

Our ref: 18-24225
21 November 2018
180 Thomas Street
Sydney NSW 2000
By email: paul.italiano@transgrid.com.au


Dear Mr Italiano,

Request for information: processes underway regarding potential projects to address inter-regional constraints

The Australian Energy Market Commission (the Commission or AEMC) is undertaking analysis to determine whether there is a need to exercise the last resort planning power (LRPP). The Commission has determined that it requires additional information from TransGrid regarding the manner in which TransGrid intends to address the inter-regional constraints identified by AEMO in order to determine whether the LRPP needs to be exercised.

The LRPP is a power conferred on the AEMC under rule 5.22 of the National Electricity Rules (Rules) to ensure that sufficient investment is occurring to transport electricity between adjacent regions of the national electricity market (NEM), which is fundamental to the NEM's efficient operation. The purpose of the LRPP is to ensure timely and efficient inter-regional transmission investment in the NEM for the long-term interests of consumers of electricity.

The AEMC must annually assess whether or not it should exercise the LRPP. Under clause 5.22(f) of the Rules, this assessment must consider AEMO's two most recent National Transmission Network Development Plans (NTNDPs) and transmission network service providers' (TNSPs) transmission annual planning reports to ascertain whether TNSPs are taking appropriate steps to address the expected constraints on national transmission flow paths (inter-regional constraints) identified by AEMO. If the AEMC identifies that current processes or projects are not underway to address an expected inter-regional constraint, then the AEMC has the power to direct one or more network service providers (typically a TNSP) to apply the regulatory investment test for transmission (RIT-T) to augmentation projects that are likely to relieve that constraint. The AEMC will only exercise this power if it considers that doing so will meet the national electricity objective given the estimated economic impacts of the relevant constraint.

As you are aware, in the usual course, AEMO publishes its NTNDP in late December and provides detailed information on expected constraints. TNSPs can then respond to the NTNDP in their annual planning reports published the following June. However, in late 2017, AEMO modified arrangements for the publication of the 2017 NTNDP so that instead of publishing an NTNDP by 31 December 2017 AEMO published an Integrated System Plan (ISP) in July 2018. The ISP is a high-level system plan and contains less detailed information on expected inter-regional transmission network constraints than previous NTNDPs. These developments have impacted on the AEMC's ability to identify, based on the key transmission planning documents, which specific inter-regional constraints need to be addressed by TNSPs in the coming years and the projects that TNSPs plan to pursue to address them.

Consistent with the Rules, the AEMC has used the 2016 NTNDP, the 2018 ISP and the 2018 transmission annual planning reports to assess transmission inter-regional constraints in the NEM and the projects that could address these constraints. The AEMC has sought clarification from AEMO (in its role as national transmission planner) on the detailed information that was traditionally provided in NTNDPs on inter-regional constraints.

This information demonstrates that in most cases TNSPs have adequately addressed the inter-regional constraints identified by AEMO. The Commission notes that TransGrid and AEMO have recently published the RIT-T Project Specification Consultation Report regarding the Victoria to New South Wales interconnector upgrade. However, there is currently not sufficient information publicly available for the Commission to ascertain whether TransGrid is taking appropriate steps to address the expected inter-regional constraints that AEMO has identified on the New South Wales transmission network in relation to the Queensland – New South Wales interconnector (QNI). In particular, while TransGrid has stated in its 2018 Transmission annual planning report that it is considering a number of proposals to augment the New South Wales transmission network and thereby increase the capacity of QNI, there is limited information in TransGrid's 2018 Transmission annual planning report directly linking each of these proposals to the specific inter-regional constraints identified by AEMO. There is also limited information in the public arena regarding if and when the RIT-T process on these projects will commence.

As a result the Commission has determined that it requires further clarification from TransGrid on the manner in which it intends to address the inter-regional constraints identified by AEMO relating to QNI. Consistent with the provisions in the Last Resort Planning Power Guidelines (2015) the Commission requests the following information:

- For each expected inter-regional constraint identified by AEMO for QNI as outlined in the attached table, confirmation of:
 - The transmission project(s) that TransGrid is proposing to address that constraint (and whether the project(s) constitutes a Group 1 project in the ISP).
 - The current status of each project(s).
 - Whether TransGrid intends to apply the RIT-T process to the project(s), the processes underway for the application of the RIT-T, and the timing of any RIT-T processes including when TransGrid will commence consultation on that project(s) as part of the RIT-T process.

The Commission requests that this information be provided by Friday 7 December 2018.

To assist TransGrid, the AEMC has attached a list of expected inter-regional constraints identified by AEMO and the projects proposed by TransGrid in its 2018 Transmission annual planning report that may be linked to each constraint and the current project status as understood by the AEMC based on publicly available information. TransGrid may wish to review this table and provide an amended version as part of its response to this request.

The Commission notes the recent *NSW Transmission Infrastructure Strategy* signals that the NSW Government will accelerate the development of transmission projects facilitating Queensland – New South Wales transfers and provides indicative completion dates. However, the Commission requires more detailed information regarding the projects and their timing to complete the analysis required for its LRPP functions.

If your staff require any further information please contact Richard Owens, Executive General Manager, on (02) 8296 7810 or at Richard.Owens@aemc.gov.au.

Yours sincerely,



John Pierce AO
Chairman

Cc: Ms Merryn York, Chief Executive, Powerlink
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Table 1: TNSP proposed projects to address expected inter-regional constraints on QNI

Based on analysis conducted by the AEMC (sources referenced)

Source of constraint information	Constraint details	TNSP project(s) to address constraint	TNSP project status	Indicative TNSP cost of proposed project and timing (based on publicly available information)	Publicly announced regulatory status (as of 14/11/2018)
Identified in 2018 ISP and AEMO Correspondence	QNI #1: New South Wales to Queensland export is limited by a voltage collapse limit on loss of the largest generating unit in Queensland ¹	Several projects being considered, including ² : <ul style="list-style-type: none"> Turning both transmission lines along the QNI into two switching stations at Sapphire and mid-way between Dumaresq and Bulli Creek Installing new SVCs at Dumaresq and Tamworth, capacitor banks at Tamworth, Armidale and Dumaresq, and upgrades to 330 kV lines 83, 84 and 88 to 120 °C temperature rating 	Proposed by TransGrid	\$63 million – 1.6 billion for the seven major proposals ⁴ Project selection and timing to be determined subject to further economic evaluation ⁵ A shunt capacitor bank at Armidale substation, \$4.7 million by June 2023 ⁶	TransGrid & Powerlink are undertaking preparatory work to progress a RIT-T ⁷ The NSW Government has announced it will assist in accelerating the upgrade of QNI. ⁸
Identified in 2016 NTNDP, 2018 ISP and AEMO Correspondence	QNI #2: New South Wales to Queensland export is limited by the thermal capacity of Liddell-Muswellbrook-Tamworth and Liddell-Tamworth 330 kV lines ⁹ QNI #3: Queensland to New South Wales export is mainly limited by the transient stability limits for fault on either a Bulli Creek-Dumaresq or Armidale-Dumaresq 330 kV circuit ¹⁰	<ul style="list-style-type: none"> The use of batteries with fast response to increase stability limits Installing a new 330 kV single circuit transmission between Liddell in New South Wales and Western Downs in Queensland via existing transmission substations Installing a 330 kV double circuit transmission line between Liddell and Western Downs via a diverse transmission path Installing a new back-to-back High Voltage Direct Current (HVDC) system Installing a new 500 kV transmission line between Bayswater/Wollar and Uralla, and a new 330 kV transmission line between Uralla and Western Downs. <p>Upgrading Liddell-Muswellbrook-Tamworth and Liddell-Tamworth 330kV lines (lines 83, 84 and 88), SVCs at Dumaresq and Tamworth substations and shunt capacitor banks at Tamworth, Armidale and Dumaresq are AEMO Group 1 projects.³</p>			

¹ Source: Correspondence with AEMO on 7/10/18. ISP driver for augmentation listed as 'Increase transfer between Queensland and New South Wales' in AEMO, *ISP Appendices*, July 2018, Appendix D.3.1, p68. The 2016 NTNDP did not identify this constraint.

Table 1: TNSP proposed projects to address expected inter-regional constraints on QNI
Based on analysis conducted by the AEMC (sources referenced)

² TransGrid, *New South Wales Australian transmission annual planning report*, June 2018, pp24-25.

³ AEMO, *Integrated System Plan*, July 2018, p8. Listed as a Stage 1 project in AEMO, *ISP Appendices, D.1.* July 2018, p59. See also AEMO, *ISP Appendices, Appendix D.3.1*, July 2018, p68.

⁴ TransGrid, *New South Wales Australian transmission annual planning report*, June 2018, pp24-25.

⁵ TransGrid, *New South Wales Australian transmission annual planning report*, June 2018, p25.

⁶ TransGrid, *New South Wales Australian transmission annual planning report*, June 2018, pp35.

⁷ TransGrid, *New South Wales Australian transmission annual planning report*, June 2018, p74. See also Powerlink, *Transmission Annual Planning Report* 2018, June 2018, p56, p132.

⁸ NSW Government *NSW Transmission Infrastructure Strategy*, November 2018, p 8.

⁹ Source: Correspondence with AEMO on 7/10/18. ISP driver for augmentation listed as ‘Increase transfer between Queensland and New South Wales’ in AEMO, *ISP Appendices*, July 2018, Appendix D.3.1, p68. The identified transmission limitation was ‘Transmission limitations between 330 kV lines between Dumaresq and Liddell’ in AEMO, *National Transmission Network Development Plan*, December 2016, p37.

¹⁰ Source: Correspondence with AEMO on 7/10/18. ISP driver for augmentation listed as ‘Increase transfer between Queensland and New South Wales’ in AEMO, *ISP Appendices*, July 2018, Appendix D.3.1, p68. The identified transmission limitation was ‘Transmission limitations between 330 kV lines between Dumaresq and Bulli Creek (part of the NSW-QLD interconnection). Transient stability limits set the exporting limit from QLD to NSW’ in AEMO, *National Transmission Network Development Plan*, December 2016, p38.