

Readiness Review Weaknesses

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PURPOSE

The purpose of this Safety Advisory is to promote the sound and thorough implementation of the readiness review requirements in Department of Energy (DOE) Order DOE O 425.1C, *Startup and Restart of Nuclear Facilities*. Effective readiness reviews are essential to the Department's ability to safely conduct hazardous operations as part of its national security, science, nuclear energy, and waste management missions.

Insufficient preparation for, and execution of, the startup process can delay resumption of facility operations, add costs in time, resources, and staff effort, and may potentially impact safe operations. Recent problems in this regard include:

- Failure to follow site-specific startup process procedures;
- Commencing a startup review before completing and implementing the safety basis;
- Failure to adequately prepare for startup; and
- Failure to implement the startup notification requirements in DOE O 425.1C.

This Safety Advisory discusses these weaknesses and provides lessons learned that can help managers avoid similar problems and improve their startup review process.

BACKGROUND

DOE O 425.1C requires DOE and its contractors to perform readiness reviews to ensure the safe startup or restart of nuclear facilities or operations. In a letter dated September 15, 2005, the Defense Nuclear Facilities Safety Board (DNFSB) identified concerns with the implementation of DOE's readiness review process.

The Office of Nuclear Safety and Environment (HS-20), within the Office of Health, Safety and Security, partnered with DOE Program Offices and the Central Technical Authorities to review the DNFSB concerns, site-specific readiness review programs, and recent readiness review activities. The information gathered from this effort was used to develop this Safety Advisory.

STARTUP REVIEW WEAKNESSES

The following specific readiness review weaknesses have been identified.

Failure to follow site-specific startup process procedures

Neither the contractor nor the DOE site office followed its respective readiness review procedure when determining the type of review needed for a startup. As a result, the facility performed a Readiness Assessment when an Operational Readiness Review was required. If either organization had fully executed its respective procedures (which were determined to be appropriate), the problems would not have occurred. The result was a delay in operations, the added costs of an additional independent review, and heightened regulatory oversight.

Commencing a startup review before completing and implementing the safety basis

One contractor began conducting the facility readiness review before the safety basis was approved and implemented. When the safety basis is not final, it is not possible to have approved technical safety requirements (TSRs), procedures, training, or qualifications in place. Because the purpose of conducting a readiness review is to verify the implementation and effectiveness of the TSRs, procedures, training, and qualifications, they must be complete and fully implemented before a facility or operation can be declared ready to operate. In another example, all contractor and DOE startup review process documentation was produced on the same day – only one day after the safety basis documents had been approved. A few days later, when the contractor and DOE readiness reviews began, it was discovered that the safety basis had not been adequately implemented. The DOE readiness review found a series of major issues that should already have been resolved by the contractor. Again, the result was unnecessary delay, additional oversight, and a loss of confidence.

Failure to adequately prepare for startup

Some DOE readiness reviews have been suspended to allow for resolution of major safety management program issues found during the review. When this

happens, it indicates that the contractor had not adequately prepared for facility operation and that the contractor readiness review was insufficient to verify readiness to operate. It also calls into question the effectiveness of the DOE site office in verifying the readiness to proceed with DOE reviews.

Failure to implement startup notification requirements

DOE O 425.1C includes requirements for the content and timely submission of Startup Notification Reports (SNRs). In several of the startups discussed above, the SNR was either not sent to Headquarters or contained too little information for a meaningful review. Missing or incomplete SNRs preclude the opportunity for management review and correction of problems early in the startup review process. This weakens the DOE's defense-in-depth approach to safety and can allow easily solved problems to propagate into major issues.

RECOMMENDATIONS

1. DOE and contractor line managers should ensure that their organizations follow their respective readiness review procedures. Procedural compliance is a cornerstone of an effective safety culture.
2. The readiness review process is the final verification of readiness, not a tool for achieving readiness. Contractor line managers should ensure that all appropriate preparatory actions have been taken *before* verifying readiness through an operational readiness review or readiness assessment. Overlapping the readiness review processes with the goal of achieving readiness can lead to undue schedule pressures and premature attempts to verify readiness, resulting in greater delays, costs, and need for external oversight.
3. Contractor line managers should verify that basic safety management principles and programs are fully implemented, including the strength of the safety culture at their facilities. Safety management programs should be implemented and institutionalized *before* verifying readiness to start up.
4. DOE and contractor line managers should ensure that their startup review processes, including SNRs, fully implement DOE directives and should follow up to ensure that they are properly executed.

ADDITIONAL SOURCES OF INFORMATION

HS-20 has established a Complex-wide Readiness Working Group to develop improvements to the Department's readiness review process, including potential directive revisions, a forum for communication and sharing best practices, task groups for specific issues, and a focal point for the whole readiness review area.

The Readiness Working Group web site (<http://www.efcog.org/wg/readiness>), which is hosted by the Energy Facilities Contractors Group (EFCOG), provides more information. More detailed lessons learned are available on the web site under the link "Hot Documents." For more information, or to provide feedback, please contact Mike Hillman at 301-903-3568 or michael.hillman@hq.doe.gov.

