	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 1 of 6

## Purpose:

The Respiratory Protection Program has been established to protect the health of workers who wear respirators and assure compliance with state and federal law. Every worker who uses a negative pressure cartridge or canister respirator must be included in the program. Medical monitoring, training, fit testing, maintenance and quality assurance components are basic parts of this program.

Any operation that generates harmful airborne levels of dusts, fumes, sprays, mists, fogs, smokes, vapors, or gases or that may involve oxygen-deficient atmospheres requires the use of effective safety controls. This must be accomplished, as much as feasible, by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, or during emergency situations with high exposure appropriate respiratory protection must be used in accordance with Big Ox Energy - Riceville LLC requirements as prescribed by OSHA & ANSI Standard Practices for Respiratory Protection. Every worker who uses a negative pressure cartridge or canister respirator must be included in the program. Workers using other types of respirators may be required to comply with some program requirements. If required by the site owner, a site-specific written program containing specific work-site procedures where respirators are required to protect the health of the worker shall be implemented and updated.

Lightweight single use respirators may sometimes be worn in situations where respiratory protection is required, such as to control exposure to airborne particles. However, workers must be fit tested with the make and model of respirator they will wear, instructed in its use, and meet the other maintenance and quality assurance components requirements of this program. In addition employees must be medically cleared to wear a respirator.

## Scope


To ensure that the respiratory protection program is conducted in accordance with OSHA & ANSI, certain responsibilities are required of each employee. A respiratory program administrator shall be named by position or job title and this individual must be knowledgeable of the complexity of the program, able to conduct evaluations and have the proper training. An employee has the responsibility to use provided respiratory protection in accordance with this program. Employees must remain clean shaven where an issued respirator touches their face; this is to assure proper fit of the respirator under conditions of use. No hair must be between the seal and the skin.

Employees are also responsible for:

- Wearing the respirator in accordance with the instructions and training received.
- Maintaining and storing the respirator in good condition.
- Returning the respirator at the end of the required use for overhaul, cleaning, and disinfection.

Supervisors are responsible for:

- Identifying those employees who may need to use respiratory protection.
- Ensuring that their employees have been properly trained and fitted.
- Ensuring that their employees use the respirators as required.

	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 2 of 6

- Surveillance of the work area. Before the start of any project, as part of the Hazard Analysis, a careful determination shall be made as to present, or potential airborne hazards to which employees may be exposed.

The Safety Manager is responsible for:

- Knowledge and understanding of the complexity of the program, having the ability to conduct evaluations, and being properly trained.
- Providing respiratory equipment.
- Maintaining the equipment in good condition.
- Fitting employees with proper respirators and providing training for their use.
- Evaluating employee exposures and work conditions, including inspection of respirator use.
- Medical, respirators, and training are required to be provided free to the employee.

**Note: Users of lightweight single-use respirators are not required to be included in this program if they work in situations where overexposure to chemical substances is not going to occur and respirator misuse is not likely. These exposures are generally described as nuisance situations where the worker is more comfortable with some respiratory protection. Workers may also use lightweight single-use respirators to control exposure to a non-occupational condition such as an allergy without being included in the program**

## **ENGINEERING CONTROLS/WORK PRACTICES**

---

Engineering control is always the first choice in protection of the respiratory system. If engineering control is not feasible then personal protection from respirators is used.

Respiratory protection devices will be chosen after considering the following factors:

- Health of the worker and ability to wear a respirator
- Nature of the hazard, e.g. toxicity, chemical and physical properties
- Extent of the hazard (concentration) and time of exposure
- Work requirements and conditions
- Characteristics and limitations of available respirators


## **MEDICAL MONITORING**

---

Big Ox Energy - Riceville LLC will make medical evaluation employees available and pay for medical monitoring where applicable. In addition, it will be confidential, understandable, and the employee given chance to discuss results.

Big Ox Energy - Riceville LLC may contract with a local health care provider. Medical status for workers who use respirators shall be reviewed annually.

Persons must not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The Examining Physician responsible for the employee's

	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 3 of 6

care will determine what diagnostic method is necessary to determine whether medical conditions exist which would prohibit or limit respirator use. Pulmonary function tests, including forced vital capacity (FVC) and forced expiratory volume at one second (FEV1.0), and a medical questionnaire may be given to employees.

If an employee requests a respirator because of a belief that exposure to any material will exceed the action level for that chemical / dust, then the employee must meet all requirements of the program for asbestos.

## **MEDICAL CERTIFICATION**

---

Pertinent health factors, conditions on the job site, and the employee's health status will be considered by the Examining Physician. The Examining Physician will certify whether the employee is capable of wearing a respirator and describe any physical limitation

## **FIT TESTING**

---

Fit testing must be done internally before the respirator is used, annually, and whenever something happens which could affect the fit of a respirator such as when an employee's facial characteristics change or the respirator design changes. Employees with facial hair in the respirator area will not be issued respirators requiring a fit test because it cannot be determined that the respirator will fit under conditions of use. Therefore, things that can affect the seal must be prohibited and include facial hair that comes into contact with mask seal, glasses, etc. They shall check the seal each time the unit is put on. Fit testing shall include face-to-seal fit, wearing in normal air for a long familiarity period, and testing in a test atmosphere. Big Ox Energy - Riceville LLC will ensure employees pass qualitative fit test (QLFT) or quantitative fit test (QNFT) before initial use, if a different respirator is used, and annually.

## **MONITORING AIR CONTAMINANTS**

---

Air contaminant levels during routine operations will be monitored by Big Ox Energy - Riceville LLC before the type of respiratory protection is selected. Existing operations undergoing a change that might significantly alter the concentration of air contaminants should be evaluated by Big Ox Energy - Riceville LLC to determine if another method of protection is appropriate.

## **IDENTIFYING HAZARDS**


---

Big Ox Energy - Riceville LLC is required to identify hazards, select and provide respirators based on those hazards and factors affecting performance. Brands and models must be listed. Big Ox Energy - Riceville LLC is required to estimate exposures and contaminant information. If this is not done, then exposures must be addressed as immediately.

## **CATEGORIES OF RESPIRATORY HAZARD**

---

Oxygen deficient (IDLH) atmospheres require the use of an independent respirable atmosphere. For SARs and SCBA's air must be Grade D or better. Compressors if used must be located in a "clean" atmosphere, with in-line purification and tagged to indicate date or change out. Carbon monoxide monitors in place & set to alarm at 10 PPM or monitored frequently. Fittings are incompatible for non-respirable gases and containers. Employees who work in

	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 4 of 6

areas where "emergency use only" SCBA pressure-demand respirators are available shall be trained in SCBA use, but medical monitoring is not required.

Immediately dangerous conditions are defined as: Conditions that pose an immediate threat to life or health and/or conditions that pose an immediate threat of severe exposure to contaminants that are likely to have delayed adverse effect on health.

The Confined Space Entry Program must be followed (see confined space program). An attendant must be present in a safe location at the entrance to oxygen deficient or immediately dangerous areas in order to maintain communication and to provide proper rescue equipment in case of emergency.

## SELECTION OF RESPIRATORS

---

Once a respiratory hazard is identified, the Safety Manager or designated personnel will select the proper respiratory protection based on the nature of the hazard. Selection will be made in compliance of OSHA Respiratory Protection Standard. Only NIOSH/MSHA approved respirators will be assigned to personnel. Respirators will be selected based on the exposure hazard. Any choice of respirator will be based on American National Standard Practices for Respiratory Protection Z88.2.

## PARTICULATE RESPIRATOR PROTECTION


---

To select the correct respirator for protection against particulates, the following conditions must be known:

- The identity and concentration of the particulates in the workplace air
- The OSHA or MSHA permissible exposure limit (PEL), the NIOSH recommended exposure limit (REL), or other occupational exposure limit for the contaminant
- The hazard ratio (HR) (i.e., the airborne particulate concentration divided by the exposure limit)
- The APF for the class of respirator (the APF should be greater than the HR)
- The immediately dangerous to life or health (IDLH) concentration, including oxygen deficiency [NIOSH 1994]
- Any service life information available for combination cartridges or canisters

Multiplying the occupational exposure limit by the APF for a respirator gives the maximum workplace concentration in which that respirator can be used. For example, if the commonly accepted APF for a half-mask respirator is 10 and the PEL is 5 mg/m<sup>3</sup>, then 50 mg/m<sup>3</sup> is the highest workplace concentration in which a half-mask respirator can be used against that contaminant. If the workplace concentration is greater than 50 mg/m<sup>3</sup>, a more protective respirator (with a higher APF) should be used. In no case should an air-purifying respirator be used in IDLH concentrations. Our employees are prohibited from entering an area that contains or can potentially contain an IDLH atmosphere.

The Safety Manager shall provide appropriate surveillance, and ensure employees leave the area to wash, change cartridges, or if they detect break-through or resistance.

	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 5 of 6

Any required air quality monitoring of the workplace will be done by Big Ox Energy - Riceville LLC, which will maintain records. Monitoring results will also be provided to affected individuals.

## **RESPIRATOR DISTRIBUTION**

Whenever possible, reusable respirators should be assigned to individual workers for their exclusive use. Permanently assigned respirators must be durably marked with the name of that person and the date issued. When disposable respirators are issued, the same models that were fit tested must be kept in stock.

Big Ox Energy - Riceville LLC will issue a respirator from its stock when an employee is first fit tested or when a new type of respirator is issued on a subsequent fit. Big Ox Energy - Riceville LLC shall maintain a stock of replacement respirators and/or cartridges and issue them to the employee as necessary.

Those who issue canisters-cartridges must see that they are properly labeled and colored before they are put into service. The labels and colors must be maintained until they are disposed.

If it is necessary to replace a reusable respirator because of loss or damage, the newly issued respirator must be fit tested before it is used. This is to ensure that the respirator is not defective.

## **TRAINING**

Training must be provided before requiring the employee to use the respirator. The training program must address employee knowledge of respirators, fit, use, limitations, emergency situations, wearing, fit checks, maintenance & storage, medical signs & symptoms of effective use, and general requirements of the OSHA standard.


Employees who will use respirators will be given training initially and on a yearly basis. Training may be performed after fit testing is done or other arrangements may be made. Big Ox Energy - Riceville LLC will maintain records of training. Training certificates shall include at a minimum, employee name, date of training, and type of training. In areas where job tasks and materials change, Big Ox Energy - Riceville LLC must be contacted to provide an updated training.

## **INSPECTION**

Each respirator must be inspected routinely before and after each use by the employee using it. Respirators for emergency use must be inspected after each use, or at least once each month, by the employees to whom they are assigned. Inspections of emergency respirators should be done according to manufacturers' instructions.

## **CLEANING AND DISINFECTING**

Respirators issued for exclusive use must be cleaned and disinfected after eight hours of use, or as necessary to ensure protection for the wearer. Respirators used by more than one person and emergency respirators must be cleaned and disinfected after each use. During cleaning, an inspection shall be made, and any worn or deteriorated

	Big Ox Energy - Riceville, LLC Safety Management System		RIC.SAFE.POL.140- 024.RespiratoryProtection	
			Initial Issue Date	09/01/2016
<b>RESPIRATORY PROTECTION</b>			Revision Date:	10/02/2017
			Next Revision Date:	10/02/2018
Preparation: Safety Manager	Authority: President	Issuing Dept: Safety	Page:	Page 6 of 6

parts or components shall be repaired or replaced (in accordance with 1910.134 Appendix B). Respirators for emergency use (such as SCBA's) shall be inspected at least once a month, and after every use.

## **MAINTENANCE**

---

Employees shall arrange for replacement or repairs by experienced persons with parts designed for the respirator. Do not attempt to replace components or make adjustments or make repairs beyond the manufacturer's recommendations. Self-contained breathing apparatus or airline respirators must be returned to a professional repair service or the manufacturer when it is required for repair or testing.

## **STORAGE**

---

After inspection, cleaning and necessary repair, store respirators to protect them against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. For emergency use, storage shall be accessible, clearly marked. Inspections: Routine use - before use and during cleaning; emergency - monthly, and before and after each use; escape-only - before being carried into workplace.

## **PROGRAM EVALUTION**

---

Big Ox Energy - Riceville LLC will evaluate this program through periodic and random inspections to assure that respirators are properly used, cleaned and maintained. Big Ox Energy - Riceville LLC will survey to determine whether anyone is using a respirator who is not included within the program. To verify written program effectiveness, employees must be asked about fit, selection, use, maintenance, etc.

Big Ox Energy - Riceville LLC will maintain the following records:

- Operations requiring protection, specific protection used, and names of employees who wear the respirators.
- Number and types of respirators in use. These records must be maintained for 30 years.
- A record of employee training programs. Records will be maintained for five years past employment.
- Fit tests performed on employees. The records will be maintained for 30 years.
- Records on respirator inspection and maintenance activities. These records will be maintained for five years
- The Examining Physician will maintain medical records according to State law.

Big Ox Energy - Riceville LLC will maintain exposure measurements for thirty years. Monitoring records will include the following information.

- Date of any measurements, exposure, analytic measure, number, duration, results, and type of protection worn.
- Records shall include the name, social security number and exposure of employees

## **OTHER REQUIRMENTS**

---

Insubordination in regards to this standard will be dealt with as per Big Ox Energy - Riceville LLC's Disciplinary Program.