NOPSEMA

Safety alert 66

October 2017

Potential for fatalities from electrical incidents

What happened?

Recently, over a period of less than 90 days, NOPSEMA received three notifications of dangerous occurrences involving personnel performing electrical work which could have resulted in electric shock or electrocution:

1. Two electricians mistakenly cut through the incorrect 690 volt cable which was a supply for a temporary seawater lift pump. Fortunately, the pump was isolated at the time.
2. During an accommodation renovation an electrician cut through a live 240 volt cable while attempting to install a new light fitting which resulted in the circuit breaker tripping.
3. A well services field technician shorted out two of the 440 volt power supply phases of a cable from a control cabin which resulted in the main power supply breaker tripping.

What could go wrong?

Although no injuries or cardiac irregularities occurred during these three dangerous occurrences, each incident could have resulted in serious injury or fatality as a result of electric shock or electrocution.

Why did these incidents happen?

- There was a failure to positively identify the cables to be worked on in two of the incidents.
- There was a failure to positively confirm that electrical isolation had been undertaken prior to commencing work in two of the incidents.
- There was a failure to test that the cables were ‘de-energised’ and safe prior to commencing work in all three incidents.
- There was no Job Safety Analysis/Job Hazard Analysis for the task to be performed in one incident.
- The precautions identified in the Job Safety Analysis/Job Hazard Analysis were not complied with in one of the incidents i.e. hazards and their control measures were identified but not adhered to.
- There was no Permit To Work for the task to be performed in one incident.
- There were ineffective Permit To Work controls in two of the incidents i.e. inadequate review of permit prior to approval and issue.
- A work procedure didn’t have sufficient detail for the task being performed in one incident.
- A work procedure for the task wasn’t complied with in one incident.
- A non-competent person was working on electrical equipment in one incident.

Key lessons

The following are all necessary requirements for performing electrical work safely:

- Positive identification of cables and equipment prior to commencing work.
- Adherence to Permit To Work procedures and requirements.
- Adherence to Job Safety Analysis/Job Hazard Analysis procedures and requirements.
- Adherence to electrical isolation procedures and requirements.
- Adherence to work procedures and work instructions.
- Testing that cables and equipment are ‘de-energised’ and safe prior to commencing work.
- Ensure that only competent personnel work on electrical equipment.

The legislation

Clause 9 of Schedule 3 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* places specific duties on the operator of a facility to take all reasonably practicable steps to ensure that the facility is safe and without risk to health of any person at or the near the facility. This includes an obligation to take all reasonably practicable steps to:

- Implement and maintain systems of work that are safe and without risk to health [Clause 9(2)(d)];
- Provide all members of the workforce with the information, instruction, training and supervision necessary for them to carry out their activities in a manner that does not adversely affect the health and safety of persons at the facility [Clause 9(2)(f)].

Contact

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