CHAPTER 10

Renewable energy

10 Renewable energy

Key highlights

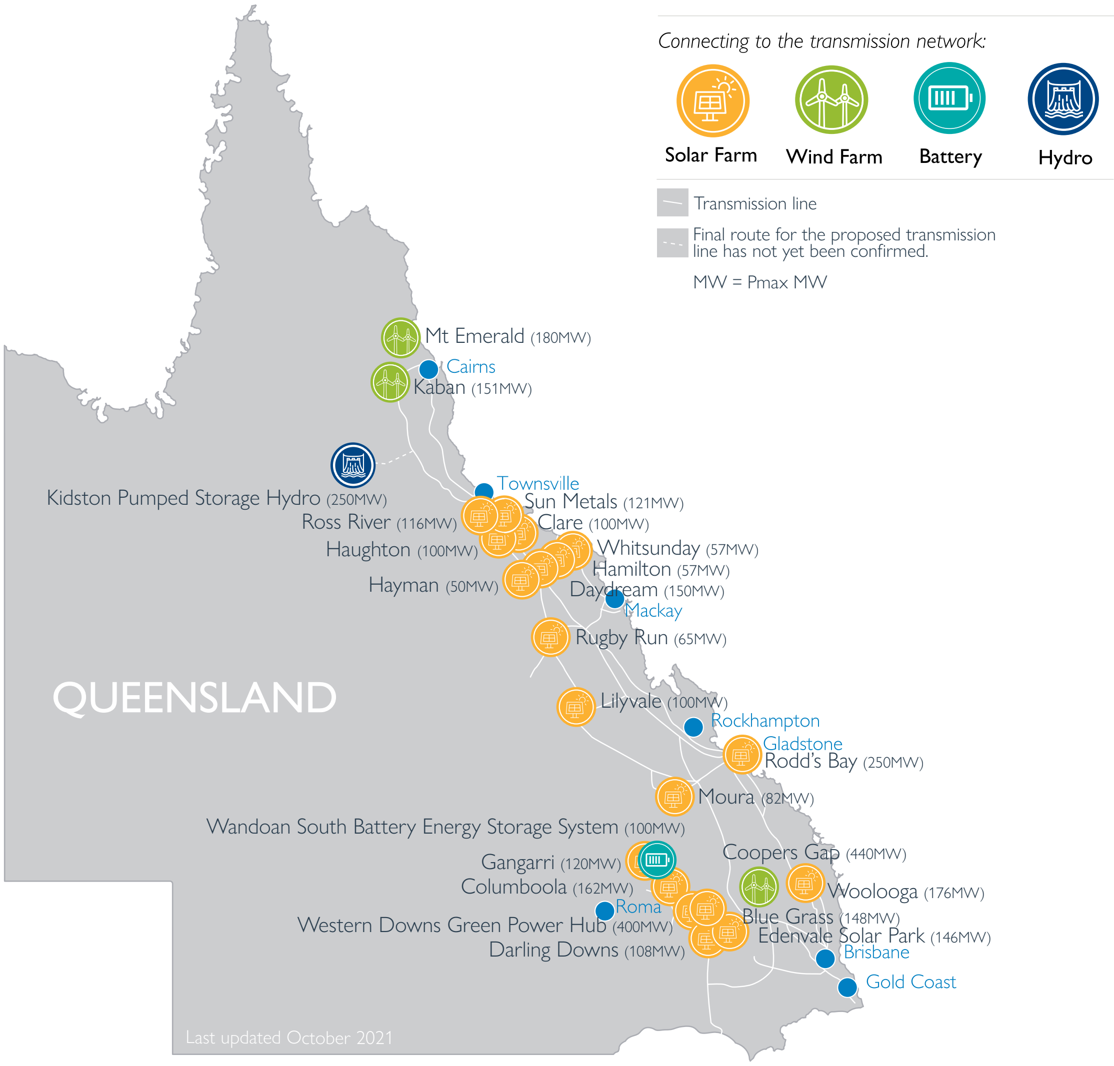
- This chapter explores the potential for the connection of variable renewable energy (VRE) generation to Powerlink's transmission network.
- Powerlink has a central role in enabling the connection of VRE in Queensland.
- System strength has been a focus for VRE generators and Powerlink, including development of the Electromagnetic Transient Type (EMT-type) model for Queensland.
- Through active collaboration with solar and wind farm proponents and associated equipment manufacturers, Powerlink has implemented innovative cost-effective technical solutions in relation to the declared fault level shortfall at Ross node.
- Powerlink is actively engaging in the Australian Energy Market Commission's (AEMC) System Strength Frameworks Review to improve outcomes for connecting parties.

10.1 Introduction

Queensland is rich in a diverse range of renewable resources – solar, wind, geothermal, biomass and hydro. This makes Queensland an attractive location for large-scale VRE generation development projects. During 2020/21, 470MW of semi-scheduled VRE generation capacity was committed in the Queensland region, taking the total to 4,444MW that is connected, or committed to connect, to the Queensland transmission and distribution networks (refer to Section 8.2). To date Powerlink has completed connection of 13 large-scale solar and wind farm projects in Queensland, adding 1,644MW of generation capacity to the grid. Approximately 30 connection applications, totalling about 6,400MW of new generation capacity, have been received and are at varying stages of progress. This includes committed connections for a further 1,635MW of VRE. In addition to the large-scale VRE generation development projects, rooftop photovoltaic (PV) in Queensland exceeded 4,074MW in July 2021.

Figure 10.1 shows the location and type of generators connected and committed to connect to Powerlink's network. Department of Energy and Public Works (DEPW) also provides mapping information on proposed (future) VRE projects, together with existing generation facilities (and other information) on its website. For the latest information on proposed VRE projects and locations in Queensland, please refer to the DEPW website.

Figure 10.1 Committed and existing connection projects since 2018



Utility scale and rooftop connections of VRE generation, both in Queensland and the rest of the National Electricity Market (NEM), has brought with it a number of challenges to which Powerlink is responding. One of the main contributors to this challenging environment is system strength. The distributed nature of VRE generation is also changing the way the transmission network is operated, including changes to flow patterns and network utilisation.

This chapter provides information on:

- the current system strength obligations placed on Powerlink and connecting proponents of large-scale inverter-based plant under the National Electricity Rules (NER)
- the recommendations from the AEMC's investigation into System Strength Frameworks
- how Powerlink has and continues to meet the system strength challenges
- the fault level shortfall declared by AEMO in April 2020 and how Powerlink addressed this shortfall
- the current system strength environment and the opportunities for future investment in VRE generation.

10.2 Current management of system strength and NER obligations

On 1 July 2018, the AEMC rule for 'Managing Power System Fault Levels' came into effect.

Under the Rule

- AEMO develops a system strength requirements methodology guideline and determines where the fault level nodes are in each region, plus the minimum three phase fault levels and any projected fault level shortfalls at those fault level nodes.
- Transmission Network Service Providers (TNSPs) or jurisdictional planning bodies, as the System Strength Service Providers for each region, are responsible for procuring system strength services to meet a fault level shortfall declared by AEMO. These services must be made available by a date nominated by AEMO which is at least 12 months from the declaration of the shortfall, unless an earlier date is agreed with the System Strength Service Provider.
- Network Service Providers (NSPs) undertake system strength impact assessments to determine whether a proposed new or altered generation or market network service facility connection to their network will result in an adverse system strength impact.
- Applicants pay for system strength connection works undertaken by a NSP to address an adverse system strength impact caused by their proposed connection to the NSP's network or propose a system strength remediation scheme[1] .

Consistent with this methodology, Powerlink worked with AEMO to determine the required minimum fault level at key 'fault level nodes' within the Powerlink network (refer to Table 10.1). The minimum fault level is used to assess that the system can be operated safely and securely. The initial assessment was completed in mid-2018.

The guidelines require the minimum fault level to be reassessed no more than once in every 12 month period to determine whether a fault level shortfall exists or is likely to exist in the future. This assessment considers the displacement[2] of existing synchronous plant in Queensland.

In early 2020, Powerlink and AEMO reviewed the minimum fault level requirements within the Powerlink network. As a result of this review, AEMO published (9 April 2020) a report 'Notice of Queensland System Strength Requirements and Ross Fault Level Shortfall' to the NEM under Clause 5.20C.2(c) of the NER. Powerlink's response to this declared fault level short fall is discussed in Section 10.4.

10.2.1 System Strength Frameworks Review

On 21 October 2021 the AEMC published its final Rule determination on the Efficient Management of System Strength on the power system. The previous framework (refer Section 10.2 above) has been shown in practice to be reactive and slow to provide system strength, resulting in a lack of this essential system service. Shortfalls of this essential service in recent years have resulted in delays in the connection of new inverter-based renewable (IBR) generators, as there has been insufficient system strength to allow them to connect securely.

The AEMC concluded that these delays, and the resultant uncertainty they create, impose costs on connecting new generation. These costs are ultimately passed through to customers. A lack of system strength in the system has also meant that lower-cost, lower emissions, renewable generators are being constrained off, again increasing costs to customers.

The energy mix is rapidly transforming and solutions to the system strength issues require sufficient time to be delivered. The AEMC concluded that the short-term reactive approach to deliver a theoretical minimum system strength level is not workable and does not sufficiently enable planning for the long-term management of issues.

[1] Obligation on the connecting generator to 'do no harm' came into effect 17 November 2017 with AEMO publishing the 'Interim System Strength Impact Assessment Guidelines'.

[2] Displacement may occur for periods when it is not economic for a synchronous generator to operate, and is distinct from retirement which is permanent removal from the market.

Powerlink worked closely with the AEMC and through Energy Network Australia (ENA) in the development of this important Rule change. The result is that the AEMC's final rule determination has increased the emphasis on medium to long-term planning for system strength needs. The rule specifies three main elements:

- Supply side: System strength will be supplied through a Transmission Network Service Provider (TNSP) led procurement service. TNSPs, would be responsible for providing efficient levels of system strength on a forward looking basis over a given timeframe. Planning for the standard is rolled into the existing Transmission Annual Planning Report (TAPR) and Regulatory Investment Test for Transmission (RIT-T) processes.
- Coordination: Connecting parties with IBR generators would have the choice between paying to use the system strength provided by the TNSP or providing their own system strength by remediating their impact. This mechanism would mean that while customers would bear some of the initial cost of providing system strength services, over time this cost will be recovered from connecting parties, with minimal stranded asset risk borne by consumers.
- Demand side: New access standards, to ensure that connecting parties with IBR generators would only use the efficient volumes of this valuable common pool resource. The new access standards also underpin the coordination measures, by allowing generators to undertake actions to reduce the amount of system strength they require. IBR generators must meet two new requirements; a minimum short circuit ratio (SCR) and a phase shift capability.

10.3 Developing an understanding of the system strength challenges

Powerlink continues to better understand the system strength challenges and has worked closely with AEMO, Australian Renewable Energy Agency (ARENA) and inverter manufacturers to maximise the VRE generation hosting capacity of the Queensland transmission network.

Fundamental to the understanding of system strength challenges has been the development of a system-wide EMT-type model. This has allowed the study of system strength and its impact on the stability and performance of the power system.

Powerlink has developed an EMT-type model that extends from Far North Queensland (FNQ) to the Hunter Valley in New South Wales (NSW). It includes plant specific models for all VRE and synchronous generators (including voltage control systems) and transmission connected dynamic voltage control plant (Static VAr Compensators and Statcoms). This is the most detailed modelling possible with the inverter-based plants modelled at the controller level and with simulation time steps in micro-seconds.

In 2018, AEMO's System Strength Impact Assessment Guidelines introduced a Preliminary Impact Assessment (PIA) screening based on the calculation of available fault level (AFL)[3]. This methodology was developed based on the best available knowledge of system strength at that time. Powerlink has now established that the dominant limitation to hosting capacity is the potential for multiple generators, and other transmission connected dynamic plant, to interact in an unstable manner. These dynamic plant control interactions manifest as an unstable or undamped oscillation in the power system voltage. The frequency of the oscillation is dependent on the participating plants, but is broadly characterised as between 8Hz and 15Hz. The PIA fault level screening methodology does not provide any insights to this limitation.

As a result, Powerlink now undertakes a Full Impact Assessment (FIA) for all VRE generation applying to connect to the Powerlink network regardless of the size of the proposed plant and available fault level indicated from the PIA. This is because only an FIA can provide information on the impact of potentially unstable interactions with other generators.

3 AEMO, System Strength Assessment Guidelines, July 2018

The FIA is carried out as part of the connection process as per AEMO's System Strength Impact Assessment Guidelines. This is to ensure that any adverse system strength impact is adequately identified and addressed as part of the connection application either via a system strength remediation scheme or through system strength connection works.

It is vital that proponents provide high-quality EMT-type models as per AEMO's Power System Model Guidelines[4] for the FIA process. One of the most common delays to project assessments is the need to request changes to proponent models. Generation must meet the NER Generator Performance Standards (GPS), and generation proponents are required to demonstrate that their proposed generation technology is able to meet these standards during the connection process.

AEMO's System Strength Impact Assessment Guidelines provides additional details regarding the assessment process and methodology, while AEMO's Power System Model Guidelines provides additional information regarding modelling requirements.

10.3.1 Australian Renewable Energy Agency (ARENA) Project

Powerlink received funding from ARENA to investigate technical, commercial and regulatory solutions to address system strength challenges. The study looked at addressing system strength challenges by exploring the merits of several technical solutions, as well as business and regulatory models to facilitate lower cost solutions and remove commercial barriers. The study is occurred over a number of stages.

For stage 1 Powerlink partnered with GHD to prepare an initial report on system strength. The purpose of the report was to promote better understanding on how system strength can impact investment in generation and transmission network assets. The report targets a broad audience to establish a base level of understanding between all stakeholders involved in the power system and serve as a basis for informing the ongoing development of regulatory frameworks. Solar farm operators Pacific Hydro and Sun Metals also supported the report's development. The 'Managing System Strength during the Transition to Renewables' report was published in May 2020 (refer to Powerlink's website[5]).

Subsequent stages of this project built on these foundations. Powerlink published a stage 2 report, 'PSCAD Assessment of the effectiveness of a centralised synchronous condenser approach' in October 2020 which demonstrated the potential benefits of connecting proponents sharing a scale-efficient synchronous condenser to meet their individual system strength remediation obligations. The technical viability was demonstrated in a system-wide EMT-type case study, which compared distributed, project specific, synchronous condenser installations to a centralised shared scale-efficient synchronous condenser solution.

Further stages focussed on building understanding of the role grid forming inverter technology with battery (referred to as 'grid forming battery') can play in contributing to system strength. The aim was to determine whether advanced inverter controls can facilitate a higher penetration of inverter-based renewable generation (e.g. wind and solar) without compromising grid stability.

Initially Powerlink invited inverter manufacturers to test the ability of their product(s) to mitigate system strength challenges. Powerlink provided a simulation test case and defined a range of system and plant conditions and disturbances under which the plant was to be tested for plant stability. For most of the grid forming batteries investigated stable operation was simulated down to low Short Circuit Ratios (SCR).

4 AEMO, Power System Model Guidelines, July 2018.
5 Powerlink, Managing System Strength During the Transition to Renewables, May 2020.

For the final step, Powerlink (in consultation with ARENA and AEMO) selected a promising grid forming battery solution, based on the initial preliminary assessment, and completed a rigorous system-wide EMT-type analysis. The analysis demonstrated that grid forming batteries can increase the system strength and help to support the operation of inverter connected renewables, in a similar manner as synchronous condensers. The provision of this service also has minimal impact on the battery's commercial services. In the study Powerlink demonstrated that a grid forming battery of similar MVA capacity as the synchronous condenser (identified in the previous study) could be used to support the stable operation of an otherwise unstable IBR generator, and this supporting function was only dependent on the battery being online, with no need for it to be operated in a particular fashion. In addition, the modelling showed that the grid forming battery could provide the same damping capability as the synchronous condenser with only half the MVA capacity after implementing site specific tuning.

ARENA published the Powerlink report on the outcome of this assessment in April 2021[6].

10.3.2 Retuning of transmission connected Static VAr Compensators (SVCs)

Powerlink has redesigned and commissioned changes to the voltage controller at nine SVCs in North and Central Queensland (CQ). At two transmission connected SVCs in North Queensland the control systems were modified by adjusting gain and phase parameters to allow more VRE generation to be supported. This has reduced proponent's connection costs that would have otherwise been required to provide system strength remediation.

The change to network conditions also required Powerlink to reduce the gain control of seven other SVCs in the region so they could continue to operate as designed.

10.3.3 Inverter level retuning of VRE plant

In late-2019 Powerlink developed a methodology to assess the damping provided by a VRE generator at different oscillation frequencies using an EMT-type model that could be shared with inverter manufactures but still preserve the confidentiality of their propriety information.

This work allowed Powerlink to partner with an inverter manufacturer to investigate changes to the plant voltage control strategy. The outcome of this work recommended that the bandwidth of the voltage control system be higher to counter the 8Hz to 15Hz control interactions that have been observed in Powerlink's network. Powerlink tested this revised control strategy in the state-wide EMT-type model and confirmed its effectiveness.

This approach, initiated by Powerlink in partnership with an inverter manufacturer, has been adopted in the North West Victoria area where five fully commissioned plants were being heavily constrained due to control interactions identified post their commissioning. Powerlink has also leveraging off this development to help address the declared fault level shortfall in north Queensland (refer to Section 10.4.1).

10.4 Declaration of fault level shortfall at Ross node

During early 2020, Powerlink and AEMO reviewed the minimum fault level requirements within the Powerlink network. As a result of this review, AEMO published (9 April 2020) a report 'Notice of Queensland System Strength Requirements and Ross Fault Level Shortfall' to the NEM under Clause 5.20C.2(c) of the NER.

The report identified that the fault level nodes for Queensland remain the same as those determined in mid-2018, except for the replacement of the Nebo 275kV node with the Ross 275kV node. The Ross 275kV node is now considered to be a better representation for system strength conditions in north Queensland compared to the Nebo 275kV node.

6 PSCAD Assessment of the Effectiveness of Grid Forming Batteries.

The minimum three phase fault levels from AEMO were also determined for all of the Queensland fault level nodes. Powerlink and AEMO carried out detailed EMT-type analysis to determine these system strength requirements for the Queensland region. Using the outcomes from these studies (for example, minimum required synchronous generator combinations), Powerlink and AEMO calculated a new minimum post-contingency three phase fault level of 1,300MVA at the Ross 275kV fault level node. The updated minimum three phase fault levels, from AEMO, for the Queensland fault level nodes are shown in Table 10.1.

Table 10.1 Three phase fault levels for Queensland fault level nodes

Fault level node	2020 minimum fault level (MVA) (post-contingency)
Ross 275kV	1,300
Lilyvale 132kV	1,150
Gin Gin 275kV	2,250
Western Downs 275kV	2,550
Greenbank 275kV	3,750

Based on the minimum fault level review and assessment of the projected fault levels based on dispatch outcomes from the Draft 2020 Integrated System Plan (ISP) Central scenario market modelling results, AEMO declared an immediate fault level shortfall of 90MVA at the Ross 275kV fault level node. AEMO projected that, if not addressed, this fault level shortfall will continue beyond 2024-25.

As outlined in Section 10.2, Powerlink has the responsibility to address the fault level shortfall in the Queensland region. Powerlink must also address these technical issues as efficiently as possible. In accordance with clause 5.20C.2(c) of the NER, AEMO specified 31 August 2021 as the date by which Powerlink should ensure that the necessary system strength services to address the fault level shortfall are available.

10.4.1 Actions undertaken to address the fault level shortfall

Immediately following the fault level shortfall declaration, Powerlink commenced an expression of interest (EOI) process seeking both short and long-term non-network solutions to the fault level shortfall at Ross (refer to Section 6.7.1).

In the short-term, Powerlink with AEMO's approval, entered into an agreement with CleanCo Queensland to provide system strength services through utilising its hydro generation assets in FNQ. These short-term support services were in place until 31 December 2020. Whilst not fully meeting the fault level shortfall, with associated system strength constraint advice, these support services reduced the impact and constraints on North Queensland VRE generation. This partial short-term solution allowed Powerlink to focus on assessing the most efficient long-term solutions to address the fault level shortfall.

Offers received as part of the EOI process included inverter tuning to reduce the interactions currently occurring between renewable generation and other control systems (refer to Section 10.3.3). This involved modifying the tuning of the inverters at Daydream, Hamilton, Hayman and Whitsunday Solar Farms connected to Powerlink's Strathmore Substation. Powerlink's modelling confirmed that this inverter retuning assisted with the day time solution. On this basis, Powerlink entered into an agreement to retune these four plants.

In addition, Powerlink also worked with Mt Emerald Wind Farm and the turbine equipment manufacturer on control setting changes. Powerlink's modelling confirmed that these changes could significantly reduce the overall system strength requirement at Ross and dove-tail with the solar farm tuning above to provide a complete solution to the system strength shortfall. All changes were finalised and commissioned by April 2021.

AEMO's due diligence following the retuning at the Daydream, Hamilton, Hayman and Whitsunday solar farms and update of the control settings at Mt Emerald Wind Farm concluded that the system strength requirements at the Ross node have changed since the 2020 Notice was issued. On 28 June 2021 AEMO announced the post-contingency minimum fault level requirement at the Ross node is now assessed as 1,175MVA and they no longer consider there to be a fault level shortfall at Ross. Based on this assessment, Powerlink's regional System Strength Service Provider obligations have now been fulfilled in relation to the Notice issued in April 2020 under the NER[7].

Through active collaboration with solar and wind farm proponents and associated equipment manufacturers, Powerlink has delivered a positive outcome to customers by implementing innovative cost-effective technical solutions which removed the need for long-term investment (network or non-network).

10.5 Transmission connection and planning arrangements

In May 2017, the AEMC published the Final Determination on the Transmission Connections and Planning Arrangements Rule change request. The Rule set out significant changes to the arrangements by which parties connect to the transmission network, as well as changes to enhance how transmission network businesses plan their networks.

From July 2018 new categories of connection assets were defined, namely Identified User Shared Assets (IUSA) and Dedicated Connection Assets (DCA). All new DCA services, including design, construction, ownership and operation and maintenance are non-regulated services. IUSA assets with capital costs less than $10 million are negotiated services that can only be provided by Powerlink. IUSA assets with capital costs above $10 million are non-regulated services. Powerlink remains accountable for operation of all IUSAs and any above $10 million must enter into a Network Operating Agreement to provide operations and maintenance services.

In July 2021 the AEMC finalised a rule to facilitate more efficient investment in, and use of, transmission assets built to connect generation to the 'shared' network. The finalised rule establishes a new framework for 'designated network assets' (DNAs). The new arrangements replace the current arrangements for 'large dedicated connection assets' (DCAs).

A DNA is a radial transmission extension greater than 30km in length. DCAs remain for connections less than 30km unless a proponent voluntarily chose to opt into the DNA framework. DNAs will not be subject to the open access regime that applies elsewhere on the transmission network. Instead, a DNA owner, i.e. the party that made the investment and funded the asset, is responsible for administering third-party access to its DNA. For this reason DNAs only apply to radial configurations.

A DNA is not a connection asset, but rather transmission network. It differs to the shared transmission network as the design, construction and ownership of the DNA are non-regulated services. As for IUSAs, Powerlink remains accountable for operation and maintenance of all DNAs. A special access framework for DNAs is set out in the NER Chapter 5.

As DNAs will form part of the transmission network, operated by a TNSP, the point where an individual proponent connects to a DNA will be a transmission network connection point (TNCP). This allows for the application of existing arrangements for settlement, metering, calculation of loss factors, transmission use of system charges, system strength and performance standards, with only minor modifications.

Powerlink is focussed on delivering a timely and transparent connection process to connecting generators including coordination of the physical connection works, GPS and system strength.

[7] NER Clause 5.20C.2.

10.6 Indicative available network capacity – Generation Capacity Guide (GCG)

Powerlink provides a significant amount of information for parties seeking connection to the transmission network in Queensland, including the GCG. This guide is designed to provide proponents with an understanding of the current situation in Queensland with regard to system strength and to outline what it means for project planning. Proponents are encouraged to utilise this information to make informed proposals, however we encourage early engagement with Powerlink's Business Development team.

The GCG is published on Powerlink's website separate to the TAPR to facilitate updates to the GCG as required to make available the most up to date data for VRE developers. The GCG also includes thermal capacity and congestion information for customers seeking to connect to Powerlink's transmission network.

Under the NEM's open access regime, it is possible for generation to be connected to a connection point in excess of the network's capacity, or for the aggregate generation within a zone to exceed the capacity of the main transmission system. Where this occurs, the dispatch of generation may need to be constrained. This congestion is managed by AEMO in accordance with the procedures and mechanisms of the NEM. It is the responsibility of each generator proponent to assess and consider the consequences of potential congestion, both immediate and into the future.

As outlined in Section 10.4, AEMO declared a fault level shortfall in NQ. While this shortfall indicates the challenges faced for inverter-based connections in this part of the network, it does not mean that new connections are not possible. However, the underlying system strength is limited throughout the state and there are still a large number of enquiries and applications under consideration. As such, all proponents should consider the strong possibility that system strength support will be required no matter where the project will be located. This support may be provided by a synchronous condenser. However, retuning of the plant's control systems and other technology solutions could be equally effective.

To determine if system strength remediation is required a system-wide EMT-type assessment for a project-specific inverter-based plant must be undertaken. If this assessment identifies an adverse system strength impact then there is an obligation on the VRE proponent to provide system strength remediation. Powerlink will work with the proponent to explore the most cost-effective solution. This may include a shared system strength service.

10.7 System strength during network outages

Throughout the year, it is necessary to remove plant in the transmission network from service. In the majority of circumstances planned outages are necessary to maintain or replace equipment. It may also be necessary to remove plant from service unexpectedly. During these planned and unplanned outages, Powerlink and AEMO must ensure that the system continues to be operated in a secure state.

Network outages may lead to reductions in system strength. While this may be a localised issue, outages on key 275kV corridors, as well as some 275/132kV transformers, may impact the system strength of a number of VRE generators. To address this, Powerlink is working with AEMO to develop constraint equations to be implemented in the National Energy Market Dispatch Engine (NEMDE). The purpose of these equations is to maximise the dispatch of VRE generators in the Queensland system within the available system strength.

10.8 Transmission congestion and Marginal Loss Factors (MLF)

The location and pattern of generation dispatch influences power flows across most of the Queensland system. Power flows can also vary substantially with planned or unplanned outages of transmission network elements. Power flows may also be higher at times of local area or zone maximum demand or generation, and/or when embedded generation output is lower.

Maximum power transfer capability may be set by transient stability, voltage stability, thermal plant ratings (transformer and conductor ratings) or protection relay load limits. System strength may also be a constraint that limits the output from large-scale inverter-based generation in an area of the network.

Where constraints occur on the network, AEMO will constrain generation based on the market system rules within NEMDE to maintain system security.

Rapid changes in demand and generation patterns will likely result in transmission constraints emerging over time. Forecasting these constraints is not straightforward as they depend on generation development and bidding patterns in the market. For example, with the existing and committed inverter-based renewable generation in NQ, the utilisation of the Central West to Gladstone and Central to South Queensland grid sections are expected to further increase over time.

Powerlink monitors the potential for congestion to occur and assesses the need for network investments using the Australian Energy Regulator (AER)'s RIT-T. Where found to be economic, Powerlink will augment the network to ensure the electricity market operates efficiently and at the lowest overall long run cost to consumers.

Generator proponents are encouraged to refer to Chapter 6 of Powerlink's TAPR for more detail on potential future network development as well as emerging constraints.

MLFs have also emerged as an important consideration for new entrant generators, especially for PV generators in NQ. MLFs adjust the spot price to account for the marginal impact of losses from additional generation. They are calculated as a volume-weighted average for the full year and are determined based on historical generation and demand profiles adjusted for known forward commitments.

In NQ the local supply and demand balance is significant due to the long distances of the transmission system from North to South Queensland. The coincident generation from PVs has resulted in large drops in the MLFs for PV generators in NQ over recent years. The situation is not as significant for wind generators in NQ as a large amount of the wind export is not coincident with the PV output and hence does not coincide with the large demand and supply imbalance in the region.

MLF reductions across NQ provide an opportunity for additional loads (or storage) to locate in NQ.

10.9 Further information

Powerlink will continue to work with market participants and interested parties across the renewables sector to better understand the potential for VRE generation, and to identify opportunities and emerging limitations as they occur. The NER (Clause 5.3) prescribes procedures and processes that NSPs must apply when dealing with connection enquiries. Should an interested party wish to utilise the connection framework referred to in Section 10.5, it will be necessary to submit a new connection enquiry.

Figure 10.2 Overview of Powerlink's existing network connection process

Proponents who wish to connect to Powerlink's transmission network are encouraged to contact BusinessDevelopment@powerlink.com.au. For further information on Powerlink's network connection process please refer to Powerlink's website.