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Subject: Blue Alert- Weld Failures on Drilling Rig

Title: Blue Alert- Weld Failures on Water Development Drilling Rig

Date December 08, 1999 Identifier ALO-AO-MHSM-PANTEX-1999-0059

Lesson Learned Statement- Drilling rig equipment should be inspected by qualified personnel and any deficiencies noted should be corrected prior to equipment being used. Deficiencies noted by subcontractor personnel should be immediately communicated to MHC Project Management personnel. All corrective actions should be documented to support appropriate verification activities. Written authorization should be required to place the drilling rig equipment back into service at Pantex based on corrective actions. The lessons learned from this event can be applied to other industrial operations. Equipment with identified deficiencies must not be placed in service prior to corrective actions being completed. Qualified personnel must inspect the condition of the equipment for intended use suitability, and qualified personnel must verify required corrective actions have been satisfactorily completed.

Discussion of Activities- At approximately 1045 hours on Saturday, August 21, 1999, Water Development Corporation, a subcontractor to Mason & Hanger Corporation (MHC) Basis Ordering Agreement subcontractor (ETAS Corporation), was in the process of erecting a drilling rig mast on the northeast side of the Pantex Plant. During this process the welds that attach the hydraulic cylinders to the mast of the rig had a weld failure and the rig fell back into its cradle. The drilling rig operator for Water Development Corporation had performed a visual assessment of the rig on August 18, 1999, and had identified several welds that were stressed. Based on this visual assessment, a welder was dispatched to Pantex by Water Development Corporation to perform repairs. The welders assessment concluded that the necessary repair work was too extensive to be performed in the field. The District Manager for Water Development Corporation determined that the rig could be used in its current condition to complete the work on-going at the drilling site. The preliminary investigation revealed that the failed welds were the welds that had been previously identified by WDC rig operations personnel.

Analysis- Drilling rig equipment was visually inspected and stress welds were noted. Corrective actions to address the stress welds were not initiated and the equipment failed. Subcontractor personnel did not notify MHC personnel of equipment problems or the need for corrective action.

Recommended Actions

1. ETAS and WDC provide MHC a copy of Health and Safety Plan.
2. Review and revise STR requirements for specific requirements for drilling rigs.
3. Verify qualifications of personnel doing inspections.

4.Suspend all operations until SME has reviewed rigs for defects.

Priority Descriptor Blue/Information

Functional Category(s) (DOE) Conduct of Operations, Occupational Safety and Health

Functional Category(s) (User-Defined) Safety, Inspection, Failed Equipment

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