PPE: Answers to 8 FAQs about Respiratory Protection

There any many different types of PPE but they're not all created equal. Complying with the requirements for the selection and use of some PPE, such as hardhats, is pretty straightforward. But respiratory protection is another thing altogether. There are many different kinds of respiratory hazards, each of which may require the use of a different type of respiratory protection. As a result, complying with the respiratory protection requirements in the OHS regulations is complicated. So here are answers to eight frequently asked questions (FAQs) about this form of PPE.

8 FAQS ABOUT RESPIRATORY PROTECTION

Q When Is Respiratory Protection Required'

A If workers are exposed to respiratory hazards on the job, such as oxygen-deficiency, harmful dusts, fumes, smokes, mists, gases, vapours and sprays, you must take appropriate steps to protect them. So first conduct an assessment of the workplace to determine whether any respiratory hazards exist and identify the kinds of hazards. This assessment must be performed by a 'competent person' who's trained and qualified to carry out the necessary tests and understands the testing equipment, its uses and limitations. (For more information on who qualifies as a 'competent person,' see 'Compliance 101:

What Makes a Worker a 'Competent Person' under OHS Laws'' Sept. 2008, p. 11.)

The competent person should put the results of the assessment in writing, sign it and indicate for each part of the workplace assessed:

- Oxygen levels in the workplace or sections of the workplace, such as confined spaces;
- What airborne contaminants are present or potentially present;
- The physical state of those contaminants, such as gas, dust, etc.;
- The concentration of the contaminant(s) and the hazard it poses at that concentration;
- Duration or likely duration of worker exposure to these contaminants; and
- The contaminants' warning properties, such as a distinctive smell.

If you identify any respiratory hazards, the first line of defence is using engineering controls such as ventilation systems to eliminate or control such hazards. But if respiratory hazards can't be totally engineered away, you'll have to supply workers with and ensure appropriate use of respiratory protection.

Q What Kinds of Respiratory Protection Are Available'

A There are two broad types of respiratory protection:

Air-purifying respirators. This type of respirator removes contaminants in the air that the worker breathes by filtering out particulates, such as dusts, metal fumes or mists, or adsorbing gases or vapours. Examples of air-purifying respirators:

- Particulate respirators;
- Chemical cartridge respirators;

- Gas masks; and
- Powered air-purifying respirators (PAPRs).

Supplied-air respirators. These respirators don't filter the air'they provide clean air. That's why they're also called atmosphere-supplying respirators. There are three basic types:

- Supplied-air (airline) respirators;
- Combination supplied-air (airline) respirator with auxiliary self-contained air supply; and
- elf-contained breathing apparatus (SCBA).

Respirators have an 'Assigned Protection Factors' (APF) that reflects the anticipated level of respiratory protection it would provide if it was properly functioning, properly fitted and used by a trained worker.

Q How Do We Choose the Appropriate Protection'

A Which type of respiratory protection is appropriate will depend on the results of your hazard assessment and type of respiratory hazards to which workers are exposed. For example, workers may need one type of protection for exposure to dust and another for exposure to gases or low oxygen environments. And don't forget that workers could be exposed to multiple respiratory hazards at the same time.

Except for ON and SK, every jurisdiction's OHS regulations adopt Canadian Standard Association (CSA) standard CSA Z94.4, *Selection, Use and Care of Respirators* and most require employers to comply with this standard when selecting respiratory protection for workers. By adopting CSA Z94.4 into their OHS regulations, compliance with the standard is no longer voluntary'it's required. And even in ON and SK, CSA Z94.4 likely represents a best practice. So compliance with it in those jurisdictions is recommended.

So you should generally follow CSA Z94.4 to select appropriate respiratory protection for your workers. But you should also

be familiar with your jurisdiction's OHS regulations because they may include additional requirements or requirements for specific situations or kinds of respirators.

***Insider* Says:** For more detailed information, see 'PPE: How to Choose Appropriate Respiratory Protection for Workers,' July 2012, p. 1.[/learn_more]

Q What Is Fit Testing'

A Respiratory protection is only effective when it fits workers properly'that is, forms an effective seal on the worker's face. As a result, the OHS regulations typically have so-called 'fit test' requirements. For example, Sec. 8.40 of BC's *OHS Regulation* says that employers can't issue a respirator that requires an effective seal with the face for proper functioning to a worker unless a fit test demonstrates that the facepiece forms an effective seal with his face. Most OHS regulations require fit tests to be performed using the procedures outlined in CSA Z94.4. You should generally perform fit tests before a worker uses a particular type of respiratory protection for the first time, at least once a year and after any changes that could impact the protection's effectiveness, such as a change to the model or size of the equipment or change in the worker's physical condition. And makes sure that you maintain records of all fit tests and their results.

Q Can We Require Workers Who Wear Respirators to Be Clean Shaven'

A In general, yes. As noted above, certain respirators must form an effective seal on a worker's face to effectively protect him. Having facial hair, such as a beard or mustache, can interfere with that seal. So the equipment's manufacturers may recommend that workers be clean shaven to ensure an effective seal. In addition, the OHS regulations in your jurisdiction may require workers to be clean shaven when

necessary for an effective seal. For example, Sec. 250(2) of Alberta's *OHS Code 2009* says, 'An employer must ensure that, if a worker is or may be required to wear respiratory protective equipment and the effectiveness of the equipment depends on an effective facial seal, the worker is clean shaven where the face piece of the equipment seals to the skin of the face.' So not only can you require workers to be clean shaven for effective respiratory protection, you may be required to do so.

But implementing this requirement is trickier than it may seem. For example, Sikh workers may object to a company policy that requires workers to be clean shaven because their religion prevents them from shaving their beards. And human rights laws bar you from discriminating against such workers on the basis of their religion. So you can't discipline them for refusing to shave. What should you do' Try to accommodate the workers while still protecting them.

First, ask the workers to take a fit test using the respirators to see if their beards do, in fact, interfere with a good seal. If the beards do prevent an effective seal, try other types of respirators that might fit differently. Or consider the use of a gel that can be applied to the workers' beards to create an effective seal.

Q Can a Worker's Health Impact His Use of a Respirator'

A Workers can have medical conditions'physical or psychological'that could affect their use of respiratory protection. For example, breathing through some types of respirators takes more effort than normal breathing because you're inhaling through a filter. So a worker with asthma or a lung condition may have problems using such a respirator. As a result, it's important that *before* workers use such PPE, you determine whether they have any such conditions that could impair their safe or effective use of the equipment.

Q Are We Required to Have a Respiratory Protection Program’

A It depends on where in Canada you’re located. The OHS regulations of six jurisdictions’AB, BC, MB, NB, NL and QC’specifically require employers to have respiratory protection programs (or equivalent codes of practice and safe work practices) if workers are required to use respiratory protection. BC and MB require programs or safe work practices that address *all* types of PPE, including respiratory protection. The other jurisdictions require programs specifically for respiratory protection.

The remaining eight jurisdictions’Fed, NT, NS, NU, ON, PE, SK and YT’don’t expressly require employers to have respiratory protection programs. But Fed, NT, NS, NU, PE and YT do require employers to comply with at least some requirements in CSA Z94.4, which spells out how to administer a respiratory protection program to fulfill those requirements. So although the OHS laws in these jurisdictions don’t specifically require employers to have respiratory protection programs, the easiest way to comply with the CSA Z94.4 requirements is through such a program.

ON and SK do require employers to provide workers with respiratory protection when necessary and ensure that they properly use and maintain that equipment. And the ‘general duty’ clause of their OHS acts requires employers to take all reasonable steps to protect workers from hazards, including respiratory hazards, which is also what your company has to do to exercise due diligence. So if employers in ON and SK voluntarily create and implement effective respiratory protection programs when appropriate, it’s likely that they’ll be able to prove due diligence if they’re ever charged with violating the jurisdiction’s respiratory protection requirements.

Bottom line: Respiratory protection programs are either required by the OHS laws or are strongly recommended to ensure

compliance with respiratory protection requirements and establish due diligence.

Q What Should Such a Program Cover’

A An effective respiratory protection program should covers these nine areas:

1. Responsibilities of employers, supervisors, workers and the program administrator;
2. Respiratory hazard assessment procedures;
3. Selection of appropriate respiratory protection;
4. Assessments of workers’ health as it may impact safe use of respirators;
5. Fit testing;
6. Proper use of respiratory protection;
7. Cleaning and maintenance of respiratory protection;
8. Training; and
9. Recordkeeping requirements.

BOTTOM LINE

Complying with the respiratory protection requirements is complex but doable. The answers to these questions give you a good overview of what you must do. And the related articles and tools linked to this piece will help you take the necessary steps in your workplace.