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Thursday, 28 September 2023

Ms Anna Collyer
Chair Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2001

Submitted online: www.aemc.gov.au

Dear Ms Collyer,

AEMC consultation paper on enhancing investment certainty in the R1 process

Transgrid welcomes the opportunity to respond to the Australian Energy Market Commission's (**AEMC**) Enhancing investment certainty in the R1 process consultation paper, which was published on 17 August 2023. This paper initiates a rule change request from the Clean Energy Council (**CEC**) to amend the National Electricity Rules (**NER**) to provide more certainty to generation applicants.

NSW is currently executing one of the world's most ambitious and rapid clean energy transitions. The surge in renewable energy generation and storage, and the decline in coal generation has seen a rapid increase in connections which is reshaping our power system. Under the NER, Transgrid is responsible for ensuring the power system in NSW remains strong, by maintaining specified levels of key system security services as new generation seeks to connect. When assessing and approving connection applications, our primary goal is to ensure that these connections meet their agreed performance standards and do not negatively affect the power system.

We support the work that the CEC is undertaking through the Connections Reform Initiative (**CRI**). The CRI is exploring connection reforms that address connecting generator concerns about delays and complexity during the connections process. We are committed to working with the CEC and industry to streamline the connections process. We agree that the connections process can be complex, however we believe the proposed solution may have unintended consequences.

We look forward to continuing to work with the AEMC, AEMO, the CEC and the industry to develop a streamlined connections process that improves the connections process.

Transgrid's detailed response to the consultation paper is provided in the attached submission.

If you require any further information or clarification on this submission, please contact Zainab Dirani at Zainab.Dirani@transgrid.com.au

Yours faithfully

Maryanne Graham
Executive General Manager – Community and Policy

Enhancing investment certainty in the R1 process

Transgrid submission on the AEMC's consultation paper

Summary

This submission provides Transgrid's response to the Australian Energy Market Commission's (**AEMC**) Enhancing investment certainty in the R1 process consultation paper (**paper**), which was published on 17 August 2023. The paper initiates a rule change request (**rule change request**) from the Clean Energy Council (**CEC**) to amend the National Electricity Rules (**NER**) to provide more certainty to generation applicants.

NSW is currently executing one of the world's most ambitious and rapid clean energy transitions. The surge in renewable energy generation and storage, and the decline in coal generation has seen a rapid increase in connections which is reshaping our power system. Under the NER, Transgrid is responsible for ensuring the power system in NSW remains strong, by maintaining specified levels of key system security services including system strength, inertia, frequency and voltage control. When assessing and approving connection applications, our primary goal is to ensure that these connections meet their agreed performance standards and do not negatively affect the power system.

We support the work the CEC is undertaking through the Connections Reform Initiative (**CRI**). The CRI is exploring connection reforms that address connecting generator concerns about delays and complexity. We believe it is important that all participants have transparent and timely interactions with Network Service Providers (**NSP**) through the connections process. As such, we are committed to working with the industry to streamline the connections process.

We agree that connection process timelines vary, and therefore support flexibility and timely connections to our network; however, it must not be at the expense of system security and stability or an increase in costs to consumers.

The consultation paper outlines various stakeholder concerns including the complexity of the connections process for new generators and timeframes in finalising new connections. We acknowledge that there is variability of timeframes and therefore would support a minimal change approach as outlined in section 3.4 item 1 of the AEMC's paper. We believe this may assist in reducing uncertainty in NSP's and the Australian Energy Market Operator (**AEMO**) response times. That is, prescribing timeframes for R1 package assessment to establish consistency between the R1 assessment process and generator performance standard negotiation through the NER clause 5.3.4A process.

Transgrid supports the intent of the rule change request however we are concerned that the rule change request has unintended consequences including prolonging the connection process, adding complexity, and unnecessarily consuming specialised engineering resources across the industry. It also inappropriately transfers responsibilities and costs from connecting generators to NSPs. In some cases, we believe that it may also lead to a degradation in power system performance. In particular, we are concerned with:

- The adoption of a self-assessment to categorise generators into different pathways for registration.
- The development of materiality guidelines and negotiation of materiality thresholds to change generator performance standards at the registration stage.
- NSP being required to identify and procure solutions to resolve the power system issues caused by a subset of connecting generators (proposed Type 2 pathway).
- The onus being placed on NSPs to demonstrate connecting generators have a substantial negative impact on the system when they choose to make plant changes at registration, rather than the onus being on connecting generator to show they still comply with their GPS (proposed Type 4 pathway).

Our concerns are structured under three key topics:

1. Self-assessment and multipath R1 process.
2. Materiality guidelines and negotiation of materiality thresholds.
3. Resolving disputes between AEMO, NSPs, and applicants in the R1 Stage.

Attachment one includes our responses to the AEMC's questions as outlined in the consultation paper.

1. Self-assessment and multipath R1 process

The consultation paper outlines various stakeholder concerns over the complexity of the connections process for new generators and timeframes in finalising new connections. These concerns include ambiguity in timeframes, external factors and lack of transparency and flexibility.

To address these issues, the proposed reforms would require applicants to undertake a self-assessment to identify any material discrepancies between the R1 modelling results and the GPS requirements. The proposed categories of self-classification for projects in the R1 stage are classified in five different Type classifications, Type 0 to Type 4. The generator applicant will self-assess and attribute a type to their application. The NSP decides whether to provide approval for the R1 Stage. If the NSP does not provide approval, it must provide evidence as to why the applicant should not be approved (and therefore registered) without further remedial work.

Transgrid has concerns about this approach as:

- **Multipath Registration Process** - Negotiating categorisation will add an additional step into the registration process which will necessitate greater resource time and effort and to reach registration for all projects. This additional effort will be incurred by connecting parties, NSPs and AEMO. Where there are changes to projects during registration, categorisation and materiality would need to be renegotiated.
    - The agreed GPS forms part of the terms and conditions of the connection agreement between the connecting party and the relevant NSP. If the GPS is open for re-negotiation at the R1 stage, it would significantly deviate from the current process of ensuring an agreed GPS before receiving an Offer to Connect.
    - Under the current process, there are pathways that are available to speed up connections including conditional registration. This is done where there are minor issues to be resolved at commissioning. Where issues have arisen due to changes in a generator's design, the onus should remain on the generator to demonstrate that it can meet its agreed GPS.

- **Self-Assessment** - The rule change request outlines that the connection applicants identify the 'Type' pathway upfront via self-assessment and then AEMO and the NSP to validate the proposed category. This self-assessment approach would lead to inconsistent initial classification as proponents may all classify their project differently, not having visibility of all projects. Proponents may also be motivated to give their own projects favourable classifications. This would likely lead to the need to negotiate and re-classify projects, resulting in addition effort and cost.

1.1. Primary factors contributing to variability of R1 time frames

The rule change request claims that the R1 process is causing delays in completing connection and registration of new generation.

In our view, the rule change proposal has not considered several factors that influence the timing of the connection process. These include:

- 5.3.4A letter conditions
  - AEMO and NSP may issue a 5.3.4A letter (and the offer to connect) with several conditions that are required to be address at the R1 stage. The number and materiality of these conditions will impact on registration and would vary project by project. A project with a "clean" 5.3.4A letter, or minimally conditional letter, is starting the R1 process at a different stage to a project that has a number of conditions attached. Where there are issues at the application stage, generator applicants often request those issues be moved to the registration stage, so that a 5.3.4A letter can be issued sooner (as evident through AEMO's connections scorecard).
  - Though the 5.3.4A letter is a key connection milestone, it does not signify equal progression through the connection process.
  - AEMO's connections scorecard suggests that the time for the 5.3.4A process is reducing whilst the R1 process is increasing. This may be the result of, at least in part, to issues left over from the application stage being addressed at the registration stage.
- The number of iterations of the R1 package review varies between projects
  - Transgrid generally responds to R1 submissions within the same timeframes that apply to the application to connect submission. As such, we support similar timeframes being explicitly included in the NER for R1. However, the total time required will still depend on the number of rounds of submission and assessment. This is dependent on the quality and completeness of the successive submissions, and the time it takes to re-submit a revised package. In Transgrid's experience, this has a significant impact on variability in R1 package assessment timeframes.
- Plant changes
  - Connection applications of projects that have no plant changes will usually be straightforward unlike projects with significant plant changes. This would include changes that trigger an alteration process such as the NER clause 5.3.9 process. Changes can range from minor changes in reticulation system impedances to changes with greater impact such as the inclusion of harmonic filters or changing generator Original Equipment Manufacturer.
- Differences in resourcing of R1 studies between projects
  - The level of resourcing of R1 studies by the connecting party can vary between projects. It is also not uncommon for the organisation responsible for progressing the R1 package to be different from the organisation responsible for progressing the application to connect submission, for example

when the EPC company takes over from a project developer. A new party may not be as familiar with the specifics of the project, or the issues carried over from the 5.3.4A stage.

- Issues outside of the R1 modelling review
  - In addition to the technical review and acceptance of the R1 submission, there are other tasks that need to be completed prior to market registration. This includes submission of Energy Conversion Models, design documentation, commissioning plans and SCADA signals list.

In Transgrid's experience, practices that can help reduce variability at registration are not evenly employed across projects, including:

- Aiming to starting registration with no, or minimal, conditions in the 5.3.4A letter.
- Reducing rounds of submissions by ensuring the quality and completeness of each submission.
- Appropriate resourcing registration studies.
- Minimising or eliminating plant changes at registration by scheduling design tasks earlier and putting contractual arrangements in place with EPCs to limit changes.
- Reducing the time between the issuance of the 5.3.4A letter and the initial Registration submission to reduce the number of newly committed project that need to be considered.

1.2. Type classification and self-assessment

We have concerns with the proposed R1 pathway process in which a connecting generator would self-assess. The below table outlines further comments on each of the proposed Type self-classifications.

Type	Transgrid comments
Type 0	In Transgrid's experience, we rarely receive this type of application unless the project has undertaken detailed design prior to issue of 5.3.4A. NSPs or AEMO may request studies to verify performance that may include newly committed projects. To ensure system security, it is necessary to undertake additional power system studies if there are changes to a generator model. Furthermore, additional studies for R1 are required after detail design is finalised. These includes: • Transformer energisation studies. • Harmonic filter/reactive plant switching transient studies. • Studies for operation of the plant when generating units are not generating active power, such as Night-time operation. • Studies with operation of reduced number of generating units in-service. Although some of these studies can be completed in the application stage, often these are postponed to the R1 stage to reduce rework and on the request of the proponent.
Type 1	As this process requires the determination of materiality, it will most likely add additional complexity and time to the R1 process. If there are changes to the plant model at R1, in some cases, the most appropriate way to confirm the materiality of the impact may require undertaking power system studies incorporating the revised plant model. This is further explained in section 2 of the submission.
Type 2	Type 2 proposes that NSPs will be required to identify and procure the lowest cost solution to resolve the external power system issues that are contributing to discrepancies between the applicant's R1 stage, and the GPS agreed earlier.

Type	Transgrid comments
	We do not agree that the NSP should be responsible to address Type 2 issues. Our position is further explained in section 1.2.1 of our submission.
Type 3	Type 3 suggests that where there are minor issues, conditional registration should be given. Under the existing rules, Transgrid, in consultation with AEMO, already allows conditional registration with conditions to be met at defined timeframes during commissioning or post-commissioning, where the circumstances are appropriate under the existing process. There is also a risk that this Type was applied too broadly it would simply "kicks the can down the road" and leads to extended hold point testing timeframes while the deviations are assessed through operational testing.
Type 4	The proposed Type requires the NSP to "demonstrate how connection of the plant would lead to a substantial negative impact on system security, power quality or operability" following "significant differences in the detailed design of the plant". The onus of proof should not be on the NSP to demonstrate how connection of the generator would lead to a substantial negative impact on system security, power quality or operability. Our position is further explained in section 1.2.2 of our submission.

1.2.1. Proposed Type 2

The rule change proposal proposes that NSPs will be required to identify and procure the lowest cost solution to resolve the external power system issues that are contributing to discrepancies between the applicant's R1 stage, and the GPS agreed earlier.

Transgrid's view is that this reallocation is inappropriate as it will not lead to least cost solutions and will prolong the time it takes generators to connect to the network. Transgrid's concerns with the proposed Type 2 categorisation are further outlined below.

Overgeneralised approach

Transgrid believes that the Type 2 proposal does not consider a range of potential issues at registration, and the infeasibility of addressing all these issues with the NSP procuring "security".

There is a specific process in place for NSPs to provide system strength with the costs passed on to connecting generators, due to the recent rule change. For example, the rule change request suggests harmonics could be addressed in a similar way to system strength. Given the time limits of this review, Transgrid has not undertaken a full review of this suggestion however, assuming a framework similar to the system strength framework was developed for harmonics, it would likely be similarly complex to the system strength framework, while only addressing the specific issue of the harmonics and cannot be broadly applied. The system strength framework does not provide a general model to address the variety of issues encountered at registration.

The system strength framework does not provide a general model to address the variety of issues encountered at registration. To apply this approach to all potential generator performance issue at the R1 stage is not feasible, requiring a level of technical effort that far exceeds the existing R1 process. Furthermore, no examples were provided for issues related to other technical compliance issues that can arise (included in NER clauses S5.2.5.1, S5.2.5.4. S5.2.5.5, S5.2.5.13), some of which will be specific to individual projects, or infeasibly difficult or expensive to solve without the proponent taking responsibility for making changes to their own plant. This will result in some projects left stranded as the NSP is unable to implement timely solutions or implement solutions which are costly. Consequently, it will increase costs to consumers and uncertainty to investors.

Furthermore, attempting to address even a modest number of security and power system performance issues in the same way as system strength will result in a complex arrangement of assessments and charges, creating more uncertainty for investors and project developers and lengthening connection times.

Inappropriate allocation of responsibilities and costs

The specific circumstances for which the Type 2 process is expected to apply are not clear from the consultation paper, as "External Security Issue" has not been defined. While new issues may arise or become visible at registration due to other project becoming committed, these cannot be broadly categorised as external issues. The approach appears to propose lumping residual issues together at registration, and based on categorisation as Type 2, transferring responsibility for rectifying these issues onto the NSP. This would not be an appropriate allocation of responsibility or cost.

Transgrid's view is that if a generator requires procurement of services or undertaking of works to resolve GPS compliance issues, or power systems issues caused by the connecting generator, the connecting generator should directly bear the costs. Exemptions to this principle must be highly specific, thoroughly constructed and carefully controlled.

Tuning of the connecting generator

A large proportion of technical issues at registration can be addressed by the connecting generator making changes to their own control system tuning.

The rule change proposes that the connecting generator should be able to recover costs of tuning their own plant at R1 in the Type 2 process. This may incentivise a selection of plants and settings that are not robust to changing system conditions, noting that generators are expected to maintain GPS compliance after registration for as long as they operate.

It is not clear how the costs for this could be controlled or how this process would ensure a least cost solution. If not carefully controlled, it is possible that poorly performing generators could end up being supported by expensive network equipment.

Collective tuning is also used as an example in the rule change request. However, we believe this cannot be the sole responsibility of the NSP as collective tuning should involve a co-ordinated effort between the generator, NSPs and AEMO. For most cases where collective retuning is beneficial, the issues cannot be described as external to any of the involved generators, as they all participate in the control interactions. In some cases, collective tuning will involve plant connecting in multiple jurisdictions, and a co-ordinated effort between the generators, NSPs and AEMO will be required.

In Transgrid's view, generators need to be responsible for tuning their own plant to meet their GPS at registration and bear any associated security procurement delays.

Security procurement delays

It is proposed that that the Transmission Network Service Providers (**TNSP**) commence "security procurement" at Registration stage. Again, this is likely to add significant delays in designing, procuring and installing solutions. Using the CEC's example of harmonics, a harmonic filter procurement lead times could be more than a year.

Cost recovery

The proposal for NSPs to procure solutions, under type 2, to external power system issues and commence "security procurement" at registration stage will prolong the process and increase costs to consumers. Implementation of solutions is dependent on the current regulatory processes:

- **RIT -T process** - Seeking recovery through the RIT-T process will be a long process. On average, it takes approximately 2-3 years from when a need is identified, to completing the RIT-T process and implementing a *network support* solution, which will result in significant delays to implementing solutions. This in turn could mean delays in generators being approved for operation, or constraints being applied until solutions have received funding approval and are implemented. This will not be in the long-term interest to consumers as it would prolong connections leading to increase costs to consumers.
- **Seeking recovery in a revenue determination** - it will not be possible to accurately forecast solution costs given NSP's prescribed revenue is determined on a 5 yearly basis.
- **Cost pass through** - It is also unlikely that these costs would meet the criteria for a cost pass through.

It is also proposed that where generators are required to take action, they too will be entitled to cost recovery, potentially in accordance with a standardised schedule of payments for certain actions in a 'Type 2' process. It is not clear how this cost recovery is to be facilitated by NSPs. There is risk for NSPs if they are required to compensate generators before recovering the relevant costs through Transmission Use of System (**TUoS**).

1.2.1.1. External system security issues

Transgrid does not agree that the R1 process seeks to resolve external system security issues, rather it seeks to confirm GPS compliance.

Connecting generators are required to comply with their GPS for their entire operating life (not just at registration). Over the lifetime of the plant, it is likely that there will be numerous changes to the network that may impact the generator's ability to meet the performance standards, which would require the generator to take reasonable measures to continue to meet the performance standards. Therefore, it is not unreasonable to expect connecting generators to be able to comply with their agreed performance standards under existing and committed network and generator conditions at registration.

Network and generation changes at registration include:

- **Generation commitment**

Under the current process, connecting generator should be considering committed and existing generation in their assessments. If adverse impacts or control interactions are identified due to the addition of the connecting generator, it is the responsibility of the connecting generator to address the issue in the first instance.

Where control interactions result from generation commitment, we believe that these control interactions cannot be classified as 'external' as the proponent's generator model participates in the interaction. These interactions are usually identified in a PSCAD Wide Area Network Assessment studies conducted by the NSP. The timely introduction of the model is important to have visibility of these issues early. AEMO's Connection Simulator Tool may also be used by proponents to help identify issues early.

Once a connecting generator becomes committed, any other generator that is pursuing connection that is not yet committed will need to consider the newly committed generator in its studies. This chain of commitment reduces any new issues that generators at registration should encounter due to the commitment of new generators.

The main circumstance where new generator commitment could introduce new issues that may affect a project at registration is when another nearby project (Project A) achieves committed status prior to the project under consideration with 5.3.4A (Project B) executing the connection agreement and becoming committed. The Wide Area Network Assessment of Project B is required to be repeated with Project A taken into consideration. Transgrid current approach is to perform sensitivity analysis with advanced projects during the Wide Area Network Assessment, where possible to minimise the requirement for re-study.

However, we do recognise that while information on committed generators is available once the NER clause 5.3.7(g) notification is issued, the timing of when a project may become committed is not clearly visible to stakeholders, including the NSP. Commitment of generation depends on many factors including planning and environmental approvals, property owner negotiations, finance arrangements, many of which are not known or controlled by NSPs.

- **Retirement of generation**

Scheduled generators are required to provide a minimum of 42 months' notice of their intention to retire (NER 2.10.1(c2)). Given this, the obligation should remain on the connection applicant to take these forecast retirements into account in their applications given they have sufficient time to do so.

As part of network information provision, Transgrid routinely provides guidance to connecting generators on modelling network and generator dispatch for connection application and R1 studies, including sensitivity studies to be considered for forecasted changes.

- **Network augmentations and new transmission**

Network augmentation projects can require proponents to undertake reassessments when they achieve 'considered' status, however, generally these changes are intended to strengthen the network and are beneficial for the connecting plant.

Major transmission augmentations have long lead times (typically 5 to 7 years), and progress of these major projects are regularly reported to the market by TNSPs. Therefore, energisation of major transmission augmentations should be reasonably foreseen. Given this, the obligation should remain on the connection applicant to take forecasted transmission augmentations into account in their applications.

- **Collective action and action on the shared network**

The rule change request suggests that NSPs can co-optimise solutions to resolve issues.

TNSPs are currently responsible to meet the system strength requirements and for the cost to be recovered from connecting generators that require system strength[1]. As this specifically addresses system strength needs, we do not believe it is appropriate to apply this requirement to other aspects of system security and generator performance.

[1] See AEMC's Efficient management of system strength on the power system final rule

1.2.2. Proposed Type 4

The proposed Type 4 process requires the NSP to "demonstrate how connection of the plant would lead to a substantial negative impact on system security, power quality or operability" following "significant differences in the detailed design of the plant".

Transgrid does not agree with this as it would be a substantial departure from the existing negotiation framework for GPS which requires the Connection Applicant to propose a standard that is as close as practicable to the automatic access standard having regard to considerations outlined in NER clause 5.3.4A(b) and (b1). Under the current framework, when proposing a negotiated access standard (**NAS**), the onus is on the Connection Applicant to provide reasons and evidence to the NSP and AEMO as to why the proposed NAS is appropriate including how the proposed NAS meets the requirements of clause 5.3.4A(b) in terms of impact on power system security and quality of supply.

Transgrid disagrees with the proposed approach to transfer this onus of proof to NSP and notes that where issues have arisen due to changes in a generator's design, the onus should remain on the generator to demonstrate that it can meet its agreed GPS.

In addition, under the proposed new process, individual projects may be allowed to connect, as they do not have a "substantial negative impact", and this could on aggregate lead to a significant degradation of power system performance, transferring cost to other applicants and generators. For example, a new generator might cause oscillations with a magnitude below a certain threshold and may be allowed to connect. Other generators would be treated in the same way, and the cumulative effect of the oscillations and interactions could reach a level that becomes a barrier to connecting more generators in the future. After the generators connect these issues would be difficult to resolve, without any one generator responsible.

The 5.3.9 process or a very similar process should continue to be used to handle significant plant changes at R1. The issue of agreeing to a lower performance standard where appropriate under a 5.3.9 process is currently being investigated separately as part of the CRI NER 5.3.9 Review.

1.3. Suggested barriers to renegotiating technical performance

Conditional registration

We believe the current Rules do not preclude AEMO and NSPs from providing conditional approvals for registration for minor issues. Transgrid, in consultation with AEMO, have progressed conditional registration of projects with conditions to be met at appropriate milestones during commissioning or R2. In such cases, Transgrid outlines the expected resolution timelines post registration.

Changes to GPS at the R1 stage

The intent of the application to connect process is to agree on the GPS, particularly where the applicant is proposing a negotiated access standard that is required to be accepted or rejected as per NER clause 5.3.4A. As per NER clause 5.3.7, the agreed GPS forms part of the terms and conditions of the connection agreement between the connecting party and the relevant NSP.

We believe if the GPS is open for re-negotiation at the R1 stage, as proposed by the CEC under the Type 4 process, it would significantly deviate from the current process of having an agreed GPS before receiving an Offer to Connect. This would add more uncertainty into R1 timeframes and reduce the utility of the 5.3.4A letter in communicating the state of the connection process to investors.

Transgrid recognises the need to make minor changes to the GPS at registration, and currently we facilitate this in certain circumstances. For example, protection design and earth grid design may not be completed until detailed design at registration, so minor changes to S5.2.5.9 and S5.2.8 of the GPS may be required. Given this, we support clarifying this type of minor change in the Rules, where all parties, NSP, AEMO and proponent agree.

Transgrid acknowledges that the 5.3.9 process was not initially envisioned to be used at the registration stage. Under NER 5.3.4A(b)(1A), when a generator proposes to amend the plant's existing performance standards through the clause 5.3.9, its new negotiated access standard must be no less onerous than the existing performance standard. This requirement does not allow AEMO and NSPs to accept any performance lower than the previously agreed performance, even in circumstances where the proposed change is acceptable to both NSP and AEMO, with due consideration given to clause 5.3.4A(b)(2), (3) and (4).

2. Materiality guidelines and negotiation of materiality thresholds

The consultation paper proposes new guidelines on materiality of technical performance parameters and external network issues. AEMO would have lead responsibility in developing guidelines to set a "materiality threshold" for deviations from the negotiated access standards, however the consultation paper expects that AEMO will require input from TNSPs during the preparation of these guidelines.

It also proposed that AEMO and the AER would create a second guideline defining "external network circumstances" and how TNSPs can recover the costs of remedial activities required for Type 2 self-assessments.

We have concerns with the proposed materiality guidelines. Based on the information we have; we believe that the proposed guidelines will not be straightforward to develop as it will have its own challenges leading to a long and iterative process. Based on Transgrid's experience:

- Developing guidelines that cover all conceivable issues and considerations would be prohibitively complex.
- The issues that are identified at the R1 stage will vary significantly from project to project.
- The issues will depend on site-specific conditions.
- Identifying these issues upfront would not be always possible and usually issues are identified during the detailed R1 technical review process.

Each individual applicant is unique and will be assessed differently depending on their impact on power system security and reliability, probability of occurrence and gained expertise from previous industry learnings.

Furthermore, the proposed guideline:

- Would not provide immediate benefit in enhancing investment certainties. In fact, we believe this would create unnecessary activities through the negotiation process.
- Would not be robust or durable as new issues arise as the network and technology evolves and new plant and equipment are introduced to the network. This is particularly the case with new OEMs and new technology that enter the market.

- Would use up resources. We believe this would take away from the resources needed for the existing first stage of the connection application (which is to negotiate connection agreement and GPS) and R1 process.

3. Resolving disputes between AEMO, NSPs, and applicants in the R1 Stage

The rule change request proposes requirements for AEMO, NSPs and connecting generators to be brought together in facilitated discussions.

Transgrid's is interested in the responses from the wider industry on the development of a dispute process and would welcome further detail on the proposed process for us to have an informed view.

On initial review, we believe this may not provide certainty or speed up the connection process as:

- There are existing processes in the Rules (NER 8.2) to address disputes. We note that these haven't been tested comprehensively (or perhaps at all) for disputes on technical issue at the R1 stage. Transgrid's view is that some of the reasons given by the rule change proposal for not using the existing dispute resolution process would also likely apply to any revised process, specifically, not wanting to the process and wanting to maintain good relationships between parties.
- Participation in third party facilitated discussions (and any increased uptake of the existing dispute resolution mechanisms) would increase NSP costs in connection with the R1 process. Transgrid note that no new cost recovery mechanisms have been proposed. It would also increase R1 process times and require more specialised engineering resources to be dedicated to projects going through dispute resolution.
- An arbitrator or independent engineer that is new to the process will not have the same detailed knowledge of the power system as one that is familiar with it and has past experiences and expertise. Judgment on these issues requires visibility and understanding on how the aggregate effects of generator, load and network changes are developing.
- Unlike AEMO and NSPs, an arbitrator or independent engineer is not responsible for the system security, reliability and quality. Therefore, they will not have the same level of concern and inherit interest in the power system and resolving core issues as an NSP or AEMO would have. Ultimately, AEMO and NSPs are responsible for ensuring system security, reliability and quality of are maintained under the aggregate effect of all connecting generators.

Good regulatory practices dictate that dispute processes should only be used on rare occasions. We believe that commonly using a dispute resolution process would indicate inherent issues with the process and would not lead to efficient outcomes.

Attachment One - Transgrid responses on issues on which stakeholder feedback is sought

AEMC questions	Transgrid's response
Question 1 - Do you agree that the absence of NER obligations on parties to the R1 process is contributing to poor engagement and process delays?	For reasons set out in this submission, we do not believe that the NER obligations on parties to the R1 process is a contributing factor to variability in R1 timelines. Transgrid acknowledge that the 5.3.4A process is given more coverage in the rules than the R1 process, with NSP obligations being better defined. However, practically the high-level obligations of the parties in the current R1 process are generally well understood and agreed, being that the applicant is to demonstrate that the project can meet the agreed GPS, and the NSP and AEMO are to make assessment of the information provided by the applicant for this purpose.
Question 2 - How do connecting parties currently manage uncertainty regarding timeframes for the R1 modelling package assessment and to what extent does public data (e.g. AEMO connection scorecards) assist?"	N/A
Question 3 - Does the existing process for renegotiating technical performance standards create barriers for enabling connecting parties to negotiate efficient system security and reliability outcomes?	Refer to section 1.3 of this submission.
Question 4 - Do you agree that there are problems with the way the R1 process seeks to resolve external system security issues?	Refer to section 1.2.1.1 of this submission.
Question 5 - How material is the absence of an independent, external dispute resolution process for the efficient negotiation of technical performance parameters before registration approval?"	Refer to section 3 of the submission.
Question 6 - Would the proposed timelines provide sufficient certainty about the duration of the R1 model assessment phase?	Transgrid supports imposing timeframes for the registration technical due diligence stage equivalent to those that currently apply to the technical evaluation of GPS under NER Clause 5.3.4A. This will align with Transgrid's current practices. This would provide certainty to the connection proponents on response times. However, as highlighted in section 1.2 of the submission, the timeframes in the registration process are driven by multiple factors. Transgrid believes that the

AEMC questions	Transgrid's response
	main source of variability regarding overall timeframes in the registration process stem from the total number of review iterations, which can vary extensively from project to project.
Question 7 - Do you agree with the CEC's proposal for materiality guidelines, including whether they could appropriately define materiality thresholds for the categorisation of connection types?	Refer to section 2 of the submission.
Question 8 - What are your views about the proposed pathway for each connection type, including the assignment of obligations and the allocation of costs and risks?	Refer to section 1.2 of the submission.
Question 9 - What are your views about the CEC's proposal for dispute resolution?"	Refer to section 3 of the submission.
Question 10: do you support the CEC's proposed model or do you prefer an alternative approach? are there any modifications to the CEC proposals that you believe may improve it?	Transgrid does not support the CEC's proposal in its current form due to the concerns outlined in our submission. We support the first minimal change option (section 3.4, item 1) as outlined by the AEMC of prescribing timeframes for R1 assessment to establish consistency between the R1 assessment process and generator performance standard negotiation.
Question 11: Do you agree with the proposed assessment criteria? are there additional criteria that the commission should consider or criteria included here that are not relevant?	Transgrid supports the assessment criteria outlined by the AEMC. If the development of guidelines is to be part of a proposed rule change, Transgrid believes that the substance of the guidelines should be sufficiently advanced before finalising the rule.