



## *Safety Advice 09-2013 (NZ) April*

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Safety Advice 09-2013 (NZ) outlines the alert and response to inadequate horizontal separation between a planned temporary pole installation and adjacent 110kV conductors, and the alert outlines contributing factors in the design modelling, constructability review and consultation process. This provides an excellent learning opportunity in safety by design process for all recipients of the Transpower/AECOM Safety Alert that follows below

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## TEMPORARY POLE CLEARANCE

(INADEQUATE HORIZONTAL DISTANCE FROM LIVE 110 kV LINE)

### WHAT HAPPENED?

A contractor raised concern with Transpower that a 17.0 m concrete temporary pole they were installing was possibly too close to 110 kV live conductors on the existing line and was not compliant with horizontal clearances. No one was injured, no property was damaged.

The pole location was safe for everyday wind; however, there was the potential for a live line arc during a high wind event. This would have resulted in an unplanned power outage.



### IMMEDIATE ACTION TAKEN

Upon consultation, the Design Consultant reviewed the model and parameters. The designers confirmed that the horizontal distance of 6.0 m was insufficient for the 5 year Return Period wind criteria and that a horizontal distance of 10.0 m would be a safe distance for the 4 month lifespan of the pole. The pole was removed and temporary line deviation work ceased while the design and process was reviewed.

### ROOT CAUSE

- Design assumptions were not clearly communicated and confirmed within the design consultant's constructability review team.
- Questions raised during the constructability review were not clearly addressed during modeling reviews as the modeling was completed, reviewed and delivered separately from the constructability report.
- Service Providers were not involved in the Constructability Review which was completed prior to tender issue.

### LEARNINGS

- In order to meet Transpower's Safety by Design requirements (TP.DG 47.01), experienced service providers and other stakeholders must be engaged in the concept and planning phase of a project.
- Designs should not be issued until the Constructability Review has been conducted and a consolidated construction package can be issued with the drawings.
- For complex projects, consideration should be given to issuing the design in stages (e.g., temporary and final pole locations) with special emphasis on Safety by Design so that the project timelines can still be achieved safely.



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