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Subject: Yellow Alert- Drill Rig Operator Injured in Pinch Point

**TITLE: Yellow Alert- Drill Rig Operator Injured in Pinch Point**

IDENTIFIER: Y-2002-OR-BJCPORTS-0201      DATE: February 18, 2002

**LESSON LEARNED STATEMENT:** Contractors need to incorporate appropriate steps in sub-tier and specialty contractor mobilization processes to ensure that actual work practices and "skill-of-the-craft" do not conflict with ISMS zero accident, safety-first operating expectations.

**DISCUSSION OF ACTIVITIES:** On Friday, November 16, 2001, a hollow stem auger drill rig operator working at the Portsmouth Gaseous Diffusion Plant (PORTS) incurred a severed finger in a pinch-point injury. The operator suffered amputation of the right-hand ring finger between the nail and the middle joint. The middle and index fingers of the same hand were broken at the knuckle. The back of the hand was lacerated beginning at the knuckle of the middle finger, crossing the index finger, and extending toward the thumb. This cut also severed the tendon to the index finger. The investigation found that the manual alignment of extension rod sections to the threaded rod cap - introducing the operator's hand into the pinch point hazard - was a practice that the operator considered a routine and accepted risk. The drilling subtier contractor stated that this is not their accepted method. However, they were unable to provide written procedures or training that would demonstrate that they had clearly established an expectation for use of some alternate, safer method.

**ANALYSIS:** Initiation of field activities by new sub-tier contractors, new personnel, or utilizing different equipment should include on-scene contractor oversight to make first-hand determination that work practices associated with the equipment and its operation conform to the intended safety standards and expectations.

**RECOMMENDED ACTIONS:** Contractor should assess all ongoing drilling operations to determine what exposures operators/crew have to pinch points and rotating hazards. Identified exposures must drive additional evaluation of work practices by subcontractor line and safety personnel to verify adequate mitigation and barriers are in place. Rigor of this assessment needs to be commensurate with the hazard potential of drilling equipment, which this injury has demonstrated to be significant. Contractors should impose actions on specialty subcontractor's to assure qualified first-line supervision, familiar with the equipment and its safe operation, are involved and engaged in the conduct of critical activities. Contractors should initiate action to address both the definition of critical field activities, and the proposed integration of job-site presence by first line supervision, the subcontractor's health and safety officer, and other support personnel knowledgeable of safe equipment operation. Contractors should add additional detail and requirements for drilling equipment acceptance to applicable future contracts; impose parallel requirements upon drilling scope in ongoing work; add heavy equipment readiness as a specific item in the readiness review checklist/process. Contractors should revise process to require that subcontractors submit a comparison of equipment proposed for use against current manufacturer and industry consensus standards and regulations to identify any non-conformances, and compensatory measures.

Activity Hazards Assessments (AHAs) for all drilling scope should address level of detail commensurate with the significant pinch point, rotational, and associated hazards inherent in this equipment and scope of work. Drill rig operations should be conducted in accordance with written instruction that conforms to the manufacturer's operating manual and safe work practices for the equipment in use. Roles and responsibilities should be clearly delineated, in writing, as an aspect of subcontractor/sub-tier mobilization and the pre-job safety briefing should explicitly review this information. In addition to communicating the information, objective of this review should be to align the ownership of safety performance/responsibility with the inherent hierarchy of technical and equipment know-how necessary to conduct the work.

**PRIORITY DESCRIPTOR:** Yellow/Caution

**FUNCTIONAL CATEGORY (S) (DOE):** Conduct of Operations

**BJC TREND CODE (S) (USER-DEFINED):** OP - Conduct of Operations; HO - Hoisting & Rigging

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**KEYWORDS:** Well, drilling, pinch-point, hand injury

**REFERENCES:** Occurrence Report: ORO-BJC-PORTENVRES-2001-0020

**HAZARDS:** Mechanical/Structural

**WORK ACTIVITY:** Heavy Equipment

**ISMS CODE:** Analyze Hazards; Hazard Controls Tailored to Work Being Performed

**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](mailto: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.