

Priority project name and ranking	Summary of project	Have steps been taken in the previous calendar year to implement the priority project?	Priority project completion summary		
			Has the priority project been delivered?	Has the priority project improvement target been achieved?	If the priority project has been delivered, has AEMO been notified of any change in the limit?
Queensland – New South Wales Interconnector (Rank 1)	Changes to current transformer secondary ratios on 8C, 8E, 8L and 8M lines.	Yes	Yes	Yes	Yes
67 & 68 Murray – Dederang 330kV Switchbays (Rank 2)	Replace wave traps, disconnectors and change CT ratios and protection settings on 67 & 68 line switchbays at Murray 330/132kV Substation.	Yes	No	No	No
993 Line Protection & Metering Upgrade (Rank 3)	Replace the secondary systems panel for 993 Line at Wagga 330/132kV substation.	Yes	No	No	No
DLR - 83 Liddell – Muswellbrook, 84 Liddell – Tamworth 330, 85 & 86 Tamworth 330 – Armidale & 88 Muswellbrook – Tamworth 330 330kV Lines (Rank 4)	Install dynamic line ratings based on real time weather data on 83, 84, 85, 86 and 88 330kV Lines.	Yes	No	No	No
99P Line Protection & Metering Upgrade (Rank 5)	Changes to CT ratios at Gadara 132/66kV Substation.	Yes	No	No	No
DLR - 65 Murray – Upper Tumut & 66 Murray – Lower Tumut 330kV Lines (Rank 6)	Install dynamic line ratings based on real time weather data on 65 and 66 330kV Lines.	Yes	No	No	No
Extension of Directlink Tripping Scheme (Rank 7)	Extend the Directlink emergency tripping scheme to include the transformers at Lismore 330/132kV Substation, 872B bay at Armidale 330/132kV Substation and 872A, 872B and 892A bays at Coffs Harbour 330/132kV Substation.	Yes	No	No	No
976 Line Configuration & Protection Changes (Rank 8)	Install disconnectors at Yass 330/132kV Substation and change of protection settings at Canberra 330/132kV Substation, Yass 330/132kV Substation and Queanbeyan 132/66kV Substation.	Yes	Yes	Yes	Yes
94E Mt Piper 132 – Wallerawang 132 Switchbays (Rank 9)	Replace interplant connections and change current transformer secondary ratios on the 94E Line switchbay at Wallerawang 330/132 kV Substation.	Yes	No	No	No
DLR - Northern 132kV System (Rank 10)	Install dynamic line ratings based on real time weather data on 967, 96R, 96T and 966 132kV Lines.	Yes	No	No	No
DLR - Snowy – Yass & Canberra 330kV Lines (Rank 11)	Install dynamic line ratings based on real time weather data on 01, 2, 3 and 07 330kV Lines.	Yes	No	No	No
Northern Reactive Plant Control Scheme (Rank 12)	The installation of reactive controller on the Queensland - New South Wales Interconnector (QNI) to maintain the Armidale SVC at near zero output, as well as emergency switching capability for the reactive equipment at Dumaresq and Armidale 330/132kV Substations.	Yes	No	No	No
DLR - 4 & 5 Yass – Marulan, 9 Yass – Canberra, 61 Yass – Bannaby & 39 Bannaby – Sydney West 330kV Lines (Rank 13)	Install dynamic line ratings based on real time weather data on 4, 5, 9, 61 and 39 Lines. Increase the height of transmission line conductor on 61 Line to achieve a 100 degrees C design temperature.	Yes	No	No	No
DLR - 969 Tamworth 330 – Gunnedah 132kV Line (Rank 14)	Install dynamic line ratings based on real time weather data on 969 Line.	Yes	No	No	No
81 & 82 Liddell – Newcastle & Tomago Lines (Rank 15)	Replace interplant connections on 81 & 82 Line switchbays at Liddell and Newcastle, and replace wave traps and change current transformer secondary ratios at Liddell.	Yes	No	No	No
Beryl Capacitor Bank (Rank 16)	Install a new capacitor bank at Beryl 132kV Substation.	Yes	No	No	No
TWFL - Snowy Lines (Rank 17)	Install travelling wave fault locators on the Snowy (01, 2, 3, 07, 64, 65, 66 and 97G) lines.	Yes	No	No	No
TWFL - North Western 132kV System (Rank 18)	Install travelling wave fault locators on the North Western (968, 969, 9U3 and 96M) lines.	Yes	No	No	No
TWFL - Northern 330kV Lines (Rank 19)	Install travelling wave fault locators on the Northern (83, 84, 88, 85&88 and 8C&8E) lines.	Yes	No	No	No
TWFL - Far North Coast 132kV System (Rank 20)	Install travelling wave fault locators on the Far North Coast (87, 89 and 96C) lines.	Yes	No	No	No
Point-on-Wave Switching for 132kV Capacitor Banks (Rank 21)	Replace standard 132kV circuit breakers with point-on-wave circuit breakers.	Yes	No	No	No
Point-on-Wave Switching for 66kV & Below Capacitor Banks (Rank 22)	Replace standard 66kV circuit breakers with point-on-wave circuit breakers.	Yes	No	No	No
Behaviour of Residential Solar During System Events (Rank 23)	Install high speed monitors on connection points with significant penetration of residential solar installations, and fault recorders at locations representative of various load types.	Yes	No	No	No
TWFL - Southern 330kV Network (Rank 24)	Install travelling wave fault locators on the Southern (63 and 51) Lines.	Yes	No	No	No
TWFL - Western 220kV Network (Rank 25)	Install travelling wave fault locators on the Western (X5/1, X5/3 and X2) lines.	Yes	No	No	No
Remote Interrogation of Protection Relays (Rank 26)	Install remote interrogation of protection relays at 13 substations and commission production servers.	Yes	Yes	Yes	Yes
Communications to Albury, ANM & Hume Substations (Rank 27)	Installation and commissioning of high bandwidth communications network (UGFO) to Albury, ANM and Hume substations.	Yes	No	No	No
Energy Storage (Rank 28)	Install a pilot energy storage device in the Sydney area.	Yes	No	No	No

<b>Priority project name and ranking</b>	<b>Queensland – New South Wales Interconnector (Rank 1)</b>
<b>Priority project description</b>	Changes to current transformer secondary ratios on 8C, 8E, 8L and 8M lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	31-Mar-15
<b>Limit(s) addressed by priority project</b>	The oscillatory stability limit on the QNi has resulted in an increase of the southbound transfer limit from 1078MW to 1200MW. Ratings of 8L, 8M 8C and 8E are currently limited to 1079MW due to current transformer secondary ratios. A change to current transformer secondary ratios would enable full use of the line's thermal capacity of 1200MVA, subjected to other constraints such as thermal constraints.
<b>Initial limit value(s)</b>	The rating of 8C & 8E and 8L & 8M lines are presently limited to 1097MVA(Contingent).
<b>Target limit value(s)</b>	The target rating of 8C & 8E and 8L & 8M lines are 1200MVA(Contingent).
<b>Completion limit values</b>	1200MVA of 8C & 8E and 8L & 8M has been achieved to allow full use of the lines' thermal capacity.
<b>Estimated capital cost of priority project</b>	\$0
<b>Estimated operating cost of priority project</b>	\$55,000
<b>Capital expenditure to date</b>	\$0
<b>Operating expenditure to date</b>	\$53,507
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Project has been completed in March 2015</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> </ul>

<b>Priority project name and ranking</b>	<b>67 &amp; 68 Murray – Dederang 330kV Switchbays (Rank 2)</b>
<b>Priority project description</b>	Replace wave traps, disconnectors and change CT ratios and protection settings on 67 & 68 line switchbays at Murray 330/132kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Ausnet Services has installed dynamic line ratings on 67 & 68 lines that may provide a rating of up to 1486MVA under favourable conditions. A change in current transformer ratio and replacement of the terminal equipment's will allow the lines to achieve a rating of up to 1486 MVA under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 67 and 68 lines are presently limited to 1015MVA(Contingent).
<b>Target limit value(s)</b>	The target rating of 67 and 68 lines are 1486MVA(Contingent)*
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$495,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$68,006
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Delivery of major plant equipment to site has been scheduled in May 2016</li> <li>● Commencement of site works (POS) has been scheduled in May 2016</li> <li>● Project completion has been scheduled in June 2016</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>● Project delivery has been optimised to allow early realisation of market benefits.</li> <li>● During detailed scoping and design stage, it was identified that the bay droppers and overhead strung bus are actually single AAAC Silmalec conductor, and the ratings of the bay disconnectors are limited to 2000A. This is contrary to the information used to derive the scope of works proposed under TransGrid's approved NCIPAP.</li> </ul> <p>In order to maximise efficiency and realisable value to the market, TransGrid reviewed the operating scenarios and undertook network modelling. The result indicates that the worst split of load between the two bus connections will be 70:30. Thus the maximum expected current through HV Equipment in the individual switchbays will be <math>0.7 \times 2600A (1486MVA) = 1820A</math>.</p> <p>TransGrid also undertook design reviews regarding the allowable rating for the Silmalec overhead strung bus. For substation design, ratings are determined based on the terminal palm limits of 90 degrees in accordance with AS 62771.301. This resulted in ratings of 1680 A (summer) and 2360A (winter). With both bays in service, it is estimated that the line rating limitation due to the overhead strung bus will be 2400A(1372MVA) in summer, and 2600A(1486MVA) in winter.</p> <p>TransGrid is proposing to not pursue the additional scope of replacing the 330kV disconnectors and overhead strung bus. Based on a 70:30 split of current between bays, with both bays in service, TL 67 and 68 can still achieve a rating of 1486MVA under favourable weather conditions (winter - which is when the dynamic line rating installed by Ausnet Service is expected to deliver the 1486MVA rating), with the summer rating limited to 1372MVA. Therefore, completing this project under this revised scope will deliver an est. market benefits of \$397k p.a. based on historical cost of constraints. This would provide a payback period of approximately 15 months. In order to maximise market benefit, the project program based on the revised scope of works has been optimised and can be completed ahead of schedule by June 2016.</p>

<b>Priority project name and ranking</b>	<b>993 Line Protection &amp; Metering Upgrade (Rank 3)</b>
<b>Priority project description</b>	Replace the secondary systems panel for 993 Line at Wagga 330/132kV substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Constraint on 993 during contingency events, which may result in load shedding.
<b>Initial limit value(s)</b>	The rating of 993 line is presently limited to 114MVA(Contingent).
<b>Target limit value(s)</b>	The target rating of 993 line is 122MVA(Contingent).
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$90,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$5,240
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Commencement of site works (POS) has been scheduled in March 2016</li> <li>• Project completion has been scheduled in March 2016</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> </ul>

<b>Priority project name and ranking</b>	<b>DLR - 83 Liddell – Muswellbrook, 84 Liddell – Tamworth 330, 85 &amp; 86 Tamworth 330 – Armidale &amp; 88 Muswellbrook – Tamworth 330 330kV Lines (Rank 4)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 83, 84, 85, 86 and 88 330kV Lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 83 line is presently limited to 1160MVA. The rating of 86 line is presently limited to 989MVA. The rating of 84, 85 and 88 lines are presently limited to 983MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2,150,000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$437,001
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Environmental approvals has been scheduled for completion by January 2016</li> <li>• Commencement of site works (POS) has been scheduled in April 2016</li> <li>• Project completion has been scheduled in July 2016</li> </ul>
<b>Priority project update/comments</b>	<p>*Project has been combined with Dynamic Line Rating - Northern Region (Priority Rank 10) and Dynamic Line Rating - Tamworth (Priority Rank 14) for delivery to achieve efficiencies. This resulted in an overall cost reduction of circa \$250k to implement Dynamic Line Rating in Northern NSW.</p> <ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> <li>• Detail design of the pole mounted weather monitors have been completed.</li> </ul>

<b>Priority project name and ranking</b>	<b>99P Line Protection &amp; Metering Upgrade (Rank 5)</b>
<b>Priority project description</b>	Changes to CT ratios at Gadara 132/66kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Constraint on 99P during contingency events, which may result in load shedding.
<b>Initial limit value(s)</b>	The rating of 99P line is presently limited to 114MVA (Contingent).
<b>Target limit value(s)</b>	The target rating of 99P line is 128MVA (Contingent).
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$0
<b>Estimated operating cost of priority project</b>	\$50,000
<b>Capital expenditure to date</b>	\$0
<b>Operating expenditure to date</b>	\$6,358
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Commencement of site works (POS) has been scheduled in March 2016</li> <li>• Project completion has been scheduled in March 2016</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> </ul>

<b>Priority project name and ranking</b>	<b>DLR - 65 Murray – Upper Tumut &amp; 66 Murray – Lower Tumut 330kV Lines (Rank 6)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 65 and 66 330kV Lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 65 and 66 lines are presently limited to 715MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$1,400,000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$718,584
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Commencement of site works (POS) has been scheduled in January 2016</li> <li>● Project completion has been scheduled in June 2016</li> <li>● Review of Dynamic Line Rating algorithm (Proof of Concept) will be completed by June 2016, real time data is scheduled to go live (made available to AEMO) in July 2016.</li> </ul>
<b>Priority project update/comments</b>	*Project has been combined with Dynamic Line Rating - Yass, Marulan, Canberra, Bannaby, Sydney West (Priority Rank 13) for delivery to achieve efficiencies. This resulted in an overall cost reduction of circa \$600k to implement Dynamic Line Rating in Southern NSW.

<b>Priority project name and ranking</b>	<b>Extension of Directlink Tripping Scheme (Rank 7)</b>
<b>Priority project description</b>	Extend the Directlink emergency tripping scheme to include the transformers at Lismore 330/132kV Substation, 872B bay at Armidale 330/132kV Substation and 872A, 872B and 892A bays at Coffs Harbour 330/132kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	18-Dec-15
<b>Limit(s) addressed by priority project</b>	NSW export on the Directlink interconnector during outages of a transformer at Lismore 330kV substation, 872B bay at Armidale or a 330kV bay at Coffs Harbour.
<b>Initial limit value(s)</b>	During outages of a transformer at Lismore 330kV Substation, 872B bay at Armidale or a 330kV bay at Coffs Harbour the NSW export on the Directlink interconnector is limited.
<b>Target limit value(s)</b>	The target is to obtain full use of line capacity of the Directlink Interconnector during outages of the Lismore transformers, 872B bay at Armidale or 872A, 872B and 892A bays at Coffs Harbour.
<b>Completion limit values</b>	Reduce market constraints upon Directlink by allowing full use of line capacity of the Directlink Interconnector during outages of the Lismore transformers, 872B bay at Armidale or 872A, 872B and 892A bays at Coffs Harbour.
<b>Estimated capital cost of priority project</b>	\$150,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$145,613
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Tripping scheme have been implemented in SCADA in December 2015</li> <li>• The scheme is scheduled to go live in March 2016</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> </ul>



<b>Priority project name and ranking</b>	<b>976 Line Configuration &amp; Protection Changes (Rank 8)</b>
<b>Priority project description</b>	Install disconnecter at Yass 330/132kV Substation and change of protection settings at Canberra 330/132kV Substation, Yass 330/132kV Substation and Queanbeyan 132/66kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	18-Jul-15
<b>Limit(s) addressed by priority project</b>	Enables firm supply of Queanbeyan load, prevents the need to manually close an on-load disconnecter and avoids time consuming load transfers in Essential Energy's network.
<b>Initial limit value(s)</b>	The existing configuration requires the manual operation of disconnecter during switching on line 976 or an outage of 976/1.
<b>Target limit value(s)</b>	Reduce likelihood of loss of supply to Queanbeyan and prevents the need for manual operation of disconnecters. Avoid load transfer in the Essential Energy Network
<b>Completion limit values</b>	Open point on 976 has been transferred to Yass substation, likelihood of loss of supply has been reduced, and manual operation of disconnecters during switching is no longer required.
<b>Estimated capital cost of priority project</b>	\$110,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$51,913
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project has been completed in July 2015
<b>Priority project update/comments</b>	

<b>Priority project name and ranking</b>	<b>94E Mt Piper 132 – Wallerawang 132 Switchbays (Rank 9)</b>
<b>Priority project description</b>	Replace interplant connections and change current transformer secondary ratios on the 94E Line switchbay at Wallerawang 330/132 kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Constraints on 94E Line during multiple contingency events at times of high loads.
<b>Initial limit value(s)</b>	The rating of 94E line is presently limited to 285MVA(Contingent).
<b>Target limit value(s)</b>	The target rating of 94E line is 373MVA(Contingent).
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$50,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$14,337
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Commencement of site works has been scheduled in March 2016</li> <li>• Project completion has been scheduled in June 2016</li> </ul>
<b>Priority project update/comments</b>	Detail design and procurement of secondary system equipment has been completed.

<b>Priority project name and ranking</b>	<b>DLR - Northern 132kV System (Rank 10)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 967, 96R, 96T and 966 132kV Lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 967, 96R and 96T lines are presently limited to 136MVA. The rating of 966 line is presently limited to 121MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2,150,000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$437,001
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Environmental approvals has been scheduled for completion by January 2016</li> <li>● Commencement of site works (POS) has been scheduled in April 2016</li> <li>● Project completion has been scheduled in July 2016</li> </ul>
<b>Priority project update/comments</b>	<p>*Project has been combined with Dynamic Line Rating - 83,84,85,86 and 88 (Priority Rank 4) and Dynamic Line Rating - Tamworth (Priority Rank 14) for delivery to achieve efficiencies. This resulted in an overall cost reduction of circa \$250k to implement Dynamic Line Rating in Northern NSW.</p> <ul style="list-style-type: none"> <li>● Project delivery has been optimised to allow early realisation of market benefits.</li> <li>● Detail design of the pole mounted weather monitors have been completed.</li> </ul>

<b>Priority project name and ranking</b>	<b>DLR - Snowy – Yass &amp; Canberra 330kV Lines (Rank 11)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 01, 2, 3 and 07 330kV Lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 01 and 2 lines are presently limited to 995MVA. The rating of 3 and 07 lines are presently limited to 1132MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$1,210,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$702,084
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>●All weather monitoring units have been constructed, installed, and commissioned in December 2015</li> <li>●Localised weather data is being recorded to enable review of the lines' static rating in the long run</li> <li>●Review of Dynamic Line Rating algorithm (Proof of Concept) will be completed by June 2016, real time data is scheduled to go live (made available to AEMO) in July 2016.</li> </ul>
<b>Priority project update/comments</b>	

<b>Priority project name and ranking</b>	<b>Northern Reactive Plant Control Scheme (Rank 12)</b>
<b>Priority project description</b>	The installation of reactive controller on the Queensland - New South Wales Interconnector (QNI) to maintain the Armidale SVC at near zero output, as well as emergency switching capability for the reactive equipment at Dumaresq and Armidale 330/132kV Substations.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Ensure adequate post contingent voltage control of the northern area
<b>Initial limit value(s)</b>	Failure to provide reactive support can impose market constraints when the SVC at Armidale is operating at its limit.
<b>Target limit value(s)</b>	Provision of adequate post contingent voltage control in the Northern area and reduce the need for operator intervention.
<b>Completion limit values</b>	Post contingent voltage control have been implemented
<b>Estimated capital cost of priority project</b>	\$418,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$136,485
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>Control Scheme has been implemented in January 2016, scheduled to go live in March 2016</li> </ul>
<b>Priority project update/comments</b>	

<b>Priority project name and ranking</b>	<b>DLR - 4 &amp; 5 Yass – Marulan, 9 Yass – Canberra, 61 Yass – Bannaby &amp; 39 Bannaby – Sydney West 330kV Lines (Rank 13)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 4, 5, 9, 61 and 39 Lines. Increase the height of transmission line conductor on 61 Line to achieve a 100 degrees C design temperature.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 4 and 5 lines are presently limited to 880MVA. The rating of 9, 39 and 61 lines are presently limited to 995MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions. Uprate line 61's design temperature of 100°C.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$1,400,000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$417,003
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Commencement of site works (POS) has been scheduled in January 2016</li> <li>• Project completion has been scheduled in June 2016</li> <li>• Review of Dynamic Line Rating algorithm (Proof of Concept) will be completed by June 2016, real time data is scheduled to go live (made available to AEMO) in July 2016.</li> </ul>
<b>Priority project update/comments</b>	<p>*Project has been combined with Dynamic Line Rating - Murray, Upper &amp; Lower Tumut (Priority Rank 6) for delivery to achieve efficiencies. This resulted in an overall cost reduction of circa \$600k to implement Dynamic Line Rating in Northern NSW.</p> <ul style="list-style-type: none"> <li>•Uprate of line 61's design temperature has been completed.</li> </ul>

<b>Priority project name and ranking</b>	<b>DLR - 969 Tamworth 330 – Gunnedah 132kV Line (Rank 14)</b>
<b>Priority project description</b>	Install dynamic line ratings based on real time weather data on 969 Line.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Installation of dynamic line ratings will enable the lines to be operated at higher than their static thermal ratings under favourable conditions.
<b>Initial limit value(s)</b>	The rating of 969 line is presently limited to 82MVA.
<b>Target limit value(s)</b>	Increased line ratings by approximately 20% at times during favourable conditions.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2,150,000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$437,001
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>• Environmental approvals has been scheduled for completion by January 2016</li> <li>• Commencement of site works (POS) has been scheduled in April 2016</li> <li>• Project completion has been scheduled in July 2016</li> </ul>
<b>Priority project update/comments</b>	<p>*Project has been combined with Dynamic Line Rating - Northern Region (Priority Rank 10) and Dynamic Line Rating - Tamworth (Priority Rank 14) for delivery to achieve efficiencies. This resulted in an overall cost reduction of circa \$250k to implement Dynamic Line Rating in Northern NSW.</p> <ul style="list-style-type: none"> <li>• Project delivery has been optimised to allow early realisation of market benefits.</li> <li>• Detail design of the pole mounted weather monitors have been completed.</li> </ul>

<b>Priority project name and ranking</b>	<b>81 &amp; 82 Liddell – Newcastle &amp; Tomago Lines (Rank 15)</b>
<b>Priority project description</b>	Replace interplant connections on 81 & 82 Line switchbays at Liddell and Newcastle, and replace wave traps and change current transformer secondary ratios at Liddell.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Constraints on 81&82 Lines at times of high load
<b>Initial limit value(s)</b>	The rating of 81 and 82 lines are presently limited to 1428MVA(Contingent).
<b>Target limit value(s)</b>	The target rating of 81 and 82 lines are 1646MVA(Contingent).
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$1,380,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$94,574
<b>Operating expenditure to date</b>	
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>●Detail design completion has been scheduled for May 2016</li> <li>●Major plant delivery to site has been scheduled for August 2016</li> <li>●Possession of Site has been scheduled for November 2016</li> <li>●Project Completion has been scheduled for December 2016</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>● Project delivery has been optimised to allow early realisation of market benefits.</li> </ul> <p>●During detailed scoping and design stage, it was identified that to increase energy transfer on TL 82, CT ratios of the revenue meter of Station Transformer 1A (Maq Gen) currently set to 800/1 ratio will have to be increased to suit. The Station Transformer is rated at 100MVA and actual observed loading varies from 2.6MW to 54.7MW, which means that if the CT ratios were to be increased beyond the current setting of 800/1, the required metering accuracy under the NER cannot be met. TransGrid explored various innovative options to resolve this issue – including the installation of interposing CTs, adopting optical fibre CTs and installation of LV CTs on Macquarie Generation’s site. The most economically and technically feasible option identified as an outcome of this investigation is to install a new set of CTs on Station Transformer 1A connection and the NEM metering be removed from the existing CTs. This solution will also require the extension of the substation’s bench to accommodate the new CTs which resulted in the increase of estimated cost to complete the project.</p> <p>Although the estimated cost to complete the project has increased, completing this project will still deliver market benefits of the estimated \$ 1.4 million p.a. based on the NTNDP model. This would provide a payback period of approximately 12 months. In order to maximise market benefit, the project program based on the revised scope of works has been optimised and can be completed ahead of schedule by June 2016.</p>



<b>Priority project name and ranking</b>	<b>Beryl Capacitor Bank (Rank 16)</b>
<b>Priority project description</b>	Install a new capacitor bank at Beryl 132kV Substation.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	The installation of a capacitor bank at Beryl 132kV substation would increase the capacity available at the substation, deferring the construction of an additional supply to Beryl area.
<b>Initial limit value(s)</b>	The current capacity in the Beryl and Mudgee area is 91MW.
<b>Target limit value(s)</b>	With the provision of reactive support at Beryl substation the capacity will be increased by 6MW.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2,150,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$265,133
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>●Contract Award has been scheduled for May 2016.</li> <li>●Possession of Site has been scheduled for June 2016.</li> <li>●Project Completion has been scheduled for November 2016.</li> </ul>
<b>Priority project update/comments</b>	

<b>Priority project name and ranking</b>	<b>TWFL - Snowy Lines (Rank 17)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the Snowy (01, 2, 3, 07, 64, 65, 66 and 97G) lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the Snowy (01, 2, 3, 07, 64, 65, 66 and 97G) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the Snowy (01, 2, 3, 07, 64, 65, 66 and 97G) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project Completion has been scheduled for December 2017.
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>TWFL - North Western 132kV System (Rank 18)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the North Western (968, 969, 9U3 and 96M) lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the North Western (968, 969, 9U3 and 96M) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the North Western (968, 969, 9U3 and 96M) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project Completion has been scheduled for December 2017.
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>TWFL - Northern 330kV Lines (Rank 19)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the Northern (83, 84, 88, 85&88 and 8C&8E) lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the Northern (83, 84, 88, 85&88 and 8C&8E) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the Northern (83, 84, 88, 85&88 and 8C&8E) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project Completion has been scheduled for December 2017.
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>TWFL - Far North Coast 132kV System (Rank 20)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the Far North Coast (87, 89 and 96C) lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the Far North Coast (87, 89 and 96C) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the Far North Coast (87, 89 and 96C) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project Completion has been scheduled for December 2017.
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>Point-on-Wave Switching for 132kV Capacitor Banks (Rank 21)</b>
<b>Priority project description</b>	Replace standard 132kV circuit breakers with point-on-wave circuit breakers.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Transient distortion of supply voltage.
<b>Initial limit value(s)</b>	Transient distortion of supply voltage during capacitor switching causes damage to HV plant and equipment.
<b>Target limit value(s)</b>	Reduce transient distortion through the installation of point-on-wave switching on 3 capacitor banks.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$5126000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$211,156
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Project Completion has been scheduled for December 2017</li> </ul>
<b>Priority project update/comments</b>	<p>*All Point on Wave Circuit Breaker replacement projects (132 &amp; 66 kV) under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works.</p> <ul style="list-style-type: none"> <li>● Detail design and procurement activities have commenced.</li> </ul>

<b>Priority project name and ranking</b>	<b>Point-on-Wave Switching for 66kV &amp; Below Capacitor Banks (Rank 22)</b>
<b>Priority project description</b>	Replace standard 66kV circuit breakers with point-on-wave circuit breakers.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Transient distortion of supply voltage.
<b>Initial limit value(s)</b>	Transient distortion of supply voltage during capacitor switching causes damage to HV plant and equipment.
<b>Target limit value(s)</b>	Reduce transient distortion through the installation of point-on-wave switching on 24 capacitor banks.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$5126000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$211,156
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Project Completion has been scheduled for December 2017</li> </ul>
<b>Priority project update/comments</b>	<p>*All Point on Wave Circuit Breaker replacement projects (132 &amp; 66 kV) under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works.</p> <ul style="list-style-type: none"> <li>● Detail design and procurement activities have commenced.</li> </ul>

Priority project name and ranking	Behaviour of Residential Solar During System Events (Rank 23)
Priority project description	Install high speed monitors on connection points with significant penetration of residential solar installations, and fault recorders at locations representative of various load types.
Co-ordinated project	No
Has the priority project been commenced ?	Yes
Date of priority project completion	
Limit(s) addressed by priority project	
Initial limit value(s)	Potential behaviour of residential solar generation during system events, that could exacerbate the effect of some system events.
Target limit value(s)	Realisation of the behaviour of residential solar generation during system events. Records will improve data availability for the calculation of load indices.
Completion limit values	
Estimated capital cost of priority project	\$1,850,000
Estimated operating cost of priority project	\$0
Capital expenditure to date	\$36,512
Operating expenditure to date	\$0
Priority project key milestones and dates	<ul style="list-style-type: none"> <li>● Detailed project scoping and concept design has been scheduled for completion in March 2016</li> <li>● Commencement of site works has been scheduled in July 2016</li> <li>● Project completion has been scheduled in March 2017</li> </ul>
Priority project update/comments	<ul style="list-style-type: none"> <li>● In order to monitor the residential solar penetration and their behaviour during system events, it is proposed that additional high speed monitors be installed at the following sites to monitor the net substation loads. <ul style="list-style-type: none"> <li>• Ingleburn</li> <li>• Liverpool</li> <li>• Macarthur</li> <li>• Tomago (132 kV load)</li> <li>• Vineyard</li> <li>• Williamsdale (feeders 97F and 97H)</li> <li>• Waratah West</li> </ul> </li> </ul>



<b>Priority project name and ranking</b>	<b>TWFL - Southern 330kV Network (Rank 24)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the Southern (63 and 51) Lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the Southern (63 and 51) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the Southern (63 and 51) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>●Project Completion has been scheduled for December 2017.</li> </ul>
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>TWFL - Western 220kV Network (Rank 25)</b>
<b>Priority project description</b>	Install travelling wave fault locators on the Western (X5/1, X5/3 and X2) lines.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	Response time to locate, inspect and if required, repair sustained faults reduced and time taken to restore transmission lines to service is reduced.
<b>Initial limit value(s)</b>	Extensive travel and inspection time required to locate faults on the Western (X5/1, X5/3 and X2) lines.
<b>Target limit value(s)</b>	Reduction to the response time to locate, inspect and if required, repair faults on the on the Western (X5/1, X5/3 and X2) lines.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$2300000*
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$163,539
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	●Project Completion has been scheduled for December 2017.
<b>Priority project update/comments</b>	*All TWFL projects under TransGrid's NCIPAP have been combined in order to achieve project delivery efficiencies. Where possible proposed works at each substation will be bundled with other major capital works. This has resulted in significant cost savings.

<b>Priority project name and ranking</b>	<b>Remote Interrogation of Protection Relays (Rank 26)</b>
<b>Priority project description</b>	Install remote interrogation of protection relays at 13 substations and commission production servers.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	1/12/2015
<b>Limit(s) addressed by priority project</b>	Protection relay fault information is presently stored at site, requiring a site visit to interrogate the data.
<b>Initial limit value(s)</b>	The existing protection relay fault information at Holroyd, Rookwood Road, Griffith, Wallerawang, Tomago, Williamsdale, Barnaby, Glen Innes, Wagga North, Uranquinty, Wollar, Mt Piper 500kV and Bayswater Substations is limited in that it is stored at site and requires site visits to access/interrogate.
<b>Target limit value(s)</b>	Ability to remotely interrogate protection relay information from the 13 Substations above and commission production servers.
<b>Completion limit values</b>	Remote interrogation of protection relay information from 13 substations are operational.
<b>Estimated capital cost of priority project</b>	\$675,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$622,800
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	Project has been completed as of December 2015
<b>Priority project update/comments</b>	

<b>Priority project name and ranking</b>	<b>Communications to Albury, ANM &amp; Hume Substations (Rank 27)</b>
<b>Priority project description</b>	Installation and commissioning of high bandwidth communications network (UGFO) to Albury, ANM and Hume substations.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	
<b>Initial limit value(s)</b>	The communication link is slow and do not support SCADA or advanced protection schemes connections.
<b>Target limit value(s)</b>	The target limit is achieving commissioning of the communication link to Albury , ANM and Hume substations.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$4,200,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$378,375
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>●Completion of Jindera ANM - May 2016</li> <li>●Completion of ANM Albury - September 2016</li> <li>●Completion of Albury Hume - March 2017</li> <li>●Project Completion has been scheduled in April 2017</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>●14 KM of underground fibre conduit has been installed between Jindera &amp; ANM substations.</li> <li>●3 KM of underground fibre conduit has been installed between ANM &amp; Albury substations.</li> </ul>

<b>Priority project name and ranking</b>	<b>Energy Storage (Rank 28)</b>
<b>Priority project description</b>	Install a pilot energy storage device in the Sydney area.
<b>Co-ordinated project</b>	No
<b>Has the priority project been commenced ?</b>	Yes
<b>Date of priority project completion</b>	
<b>Limit(s) addressed by priority project</b>	The trial of an energy storage device will enable its evaluation for future, larger scale application on the network.
<b>Initial limit value(s)</b>	The network is limited in the unpredictability of intermittent generation and constraints between generation areas and load centres at times of high load.
<b>Target limit value(s)</b>	Review of the storage technology and install pilot energy storage device to the network.
<b>Completion limit values</b>	
<b>Estimated capital cost of priority project</b>	\$4,900,000
<b>Estimated operating cost of priority project</b>	\$0
<b>Capital expenditure to date</b>	\$185,569
<b>Operating expenditure to date</b>	\$0
<b>Priority project key milestones and dates</b>	<ul style="list-style-type: none"> <li>● Concept designs and initial scoping have been completed</li> <li>● Locations to install the batteries have been shortlisted with a decision by February 2016.</li> <li>● Scoping and development of concept designs for the preferred option(s) has been scheduled for completion by September 2016.</li> <li>● Project completion has been scheduled in February 2018</li> </ul>
<b>Priority project update/comments</b>	<ul style="list-style-type: none"> <li>● TransGrid engaged Worley Parsons (WP) to provide advice on the suitability, cost and maturity of energy storage technologies available. WP advised that at this time a Lithium Ion battery is the most suitable technology to address the identified need.</li> <li>● Preliminary design and specification preparation works have been completed.</li> <li>● Potential sites are being evaluated to identify the optimal location for installation.</li> </ul>

**Name and ranking of priority project to be removed**

[insert name and ranking of priority project]

**Priority project description**

[insert priority project description – can be taken from the NCIPAP]

**Limit addressed by priority project**

[insert limit]

**Initial limit value**

[insert limit value from NCIPAP]

**Target limit value**

[insert priority project improvement target]

**Reasons to undertake the project**

[insert summary the reasons given in the NCIPAP for undertaking the project]

**Reason for priority project removal**

[insert the reasons why the priority project should be removed from the TNSP's NCIPAP. Take into account clause 5.4(a) of the STPIS.]

<b>Name of replacement priority project</b>	[insert project name]
<b>Replacement priority project ranking</b>	[insert proposed priority project ranking in NCIPAP. If the proposed ranking number will change whether another priority project in the NCIPAP will be in the top fifty or bottom fifty percentile of priority projects include reasons for why the replacement priority project should be ranked there]
<b>Transmission circuit/injection point(s)</b>	[insert transmission circuit/injection point limit(s) which the replacement priority project addresses]
<b>Limit and reason for the limit</b>	[insert description of the limit(s) and reason for the limit(s)]
<b>Project description</b>	[insert project description]
<b>Initial limit</b>	[insert the initial value(s) of the limit(s) and the dates at which the value(s) was recorded/measured]
<b>Improvement target</b>	[insert value(s) of the improvement target]
<b>Estimated capital cost</b>	
<b>Estimated operating cost</b>	
<b>Consultation with AEMO</b>	[include in this section whether the TNSP has consulted with AEMO in accordance with clause 5.4(e), (g). If there is any disagreement between the TNSP and AEMO in relation to the matters listed in clause 5.4(e) of the STPIS, the TNSP should outline the disagreement and the grounds for disagreement in this section]
<b>Reason to include the replacement priority project</b>	[insert reasons for including the proposed replacement priority project in the NCIPAP. Take into account the factors listed in clause 5.4(b) of the STPIS.]