



Petroleum Safety Significant Incident Report No. 01/2009

Side-boom contacts power line

Incident

A side-boom was working in tandem with a second side-boom to move a pipeline segment into a trench. The working side of the trench had been elevated by placing the spoil on that side. The segment movement was anticipated to be the last of the day and the operators began the move without a spotter.

The side-boom either contacted, or approached close enough to cause an arc from, a 22 kV power line. The power line broke. The live end ignited a small grass fire and the dead end came to rest on the side-boom.

The operator left the side-boom shortly after the power line broke and while the dead end of the power line was still in contact with the side-boom.

The trench had only been recently excavated and catenary markers to show the power line's location and safe working distance had been removed for excavation.

Contributory factors

- Power line catenary markers had been removed for previous excavation of the trench.
- Side-boom operators worked without a spotter for the brief period leading up to the incident.
- Side-booms were operating on raised ground due to spoil from trench being on the working side of the trench.

Comments and preventative actions

- Mechanisms such as catenary markers at power lines are in place to identify the power line location and indicate the separation distance that must be maintained.

Any modifications should be controlled and the mechanisms reinstated when the purpose for removal is completed.

- Working procedures such as the requirement for a spotter are in place to achieve consistent and safe work practices.

Minor deviations from procedures can have significant consequences.

- The working height for pipe lifting equipment during pipeline construction is readily controllable given the excavation equipment involved.

Equipment and operator capabilities and overhead hazards should be taken into account when establishing locations for storing spoil during pipeline construction.

- The action of the operator to leave plant that is in contact with a fallen power line could have been fatal if the line was live. Remaining within the insulated cabin of the side-boom would have been the safer option.

The use of job hazard analysis (JHA) or similar pre-start hazard identification should include the appropriate response for equipment contacting power lines where work is being conducted near power lines, and consider the ability of the equipment to provide isolation from potential shocks.

- In Western Australia, two companies control the majority of power networks and have requirements for working around their assets.

Western Power (www.westernpower.com.au) in the South West and Horizon Energy (www.horizonpower.com.au) for the remainder of the state provide advice regarding working near power lines. When operating in remote Western Australia, information about working near power lines can be obtained from the nearest Horizon Energy regional office.

A handwritten signature in black ink, appearing to read 'Gooch', with a large, stylized initial 'G'.

Alan Gooch
ACTING DIRECTOR, PETROLEUM SAFETY BRANCH
4 May 2009