I. POLICY/SCOPE

It is the policy of the Quinnesec Mill to protect individuals from exposure to harmful concentrations of toxic air contaminants and/or oxygen deficient atmosphere. The Respiratory Protection Policy addresses proper use of respirators when other means of providing a safe atmosphere are not feasible or while they are being instituted. This policy is applicable to all individuals at the Quinnesec Mill (i.e., mill members, contractors, vendors, visitors).

II. INTENT/PURPOSE

It is the intent of the Respiratory Policy to establish guidelines for selection, use, and maintenance of respiratory equipment to:

A. Protect individuals from exposure to toxic chemical agents.

B. Allow individuals to work safely in hazardous work atmospheres.

C. Provide protection for individuals in the event evacuation from a hazardous environment is required.

III. DEFINITIONS

Approved Respirator - The mill will select and provide NIOSH-certified respirators.

Chemical Cartridge (Air-Purifying) - A small container with a filter, sorbent, catalyst, or any combination thereof, which removes specific contaminants from the air drawn through it.

Contaminant - A harmful, irritating or nuisance material that is foreign to the normal atmosphere.

Escape Respirator - A respirator whose purpose is to assist an individual in evacuating a contaminated environment in an emergency situation.

Filter - A media component used in respirators to remove solid or liquid particles from the inspired air.

Hazardous Atmosphere - Any atmosphere which is oxygen deficient or which contains a toxic or disease-producing contaminant exceeding the legally established permissible exposure limit (PEL).

Immediately Dangerous to Life or Health - The maximum concentration from which one could escape within 30 minutes without any escape-impairing symptoms or irreversible health effects.

Safety Data Sheet (SDS) - A data sheet providing descriptive data for safe handling and use of hazardous materials.

Oxygen Deficient - An atmosphere having an oxygen concentration below the minimum legal requirement. **(Less than 19.5% by volume)**

Particulate Matter -A suspension of fine solid or liquid particles in air such as: dust, fog, fume, mist, smoke, or spray. Particulate matter suspended in air is commonly known as aerosol.

Permissible Exposure Limit (PEL) - The allowable average airborne exposure in any 8 hour work shift of a 40 hour work week which shall not be exceeded. This value is adjusted if work shift is longer than 8 hours.

Positive-Pressure Respirator - A respirator in which the air pressure inside the respiratory-inlet covering is positive in relation to the air pressure of the outside atmosphere during exhalation and inhalation.

Respirator - A device designed to protect the wearer from the inhalation of harmful atmospheres.

Toxicity - The property of a material that makes it capable of causing damage to living tissue; impairment of the central nervous system; severe illness or, in extreme cases, death when ingested, inhaled, or absorbed by the skin.

IV. PROCEDURES/PRACTICES

A. Respirator Selection

The attachments to this policy can be used to help select respiratory protection. Attachment I lists general respiratory requirements for different types of hazards. Attachment II lists specific hazards and respiratory protection available for use. Attachment III applies specifically to welding fumes. If there are questions regarding

appropriate respiratory protection, consult the specific chemical's safety data sheet (SDS), or contact Health & Safety.

1. Before selecting a respirator the user shall:

   a. Know the name for the chemicals in question. Be familiar with the chemical and physical properties, toxicity, concentration, permissible exposure limit, and other properties of the chemical (ask the supplier/consult SDS).

   b. Consider the area in which the respirator is to be used.

   c. Take into account the period of time that a respirator must be worn.

   d. Consider worker activities and locations within a hazardous area (i.e., is the worker in a hazardous area continuously or intermittently, and whether the work load is light, medium, or heavy).

   e. Consider the physical characteristics, functional capabilities, and performance limitations of various types of respirators.

2. Air-purifying devices are the most commonly used respirators. There are four types used at the Quinnesec Mill. **NOTE: Air-purifying devices shall <u>NOT</u> be used in atmospheres deficient in oxygen (less than 19.5 percent by volume):**

   a. The first type is the mechanical filter respirator. This respirator has a fibrous pad that removes particulates. It is used for dusts, although certain models can be used for mists and fumes.

   b. The second air-purifying device involves a chemical cartridge that absorbs the contaminant. These respirators are used for low concentrations (as specified on the cartridge) of gases, mists, and particulates. These respirators come as a single or dual cartridge half-facepiece model or a single or dual cartridge full-facepiece model. A single cartridge mouthpiece model is also available (note: this model is for escape only). The choice of model depends upon the length of exposure, service life of the cartridge, and whether or not eye protection is required. The chemical cartridge respirator cannot be used for all chemicals.

   c. The third air-purifying device is a combination of the mechanical filter and chemical cartridge. It is used mainly in painting operations where an organic vapor and particulate are present.

d. The fourth type of air purifying respirator is the Positive Air Purifying Respirator (PAPR). The PAPR pumps air through a filter and up a hose to a helmet or hood. The hose ends inside the top of the helmet or hood and directs clean, filtered air down over the user's face which also provided a cooling effect.

3. There are two types of Atmosphere Supplied Respirators used at the Quinnesec mill: 1) airline respirators, and 2) self-contained breathing apparatus (SCBA). These two types are primarily used for routine and non-routine operational procedures. They can also be used in emergency situations.

B. Medical Evaluations and Fit-Testing

1. All respirator users will be medically evaluated with the MIOSHA required questionnaire, physical assessment and pulmonary function testing and cleared for respirator use by the physician or other licensed healthcare professional (PLHCP) prior to using a respirator.

2. Annual medical clearance will be completed by every respirator user by completing the same MIOSHA required questionnaire which will be then reviewed and signed by the PLHCP.

3. Fit-testing will be conducted annually for respirators that utilize a face or neck seal for proper performance.

2. Members must be clean shaven before being fit-tested for any respirator that utilizes a face seal.

3. Fit-testing must be repeated whenever make, model, or size of respirator is changed. Any time a respirator user's face changes (i.e., scarring, broken nose, etc.), a new fit-test will also be required. To ensure proper respiratory protection, nothing can interfere with the sealing area of any respirator utilizing a face-seal or a neck seal. (Examples: facial hair, scarring, etc.).

4. To assure proper protection, the facepiece fit shall be checked by the wearer each time he/she puts on the respirator. This may be done by following the manufacturer's facepiece-fitting instructions.

5. Face dimensions and facepiece sizes: the wide range of face dimensions requires more than a single size of respirator facepiece to provide a proper fit to all

respirator users. Therefore, respirator facepieces of more than one size will be available to ensure the ability to properly fit all respirator users.

6. Employee acceptance of a particular respirator model shall be considered in selecting a respirator since this may determine whether or not he/she wears the respirator properly.

7. The mill will consider and properly address concerns associated with respirator users who also wear glasses. A proper seal cannot be established if the temple bars of eyeglasses extend through the sealing edge of the full facepiece. Systems have been developed for mounting corrective lenses (i.e. spec kits) inside full facepieces. When a member must wear corrective lenses as part of the facepiece; the facepiece and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gas-tight seal. Wearing of contact lenses with a full-face respirator is acceptable.

C. Training Program

1. Members will be trained in the proper selection, use and care of respirators. Members will also be trained as to what resources are available to assist them in proper selection of respiratory protection.

2. Members shall receive demonstrations and practice in wearing, adjusting, and determining the fit of the respirator. Training of members will include:

   a) Discussion of the different means of controlling hazardous atmospheres currently used and why respirators are needed.

   b) Explanation of the nature of the respiratory hazard and what happens if the respirator is not used properly.

   c) Explanation of why particular types of respirators have been selected and how to use them properly.

   d) Assessment of hazards and determining appropriate respiratory protection.

3. Training of person issuing respirators: The member assigned the task of issuing respirators will be given adequate training to assure fit-testing has occurred.

4. Supervisor training: Supervisors who oversee the activities of members who wear respirators will have knowledge of the following:

a) Member training.

b) Basic respiratory protection practices.

c) Selection and use of respirators to protect each member against every respiratory hazard to which the member may be exposed.

d) The nature and extent of the respiratory hazards to which the workers may be exposed.

D. Use of Respirators

1. Only respirators that provide an independent, respirable atmosphere shall be used in an oxygen deficient atmosphere.

2. Each respirator permanently assigned to an individual should be durably marked to indicate to whom it was assigned. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.

3. A member shall use the equipment in accordance with manufacturer instructions within the requirements of MiOSHA Part 451. Members shall report or repair any malfunctioning equipment, and shall guard the equipment against damage. Members should only use respiratory equipment that they have been trained in and are qualified to use. Members must receive medical surveillance and be fit tested prior to respirator use.

4. Prior to using respiratory equipment, members should inspect their respiratory equipment to ensure it is in proper working condition. Members also need to perform a positive and negative pressure check on their respirators before use.

5. When air-supplied respirators are required for entry into atmospheres immediately dangerous to life or health (IDLH), at least two standby persons shall be present in a safe area. One standby person shall have the proper equipment available to assist the respirator wearers in case of emergency. The second standby person will contact mill emergency response by a pre-designated means (telephone [ext. 3333] or radio [channel 1]), if necessary. Communications (visual, voice, signal-line, telephone, radio, or other suitable means) shall be maintained between the standby persons and the respirator wearers. Respirator wearers shall be equipped with safety harnesses and safety lines to permit them to be removed from the dangerous atmosphere to safe areas. Additionally, if an airline respirator is being used for entry into an IDLH atmosphere, a 5 minute escape bottle must be used.

6. Respirators stored in specific work areas around the mill (ex; Digester area, Bleach Plant elevator, R&U elevator, etc.) for emergency use should be quickly accessible at all times.

E. Maintenance and Care of Respirators

Equipment shall be properly maintained to retain its original effectiveness. The program for maintenance and care of respirators will include:

1. Breathing air used for self-contained breathing apparatus (SCBA) and airlines shall meet the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966.

2. Respirator inspection will include a check of the tightness of connections and the condition of the facepiece, headbands, and valves. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration.

3. Routinely used respirators will be cleaned and disinfected as frequently as necessary to ensure proper protection is provided. Each member should be briefed on the cleaning procedure. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

4. Replacement or repairs shall be performed only by trained persons with parts designed for the respirator. Replacement of used or damaged cartridges shall occur immediately after use. Unused cartridges shall be replaced semi-annually.

5. After inspection, cleaning, and repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.

6. Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. The inspection will ensure the regulator and warning devices function properly.

7. Single use disposable filtering face piece respirators (dust masks) shall be discarded after each day’s use.

F. Voluntary Use of Respirators.

When the use of a respirator is voluntary, Appendix D of the MiOSHA Respiratory Protection Standard (Part 451) applies. Voluntary use of a respirator is any time a worker uses a respirator when it’s not required under the MiOSHA standard or required by the

mill. When using a respirator under these circumstances, there are some important points you need to remember;

1. Read and follow all of the instructions provided by the manufacturer.
2. Make sure you select the proper respirator for the contaminant of concern.
3. Never wear your respirator into atmospheres it is not designed to protect against.
4. Keep track of your respirator so you do not inadvertently use someone else's.

V. RESPONSIBILITIES

A. Supervisor

The supervisor has the responsibility to ensure that the respiratory program is functioning properly in their department. This responsibility includes:

1. Understanding of respiratory hazards which may be present.

2. Ensuring each member in their crew who requires annual fit testing receives it.

3. Ensuring department members understand the proper selection and use of respiratory protection.

4. Ensuring that adequate training is provided.

5. Evaluating the program's effectiveness.

B. Health & Safety Department

1. Random inspections will be conducted by the Health & Safety Department to assure that respirators are properly selected, used, cleaned, and maintained.

2. Health & Safety is responsible for the proper selection and purchase of respiratory protection equipment.

3. Health & Safety will conduct the initial training program in conjunction with the shift manager.

4. Health & Safety is responsible for ensuring Plant Protection is trained to conduct inspections of respiratory protection equipment including escape respirator storage boxes.

5. Plant Protection will conduct training of members in the use of SCBA equipment as required by their job duties.

6. Health & Safety will train contractors in the Quinnesec Mill respiratory program requirements.

7. Health & Safety will ensure annual fit-testing for mill members is completed as required.

8. Health & Safety will determine respiratory hazards throughout the mill.

9. Health & Safety is responsible to administer the respirator program and will periodically evaluate its effectiveness.

C. Members

1. Each member shall schedule and receive their annual fit-test as required.

2. Each member shall be annually instructed on the procedures and proper use of respiratory protection equipment.

3. Each member is responsible for proper care and maintenance of their respirators as spelled out in of this document.

4. Each member shall effectively enforce compliance of the respiratory protection procedures. Team involvement is important.

5. Members shall consult with their supervisor, other team members, or the Health & Safety Department whenever there are questions regarding the respiratory protection procedures.

6. Assessment of hazards and determining appropriate respiratory protection.

D. Host/Hostess

It is the hosting member's responsibility to assure compliance to the mill Respiratory Protection Policy.

E. Materials

Purchasing will assure that all contractors bidding projects at the Quinnesec Mill are aware of our Respiratory Protection Policy.

ATTACHMENT I - GUIDE FOR SELECTING RESPIRATORS

HAZARD		RESPIRATORS (See Note)
1. Oxygen Deficiency		- Self-contained breathing apparatus. - Combination airline respirator with auxiliary self-contained air supply.
2. Gas and Vapor Contaminants		
a)	Immediately dangerous to life or health (IDLH)	- Self-contained breathing apparatus. - Combination airline respirator with auxiliary self-contained air supply.
b)	Not immediately dangerous to life or health	- Air-purifying, half-mask or full face respirator with the appropriate chemical cartridge.
3. Particulate Contaminants		
a)	Immediately dangerous to life or health (IDLH)	- Self-contained breathing apparatus. - Air-purifying, full-facepiece respirator with appropriate filter. - Combination airline respirator with auxiliary self-contained air supply.
b)	Not immediately dangerous to life or health	- Air-purifying or half-mask respirator with filter pad or cartridge.
4. Combination Gas, Vapor, and Particulate Contaminants		
a)	Immediately dangerous to life or health (IDLH)	- Self-contained breathing apparatus. - Combination airline respirator with auxiliary self-contained air supply.
b)	Not immediately dangerous to life or health	- Air-purifying or half-mask respirator with the appropriate chemical cartridge and appropriate filter.

ATTACHMENT II - GUIDELINE FOR GASES AND DUSTS

ACCEPTABLE RESPIRATORY PROTECTION

Manufacturer	MSA Comfo Classic **OR**	MSA Ultra Twin	3M 8210	3M 8246
Type	Half Mask	Full Face	Disposable	Disposable
Respirator Symbol No.	Small: 1112130 Medium: 79166059 Large: 79166061	Small: 1112138 Medium: 1112135 Large: 1112140	79166001	1112201
Cartridge	MSA #464046 GMC Chemical – Yellow Acid Gas/Org. Vapor	MSA #464033 GMD Chemical – Green Ammonia	Dust/Mist White Mask	Dust/Mist White Mask
Cartridge Symbol No.	79180019 N95/R95	79180103	N95	R95
HAZARD				
Ammonia		**Yes (1)**		
Chlorine	**Yes**			
Chlorine Dioxide	**Yes**			
Hydrogen Chloride	**Yes**			
Hydrogen Sulfide	**Yes- escape only**			
Methylamine		**Yes**		
Organic Vapors	**Yes**			
Pesticides				
Radon				
Sulfur Dioxide	**Yes**			
General Dusts	**(2)**	**(2)**	**Yes**	**Yes**
Metal Dust	**(2)**	**(2)**	**Yes**	**Yes**
Paint Dust **(3)**	**(2)**	**(2)**	**Yes**	**Yes**
Starch	**(2)**	**(2)**	**Yes**	**Yes**
Wood Dust	**(2)**	**(2)**	**Yes**	**Yes**

NOTES

(1) Eye protection must also be worn if the half face is used.

(2) A dust/mist prefilter can be used with these cartridges to provide dust/mist protection.

(3) The application is for dust only. Protection for paint fumes must be determined based on material used.

ATTACHMENT III - GUIDELINE FOR WELDING FUMES

ACCEPTABLE RESPIRATORY PROTECTION

MATERIAL	3M Filter Mask Part No. 8212 79166023 White Mask	3M Filter Mask Part No. 8233 79166087 White Mask	MSA Cartridge Part No. 815180 GMC-P100 79180070 Yellow/Red
Aluminum	**Yes**	**Yes**	**Yes**
Arsenic		**Yes**	**Yes**
Beryllium	**Yes**	**Yes**	**Yes**
Cadmium Oxide		**Yes**	**Yes**
Chromium (Welding on Stainless Steel)	**Yes**	**Yes**	**Yes**
Cobalt	**Yes**	**Yes**	**Yes**
Copper	**Yes**	**Yes**	**Yes**
Fluorides	**Yes**	**Yes**	**Yes**
Iron	**Yes**	**Yes**	**Yes**
Lead		**Yes**	**Yes**
Magnesium	**Yes**	**Yes**	**Yes**
Manganese	**Yes**	**Yes**	**Yes**
Molybdenum	**Yes**	**Yes**	**Yes**
Nickel (Stainless)		**Yes**	**Yes- Supplied Air or SCBA highly recommended**
Ozone			
Silver (Solder)	**Yes**	**Yes**	**Yes**
Tin	**Yes**	**Yes**	**Yes**
Titanium	**Yes**	**Yes**	**Yes**
Vanadium	**Yes**	**Yes**	**Yes**
Zinc (Galvanize)		**Yes**	**Yes**

NOTE: Use of a Positive Air Purifying Respirator (PAPR) is an acceptable alternate to provide cooling and comfort, when used with a chemical or mechanical cartridge appropriate for the hazard.