

# Network Capability Incentive Parameter Action Plan (2014-2019)

<b>Project Number</b>	2
<b>Project Priority</b>	8
<b>Transmission Circuit / Injection Point</b>	Palmerston–Avoca and Knights Rd–Huon River–Kermandie 110kV Circuits
<b>Project</b>	Line fault indicator (LFI) remote communications
<b>Scope of works</b>	Install communications equipment to facilitate remote interrogation of existing line fault indicators by System Controllers
<b>Reasons to undertake the project</b>	<p>Avoca, St Marys, Kermandie and Huon River substations are radially supplied by single 110kV circuits. To assist in fault finding activities, LFIs have been installed on the Palmerston–Avoca and Knights Rd–Huon River–Kermandie 110kV circuits.</p> <p>These LFIs:</p> <ul style="list-style-type: none"> <li>geographically divide the 64km PM–AV line into two sections, reducing the time taken to locate a transmission line fault by up to 50 per cent; and</li> <li>indicate if a fault is present on the Huon Valley Spur, allowing operators to immediately restore supply to Kermandie Substation.</li> </ul> <p>Presently these devices have local indication only and therefore fault location information is only available once an operator has attended site, which could take up to 1 hour from the nearest service depot.</p> <p>The provision of remote communications would provide System Controllers with the ability to direct field crews straight to the faulted circuit section, rather than needing to first visit the location of the line fault indicators to check their status.</p> <p>The installation of remote switching at Castle Forbes Bay Tee (as described in Project 1 of the NCIPAP) would further reduce fault outage restoration times, for those instances where the fault is located on the Huon River Spur.</p>
<b>Current value of the limit</b>	Line fault indicators require travel to site to determine the status of indication following a line fault
<b>Target limit</b>	Immediate status of indication in the System Control room of line fault indicators following a line fault
<b>Priority project improvement target</b>	Reduced fault outage durations for customers supplied from Avoca, St Marys, Kermandie and Huon River substations
<b>Completion date</b>	June 2015
<b>Capital cost</b>	\$60K
<b>Operational cost</b>	\$0
<b>Market benefit</b>	<p>Reduced outage durations for customers supplied from Avoca, St Marys, Kermandie and Huon River substations, due to faster identification of fault location and subsequent fault restoration activities.</p> <p>In the event of a sustained fault on the Huon River Spur, the supply restoration time for customers supplied from Kermandie Substation (5 MW) could be reduced by 30 minutes.</p> <p>In the event of a sustained fault on the Palmerston–Avoca 110 kV transmission circuit, the supply restoration time for customers supplied from Avoca and St Marys substations (13 MW) could be reduced by up to 30 minutes.</p> <p>The implementation of this project on both transmission circuits will result in an annual market benefit of approximately \$88,000.</p>