

Questions and Answers

Penrose substation fire 5 October 2014

Inquiry conducted by the Electricity Authority under section 18 of the Electricity Industry Act 2010

Why did the fire occur?

- The fire was started by a faulty joint in a cable owned by Vector.
- A significant contributing factor to the spread of the fire and the widespread loss of supply was the co-location of 38 cables in a single cable trench.
- The large number of cables located in the trench provided fuel for the fire and the air in the trench provided oxygen to sustain the spread of the fire.

Why was the risk not identified?

- The risk grew over many years as cables were added to the trench. It can be difficult for parties to be sensitised to this kind of 'creeping risk' but it is nevertheless important that parties are sensitised to it.
- The Authority recommends that other utilities – not just electricity companies – learn from this event and undertake an evaluation of such risk.
- Transpower and Vector have concluded that fires resulting from cable joint faults are very rare. Although that is true, the Authority holds the view that co-locating so many cables in a single trench created a wider set of risks that should have been identified by Vector and Transpower.

Why should Transpower and Vector have identified this risk?

- The first cables were installed in this trench in 1966. Each subsequent addition of cables provided an opportunity to identify the risk of multiple cables in a single trench.
- Other opportunities to identify and manage this risk included the biennial State of the Network Review commissioned by Vector for the Auckland Energy Consumer Trust.

How has the economic cost of the fire been calculated?

- The inquiry found that the magnitude of the supply outage was significant and the economic cost to electricity customers is estimated to be between \$47 million and \$72 million.
- This cost was calculated by assessing the reduction in energy use caused by the outage and putting a value on the loss of that energy (using the results of a previous survey).
- The assumptions and methodology the Authority used in making this calculation is available in the inquiry report.
- The economic cost to customers could have been much higher if the NZ Fire Service and both Vector and Transpower had not taken such swift action.

Will customers be entitled to compensation?

- The Authority does not have a role in determining liability for compensation.
- A consumer with a claim for compensation should take it up with their electricity supplier or with the Electricity and Gas Complaints Commissioner if unsatisfied with their supplier's response. Remedies may also be sought through court action.

What action has been taken since the fire?

- Transpower and Vector have identified, and are implementing, a number of actions to improve systems and practices. The full detail of these improvements is listed in the inquiry report.
- A permanent solution for the cables damaged in the fire has been designed and agreed. The cables will be installed in fire segregated ducts along two independent routes. This work will be completed by June 2016.
- Transpower and Vector have each undertaken surveys of their sites to identify situations where failure of cables in air could lead to significant consequences. At several sites interim risk mitigations have been implemented as a precautionary measure.
- Improvements to risk identification and review processes are underway within both organisations.

What action will be taken now?

- The Authority has made nine recommendations. Details of the recommendations are available in the inquiry report.
- The Authority will monitor Transpower and Vector's progress towards implementing the recommendations and will report to the Minister if there are any deviations from the approved implementation programme.

Why did the Electricity Authority undertake this inquiry?

- The Electricity Authority is the independent Crown entity responsible for promoting competition, reliability and efficiency of the electricity industry for the long-term benefit of consumers.
- Under the Section 18 (1) of the Electricity Industry Act 2010, the Minister of Energy and Resources can request the Authority to review and report on any matter relating to the electricity industry.
- This is the first-time a Section 18 inquiry has been undertaken.

Why did this inquiry take so long?

- The Authority was initially expected to complete its inquiry by 30 April 2015.
- The delay was primarily caused by the independent, international technical experts who were engaged by Transpower and Vector to assist with the analysis for their technical report. This expertise was unavailable in NZ.
- The delay was unfortunate, but it would not have been credible to complete the inquiry while a definitive report on the cause of the fire remained outstanding.
- Vector and Transpower gave the Authority a draft report of their findings on 24 July 2015, and a final version of their report on 5 November 2015.

Who has externally reviewed this inquiry?

- The Authority's report has been independently reviewed by the Security and Reliability Council (SRC). The SRC comprises senior industry and consumer representatives.
- The function of the SRC is to provide independent advice on the performance of the electricity system and the system operator, and reliability of supply issues.
- The SRC has endorsed the inquiry report.
- Judi Jones, the Electricity and Gas Complaints Commissioner (EGCC), excluded herself from discussions on the inquiry report as the EGCC has received complaints from consumers relating to the Penrose fire.