

Process Upsets Require Focus

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Consider a process that suddenly starts operating erratically and shuts down. It could be an instrument failure, but what really caused the upset?

During an unplanned shutdown, the focus may be on restarting the operation. Pressures to return the process to operation may not allow thorough troubleshooting. The quick solution is to “do what fixed it last time,” which can lead to other problems.

In addition, process upsets interrupt normal operation. Extra people may be in the control room to assist with the restart. Maintenance personnel may be asking questions to determine the sequence of events that led to the shutdown. Field personnel may be receiving multiple requests for data or equipment status.

Trying to resolve the problem and return to operation deserves extra time to consider the safety concerns. The process could have changed before and during the shutdown; an analysis could identify potentially dangerous situations that need to be addressed when troubleshooting and restarting operations.

Did You Know?

- Most processes have a troubleshooting guide to determine the cause of the upset and provide solutions to fix it.
- Troubleshooting instructions should also address how to safely diagnose the failure(s) and emphasize the importance of being safe while addressing the problem.
- Emergency shutdown and normal shutdown procedures may result in different process operating modes. Equipment condition and valve positions may not be the same after the process is stopped.
- A process that has been shut down for any reason needs an operational readiness review that is broader than a pre-startup safety review (PSSR).
- Companies may have different procedures for restarting a process after an emergency shutdown and a normal shutdown.

What Can You Do?

- Understand how the control systems work, what the safe operating window of the process is, and what the process shutdown points are.
- Know how to quickly access the troubleshooting instructions for your processes. Occasionally review these instructions and the steps to diagnose process upsets.
- Address all the possible causes and consequences of process failures during hazard reviews. Some deviations may be more than a quality problem; they could be an unsafe situation.
- Follow the operational readiness checklist and verify that all components are in the correct position before starting up.

Process upsets are the time to slow down and think!