

The Process Hazard Analysis Study and “Previous Incidents”

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Under the OSHA Process Safety Management (PSM) regulation (29 CFR 1910.119) and under the EPA Risk Management Program (RMP) regulation (40 CFR Part 68), facilities are required to conduct an initial Process Hazard Analysis (PHA) and revalidate that study at least every five years (if not sooner per your Management of Change program). Even under the General Duty Clause (for those locations with less than 10,000 pounds of ammonia) facilities are required to “*know the hazards posed by the chemicals and assess the impacts of possible releases*” and to “*minimize the consequences of accidental releases that do occur*”.

There are several criteria to consider when conducting your PHA: methodology, team members, adequately addressing the hazards, safeguards, failure of safeguards, etc. A facility is also required to address “*any previous incident which had a likely potential for catastrophic consequences*” (40 CFR Part 6.67 (c)(2)).

What does this mean? Am I only required to discuss incidents or near misses at my facility? Should I include all the Google Alerts received about ammonia releases in my PHA? Do I need to comb through the National Response Center release database?

Neither OSHA nor EPA, to the best of my knowledge, have provided explicit direction in writing regarding this issue. Others, such as the Contra Costa County Hazardous Materials Division in California and the Nevada Department of Environmental Quality have “*suggested*” that facilities include not just incidents or near misses from their facility, but also other incidents within our industry.

With the Google Alerts coming every day regarding “*ammonia*”, it’s not too hard to at least read about leaks, etc. within our industry. However, there usually isn’t an analysis of the event. The analysis is what is needed in order to be meaningful for the PHA team. The PHA team needs to understand why the event occurred and what was proposed to mitigate the event in the future.

At least not until the U. S. Chemical Safety and Hazard Investigation Board (CSB) released their report regarding 2010 ammonia release at the Millard Refrigerated Services, Inc. facility located in Theodore, Alabama (<http://www.csb.gov/investigations/>).

The CSB completed an extensive analysis of what went wrong and provides our industry with Key Lessons Learned that we should all include in our next PHA (if not sooner). On the first page of the above listed link is the Key Lessons Summarized that can be used to cover “*previous incidents*” in a logical and methodical way. Taking each one of the lessons, the PHA team could review how the problem is either not relevant, there are engineering/administrative controls already in place as recommended, or this event could happen at your location. There is one problem listed as “*Refrigeration System Design*” and four others included as “*Refrigeration System Operation*”. By reviewing each item’s applicability to your plant, you can easily show an inspector that you have considered and incorporated “*previous incidents*” in your PHA.

You may find the series of article by Jim Morrell in the RETA Breeze helpful. Jim’s articles are featured on the first page of the Breeze and provide a detailed review of the CSB report for the Theodore, Alabama incident.

NOTE: The United States Chemical Safety and Hazard Investigation Board (CSB) is an independent federal agency investigating chemical accidents to protect workers, the public and the environment.

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