# APA submission

## Enhancing investment certainty in the R1 process

*28 September 2023*

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Anna Collyer
Chair
Australian Energy Market Commission

**Lodged online**

28 September 2023

**RE: APA Submission to the enhancing investment certainty in the R1 process rule change**

Dear Ms Collyer,

Thank you for the opportunity to comment on the Enhancing Investment Certainty in the R1 process consultation paper (Consultation Paper).

APA is an ASX listed owner, operator, and developer of energy infrastructure assets across Australia. As well as an extensive network of natural gas pipelines, we own or have interests in gas storage and generation facilities, electricity transmission networks, and 681 MW of renewable generation infrastructure.

We support the transition to a lower carbon future and actively support the energy transition taking place across Australia. In August 2022 we published our inaugural Climate Transition Plan which outlines APA's pathway to net zero operations emissions by 2050.

Many factors outside a generator's control mean that the transmission network is dynamic and continually changing during the R1 process. We support changes that will improve engagement between service providers and generators and clarify how external factors are to be dealt with during the connection process.

Our submission below provides views on the issues raised in the Consultation Paper. If you have any questions about our submission, please contact Mark Shilliday, on (03) 9463 8441 or Mark.Shilliday@apa.com.au.

Regards

**Angela Klepac**
**General Manager Engineering & Network Solutions**
**Electricity Transmission**

# 1 PART A: Executive Summary

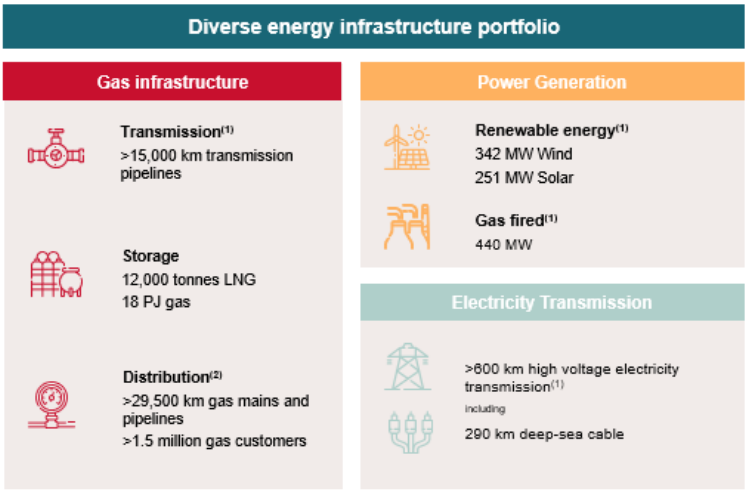
**Key points**

- We agree that changes to the R1 process could be made to improve engagement processes and outcomes.
- However, the issues cannot be entirely resolved through changes to the National Electricity Rules (Rule).
- We support the development of a single new guideline to enable the identification and resolution of R1 issues between the service provider and generators.
- We support the role of an independent engineer to help resolve disputes.

APA is a leading Australian Securities Exchange (ASX) listed energy infrastructure business. Consistent with our purpose to strengthen communities through responsible energy, our diverse portfolio of energy infrastructure delivers energy to customers in every state and territory on mainland Australia.

Our 15,000 kilometres of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain networks connecting 1.4 million Australian homes and businesses to the benefits of natural gas. And we own or have interests in gas storage facilities, gas-fired power stations.

*Figure 1*




We operate and have interests in 681 MW of renewable generation infrastructure. Our asset portfolio also includes high voltage electricity transmission which connects Victoria with South Australia, New South Wales with Queensland, and Tasmania with Victoria.

In August 2023, we announced the acquisition of Alinta Energy Pilbara, an energy infrastructure business in Western Australia with gas and solar generation, battery storage and electricity transmission assets. Alinta Energy Pilbara also has an extensive pipeline of wind, solar, gas and electricity transmission projects. The acquisition is consistent with our strategy to play a leading role in the energy transition.

We actively support the transition to a lower carbon future. In August 2022, we published our inaugural Climate Transition Plan which outlines our commitments to support Australia's energy transition and pathway to achieve net zero operations emissions by 2050.

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APA has first-hand experience developing and connecting renewable energy generation to the National Electricity Market. For example, APA developed, connected and now operates the 110MW Darling Downs Solar Farm in Queensland.

We have also recently established an Electricity Transmission division within APA to consolidate and build on our experience operating three transmission interconnectors – Basslink, Directlink and Murraylink. We have leveraged this experience in this response to the Consultation Paper.

We agree that there is a lack of clear obligations on parties at the R1 stage. Many factors outside a generator's control mean that the transmission network is dynamic and continually changing during the R1 process. We support changes that will improve engagement between service providers and generators and clarify how external factors are to be dealt with during the connection process and whether they are likely to have a material impact on power system security. A new guideline could be an appropriate way to address some of these issues.

We also agree that dispute resolution arrangements could be made clearer and support the role of an independent engineer as part of an external dispute resolution process.

We elaborate on some of these issues in PART B of our submission which provides answers to the AEMC consultation questions.

## 2 PART B: Responses to questions for stakeholders

| Question | APA response |
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| 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?? | We agree that the inclusion in the National Electricity Rules (Rules) of high level principles could improve engagement process and outcomes. However, we also identified three key processes that in our view cannot be fully addressed by introducing Rule obligations, and we recommend introducing guidelines outside of the Rules to address these matters:<br><br>1. **Structure of the R1 modelling package** – We support the introduction of a single new guideline which would outline:<br>o the structure of the R1 package;<br>o NSP and AEMO input to R1 package;<br>o applicants process in preparation of R1 package;<br>o content of the R1 package;<br>o applicable threshold for performance;<br>o NSP and AEMO due diligence process and scope; and<br>o Treatment of minor performance issues during post registration time frame.<br><br>2. **Plant design changes due to external conditions** – We support maintaining a list of committed transmission and generation projects and associated modelling information for applicants to accurately model the impact on their design based on the commitment order. The NSP/AEMO should provide this relevant network / generation upgrade information to the applicant for the R1 self-assessment. The NSP should also model the latest network information in their due diligence to assess the impact to the R1 performance compliance. The NSP's detailed network modelling can provide concurrent processing to multiple R1 applications to provide certainty on network stability with the latest network changes. |

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| | 3. **Independent Engineer** - Apply the independent engineer process under the NER to facilitate the discussion between proponents and AEMO/NSP. |
| 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? | APA agree that the R1 modelling process is often difficult and very time consuming for the applicants.<br><br>Connecting parties currently rely heavily on publicly available information from NSPs and AEMO (including AEMO Connection Scorecard) to forecast the time required for the AEMO and NSP R1 application assessment.<br><br>Experienced connecting parties also rely on previous experience of the process to manage this uncertainty. |
| 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? | APA agree that the existing process creates barriers for generators to negotiate efficient system security and reliability outcomes as it does not offer any flexibility to applicants to lower their performance below the previously agreed performance standards during the R1 application process.<br><br>These performance changes can arise from minor modifications to the plant during detailed design process or indeed as a result of major design changes.<br><br>These changes can lead to performance reduction which require renegotiation of performance during the R1application stage. As the current framework does not allow renegotiation of the performance standards below the standards agreed at the 5.3.4A application stage, this creates a barrier for applicants to progress through R1 assessment.<br><br>We support introducing flexibility to the process to allow prudent and justifiable performance reduction for the design variations within the negotiated access standard framework, be no less onerous than the corresponding minimum access standard. |

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| QUESTION 4: DO YOU AGREE THAT THERE ARE PROBLEMS WITH THE WAY THE R1 PROCESS SEEKS TO RESOLVE EXTERNAL SYSTEM SECURITY ISSUES? | APA agree that there are gaps and inconsistencies in how the R1 application process seeks to resolve external system security issues.<br><br>The network is dynamic and continues to change. It is therefore very difficult and impractical for an NSP to provide a static environment to an applicant during any stage of the connection and commissioning process.<br><br>However, it is the NSP's responsibility to provide accurate information to the applicant about other committed new and altered transmission, generator and load projects to enable them to complete a comprehensive assessment of their performance under expected network conditions and confirm compliance with their proposed performance standard and any other system security risks. Based on the commitment order, the NSP should determine the other transmission/generator/load changes that an applicant should consider in the connection assessment.<br><br>When a new generator undergoes a significant design variation during the R1 application process, it is impractical to request all other committed generator or load connections to repeat their compliance assessments. Any generator which follows an alternation process during the R1 application process is expected to consider other committed new or altered transmission, generator and load projects in their assessment.<br><br>Most of the planned future external network changes can be modelled during the 5.3.4A assessment based on available information from the NSP and AEMO. Irrespective of the stage that an assessment is completed, external network changes are an unavoidable part of the performance assessments.<br><br>Unplanned decommissioning of a transmission asset can impact the performance of a committed generator. In such a situation, it is NSP's responsibility to address the detrimental impact to a new generator. APA agrees that such unplanned |

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transmission/generation impact can be resolved outside of the R1 process without impacting a generator's registration timeline.

APA identify four external network change scenarios that can be managed through a revised 5.3.4A/R1 process to minimise the impact on a generator at the registration stage. If such a change impacts the performance of a generator, providing an opportunity to renegotiate the performance below the agreed performance standards may eliminate some of the challenges in the R1 application process.

1. **Nearby generation or load modifying its technical settings**

Based on the commitment order, NSP determines which generators are included for the other generator's compliance assessment. Any new or existing generator /load who is modifying the technical settings should consider committed generators in their assessment. If the new generator undergoes a 5.3.9 process due to changes to the design, NER should be flexible enough to renegotiate the performance standards during R1 application stage below the previously agreed performance standards. APA understand that separate CRI working group explores the 5.3.9 process improvements.

2. **Closure of nearby generation, e.g., exit of thermal plant**

Unless closure of a nearby plant is an unplanned closure, NSP should advise the applicant during the 5.3.4A stage the treatment on exiting generators retirement details for the connection assessment. Under new system strength framework System Strength Service Provider (SSSP) responsible to resolve any system strength gap arise from a retiring synchronous generator. The NSP should advise the system strength service details that need to be considered in the R1 assessment in such a situation. If any performance changes due to a change in system strength level compared to 5.3.4A stage, NSP and AEMO should exercise some flexibility to renegotiate the GPS to a lower performance consistent with the new system strength level.

3. **New generation or load connecting to the network nearby**

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| | Based on the commitment order, the NSP determines the list of committed generators/loads in the assessment. It is unlikely to change the commitment order during R1 phase. List of new generators and loads remains consistent in the 5.3.4A and R1 stages.<br><br>**4. Changes to network design due to the introduction of new elements to the transmission grid**.<br><br>New transmission lines and network plant setting optimisation may improve performance of a new generator. NSP should advise planned network changes to the generators early in the connection process to assess necessary scenarios for the new generator to accurately document the performance in the GPS for future considered network projects.<br><br>Postponing a resolution to a particular issue to the post registration time frame can have chain effect on commissioning generators and other new or altered generators performance assessments. The resolution may take a while to resolve, undecided solutions can lead to a snowball impact to multiple generators within the area to reach their milestones within the connection process.<br><br>More clarity is required on network changes which are unplanned or non-committed and not communicated to the generator that can impact the performance. It should also be noted that any post registration changes to a generator can impact other performance assessments.<br><br>APA values the development of a process through a new NSP/AEMO guideline to allow applicants to consistently assess the network implications of their suite of R1 models and resolve any issues arise from planned Network/generator changes, during 5.3.4A stage and pre R1 self-assessment input stage. |
| QUESTION 5: HOW MATERIAL IS THE ABSENCE OF AN INDEPENDENT, EXTERNAL DISPUTE RESOLUTION PROCESS FOR THE EFFICIENT | The absence of an independent, external dispute resolution process makes it challenging to resolve disagreements between the applicant, NSP and AEMO because |

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| NEGOTIATION OF TECHNICAL PERFORMANCE PARAMETERS BEFORE REGISTRATION APPROVAL? | Independent party is not available to facilitate frank and open discussions on the power system security impacts from altered performance.<br><br>We support the proposal of applying an independent, external dispute resolution process to resolve any misalignment arise from the R1 assessment. |
| QUESTION 6: WOULD THE PROPOSED TIMELINES PROVIDE SUFFICIENT CERTAINTY ABOUT THE DURATION OF THE R1 MODEL ASSESSMENT PHASE? | We agree that the timeframe required for AEMO and the NSP to assess and advise on an applicant's R1 self-assessment should be similar to the time taken for a 5.3.4A assessment.<br><br>If the NSP only requires advising the applicant the acceptance and Type classification at the end of its review within 30 business days, based on the classification, further work will be required to formulate a pathway for type 2, 3 and 4 classifications.<br><br>APA notes that the time frame to decide on the pathway following the NSP determination on classification is not time bound through this Rule amendment. |
| 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? | We agree with the CEC's proposal for AEMO to formulate a guideline on materiality, including collaborating with the NSPs to exercise flexibility over negotiable performance standards.<br><br>Unless the change is material and the performance change from the deviation is minor, AEMO, NSP and applicants' time and resources would be better utilised progressing other applications. |
| 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? | **Type 1** - APA agree with the pathway proposed for type 1 connection type<br><br>**Type 2 -**<br><br>• The network is dynamic and continues to change. Therefore, it would be difficult and impractical for the NSP to provide a static environment to an applicant during any stage of the connection and commissioning process. APA suggest |

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| | resolving external network and generator changes through the provision of planned network/generator/load changes to the applicant early in the connection process. The NSP should provide this information on the basis of the commitment list.<br><br>• APA do not agree with the proposal to postpone resolution of performance issues after registration as this can have a chain effect on the assessment of commissioning generators as well as other new generators in the connection process. As these matters may take a while to resolve, these undecided issues can impact other generator assessments in the study area and delay their connection application processes. This proposed pathway may also disincentives resolution of outstanding issues by the applicant.<br><br>**Type 3 –**<br><br>• The Rules should allow conditional registration and include provisions to revoke the registered status if conditions are not fulfilled within an agreed time frame. Conditional registration can lead to contractual issues. It is prudent, provide generator full registration and minor issues to be tied up to the commissioning hold point and progressively resolve through the commissioning process. R2 stage only assesses the model accuracy with the actual commissioning responses. APA suggest to resolve any minor performance issues before final commissioning sign off from the NSP and AEMO.<br><br>**Type 4 -** APA agree with the pathway proposed for type 4 connection type |
| QUESTION 9: WHAT ARE YOUR VIEWS ABOUT THE CEC'S PROPOSAL FOR DISPUTE RESOLUTION? | We agree with applying the dispute resolution process to review 5.3.4A outstanding issues, NSP/AEMO input to the R1 self-assessment and AEMO/NSP due diligence assessments, power system impact from performance reduction through an independent engineer process. |

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| 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? | APA agrees certain improvements can be introduced to the R1 process outside the Rule changes. Few of the approaches as follows.<br><br>Collaboration and due diligence workload sharing between NSPs and AEMO.<br><br>• Improve the quality of NSP and AEMO input during the connection process on future network projects, new and retiring generation projects, assessment scenarios may reduce the risk of generator performance impact from future network changes.<br><br>• Preparation of guidelines on materiality thresholds and importance of performance requirements for renegotiation for the R1 assessments.<br><br>• Preparation of a guideline on resolving any issues due to unexpected network changes, generator retirements and network outages which includes renegotiation of GPS below the existing performance.<br><br>• Preparation of a guideline on treatment of minor performance issues during R1 assessment and handling of such issues during the commissioning time frame prior NSP and AEMO sign off on the commissioning tests. |
| 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? | APA agrees with the assessment criteria and our view on proposed assessment criteria as follows:<br><br>• **Safety, security, and reliability** - R1 submission provides the compliance evidence that a generator can meet or exceed the performance standards which ensures safety, security and reliability of the power system. Finalisation of R1 also provide the basis for information to be used in other connection assessments. Delay in finalising R1 data following registration may lead to a process breakdown.<br><br>• **Emissions reduction** - Delays in the R1 process should be addressed through collaboration and innovation. Time shifting a resolution may lead to cascading issues to other new generators to progress through their connection process. |

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- **Implementation considerations** - Defining materiality threshold for any deviation for certain performance requirements will allow renegotiation of GPS during R1 without any iterative assessment process. Further guidance is required on non-negotiable sub clauses for materiality that allows NSP/AEMO to maintain the system standards and security. Key focus should be on collaboration, avoid iterative assessments and engineering judgement to achieve the best outcome for the power system.

- **Innovation and flexibility** - APA supports the process innovation initiatives by AEMO and NSPs to identify new ways to collaborate with developers to achieve process efficiency during R1 process. System security innovations should focus generators providing best available performance through proactive project investment and NSP initiate coordinated retuning for multiple plants to increase the hosting capacity or eliminate constraints that impact the existing generators.

- **Principles of good regulatory practice** - APA agrees that Rules should fit for the purpose which provide high level framework rather than detailing descriptive processes for the R1 assessment. The steps for expediting a process can be defined in a guideline.

  The NSP and AEMO 5.3.4A and R1 process should be able to identify the network stability issues that arise from the changes to network/ generation and formulate a solution to ensure a stable network for the generator to complete its R1 assessment. Unless it is an unplanned change to the Network /generation, such scenario impact can be pre planned for the R1 self-assessment.

  The time duration between the 5.3.4A and R1 also plays a major part in external network related system stability issues. If R1 package delays few years from the 5.3.4A letter, assumptions on the network and generation would be different at that stage. Allowing thresholds and renegotiation during R1 process can minimise any performance related issues at registration. Any system stability issues in which

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| | NSP unable to provide a stable system for the developer to complete its R1 assessment should be dealt as a separate issue. |


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