

NATF Redacted Operating Experience Report

Pole Splicing Rigging Plates

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Topic

Pole Splicing Rigging Plates

Description

A lineman working near a 161 kV line structure was assembling two pole sections together when the (light-duty steel pole) pole splice rigging plates failed under tension causing a portion of the assembly to recoil striking the employee in the back.

Lessons Learned

- 1. The use of the bent pole-splice rigging plate created leverage and unintended direction of force on the bolt and nut attachment point.
- 2. The affected bolt was not fully engaged based on load cell tests.
- 3. The affected pole-splice rigging plate had been damaged from other activities, which caused unnoticeable damage to the plate.
- 4. Based on replication of failure, a combination of contributing factors #1 & #2 lowered the SWL (safe working load) near the tension supplied by the 3-ton chain hoist.

Actions Taken

- Pole-splice rigging plate assembly involved in the incident immediately removed from service.
- Notification to cease using this device was communicated across all line construction crews.
- Three hydraulic pole jacking devices were procured as an interim corrective action.
- New plates were designed to transfer load to surface of welded nut on pole instead of transferring load through threads of nut.

Extent of Condition

- All crews are to use the new plates or chokers to assemble pole sections.
- Add to construction standards a requirement for installation and inspection criteria to be developed &
 documented in the line maintenance manual and line construction manual prior to application of
 engineered rigging.
- See pictures on next page.

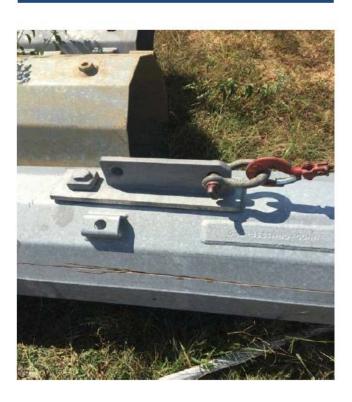
Reference: NATF-OER-272



Old Plate - load transferred through bolt treads to welded nut



New Plate - load transferred to surface of nut



Old Rigging Plate



Reference: NATF-OER-272