TerranearPMC Safety Share

Week of December 3, 2012- Job Hazard Analyses

Job Hazard Analyses (JHAs) or Activity Hazard Analyses (AHAs) are tools which are designed to support field activities by ensuring work is performed correctly AND without comprising the safety and health of those tasked to conduct these activities. They help us identify hazards and to decide on the *appropriate* controls necessary to either eliminate or reduce the risk to an acceptable level.

As OSHA states, "*A job hazard analysis is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. Ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level*."

Of course, JHA's are typically written prior to commencing field activities; however, this does have a few drawbacks; namely, the specific equipment and processes may not be determined or completely defined until the work site has been established. Nevertheless, many clients insist that JHAs are prepared ahead of time as part of the complete safety and health package (which typically includes a work plan and site health and safety plan), so the information can be reviewed.

Be that as it may, the advantage of having a JHA prior to the start of work prepares us for the specific activity and therefore allows us to identify the specific hazards, followed by developing the *appropriate controls* beforehand and thus, having the ability to discuss and to ensure everyone is familiar with the process, hazards and controls. The term, "*appropriate controls"* is a crucial point. While there may be many ways to protect personnel from a specific hazard, some methods may be not the most practical. For instance, wearing respirators to protect workers from an inhalation exposure, such as airborne particulate during an excavation or chemical inhalation due to handling/remediating contaminated soil would probably protect workers, but would that be the most practical? Through an evaluation (which should include a subject matter expert, such as an industrial hygienist), a monitoring program with proper IH equipment and established action levels, would be more suitable. This type of practice would allow a continuous assessment of worker exposures and to provide additional controls if necessary, while avoiding extraneous costs and time commitments associated with wearing a respirator (of which medical surveillance, training, fit testing, are mandatory – not to mention other hazards that may present itself due to wearing a respirator).

One mistake common with many JHAs is including steps that not part of the specific process. For instance, while uneven surfaces, heat exposure and adverse weather are hazards where personnel are at risk to injuries and illness, they are not specific to an actual process. Adding such steps decreases the focus on those hazards inherent to the specific operation. A solution would be to create a general JHA that incorporates these kinds of concerns or to place them in the site health and safety plan.

The fact is there can be numerous tasks associated with any project. Do we write JHAs for every specific task? If we did this, we would produce too many JHAs to count; that would be self-defeating as we would be diluting our focus on the tasks and hazards that need our attention. The question is, "how do we determine

which operations need to be examined and to ensure a JHA is developed?" While there is no set rule, the below list is a guideline to assist us to determine which tasks should be accompanied with a JHA.

- Jobs with the highest injury or illness rates;
- Jobs with the potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents;
- Jobs in which one simple human error could lead to a severe accident or injury;
- Jobs that are new to your operation or have undergone changes in processes and procedures; and
- Jobs complex enough to require written instructions.

Writing a JHA can generally be summarized in 5 basic steps. All these steps are important, which means no step can be skipped if you want effective and reliable results.

Step 1: Evaluate all aspects of the job task, even those performed infrequently. Observe more than one employee. Observe more than one shift. Take enough time to fully understand what the worker is actually doing. Yes, JHAs should be based on observations, but as pointed out earlier, many times a client wants to review JHAs *BEFORE* field work begins. This will require getting the appropriate persons that are knowledgeable in the specific task to assist in writing the JHA (i.e. S&H, heavy equipment operators, excavation competent persons, etc).

Step 2: Break the job down into parts**.** Most tasks involve a sequence of discrete steps. But don't go overboard. If you break a job down into too many minute parts, the JHA will be too complex and hard to work with. Simplify. Rule of thumb: limit the number of components to 10 or less.

Step 3: Describe hazards in each step**.** Once the components have been identified, then the hazards for each must be identified and described. Consider physical hazards, environmental conditions, ergonomic hazards, etc. To help identify such hazards, ask such questions as:

- What can go wrong?
- What are the consequences?
- How could it arise?
- What are other contributing factors?
- How likely is it that the hazard will occur?

Step 4: Identify the appropriate control measures for each hazard**.** Remember that the hierarchy of controls is (1) engineering controls, (2) administrative controls, and (3) PPE. Note that PPE is the *last* choice in controlling hazards. Often, we tend to jump at PPE as the *first* choice. Always exhaust the possibility of engineering, administrative controls and work practices before even considering PPE.

Step 5: Document the JHA. Of course, the job isn't finished until the paperwork is done …and reviewed! Get team members involved and have them read and review JHAs, before forwarding to the client and definitely before using in the field! This is one way to ensure everyone is involved with the process while becoming familiar with the anticipated work tasks.

There's nothing you can do that can't be done

John Lennon (10/9/1940 – 12/8/1980)