OPERATIONS (OPS)

OBJECTIVE

OPS.1 The formality and discipline of operations is adequate to conduct work safely and programs are in place to maintain this formality and discipline. (CR 13)

Scope: The Conduct of Operations Program was evaluated during the recent KE Basin FTS ORR and was found to be adequately implemented. Based on this result and the subsequent program enhancements, the scope of the review is to be limited to the SWS operating and maintenance evolutions.

Criteria

- Programmatic elements of conduct of operations are in place for SWS operations. (DOE Order 5480.19)

- The SWS operations personnel adequately demonstrate the principles of conduct of operations requirements during the shift performance period. (DOE Order 5480.19)

Approach

Record Review

- Review recently completed operations logs, shift turnover documents, and other plant records of note to assess compliance with conduct of operations principles.

- Review the contractor ORR report and the MSA for this CRAD, adjust the approach accordingly, and provide input to CRAD-17 write-up.

Interviews

- Interview the SWS Shift Managers, Operations Engineers, Nuclear Chemical Operators and Support Personnel (such as millwrights and riggers) to assess their understanding of the conduct of operations principles (e.g., procedure usage, communications, response to alarms, turnover, independent verification, and timely orders) in the performance of their duties.

Shift Performance

- Observe multiple simulations/evolutions to determine if the facility is effectively implementing the conduct of operations requirements (e.g., procedure usage, communications, response to alarms, independent verification, shift routines and operating practices).

• Attend shift turnovers and pre-job briefings and observe control area activities, operator rounds, panel walkdowns, procedure use, communications, response to alarms, control of system status, and lockout/tagout activities.

• Observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

• Observe training drills and responses to adverse conditions to verify operations personnel are able to properly respond to casualty situations.

OBJECTIVE

OPS.2 Sufficient numbers of qualified personnel are available to conduct and support operations. Adequate facilities and equipment are available to ensure operational support services (such support services include operations, hoisting and rigging, training, maintenance, waste management, environmental protection, industrial safety and hygiene, radiological protection and health physics, emergency preparedness, fire protection, quality assurance, criticality safety, and engineering) The level of knowledge of managers, operations personnel, and support personnel is adequate based on reviews of examinations and examination results and selected interviews of personnel. (CR-4, CR-6)

Scope: Only personnel, facilities, and equipment associated with SWS operation (STS and SRS) will be evaluated under this ORR. Required staffing levels for the SWS operation will be evaluated and determined to be adequate.

Criteria

• Minimum staffing requirements have been established for operations and support personnel, including supervisors and managers. These staffing levels are met and are consistent with the safety basis requirements and assumptions. (DSA)

• Sufficient numbers of qualified operations and operations support personnel are available to carry out SWS operations. (DOE Order 425.1C)

• The level of operator knowledge is adequate to operate safely. Operators demonstrate a working knowledge of the facility systems and components related to safety. Operators demonstrate the ability to carry out normal, abnormal, and emergency procedures. (DOE Order 5480.19, Ch. XIII)

• Operations, management, and technical support personnel retain a practical and adequate understanding of facility systems, safety basis documents, the TSR, and procedures. (DOE Order 5480.19, Ch. XIII; 10 CFR 830, Subpart A, Criterion 2)

• Managers, operations personnel, and support personnel demonstrate competence commensurate with responsibility through written and oral exam records, walkthroughs, interviews, and performance demonstration. (DOE Policy 450.4)

• Hoisting and rigging activities associated with the SWS have implemented the requirements of DOE-RL-92-36, *Hanford Hoisting and Rigging Manual*. (DE-AC06-96RL132000)

Approach

Record Review

• Review the DSA for staffing requirements. Compare it with personnel records (list of qualified personnel) to assess the ability of the facility to field the required personnel.

• Review the SWS staffing plans (or the SWS startup plan), and ensure there are adequate numbers of qualified personnel to support SWS operations. Consider the planned shift rotation schedules in this review.

• Review program documentation to determine that industrial safety, radiological controls, waste management, and hoisting and rigging programs have been implemented for the SWS (records of SME inspection activity, workplace air monitoring, AJHA, industrial monitoring, etc.)

• Review contractor ORR report and the MSA for this CRAD, adjust the approach accordingly, and provide input to CRAD-17 write-up.

Interviews

• Interview operations managers and shift supervisors to ensure they understand the minimum staffing requirements for all phases of facility operations.

• Interview support personnel to determine if sufficient numbers of qualified personnel are available to support SWS normal, upset, and emergency conditions.

Shift Performance

• Assess staffing levels and adequacy of support personnel while observing drills and/or routine evolutions to determine if they are adequate and satisfy the administrative and safety basis requirements.

OBJECTIVE

OPS.3 Adequate and correct procedures and control limits (including safety limits as applicable) are in place for operating the process systems and utility systems that include revisions for modifications which have been made to the facility. Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures. (GP-6, CR10)

Scope: Operational, maintenance, utility, drill, and alarm response procedures for operation of the K Basins SWS are within the scope of this ORR.

Criteria

• Procedures implement applicable SWS safety requirements and the associated limiting conditions for operation. (DOE Order 5480.22, paragraph 9.e.; DOE Order 5480.19, Chapter XVI)

• The parameters indicating compliance with the SWS safety requirements can be measured or physically verified. (DOE Order 5480.22, paragraph 9.e)

• Confirmation of continued compliance with safety requirements, including clearly defined surveillance intervals and periodic self-assessments, is required by SWS procedures. (DOE Order 5480.22, paragraph 9.e., Attachment 1, “Background”)

• The SWS operations, maintenance, and surveillance procedures meet or exceed the requirements of the guidance provided in DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*. (DOE Order 5480.19, Chapter XVI; DOE Order 414.1A Criterion 5; DOE Order 4330.4B, Chapter II)

• The SWS procedures are available to the operators to enable them to monitor and control operation under normal, abnormal, and emergency conditions. (DOE Order 5480.19, Chapter XVI; DOE Order 5480.22, paragraph 9; DOE Order 414.1A Criterion 5)

• Procedures were developed or revised based upon the latest modifications to the facility (DOE Order 5480.19, Chapter XVI)

Approach

Record Review

• Select several safety requirements and determine if associated operating, surveillance, and maintenance procedures implement the limiting conditions for operation.

• Verify that the facility systems and procedures, as affected by facility SWS modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis.

• Review procedures to assess whether contingencies (spray leaks, spills, etc.) are adequately captured.

• Verify that procedures which affect safety-related equipment and emergency procedures have been reviewed by the facility safety review committee or by another appropriate review mechanism

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• Verify that the technical performance data in procedures (such as instrument setpoints, relief valve setpoints, design pressures or temperatures, and points for operator action) are consistent with the authorization basis assumptions and safety analysis results.

• Review the adequacy of the contractor ORR for CR-10, adjust the approach accordingly, and provide input to CRAD-17 write-up.

Interviews

• Interview operators and supervisors to assess their understanding of the procedure change process, and how they verify the latest approved revision of a procedure.

• Interview operators and supervisors to assess their understanding of the site procedure compliance policy.

• Interview operators and supervisors to assess their understanding of the new SWS procedures.

• Interview operators and supervisors to assess their understanding of actions to take during upset conditions during operations

• Interview procedures management and w

riters regarding the validation process of the SWS procedures, to include completed walkthroughs and applicable safety committee reviews.

Shift Performance

• While observing evolutions and drill response, determine if the facility procedures are adequate in content, level of detail, and acceptance criteria, and if they properly implement safety requirements. Verify procedures are adequate to support safe operations.

• Observe performance of a surveillance and operator round to determine if the safety system parameters used to verify compliance with safety requirements are accurately verified. Verify procedures are consistent with and satisfy administrative and safety basis requirements.

• If procedure changes are necessary, assess the steps taken in the review and approval process.

• Verify that the procedures used by the operators are properly controlled to ensure only the latest revision is used.

• Verify that operators are following the procedure compliance policy.