PANEL OF INQUIRY ScottishPower Express

Reference no.: EXP-14-090

Incident: Grounded Conductor at Townhill

TECHNICAL



Grounded Conductor at Townhill on 19th July 2018

On Thursday 19th July in Townhill, an animal was electrocuted by a part suspended 11kV conductor. A LiDAR survey, dated the 5th June 2018, showed no obvious defects at the incident location.

The insulator failed and the line parted from the pole, but the conductor didn't come into contact with the ground as it was held up by the jumper to the cable termination. No protection operated to take the line out as the conditions were not met to operate the sensitive earth fault protection. The protection was tested the day after the incident and operated as intended.

The insulator failed due to a pre-existing crack which resulted in partial discharge within the porcelain which, over time, eroded the surrounding porcelain material until the insulator failed.

There was good on site safety management by the first operatives on site alongside the emergency services. However, once the emergency services left site, there was poor site management and housekeeping as debris and materials were left on site. The repair was of poor quality and was not in accordance with the relevant procedure for compression fittings.

Recommendations and action points

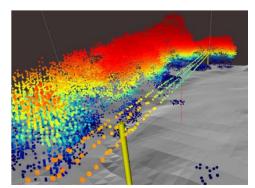
- 1. The Standby Team Leader or Duty Manager shall attend site in any situation where there is a livestock, pet or human fatality and/or emergency services in attendance.
- 2. Districts shall have a plan in place to retrospectively inspect the quality of sensitive fault repairs carried out overnight, with particular focus given to the quality of repair and site housekeeping.
- Guidance shall be given to all staff involved in fault repairs regarding recovering (ie. "bagging and tagging") faulty/failed plant/apparatus from site.
- 4. Approximately 50 similar (ie. installed around 1984) 11kV porcelain tension insulators shall be removed from the network and subjected to a forensic investigation.
- 5. More detailed information to be recorded in corporate systems relating to distribution overhead lines and the associated components on each pole.



Failed insulator



Twisted mid-span joints



LiDAR survey from 5th June 2018