in fit testing and training are cleaned and disinfected after each use.

3.5.4 MPC employees do not provide any maintenance on any respirators except for cleaning and re-filling air cylinders. Any respirator that requires service is sent to a vendor which is certified by the manufacturer to provide the service.

3.5.4.1 MPC Respirators must also be marked with the area location and sent to the Safety department to arrange repairs. Equipment must be dropped off at the SCBA equipment building at the Toronto Fire Equipment Building

3.5.4.2 Contractors must ensure that their equipment is maintained and repaired per the manufacturer's instructions.

3.5.5 Air Purifying Respirators

3.5.5.1 Must be maintained per the manufacturer's instructions.

3.5.5.2 Store new respirators in the unopened bag away from contaminated areas in a warm dry location.

3.5.5.3 Contractors using APRs for longer than one shift must develop cleaning and storage procedures and comply with their cartridge change out schedule.

3.5.6 Supplied Air Respirators

3.5.6.1 Must be maintained per the manufacturer's instructions. See Appendix D.

3.5.6.2 Certified vendors flow test MPC supplied-air respirators on site every year.

3.5.6.3 MPC Escape cylinders for airline units are hydro tested every five years.

3.5.6.4 Supplied air respirators are inspected monthly by the equipment owners using the appropriate checklist located on the Safety Website.

3.5.7 Defective respirators must be prominently marked DO NOT USE. (See 3.4.4.1)

3.5.8 Face pieces are cleaned by the safety mechanics.

3.5.9 SCBAs

3.5.9.1 Must be maintained per the manufacturer's instructions.

3.5.9.2 MPC SCBAs are inspected monthly and after each use per the manufacturer's criteria

3.5.9.3 Inspections are completed by the equipment owners and acknowledged by signing and dating through Radar.

3.5.9.4 Self-contained breathing apparatus will be maintained in a fully charged condition and will be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.

3.5.9.5 SCBA cylinders are hydrotested every five years for carbon cylinders and are discarded at the end of their 15 year service life.

3.5.9.6 SCBAs receive an annual flow test.

3.5.9.7 SCBAs are refilled and the face pieces cleaned by the safety mechanics. ERT members may refill bottles if they have received the proper training on the Fill Stations. Bottles and masks must be brought down to the SCBA equipment building outside the Toronto Fire Equipment Building.

3.5.10 Breathing Air Compressor Fill Station/Scott Liberty Portable Air Compressor

3.5.10.1 The safety department operates a breathing air compressor located in the fire equipment building.

3.5.10.2 Air samples are analyzed by a qualified vendor at an AIHA lab every three months.

3.5.10.3 The vendor reports results to the Safety department which posts the most recent certificate on the compressor and retains copies of the results IAW the records-retention policy.

3.5.10.4 Operating instructions are posted at the compressor

3.5.11 Supplied Air Breathing Quality

3.5.11.1 Compressed breathing air at least meets the requirements of the specifications for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7 1-2004:

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

3.5.11.1.2 Oil (condensed) 5 mg per cubic meter of air or less (at normal temperature and pressure)

3.5.11.1.3 Carbon monoxide 10 ppm or less

3.5.11.1.4 Carbon dioxide 1,000 ppm or less

3.5.11.1.5 Lack of noticeable odor

3.5.11.2 Breathing air from cylinders

3.5.11.2.1 Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 173 and 178)

3.5.11.2.2 Cylinders of purchased breathing air 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 pressure.

3.5.11.2.3 25% of MPC breathing air cylinders on-site will be tested for oxygen content. A four-gas monitor with sample draw pump, regulator, and multi-port fitting will be used to perform the testing.

3.5.11.2.4 A “Tested” sticker will be applied to the neck of the breathing air cylinder after it has passed

3.5.11.2.5 The Safety Department will perform the testing.

3.5.11.2.6 Contact Global Procurement and Breathing Air Vendor if any cylinder fails the oxygen content test and remove it from service immediately.

3.5.11.3 Breathing Air from Compressors

3.5.11.3.1 Compressors are constructed and situated to avoid entry of contaminated air into the air supply system and shall be equipped with suitable in-line air purifying sorbet beds and filters to further assure breathing air quality and to minimize moisture content so that the dew point at line pressure is 10 degrees Fahrenheit below the ambient temperature.

3.5.11.3.2 All breathing air compressors will be tagged indicating the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.

3.5.11.3.3 For non-oil lubricated compressors, carbon monoxide levels will not exceed 10 ppm. For oil-lubricated compressors, a high temperature alarm or carbon monoxide alarm (or both) may be used to monitor carbon monoxide levels. If only the former is used, the air will be monitored at sufficient intervals to ensure that carbon monoxide levels do not exceed 10 ppm.

3.5.11.3.4 RSW-SAF-070-Form02-DT Breathing Air Compressor Checklist may be used prior to using breathing air with a compressor as a guideline for following proper setup and operation.

3.5.11.3.5 Breathing air couplings are incompatible with outlets for nonrespirable plant air or other gas systems to prevent inadvertent servicing of airline respirators with nonrespirable gases or oxygen. Breathing air containers are marked in accordance with NIOSH 42 CFR, part 84.

3.5.11.3.6 Breather box filtration systems must be used and maintained according to the manufacturer's instructions.

3.6 Medical Evaluation

3.6.1 All employees and contractors must receive medical evaluation, conducted by a physician or other licensed health care professional (PLHCP), prior to being fit tested and periodically thereafter as long as they remain in the Respiratory Protection Plan in accordance with HLT-2025-DN Employee Health Monitoring Examination Protocols Standard.

3.6.1.1 Contractors must establish a medical evaluation program in accordance with MIOSHA.

3.6.2 The MPC Respiratory Protection Medical Evaluation includes both a medical history and a medical examination. The Medical History is obtained using the Respiratory Questionnaire (Form 1839). The Medical Examination is a physical examination that focuses on the cardiopulmonary systems. It should include at a minimum an assessment of the following:

3.6.2.1 Vital signs including blood pressure, and

3.6.2.2 Screening spirometry.

3.6.3 The requirements for medical evaluation will vary, depending on the nature and extent of anticipated respirator use. Additional health monitoring exam requirements are required for the following two programs:

3.6.3.1 Employees who are on HazMat Response Teams that would don supplied air respiratory protection to perform offensive actions in response to an emergency situation. Personnel who have received 24 hour HAZWOPER Technician level training. See HLT-2025, Employee Health Monitoring Examination Protocols, Appendix H for specific health monitoring exam requirements

3.6.3.2 Employees who participate on a Fire Brigade on a full or part time basis. Fire Brigade members typically don bunker gear and perform offensive actions in response to emergency situations. See HLT-2025, Employee Health Monitoring Examination Protocols, Appendix I for specific health monitoring exam requirements.

3.6.4 Employees newly assigned to respirator use (new or transfer) are required to have a medical evaluation and a written medical recommendation. Employees may use an existing medical evaluation or written recommendation from a PLHCP 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 or any recommended limitations upon the use of respirators, provided the medical examination or written recommendation is within a year of the date of beginning respirator use.

3.6.5 Provide additional medical evaluations if the employee reports medical signs or symptoms that are related to the ability to wear a respirator; the PLHCP, a supervisor, or the Plan Administrator informs management that an employee needs reevaluation; information from the respiratory protection program (e.g., observations from fit-testing or program evaluations) indicates a need for employee reevaluation; or a change occurs in workplace conditions that may result in substantial increase in the physiological burden placed on the employee.

3.6.6 Employees will be given an opportunity to discuss the questionnaire and examination results with the PLHCP.

3.6.7 The PLHCP provide a written recommendation addressing the employee's ability to wear a respirator. The recommendation will contain: the limitations on respirator use, the need for follow-up medical evaluations (if needed), and a statement that the PLHCP has provided the employee with a copy of the PLHCP's recommendation.

3.6.8 In requesting the written medical recommendation following a medical examination, the following information is provided to the PLHCP:

3.6.8.1 Type and weight of respiratory protection to be used.

3.6.8.2 Substance(s) the employee will be exposed to.

3.6.8.3 Description of the work effort required.

3.6.8.4 Duration and frequency of use.

3.6.8.5 Type of work performed, including any special responsibilities that affect the safety of others such as firefighting or rescue work.

3.6.8.6 Special environmental conditions (e.g., temperature, humidity, confined space).

3.6.8.7 Additional requirements for protective clothing and equipment.

3.6.8.8 A copy of this respiratory protection plan, Section (e), Medical Evaluation, and the MIOSHA Respiratory Protection Standard.

3.7 Fit-Testing

3.7.1 Fit-test employees before wearing a respirator with a tight-fitting face piece, with the same make, model, style and size of respirator they are expected to use.

3.7.1.1 Half Mask APRs may be fit-tested quantitatively or quantitatively. Full Face Respirators must have a quantitative fit-test.

3.7.1.2 MPC employees receive a quantitative fit-test for half mask and full face APRs, SCBAs, and Supplied Air Respirators. See Appendix D: MPC Fit-Testing Procedures for more information.

3.7.2 Conduct fit-testing annually and whenever a different make or size respirator is used.

3.7.3 Additional fit-testing is done whenever the employee reports or the employer, PLHCP, supervisor or plan administrator make visual observations of changes in the employee's physical condition that could affect respirator fit.

3.7.4 Fit-testing procedures must address all the requirements of MIOSHA Part 451 Respiratory Protection. Fit-test positive pressure atmosphere supplying respirators in a negative pressure mode.

3.8 Training

3.8.1 Train all employees and contractors prior to being placed in a job or situation requiring the use of a respirator.

3.8.2 The training must occur annually or more often if necessary and be understandable and comprehensive.

3.8.2.1 Retraining will occur when there are changes in the workplace or the type of respirator (that are different enough to necessitate the additional training), the employee demonstrates a lack of understanding of the respirator and its applications, or there is any other indication to suggest that retraining is needed.

3.8.3 Employees must be able to demonstrate knowledge of at least the following:

3.8.3.1 Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.

3.8.3.2 Recognition and response to emergency situations requiring respirators, including situations where the respirator malfunctions.

3.8.3.3 Explanation of the operation limitations and capabilities of the selected respirators.

3.8.3.4 Instruction in procedures for inspection, donning and removal, checking the fit and seals and in the wearing of the respirator, including sufficient practice to enable the employee to become thoroughly familiar and confident with the use of the respirator.

3.8.3.5 Explanation of the procedures for maintenance and storage of the respirator, review of this respiratory program, the OSHA Respiratory Protection Standard, 29 CFR 1910.134, and MIOSHA Part 451 Respiratory Protection, including the location and availability of these documents.

3.8.3.6 How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

3.8.3.7 General requirements of this standard.

3.8.4 MPC training is conducted per the HESS Training Matrix.

3.8.5 Contractors are required to train their employees and provide proof of training upon request.

3.9 Recordkeeping

3.9.1 The following files are maintained in connection with the administration of this plan:

3.9.1.1 A list of employees in the Respiratory Protection Program maintained in Medgate,

3.9.1.2 The confidential medical evaluation maintained by the Medical Department,

3.9.1.3 Employee training records maintained in the Learning and Development Services Department,

3.9.1.4 Employee fit testing records (which are maintained until the next fit test is administered.) by the Medical Department,

3.9.1.5 Respirator inspection records maintained in the Safety Department,

3.9.1.6 Breathing Air Certificates of Analysis maintained in the Safety Department, and

3.9.1.7 Industrial Hygiene and medical records are maintained in Medgate.

3.9.2 The above files will be maintained for the life of this respiratory protection plan. When the plan is discontinued, legal counsel will recommend procedures for proper retention of the required records.

3.9.3 Appropriate records in this plan will be established, maintained and available in accordance with MIOSHA Part 470 Employee Medical Records and Trade Secrets.

3.10 Auditing and Review

3.10.1 The respiratory protection program will be audited at least annually to ensure that the provisions of the program and plan are being properly implemented.

3.10.1.1 Assessments with employees to ensure that they are using respirators properly including respirator fit, selection, and maintenance.

3.10.2 Additionally, frequent random inspections of the workplace are made to determine if there has been a change in workplace conditions, or degree of employee exposure or stress that may affect respirator which would result in the need to reevaluate the continued effectiveness of the plan.

3.10.3 The respiratory protection program and plan will be reviewed every three years and updated as necessary to reflect those changes in workplace conditions that affect respirator use.

3.10.4 Job classifications are reviewed annually by the safety department and corporate Occupational and Environmental Hygiene (OEH).

3.11 Roles and Responsibilities

3.11.1 Plan Administrator (HESS Manager or designated representative)

3.11.1.1 Manage and administer the Respiratory Protection Program,

3.11.1.2 Develop and maintain this plan, including worksite specific procedures,

3.11.1.3 Determine where use of respirators is required, and

3.11.1.4 Arrange for industrial hygiene surveys as appropriate to identify work locations or job assignments where the use of respirators may be required.

3.11.2 Safety Department

3.11.2.1 Conduct Industrial Hygiene surveys to identify respirator requirements,

3.11.2.2 Select and/or approve the types of respirators used,

3.11.2.3 Provide training,

3.11.2.4 Fill SCBA bottles, and

3.11.2.5 Clean SCBA and supplied air face pieces.

3.11.3 Medical Department

3.11.3.1 Maintain the list of employees who require respiratory protection,

3.11.3.2 Conduct and maintain medical evaluations,

3.11.3.3 Perform fit testing and clean/maintain fit testing equipment, and

3.11.3.4 Maintain fit testing records.

3.11.4 Learning and Development Services

3.11.4.1 Maintain training records.

3.11.5 Contractors

3.11.5.1 Develop respiratory protection program when employees will use respirators.

3.11.6 Supervisors

3.11.6.1 Know which tasks require respirators and ensure that they are used properly.

3.11.6.2

3.11.7 All Employees

3.11.7.1 Use the respirators in accordance with instructions and training provided,

3.11.7.2 Inspect respirators and perform a user seal check prior to each use,

3.11.7.3 Properly dispose of or arrange for maintenance of defective respirators, and

3.11.7.4 Properly inspect and document monthly inspections of respirator equipment where required.

3.11.8 Standby Employee

3.11.8.1 Fulfill duties outlined in section 3.3.7.4.

3.11.9 Bottle Watch

3.11.9.1 Fulfill duties outlined in section 3.3.7.7.

4.0 DEFINITIONS

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

4.2 **Assigned protection factor (APF)** means 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.

4.3 **Atmosphere-supplying respirator** means 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.

4.4 **Cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

4.5 **Exposure Limits** means a company identified exposure limit for a substance derived from the MIOSHA Permissible Exposure Limit (PEL), American Conference of Governmental Hygienists (ACGIH) Threshold Limit Value (TLV), United Kingdom Health and Safety Executive (HSE) Workplace Exposure Limits (WELs), or other sources of exposure criteria developed for the purpose of protecting the health and safety of workers. Numerous regulatory agencies have also established OELs and components must use the most stringent of the two limits, the Marathon limit or the regulatory limit with jurisdiction at a particular location.

4.6 **Fit test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual

4.6.1 **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.

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

4.7 **IDLH** means Immediately Dangerous to Life and Health, set by NIOSH, 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.

4.8 **Occupational Exposure Limit (OEL)** – OELs include Marathon's internal OELs and MIOSHA's Permissible Exposure Limits (PELs). An OEL is typically an eight-hour time-weighted average. Below are the chemicals pertaining to this standard and their respective OELs:

Substance	MPC TWA OEL	MIOSHA TWA PEL	MPC Ceiling OEL	MIOSHA Ceiling PEL
Arsenic	0.01 mg/m^3	0.01 mg/m^3	N/A	N/A
Hexavalent Chromium	0.005 mg/m3	0.005 mg//m^3	N/A	N/A
Lead	0.05 mg/m3	0.05 mg/m^3	N/A	N/A
Manganese	0.2 mg/m^3	N/A	5 mg/m^3	5 mg/m^3

4.9 **Physician or other licensed health care professional (PLHCP)** means 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.

4.10 **Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

4.11 **Supplied-air respirator (SAR) or airline respirator** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

4.12 **Tight-fitting facepiece** means a respiratory inlet covering that forms a complete seal with the face.

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

5.0 REFERENCES

Safety Website

Respiratory Questionnaire (Form 1839)

NIOSH Respirator Selection Logic 2004

See RSW-SAF-010-DT Confined Space Entry

RSW-SAF-070-Form02-DT Breathing Air Compressor Checklist

RSW-SAF-070-Form04-DT Fresh Air/Mitigation List - Complex 1

RSW-SAF-070-Form05-DT Fresh Air/Mitigation List - Complex 2

RSW-SAF-070-Form06-DT Fresh Air/Mitigation List - Complex 3

RSW-SAF-070-Form07-DT Fresh Air/Mitigation List - Complex 4

RSW-SAF-070-Form08-DT Fresh Air/Mitigation List - Complex 5

RSW-SAF-070-Form09-DT Fresh Air/Mitigation List - Complex 6

HLT-2025-DN Employee Health Monitoring Examination Protocols Standard

American National Standards Institute (ANSI) Z88.2-1992, Practices for Respiratory Protection MIOSHA Part 451 Respiratory Protection

MIOSHA Part 470 Employee Medical Records and Trade Secrets

6.0 Appendices

6.1 Appendix A: List of Job Categories/Job Tasks Which Require Respiratory Protection
6.2 Appendix B: Standard Operating Procedures for the Use of the 3M 5000 Series & 6000 Series Respirators
6.3 Appendix C: Standard Operating Procedures (SOPs) for the Use of the Panther Hip-Pac™ Supplied-Air Respirator
6.4 Appendix D: MPC Fit-Testing Procedures

7.0 REVISION HISTORY

Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
31	Removed highlighter from section 3.4.7.10	F. Ebbert	J. Rabideau	04/15/16	04/15/16
32	Added Sections 3.5.11.2.3, 3.5.11.2.4, 3.5.11.2.5, and 3.5.11.2.6. Test 25% of MPC breathing air cylinders on site. Added Respirator Poster Link to Appendix A	J. Taggart	J. Rabideau	08/06/16	08/06/16
33	Corrected typo in the half-mask section for SO2	J. Taggart	J. Rabideau	09/30/16	09/30/16
34	Added language for full face APRs	J. Taggart/E. Neubauer	J. Rabideau	03/09/18	03/13/18
35	5-year review, minor changes, removed Covered Jobs Categories as a hyperlink, added MSA G1 as ERT SCBA	J. Taggart	A. Morales	06/21/20	6/21/20

APPENDIX A

LIST OF JOB TASKS WHICH REQUIRE RESPIRATORY PROTECTION

SCBA or fresh air (air line) respirators Sperian Cougar Manual

- Entry into areas or work in areas where benzene levels exceed or may exceed 10 ppm
- Entry into areas or work in areas where H_2S levels exceed or may exceed 10 ppm
- Entry into areas or work in areas where carbon monoxide levels exceed or may exceed 25 ppm
- Entry into areas or work in areas where oxygen levels are or may be 19.5 percent or less, including inert confined space entries and restricted areas around nitrogen venting
- Entry into areas or work in areas where SO2 levels exceed or may exceed 20 ppm
- Opening or closing flanges and fittings on flare line systems
- Entry into IDLH atmospheres
- Any task listed on the “Fresh Air/Mitigation Lists”
  - RSW-SAF-070-Form04-DT Fresh Air/Mitigation List - Complex 1
  - RSW-SAF-070-Form05-DT Fresh Air/Mitigation List - Complex 2
  - RSW-SAF-070-Form06-DT Fresh Air/Mitigation List - Complex 3
  - RSW-SAF-070-Form07-DT Fresh Air/Mitigation List - Complex 4
  - RSW-SAF-070-Form08-DT Fresh Air/Mitigation List - Complex 5
  - RSW-SAF-070-Form09-DT Fresh Air/Mitigation List - Complex 6

Half face air purifying respirators with organic vapor/acid gas cartridges

- Entry into areas or work in areas where benzene levels exceed or may exceed 0.5 ppm but are less than 10 ppm
- Entry into areas or work in areas where SO_2 levels exceed or may exceed 0.5 ppm but are less than 20 ppm

Half face air purifying respirators with HEPA (P100) filters

- Removing and replacing used abrasive from abrasive blasting cabinets
- Stick welding with 7018 or 6010 rods in a confined space unless local exhaust ventilation is used. Dilution ventilation such as reaction fans or coppus blowers are NOT considered local exhaust ventilation.

Half face air purifying respirators with combination organic vapor/acid gas cartridges and HEPA (P100) filters

- None identified
- Welding or Grinding on Galvanized Steel

Note: Other tasks not identified on this list may require the use of a respirator. Please contact the Safety Department for guidance.

- Respirator Poster

APPENDIX B

STANDARD OPERATING PROCEDURES FOR THE USE OF THE 3M 5000 SERIES & 6000 SERIES RESPIRATORS

3M 5000 Series respirators are manufactured as pre-assembled integral assemblies. 3M 6000 Series respirators are packaged with a pre-assembled face piece and a pair of P100 filters. The chemical cartridges and filters are not replaceable. Do not use if the cartridges or filters have been removed.

User instructions are available in the respirator bag or at the following links:

3M 5000 Series

3M 6000 Series

Cartridges and filters in air-purifying respirators must be disposed of at the end of each shift or sooner based on the schedule below. The schedule is based on objective data using the software developed by the respirator's manufacturer. The table below indicates the estimated service life of chemical cartridges but it only indicates the conservative nature of the requirement.

Contaminant and average full-shift concentration	**Relative humidity**	**Work rate**	**Average temperature**	**Breakthrough level**	**Estimated service life**
Benzene, 3 ppm	Under 65%	Light	50 F	0.5 ppm	673 hours
Benzene, 3 ppm	Under 65%	Medium	50 F	0.5 ppm	336 hours
Benzene, 3 ppm	Under 65%	Heavy	50 F	0.5 ppm	224 hours
Benzene, 3 ppm	75%	Light	50 F	0.5 ppm	112 hours
Benzene, 3 ppm	75%	Medium	50 F	0.5 ppm	56 hours
Benzene, 3 ppm	75%	Heavy	50 F	0.5 ppm	37 hours
Sulfur dioxide, 5 ppm	50%	Light	50 F	1 ppm	897 hours
Sulfur dioxide, 5 ppm	50%	Medium	50 F	1 ppm	448 hours
Sulfur dioxide, 5 ppm	50%	Heavy	50 F	1 ppm	229 hours
Benzene at 3 ppm and sulfur dioxide at 5 ppm	50%	Light	50 F	0.5 ppm for benzene, 1 ppm for SO2	Same as benzene alone
Benzene at 3 ppm and sulfur dioxide at 5 ppm	50%	Medium	50 F	0.5 ppm for benzene, 1 ppm for SO2	Same as benzene alone
Contaminant and average full-shift concentration	**Relative humidity**	**Work rate**	**Average temperature**	**Breakthrough level**	**Estimated service life**
Benzene at 3 ppm and sulfur dioxide at 5 ppm	50%	Heavy	50 F	0.5 ppm for benzene, 1 ppm for SO2	Same as benzene alone
Benzene, 10 ppm	75%	Light	50 F	0.5 ppm	44 hours
Benzene, 10 ppm	75%	Medium	50 F	0.5 ppm	22 hours
Benzene, 10 ppm	75%	Heavy	50 F	0.5 ppm	14 hours

INSTRUCTIONS FOR POSITIVE PRESSURE USER SEAL CHECKS

- Perform a positive pressure user seal check every time you put on the respirator. If you cannot achieve a proper fit, do not enter the contaminated area. See your supervisor.

- Do not use with beards or other facial hair or other conditions that prevent direct contact between the face and the face seal of the respirator.
- Place the palm of your hand over the exhalation valve cover and exhale gently. If the face piece bulges slightly and no air leaks are detected between your face and the face seal, a proper fit has been obtained. If face seal air leakage is detected, reposition the respirator on your face and/or readjust the tension of the elastic straps to eliminate the leakage. Repeat the above steps until you get a tight face seal. If you cannot achieve a proper fit, do not enter the contaminated area. See your supervisor.

APPENDIX C

STANDARD OPERATING PROCEDURES FOR THE USE OF THE PANTHER HIP-PAC SUPPLIED-AIR RESPIRATOR

Panther Hip Pac Reference Manual

	Pressure Setting
Pressure Regulator on Manifold Pressure Gauge	Between 80 and 120 psi
Safety Relief Valve	125 psi
Pressure at which to notify work crew and exit area	500 psi

Preparation for the use of supplied-air respirators:

1. The work crew will pick up supplied air equipment from the maintenance shops or Fire Equipment Building. Air bottles must have at least at 1500 psig (2400 psig is full). Fire Equipment Building Air Cart bottles must have at least 3000 psig (4500 psig is full). Air pressure in the escape cylinder for each unit must be full (2216 psig is full). All face pieces and harnesses should be inspected before leaving for the work site.
2. Determine an access route into the supplied air work zone and stage equipment approximately. Locate the air cart outside of the barricade tape and upwind of the work site, considering the greatest area that may be affected during the course of the planned work. The maximum length of hose that can be used is 300 feet with a maximum of three lengths of hose connected together.
3. Secure the work site area with appropriate barrier tape. The barrier must be far enough out so that respiratory protection is not required at the barrier. Anyone who crosses into the area must wear a supplied air respirator or SCBA except during initial set up if no release is suspected.
    - Designate one crew member as the emergency stand by person and one crew member as the bottle watch. The bottle watch should verify levels in the air cylinders before each entry begins. The air cart cylinders must have at least 1500 psi before the crew crosses the barrier, and the escape cylinders must be full (2216 psig). The bottle watch will:
        - Remain in the “cold” zone which will not require the use of respiratory protection
        - Verify levels in all air cylinders before work begins
        - Set the pressure regulator on the manifold pressure gauge to deliver between 80 and 120 psi to the user (for Marathon-owned set-ups). For tube trailers and breathing air compressors, set manifold and airline equipment to manufacturers’ recommendations
        - Check that the safety relief valve activates at 125 psi.
        - Notify the work crew when the pressure reaches 500 psi on the primary supply gauge
        - Use one cylinder at a time until pressure reaches 500 psi on the primary supply gauge. If no other bottles are available, the work crew must be pulled out of the area once manifold is under 500 psi. The low pressure alarm may cease to operate/activate below 200 psi.
        - Inform the work crew when switching from one bottle to another and when changing any of the connections to or from the manifold.
        - Watch for signs of regulator malfunction such as sudden changes in manifold or cylinder pressure, a build-up of frost on the valves or manifold, or the sound of air leaking
        - Establish a communication method with work crew (i.e radio) and have a backup plan to the primary method.
        - Limit air hose to 300 feet or 3 connections whichever is less from the point-of-attachment

- Alert entrants to changing conditions that may affect work personnel. If there is an emergency, alert personnel and have the workers exit the job.
- The bottle watch can be responsible for monitoring multiple fresh air systems (carts, 12 packs, tube trailers, etc.) as long as the fresh air systems are within a close proximity to perform the duties listed above.

5. When the work is complete, mark the PSI left in the air cart bottle. Return used/empty cylinders and used facepieces to the SCBA Equipment Building located outside Toronto Fire Equipment Building where the Safety department will pick them up for cleaning, inspection, and refilling cylinders. Report any damage or concerns to the Safety department immediately.

APPENDIX D

MPC FIT-TESTING PROCEDURES

MPC Employees receive a quantitative fit test before they are required to wear any type of respirator.

General

The test subject selects a respirator from a variety of sizes based on comfort. Mirrors are available to assist in evaluating the position of the respirator. Testing personnel remind the employees that comfort considerations include:

1. Position of the facepiece on the nose.
2. Position of the facepiece on the face and cheeks.
3. Room for safety glasses or goggles.

Employees evaluate the adequacy of the respirator's fit using the following criteria:

1. Chin properly placed.
2. Strap tension adequate rather than overly tight or loose.
3. Fit across nose bridge.
4. Facepiece adequately spans distance from nose to chin.
5. Tendency of facepeice to slip.
6. Self observation in mirror to evaluate fit and position.

Fit test records include the employee's name, employee number, model and size of facepiece worn during a successful fit test, fit factor, date, zero check results, max fit factor test results, and the examiner's signature.

Quantitative Fit Test

Employees will be instructed through each step. A Porta-Count fit testing machine will be used to conduct this test. The Porta-Count tester is calibrated annually by a certified facility. The test will take approximately 8 minutes for each style of respirator. Employees will undergo eight exercises during the test. If the Porta-Count machine displays a "failed test" message at any time during the test, the test will be restarted after facepeice adjustments have been performed.

Exercise 1
Normal Breathing – Stand normally and breathe normally without talking.

Exercise 2
Deep Breathing – Stand normally and breathe slowly and deeply without talking. Be careful not to breathe quickly so you don't become dizzy.

Exercise 3
Turning Head Side to Side – Stand in place and slowly turn your head from side to side as far as comfortable. Momentarily hold you head at each extreme and take a breath.

Exercise 4
Moving Head Up and Down – Stand in place and slowly tip your head up and down as far as comfortable. Momentarily hold you head at each extreme and take a breath.

Exercise 5
Talking – Stand normally and talk out loud slowly and loud enough to be heard by others. Read the Rainbow Passage.

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it.

When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."

Exercise 6
Grimace – Stand normally and grimace by smiling and frowning.

Exercise 7
Bending Over – Bend at the waist as if you were going to touch your toes.

Exercise 8
Normal Breathing – Stand normally and breathe normally without talking.

The test is successful when the employee achieves a minimum fit factor of 100 for air-purifying respirators and 500 for supplied-air respirators. Those who fail the fit test may attempt a second test in the same size. Those who fail a second fit test are instructed to try different size facepiece. Those who fail the test in all facepiece sizes are not permitted to wear that model of respirator.

3M has stated in a letter that is on file that "since similar size 3M 5000 and 6000 series facepieces are identical in all aspect of design, construction, and materials, it is our position that re-fit testing is not required under these circumstances". If a person passes a fit test on a similar size 3M 5000 **or** 6000 series respirator, it is appropriate for that person to wear either series respirator.