

Subject: Yellow Alert- Maintenance of Safety Systems and Safety Significant Systems

The following Bechtel Jacobs Company, LLC Lesson Learned Yellow Alert is provided for sharing across DOE facilities as applicable. If you have any questions, please contact Joanne Schutt at (VOL)483-0554, [e-mail=schuttj@pwtor.com](mailto:schuttj@pwtor.com)
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TITLE: Yellow Alert- Maintenance of Safety Systems and Safety Significant Systems

IDENTIFIER Y-2000-OR-BJCETTP-0102 DATE January 31, 2000

LESSON LEARNED STATEMENT- Facility Managers must insure that activities planned and performed in and all immediate areas around facilities under their jurisdiction are within the bounds of the facility Safety Authorization Basis (SAB). Facility Managers need to provide direction on information needed for maintaining the status of safety systems and safety significant systems. Communication to service providers and facility occupants/users of reporting and information needs is essential to the maintenance of the status of safety systems and safety significant systems.

DISCUSSION OF ACTIVITIES- While reviewing work planning and scheduling for annual trip testing of dry pipe sprinkler systems in Building K-25, it was discovered that 30 systems had not been tested within their scheduled date for annual testing. Facility Safety Authorization Basis (SAB) documentation can include but is not limited to the following

- * Bases for Interim Operation (BIOs)
- * Safety Analysis Reports (SARs)
- * Final Safety Analysis Reports (FSARs)
- * Facility Emergency Plans
- * Preliminary Hazard Screenings.

Safety systems, structures, or components (SSCs) are either safety class or safety-significant. Safety Class SSCs are those where failure could adversely affect the environment, or safety and health of the worker or public as identified by safety analyses. Safety-significant SSCs are those not designated as safety class but whose preventive or mitigating function is a major contributor to defense in depth and/or worker safety as determined from hazard analysis. The dry pipe sprinkler systems in the K-25 building are designated as Safety-significant SSCs. The K-25 Building Facility Manager had been obtaining information on the general progress activities such as the dry sprinkler system testing by the Fire Protection Organization. The information was being gathered during bi-weekly meetings with all facility occupants. However, specific guidance from the Facility Manager on conditions that are immediately and routinely reportable had not been provided to Fire Protection. At the times the scheduled tests were missed, Fire Protection personnel failed to note the significance of their status as Safety-significant SSCs. If a fire had occurred, these systems would have activated and transmitted an alarm to the fire department. The system failures related to signal response time, not system actuation. Compensatory measures in the form of fire patrols were implemented immediately. Coordination with the K-25 Building Facility Manager was undertaken to restrict any activities which may contribute to fire risk or exceed the safety authorization of the fire protection system.

The trip tests for the K-25 building Safety-significant systems, which were past due, were completed on September 24, 1999. No overdue tests were found in Safety-significant systems at the ETTP other than those previously identified for the K-25 building.

RECOMMENDED ACTIONS- Facility Managers should review facility SAB documentation to identify Safety-class SSCs and hazard analyses for Safety-significant SSCs. Facility Managers should work closely with service providers to ensure that facility systems are properly maintained and capable of performing as designed. Facility Managers should provide guidance to service providers and user/occupants as to the preferred method of reporting test results, problems and concerns.

PRIORITY DESCRIPTOR Yellow/Caution

FUNCTIONAL CATEGORY(S) (DOE) Fire Protection

FUNCTIONAL CATEGORY(S) (BJC Trend Codes) Fire Protection

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KEYWORDS Safety Authorization Basis, SAB, dry sprinkler, testing, Safety-significant, Safety Class

REFERENCES Occurrence Report ORO-BJC-K25GENLAN-1999-0016

HAZARDS Fire/NFPA

WORK ACTIVITY Inspection & Testing, Safety/Safety Significant Systems

FOLLOW-UP ACTION- Information in this report is accurate to the best of our knowledge. As means of measuring the effectiveness of this report please notify Joanne E. Schutt at (865) 483-0554, e-mail at schuttj@pwtor.com of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.