



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 10 – 06

## NEAR MISSES INVOLVING RIG BRAKING SYSTEMS

### WHAT HAPPENED:

Recently a company has experienced several serious incidents that are of a kind you can describe as a “Driller’s worst nightmare”.

1. One driller had miscommunication with a crewman who, instead of opening the valves to fill the trip tank, disengaged the auxiliary brake handle. Because the electric auxiliary brake was not engaged, the drawworks brakes overheated resulting in the driller not being able to stop the blocks, which ran into the top drive rail stops.
2. On another rig the driller turned the hydromatic brake water valve the wrong direction. This resulted in shutting off the water supply to the auxiliary hydromatic brake which caused the drawworks brakes to overheat. He was unable to stop the descent of the blocks and the elevators which struck the rotary table, bending the joint of pipe in the elevators.

No injuries resulted from these incidents and each could have been far worse.

### WHAT CAUSED IT:

- In the first incident there was a breakdown in communications between the driller and crewman.
  - The floorman came from a crew that used different hand signals.
  - Misunderstanding by the crewman regarding the rig operation and systems.
  - A bolt and nut were used to lock the electric brake handle to lock it in the engaged position.
- In the second incident the driller was not aware of the valve position for water to be supplied to the auxiliary hydromatic brake.
- There was a lack of labeling to indicate the open and closed on the hydromatic brake water supply valve.

**CORRECTIVE ACTIONS:** To address this incident, this company did the following:

- To address the communication problem in the first incident on rigs where supervision and crews speak different languages, the company developed rig fleet-wide standardized hand signals.
- The bolt and nut securing the electric brake engaging handle were replaced with a padlock with the key kept in the driller’s control.
- The electric brake handle was painted safety yellow to make it more visible.
- The remedial action plan for the second brake incident included labeling the water control valve to the hydromatic brake showing the direction of open and closed.
- Review with all crewmen the danger signs signifying overheating mechanical brakes. When mechanical brakes display signs of overheating, they are likely being misused.

These incidents have stimulated discussions among operations personnel. A memo was sent to the field to solicit comments about these and other issues surrounding the drawworks brake systems.

The hope is that this safety bulletin will further that discussion.

**The Corrective Actions stated in this alert are one company’s attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.**

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Both incidents and remedial action plans should prompt each of us to ask, “How are we managing the brake systems on our rig(s)?” Audit your brake system procedures, reviewing how brakes are used in your operation before your worst nightmare becomes reality!

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