

Everyone Goes Home “SAFE”!

HAZARD CONTROLS

Hierarchy of Controls

Controlling exposures to occupational hazards is the fundamental method of protecting workers. Traditionally, a hierarchy of controls has been used as a means of determining how to implement feasible and effective controls. One representation of this hierarchy can be summarized as follows:

- Elimination
- Substitution
- Engineering controls
- Administrative controls
- Personal protective equipment

The idea behind this hierarchy is that the control methods at the top of the list are potentially more effective and protective than those at the bottom. Following the hierarchy normally leads to the implementation of inherently safer systems, ones where the risk of illness or injury has been substantially reduced.

Elimination and substitution, while most effective at reducing hazards, also tend to be the most difficult to implement in an existing process. If the process is still at the design or development stage, elimination and substitution of hazards may be inexpensive

and simple to implement. For an existing process, major changes in equipment and procedures may be required to eliminate or substitute a hazard.

Administrative controls and personal protective equipment are frequently used with existing processes where hazards are not particularly well controlled. Administrative controls and personal protective equipment programs may be relatively inexpensive to establish but, over the long term, can be very costly to sustain. These methods for protecting workers have also proven to be less effective than other measures, requiring significant effort by the affected workers.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The initial cost of engineering controls can be higher than the cost of administrative controls or personal protective equipment, but over the longer term, operating costs are frequently lower, and in some instances, can provide a cost savings in other areas of the process.

The most effective means of hazard control is obviously removing the hazard through means of elimination or substitution. Often PPE is used as the only means of hazard



control when in fact it is the least effective and should only be used in conjunction with another hazard control measure.

We often become over confident in the role of PPE as a hazard control and begin using PPE as the primary or only control when in fact the role, or purpose of PPE is to provide a final layer of protection if the primary control fails.

How do I know what kind of control is needed?

Selecting an appropriate control is not always easy or obvious. It often involves doing a **risk assessment** to evaluate and prioritize the hazards and risks. In addition, both "normal" and any potential or unusual situations must be studied. Each program should be specially designed to suit the needs of the individual workplace. Hence, no two programs will be exactly alike.

Choosing a control method may involve:

- evaluating and selecting temporary and permanent controls
- implementing temporary measures until permanent (engineering) controls can be put in place
- implementing permanent controls when reasonably practicable

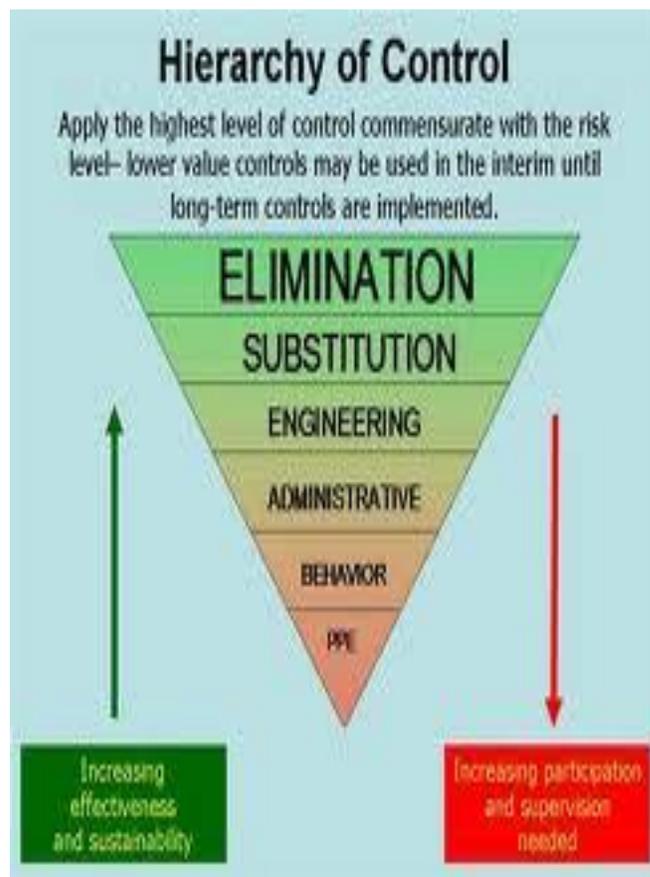
For example, in the case of a noise hazard, temporary measures might require workers to use hearing protection. Long term, permanent controls might use engineering methods to remove or isolate the noise source.

In situations where there is not a clear way to control a hazard, or if legislation or policies/procedures do not impose a limit or guideline, you should seek guidance from supervision or the safety group to determine what is the "best practice" or "standard practice" when working in that situation.



There is NOT a fine line between Safe and Unsafe

Figure 1



Remember!

A legal limit or guideline (such as an exposure limit) should never be viewed as a line between "safe" and "unsafe". The best approach is to always keep exposures or the risk of a hazard as low as possible.