

# Expression of Interest

Complying with reactive margin requirements at Beryl - Non-network options

Date of issue: 15 November 2024



## 1. Executive summary

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This EOI should be read in conjunction with the Project Specification Consultation Report (PSCR) for the [‘Complying with reactive margin requirements at Beryl’](#) project.

### 1.1. Objective of this EOI

Transgrid is seeking EOIs from potential service providers to provide non-network options to manage voltage levels at Beryl as identified in the PSCR of the Regulatory Investment Test for Transmission (RIT-T) for ‘Complying with reactive margin requirements at Beryl’. Please refer to the PSCR for the technical requirements for non-network options.

Responses to this EOI will inform the development of Transgrid’s RIT-T for ‘Complying with reactive margin requirements at Beryl’, including the technical and economic assessment of credible options to meet the identified need. The RIT-T is a whole-of-market economic benefits test and optimisation; its conclusions will rank potential network and non-network options and identify the preferred option (or portfolio of options) that will maximise net market benefits.

Where non-network options (i.e. services procured from third parties) form part of the preferred option selected through the RIT-T process, Transgrid will run a competitive procurement process to establish network support contracts with these proponents.

### 1.2. EOI submission

Transgrid invites proponents to propose solution(s) that contribute towards meeting the identified need of the RIT-T.

EOI proposals and the Returnable Schedule are to be emailed to [innovation@transgrid.com.au](mailto:innovation@transgrid.com.au) **no later than 6pm, 20 February 2025.**

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## 2. Disclaimer

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### 2.1. Notice

This document, including any information this document is derived from, and all other discussions, materials or information provided as part of, or in connection with, the processes contemplated in this document (together “**the EOI material**”) are provided subject to your agreement to the following conditions.

### 2.2. Disclaimer

You acknowledge and agree that:

- a. the EOI material has been provided by Transgrid for your information only;
- b. Transgrid:
  - i. does not give any express or implied warranties or make any representation as to the accuracy, completeness, adequacy and sufficiency of the EOI material or the assumptions on which it is based or that it has the right to disclose the EOI material; and
  - ii. does not owe you or any other person any duty of care in connection with the EOI material;
- c. except where otherwise agreed in writing, you must not rely upon any of the EOI material as being accurate, complete, adequate or sufficient in entering into or performing any of your obligations under any document in connection with EOI or the Project;
- d. you must make your own independent evaluation of the accuracy, completeness, adequacy and sufficiency of the EOI material (and any other information);
- e. you have no rights to appeal, object or make a claim against Transgrid in respect of any decision, determination, evaluation or analysis by Transgrid as part of the EOI, the Project or the EOI material;
- f. Transgrid reserves the right, but is under no obligation, to review or amend the EOI material to account for any additional information not reflected in this document, whether in existence on or after the date of its publication; and
- g. Transgrid may rely on the acknowledgements made by you in this **clause 2.1** in entering into any further document/agreement with you in connection with the EOI or the Project.

### 2.3. Release

You irrevocably and unconditionally release and indemnify Transgrid from and against:

- a. any claim against Transgrid; and
- b. any liability, cost, loss or damage suffered or incurred by you (or your associates),

arising out of, or in connection with:

- c. your (or your associates’) receipt or use of, or purported reliance upon, the EOI material or any processes arising in relation to it; and
- d. Transgrid exercising or failing to exercise any discretion or right it has or may in the future have in connection with the EOI or the Project.



## 2.4. Rights

In addition to its rights set out elsewhere in this EOI, Transgrid may, with or without notice to you, at any time and without giving reasons:

- a. extend the EOI proposals closure date at any time before the closure date by notice to potential participants;
- b. extend the Information enquiries closure date at any time by notice to all potential participants (before the closing time) or all participants (after the closing time);
- c. shortlist one or more participants;
- d. reject any or all EOI proposals;
- e. not accept any EOI proposals;
- f. negotiate a private agreement with one or more participants;
- g. enter into a contract with one or more participants or any other person at any time;
- h. request one or more participants to review, improve and/or enhance any or all part(s) of its EOI proposal;
- i. request any participant to submit an offer;
- j. amend, suspend, discontinue or terminate the process set out in this EOI by notice in writing to one or more participants whose EOI proposal(s) have been excluded from further evaluation and assessment;
- k. provide additional information or clarification to participants;
- l. not proceed with, or otherwise vary this EOI;
- m. terminate a participant's involvement in the EOI process and/or discontinue the evaluation and assessment of an EOI proposal where Transgrid determines that the EOI proposal is unsuitable, unsatisfactory, substantially incomplete or clearly uncompetitive;
- n. negotiate with one or more participants or any other person, and enter into transaction documents with any participant or other person;
- o. accept or reject any EOI proposal which:
  - i. is late;
  - ii. is in any way incomplete or irregular;
  - iii. does not comply with any of Transgrid's requirements;
- p. Transgrid's exercise of any or none of the rights in this clause 2 is wholly within its discretion and Transgrid will not be liable to any participants because Transgrid has exercised any or none of its rights in this clause 2; and
- q. Transgrid may exercise its rights in this clause with respect to one participant only or to multiple participants at the same time.

### 3. Context

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Please refer to the PSCR for the '[Complying with reactive margin requirements at Beryl](#)' project for the background as well as assumptions underpinning the identified need.

### 4. Statement of requirements

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Transgrid considers that non-network options may be able to assist with meeting the identified need.

Please refer to the PSCR for the technical requirements and location of non-network options.

### 5. What we are seeking

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#### 5.1. Eligible non-network options

Transgrid is seeking EOIs for non-network options to meet the identified need in the Beryl area.

At a minimum, potential non-network options submitted through this EOI process must:

- meet the technical requirements set out in the PSCR
- meet the requirements set out in section 5.2 (as applicable);
- be commercially and technically feasible; and,
- be in the name of one contracting party.

#### 5.2. Characteristics of non-network options

Potential non-network options should meet the following criteria as applicable to the technology type:

- Be available for enablement for 98% of each year or part of a year for which the service is offered. Transgrid will, at its discretion, consider lower availability measures where significant cost savings can be demonstrated as a result of lower availability measures;
- upon notification to enable the services, proposed services must commit and continuously maintain the service as soon as possible from the time of the enablement request;
- once the response is enabled, the service shall remain activated until a signal to disable is received (if applicable);
- continue to meet any relevant Generator Performance Standards (GPS) when providing the service;
- have facilities to transmit specified measured quantities via SCADA to AEMO and/or Transgrid's control room which conform to the required standards of reliability, accuracy and latency as would be applied to a scheduled generating system; and
- have metering facilities suitable for resolving any compensation payments associated with the provision of services.

### 5.3. Mandatory information to be provided

Responses to this EOI will inform Transgrid's RIT-T for 'Complying with reactive margin requirements at Beryl' including the technical and economic assessment of credible options to meet the identified need of the RIT-T.

Proponents should provide the following information in their responses (as applicable), using the Returnable Schedule which can be found on the project webpage.

#### Project details

Parameter	Applicable technology	Description
Company name	All	Name of the company submitting this EOI
ABN	All	ABN of the company submitting this EOI
Key contact name	All	Name of the key contact for this EOI
Contact email address	All	Email address for the key contact
Contact phone number	All	Phone number for the key contact
Solution name / address	All	Name and/or address of the solution (or multiple units that form part of the solution)
Location	All	Substation of connection to the transmission network
Commissioning date	New or modified solutions	Expected date for a proposed new project to have completed construction, grid connection, testing and all commissioning activities and be available to provide the proposed service

#### Technical

Parameter	Applicable technology	Description
Technology type	All	e.g. synchronous generator, energy storage systems (grid forming / grid following), inverter-based renewables
Asset life	All	Expected operating life for (new and existing) assets that will provide proposed services
Details	All	Details of equipment, including multiple units if appropriate, and any other relevant information describing the solution (existing or new)
Rated Capacity	All	Rated capacity of the facility comprising the solution in MVA
Minimum stable operating level	Synchronous generators	If the solution is a synchronous generating unit(s), the minimum stable operating level of each unit in MW

Parameter	Applicable technology	Description
Overload capacity	Inverter-based solutions	If the solution is an inverter-based solution, and reliant on overload capacity for provision of the dynamic reactive response service, the overload capacity of the inverter in MVA or percent of Rated Capacity and any applicable durations.
Sub transient impedance of the machine	Synchronous machines	If the solution is a synchronous machine, sub transient impedance of the machine, in per unit (p.u.)
Impedance of the transformer	New inverter-based solutions	If the solution is a new inverter-based solution, impedance of the transformer, in per unit (p.u.)
Vector group of the transformer	All	For example, Star/Delta, Delta/Star, Star/Delta/Delta etc.
Line impedance to the point of connection	New solutions	If the solution is new, an estimate of line impedance to the point of connection of the transmission network, in per unit (p.u.)
Communications	All	Proposed dispatch communications protocol with AEMO and/or Transgrid's control room

### Availability and activation

Parameter	Applicable technology	Description
Start-up time	All	Expected time following a request for enablement before the solution can provide contracted services
Continuous running time	All	Maximum period of time the solution can be run continuously when providing services
Annual availability	All	Annual availability of the solution to provide services, represented as a percentage of a year. 98% is specified, however proponents may choose to propose an alternative value
Annual maintenance duration	All	Duration of a year in which the solution would not be able to provide the service due to maintenance (represented in hours or a percentage)
Periods of unavailability	All	Likely month/day/time that the solution will be unavailable to provide contracted services (if any)

### Economic

The RIT-T is a whole-of-market economic benefits test which seeks to identify the transmission investment option(s) that maximises net market benefits – which may include network and/or non-network options. In this EOI Transgrid is seeking information about both the expected *economic cost* (regardless of ownership) and the expected *contract price* of proposed non-network options.

**Note:** Existing and committed assets are considered to have no capital costs for the purpose of the RIT-T assessment (although modifications to existing facilities may include incremental capital investment which should be included).



Parameter	Applicable technology	Description
Available to meet all or part of the identified need	All	Yes/no Please specify expected availability dates during this period
Service start date	All	Proposed start date for providing the service to Transgrid
Service end date	All	Proposed end date for providing the service to Transgrid
Capital cost	All	<p>Total capital cost (regardless of ownership)<sup>1</sup> for the proposed solution, including costs of plant/equipment, land, civil works, grid connection assets and development costs.</p> <p>If possible, please reflect the actual spend profile for the project (otherwise, lump sum).</p> <p>These costs must exclude a rate of return on capital, and should not subtract any:</p> <ul style="list-style-type: none"> <li>• Expected payments from Transgrid</li> <li>• Expected payments or revenues from energy (and related) markets</li> <li>• External funding contributions (e.g. grants)</li> </ul> <p>Existing or committed assets are considered to have zero capital cost (i.e. are a sunk cost). However, capital costs associated with modifying or upgrading existing facilities to provide services should be included.</p>
Committed project	New solutions	<p>Yes/no</p> <p>Will the proposed services be provided by assets that meet the definition of ‘committed project’ under the AER’s RIT-T Application Guidelines, using the following criteria:</p> <p>a) The proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement</p> <p>b) Construction has either commenced or a firm commencement date has been set</p> <p>c) The proponent has purchased/settled/acquired land (or commenced legal proceedings to acquire land) for the purposes of construction</p> <p>d) Contracts for supply and construction of the major components of the necessary plant and equipment (such as generators, turbines, boilers, transmission towers, conductors, terminal station equipment) have been finalised and executed, including any provisions for cancellation payments</p>

<sup>1</sup> As per RIT-T guidelines, capital costs are considered \$0 for existing or committed assets, and for new assets the total capital cost of the underlying resource for the non-network solution (i.e. regardless of ownership).

Parameter	Applicable technology	Description
		e) The necessary financing arrangements, including any debt plans, have been finalised and contracts executed.
External contributions	New projects	Has the project that is proposed to provide services received any external funding (or is expected to receive external funding) such as from ARENA or government?
Fixed operating cost	All	Annual fixed operation and maintenance (FOM) costs of the underlying resource
Variable operating cost	All	Expected running costs (\$/MWh or \$/hour) of the underlying resource, including fuel costs and variable operations and maintenance (VOM) as applicable
Greenhouse gas emissions (scope 1)	All	Estimated scope 1 greenhouse gas emissions from providing services (tCO <sub>2</sub> e/MWh or tCO <sub>2</sub> e/hour)
Greenhouse gas emissions (scope 2)	All	Estimated scope 2 greenhouse gas emissions from providing services (tCO <sub>2</sub> e/MWh or tCO <sub>2</sub> e/hour)
Project benefits	All	Beyond the identified services, describe other services that the assets/project will provide in energy and related markets (e.g. wholesale energy market, ancillary services markets, other network support services).
Expected contract price	All	Proposed fees payable for the provision of services. The fee structure should include the following components: <ul style="list-style-type: none"> <li>• Establishment Fee: one-off setup cost, if applicable.</li> <li>• Availability Fee: monthly payment for the service to be made available to Transgrid. This is intended to cover fixed costs for providing the service.</li> <li>• Variable Fee: intended to cover the variable costs of the service being provided.</li> </ul> Please specify whether fees are in real or nominal terms, and any indexation methodology that applies.

#### 5.4. Other supporting information to be provided

Please also provide other relevant information that Transgrid should consider in its assessment. This may include:

- Technical specifications of the service/technology/equipment being offered.
- Details of any material assumptions used to prepare your submission to this EOI, including in relation to the legal terms provided in Attachment A.
- Evidence of the capability and capacity to deliver the proposed non-network option to Transgrid, including:
  - experience in delivering services or related services;
  - expected project delivery timeframes, where relevant; and

- evidence of technical maturity and economic feasibility (cost-effectiveness) of proposed solution.

## 6. Commercial and legal key terms

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An outline of indicative commercial and legal key terms applicable to Transgrid's contracting of services are set out in Attachment A.

## 7. Proposal evaluation

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### 7.1. Evaluation criteria

The purpose of this EOI is to enable Transgrid to identify and assess credible non-network options to meet reactive margin requirements in the Beryl area, including to inform the RIT-T for 'Complying with reactive margin requirements at Beryl'. Transgrid may elect to supplement, verify or clarify information submitted through this EOI in the preparation of technical and economic assessments for the RIT-T.

Proposals that meet the eligibility criteria (section 5.1) will be evaluated using the following criteria. The criteria are not listed in any specific order and will not be accorded equal weight:

- lead time to deliver services;
- magnitude of services to be provided;
- availability of the services proposed and ability to deliver the amount of services offered within the desired timeframe for availability for those services;
- total expected economic cost, and contract price to Transgrid, which will be calculated using information submitted by proponents and the expected timing, frequency, and probability of enablement. Where there are network costs associated with a proposed non-network option, these costs will form part of the option's economic assessment;
- technical feasibility of the proposed solution(s); and
- demonstrated track record of the proponent in similar undertakings.

Through this EOI and the related RIT-T processes, Transgrid will identify the optimal timing and requirements of non-network options and/or network options that maximises the present value of net economic benefit.

## 8. EOI process and submission

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### 8.1. General

All valid proposals will be evaluated in accordance with the process set out below:

1. Proponents will submit proposals and supporting information by email;
2. Transgrid will evaluate responses as per the criteria set out in Section 7.1; and
3. Proponents may be requested to present their complete proposal.

Where non-network options (i.e. services procured from third parties) form part of the preferred option selected through the RIT-T process, Transgrid intends to run a competitive procurement process (including issuing a Request for Proposal) and/or commercial negotiations to put in place network support contracts for such services.

Transgrid reserves the right to engage and negotiate with proponents as a result of this EOI on a bilateral basis.

## 8.2. EOI Process

The key milestones for this EOI are:

Milestone	Expected time frame
EOI released	15 November 2024
EOI proposals close	6pm, 20 February 2025

Transgrid reserves the right to vary the timetable at any time.

Transgrid is not obliged to make an offer to contract with a proponent as a result of this EOI.

Proponents will bear all costs incurred in responding to this EOI and are not entitled to claim for reimbursement of time, materials or expenses incurred.

Transgrid will use submissions to enable an assessment and comparison of network and non-network options to meet the identified need, required as part of the RIT-T process. Proponents should clearly identify any confidential or commercially sensitive information included in their proposals that they do not wish to be disclosed publicly.

## 8.3. EOI contact

Transgrid's representative can be contacted during the tender period for enquiries.

Edwin Ong  
[innovation@transgrid.com.au](mailto:innovation@transgrid.com.au)

## 8.4. EOI submission

Transgrid invites you to propose solution(s) that can meet, or help to meet, Transgrid's requirements for the identified need in the Beryl area.

EOI proposals and the Returnable Schedule are to be emailed to [innovation@transgrid.com.au](mailto:innovation@transgrid.com.au) **no later than 6pm, 20 February 2025.**

## Attachment A – Commercial and legal terms

The following high-level outline is provided to illustrate an example of the terms that may be included in a non-network support agreement. The legal terms and conditions of any non-network support agreement remain subject to the particular eligible non-network option proposed by the proponent and may otherwise differ from the indicative terms set out below.

<b>Conditions precedent</b>	<p>Any conditions to the agreement being effective (e.g. obtaining necessary approvals and obtaining funding.)</p> <p>This may include target and end dates. A failure to achieve such dates may have consequences including delay damages or termination.</p>
<b>Conditions for supply of services</b>	<p>Any conditions to be satisfied before services can be supplied (e.g. equipment installation/build, commissioning, testing, services validation).</p> <p>This may include target and end dates. A failure to achieve such dates may have consequences including delay damages or termination.</p>
<b>Services Term</b>	<p>Period for which services will be provided.</p> <p>Transgrid may include options for term extension.</p>
<b>Services</b>	<p>Description of services to be provided, including:</p> <ul style="list-style-type: none"> <li>• Service periods</li> <li>• Service limitations</li> <li>• Technical characteristics</li> <li>• Metering points</li> <li>• Performance standards</li> </ul>
<b>Availability regime</b>	<p>A guaranteed availability regime for the service and remedy requirements and fee abatement or failure to achieve availability targets.</p> <p>How availability is measured will depend on the nature of the plant providing the service.</p> <p>Availability targets will generally be set to be inclusive of periods of maintenance (i.e. planned and unplanned maintenance will be accounted for in setting the targets, e.g. with the default 98% target, the 2% allowance is inclusive of maintenance). Proponent will receive relief from force majeure events.</p>
<b>Charging structure</b>	<p>Conditions relating to payment for services by either party, including management of costs or benefits arising as a result of the provision of the services.</p>
<b>Payments and invoicing</b>	<p>Invoicing requirements – monthly</p> <p>Payment terms – Transgrid requires 30 day payment terms</p> <p>Treatment of revenue received in the NEM for the provision of the service</p> <p>GST provisions</p> <p>Payment dispute</p>
<b>Credit support</b>	<p>Transgrid may require credit support in certain circumstances, e.g. for delay damages, early termination or as a guarantee of repayment of costs incurred by Transgrid.</p>
<b>Operations and maintenance</b>	<p>O&amp;M requirements, including submission and approval of O&amp;M plan</p> <p>Maintenance scheduling and unplanned outages</p>



	<p>Performance reporting and auditing</p> <p>Performance testing and validation requirements</p> <p>Defect rectification</p> <p>Plant modifications</p> <p>Inspection rights</p> <p>Any specific obligations relating to land tenure, connection, safety, cyber security, SCADA systems</p>
<b>Liability</b>	<p>Limitations of liability and indemnity provisions including specific exclusions of liability from caps, Transgrid standard carve-outs for 'consequential loss' and project phase specific liabilities.</p> <p>Transgrid has obligations under the NER, its Transmission Licence and connection agreements to ensure supply reliability and power system security is maintained to its customers. Proponents of non-network options must also be willing to accept any liability that may arise from its contribution to a failure to provide services, including a consequential reliability of supply failure.</p>
<b>Change in law</b>	<p>Principles for dealing with change in law</p>
<b>Insurance</b>	<p>Types and value of project specific insurances that the proponent must procure and maintain throughout the term of the agreement</p>
<b>Default and termination</b>	<p>The consequences for a default under the agreement, including the right to cure any such default, suspension of obligations and treatment of accrued rights.</p> <p>The events of default will depend on the non-network option proposed, however, the agreement will include a standard set of events of default for this type of project, e.g. payment default, breach of material obligations, insolvency, prolonged force majeure and termination rights for sustained or material failure to comply with availability targets or other key terms with applicable damages.</p>
<b>Typical provisions</b>	<p>Notices, knowledge sharing, dispute resolution, confidentiality, waiver, standard representations and warranties, amendments etc.</p>