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Be sure and consult with the appropriate governing agencies or publication providers listed in the "Resources" section of our website.

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Guidelines for Writing Startup Procedures

To help ensure that the startup procedures are thorough and complete, include the following points.

1. Ensure that procedures are detailed, written as check-off points for date, time, and initials of the operators at each step. The steps should follow a logical sequence.
2. Include a brief unit status report at the beginning of each major step to help tie multiple, parallel steps together.
3. Check the repair list to verify that all work is complete.
4. Determine that the vessels are clean and free of debris immediately prior to closing them. Operators should witness and verify that all vessels are closed.
5. Check the operability of alarms, trips, Motor Operated Valves (MOVs), and control valves.
6. Give notice of startup to utilities, and other units that may be affected. Give advance notice of several hours before startup, then give notice at the actual time that startup begins, or when startup will begin affecting other units.
7. Put utility systems in service.
8. Check all isolation block and relief valves. Include an isolation and relief valve list for check-off.
9. Check all ammonia monitors, eye wash stations, and other emergency equipment.
10. Review procedures prior to startup and note any necessary deviations.
11. Ensure that procedures are in compliance with process safety standards.
12. Ensure that procedures are in compliance with environmental regulations.
13. Ensure that procedures are written to curtail product loss, with particular attention given to minimizing venting, or draining.
14. Ensure that the unit ammonia-oil separators are verified and placed in service during the initial startup phase.
15. Include arrow diagrams to illustrate the safe sequence of events. Include other diagrams as needed.
16. When talking about temperatures, pressures, flows, and levels, give the equipment number as well as name or function. Further, if it is important not to exceed a certain temperature, pressure, and so forth, so specify with a short explanation of the reason for the maximum value.
17. Ensure that all vents and drains are free of pluggage and are ready for use.
18. Specify all vessel tightness-test pressure and relief valve settings to avoid popping relief valves.
19. Specify in the procedures when to commission any onstream analyzers and other instruments.
20. Caution operators about ammonia.
21. Specify flow rates during startup.
22. Pressure test the system.
23. Monitor the pressure of the system at strategic points to ensure the system is starting up properly.
24. Ensure that emergency shut down equipment works properly.
25. Ensure that pressure and temperature gauges are calibrated.