

SCOPE OF WORK

Request For Tender Eugowra STP Solar Farm High Voltage Construction

Revision	Date	Authorised by
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1. Purpose

Cabonne Shire Council (CSC) invites submissions from qualified High Voltage (HV) construction contractors to complete the HV works required for connecting the CSC solar farm and Battery Energy Storage System (BESS) to the Essential Energy distribution network.

The appointed contractor will be responsible for all HV construction works between the Eugowra Sewage Treatment Plant (STP) solar farm and BESS and the Essential Energy Payten's Bridge Zone Substation (ZSS).

Tenderers must be accredited as Level 1 Service Providers for the construction of distribution network assets in New South Wales, as recognised by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW).

All respondents must demonstrate relevant qualifications and proven experience working within the Essential Energy distribution network.

2. Background

In 2024, Cabonne Shire Council (CSC) launched the Electrifying Cabonne project to reduce carbon emissions and manage electricity costs more effectively. As part of this initiative, CSC is investing in a 2.2 MWp fixed-mount solar field and a 5MWh DC-coupled Battery Energy Storage System (BESS) at the Eugowra Sewage Treatment Plant (STP).

A key component of the project is the construction and energisation of the 11kV infrastructure required to connect the solar farm to the Essential Energy distribution network, where it will operate as a private HV customer.

The solar farm is located at 255 Casuarina Drive, Eugowra, on land owned and operated by CSC adjacent to the Eugowra STP. The BESS and STP will connect to the Essential Energy PYB3B1 feeder, which is linked to the Paytens Bridge Zone Substation (ZSS) situated on the Lachlan Valley Highway, near the intersection with Payten's Bridge Road.

The project has secured a grid connection agreement with Essential Energy and engaged an Accredited Service Provider Level 3 (ASP3) to complete the design (Revision 1) for submission to Essential Energy's design certification team. This 90% complete design is included with the tender documentation and should be used as the basis for pricing submissions.

CSC has also commissioned a local engineering firm to produce a for-construction design for the private HV infrastructure, spanning from the Medium Voltage Power Station (MVPS) to the Point of Connection (POC). This design is also included in the tender package and should be referenced accordingly.

Separately, CSC is undertaking another tender to appoint specialised electrical contractors for construction of the DC field infrastructure, up to and including the low-voltage (LV) side of the MVPS. The successful HV contractor will be required to coordinate closely with the DC contractor to ensure efficient scheduling and prevent delays.

Before construction begins, CSC and its representatives will work with the successful HV contractor to confirm all necessary approvals—such as development approval and a construction certificate—are in place. The contractor will be responsible for obtaining all Essential Energy-related construction approvals in accordance with standard ASP1 processes.

3. HV Construction and commissioning scope

The HV construction scope includes all works necessary to deliver and energise the 11kV infrastructure connecting the Eugowra Solar Farm to the Essential Energy network. The key responsibilities are outlined below:

Council understands that the final internal HV design may undergo minor changes based on feedback from the successful tenderer. For evaluation purposes, respondents are required to submit their tenders based on the defined scope provided.

HV Line Construction:

- Supply and install approximately 180 metres of combined underground and overhead 11kV infrastructure (including 80m to be gifted to Essential Energy).
- Reconductor approximately 2.65 km of Essential Energy 11kV overhead line (in two sections) between the solar farm and Paytens Bridge Zone Substation (ZSS).

Connection Infrastructure at Point of Connection (POC):

- The project proponent will supply the SCADA-controlled RC20 pole-mounted recloser; however, the tenderer is responsible for installing this unit as part of the overall connection works.
- The tenderer must supply and install all other infrastructure required to connect the solar farm to the PYB3B1 feeder. This includes gas switches, poles, conductors, earthing, and any additional equipment as per the design documentation.
- All connection assets, including the recloser and associated equipment, will be gifted to Essential Energy and must be constructed in full compliance with their standards.
- The tenderer will be liable for any post-construction remediation costs required by Essential Energy to bring the assets up to standard.

Private Recloser and MVPS Works:

- Council will supply the Noja Power Ground Mount Kiosk (GMK) recloser. The tenderer is responsible for the installation of this unit, including the construction of GMK footings, HV terminations at both the GMK and the solar farm MVPS, and the installation of all associated earthing, including the earthing ring for the recloser.
- The tenderer will also be responsible for installing earthing rings for the solar farm MVPS and BESS units, in accordance with the internal HV design specifications.

Logistics and Project Integration

- Manage the delivery, unloading, storage, and security of all HV equipment and components across multiple work sites, including:
 - Coordination of unloading at staging areas.
 - Inspecting equipment upon arrival to ensure it is in good condition and stored appropriately to prevent weather damage prior to installation.
 - Provide traffic management (including signage) for any works on public roads.
- Liaise closely with all key stakeholders throughout the project, including:
 - Essential Energy control room.
 - CSC-appointed plant commissioning engineers.
 - DC field and LV electrical contractors (to be appointed).

Procurement and Supply Responsibilities

To maintain project timelines, CSC has procured key long-lead items, including:

- Private Noja Power GMK recloser.
- SCADA controlled overhead recloser (RC20) to become an Essential Energy asset.

The tenderer is responsible for procuring all other materials and equipment required for the works, including but not limited to:

- 11kV cable/conductor (as per design documentation)
- Poles and cross-arms
- Gas switches and associated equipment
- HV termination kits
- Copper earthing cables
- Conduits, warning tape, and backfill

- Concrete, boxing, or culverts for footings

Construction Equipment and Safety

The tenderer must supply and manage all necessary equipment and safety measures, including:

- Earthmoving and excavation equipment
- Cranes or lifting equipment for HV infrastructure
- Vehicles and safety equipment for working at heights
- PPE for all personnel
- Signage and traffic control measures

Project Completion Requirements

- Supply and install HV labelling.
- Provide Work-as-Executed documentation.
- Coordinate and complete the energisation of all HV infrastructure in cooperation with the Commissioning Manager and Essential Energy.

During construction we expect the successful tenderer will: -

- Comply with Wiring Rules, WHS and environmental standards and procedures. Maintaining a safe working environment throughout construction.
- Maintain current licenses relevant to the works.
- Maintain and demonstrate suitable insurances.
- Build specific to the agreed\approved designs documentation.
- Track inventory and report and document any breakages.
- Maintain site security and access during construction time, including securing site and all equipment during out-of-hours.
- Source and supply all the necessary equipment required for construction.
- Provide regular project progress reports, attend relevant meetings, and communicate any issues encountered to Council's PM team in a timely manner.
- At Completion, the tenderer will be expected to provide Work as Executed Drawings and other necessary handover documentation.
- Cooperate with the Commissioning Manager and Essential Energy as required.

4. HV Construction Detailed Requirements

The following list is provided for your reference and may not be exhaustive. When preparing your response, please prioritise the attached design and specification documents, as these take precedence over the list.

- ASP1 augmentation works include:
 - For full details, refer to EE Design Information Pack attached.
 - A new 11kV recloser (RC20) will be installed at the connection point (POC) in the solar farm property within 20m from boundary as per CEOM7114 series. All-weather 24/7 access is required.
 - A new section of 3Ø 11kV 19/3.75 AAAC conductor connects the POC to the Point of common coupling (PCC) Pole 0811 041 which is an existing pole on the PYB3B1 Eugowra 11kV distribution feeder supplied from the Payten's Bridge 66/11kV zone substation.
 - Reconductor approx. 460m existing 3 wire 11kV Mercury 7/4.50 AAC with 3 wire 11kV 19/3.75AAAC Neon between Pole 2 042 and NP403511.
 - Reconductor approx. 2.15km existing 3 wire 11kV Mercury 7/4.50 AAC with 3 wire 11kV 19/3.75AAAC Neon between Pole NP404069 and Pole 0059 041 (Recloser 70-R11709).
- Private HV
 - Refer to HV Internal Design documents

5. Timeline

Thursday 5 th of June	RFT Opens
Thursday 26 th June 5:00 PM	RFI Closes
Thursday 3rd July 12:00 PM (midday)	RFT Closes
Tuesday 22 nd July	Recommendation on RFT discussed at May Council meeting.
Prior to July 31 st	Award Contract

Table 1. Timeline

6. Items Procured and Supplied by Council

The key system components that are being supplied by Council include: -

Component	Make\Model	QTY
 Private switching and protection SCADA controlled overhead recloser (RC20) to become an Essential Energy asset 	 Noja Power GMK15-16-2310 OSM15 Recloser and RC-10 Earth Switch 3x Metering VT's, 11kV/sqrt(3) / 110V/sqrt(3), 0.5M 6x Metering CT's, 200/5A, 0.5S, 5VA OSM15-RC20 Essential Energy Build 	1
Central inverter\transformer	Sungrow SG3400MV	1
BESS and all associated integration pieces	Sungrow Power Titan ST2752UX Liquid cooled containerised battery units	2

Table 2. items procured and supplied by Cabonne Shire Council required for this tender.

7. Site Conditions and Set Out

The Tenderer is responsible for thoroughly familiarising themselves with the site, the Detailed Designs, the project scope, and any other relevant information necessary for preparing a commercial offer.

Claims for additional costs due to lack of knowledge or document errors will not be accepted after tender submission.

Price variations or time extensions during construction will not be permitted based on unfamiliarity with site conditions or lack of understanding of the project documentation.

8. Site Access, Site Security and Safety Inductions

The Tenderer shall nominate a person who will be responsible for on-site supervision and who will be available on site during the construction works and shall coordinate access for all labour, contractors, suppliers, as necessary.

The tenderer will take control of the site as Person Conducting Business or Undertaking (PCBU) and as such should comply with standard legislative requirements including signage, site safety inductions, records of access and departure (date and time) and incident reporting. CSC requires the Tenderer's WHS policy, plan and procedures to be consistent with local government standards and Safety will form a standard item in reports to Council.

The Council and its representatives reserve the right to restrict or deny the Tenderer's staff access to the site if the Tenderers staff do not comply with required safety standards. The Council shall not be responsible for any additional costs associated with the tenderers inability to comply with safety requirements or return costs for the Tenderers staff or any specific safety equipment or machinery in the event of the Tenderer being denied entry due to non-compliance with a WH&S matter.

9. Detailed Design Review

The tenderer is required to allow sufficient time and expertise to review the final Detailed Design supplied by Council and near final HV Design as attached. The review opportunity is provided for the purposes of: -

- Identifying any 'buildability' issues.
- Suggesting alternative configurations or components provided they are consistent with the design, site requirements and Council's objectives.
- Ensuring the capacity for future expansion of the powerplant.
- Identifying any unexpected/avoidable potential operation and maintenance issues.

The consulting engineers are responsible for the Detailed Design. The Council may choose to adopt any suggested changes at their discretion. If any changes are adopted, the Council will update the plans and design documentation and share them with the successful tenderer.

10. Electrical Installation and Cabling Requirements

The Tenderer is responsible for the complete installation of Internal HV works and Essential Energy Network Augmentation and all associated HV cabling in accordance with relevant Australian standards and Essential Energy network requirements. While the Council will coordinate network connection approvals, the Tenderer must satisfy all Distribution Network Service Provider (DNSP) connection requirements related to delivery of the HV works.

All HV electrical work must be carried out and/or supervised by appropriately qualified electricians. All electrical signage on switches, isolators, distribution boards, and switchboards must conform to the NSW Electrical Safety Rules.

Commissioning Coordination

A commissioning manager will be appointed as the primary point of contact with Essential Energy during the plant commissioning phase. The Tenderer must provide full cooperation, including timely responses to any queries from the Commissioning Manager and the prompt provision of all relevant installation documentation, such as:

- Work-As-Executed drawings.
- Cable and earth test reports
- Certificate of Electrical Compliance HV (CEOF 6720)

11. Regular Council Updates

During the construction phase, the tenderer is expected to provide regular updates to Council. While the meeting frequency will follow an agreed schedule, it is anticipated that communications will occur weekly during construction, with meetings held at least every fortnight. Outside of the construction period, meetings may be scheduled less frequently.

The successful tenderer will be expected to maintain several registers including: -

- Risk Register (as per CEMP): Identifies potential risks, their impact, likelihood, and mitigation strategies.
- Issue Register: Tracks project issues, their resolution status, and responsible parties.
- Safety Register: Documents safety incidents, near misses, and safety inspections to ensure compliance with WHS regulations.
- A photo record.

12. Construction and Environmental Management Plan

Successful tenderers will be required to draft and submit a site-specific Construction and Environmental Management Plan (CEMP) prior to construction. Part of the Tender response submission should include a sample CEMP with the following minimum anticipated sections.

Work Health and Safety (WHS):

- Implement measures to identify, assess, and control health and safety risks on-site.
- Provide safety training and inductions for all personnel.
- Ensure the use of personal protective equipment (PPE) as required.
- Maintain ongoing monitoring and reporting of safety performance.
- Establish emergency response procedures and first aid measures.

Site Access, Including Safety Induction:

- Ensure all personnel undergo safety induction before accessing the site.
- Implement controlled site access to enhance security and safety.

Erosion Control:

• Implement strategies to prevent soil erosion and control runoff.

Fire Risk Management:

- Implement fire prevention measures, including maintaining clear access routes, removing flammable materials, and maintaining fire extinguishers with construction crews.
- Conduct fire risk assessments both prior to the commencement of works and periodically throughout the construction phase.

Incidents and Emergency Procedures:

- Establish protocols for reporting and responding to incidents and emergencies.
- Ensure all personnel are familiar with emergency procedures and have access to necessary equipment.

Construction Waste Management:

- Implement a system for handling and disposing of construction waste and non-recyclable products in accordance with the with Development Consent and Conditions (DA 2023\0077).
- Recycle eligible waste materials appropriately.

13. Post Completion Period

When construction of the HV Works has been completed and Completion agreed, the contractor will enter a 12month Post Completion Period (PCP).

Completion shall be defined as the correct installation of all items specified in the Detailed Designs and HV Design, and in the manner consistent with regulations, manufacturer warranty requirements, and industry best practice.

During this time, the successful tenderer will be obligated to return to the site to rectify defects identified by the Council and/or complete unfinished work.

If any rectification works cause additional defects, the Council reserves the right to update the defect register, where the Tenderer notes that the PCP period is the minimum amount of time the contractor will remain exposed to the risk and cost of rectifying defects, and may extend beyond 12-months until all defects are rectified.

In conjunction with the PCP period, the Tenderer shall provide 12-months post project monitoring and maintenance returning to the site quarterly to inspect. The Tenderer shall provide a maintenance schedule as part of their response.

14. Work as Executed Drawing and Documentation Handover

The following documentation must be delivered to CSC or its representative at the specified milestones below.

	Item\Document	Due
1	Work as Executed drawings	Within 20 days of after Completion
2	Cabling and earthing test sheets	Completion
3	Certificate of Electrical Compliance	Completion
4	Photos of Installed System showing all main components and system labelling.	Completion
5	Issues register with resolved issues closed.	Completion
6	Completion certificate.	Completion

Table 4. Documentation requirements

The tenderer is expected to make sufficient allowance for thorough handover processes including face-to-face briefing of key staff and contractors.

In addition to those items listed in the Conditions of Contract, all the following items must, without exception, be completed prior to requesting the Consulting Engineers to make the final inspections for Completion:

- Test the complete installation works and leave the worksite in a clean condition.
- Thoroughly clean all equipment and parts.
- Provide all specified testing documentation.

15. Standards and Guidelines

The following Standards, codes and guidelines apply to the construction and installation.

Electrical Standards:

- AS/NZS 3000: Electrical Wiring Rules
- AS/NZS 3017: Electrical Installations Testing Guidelines
- AS/NZS 3100: Approval and Test Specification General Requirements for Electrical Equipment

Structural Standards:

- AS/NZS 1170.2: Structural Design Actions: Wind Actions
- AS/NZS 2053: Conduits and Fittings for Electrical Installations
- National Construction Code 2022

Safety and Compliance:

- NSW Work Health and Safety Act 2011 and the NSW Work Health and Safety Regulation 2017, including amendments.
- Essential Energy Network Standards
- NSW Service and Installation Rules

Other Guidelines:

Comply with all current and additional standards and best practices. The Tenderer must ensure installations meet these standards and provide evidence of compliance if requested.

16. Supporting Documents

To ensure a complete and accurate tender response, this document must be reviewed in conjunction with the following supporting documents. In the event of any discrepancies, the design documentation shall take precedence over the content of this document.

- A1 2025-02-21_ECN103890_Design Information Pack
- A2 S2456 EUGOWRA SOLAR FARM DESIGN HV DESIGN REV0.4 2025_04_14
- A3 ECN-103890_Construction Plan Rev 01