



**Operational Reviews – How Y-12 Meets
ANSI/ANS-8.1 Section 4.1.6**

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Overview

- ANSI/ANS-8.1 Section 4.1.6 Review
- Procedure Y70-164
 - Active Processes
 - Suspended Processes
 - Inventory Control Procedures/Nuclear Criticality Safety Determinations (NCSDs)
 - Fissile Material Storage
 - Ventilation Systems
 - Technical Deviations (TD)

ANSI/ANS-8.1-2014, Section 4.1.6

“Operations shall be reviewed frequently (at least annually) to ascertain that procedures are being followed and that process conditions have not been altered so as to affect the applicable nuclear criticality safety evaluation. These reviews shall be conducted, in consultation with operating personnel, by individuals who are knowledgeable in nuclear criticality safety and who, to the extent practicable, are not immediately responsible for the operation.”

Y70-164 – Nuclear Criticality Safety Operational Reviews

- Procedure issued in December 2013
- Guidance for different types of operational reviews
 - Active Processes
 - Suspended Processes
 - Inventory Control Procedures/NCSDs
 - Fissile Material Storage Areas
 - Ventilation Systems
- Revised annually, on average
- Recent changes – September 2018
 - Inadvertent Accumulation Protection Program (IAPP) review
 - Review entire evolution of an active process, if it can be accomplished in a single shift
 - More formal operator interviews, including lines of inquiry (LOIs)
 - Review of general handling/staging during operational reviews
 - Review of non-routine activities during operational reviews

Y70-164 – Nuclear Criticality Safety Operational Reviews

- NCS Engineer and CSO that perform each operational review must be appropriately qualified
 - Familiarity with process
- CSO coordinates the operational review with Operations/Production
- Processes must be physically observed or completed as dry runs
 - Dry run - Evolution is performed in the field from start to finish by following applicable procedures, but materials and equipment operations are only simulated
- CNS/Y-12 NCS Committee monitors progress of operational reviews
 - NCS Managers/Senior Technical Advisor maintain monitoring and progress reporting method (metric)
 - Document Manager maintains the operational review database/tracking mechanism
- Operational reviews must be performed in the field by their assigned due date
 - Reviews are scheduled throughout the year to avoid schedule issues at the end of the FY
 - Completed reports must be issued within 2 months after the due date
 - Active fissile processes are put on hold for those that are not completed by the due date
 - CSEs are suspended/cancelled if there is no path forward for performing an operational review/dry run

Operational Reviews at Y-12 – Active Processes

- NCS Engineer prep/refresher prior to operational review
 - Process description, analysis, and controls in CSE
 - Active TDs, DCNs, and/or addenda
 - Prior operational reviews, specifically for previously identified issues/comments and their status
 - IAPP documentation, specifically for previously identified recommendations and any areas of importance
- Observe full evolution of the process, if it occurs in one work shift (or less)
- Observe operator performance
 - Ensure requirements are being followed appropriately and without difficulty
 - Procedure availability
- Observe field conditions, and ensure they are consistent with CSE description and controls
 - Non-routine activities (filter changes, surveillances)
 - General handling/staging
 - Postings (appropriate location, not deteriorated, unobstructed, current)
 - Design features

Operational Reviews at Y-12 – Active Processes

Document the review (UCN-21636)

- Include observations and general comments
- Note other portions of the process to be reviewed
- Provide operator feedback
 - Conduct interviews (LOIs) during or after an operational review
 - Opportunity to test operator knowledge of system inputs, outputs, normal conditions, upsets, etc
- Document any equipment and/or CSE issues
 - Must be closed or entered into a formal tracking system, before operational review is approved
 - For equipment issues, Design Authority Rep and Operations Manager must review/sign operational review
- Obtain appropriate signatures
 - NCS engineer/CSO
 - Production Manager
 - NCS Manager

Operational Reviews at Y-12

Suspended Processes

- Review suspension instructions, previous operational reviews, IAPP documentation
- UCN-21638
 - Provide justification for not cancelling the CSE
 - Questions to be resolved, if applicable

Inventory Control Procedures/NCSDs

- CSEs are not required
- Review procedure/NCSD, previous operational reviews, IAPP documentation
- UCN-21637
 - Questions to be resolved, if applicable

Operational Reviews at Y-12

Fissile Material Storage Areas

- CSO should prepare a sampling of items in the area to be reviewed (e.g., item monitoring)
 - Verify pertinent information to enhance existing systems for detection of any attempt of theft or diversion of special nuclear material
 - Container review form (UCN-26198)
- Inspect storage equipment for material condition issues
- UCN-26012

Ventilation Systems

- Review recent surveillances, previous operational reviews, IAPP documentation
- Inspect equipment
 - No signs of degradation beyond what is allowed in CSE
 - Drains and seal pots
- UCN-26011

Operational Reviews at Y-12

Active Processes

- Once per FY, anytime during FY
 - Flexible
- Observe entire evolution of process
- Approximately 120
 - Larger processes broken into segments for review

Suspended Processes

- At least once every 3 years, per schedule
 - Determined by NCS managers/NCS chief
- Partially suspended CSEs that have active portions must be reviewed annually
- Approximately 9

Operational Reviews at Y-12

Inventory Control Procedures/NCSDs

- Annual, per schedule
- Covers facilities that do not require CSEs (per STD-1027)
- Approximately 5

Fissile Material Storage

- Once per FY, anytime during FY
- Approximately 10

Ventilation Systems

- Once per FY, anytime during FY
- Collaborate with CSOs/System Engineers
- Approximately 4

TDs

- If TD is >1 year old at the beginning of the FY, operational review must be scheduled separately from CSE
- Approximately 20

Questions?