Safety Corner

How to safeguard personnel and properties against safety hazards?

When safety hazards are identified from a system or a work process, control measures would be used to safeguard the system and associated personnel (workers, users, patrons, bystanders, general public, etc.) against the safety hazards.

Control measures are actions, protective system, or activities that are used to manage and control safety hazards. Sound control measures must be capable of preventing or eliminating safety hazards or reducing their risks to an acceptable level. Typically, control measures should be implemented in the following order of precedence –

(a)   eliminate the hazard from the source (e.g., physically remove the hazard, design change);
(b)   substitute the hazard with a safe alternative (e.g., replace a hazardous material with a safe material);
(c)   prevent exposure of personnel to the hazard;
(d)   use of active and/or passive safe guards, minimise failure of safe guards with redundancy (e.g., install safety barriers or warning devices) and/or special procedure and administration control;
(e)   use of personal protection equipment;
(f)   develop response plan to reduce the consequence;
(g)   conduct focused training to improve the competency of staff and reduce human errors; and
(h)   accept the hazard and monitor the hazard continuously.

We should avoid replying only on training or administration control as the sole control measure of high-risk hazard. Whatever control measure is used, we should control the root cause of the hazards instead of simply control the symptoms. For example, it is much preferred to replace, redesign, isolate or quiet a noisy machine than to issue workers with hearing protectors. Furthermore, deploying a combination of different control measures that complement each other often works better as deploying only one type of hazard control measure may not be completely effective.