|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Invitation to Tender****System strength services - Victoria**

|  |  |
| --- | --- |
| Services: | System strength services – Short term synchronous condenser capability to increase three phase fault levels at Red Cliffs Terminal Station, Victoria |
|  |  |
| AEMO Project Manager: | Nathan WhiteEmail: nathan.white@aemo.com.au |
|  |  |
| Closing Date: | Responses due by 9:00 am Melbourne time 24 February 2020Responses to be emailed to [systemstrengthvic@aemo.com.au](systemstrengthvic%40aemo.com.au). Note: emailed submissions are subject to a per email size limit of 30MB (multiple emails each of 30MB can be accepted by AEMO). |
|  |  |
| Validity Period: | 90 days from the Closing Date |
|  |  |

Australian Energy Market Operator LimitedABN 94 072 010 327Level 22, 530 Collins StreetMelbourne VIC 3000Tel: 03 9609 8000 |

Issued: 27 January 2020

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1. INVITATION TO TENDER
	1. Background

Australian Energy Market Operator Limited (**AEMO**) is an independent organisation responsible for operating eastern, south-eastern and western energy markets and systems in accordance with its statutory functions.

In Victoria, AEMO is also the transmission planner for the shared network, procures transmission network capability and provides shared transmission services to network users.

With its broad national focus for the future, AEMO’s objectives are to promote efficient investment in and operation of Australia’s electricity and gas services for the long-term interests of consumers with respect to price, quality, safety, reliability and security of energy supply.

* 1. Invitation to Tender

On 13 December 2019, AEMO published a [notice of fault level shortfall](https://aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/System-Security-Market-Frameworks-Review/2019/Notice_of_Victorian_Fault_Level_Shortfall_at_Red_Cliffs.pdf) at Red Cliffs Terminal Station (**RCTS**) in Victoria under clause 5.20C.2(c) of the National Electricity Rules (**NER**). The *fault level shortfall* (referred to in this ITT as a **System Strength Gap**) is currently assessed to be 312 MVA, and exists now.

As the *System Strength Service Provider* for Victoria under the NER, AEMO is seeking to procure system strength services for an interim period while AEMO assesses a range of potential longer term options to meet the System Strength Gap.

**EXPRESSIONS OF INTEREST ARE INVITED** for the provision of *system strength services* (further described in Section D) from NEM *Registered Participants* with synchronous condensers or other synchronous plant capable of increasing three phase fault levels at RCTS.

The relevant plant may be located in north-western Victoria or south-western New South Wales, and must be available either immediately or from a date not later than 31 July 2020.

* 1. Indicative Timetable

This timetable is provided to give Tenderers an indication of the anticipated timing for the procurement process. It is not binding and any stage may take longer or shorter than anticipated.

|  |  |
| --- | --- |
| Activity | Date |
| Issue date of ITT | 31 January 2020 |
| Closing Date of ITT | 24 February 2020 |
| Expected date for completion of ITT evaluation | 09 March 2020 |
| Negotiation with preferred Tenderer(s) | 23 March 2020 |
| Contract execution and notification of unsuccessful Tenderers | 13 April 2020 |

* 1. Glossary

A word or phrase defined in the NER has the same meaning when used in this document. NER-defined terms that are key for this ITT These are intended to be identified by italicising them, but it does not change the meaning if they are not italicised.

In addition, capitalised words or phrases have the meanings set out below.

|  |  |
| --- | --- |
| Term | Definition |
| Addendum | Any document issued after the date of this Invitation to Tender and labelled as an “Addendum” to this Invitation to Tender; collectively known as “Addenda”. |
| AEMO | Australian Energy Market Operator Limited ABN 94 072 010 327. References to AEMO include, where the context requires, AEMO’s employees, officers, contractors, consultants, advisers and other persons authorised to act for AEMO. |
| AEMO Project Manager | The person specified on the cover of this ITT. |
| Business Days | A day other than Saturday, Sunday and any other day not taken to be a public holiday in Melbourne. |
| Closing Date of ITT | The date specified on the cover of this ITT and in Section A.3. |
| Invitation to Tender or ITT | This document, including its schedules, attachments and appendices. |
| NER | National Electricity Rules. |
| RCTS | Red Cliffs Terminal Station, in the Victorian region of the National Electricity Market |
| SCADA | Supervisory control and data acquisition |
| Services | The servicesdescribed in Schedule 2 of the Tender Form. |
| Statement of Compliance | The statement in Schedule 1, completed by the Tenderer. |
| System Strength Gap | The *fault level shortfall* declared by AEMO at RCTS on 13 December 2019 |
| Tender | The offer submitted by a Tenderer to provide the Services. |
| Tenderer | A person to whom AEMO has sent this ITT, whether or not that person actually submits a Tender. |
| Tender Form | The document contained in Section E. |
| Tender Period | The time commencing between a Tenderer’s receipt of this ITT and the closing time for receipt of Tenders by AEMO. |
| Validity Period | The period specified on the cover of this ITT. |

1. ABOUT THIS ITT
	1. Legal Status

This Invitation to Tender is an invitation to treat and does not create any contractual or promissory rights.

AEMO is not obliged to accept any Tender or complete the process outlined in this ITT.

AEMO is not obliged to acquire all or any Services unless and until both AEMO and a selected Tenderer have duly executed a written contract in the form attached to this ITT, with any variations agreed between the parties.

AEMO may change the process or the description of the Services at any time by issuing an Addendum to Tenderers.

* 1. Confidentiality

This ITT may contain or be accompanied by confidential information about AEMO or its operations and markets, which is provided solely to enable Tenderers to submit Tenders. Tenderers must not use or disclose information in this document for any other purpose without AEMO’s prior written consent. Tenderers must take all reasonable steps (both physically and electronically) to protect the confidentiality of this document and all communications relating to it.

* 1. Intellectual Property

Unless otherwise indicated, AEMO owns any intellectual property rights in this ITT. Tenderers are permitted to use and copy this document for the sole purpose of preparing and submitting a Tender.

* 1. No Warranty

Except to the extent required by law:

* AEMO makes no warranties or representations on the accuracy, adequacy or completeness of the ITT or any other information provided to a Tenderer; and
* AEMO is not liable in any way for any loss or damage of whatever kind (whether foreseeable or not) however arising (including by reason of negligence), incurred by any person in connection with this ITT or any other information provided to a Tenderer.
	1. Queries and Communications with AEMO

If Tenderers find any discrepancy, error, or have any doubt as to the meaning or completeness of this ITT, or require clarification on any aspect of it, they should notify the AEMO Project Manager in writing, not less than 5 business days before the Closing Date. AEMO may issue an Addendum to all Tenderers clarifying the discrepancy, error, doubt, or query (as the case may be) and may extend the Closing Date if AEMO considers it appropriate in all the circumstances.

No representation or explanation to Tenderers in relation to this ITT is taken to be included in the ITT unless it is contained in an Addendum.

All communications by Tenderers to AEMO about matters connected with this ITT must be made to the AEMO Project Manager unless otherwise authorised by the AEMO Project Manager.

* 1. Conditions of Tender Receipt and Submission

Tenderers must comply with **Section C**. Tenderers must ensure that their employees, contractors, agents and consultants involved in the preparation or submission of a Tender are aware of, and comply with, all requirements applicable to Tenderers.

1. SUBMISSION REQUIREMENTS, TENDERER CONDUCT AND TENDER EVALUATION
	1. Submitting a Tender

A Tender constitutes an offer by the Tenderer to provide the Services, which is capable of acceptance by AEMO. Tenders must meet the following requirements:

* All applicable sections of the Tender Form must be completed, including all relevant schedules.
* The Tender must be dated and signed (in the case of a body corporate, by a duly authorised officer).
* All supporting documentation evidencing the matters specified in Schedule 3 to the Tender Form must be included with the Tender, to the extent applicable to the proposed Service.
* If a Tenderer cannot comply with any element of the Tender Form or schedules, the Tenderer must specify in the Statement of Compliance the nature of, and reasons for, the non-compliance.
* Tenders must be lodged in electronic form to reach the following email address by 9:00am Melbourne time on the Closing Date: [systemstrengthvic@aemo.com.au](systemstrengthvic%40aemo.com.au)
* Emailed submissions are subject to a per email size limit of 30MB (multiple emails each of 30MB can be accepted by AEMO)
* Additional documentation may be submitted with a Tender if, in the Tenderer’s opinion, it is necessary for a proper understanding of its Tender.

AEMO may decide to accept late or non-conforming Tenders, but is not obliged to do so under any circumstances.

* 1. Tenderers to Perform own Due Diligence

By submitting a Tender, a Tenderer is taken to have:

* satisfied itself of the requirements of this ITT;
* made all reasonable enquiries, investigation and assessment of available information relevant to the risks, contingencies and other circumstances relating to the Services; and
* satisfied itself as to the correctness and sufficiency of its Tender.
	1. Tenders Commercial-in-Confidence

Tenders will be treated as confidential and will not be disclosed outside AEMO except:

* as reasonably required for the purpose of assessing the proposed Services;
* required by law, or in the course of legal proceedings;
* requested by any regulatory or other government authority having jurisdiction over AEMO, or its activities; or
* to AEMO’s external advisers, consultants or insurers,

in which case the Tenderer is deemed to have consented to this disclosure by providing the Tender.

* 1. No Anti-Competitive Conduct

Tenderers are reminded of their obligations under the *Competition and Consumer Act 2010* (Cth) not to engage in anti-competitive conduct prohibited by that Act. Tenderers must not:

* discuss this ITT with any other person they know has received this ITT or might reasonably be expected to have received it; or
* engage in any conduct that is designed to, or might have the effect of, lessening competition in the supply to AEMO of the Services.

Tenderers who wish to engage in legitimate teaming or sub-contracting discussions with persons who might deliver the Services must obtain AEMO’s prior approval to do so.

* 1. No Improper Assistance or Inducements

Tenderers must not seek or accept the assistance of employees, contractors or consultants of AEMO in the preparation of their Tenders and must not make any offers or engage in any activities that are likely to be perceived as, or may have the effect of, influencing the outcomes of the ITT process. Tenderers must at all times comply with all applicable laws in relation to the offering of unlawful inducements in connection with their Tenders.

* 1. No Reimbursement for Costs of Tender

No Tenderer is entitled to be reimbursed for any expense or loss incurred in the preparation and submission of its Tender or for any costs incurred in attending meetings with AEMO during the Tender evaluation process.

* 1. No Publicity

Tenderers must not make any public or media announcement about this ITT or the outcome of this ITT without AEMO’s prior written permission.

* 1. Disqualification

AEMO may, at its absolute discretion, immediately disqualify a Tenderer from further participation in the tendering process if AEMO believes that Tenderer has contravened a requirement of **Section B** or **Section C** of this ITT.

* 1. Tender Evaluation Process

AEMO’s assessment of Tenders may include, but is not limited to, an evaluation of the following matters as relevant to the provision of the Services:

* Compliance with ITT requirements
* Qualitative and quantitative technical evaluation, including location, efficiency and technical capability of the facilities to deliver the Services
* Tenderer’s capacity and resources, including personnel, financial stability and operational expertise
* Commencement date and ongoing availability of Services
* Value for money having regard to total cost and benefits of the Services over time
* Evaluation of risk, potential liability and proposed contract terms and conditions
* Any other factors AEMO considers to be relevant.

AEMO’s indicative timing for evaluation of Tenders and award of contracts is set out in section A.3. AEMO may change these times or steps, or stop or suspend the ITT process at any time.

* 1. Clarification

If AEMO considers that a Tender is unclear in any respect, it may seek clarification or further information from any or all Tenderers at any time during the evaluation process. Failure to supply clarification to AEMO’s satisfaction may result in the disqualification of a Tender.

AEMO has no obligation to seek clarification of any Tender, and reserves the right to disregard any information that it considers to be unclear.

* 1. Contract Execution

AEMO’ proposed form of contract for the Services is set out in the **Attachment** to this ITT

Unless specifically requested in this ITT for one or more Services, Tenderers should not include their own standard or general conditions of contract with their Tenders. Tenderers who wish to seek changes to the proposed form of contract should provide a copy of the document showing the exact form of the requested change, tracked in Microsoft Word.

Tenderers will be taken to have accepted the contract in its current form in the Attachment unless they include a tracked copy of the contract marked in this way.

AEMO is not bound by the terms of any contract document and has no obligation to acquire the services unless and until the contract is signed by an authorised officer of AEMO.

* 1. No Obligation to Debrief

AEMO is under no obligation to debrief any Tenderer as to AEMO’s evaluation of Tenders, or give any reason for the acceptance of or non-acceptance of any Tender.

1. REQUIREMENTS FOR SERVICES

System strength is the ability of the power system to maintain the voltage waveform at any given location, with and without a disturbance. This includes resisting changes in the magnitude, phase angle, and shape of the voltage waveform. A strong voltage waveform enables inverter-based resources connected to the power system to remain stable under normal conditions and to return to a steady state condition following a system disturbance.

AEMO has performed short-circuit analysis using the fault level calculation process outlined in the System Strength Requirements Methodology. The outcomes of this analysis indicated that there was a fault level shortfall of 312 MVA at RCTS at almost all times. Accordingly, in December 2019, AEMO published a Notice of Victorian Fault Level shortfall at RCTS[[1]](#footnote-1) declaring an immediate fault level shortfall.

The following table shows the projected fault level requirements, and the shortfall at the RCTS 220 kV fault level node.

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Fault Level** | **Limit** | **Shortfall** |
| 2019-20 | 656 | 950 | 294 |
| 2020-21 | 638 | 950 | 312 |
| 2021-22 | 639 | 950 | 311 |
| 2022-23 | 639 | 950 | 311 |

As the System Strength Service Provider for Victoria, AEMO is responsible for procuring services to address this declared shortfall.

* 1. Equipment capability

The Tenderer must be able to operate one or more synchronous condensers with unutilised capacity (i.e. capacity not otherwise required to meet existing performance standards, system strength remediation under a connection agreement or any other contractual obligations), and which are capable of providing sufficient fault current to materially increase the three-phase fault level at the RCTS 220 kV fault level node. Partial solutions (providing less than 312 MVA at RCTS) will be considered.

The equipment should be located electrically nearby to the Red Cliffs Terminal Station, including equipment between Horsham and Red Cliffs, or between Kerang and Red Cliffs. Equipment with the necessary capability located in neighbouring regions will also be considered.

* 1. Availability

The equipment should be available to commence provision of the Services as soon as possible, but no later than 31 July 2020, in accordance with the requirements in Section D.3. It is expected that the Services will be required continuously at all times. AEMO will also consider offers from Tenderers with availability to provide the Services at specified times only.

Equipment maintenance must be scheduled outside the months of November to March (inclusive).

AEMO anticipates contracting for the Services for a period of up to two years, with an extension option of up to one year.

* 1. Minimum requirements

The equipment that provides the Services must:

* be capable of operating continuously during contracted periods at the contracted capability;
* incorporate the capability to transmit 4-second SCADA signals to AEMO;
* comply with any relevant performance standards specified in the applicable connection agreement (whether or not registered with AEMO); and
* comply with any applicable requirements of the NER.
	1. Model and testing requirements

In defining system strength, fault current has been used as a proxy for the level of inertia, fault current, synchronising torque, and other synchronous characteristics which a power system needs. Any services proposed to provide system strength will be required to provide detailed models and validation will be conducted through detailed Electromagnetic Transient (EMT) and PSCAD® studies.

If acceptable results of commissioning or operational tests are not available at the time of Tender submission, successful performance testing of the equipment will be a condition precedent to contract commencement. Ongoing tests and performance monitoring may be required in accordance with the contract terms.

1. TENDER FORM

To: Australian Energy Market Operator Limited
Level 22, 530 Collins Street
Melbourne VIC 3000

(AEMO)

Tender for system strength service to increase fault current at Red Cliffs Terminal Station

From:

|  |  |
| --- | --- |
| Tenderer (full company name): |  |
| ABN: |  |
| Address: |  |
| Website: |  |
| Contact Person(s): | Name: |  |
|  | Title: |  |
|  | Telephone No: |  |
|  | Fax No: |  |
|  | E-mail: |  |

**1. Offer**

The Tenderer offers to provide to AEMO the Services described in **Schedule 2**:

* in accordance with the requirements of the ITT, subject only to any variations specified in the Statement of Compliance in **Schedule 1**; and
* at the price or prices specified or determined in accordance with **Schedule 3,**

and declares that, except as disclosed in the Tender, the synchronous condensercapacity offered to provide the Services is not used in connection with a *system strength remediation scheme* or otherwise contracted to provide services to any other person.

**2. Agency/Joint Tender**

The Tenderer is/is not[[2]](#footnote-2) acting as agent or trustee for another person, or lodging a Tender jointly with other persons.

(If the Tender is acting as an agent or trustee, full details must be provided in this section.)

**5. Supporting Information**

The Tenderer provides in **Schedule 4** details of its capability to provide the Services, as required by AEMO to support this Tender.

**6. Authority**

The Tenderer has authorised the *Network Service Provider* identified in **Schedule 4** (if not AEMO) to provide AEMO with any information AEMO reasonably requires to assess the capability of the relevant equipment to provide the Services in accordance with any applicable provisions of the Tenderer’s *connection agreement*.

**6. Conflicts of Interest**

The Tenderer provides in **Schedule 5** a conflict declaration for the Tenderer’s personnel nominated to provide the Services, and details of how any conflicts are to be addressed.

**7. Validity Period**

This Tender constitutes an offer to provide the Services that remains open for acceptance by AEMO for the Validity Period.

**8. Contract (optional)**

The Tenderer provides in **Schedule 6** a copy of AEMO’s proposed contract with the Tenderer’s requested changes tracked in the document.

**9. Addenda to ITT (include only if Addenda received)**

In the preparation of its Tender, the Tenderer acknowledges having received the following Addenda to the ITT:

Addendum No. Dated

Addendum No. Dated

Addendum No. Dated

NOTE: Capitalised terms in this Tender Form and Schedules are defined in the ITT.

Dated this day of 2020

|  |  |  |
| --- | --- | --- |
| **EXECUTED** by **[name of Tenderer]** by its duly appointed representative in the presence of: | ))) | ..............................................................……..Authorised Officer |
| ..............................................................……..Witness..............................................................……..Name of witness (print) |  | ..............................................................……..Name of Authorised Officer (print)..............................................................……..Title of Authorised Officer (print) |

SCHEDULE 1 – STATEMENT OF COMPLIANCE

*[Delete whichever is not applicable]*

[Name of Tenderer] confirms that this Tender conforms in every respect with the Invitation to Tender.

OR

[Name of Tenderer] confirms that this Tender conforms in every respect with the Invitation to Tender **other than** in the following respects:

|  |  |  |
| --- | --- | --- |
| **EXECUTED** by **[name of Tenderer]** by its duly appointed representative in the presence of: | ))) | ..............................................................……..Authorised Officer |
| ..............................................................……..Witness..............................................................……..Name of witness (print) |  | ..............................................................……..Name of Authorised Officer (print)..............................................................……..Title of Authorised Officer (print) |

SCHEDULE 2 – SERVICES

The Tenderer proposes the following Services:

|  |  |
| --- | --- |
| **Service Name**  | **Description/Location of equipment and connection point** |
| System Strength Service  |  |
| *[Insert additional rows if more than one Service offered*] |  |

The Tenderer will provide the Services to meet the following requirements:

[*If more than one Service offered, insert and complete a separate table for each Service*]

|  |  |
| --- | --- |
| **Requirement** | **Response** |
| Available capability: | [#] MVA at equipment *connection point* |
| Availability: | [Continuous] *or* [specify times of day or year] |
| Service commencement date (not later than 31 July 2020): |  |
| Latest Service end date (if any): |  |
| 4-second SCADA signal transmission capability: |  |
| Name of *financially responsible Market Participant* at *connection point*: |  |
| Name of *Network Service Provider* at the *connection point*: |  |
| Commissioning date: |  |
| Status of commissioning tests (results to be submitted with this Tender if available): |  |

SCHEDULE 3 - PRICING

Service Charge ($/MVA/hour):

[Tenderers must specify a Service Charge per MVA contribution to fault current **at RCTS**, payable per hour of equipment availability at the capacity offered. Note that AEMO will derive the MVA contribution at RCTS based on the capability of the equipment at its *connection point*.]

SCHEDULE 4 – SUPPORTING INFORMATION

#### Technical and regulatory

In support of its Tender, the Tenderer must provide the following information or documentation:

* PSCAD model of equipment (unless already provided to AEMO)
* Commissioning plan and test results (if available)

#### Insurances

In support of its Tender, the Tenderer must submit current insurance certificates for:

* Public Liability Insurance
* Professional Indemnity Insurance
* Workers Compensation Insurance
* Any other insurance required to cover the product or service

SCHEDULE 5 – CONFLICTS OF INTEREST

**PART A: CONFLICT DECLARATION**

Except as identified below, none of the personnel presently identified by [Name of Tenderer] to work on the provision of the Services to AEMO:

1. is, or has a close relative[[3]](#footnote-3) who is, a member, director, employee or contractor of AEMO;
2. is, or has a close relative who is, a director, employee or contractor of a registered participant in a market that AEMO operates or of any business likely to be affected by the Services;
3. has, or has a close relative who has, a material financial interest in a registered participant in a market that AEMO operates or in any business likely to be affected by the Services;
4. has any other affiliation, position, engagement or interest that could reasonably be seen as a conflict of interest with that person’s involvement in the provision of the Services.

**Identified Conflicts**:

| **Person Affected** | **Nature of Conflict** |
| --- | --- |
|  |  |
|  |  |

**PART B: HOW EACH CONFLICT IS TO BE ADDRESSED**

[*The Tenderer must outline how any conflicts of interest identified in Part A are to be addressed*.]

SCHEDULE 6 – PROPOSED CONTRACT CHANGES

*[Delete whichever is not applicable]*

[Name of Tenderer] does not propose any changes to the form of contract proposed by AEMO with the Invitation to Tender.

OR

[Name of Tenderer] has included a Word version of AEMO’s form of contract with the Tenderer’s requested changes tracked.

ATTACHMENT: CONTRACT TO BE EXECUTED

System Strength Services Agreement for Red Cliffs Terminal Station

1. <https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/System-Security-Market-Frameworks-Review/2019/Notice_of_Victorian_Fault_Level_Shortfall_at_Red_Cliffs.pdf> [↑](#footnote-ref-1)
2. Delete as appropriate. [↑](#footnote-ref-2)
3. Spouse, de facto partner, parent, sibling or child. [↑](#footnote-ref-3)