



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 00-39

## NEAR MISS - FROZEN AIR REGULATOR

### WHAT HAPPENED:

Recently a rig operating in a cold environment had a situation occur that involved the rig's emergency breathing air system. While masked up due to high levels of H<sub>2</sub>S on the rig floor and in the tailpipe (250 ppm on rig floor/1580 ppm in the tailpipe), the air supply cascade system failed, leaving personnel without an air supply to their work masks. Personnel immediately converted to five-minute escape units and evacuated the rig.

No injuries resulted.

### WHAT CAUSED IT:

The air regulator was located outside in the cold weather. Crews determined that the severe cold weather conditions allowed the air regulator on the cascade bottles to freeze.

### CORRECTIVE ACTIONS:

A JSA for this type of operation should include a review of the hazards along with the following items.

- To prevent the air regulator from freezing:
  - The regulator should be moved into the doghouse or other warm protected location;
  - A second regulator should be installed as a back up.
  - Read all product information from the manufacturer and follow all relevant recommendations.
- To prevent Cascade air lines from freezing:
  - Cascade air lines should be run so that they are protected and prevent bends (low spots) in the line where moisture could be trapped and possibly freeze.
  - Moisture should be removed from the system by periodically draining low spots utilizing drain valves and plugs and / or blowing the sections down.
  - Where weather conditions change frequently and sometimes severely, crewmen must remember to take the appropriate precautions when there is a potential for external conditions to affect the equipment or the activities to be performed.
    - External conditions can include extreme heat or cold, high winds, water depth/movement, corrosion, etc.
- It should also be noted that cold weather can have negative affects on the rig's operating air systems such as air lines to clutches, air release valves, air regulators, etc. Precautions and preventative measures should be taken to ensure that the rig operating air system functions properly in cold weather.

**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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