TerranearPMC Safety Share

Week of February 9, 2015 – Risk Assessment Codes

Back in 1970, Congress voted into law the Occupational Safety and Health Act or OSH Act. This established what we all know today as OSHA: the Occupational Safety and Health Administration. OSHA's purpose was to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. To enforce safety and health in the workforce, the OSH Act describes the responsibilities of employers in what is referred to as the "General Duty Clause," 29 U.S.C. § 654, 5(a) 1:

"Each employer shall furnish to each of his (sic) employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

The key phrase in this statement is "recognized hazards." So if an employer does not recognize a hazard, then the company has not committed a violation, right? Well since the inception of OSHA and after countless of workplace violations, it has been made quite clear that ignorance of one's work conditions is not a valid defense. So today Corporate America must understand their responsibility to identify hazards in their workplace: and when an unidentified hazard ***is*** noticed, the employer is required to take action.

When a hazard is identified, the first step is to perform an assessment. Is the hazard controlled to an acceptable risk or do controls need to be implemented? The question then becomes, "what makes a risk acceptable?" One definition is, "the level of human and/or material injury or loss from an industrial process that is considered to be tolerable by a society or authorities in view of the social, political, and economic cost-benefit analysis." At the same time, the notion that there is some level of risk that everyone will find acceptable is a difficult idea to reconcile. Yet, without such a baseline, how can it ever be possible to set guideline values and standards, given that life can never be risk free?

It should be fairly evident that controlling workplace accidents based on an acceptable risk analysis is far from an exact science, as determining the decision point between acceptable and non-acceptable can change depending on who is performing the analysis and the specific factors for each scenario. Therefore, the best we can do is to analyze risks independent of other cases and using the controls that are available for each specific task. That could mean that what was acceptable for one task at a job location may not be acceptable for another task with the same risks at another job site. Yet same type of method is necessary to measure risks for the purpose of determining risk acceptability. Such is the principle behind the Risk Assessment System and the assignment of Risk Assessment Codes (RACs) to identify and mitigate workplace hazards.

RACs are based on the hazard severity, probability of occurrence, and number of people exposed or potentially adversely affected in the event of an accident. While all hazards should be resolved as soon as possible, the Risk Assessment System is a safety risk ranking method to assist in making informed decisions concerning hazard control while providing decision makers with a consistent and defensible approach for prioritizing safety hazard abatement efforts based on available resources and with consideration towards competing demands and priorities.

RACs require assigning a value for both the likelihood **or** probability of an outcome occurring, and the consequence **or** severity of a potential outcome. Based on these assigned values, a matrix format is used to place the specific hazard within a specific location of the matrix. This location can then be used to determine a RAC number for that hazard activity.

The Likelihood or probability Code can be numerical (1 through 4) or alphabetical (A through D). These are:

A. *Frequent* – Immediate danger to the health and safety of the public, staff, resources, or property; occurs frequently or continuously.
B. *Likely* – Probably will occur in time if not corrected, or probably will occur one or more times during the life of the system.
C. *Occasional* – Possible to occur in time if not corrected.
D. *Rarely* - Unlikely to occur, may assume exposure will not occur.

Next is the Consequence or severity Code:

I. *Catastrophic* – Imminent and immediate danger of death or permanent disability, chronic or irreversible illness, major property or resource damage.
II. *Critical* – Permanent partial disability, temporary total disability greater than 3 months, significant property or resource damage.
III. *Significant* – Hospitalized minor injury, reversible illness, period of disability of 3 months or less, loss or restricted workday accident, compensable injury or illness, minor property or resource damage.
IV. *Minor* – First aid or minor medical treatment. Presents minimal threat to human safety and health, property, or resources, but is still in violation of a standard. The final outcome may look like:

RISK ASSESSMENT MATRIX

SEVERITY / PROBABILITY	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	High	High	Serious	Medium
Probable (B)	High	High	Serious	Medium
Occasional (C)	High	Serious	Medium	Low
Remote (D)	Serious	Medium	Medium	Low
Improbable (E)	Medium	Medium	Medium	Low
Eliminated (F)	Eliminated			

Shown above is the risk assessment matrix. This set-up helps us to prioritize our workplace hazards by identifying them as *high, serious, medium,* or *low*. Those hazards identified as high will require the most stringent controls available as well as our immediate attention. They may

even demand that such activities be cancelled from the project. At this point, specific workplace controls can be applied so that the associated hazards are more effectively controlled and therefore, result in a revised the assessment category to a more acceptable level. Note that the box at the bottom indicates that if we can remove the hazard (such as incorporating an engineering design into a process), the hazard no longer exists and therefore can be removed from a project's control process – this is the ultimate hazard control!

The RAC system can be a very useful tool to determine the importance to apply effective controls as well as to identify those hazards that should demand our attention and concerted effort to ensure work tasks can be performed without compromising worker safety and health.

Well done is better than well said

Benjamin Franklin