



Use of Locally Fabricated or Modified Equipment

DROPS Forum
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Incident 1: Welder Electrocution

A rig subcontractor suffered fatal injuries from electrical shock while performing a welding operation. A light used to illuminate the worksite was found to be a potential source of electrical shock as the light's electrical cord was found to have been damaged. The damage was caused by a pinching action of the cord between the loose mounting bracket of the light and the light housing which was observed to be in contact with the victim's body.

Welder Electrocutio



Incident 1: Welder Electrocutation

A ground fault circuit interrupter (GFCI) was not utilized and the breaker did not trip when the incident occurred.

A light designed for permanent exterior mounting was modified for use as an interior portable illumination source.

Subcontractor personnel were not effectively supervised by the drilling contractor.

An effective pre-job (pre-start) safety discussion was not held.

Incident 1: Welder Electrocutation

The approved Job Safety Analysis (JSA) overlooked the potential for electric shock hazards and for cord damage and did not address the actual work that was performed.

Confined Space Entry was not considered or included in permits.

The Hot Work Permit review process was not effective.

Incident 2: Rig fabricated tools resulted in fatality

The rig crew was using an air hoist to lift a hose assembly in preparation for a well pressure test.

The lift accessory being used failed causing the hose assembly to fall striking two members of the rig crew, fatally injuring one.

Rig fabricated tools resulted in fatality



Rig fabricated tools resulted in fatality

Use of a rig fabricated, non-certified lifting device was generally accepted by the contractor's crew and was in place for years.

Contractor's personnel did not recognize the hazard of standing underneath the load (Line of Fire) and Stop Work Authority was not used.

The contractor's crew considered the task of lifting and moving the hose assembly to be routine and job planning was inadequate.

Locally Fabricated Tools

Fatal incident due to pinched cord on a locally modified light fixture



Fatal incident due to failure of locally made rigging device



These locally fabricated or modified pieces of equipment exposed our workforce to unacceptable additional risks.

Prohibit Locally Fabricated and Modified Equipment Without Appropriate Reviews

The use of locally fabricated and/or modified equipment should be prohibited unless it meets appropriate requirements for design, manufacture, certification, and maintenance as defined by applicable industry standards, local standards, and/or company standards.

- *In each incident, a locally fabricated or modified piece of equipment failed. The consequences included fatalities, injuries and equipment down time.*
- *Each device was fabricated locally in order to facilitate work and did not meet appropriate industry standards.*



These locally fabricated or modified pieces of equipment exposed our workforce to unacceptable additional risks.



Summary: Prohibit Locally Fabricated or Modified Equipment Without Appropriate Reviews

Recommended Actions for Leaders

- Ensure locally fabricated or modified equipment meets applicable industry, regulatory and company standards.
- Establish clear expectations on the prohibition of locally fabricated or modified equipment unless properly reviewed and authorized.
- Promptly survey existing equipment and remove from service locally fabricated or modified equipment unless reviewed and authorized.

Recommended Actions for Individuals

- Do not modify or manufacture any equipment without proper authorization.
- Ensure clear instructions on the design, manufacture, certification, and maintenance of locally fabricated or modified equipment are provided.
- Remove from service equipment found to be damaged, not appropriate for the intended task, with unauthorized modifications or without certifications.
- Do not accept workplace modifications to equipment without proper authorization.

Locally fabricated or modified pieces of equipment can expose our workforce to unacceptable additional risks. Obtain proper authorization.