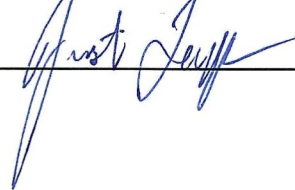


**Miami Operations
Respiratory Protection Program Review**

Miami Operations General Manager

Date: 4/25/2023 Signature 

Miami Operations Health and Safety Manager

Date: 4/25/23 Signature 

MIAMI OPERATIONS**Respiratory Protection Program****Revision Date: 3/22/2023****MIAMI OPERATIONS RESPIRATORY PROTECTION PROGRAM****I. INTRODUCTION**

This respiratory protection program applies to all Miami Operations employees. The primary means of preventing exposures at Miami Operations is through engineering and work practice controls. Respiratory protection will be used in work areas where all feasible engineering controls are not effective enough to reduce the potential for harm to an employee to inhalation hazards. This program outlines the required procedures for the use of respiratory protection. The purpose of this written program is to identify responsibilities, establish accountability and comply with 29 CFR 1910.134 and 30 CFR 56.5005.

II. GENERAL REQUIREMENTS

All Miami Operations employees required to wear respiratory protection must be given a medical evaluation, fitted for a respirator and be trained how to use the respirator properly prior to their assignment to work in an area requiring the use of a respirator. The medical evaluation is given to detect health problems that may be exacerbated by wearing a respirator. The medical evaluation procedures are contained in Appendix A. Fit testing is performed to ensure that the respirator provided to each employee, fits properly. This will prevent contaminants from bypassing the respirator due to a bad mask to face seal. The procedures for respiratory fit testing are contained in Appendix B. All personnel (Freeport and non-Freeport employees) are to be clean shaven in accordance with the Miami Operations clean shaven policy whenever they may be working in areas that require the use of a respirator. This includes all personal entering the smelter, acid plant, bedding plant, and blending plant areas

A. RESPONSIBILITIES

- The Industrial Hygienist is the program administrator. The program administrator is responsible for:
 - Making modifications to this written program as changes in workplace conditions occur and at a minimum on an annual basis
 - Assessing the effectiveness of respirator fit testing, respirator selection and respirator maintenance
 - Providing and updating information to the Industrial Hygiene Center to make sure that the appropriate forms of respiratory protection and cartridges are issued to employees
 - Ensuring that refresher training is provided for all employees at least on an annual basis
 - Ensure PLHCP is providing appropriate support to comply with OSHA/MSHA standards.
- Physician or Licensed Health Care Provider
 - Comply with OSHA/MSHA regulations for testing and record-keeping
 - Ensure designees are adequately trained to industry accepted consensus standards

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- Superintendents, Senior Supervisors, and Supervisors of each division are responsible for:
 - Ensuring that employees are wearing respiratory protection correctly when in areas that require respiratory protection or while carrying out tasks that require respiratory protection.
 - Ensuring that employees working in areas where a respirator is required to be worn, on their person, or readily available are clean shaven as per Appendix F.
 - Ensure that employees have received proper training on the use of escape devices required in their work area.
- Each Contract Administrator is responsible to:
 - Make contractors working under them aware of this policy
 - Comply with this policy or follow a Written respiratory Protection Program which meets or exceeds this policy
- Each employee is responsible for the following:
 - Ensuring that they wear respiratory protection only after they have been given clearance by a licensed health care provider and are fitted for that respirator
 - Ensuring that they wear only the respirator make and size for which they have been fitted. In addition they will wear and store their respirator(s) properly according to training received and manufacturer's recommendations
 - Receiving a respiratory fit test on a respirator prior to using it in a voluntary manner where none is required.
 - Complying with instructions from the PLHCP or designee during OSHA/MSHA mandated testing
 - Coming to work clean shaven in accordance with this policy.
 - Wearing respiratory protection correctly when in areas that require respiratory protection or while carrying out tasks that require respiratory protection.

MIAMI OPERATIONS**Respiratory Protection Program****Revision Date: 3/22/2023****III. SELECTION OF RESPIRATORY PROTECTION**

The Industrial Hygiene Center will issue respiratory protection to employees according to the information contained in Appendix C and task related standard operating procedures. A copy of appendix C will be posted at the Industrial Hygiene Center for attendants to use as a reference. A copy of Appendix C will also be provided to each physician performing medical evaluations required in this program. Employees shall only use a respirator of model and size for which they have been fit tested. If an employee loses their respirator fit card or forgets what size and make of respirator they were fitted for, they are to contact the Health Center to get the information needed prior to obtaining a respirator.

Appendix C contains descriptions of work areas at Miami Operations for which respiratory protection has been evaluated and is required at Miami Operations. Employees working in regulated areas who are not able to wear a negative pressure respirator due to personal medical conditions are provided powered air purifying units upon approval from the Physician or Licensed Health Care Professional (PLHCP). Powered air purifying units are also used in areas requiring additional levels of protection.

IV. TRAINING

MSHA/OSHA training for all newly hired Miami Operations employees contains respiratory protection training. Annual refresher training given each year to all employees also contains a section on respiratory protection training. Employees will be trained how to wear their respirator properly at the time of their fit test. At any time when air quality evaluations indicate that respiratory protection is required in an area or for a task, employees will be provided respiratory protection training prior to the use of respiratory protection in that area. The training will review at a minimum the following topics:

1. Medical Clearance (from Health Center)
2. Fit Test (Quantitative and wear the size fitted for)
3. Which area of the face facial hair is not permitted
4. Positive and Negative Pressure Test prior to each use
5. Inspection prior to each use of Face piece and purpose
6. Storage of respirators
7. Cartridge Selection
8. Respirator Cleaning procedures
9. Limitations of use
10. Change out schedule
11. Limitations of respiratory protection
12. Emergency Situations for specific area
13. Signs and symptoms of cardiovascular abnormalities
14. Overview of MSHA and OSHA standards

Retraining of employees will take place when changes in the workplace render previous training obsolete or if an employee demonstrates through their behaviors that they have not retained the knowledge presented to them in previous training. At the end of each training session employees will be questioned at least in a group setting to verify their understanding of the information presented. Any misunderstandings or points that were unclear will be repeated at that time.

MIAMI OPERATIONS**Respiratory Protection Program****Revision Date: 3/22/2023****V. USE OF RESPIRATORY PROTECTION****A. ROUTINE USE**

Work areas that have been evaluated for air quality and found to require respiratory protection are listed in Appendix C. The listed respiratory protection is the minimum, with some specific areas within those listed in Appendix C requiring higher levels of respiratory protection. Refer to task SOP for additional task specific requirements. Only NIOSH certified respirators and cartridges are used at Miami Operations. Cartridges used for particulate matter other than nuisance dust will be only of the P-100 designation or better. The make of respirators approved for routine use are listed in appendix G, Approved Respiratory Protection Devices.

B. NON ROUTINE USE

Areas and tasks requiring protection factors higher than 10, are also identified in Appendix C. A Powered Air Purifying Respirator (PAPR) or supplied air Respirator must be used in these cases. Approved PAPR and Supplied Air Respirators are found in Appendix G.

A powered air-purifying respirator (PAPR) may also be provided for routine use if the PLHCP's medical evaluation finds that the employee cannot use an air-purifying respirator (APR) but can use a PAPR. Supplied air sources are used for specific tasks contained in Appendix C. Sources of supplied air will be monitored for carbon monoxide. These monitors are calibrated prior to each use and the effectiveness of the audible alarms is verified. Copies of calibration records for these systems are maintained by the Industrial Hygiene Center staff.

C. EMERGENCY AND IDLH USE

Fire Fighting is contracted to Tri City Fire Department. Other emergency use of respiratory protection is provided to Miami Operations First Responders and/or Security EMTs during their training sessions. SCBAs are inspected on a monthly basis. All SCBA cylinders are inspected and are maintained according to DOT specifications. Only trained personnel are allowed to use SCBAs during emergency events.

Escape respirators may be used in areas where there is a potential hazard of an airborne contaminant that will prevent a person from escaping in an emergency. A risk assessment will be done to determine the type of escape device; either air purifying or supplied air. These devices are for ESCAPE ONLY, and may not be used for any other task then leaving the area immediately in an emergency. All personal working in an area where an escape device has been determined to be needed shall be provided training on its use. Approved air purifying escape respirators and Escape Breathing Apparatuses (EscBA) are found in appendix G. All EscBAs shall be inspected monthly at a minimum, and shall be checked during equipment pre shift inspections or work place inspections where they are placed.

Training for entry into IDLH atmospheres is provided for First Responders. This training contains the procedures for maintaining communication, the use of the buddy system and other site specific information. The minimum service life of 30 minutes is required for all SCBAs used at Miami Operations for emergency use. All SCBAs used are NIOSH certified. Maintenance or replacement work performed on SCBA units is completed using replacement parts certified by NIOSH. The maintenance or repair of valves and regulators is completed only by personnel trained by the manufacturer to perform such work. Emergency respirators are stored in compartments or in covers that are clearly marked as emergency respirators and are accessible only by trained personnel. Documentation of inspection of the SCBAs is stored at the SCBA storage location.

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Any time a reasonable estimate of concentrations of air contaminants cannot be determined, supplied air respiratory protection will be used in the area or for the task identified.

Appendix E identifies both areas where respirators are required to be “on the person” but not necessarily donned and where respirators are required to be readily accessible. In both cases, the respirator will have P100 and acid gas protection. These areas are designated to ensure that employees have respiratory protection available to them in the event of upset conditions. This does not permit employees to enter areas listed in Appendix C without donning respiratory protection.

Site visitors may be given an escape respirator with appropriate training when going in areas that require a respirator to be on their person or readily available. Business functions such as bid walks, vendor visits, or other similar visitors require a current valid fit test and minimum fitted respiratory protection.

VIII. RESPIRATOR MAINTENANCE, CLEANING & DISINFECTING

The procedures for the maintenance, cleaning and disinfecting of respirators are contained in appendix D of this program. No employee will be allowed to use the respirator of another employee without the respirator being cleaned and disinfected as described in Appendix D. If damaged or heavily contaminated, respirators are required to be taken to the Industrial Hygiene Center for maintenance, cleaning, and disinfecting.

Employees working in areas where they are allowed to keep their respirator for more than one shift are to clean their respirator with disposable wipes provided for them in their work area.

IX. VOLUNTARY USE

Employees are permitted to use respirators on a voluntary basis, including but not limited to half mask, full face, or PAPR when a determination has been made that the respirator will not in itself create a hazard and that the contaminant of concern poses no health risk and is considered a “nuisance dust”.

X. RECORD KEEPING

A written copy of the current respirator program will be maintained by the Health and Safety Department. Medical evaluation records are kept in each employee’s file at the Health Center. Fit Test records are also maintained in each employee’s medical file at the Health Center. Emergency respiratory use medical evaluations are also maintained in the employee’s files. Copies of SCBA inspections are maintained at the site of storage.

APPENDIX A**MEDICAL EVALUATION FOR RESPIRATOR USE**

Prior to using a fitted respirator all employees will be evaluated by a Physician or Licensed Health Care Professional (PLHCP). As part of the evaluation process each employee will fill out the questionnaire in this Appendix. The questionnaire will be reviewed by the physician as part of the evaluation process. Follow up medical evaluations will be conducted for employees having positive responses to any of the items contained in the questionnaire. The questionnaire will be administered confidentially between the licensed health care professional and the employee. Each employee will be given an opportunity to discuss the questionnaire and examination results with the PLHCP.

The Health Center staff will provide the PLHCP the following:

- The type and weight of the respirator to be used by employee
- The duration and frequency of respirator use
- The expected physical work effort
- Additional protective clothing and equipment to be worn
- Temperature and humidity expected in work areas
- A written copy of this program

A written recommendation regarding employee's ability to use a respirator which has been obtained from the PLHCP will contain the following:

- Whether an employee is medically able to use a respirator
- Any limitations on respirator use related to medical or workplace conditions
- The need for follow-up (if required) and a statement that the PLHCP has provided the employee with a copy of written recommendation

Additional medical evaluations will be provided for the employees when:

- An employee reports medical signs or symptoms related to the ability to use a respirator
- A PLHCP, supervisor, or the program administrator informs employer that employee needs to be reevaluated
- Information from observations during fit-testing and/or program evaluation indicate need
- A change occurs in workplace conditions that may result in increased physiological burden

MIAMI OPERATIONS**Respiratory Protection Program****Revision Date: 3/22/2023****APPENDIX B****FIT TESTING PROCEDURES****I. TRAINING**

Employees will receive training at the time of the fit test to include:

- Proper chin placement
- Proper strap tension
- Proper fit across nose bridge span distance from nose to chin
- The slipping tendency of respirators
- Self-observation using a mirror
- The proper seal check using a positive and negative pressure test
- Shown how to put on, position and set strap tension of respirator and how to determine acceptable fit.

II. SELECTION OF MASK

The mirror at the Health Center is available to assist employee in evaluating fit and for positioning. Employees will be informed that they should select the respirator that provides the most acceptable fit. Employees will be instructed to hold chosen face pieces up to the face and eliminate those that are obviously a poor fit.

III. FIT TESTING PROCEDURES

The Porta-Count fit test device is used for fit testing at FCX. The Porta-Count fit tester is a Quantitative Negative Pressure device. This instrument is operated and maintained according to the manufactures specifications. The employee will be given five minutes to wear the respirator during which a short description of the fit test exercises will be communicated. The exercises below are performed during a fit test with the Porta-Count. The employee will be instructed to stand during each test and breathe normally during each test segment unless otherwise stated.

1. Normal breathing
2. Deep breathing
3. Turning head side to side
4. Moving head up and down
5. Talking
6. Grimace
7. Bending Over
8. Normal breathing

If employee exhibits difficulty in breathing during the test, the employee will be referred to a PLHCP. A fit test will be deemed a failure if the fit factor is below 100 for a half mask APR or below 500 for a full face mask. Fit-testing of tight-fitting ASR or tight-fitting PAPR is performed in a negative pressure mode.

Employees passing a fit test will be given a card and/or hard hat decal indicating the make, size and date of their successful fit test. Each test exercise will be performed for one minute except for the grimace which shall be performed for 15 seconds. Each employee will be asked about the comfort of the respirator upon completion of testing. Records of the fit test will be printed and entered into the employees file at the Health Center and maintained at least for the duration of their employment.

IV. PORTA-COUNT MAINTENANCE

The Porta-Count fit tester will be kept clean and serviced according to the manufacturer's recommendations. The Porta-Count will be serviced immediately if determined to be not functioning properly.

REFITTING OF RESPIRATORS

Fit-tests will be conducted at least annually for all employees wearing respiratory protection. Employees will be instructed at the time of their fit test to contact the health center to be re-fitted if they gain or lose 20 pounds, undergo cosmetic surgery, sustain a severe laceration to the face where the sealing surface of the respirator contacts the face, loose teeth or get dentures. In addition if an employee believes his/her respirator type isn't fitting correctly they may request to have another fit test performed.

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APPENDIX C
RESPIRATORY PROTECTION REQUIRED FOR SPECIFIC AREAS

| Area | Hazard | Minimum Type of Respirator | Cartridge Required |
|--|---|--|--|
| Refinery Slimes Area | Dusts containing lead, arsenic, and/or cadmium | Suspended until Miami Operations Refinery resumes operations | P-100 |
| Demarcated "Regulated Areas" | Dusts containing lead, arsenic, and/or cadmium | Half Mask | P-100 |
| Demarcated "Regulated Areas" in Smelter Building | Sulfur Dioxide, Dusts containing lead, arsenic, and/or cadmium, copper fume | Half Mask | Acid Gas/P-100 Combination |
| Electrostatic Precipitators | Sulfur Dioxide Dusts containing lead, arsenic, and/or cadmium copper fume | PAPR or Supplied Air Respirator (airline) | Acid Gas/P-100 Combination |
| Acid Plant Solar Pad | Sulfur Dioxide Dusts containing lead, arsenic, and/or cadmium Mercury | Half Mask | Acid Gas/P-100/Mercury Vapor Cartridge |
| Anode Plant Refiner Platform | Sulfur Dioxide, Dusts containing lead, arsenic, and/or cadmium | Half Mask | Acid Gas/P-100 Combination |

APPENDIX D

MAINTENANCE, CLEANING, AND DISINFECTION PROCEDURES

I. SMELTER RESPIRATORS

Employees shall replace a respirator with a new one if their current one has become damaged. If the cartridges are in working condition they should be removed and replaced on the new respirator. Other than their initial request for a respirator, employees requesting another respirator will be required to exchange their used one for a new one.

II. EMERGENCY USE RESPIRATORS

Emergency respirators are cleaned and disinfected after each use by the First Responder using the SCBA.

III. OTHER

Respirators provided to employees other than smelter employees are cleaned and disinfected on a schedule determined by their department. Respirators issued for the exclusive use of an employee are to be cleaned and disinfected as often as necessary to be maintained in a sanitary condition. All respirators returned to the Industrial Hygiene Center are considered “multiple use” respirators and are inspected, maintained, cleaned and disinfected prior to being reissued according to the procedures in section IV of this appendix.

IV. CLEANING PROCEDURES

All cartridges are removed by employees dropping off respirators for cleaning. The cartridges are disposed of.

All parts are submerged in water to mitigate exposure to airborne dusts, and then respirator straps and yokes are removed and bagged together. All parts are then submerged in an ultrasonic bath for at minimum 30 minute cycle with detergents at the manufacturer recommended concentrations. Parts are rinsed and then submerged in a disinfecting agent soak for the manufacturer recommended time not less than ten minutes. After disinfection, the respirator is then rinsed and dried in a desiccation cabinet. The respirator then goes through a final inspection and wipe down.

Inspection and wipe down. The respirators are then taken to a clean work area and disassembled. Hoses and full-face face pieces are hung in a desiccation cabinet and allowed to dry. All disassembled pieces are then individually inspected and hand wiped using isopropyl alcohol. Each face piece is examined for wear, punctures, tears or other faults. Faulty face pieces are discarded. An examination of all parts including but not limited to hoses, gaskets, valves, straps, lenses, valve seats and clamps is conducted. Faulty components are discarded. Face pieces are then reassembled and placed into a sealed clean plastic bag with two new P-100, OV, Acid gas combination cartridges. The respirator is then placed into a bin for distribution to employees. Employees perform positive and negative pressure tests each time a respirator is donned to detect the presence of cracks or breaks in seals that may not have been detected in the cleaning, and maintenance process.

APPENDIX E

Respiratory Protection Access

Areas where respirator is required to be on person:

- **Acid Plant**
- **Emergency Pond**
- **Smelter Building including ISA Courtyard *excluding offices, lunchrooms, or bathrooms***
- **Walkways along gas handling ductwork**

Map #1



*- Respirator not required for pedestrian traffic to/from smelter lower parking lot, or for normal vehicle traffic on the main roadway north of the acid plant and through the slag hauler crossing.

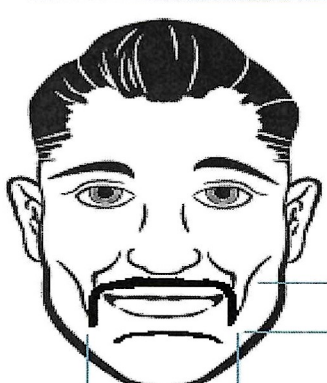
APPENDIX F

SHAVING POLICY

The Miami Operations Respiratory Protection Program (RPP) describes the requirements for safe use of respirators at all Miami Operations locations. This memo supplements that program with a clarified definition of the term "clean-shaven". This supplement takes effect at all Smelter locations immediately, and will remain effective until a revision is made.

All employees are to be clean-shaven whenever they are in areas that require a respirator be worn, on their person, or readily accessible. This is defined as a moustache that is less than the inner width of the sealing surface of the respirator mask, and does not extend below the level of the chin line. No facial hair is allowed on the lower lip or chin. Refer to the following diagram:

Shaving Policy






**for Smelter & Acid Plant areas
YOU MUST BE CLEAN SHAVEN**

*Moustache may not extend
below the level of the chin line*

*No hair is allowed
on lower lip or chin*

*Width must be less than the inner width of
the sealing surface of the respirator mask*

Below are UNACCEPTABLE



MIAMI OPERATIONS**Respiratory Protection Program****Revision Date: 3/22/2023****Appendix G****Approved Respiratory Protection**

The following respiratory protection devices are approved for use at all Miami operations in areas where respiratory protection is required:

Escape Only Air Purifying Respirators

- Honeywell 7900

Escape Self Contained Breathing Apparatuses (ESCBAs)

- MSA Custom Air V
- Scott ELSA
- Sperian/Honeywell EBA

Half Mask Air Purifying respirators

- MSA Comfo Classic
- MSA Advantage 420
- 3M 7500 Series
- 3M 6500 Series
- North 7700 Series

Full Face Air Purifying Respirators

- MSA Ultra-TWIN
- MSA Ultra-VUE
- MSA Duo-TWIN
- 3M 6000 Series
- 3M 7800 Series

Powered Air Purifying Respirator

- 3M AdFlo
- 3M VersaFlo

Supplied Air Systems

- 3m Portable Compressed Air Filter and Regulator Panel with approved tight fitting facepiece or loose fitting facepiece or helmet

Self-Contained Breathing Apparatus

- See Rope Rescue Team documentation.