



FACT SHEET: Metering Installation Design for Major Customers: Information required by Ergon Energy

July 2021 – Version 2

Purpose

This document describes the information that Ergon Energy requires Major Customers to provide for proposed metering installation arrangements as part of an externally developed Planning Report or Project Scope.

Glossary

AEMO	Australian Energy Market Operator: The agency responsible for: the day to day management of wholesale and retail energy market operations and emergency management protocols for the NEM; on-going NEM development required to incorporate new rules, infrastructure and participants; and long-term NEM planning through demand forecasting data and scenario analysis.
Connection Point	The agreed point of supply between the Network Service Provider and Major Customer, typically at the defined asset boundary.
Ergon Energy	In this Fact Sheet, refers to Ergon Energy Corporation Limited as a Local Network Service Provider.
FRMP	Financially Responsible Market Participant: In relation to a Connection Point, the entity registered with AEMO that is responsible for making or receiving payments in relation to electricity transferred across a Connection Point (can be any Retailer or Generator in the NEM).
LNSP	Local Network Service Provider: A Network Service Provider within a local geographical area, which has the relevant jurisdictional authority (such as Ergon Energy).
Major Customer	In this Fact Sheet, refers to a person intending to submit an application to connect to Ergon Energy (for either a new connection or modification of an existing connection) where the acceptance of that application and completion of necessary works will result in that customer being classified by Ergon Energy as any of an ICC (Individually Calculated Customer), CAC (Connection Asset Customer) or EG (Embedded Generator) in accordance with Ergon Energy's pricing proposal available on the Network Tariff section of Ergon Energy's website.
MDP	Metering Data Provider: A service provider accredited by AEMO to undertake the collection, processing, storage and delivery of metering data to AEMO and other registered participants under the NER.
MP	Metering Provider: A service provider accredited by AEMO to undertake the provision, installation and maintenance of metering installations.

NEM	National Electricity Market: The wholesale electricity market operating in relation to the interconnected electricity network in Queensland, NSW, ACT, Tasmania, Victoria and South Australia.
NER	National Electricity Rules: The rules under which the National Electricity Market operates.
NMI	National Metering Identifier: A NMI is a unique identifier for each metering installation within the NEM. It must be provided by the LNSP at the request of the FRMP. NMIs are an essential part of the Connection Agreement and Connection Service Order and should be identified/created as soon as possible for any new or upgraded installation.
Retailer	An entity registered with AEMO as a Market Participant who purchases electricity from the NEM and sells this to customers. A Retailer may also be referred to as the FRMP for a Connection Point.
RP	Responsible Person: The entity appointed by a FRMP to be ultimately responsible for the provision, installation and maintenance of metering installations.

Background

Metering Installations

Each market connection point must have a metering installation, in respect of which the FRMP (often the electricity Retailer) is ultimately responsible. Major Customers should discuss these requirements with their electricity Retailer or, where an electricity Retailer has not been chosen at the time of application, the Local Network Service Provider (LNSP). Local jurisdictional guidelines need to be considered when designing the metering installation as the LNSP may have specific design requirements or considerations.

Retail Contracts

A Major Customer is usually required to have a retail contract with an electricity Retailer of their choice. Connection of supply will not occur until this contract has been established. The retailer will be assigned as the FRMP for that Connection Point.

Appointing a Metering Coordinator, Metering Provider and Metering Data Provider

Before the FRMP may participate in the market in respect to a Connection Point, and for as long as they continue to participate, they must ensure that a Metering Coordinator is appointed. The Metering Coordinator in turn must appoint a Metering Provider and Metering Data Provider, per NER 7.3.

The FRMP must provide a valid initial connection service order to the LNSP before the Connection Point can be energised.

Metering Installation

Type	Annual Active Energy Use	Minimum Acceptable Class or Standard of Components	Check Metering Requirement
1	>1000 GWh	0.2 CT/VT/Meter Wh 0.5 Meter Varh	Check Metering Installation

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2	>100-1000 GWh	0.5 CT/VT/Meter Wh 1.0 Meter Varh	Partial Check Metering
3	0.75 to less than 100 GWh	0.5 CT/VT 1.0 Meter Varh 2.0 Meter Varh	No requirement
4	Less than 750 MWh	Either 0.5CT and 1.0 Meter Wh; or Whole Current General Purpose Meter Wh (Meeting req. of NER 7.8.2(a)(9) & 7.10.7(a))	No requirement

Adapted from Chapter 7 of the NER.

Services in relation to Type 1–4 metering installations are both contestable and unregulated services and the prices for providing these services are not regulated by the AER.

For further information, refer to the [Queensland Electricity Connection Manual](#) on the Ergon Energy website.

Planning Metering Installations

Metering arrangements for all new or modified Major Customer Connection Points are described in a Metering Design Brief. This is a required component of the Project Scope. Specifications provided in any Metering Design Brief must comply with the NER and must be reviewed by the LNSP.

Ergon Energy appreciates that metering installation details may be refined as a project progresses. However, it is imperative that where there is a change in scope, relevant information is promptly provided to Ergon Energy.

Options for Developing a Metering Design Brief

Either Ergon Energy or a Major Customer (or their respective contractors) can develop Metering Design Briefs. There is no legislated format for a Metering Design Brief.

Ergon Energy reviews all components of externally provided Project Scopes/Planning Reports (including proposed metering arrangements) to ensure that they meet regulatory, customer and LNSP requirements.

Timeframes for delivery of these services will be provided upon request. Where Ergon Energy develops or reviews a design brief, there will be a fee for these services.

Information required by Ergon Energy to Review or Develop a Metering Design Brief

Where a Major Customer requests Ergon Energy to develop a Metering Design Brief, the Major Customer must give Ergon Energy information in accordance with sections A–D of the attached Metering Installation Design template.

Where Ergon Energy reviews a third party Metering Design Brief, it requires certain information to determine whether the proposed metering arrangement is acceptable to Ergon Energy as LNSP and compliant with the NER. In this situation, the Major Customer must give Ergon Energy information in accordance with sections A-E in the Metering Installation Design template.

Guidelines for Location of Metering Installation

The location of the Metering Point must be as close as practicable to the Connection Point. Metering hardware, including instrument transformers, may be located in a substation switchyard or be a pole-mounted unit. This may be on either Major Customer or Ergon Energy managed property.

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Where the primary plant (current and voltage transformers) is located in an Ergon Energy substation switchyard, access restrictions apply. Any personnel wishing to enter the substation switchyard must be trained and approved by Ergon Energy. External personnel may be trained for Ergon Energy substation entry to maintain assets, and any third party meter providers accessing Ergon Energy substations must obtain and maintain this authorisation.

No Major Customer -owned metering installations may be located within an Ergon Energy substation without Ergon Energy first conducting a risk assessment and granting approval.

Metering Installation Design Template

This template is provided as a guide to illustrate the information typically required by Ergon Energy to develop or review a Metering Design Brief. Design briefs may be provided by Ergon Energy, the Major Customer, or a third party appointed by the Major Customer.

For assistance in compiling this information, please contact your assigned Major Customer Project Sponsor.

SECTION A

Contact Details	
Company Name (as per ASIC registration)	
Project Title	
Name of Organisation Supplying Metering Information/Design Brief	
Name of Appointed Representative for Metering Information/Design Brief	
Email Address for Metering Correspondence (We will use email as the preferred method of contact unless otherwise advised)	

SECTION B

Locational Information	
Location of Connection Point <i>(Please specify whether new or existing)</i> <i>(Provide latitude/longitude, GPS, Google Map KML)</i>	
National Metering Identifier/s (if existing connection) If Multiple NMIs, please list all	
Installation Project Site Name	
Location of Metering Installation including Instrument Transformers and Metering Switchboard position <i>(Provide latitude/long, GPS, KML, or physical address for the site)</i>	
If site not owned by Major Customer, name of the registered owner of the installation site	
Registered Plan Number and/or Lease No.	
Distance in metres from Connection Point to metering installation	

Spatial Data / Maps Please attach maps which clearly illustrate: <ul style="list-style-type: none"> • <i>Asset Boundaries</i> • <i>Connection Point</i> • <i>Metering installation</i> • <i>Location of relevant mining leases</i> (preferably Google Earth pin attachment)	
Additional Locational Information (Please attach any additional information including Access Restrictions, Environmental or Cultural Heritage concerns)	

SECTION C

Load Connection Details	
Connection Voltage	11 kV 22 kV 33 kV 66 kV 132 kV
Estimated Energy Consumption (kWh per annum)	
Authorised Maximum Demand (kW)	
Average Monthly Demand (max kW per 30 mins)	
Power Factor (e.g. 0.85)	
Power Factor Correction to be installed?	
Details of Disturbing Loads (Specify any known large motors, welders, thyristor drives, draglines to be connected)	
Other relevant information, including any anticipated rise in consumption in future years	
What is the highest rated motor to be connected?	
Anticipated First Connection Date	

SECTION D

Responsibilities	
Ownership Option	
Customer design, construct and Ergon Energy own (transfer of asset)	Y/N
Customer design, construct and own	Y/N
Electricity Retailer (FRMP) Please provide if known — ESSENTIAL prior to connection.	
Responsible Person Please provide if known; will be appointed by Retailer.	

Metering Provider <i>Please provide if known —will be appointed by Retailer or be provided by LNSP in the interim.</i>	
Meter Data Provider <i>Please provide if known.</i>	

SECTION E

Additional Information required for a Customer Provided Metering Brief	
<p><i>Note: Where Ergon Energy does not develop the Metering Design Brief, the developer should ensure that the following information is provided and that specified equipment, installation arrangements and capabilities are in accordance with Chapter 7 of the NER. Additionally the Queensland Electricity Connection and Metering Manual can be found on the Ergon Energy website. This document provides additional support for this.</i></p>	
<p>Description of Primary Plant <i>Notes: Instrument Transformers must:</i></p> <ul style="list-style-type: none"> • <i>Meet the required accuracy class for the type of metering installation;</i> • <i>Be tested to AS60044;</i> • <i>Be provided with test certificates in accordance with NER schedules S7.2 and S7.3 and be in English, test certificates shall include the measurement uncertainty to 95% level of confidence;</i> • <i>Have endorsed reports from a laboratory accredited by NATA or from a laboratory accredited by an organisation recognised by the International Laboratory Accreditation Cooperation (ILAC).</i> <p><i>Where the load is to be supplied at voltages $\geq 66\text{kV}$ with annual energy usages $< 100\text{GWh}$ per annum, it is recommended that Current Transformers with two metering cores be installed to allow for future increases in loads</i></p>	
<p><i>Additionally, the description of primary plant should specify:</i></p> <ul style="list-style-type: none"> • <i>Security provisions which ensure that the connections are tamper proof and sealable; and</i> • <i>Maintenance provisions which comply with environmental standards.</i> 	
<p>Design of Metering Installation <i>Please provide design layout and description.</i> <i>The description of the Metering Installation should specify:</i></p> <ul style="list-style-type: none"> • <i>Access provisions for testing and audit purposes</i> • <i>Site security provisions</i> 	

<i>Provisions for remote communications to the metering equipment</i>	
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Further Information

Major Customers may contact their Project Sponsor to obtain further specific information.