

### Twelve Steps to Safety Step Five: Respiratory Protection

By Alan Achatz, CCM, CHE

*In September 2003, CMAA signed an Alliance with OSHA to promote safe and healthful working conditions for membership club employees in the areas of hazard communication, recordkeeping and respiratory protection. In February 2005, CMAA renewed its Alliance and added a new scope of concentration, landscaping and horticulture. The Alliance was again renewed in October of 2007. This article, the fifth in a series of 12 articles, was written by club industry expert Alan Achatz, CCM, CHE, of AKA Capitol Adventures in conjunction with participants in the OSHA and CMAA Alliance. The purpose of this series is to help new and seasoned managers embark on a path to safety compliance at their facilities.*

The use of respirators in clubs depends entirely on the work processes that the employees (or outside contractors) are doing. You must evaluate the hazards in your workplace. Are pesticides/herbicides or fungicides applied on the golf course? Do you have a paint spraying operation? Are you doing any sand blasting?

Before even considering using respirators, consider if engineering controls such as ventilation or the substitution of less toxic materials can be your first line of defense.

If the answer is no, then you must establish a written respiratory protection program that addresses the following items:

- Selection Procedures
- Medical Evaluation
- Fit Testing
- Respirator Use

- Air Quality
- Cleaning, Maintenance, Cartridge Change Schedules and Storage
- Training
- Program Evaluation

#### Selection Procedures

Your exposure assessment will determine what types of respirators will be needed for the employees. Some of the hazards might include: dust, mists, fumes, vapors, gases or possibly even oxygen deficient atmospheres.

There are many types of respirators – dust masks;  $\frac{1}{4}$  face,  $\frac{1}{2}$  face and full-face negative-pressure respirators; supplied air line respirators; self contained breathing apparatus (SCBA); and powered air purifying respirators (PAPR). Which type respirator to select will depend on the nature of the hazard and the degree of protection required.

The material safety data sheets (MSDS) for the various hazardous products will often recommend the type of respirator and cartridges that are required. Do note: The cartridges and respirator bodies have to be manufactured by the same company – they are not interchangeable.

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#### Medical Evaluation

Before any employee may wear a respirator, he/she must first be certified medically able to wear said equipment. Since wearing a respirator makes it more difficult for a person to breathe, it must be known if the person can handle the additional stress.

The medical evaluation must be done by a physician or other licensed health care professional (PLHCP) either by performing a physical examination or by evaluation of the employee's responses to a medical questionnaire. The mandatory OSHA medical examination questionnaire may be found at [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9783&p\\_text\\_version=FALSE](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9783&p_text_version=FALSE).

#### Fit Testing

A tight seal where the mask meets the face must be assured. A fit-test must be performed on all employees before they are required to wear a respirator in the workplace and annually thereafter. This must be performed with the same type and size respirator that will be worn by the employee and according to one of the protocols detailed in Appendix A of the Respiratory Protection Standard.

The fit test record of each employee must be maintained until the next test is administered.

Qualitative and quantitative fit testings are conducted by trained professionals.

#### Respirator Use

It is important that employees use the proper respirators for the nature of the exposure. Recognize, for example, that a dust mask will not filter out vapors from a paint spraying operation. Likewise an ammonia cartridge filter will not work in an oxygen deficient environment.

Respirators must be inspected before each use.

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A user seal check is a method to verify that the user has correctly put on the respirator and adjusted it to fit properly. Employees must conduct their own negative/positive pressure tests to ensure a proper fit each time they don the respirator to enter a hazardous environment.

- Negative pressure test – The employee gently breathes in while blocking the inhalation valve causing the mask tighten about the face. If no air leaks are detected, a good seal is assured.
- Positive pressure test – The employee gently exhales while blocking the exhaust valve causing the mask swell about the face. Again, if no air leaks are detected, a good seal is assured.

Employees must not be allowed to have facial hair that comes between the sealing surface of the respirator and the face as it can affect the effectiveness of the respirator.

#### Air Quality

If supplied air respirators are used, you must ensure breathing air meets at least the requirements for Grade D breathing air.

#### Cleaning, Maintenance, Cartridge Change Schedules and Storage

All employees must be instructed how to properly clean the style/type of respirator they use. If they use different styles/types of respirators, they must receive instruction on each style/type.

Inspection of the various parts of their breathing apparatus must also be conducted to ensure the equipment is in good working condition.

Respirators must be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damag-

ing chemicals. They must also be packed or stored to prevent deformation of the facepiece and exhalation valve. A good method is to place them in individual storage bins. Keep in mind that respirator facepieces will become distorted and the straps will lose their elasticity if hung on a peg for a long time. Check for these problems before each use.

Storing the respirator in a plastic sealable bag after use is not considered a good practice. The respirator may be damp after use and sealing prevents drying and encourages microbial growth. If plastic bags are used, respirators must be allowed to dry before storage.

#### Training

Effective, comprehensive and understandable training must be conducted annually. The training must address: why the respirator is necessary and how improper fit, use or maintenance can compromise its protective effect; the limitations and capacities of the equipment; effective use in emergency situations; How to inspect, put on and remove, use and check the seals; maintenance and storage; recognition of medical signs and symptoms that may limit or prevent effective use; and general requirements of OSHA's respirator standard, 29 CFR 1910.134.

#### Program Evaluation

You must conduct regular evaluations of the workplace to ensure the program is being properly implemented, to ensure employees are using their respirators properly and identify any problems.

#### Recordkeeping

The medical evaluation must be maintained as a medical record according to OSHA regulation 1910.1020. All fit test records must be kept until the

next test is administered. A copy of your Respirator Program must also be kept and made available upon request.

#### Additional Information

Consider adopting an off-the-shelf program offered by a safety company. These policies are normally cost effective and save you time. They must however be adapted to suit the situation in your own workplace and how your respirators will be used.

#### Additional Resources

##### Respiratory Protection Safety and Health Topics Page:

<http://www.osha.gov/SLTC/respiratoryprotection/index.html>

##### Respiratory Protection eTool:

<http://www.osha.gov/SLTC/etools/respiratory/index.html>

##### Small Entity Guide for Respiratory Protection Standard, OSHA Publication 9071 (1999):

<http://www.osha.gov/Publications/secgrev-current.pdf>

For more information on how your club can benefit from the Alliance and OSHA topics specific to the club industry including archives of previous articles in this series, please visit <http://www.cmaa.org/legislat/osha.asp> or contact Melissa Low, director, Industry Resources and Legislative Services, at [melissa.low@cmma.org](mailto:melissa.low@cmma.org) or (703) 739-9500. This article was written by club industry expert Alan Achatz, CCM, CHE, of AKA Capitol Adventures in conjunction with participants in the OSHA and CMAA Alliance. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. ♦