

Alert Details: Earth thefts from single wire earth return system (SWER)	
Date of Alert:	18 th June 2025
Description:	
<p>On 4th June 2025 at approximately 1740 and 1800, the HV earths were cut and stolen from two pole mounted 11kV transformers on the PC4 SWER network in Waitati Valley Road, Dunedin.</p>	
	<p>No injuries are known to have been sustained by the thieves.</p> <p>The thefts were discovered when investigating high loop impedance issues detected from the LV visibility platform.</p> <p>At one of the sites, current tracking from the metal tank of the transformer through the supporting pole caused significant burning that compromised the integrity of the cross arm supporting the transformer.</p>
	
What is the risk?	
<p>The SWER network uses a single conductor to connect to one side of the HV transformer winding via the bushing. The other side of the winding (second HV bushing) is connected to earth for the return path.</p> <p>Any person interrupting / stealing a HV earth from an energised SWER transformer is at high risk of becoming the return path for the current up to 11kV thereby being electrocuted. Anyone nearby is also at risk of electrocution from step or touch potential.</p> <p>There is a risk of a fire being ignited and collapse of network infrastructure.</p> <p>Members of the public are at risk of serious harm or property damage from non-functional vandalised earthing systems.</p> <p>There is a risk of fault responders encountering up to 11kV to earth potential through either tracking on a pole or from the live cut end where HV SWER earths have been interrupted.</p>	
Recommendations / Actions	
<ul style="list-style-type: none"> Feeder PC 4 is the only SWER feeder on our network and will be upgraded to standard single phase 11KV distribution in the Spring of 2025. In the meantime, warning signs will be installed on all poles supporting transformers. Fault responders attending any of the 20 PC4 SWER transformer sites must take the time to assess the earthing system from a safe distance of 5 metres before making any contact with structure. There could be an 11kV to earth hazard left by an incomplete earthing system. 	
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