



NEPRA Incident Alert # 2024-01/ June 06, 2024



Lineman Fall Accident

Summary

On February 28, 2023, at approximately 10:15 Hours, the 500kV transmission line tripped. Field patrol revealed partial collapse of towers. Rehabilitation work commenced and was successfully complete. On March 15, 2023, a team supervised by an Assistant Engineer was assigned to re-jumper the transmission line at a tower under a Permit to Work (PTW). The weather was cloudy and fair according to weather data.

A lineman equipped with a single lanyard body belt (positioning belt) completed the re-jumpering of the Red and Yellow phases and then moved to the Blue phase to perform re-jumpering. While adjusting his position and maneuvering around the string insulator through the corona plate, he detached the single lanyard from the anchorage point. As he stepped on the string insulator, he lost his balance, slipped, and fell from a height of approximately 14 meters (45 feet) to the ground. He was transported to the nearest Health Care Centre, where he was pronounced dead upon arrival.

Findings

- Inadequate Fall Protection Equipment:** The line staff used lineman body belts (positioning belts) with single lanyards without ensuring 100% tie-off for protection against falls from height.
- Training Deficiencies:** Despite undergoing the necessary training, the field staff and officers were unable to correctly wear the safety belt. During the investigation, they could not demonstrate the proper donning and doffing of a full-body safety harness with a single lanyard.



Figure-1: Transmission Tower





High Focus Areas & Lessons Learned

- 1. Discard Substandard Body Belts:** Remove all substandard body belts from all sites, as the use of a lineman body belt (positioning belt) for fall arrest or a full body safety harness with a single lanyard is strictly prohibited.
- 2. Standard Safety Gear:** PPE shall meet the relevant local standards/specifications requirements. If local standards or specifications are not available, PPE shall comply with the most recent version of ANSI, ASTM, IEEE, IEC, NFPA or an equivalent engineering standard or specification.
- 3. Equip with Proper Safety Gear:** Provide full-body safety harness with front work positioning belt (positioning lanyard) along with double lanyard for 100% tie at all sites for climbers while working on height more than 6 feet/1.8 meter above the ground or impact level, including when climbing poles, towers and structures or using mobile elevated aerial platform, man-baskets, man-lift or bucket mounted vehicles. Full-body harness with front work positioning belt allow employees to be supported on an elevated vertical surface such as a wall or pole and to work with both hands free.
- 4. Use Appropriate Material:** In explosive or electrically conductive environments, use a full-body harness with PVC coated hardware or those made from non-conductive material like synthetic fibers or specialized fabrics with anti-static properties to minimize the risk of static discharge.
- 5. Anchor Safety Harness Properly:** Ensure the safety harness lanyard is anchored to a rigged anchorage point at height, maintain a fall clearance safety factor of two (02) feet from the impact level or ground level.
- 6. Provide Proper Training:** Arrange PPE training by suppliers or subject matter expert at the site.

