Network Capability Incentive Parameter Action Plan (2014-2019)

Project Number	17
Project Priority	20
Transmission Circuit / Injection Point	Chapel Street Substation
Project	Installation of second 110 kV bus-coupler circuit breaker at Chapel Street Substation
Scope of works	Purchase and install a second 110 kV bus-coupler dead tank circuit breaker in series with the existing bus-coupler circuit breaker
Reasons to undertake the project	Chapel Street Substation has an outdoor AIS 110 kV switchyard which has a double bus arrangement. The two buses are connected via one only bus-coupler circuit breaker. Failure of this circuit breaker to open under a fault event would result in all circuits connected to both 110 kV buses being tripped. This would interrupt connections to seven 110 kV transmission circuits and four 110/11 kV supply transformers.
Current value of the limit	Failure of the 110 kV bus-coupler circuit breaker to open under a fault event could trip all 110 kV circuits, causing interruption of supply to significant load
Target limit	No interruption of supply caused by failure of a single 110 kV bus coupler circuit breaker
Priority project improvement target	Improve security of supply to all 110 kV connections at Chapel Street Substation
Completion date	June 2019
Capital cost	$450K
Operating cost	$0
Market Benefit	Mitigate risk of widespread interruption to load caused by failure of bus-coupler circuit breaker. The annualized market benefit is estimated at $25k.