**Rules requirements**

You must confirm that the proposed *metering installation* will be able to meet the requirements of Chapter 7 of the NER.

Under NER 5.3.7(g), a Network Service Provider and the Registered Participant must jointly notify AEMO that a connection agreement has been entered into and provide AEMO with relevant technical details of the proposed plant and connection which includes the *metering installation* information.

NER 7.2.1(a) requires *metering* to be installed and operational prior to participation in the *market* in respect of the relevant *connection point*.

NER 7.2.1(b) provides that AEMO may refuse to permit a Registered Participant to participate in the *market* if clause 7.2.1(a) has not been complied with.

**Connection Point Checklist**

The *connection point* checklist is to be completed to satisfy the minimum requirements for the registration of *metering connection points* as required under Chapters 5 and 7 of the NER.

The *connection point* checklist is to be completed for all new, altered or abolished (extinct) NMIs classified as:

* XBOUNDRY = Distribution network to adjacent distribution network connection point

All fields must be supplied for AEMO to be able to conduct a full technical assessment (except where indicated below). Clarification of the information required on the *connection point* checklist is provided in the instruction section below:

**Cross Boundary Connection Point Checklist Instructions**

|  |  |
| --- | --- |
| 1. GENERAL AND TECHNICAL DETAIL | |
| Market Registration Name | Name of *connection point* being registered |
| Site Introduction | Provide an introduction to the site and why it is being registered, deregistered or altered |
| Application contact Details | Details of the Applicant |
| Supplying DNSP | The *distribution network* where *energy* flows from and details of the contact person for the Supplying DNSP |
| Receiving DNSP | The *distribution network* where energy flows to and details of the contact person for the Receiving DNSP |
| Metering Coordinator Detail: | *Metering Coordinator* (MC) for *connection point*  Details of the contact person from the *Registered Participant* organisation taking on the role of the *Metering Coordinator*. as defined in NER 7.3. |
| 1.1 Connection Point | |
| Connection Point Registration Type | Is the registration for a new *connection point*, changes to an existing *connection point* or deregistration of a *connection point*?  For New or Existing – complete all fields  For Deregistration – complete fields marked with \* |
| Expected Commissioning Date | Expected date for commissioning, decommissioning or changes to be implemented for the *connection point*. |
| Connection Point NMI(s): | National Metering Identifier (NMI) that will be or is assigned to the Cross Boundary *connection point.* |
| Special Site or Technology Related Conditions | Refer to the NER 7.8.12 - Special Site or Technology Related Conditions.  If there is an existing Special Site or Technology Related Condition assigned to the *connection point(s)*, provide a copy of the details of these conditions as an attachment.  All new algorithms require AEMO approval.  Algorithms are not an acceptable substitute for actual *metering installations* that meet NER requirements.  As such a detailed explanation why an algorithm is required and why compliance with other NER *metering installations* clauses are not able to be achieved, is to be provided with the request for consideration. |
| Transmission Node Id (TNI): | The Transmission Node Identity Code, which identifies the Transmission Loss Factor assigned to the Supply Distribution Network Service Provider’s NMI. |
| Transmission Node Id # 2 (TNI2): | The Transmission Node Identity Code, which identifies the Transmission Loss Factor assigned to the receiving Distribution Network Service Provider’s NMIs.  AEMO to create and populate TNI2 field. |
| Physical Site Address: | Physical address at which the *connection point* is situated including street, suburb/town and postcode. |
| Physical Location: | A specific statement that clearly details the physical locality of the *connection point* is situated.  AEMO needs to understand where the *connection point* is in relation to the *metering installations*.  (E.g. At 66KV Circuit Breaker 12345 on the low voltage side of Transformer 1 at Substation XYZ). |
| Single Line (Schematic) drawing | Single Line diagram (SLD) of the *connection point* clearly identifying:   * *Connection point* * Revenue *metering installation* location details, * Revenue *metering installation* CT/VT location details, * relevant switching system(s) that control import/export to the national grid * asset boundaries and asset owners * other assets and asset owners that could potentially be impacted by the installation.   Identify the drawing number and provide the drawing as an attachment. (Drawings need to be re-sized with clarity and accuracy). |
| The distance between the Connection Point and the revenue Metering Installation: | NER 7.8.7 requires the *metering point* to be as close as practicable to the *connection point*.  Provide the distance (in metres) between the *connection point* and the *metering installation*. |
| Detailed Wiring diagram of the Metering Installation | Detailed Wiring diagram of the *metering installation* which must clearly identify:   * Revenue Metering * Check Metering (when installed and required) * Meter Class Accuracy * Meter Make and Type * CT Class * VT Class * CT Ratio * VT Ratio * CT (Burden Rating) * VT (Burden Rated)   Identify the drawing number and provide the drawing as an attachment. (Drawings need to be re-sized with clarity and accuracy). |
| Distribution area drawing. | Drawing showing the relationship between the transmission connection point and the Cross Boundary *connection point* within the Supplying Distribution Network. Identify the drawing number and provide the drawing as an attachment. (Drawings need to re-size with clarity and accuracy). |
| NMI list | List of receiving DB NMIs downstream of Cross Boundary NMI that are supplied energy from this *connection point* |
| Cross Boundary connection characteristics | See the CROSS BOUNDARY SUPPLY GUIDELINE, and select which configuration the Connection Point conforms with scenarios detailed in Section 3.3 & 3.4 |
| Distribution Loss Factor | |
| DLF Code: | DLF Code of supplying Distribution Network Service Provider |
| DLF Value: | DLF value as determined in accordance with approved methodology. |
| Capacity | |
| Feeder Capacity & ID | Capacity of the feeder in MVA or Amps  Feeder ID: |
| Transformer Capacity | Capacity of the transformer in MVA |
| Energy Pattern | Data required to calculate MLF:  AEMO requires a year of data on a half hour resolution for the expected active and reactive power generated or consumed at the new connection point.  In the cases of load connection points, AEMO also requires clarification if the load supplied by the new connection point is an existing load transferred from an existing connection point, or if it is a new load. |

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| 2. REVENUE METERING INSTALLATION DETAILS | |
| Metering Installation Type (S7.2.3): | NER S7.4.3 defines the Meter Type requirements. The *metering installation* must meet the accuracy requirements stated. |
| Meter Details | |
| Meter Serial No: | Serial Number which identifies the *meter* installed. (Add additional rows if required). |
| Meter Make & Model: | Name of the manufacturer of the *meter* and the model of the meter installed. |
| Pattern Approval Cert No: | The National Measurement Institute of Australia issues a certificate of approval when an electricity meter is pattern approved. Provide the Pattern Approval Cert No. |
| Meter Class Accuracy: | *Meter* class accuracy must meet the minimum acceptable class or standard of components as outlined in NER S7.4.3. |
| Is Meter Bi-Directional: | A *metering installation* must be capable of separately recording *energy data* for energy flows in each direction where bi-directional *active energy* flows occur or could occur. |
| Current Rating: | The operating range of the meter in Amps. |
| Meter Test Results: | Copies of the most recent *meter* test results conducted in accordance with NER S7.6.2.  These results must show compliance with the relevant Australian Standard or *International Standard* as identified in Metrology Procedure Part A and must come from either a:   * *NATA* laboratory or a body recognised by *NATA* under the International Laboratory Accreditation Corporation (ILAC); or * An accredited *Metering Provider* that has used *NATA*/ILAC traceable reference/calibration equipment in accordance with NER S72.3(b)(6).   The test results must indicate uncertainties. Minimum allowable uncertainties (±) are in accordance with NER Table S7.6.1.1.  Provide the *meter* Test Results as an attachment  If testing has not yet occurred, the test results can be supplied closer to the planned energization date |
| Current Transformer (CT) Details | |
| CT Serial No. | Serial Number which identifies the *current transformer* installed. (Add additional rows if required). |
| CT Ratio’s Available: | Provide the range of *current transformer* tap ratios available. |
| CT Connected Ratio: | Provide the connected ratio of the *current transformer*. |
| CT Burden: | Provide the name plate burden rating of the *current transformer* in VA. |
| CT Class: | *Current transformer* class accuracy must meet the minimum acceptable class of components as outlined in S7.4.3 of the Rules. |
| CT Test Results | Copies of the most recent *current transformer* test results conducted in accordance with NER S7.6.2.  These results must show compliance with the relevant Australian Standard or International Standard as identified in Metrology Procedure Part A and must come from either a:   * NATA laboratory or a body recognised by NATA under the International Laboratory Accreditation Corporation (ILAC); or * An accredited *Metering Provider* that has used NATA/ILAC traceable reference/calibration equipment as per S72.3(b)(6) of the Rules.   The test results must indicate uncertainties. Minimum allowable uncertainties (±) are in accordance with NER Table S7.6.1.1.  Provide the *current transformer* Test Results as an attachment.  If testing has not yet occurred, the test results can be supplied closer to the planned energization date |
| Voltage Transformer (VT) Details | |
| VT Arrangement: | Advise if the *voltage transformer* is a 3 x Single Phase *voltage transformer* or a Three Phase *voltage transformer*. |
| VT Serial No. | Serial Number which identifies the *voltage transformer* installed. (Add additional rows if required). |
| VT Ratio: | Provide the ratio that the *voltage transformer* is connected at. |
| VT Burden (Rated): | Provide the name plate burden rating of the *voltage transformer*. |
| VT Class: | *Voltage Transformer* class accuracy must meet the minimum acceptable class of components as outlined in NER S7.4.3. |
| VT Test Results | Copies of the most recent VT test results conducted in accordance with NER S7.6.2.  These results must show compliance with the relevant Australian Standard or International Standard as identified in Metrology Procedure Part A and must come from either a:   * NATA laboratory or a body recognised by NATA under the International Laboratory Accreditation Corporation (ILAC); or * An accredited *Metering Provider* that has used NATA/ILAC traceable reference/calibration equipment in accordance with NER S72.3(b)(6).   The test results must indicate uncertainties. Minimum allowable uncertainties (±) are in accordance with NER Table S7.6.1.1.  Provide the VT Test Results as an attachment.  If testing has not yet occurred, the test results can be supplied closer to the planned energization date |

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| 3. CHECK METERING INSTALLATION DETAILS |
| The requirements for *check metering installations* is outlined in NER S7.4.4. Also refer to Chapter 10 Glossary definitions relating to *check meter, check metering data* and *check metering installation* to assist with determining check metering requirements.  Any proposal for *partial check metering* will need to be approved by AEMO. |

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| 4. Participant Relationships In MSATS | |
| Cross Boundary NMI Role ID | Description |
| FRMP: | The *financially responsible Market Participant*  LR for receiving NSP until Global Settlements implementation date, then GLOPOOL is the default FRMP |
| LNSP: | The *Local Network Service Provider* – determined by agreement between supply DB and receiving DB |
| NSP2 | Alternate DB to LNSP (either supply DB or receiving DB) |
| LR: | *Local Retailer*  LR for source NSP until Global Settlements implementation date, then GLOPOOL is the default LR |
| MDP / MPC: | Accredited *Metering Data Provider*. |
| MPB: | Accredited *Metering Provider* |
| MC: | *Metering Coordinator* |
| ROLR: | *Retailer of Last Resort.* |

### Attachments

Provide (where required) the following attachments:

Section 1 requirements:

* Special Site Conditions
* Single Line (Schematic) Diagram
* Detailed Wiring diagram of the Metering Installation
* Distribution area drawing
* NMI list

Section 2 requirements:

* Meter Test Results
* Current Transformer Test Results
* Voltage Transformer Test Results

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| --- | --- |
| **HeaderCross Boundary**  **Connection Point Checklist** |  |

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| --- | --- |
| **Market Registration Name:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

|  |  |
| --- | --- |
| **Site Introduction:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

| 1. GENERAL AND TECHNICAL DETAIL | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Applicant details | | | | | | |
| Company Name: |  | | | | | |
| Participant ID: |  | | | | | |
| Contact Name: |  | | | | | |
| Phone No: |  | | | | | |
| Email: |  | | | | | |
| Supplying DNSP details | | | | | | |
| Company Name: |  | | | | | |
| Participant ID: |  | | | | | |
| Contact Name: |  | | | | | |
| Phone No: |  | | | | | |
| Email: |  | | | | | |
| Receiving DNSP details | | | | | | |
| Company Name: |  | | | | | |
| Participant ID: |  | | | | | |
| Contact Name: |  | | | | | |
| Phone No: |  | | | | | |
| Email: |  | | | | | |
| Metering Coordinator details | | | | | | |
| Company Name: |  | | | | | |
| Participant ID: |  | | | | | |
| Contact Name: |  | | | | | |
| Phone No: |  | | | | | |
| Email: |  | | | | | |
| Connection Point Details | | | | | | |
| Connection Point Registration Type | | New | ☐ Existing | | | De-register |
| \*Expected Commissioning or Decommissioning Date (DD/MM/YYYY) | |  | | | | |
| \*Connection Point NMI(s): | |  | | | | |
| \*Are there Special Site or Technology Related Conditions? | | Yes  No  (If Yes, provide details -  Attached) | | | | |
| \*Transmission Node Id (TNI): | |  | | | | |
| \*Transmission Node Id # 2 (TNI2): | |  | | | | |
| \*Physical Address of Connection Point | |  | | | | |
| Physical Location of Connection Point | |  | | | | |
| \*Single Line (Schematic) diagram of the installation showing the Connection Point and revenue Metering Installation: | | Drawing number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  - Attached  The follow information needs to be clearly marked on the SLD;   * Connection Point * Revenue metering installation location details, * Revenue metering installation CT/VT location details, * relevant switching system/s that control import/export to the national grid * asset boundaries and asset owners * other assets and asset owners that could potentially be impacted by the installation. | | | | |
| The distance between the Connection Point and the Market Metering Installation in metres: | | \_\_\_\_\_\_\_ m | | | | |
| Detailed Wiring diagram of the Metering Installation | | Drawing number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  - Attached | | | | |
| Distribution area drawing showing Connection Point relativity. | | Drawing number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  - Attached | | | | |
| NMI list | | - Attached | | | | |
| Cross Boundary connection characteristics number as per Section 3.3 & 3.4 of the  CROSS BOUNDARY SUPPLY GUIDELINE | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| Distribution Loss Factor | | | | | | |
| DLF Code: | |  | | | | |
| DLF Value: | |  | | | | |
| Capacity | | | | | | |
| Feeder Capacity & ID | | \_\_\_\_\_\_\_ MVA or | | | Feeder ID: \_\_\_\_\_\_\_ | |
| Transformer Capacity | | \_\_\_\_\_\_\_ MVA | | | | |
| \*Energy Pattern | | New | | Attach expected half hour energy profile for first year of operation. | | |
|  | | Existing | | Provide any details on changes in load profile. i.e. energy transfer from X? | | |
|  | | ☐ Deregister | | Provide any details on changes in load profile. i.e. energy transfer from X to Y? | | |

\* highlighted items are mandatory field to be provided for abolished (extinct) NMI’s

|  |  |
| --- | --- |
| 2. REVENUE METERING INSTALLATION DETAILS | |
| Metering Installation Type (S7.2.3): |  |
| Meter Details | |
| \*Meter Serial No: |  |
| Meter Make & Model: |  |
| Pattern Approval Cert No: |  |
| Meter Class Accuracy: |  |
| Is Meter Bi-Directional: | ☐Yes ☐No |
| Current Rating: | \_\_\_\_ Amps |
| Meter Test Results: | ☐ Attached |
| Current Transformer (CT) Details | |
| \*CT Serial No. | 1.  2.  3. |
| CT Ratios Available: |  |
| CT Connected Ratio: |  |
| CT Burden (Rated): | \_\_\_\_\_\_ VA |
| CT Class: |  |
| CT Test Results | ☐ Attached |
| Voltage Transformer (VT) Details | |
| VT Arrangement: | 3 x 1Ph VT or  3Ph VT |
| \*VT Serial No. | 1.  2.  3. |
| VT Ratio: | \_\_\_\_\_KV / \_\_\_ V |
| VT Burden (Rated): | \_\_\_\_\_\_\_ VA |
| VT Class: |  |
| VT Test Results | Attached |

\* highlighted items are mandatory field to be provided for abolished (extinct) NMI’s

|  |  |  |
| --- | --- | --- |
| 3. Check METERING INSTALLATION DETAILS | | |
| Check metering type: | | ☐ Full check metering required  ☐ Partial check metering required  ☐ No check metering |
| Comment regarding Check Metering arrangement | |  |
| Meter Details | | |
| \*Meter Serial No: | |  |
| Meter Make & Model: | |  |
| Pattern Approval Cert No: | |  |
| Meter Class Accuracy: | |  |
| Is Meter Bi-Directional | | ☐Yes ☐No |
| Current Rating: | | \_\_\_\_ Amps |
| Meter Test Results | | ☐ Attached |
| Current Transformer (CT) Details | | |
| \*CT Serial No. | | 1.  2.  3. |
| CT Ratios Available: | |  |
| CT Connected Ratio: | |  |
| CT Burden (Rated): | | \_\_\_\_\_\_ VA |
| CT Class: | |  |
| CT Test Results | | ☐ Attached |
| Voltage Transformer (VT) Details | | |
| \*VT Arrangement: | | 3 x 1Ph VT or  3Ph VT |
| VT Serial No. | | 1.  2.  3. |
| VT Ratio: | | \_\_\_\_\_KV / \_\_\_V |
| VT Burden (Rated): | | \_\_\_\_\_\_\_ VA |
| VT Class: |  | |
| VT Test Results | Attached | |

\* highlighted items are mandatory field to be provided for abolished (extinct) NMI’s

|  |  |  |
| --- | --- | --- |
| 4. Participant Relationships In MSATS | | |
| Role ID | Participant ID | Participant Name |
| FRMP: |  |  |
| LNSP: |  |  |
| NSP2 |  |  |
| LR: |  |  |
| MDP / MPC: |  |  |
| MPB: |  |  |
| MC: |  |  |
| ROLR: |  |  |

🖈 Clearly mark attachments