



OPERATING PROCEDURES EMERGENCY SHUTDOWN

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Under the Process Safety Management standard (29 CFR 2910.119), facilities are required to prepare operating procedures (1910.119 (f) for the safe operations of their ammonia refrigeration system. Specifically, 1910.119(f)(1) states:

“The employer shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information...”

As most already know, this can become a very intimidating task and take many man-hours to write, review, double/triple check, update and maintain. As detailed in the January/February 2012 RETA Breeze article, there are many requirements under 1910.119(f). This article will focus on one little item:

1910.119(f)(1): SOPs shall address at least the following elements:

- Steps for each operating phase:
- Initial Startup,
- Normal Operations,
- Temporary Operations,
- Emergency shutdown, including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner.

- Emergency Operations,
- Normal Shutdown, and
- Startup following a turnaround or emergency.

While each equipment SOP will have normal and emergency shutdown steps, consider an overall emergency shutdown SOP. This SOP should include, but is not limited to, the following:

- What conditions warrant shutdown?
- Location of the E-stop?
- Manual button located at facility?
- Remote via computer log-in?
- Who to contact (Chief Engineer, Fire Department, Plant Manager, etc.)?
- Who is authorized/qualified to actuate the E-stop?
- What are the safety issues associated with activating the E-stop?
- How will personnel know it is safe to access the E-stop?

Emergency Shutdown Responsibilities

Both the PSM and RMP regulations state that “*emergency shutdown, including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to **qualified operators** to ensure that emergency shutdown is executed in a*

safe and timely manner” [REF: 29 CFR 1910.119 (f)(1)(i)(D) and 40 CFR Part 68.69(a)(1)(iv)].

Are there qualifications for a person to conduct emergency shutdown operations?

What if you don't have an Emergency Response Team? Many facilities do not have the in-house capabilities to support a full Emergency Response Team.

What if you use an outside refrigeration contractor? Many facilities use outside

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Certification Honor Roll

Congratulations to our newly RETA Certified Operators. These are folks who passed the exam(s) between January 1 and February 29, 2012.

For information about the examination process and preparation to take the RETA exam, please go to the RETA website: www.reta.com.

CIRO CERTIFIED INDUSTRIAL REFRIGERATION OPERATOR

- Walter Anderson
- Daniel Austin
- Manuel Burruel
- Roby Bush
- Brian Carney
- Robert Conlee
- Mike Covey
- David Cuellar
- Floyd Francis
- Michael Gannon
- Benjamin Garcia
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refrigeration maintenance contractors and do not employ refrigeration operators.

Many ammonia refrigerated facilities are rethinking their response levels. With newer process controls and code requirements that allow personnel to shut down either the entire system or portions of the system remotely with computer access responding at the Operations Level is manageable.

Since many facilities are *non-responding* which means that you will call 9-1-1 and leave, then you don't need to address emergency shutdown procedures in the PSM/RMP documentation – right?

From EPA's General Guidance on Risk Management Programs for Chemical Accident Prevention, March 2009:

EPA does not intend to force such facilities [with limited personnel] to develop emergency response capabilities. At the same time, you are responsible for ensuring effective emergency response to any releases at your facility. **If your local public responders are not capable of providing such response, you must take steps to ensure that effective response is available (e.g., by hiring response contractors).**"

Whatever your response capabilities, the PSM/RMP document may say something like:

"Among the personnel authorized to initiate emergency shutdown are the Shift Supervisor and the Operations Manager."

A facility should ask itself:

- What makes someone *qualified*?
- What is *safe and timely manner*?
- Have conditions that would warrant the Shift Supervisor or the Operations Manager activating the Emergency Kill Switch been discussed?
- Do they know where the Emergency Kill Switch is located?

- Can they access the Emergency Kill Switch safely?
- Has anyone tested the Emergency Kill Switch to see what it would do or how long it will take for the system to be brought back on line?
- Who will bring the system back on line?

Incorporating who is qualified to shut down your ammonia refrigeration process **and** how this can be accomplished reaches into your Training Program. Not all plants have 24-7 ammonia refrigeration technicians. If a facility is planning to designate non-maintenance/refrigeration staff to assist during other operating shifts (such as a Shift Supervisor), they should be incorporated into the PSM training program. The training program should include the tasks expected to be performed and the frequency of refresher training (at least every three years).

Example: Shift Supervisors should know where the Emergency Kill Switch is located and when it should be actuated. Shift Supervisors and your refrigeration chief engineer/lead/contractor should meet periodically to review the following:

- Where the E-Stop is located.
- When the E-Stop should be actuated.
- What happens when the E-Stop is actuated.
- How often the E-Stop is tested and what does it take to bring the system back on line.

Any meetings, training sessions, evacuation drills, tailgate topics, etc. related to your ammonia refrigeration system should be documented.

Bottom line – be sure your SOPs include who is *qualified* to shut down your ammonia refrigeration system as well the conditions under which emergency shutdown is required.