

# Action After Analysis

The industry's need for analyzing electrical hazards was addressed in an article submitted to *NETA World* for the Spring Edition, titled *Analyzing Electrical Hazards in the Workplace* by Dennis K. Neitzel, CPE. Mr. Neitzel and I discussed the need for action after analysis. It has been noted that quite often an employer will make a significant investment in a hazard analysis and end up with reams of paper for its efforts but with very little specific direction for what to do next. Part of Mr. Neitzel's conclusion in his article included this statement:

"As more information becomes available on the economic and human costs of electrical accidents, it is hoped that more industry stakeholders will recognize the need for both a systematic hazards analysis and an electrical safe work program emphasizing hazard identification and abatement."

It should be noted that after a hazard analysis has been completed, a clear and enforceable safe work program must be instituted. After the hazards have been identified by the employer they must be identified on an individual level as each employee approaches the work to be done. Clear methods of mitigation or total hazard abatement must be provided by the employer. A plan of action must be provided to the employees so the risk level can be assessed and a correct safe work procedure can be selected to provide a means for the safe performance of the work.

When the economic and human costs of electrical accidents are considered, it is clear that the goal of an electrical safety program as with any other safety program must have as its foundation the protection of personnel. A safety program must take into account the employees for whom it is designed. Different factors to consider are skill sets, workplace environment, and employee participation.

First, in considering skill sets, the employees' capabilities should be known. An employee's best interest and the best interest of the employer are best served when the employee is not required to perform tasks that are outside the limits of his skill sets. An employer may have every confidence in an employee's technical skills but the employer should also have confidence in the employee's ability to plan the work and anticipate safety concerns that could arise in the performance of specific tasks. Every task has an element of risk. Often risks are taken on such a regular basis that the level of the risk may be underestimated. It is amazing how people adapt to conditions considered by others to be very dangerous. A person who grew up in a rural area and who is at ease in the wilderness or mountains could easily become disoriented when placed into an urban ghetto for the first time. The same could be said of the converse. The point is that employees may underestimate the actual risk because they have grown accustomed to the conditions. An employee may be at ease opening a 480 volt motor starter bucket and observing the motor starter making and breaking. The employer may have had

an arc-flash hazard analysis completed and the bucket properly labeled, but if the employee does not comprehend the risk, it just appears to be another label that quickly becomes invisible. One action after analysis is that the employee must receive training to assess workplace risks. The employee's training must be current, quantifiable, and well documented. Elements of the training should include specific task scenarios for the employee to observe conditions and to determine the possible risks, probability of risk, potential impact of events, prevention of impact by mitigation, and proper response if the event were to occur. Task scenarios should be well planned to cover a broad scope of tasks that the employee could reasonably be expected to perform.

A scenario could be a motor starter bucket in an MCC is chattering loudly. Plan the work. Troubleshoot and repair.

- Determine the risks of the task to you and other employees affected by your task.
- Determine the probability of the motor starter exploding in light of the reported condition.
- Determine how the immediate area would be impacted if the motor starter exploded.
- Determine methods to mitigate or eliminate impact through procedures and/or personal protective equipment.
- Determine emergency procedures if the motor starter exploded in the bucket.

An employee who received training at this level could learn and demonstrate a safety skill set that would be an asset to any employer.

Another consideration, when it comes to actions that should be taken after analysis, is the overall workplace environment. This would include conditions that are not always on the surface. The workplace may be in pristine mechanical condition with all the appropriate equipment provided, but is it a workplace conducive to safe work? Employers must provide leadership that is clear and convincing concerning workplace safety. Safety meetings should be conducted in a way that gives credibility to the employer's commitment to safety. Safety classes for management should be as high a priority as they are for everyone else. The employer who doesn't provide leadership in this area may be seen like the man who ran into a stranger's camp and asked, "Have you seen a bunch of boys come this way? I am their scout leader, and I am following them to get them back to the bus." Too often in the past, employers have been content to consider the employees the subject matter experts on specific safety procedures, and yet they are unwilling, and rightly so, to give the employees carte blanche when it comes to purchasing everything they say they need.

- An informed employer can provide clear, measured, intelligent leadership that doesn't appear to be a knee-jerk reaction to events beyond their control. Some elements of this leadership could be:
- Management clearly communicating commitment to due diligence and action.
- Safety meetings conducted in a plus-minus-plus format
- Safety officers who are more committed to positive reinforcement of policies than negative reinforcement
- Insuring continuity of safety policies from training sessions to the workplace.
- Creative methods that introduce diversity to the plan. For example don't leave the same posters in place for 10 years. One company had the employees' children draw pictures of things the children would be able to do with their parents if they worked safely. Then they printed company calendars using the drawings.

Employers who provide this level of leadership will experience dividends that can be quantified and some that are priceless.

The final consideration of this article is employee participation. An old shepherd once said that if sheep are being trailed to a specific destination, the shepherd must be up early in the morning, long before sunrise, and have all of the sheepdogs in place so when the sheep get up they mill around awhile and then they head out in the direction the shepherd wants them to go, all the while thinking it is their idea. The lazy shepherd that sleeps in until the sun is up must round up the sheep, get them back on the bed ground, then get them headed in the right direction, and the sheep stay mad all day.

This consideration really ties in with the other two. If the employees are receiving adequate training and leadership they will buy into the concepts presented. They may even think it is their idea. Many of the policies and procedures can be their ideas. The action after analysis here is to build employee consensus. Employees should be represented in the development of the program so they have ownership of the plan. A plan that is shoved down their throats may get a grudging compliance, but participation will not be as wholehearted as would be desired.

In conclusion, employees who receive proper training on task hazard risk assessment, leadership from employers that is clear and consistent, and the assurance of participation in the process through consensus building will participate in the safety program in a way that will increase overall compliance. The end goal is to keep everyone working, and by doing that the employer will lead them to where they all really want to be.



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