Winter—Time to Consider Risk Management

by Clyde W. Young

Winter. Time to start thinking about skiing, snowmobiling, ice fishing, and maybe even performing some of those tasks around the treatment plant that you didn’t have time for last summer. If you are located in a state that does not have a state Occupational Safety and Health Administration program, you had better start thinking about compliance with the US Environmental Protection Agency’s Accidental Release Requirements, also known as the Risk Management Plan (RMP).

If you are in a state with an OSHA state plan, you might be in pretty good shape. Federal OSHA has no jurisdiction over publicly owned operations; therefore, the OSHA process safety management (PSM) standard is not required for those facilities in federal OSHA states. USEPA, on the other hand, does have jurisdiction over your facility, and you will be required to comply with the RMP requirements if you have a threshold quantity of the listed chemicals.

The RMP contains three program levels. Program 3 requirements are applicable to processes covered by a state OSHA plan. Other treatment plants will fall into the requirements of Program 2. While the Program 2 requirements are less stringent, these requirements will challenge your organization to be in compliance by June 21, 1999. If you have been complying with OSHA’s PSM requirements, you only have a few things to do. If you don’t have a PSM system in place, you have a lot of work to do. Is there hope? Of course there is, but you had better get started.

The first thing you should do is obtain a copy of the following documents:

- USEPA’s General Guidance for Risk Management Programs
- the Chlorine Institute’s Pamphlet 162
- The AWWA Research Foundation’s Compliance Guidance and Model Risk Management Programs for Water Treatment Plants

New Way of Doing Business

Read these documents carefully. Either require all employees to read these documents or provide a training session on the RMP. This will ensure that everyone is working from the same page.

Developing the required management system and the prevention program requirements will be the most time-consuming activities. It is important to understand in the beginning that you are developing a new way of doing business. Proving compliance is not as simple as submitting some forms and filling out paperwork. The true test of compliance is performance. You should end up with a much better operation. During development of the management system, develop procedures and policies for conducting hazard assessments, compliance audits, and incident investigations.

These procedures should detail who will be involved, when the activities will be performed, and how the facility will address any findings or recommendations. Conduct the worst-case and alternative-release scenarios for the process and gather the information required for the five-year accident history.

Development of the prevention program elements will be the most challenging. Start by gathering all the information you have on the applicable process. You probably have all the required information, but it may not be organized. Index this information into the following headings:

- Chemicals
- Equipment
- Codes and standards

Gather all the standard operating procedures you have for the process. Develop any required procedures that are missing.

Begin identifying equipment and procedures to include in the maintenance program. Establish frequencies for the required inspections and tests. If you have a computerized maintenance management system (CMMS) in place, this section has probably been addressed.

Prepare documentation showing that the operators working in the process prior to June 21, 1999, have the skills necessary to perform their duties. This will relieve you of the initial training requirements.

Conduct a hazard assessment and address the findings of the assessment. Wait until all safety information, maintenance procedures, and operating procedures have been finalized before conducting the assessment. You will discover that this information is critical to conducting a valid assessment. If you develop your own checklists for the hazard assessment, remember that the checklists are only as good as the imagination of the person developing the items.

Who Responds to Emergencies?

If you do not expect your employees to respond to an accidental release, make sure your facility is included in the emergency response plan developed for your community. If your facility’s procedures currently call for your employees to enter the process and stop the source of a leak by closing a valve, you may want to rethink this. A response to a release that is considered immediately dangerous to life or health (IDLH) is considered an emergency response, and there are requirements for training, protective equipment, and backup personnel. If you do not have detectors that measure the amount of chemical in the atmosphere, you must assume that the atmosphere is IDLH and respond appropriately.

Winter is more than a time for chilly outdoor recreation; it is also a good time to consider compliance with Risk Management Plan requirements.
Everything You Add to Water Should Be Monitored

by Bill Lauer
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To continuously produce the high-quality water that we are now trying to achieve requires increased attention to process control. One important series of checks that is critical involves checking how much remains in the treated water as it is distributed to your customers.

Suppose you use alum in your treatment plant. Do you monitor the finished water for aluminum residual? There are some really good process monitoring tests that can be performed easily by operators. You don’t need an atomic absorption spectrometer to get valuable information for process control purposes.

If you add ammonia to form chloramines, do you monitor for ammonia residual? I’m sure you test for chlorine, but what if you overdose ammonia?

How about fluoride, iron (if you use ferric coagulants), and phosphate? You don’t need to use US Environmental Protection Agency-approved methods for process control, although you do for compliance.

Find methods that are suitable for your needs. Operators need to know what is going down the pipe. Test results that indicate what was happening a month ago are useful for long-term trends, but more timely information is needed for process control. Monitoring for process control can reap significant benefits, such as consistent production of high-quality product and, in many cases, cost savings. Try it; you’ll like it.

In This Month’s Journal

Membranes on the Brain? Read This Month’s Journal AWWA!

Membrane systems take the spotlight in this month’s journal AWWA. Included are articles on
- a new process that combines powdered activated carbon and ultrafiltration (UF) to treat low-quality surface water;
- using membrane bioreactors, a relatively new secondary-treatment technology, to recycle municipal wastewater for nonpotable uses;
- results from Information Collection Rule monitoring, initiated in 1994, which revealed that total organic carbon values at surface water plants may be lower than anticipated; and
- cost comparisons for treating surface water with integrated membrane systems, using microfiltration, UF, and conventional treatment to pretreat the water before nanofiltration.

In addition to this month’s theme articles, another feature chronicles the history of the 100-year-old modern water system in Tokyo, Japan, including a look at how the city is meeting demand, conserving water, coping with pollution, upgrading distribution mains and pipelines, and preparing for continued service in case of an earthquake.

Plus, a Committee Report on gasket materials discusses the detrimental effects of chlorine and chloramine on rubber components in water distribution systems and describes proposed actions for handling the problem.

Deadline Looms

You have until June 21, 1999, to conduct and develop all these elements. By June 21, you must submit information about these elements to USEPA or the designated agency for your state.

USEPA has stated that any submission postmarked after June 21 is a violation. The agency has further stated that any missing information may be grounds to reject the entire submission. The fines for non-compliance can be stiff—up to $25,000 per day. Unlike some state OSHA agencies that are not able to fine publicly owned facilities, USEPA has the authority and in the past has not been hesitant to levy fines. If you have the staff and resources available, you should have little trouble meeting the deadline. However, if you are short of personnel, you might want to consider hiring outside help. Be aware that there are many consultants and engineering firms jumping on the RMP bandwagon. This happened in the early 1990s with OSHA’s PSM standard. Many outside parties are more than qualified to provide the expertise you may need.

USEPA realizes that outside parties may play a significant role in developing these programs and is evaluating the need for certification and even some kind of qualification test to ensure that third parties are qualified.

You cannot go out and buy a risk management program. The program must be developed and managed based on your site-specific requirements and resources. Even the model risk management plans being developed are not cut-and-paste programs. You must consider your organization’s resources and abilities. The test of compliance is performance. Winter. Time to start thinking about next summer—specifically, June 21, 1999.

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Tips and Topics