



Broken Latchways Climbing System Update

WHAT HAPPENED?

On 1st December 2015, a First Alert notice was issued advising that a broken cable had been found on a Latchways climbing system, at tower 341 on the BPE-WIL-A line. This climbing system had been installed for 14 months. The failure has now been the subject of a detailed investigation and report, which concluded that the failure was due to fatigue of the cable (photo 1), at a bracket support near the top of the tower. The key cause is believed to be the overall non-compliant spacing's of the bracket supports, in excess of the specified 3m. Furthermore, in "High" wind zones such as tower 341 (photo 2), site specific design is required from Latchways, with spacing's expected to be less than 3m (refer table). This was not obtained, nor specified.

| Wind Zone | Beaufort scale | Mph | Km/h | Twr height | Bracket Spacing |
|-----------|----------------|----------|---------|------------|------------------------------|
| Low | < Force 12 | 73 to 83 | 117-134 | <55m | 4m maximum |
| | | | | >55m | 3m on the tower above 55m |
| High | > Force 12 | >83 | >134 | Any | Whole tower <3m |
| | | | | | Contact Latchways for advice |

The investigation is ongoing, with initial areas of focus being to identify any other similar risk sites, and review our Latchways installation strategy. Field testing to verify performance in conjunction with Latchways staff may be required.



Photo 1: The two broken cable ends with loose strands rewrapped (lower end on left, top end on right).



Photo 2: View across wind farms and Cook Strait towards the South Island from the ridge above tower 341.

ACTION

As per the First Alert, Latchways Fall Protection systems are not to be installed or used as a fall arrest system on Transpower Assets, until further notice.

All Latchways attachment travellers for use on Transpower assets are to be removed from service and securely stored, to prevent inadvertent use, pending a decision on the future use of Latchways systems.

ROOT CAUSE

- Lack of engineering application to the design, specification and installation; along with
- Inadequate training; and
- Incorrectly documented and verified QA; resulted in
- A system which was not specified or installed correctly, nor identified as such, until failure.

LEARNINGS

- The Latchways system is a key safety component that requires site specific engineering and installation management.
- This includes assessment of bracket type and location, specific to the structure member configuration.
- The performance of the system under a range of field conditions needs to be understood better.
- Similarly, greater engineering support and installation management from Latchways, Transpower and the Service Provider is required to ensure a fully compliant system.