

# CRI Streamlined Connection Process

Program of Trials to Improve the  
Connections Process:  
Call for Expressions of Interest



We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

**We pay respect to their Elders past, present and emerging.**

# Agenda

Item	Topic	Presenter
1	Connections Reform Initiative (CRI)	Neil Gibbs, CRI Independent Facilitator
2	Streamlined Connection Process (SCP) initiatives	Margarida Pimentel, Group Manager Onboarding and Connections
3	The EOI Trial Program	Navin Subash, Manager National Connections NSW
4	EOI Response Template	Erika Twining, Manager National Connections Vic/ SA/ Tas
5	General Q&A	All

# Introduction

In early 2021, AEMO and the Clean Energy Council (CEC) established the Connections Reform Initiative (CRI) to address concerns with delays and increasing complexity in connections to the National Electricity Market (NEM). These complexities arise as the NEM is transforming with a greater penetration of inverter-based resources, a more diverse generation mix, and a more decentralised system.

**The CRI was created to help overcome challenges in connecting new generators to the grid during the fastest clean energy system transition in the world**

The CRI vision for the connections process:

1

A connections process that is **consistent, predictable**, and delivers repeatable outcomes.

2

To improve **efficiency**, by reducing (eliminating) re-work, improving the quality coming into the process, and addressing information asymmetry.

3

Enable a **collaborative** working model between industry, AEMO, and the NSP.

# CRI – Overall program workstreams

1.1 Network access	Enable a more flexible approach to minimum standards to better reflect network capability at connection location; process improvements.
1.2 OEM Whitelisting	Exploring opportunities to improve the information fidelity and quality of data and models provided by OEMs.
2.1 PSCAD vs PSSE guidance	To provide clearer guidance on when to assess plant performance using EMT vs. RMS tools (i.e. PSCAD vs PSSE) to avoid unnecessary work and accelerate connections process.
2.4 KCI updates for DNSP projects	Provide better network and generator information to project proponents at key connection stages, e.g. include DNSP projects in KCI updates at enquiry Phase, and improve info provided by NSPs at pre-application stage to enable improved proponent base cases.
<b>3.1 Streamlined Connection Process (previously 'batching')</b>	<b>To analyse the current connections process and develop a 'streamlined connections process'.</b>
3.1 Streamlined connection process Sub-stream -Commissioning	A review of the current commissioning requirements approach across the NEM with a view of clarifying AEMO, NSP and Generator roles and responsibilities across hold point testing, GPS compliance, and R2 model validation.
6.1-6.5 Investment Certainty for R1	To introduce a suite of complementary reforms that create a more stable investment environment with reduced risk of changes or delays between project commitment and revenue. Includes an ongoing ability for NSPs and AEMO to modify plant to meet system planning objectives.
6.6 Introducing BESS behind existing connection point	Explore the opportunity to 'cordon off' existing plant from reopening a GPS when adding a battery to an existing generation system.
7 Review of 5.3.9 rule	Review of the 5.3.9 Clause with a focus on GPS assessment, inconsistencies in the application and interpretation by AEMO and NSP and the perceived misuse of the Clause.

# Streamlined Connection Process

Nine initiatives developed by the CRI  
SCP Delivery Team



# SCP Initiatives

Stage	Initiative no.	Initiative	Next step
Enquiry	1	Update the connection enquiry form to incorporate additional proponent info and checklist of info back from NSP.	Progressing to trial
Pre-application (new)	2	Detailed design of the optional pre-application stage.	To be the outcome of pre-application trial
	3	Develop the Guideline that sets out the 'menu' of design packages, possible studies to be performed against each clause and guiding principles.	Progressing to trial
Application	4	Develop the detailed design and process for batched assessment studies.	Perform detailed design prior to trial
	5	Identify the appropriate responsibility / scope split between AEMO and NSP on key GPS clauses.	Progressing to trial
	6	AEMO access standards assessment requirements Guideline review.	Progressing to trial
R1 & Registration	7	Work through the practical implications and detailed design of decoupling R1 and registration.	Perform detailed design prior to trial
	8	R1 pre-agreed scope.	Progressing to trial
Commissioning	9	Commissioning stage detailed review: generator commissioning practices, NER gap-analysis and review of AEMO's Commissioning Guidelines and templates.*	Work in progress via external consultant.

# CRI Connection Process Trials Program

- This EOI is the planned first round in a series to establish a rolling Program of Trials:
  - A portfolio of different **ideas to improve the connections process** will be tested – tackling real-world opportunities.
  - A **diversity** of organisations will be involved, leveraging the energy, enthusiasm, and input of volunteers.
  - A **supportive** environment for participants will be provided including bundling proposed ideas, networking, technical assistance, and communication and publications support.
- Examples of trials presented to AEMO include:
  - Registration trial – trialling ways to fix the Registration scope of works, leveraging assessments from the application stage, identifying materiality of changes, and validating approach to workshopping solutions
  - Pre-application trial - stage the application phase of the project so that critical aspects of the project's BOP design (e.g., harmonic filters, reactive power compensation devices, transformers, etc.) can be tentatively agreed before the submission of a complete connection application package. The aim is to reduce the risk of rework later down the track and can assist early procurement.

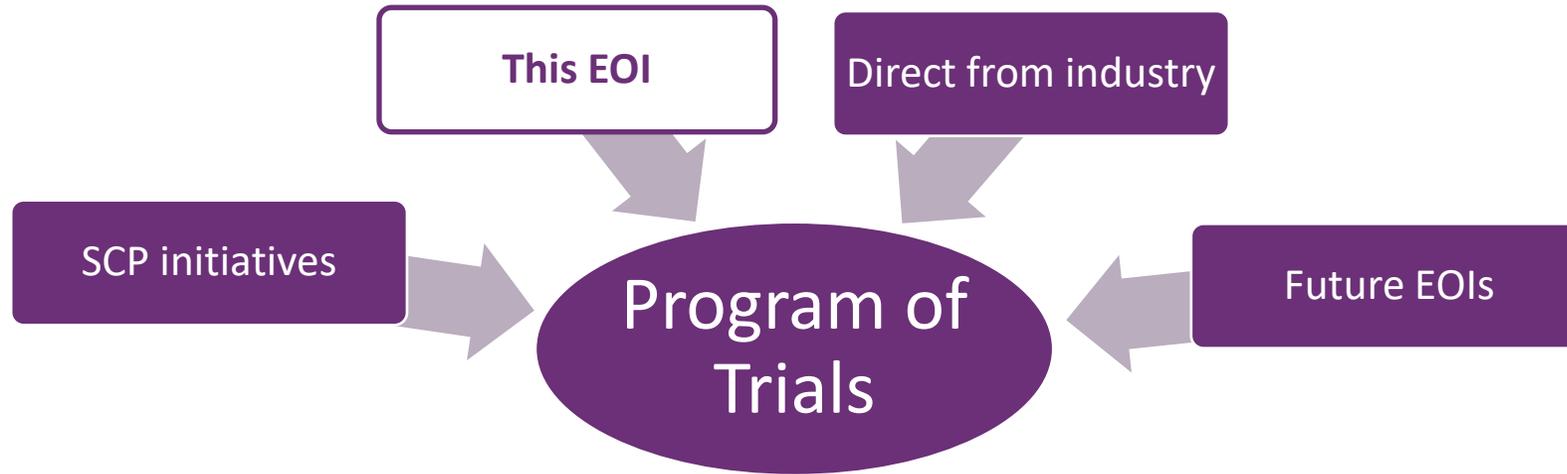


# Call for Expression of Interest

The EOI Trial Program



# Purpose of this EOI



The EOI is to support in the development of an overall Program of Trials:

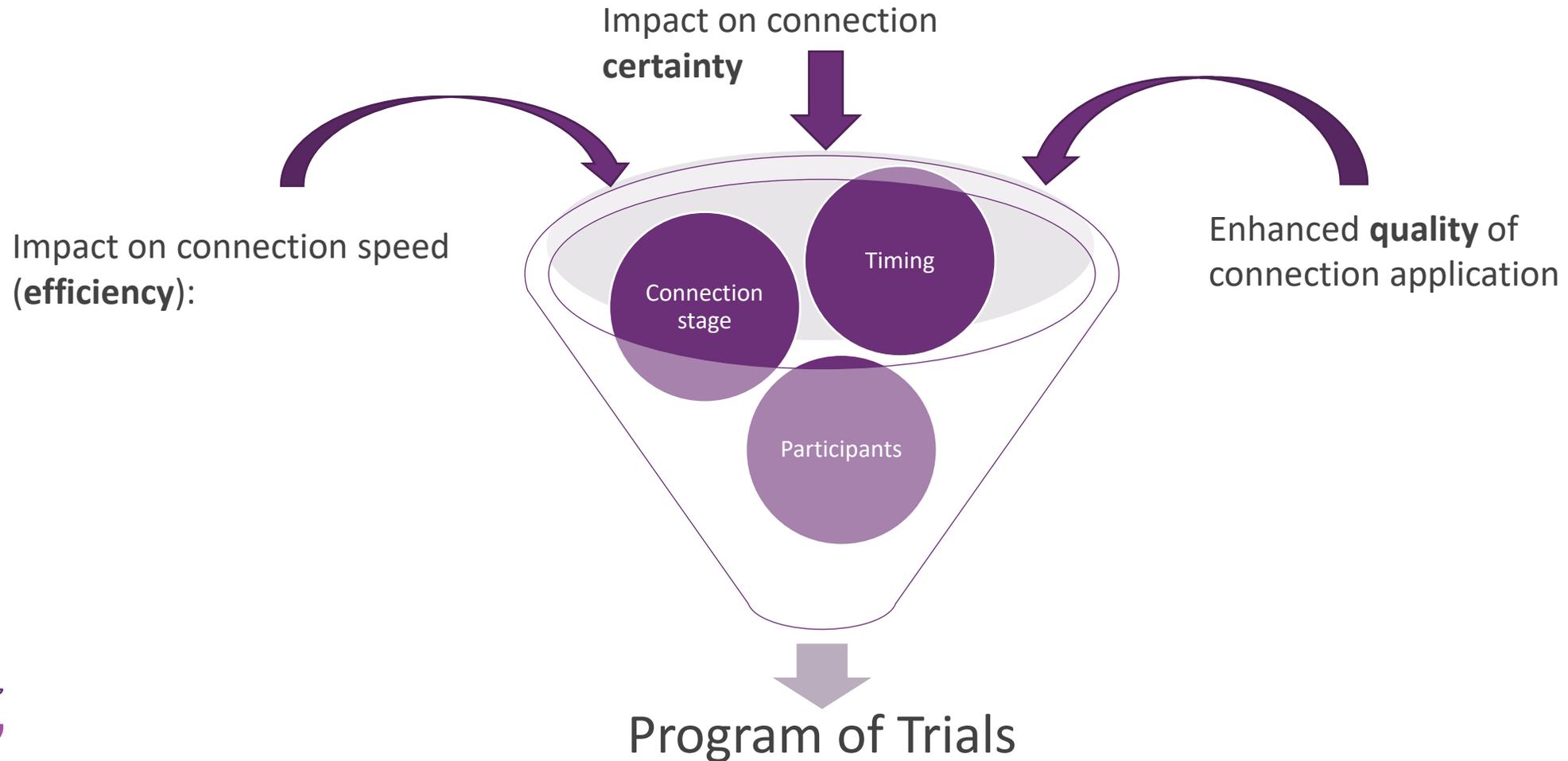
- across all stages of the connections process,
- bringing a diversity of Network Service Providers (NSPs) and developers, and
- with a diversity in terms of trial scale, technology, complexity, and timeframes.

# Eligibility

- **No bounds on eligibility.**
- Preferred EOs will be real-world opportunities to improve the connection process:
  - Active project developers collaborating with nominated NSPs
  - Addressing known opportunities to improve across applications to connect, registration, and commissioning phases of the connections process.
- However open to ideas that could be incorporated into other trials or future stages of the program.



# Constrained multi-criteria assessment



# Assessment criteria – measures of success

- **Efficiency** assessment - estimated impact on:
  - Elapsed time for each connection stage
  - Number of iterations of models and documents
  - Number of hours
- **Certainty** assessment - estimated ability to:
  - Provide stability in negotiating positions throughout the process
  - Provide consistency between regions
- **Quality** assessment - estimated ability to:
  - Reduce the number of issues throughout the process
  - Assist the progress of projects through the connection process
  - Reduce major and minor changes to models (RO, R1, R2)
- **Practical and diversity** criteria
  - Ease of undertaking trial
  - Resource constraints for all participants
  - Support from all participants
  - Diversity from other trials – i.e. addresses different connection stage
  - That trials are scalable.



# How trial submissions will be evaluated

- Collate and sort EOIs – (categories: nominated NSP, connection stage).
- Initial review of submissions – AEMO and NSP.
- Discussions with submitters to gather additional information as required.
- Detailed evaluation.

# Trial management

- Stage1: Planning
  - AEMO trial project manager will work with trial participants to develop the **Detailed Trial Plan**:
    - Detailed scope and timeframes
    - Stakeholders, dependencies, assumptions
    - Ways of working
    - Trial outputs, success criteria, and measurements
- Stage 2: Implementation
  - AEMO trial project manager will support trial operation and work with trial participants to monitor progress and value to participants
  - AEMO Trial Program manager will coordinate reporting
- Stage 3: Finalisation
  - AEMO trial project manager will work with trial participants to prepare the **Trial Summary Report**
    - Trial performance against objectives
    - Trial outcomes and
  - AEMO Trial Program manager will facilitate documentation of lessons learned

# Trial funding

- Participation in a trial is voluntary and funding is not available.
- Participants are expected to provide in-kind support for individual trials they are involved in, and benefit from.
- CRI will fund lessons learned documentation and dissemination.

# Timeframes

- EOI response due: **COB Friday 20 January 2023**
  - EOI response template provided
- Assessment period: **23 January – 10 February, 2023**
  - Availability to provide additional information
- Inclusion in first stage of Program: **13 February, 2023**
  - Noting that some trials may commence later stage
- Program commencement: **15 February, 2023**
  - First stage will include detailed trial planning (scope, timeframes, ways of working) with trial participants



# EOI Response Template

Walkthrough of template



# EOI response template

The Call for Expression of Interest document and EOI Response Template can be found on AEMO's website - <https://aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/connections-reform-initiative>

*CRI Program of Trials to Improve the Connections Process – EOI Response Template*

## EOI RESPONSE TEMPLATE

This template is provided to assist stakeholders in submitting an EOI in response to **Call for Expressions of Interest Connections Reform Initiative: Program of Trials to Improve the Connections Process** (EOI documentation).

It is optional to use this template.

EOIs must be lodged in electronic form to reach the following email address by 5:00 pm (AEDT) on 20 January 2023: [contact.connections@aemo.com.au](mailto:contact.connections@aemo.com.au).

Submitter name	
Submission date	

## EOI Response Template

### Contact information

<b>Organisation</b>	Click or tap here to enter text.
<b>Contact person</b>	Click or tap here to enter text.
<b>Position</b>	Click or tap here to enter text.
<b>Email</b>	Click or tap here to enter text.
<b>Phone</b>	Click or tap here to enter text.

### Project information

<b>Project name</b>	Click or tap here to enter text.
<b>Connection point and connection point voltage</b>	Click or tap here to enter text.
<b>Network Service Provider (NSP)</b>	Click or tap here to enter text.
<b>Technology type</b>	Click or tap here to enter text.
<b>Anticipated capacity (MW)</b>	Click or tap here to enter text.
<b>Current connection stage</b>	Click or tap here to enter text.
<b>Anticipated completion date</b>	Click or tap here to enter text.

### Description of the proposed trial

Please provide a brief description of the proposed trial, including:

- the central hypothesis to be tested, i.e., how the trial will improve the connection process described with emphasis on the three criteria listed in Section 1.4 of the EOI documentation
- stage of the connections process involved

Click or tap here to enter text.

### Proposed trial implementation methodology and timing

Please describe briefly how the proposed trial could be implemented, including:

- key steps in the trial
- anticipated high-level dates of key trial milestones (including anticipated date of trial commencement)
- project partners and key stakeholders

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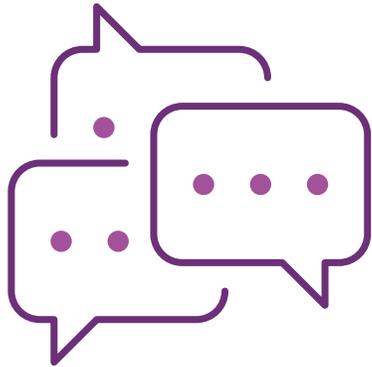
### Assumptions / dependencies

Please list any critical assumptions and/or dependencies surrounding the proposed trial as relevant, i.e.:

- any additional resourcing requirements (e.g., consultant support)
- project interdependencies

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# Q&A





For more information visit

[aemo.com.au](http://aemo.com.au)