Automatic Pipe Handling System Drops Drill Pipe

Recently on a deep water drill ship, drill pipe was being mechanically loaded onto a pipe-transfer conveyer. The system uses two mechanical loading arms to lift the pipe, allowing it to roll and be positioned on the conveyer. When the loading arms lifted the drill pipe, the box end became wedged under a utility cart that runs on rails above the conveyer. The utility cart had been mistakenly moved and parked by other personnel so that it interfered with pipe-loading.

When the mechanical arms attempted to lift and position the pipe, the box end was caught under the utility cart while the pin end was levered upward until it became critically imbalanced. The drill pipe then rolled over a hand rail and fell 30 feet penetrating the deck of the drill ship and causing other damage.

An investigation conducted by BSEE, the operator, and the rig contractor determined that positioning of the utility cart created an obstruction to pipe loading, and was the root cause of the accident. Also, the area was supposed to be surveyed to insure the conveyer was clear of obstructions, but circumstances and human errors caused a failure to identify the hazard.

As a corrective measure, the rig contractor painted the conveyer to designate a location for the utility cart when pipe loading operations are underway. Physical barriers to prevent reoccurrence were also added. The BSEE recommends operators and contractors review their mechanical loading systems and consider how to avoid incidents caused by obstructions, such as utility carts, in the path of operations.