Building Risk Management into the Environmental Health and Safety System

When it comes to managing incidents within the Environmental Health and Safety (EHS) industry, the ability to be proactive plays a major part in the overall safety of an organization. Within the EHS industry, there is a focus on reducing job-related incidents to promote safety and maintain regulatory compliance. Risk Management is one of the methods for proactively mitigating incidents. Risk Management will help foster quicker response time to high-risk events and improve safety within the job force. It provides a systematic approach for addressing risk through processes that are repeatable, objective, and consistent—the framework of an effective Risk Management system is based on these three items.

This article will describe how to apply Risk Management to other EHS processes to promote risk mitigation in all areas of an organization.

First, let's talk about how Risk is defined.

Take the Guesswork out of Risk with the Risk Matrix

Defining Risk is no easy task—particularly because there is no singular definition to risk. Everyone views risk differently and it will vary depending on the idiosyncrasies of each individual organization. Even when risk has been defined in your organization, there is still another step to the process. You must determine which risks are most critical to your business. This is where the Risk Matrix comes in.

The Risk Matrix takes hazards and harms and quantifies them by plotting them on a graph. It accomplishes this by defining verbal scales—severity and frequency—to represent the "x" and "y" axis of the graph and assign numerical values to the scales.

The resulting calculation of the severity and frequency becomes the organization's risk.
When reading the matrix, some of these calculations have obvious outcomes—a high severity and high frequency are invariably going to result in a high risk and a low severity and low frequency will result in low risk. It is in defining the "gray areas" where most organizations are faced with confusion.

To define these gray areas, organizations may use a concept called As Low As Reasonably Practicable (ALARP). This means that the cost of reducing risk in these gray areas would be disproportionate to any benefit gained. After these gray areas have been identified using ALARP, the organization will then be left with a heat map in which to begin plotting their risk.

Once the risk levels have been defined and the matrix has been vetted for accuracy and effectiveness, it can then be applied to the Risk Management process.

Applying Risk Management to the EHS System

After the Risk Matrix has been established an organization can then use the integration capabilities of the EHS system to find risk throughout their enterprise.

Integrating Risk Management with the EHS system will have a direct impact on the efficiency of many of the process within the system. Below are just a few areas where risk is typically applied:

- **Incident Management:** EHS systems commonly track any adverse safety incidents across their enterprise.

Risk Management helps to streamline the incident management process through filtering. Tools such as the Risk Register enable safety managers to filter incident data by level of risk through the use of the Risk Matrix. This filtering provides a systematic and repeatable method to make well-informed decisions on necessary actions to take when handling incidents, as well as prioritizing critical issues.

- **Job Safety Analysis:** Risk Management provides consistent, quantitative benchmarking for Job Safety Analysis (JSA) by taking a proactive approach to the mitigation of job risks. JSA takes a job description and breaks it into individual steps. It then lists the potential hazards that could occur at each of those steps and implements controls for each step to prevent the hazard form occurring. This is where Risk Management can help.
  Risk Management assesses the safety of each job step in the JSA. The JSA tool can look at the potential hazards in a job and assign a risk level to those hazards. Then through the use of controls and Personal Protective Equipment (PPE), an organization can begin to reduce the risk level of that job step. This method of review job steps by risk, and mitigating those risks at a granular level, not only improves the safety of each step, but eventually improves the safety of the job overall.

- **Corrective Action:** Similar to using Risk Management to manage incidents, the EHS system can also apply Risk to the corrective action process, to determine whether a corrective action was truly effective.

During the corrective action process, a root cause analysis is conducted to investigate an incident. Corrective action incorporates measures to correct the issue from the root cause, while verification and effectiveness are used to determine that the corrective action worked. Risk Management is one of the methods for benchmarking the corrective action's effectiveness.

An organization can use Risk Management to measure the residual risk to determine whether the corrective action reduced the risk to acceptable levels. If a high degree of risk is still present, the corrective action was not effective and the organization must take a different approach to lower the risk. This process is then repeated until a satisfactory level of risk has been achieved.

Ultimately, Risk Management can effectively translates the EHS data into a common risk element, enabling EHS managers to see where the top risks are and dig deeper into those risks to ultimately get to the root cause, stopping risk before it spreads.

Closing Thoughts

When first taking on a Risk Management venture within your EHS system, first ask whether it is repeatable, consistent, and objective. Once this framework is in place, risk must be defined. The organization can then apply Risk Management to the EHS system and begin to reap the benefits of a solution that will enhance Environmental Health and Safety initiatives across their enterprise.

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