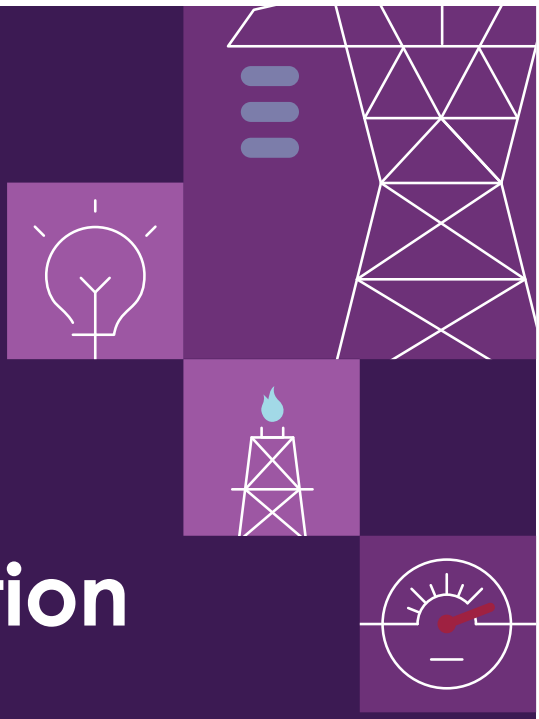

Generation Information Guidelines

Prepared by:	AEMO Forecasting
Version:	3.1
Effective date:	24 April 2023
Status:	Final

Approved for distribution and use by:

Approved by:	Merryn York
Title:	Executive General Manager, System Design
Date:	24 April 2023

Contents

Tables

Current version release details

Version	Effective date	Summary of changes
3.1	24 April 2023	Final Generation Information Guidelines to reflect: • Reliability forecasting guideline and methodology consultation draft report • Changes which are effective from 3 June 2024 under the National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13

Note: There is a full version history at the end of this document.

1. Introduction

1.1. Purpose and scope

(a) These *generation information guidelines* (Guidelines) are required under clause 3.7F(e) of the National Electricity Rules (NER), and must contain:

(i) the categories of information to be published on AEMO's *generation information page*;

(ii) the intervals at which updates to the *generation information page* will be published;

(iii) the manner, timing and format in which *key connection information* will be provided by *transmission network service providers* (TNSP) to AEMO; and

(iv) guidance regarding the evidence that AEMO may require to register a *project developer* and NER clause 3.13.3AA(c).

(b) These Guidelines have effect only for the purposes set out in the NER. The NER and the National Electricity Law prevail over these Guidelines to the extent of any inconsistency

1.2. Definitions and interpretation

Terms defined in the National Electricity Law, the NER and the National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13 (IESS Rule)[1] have the same meanings in these Procedures unless otherwise specified in this clause.

Terms defined in the NER and the IESS Rule are intended to be identified in these Procedures by italicising them, but failure to italicise a defined term does not affect its meaning.

In addition, the words, phrases and abbreviations in the table below have the meanings set out opposite them when used in these Procedures.

Table 1 Definitions

Term	Definition
AEMO	Australian Energy Market Operator Limited
ESOO	Electricity *statement of opportunities*
Forecast completion date	The date at which the connection applicant expects the generating units associated with the connection enquiry/application to be ready to commence commissioning activities under NER 5.7.3. Note that a date range (i.e. "Earliest expected forecast completion date" to "Latest expected forecast completion date") should be provided in the case where all generating units are not expected to commence commissioning on the same day. Also note that the "Earliest expected forecast completion date" is supporting information, and will not be included within the key connection information data published on the Generation Information Page.
Generator Survey	A process for the collection of information about existing *generating systems* and proposed generation projects from *Generators* and generation proponents for the purposes of the ESOO and associated *reliability forecasts*.
Guidelines	These *generation information guidelines*
KCI Submission Deadline	Each of 19 March, 19 June, 19 September and 19 December of each year.

[1] See https://www.aemc.gov.au/rule-changes/integrating-energy-storage-systems-nem

Term	Definition
NER	National Electricity Rules
TNSP	*Transmission Network Service Provider*
NSP	*Network Service Provider*

These Procedures are subject to the principles of interpretation set out in Schedule 2 of the National Electricity Law.

2. Background

2.1. Requirement for generation information page

The *generation information page* is an information resource to inform *Registered Participants* and other interested persons of the extent and nature of production units connected, or proposed to be connected, to the NEM.

2.2. Purpose of generation information page

In addition to its use as a general information resource, the *generation information page* also meets AEMO's obligation to publish updates of new information that materially changes the latest published ESOO, in particular:

(a) capabilities of existing *generating units* and *generating units* for which formal commitments have been made for construction or installation;

(b) capabilities of proposed *generating units* and *generating units* for which formal commitments have not been made for construction or installation, to the extent it is reasonably practicable to do so; and

(c) *planned plant retirements* (including *expected closure years* and *closure dates* for *generating units* in the ESOO outlook period).

The information provided to AEMO and published on the *generation information page* also informs other relevant AEMO planning and operational functions in addition to the ESOO, including the Integrated System Plan (ISP), and generation data inputs to the determination of *intra-regional loss factors* (MLFs).

3. Generation information page content and information sources

3.1. Generator Survey process

(a) AEMO requests production units, and known production unit proponents to complete Generator Surveys, which are used to collect information required for the preparation of each ESOO and updates to the ESOO. This forms part of the information-gathering process contemplated in NER clause 3.13.3A(d) and the *Reliability Forecast Guidelines*.

(b) The raw data collected via Generator Surveys relates to the subject matter of the ESOO (NER clause 3.13.3A(a)) and may be used for AEMO's other NER functions.

(c) AEMO conducts a comprehensive Generator Survey process annually, with updates requested quarterly, or as soon as practicable when there is a material change in the information previously provided. AEMO also requests new generation proponents to complete Generator Surveys as projects are identified through receipt of key connection information.

(d) All *Registered Participants* are required under NER clause 3.13.3A(e) to provide the requested information via the Generator Surveys Application in AEMO's Markets Portal. Access to this portal is provided on request to AEMO's Information and Support Hub.

(e) Should a participant responsible for a production unit become aware of material changes to the information it provided to AEMO in a Generator Survey, it must advise AEMO of the change as soon as practicable (NER clause 3.13.3A(f)). AEMO provides a user guide to assist participants to submit updates.

3.2. Public Generator Survey information

(a) The *generation information page* includes a public subset of the raw data collected via Generator Surveys, including information that has been aggregated from the raw data, and information that has been derived from the raw data via an algorithm. Both the aggregated and derived information is provided in place of the raw data, in order to protect *confidential information*.

(b) The collected information is processed to summarise existing and proposed *production units*, *generating systems*, or *integrated resource systems* by *NEM* Dispatch Type (i.e. scheduled (**S**), semi-scheduled (**SS**) and non-scheduled (**NS**)), according to seven broad "Summary Status" categories (Existing, Announced Withdrawal, Upgrade, Committed, Anticipated, Proposed and Withdrawn) for production units.

(c) The commitment criteria applied to determine whether a project is categorised within any of the production unit Summary Status of Proposed, Anticipated, or Committed, are published on the *generation information page*, under the 'Background Information' tab.

(d) The "Committed" Summary Status includes both the "Committed" and "Committed*" commitment status of new generation projects.

(e) The "Anticipated" Summary Status includes the "Anticipated" commitment status of new generation projects. New projects are assigned the Anticipated commitment status as defined in the ISP Methodology[2].

(f) The "Proposed" Summary Status includes the "Publicly Announced" commitment status of new projects.

(g) Information published on the *generation information page* for each combination of Dispatch Type and Summary Status category is shown in the table below.

(h) When production units are submitting their 10 year forecast of generation capacity, otherwise describe as 'scheduled capacity', they should submit only that capacity which can be made available within a 72-hour recall time requirement. Further, this submission

[2] For further detail see the ISP Methodology at https://aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp.

should consider temperature deratings consistent with the seasonal definitions in the submission request.

Table 2 Generation Information published according to Summary Status and NEM Dispatch Type

Summary Status	List of generating units	Project commitment status	10-year forecast of generation capacity	Changes in capability and service availability	Expected closure year
Existing	S, SS, NS	n/a	S, SS	S, SS, NS	S, SS
Announced Withdrawal	S, SS, NS	n/a	S, SS	S, SS, NS	S, SS
Upgrade	S, SS, NS	n/a	S, SS	S, SS, NS	S, SS
Committed	S, SS, NS	S, SS, NS	S, SS	S, SS, NS	S, SS
Anticipated	S, SS, NS	S, SS, NS	S, SS	S, SS	S, SS
Proposed	S, SS, NS	S, SS, NS	n/a	n/a	n/a
Withdrawn[2]	S, SS, NS	n/a	n/a	n/a	S, SS

3.3. Key connection information

(a) As required under NER clause 3.7F(b)(3), the *generation information page* will include *key connection information* received from *Connection Applicants* by TNSPs and provided to AEMO in accordance with the NER and these Guidelines.

(b) The *key connection information* will be published on the *generation information page* as a separate file.

3.4. Reconciliation of key connection information with the public Generator Survey information

(a) When a new Generator Survey is created, or an existing Generator Survey is modified, the proponent will be requested to identify the corresponding *key connection information* entries published on the *generation information page*, in order to assist with reconciliation.

(b) AEMO will reconcile the key connection information provided by TNSPs, with the Generator Survey information collected from Generators and known generation proponents, as identified by the proponent of the Generator Survey.

(c) Where conflicting information has been received, AEMO will give priority to the most recent data collected, in the absence of obvious error.

[2] Information regarding Withdrawn generating units is maintained within relevant tables for a period of up to 1 year after permanent withdrawal from Service.

4. Updating the generation information page

4.1. Timing of page updates

(a) Consistent with rule 3.7F(d), AEMO will publish updates to the *generation information page* at least quarterly.

4.2. Generators and project developers to update general information

(a) If a:

(i) *Generator* or *Integrated Resource Provider* (including a person registered as an *Intending Participant* in relation to a production unit); or

(ii) project developer

becomes aware that information (other than *key connection information*) on the *generation information page* in respect of its existing or proposed *generating system(s)* is inaccurate or misleading, incomplete or out of date, that person must give AEMO the information necessary to correct, complete or update the *generation information page* as soon as practicable and not more than 10 *business days* after becoming aware. This information is to be provided through the Generator Survey Application if the proponent has access to AEMO's Markets Portal, or by emailing **generation.information@aemo.com.au** otherwise.

(b) For *Registered Participants*, this requirement to update information under paragraph (a) is consistent with NER clause 3.13.3A(f).

4.3. Updating key connection information

(a) In accordance with NER clause 5.3.8(d1) or 5.3.8(e), a *Connection Applicant* must promptly notify its *Network Service Provider* of any material change to information contained in or relevant to a *connection enquiry* or an *application to connect* respectively. This includes any changes to *key connection information*.

Note: A person who has submitted a *connection enquiry* under NER rule 5.3 is a *Connection Applicant*, even if it has not yet made an *application to connect*.

(b) For these purposes, AEMO provides guidance in Table 3 on the type of changes to *key connection information* that should be considered material, noting that:

(i) these are examples only, and not exhaustive;

(ii) the information in a connection enquiry or an application to connect is significantly broader than key connection information; and

(iii) accordingly, these Guidelines do not describe or limit the materiality of a change in respect of information that is **not** *key connection information*, and this should be considered on an objectively reasonable basis.

Table 3 Material changes to key connection information

Category of key *connection information*	Indicative material change
Name, ABN and ACN of proponent	Any change of name, ABN or ACN of proponent
Type of *plant* in respect of each relevant *generating unit*	Any change of: • Generating Unit Energy Conversion Technology
Site location or preferred site location	Any change of: • Site Location Description, and / or • Latitude / Longitude coordinates more than 5 kilometres from previously advised preferred location
Maximum power *generation* of whole *plant*	Change to maximum power generation of ±5 megawatts.
Forecast completion date of proposed *connection*	Change to forecast completion date (earliest and / or latest) values, (where the original or revised Forecast completion date falls within the next 12 month period), by: a) one month or more, and / or b) the subsequent Financial Year in which the forecast completion date would occur.
Technology of each relevant generating unit	Change of Electricity Generation Technology Type and / or manufacturer
Other information relevant to a *connection enquiry* or *application to connect*	When a connection enquiry or application to connect is "Withdrawn"

(c) Requirements for TNSPs to provide *key connection information* to AEMO and update that information are set out in section 5.

5. Provision of key connection information to AEMO

5.1. Submission requirements

5.1.1. Initial requirements

TNSPs must set out *key connection information* and any supporting information required for verification and qualification purposes (see section 5.3) in a datafile in Microsoft Excel spreadsheet, and submit to AEMO via email to **nem.connections@aemo.com.au.**

The Excel spreadsheet must be password protected only if it contains any confidential information.

The filename will clearly set out the name of the TNSP.

The *key connection information* datafile will have a filename of the following format:

"TNSP Name" KCI datafile compiled NEMyyyymmddhhmm.xlsx

For example, for a *key connection information* datafile compiled by ElectraNet on 19 December 2019 at 0900 NEM Time, the datafile name would be "ElectraNet KCI datafile compiled NEM201912190900.xlsx"

This is important for reconciliation of any differences between different versions (i.e. compilations) of *key connection information* data received by AEMO.

5.2. Timing for provision

5.2.1. New and updated key connection information

(a) Without limiting paragraph (c) or (d), a TNSP must submit a *key connection information* datafile (compilation) to AEMO by each KCI Submission Deadline.

(b) The datafile must include *key connection information* contained in all:

(i) *connection enquiries* (where the maximum capacity of the proposed *generating system* is 5 MW or more);

(ii) *applications to connect* (where the maximum capacity of the proposed *generating system* is 5 MW or more) and

(iii) updates to the *key connection information* previously included in or with a *connection enquiry* or *application to connect* (where the maximum capacity of the proposed *production unit* is (or was) 5 MW or more),

received, in each case up to a cut-off date that is not more than 5 *business days* before the KCI Submission Deadline.

(c) In addition to the datafile to be submitted by the KCI Submission Deadline, a TNSP must notify AEMO within 5 *business days* if it is notified of a change of one month or more to the "Forecast completion date" of a *production unit*, where either the original or revised forecast completion date falls within the next 12 months.

(d) These Guidelines do not in any way limit the obligation of a TNSP (or any other *Registered Participant*) under NER clause 3.13.3A(f) to provide relevant information to AEMO as soon as practicable after it becomes aware of a material change to any information required for publication by AEMO under NER clause 3.13.3A(a), whether or not that change relates to *key connection information*.

(e) Where an *application to connect* relates to a previous *connection enquiry*, the same *key connection information* data entry (i.e. with the relevant "TNSP Connection Enquiry / Application ID") should be used, by changing the "KCI received in / under NER" value from "New connection enquiry (NER 5.3)" to "New application to connect (NER 5.3)".

5.2.2. Versions of key connection information datafiles received by AEMO

The *key connection information* datafile name must include the compilation (version) date time stamp, in the format "NEMyyyymmddhhmm". The compilation date time stamp indicates when that version of the *key connection information* datafile was compiled (i.e. re-confirmed, updated (where necessary), validated and saved) by the TNSP. It is a reflection of the currency of the data within the file itself. It should not be changed to reflect the time the data file is transmitted.

In addition:

(a) The value of the compilation date time stamp used by a TNSP must be unique.

This is to allow AEMO to identify successive versions of datafiles from a given TNSP, without having to open each file. It will also enable easy identification of duplicate files, if the same file is sent more than once.

(b) The compilation date time stamp in the datafile name must match the value in the *key connection information* data (worksheet) itself.

The compilation date time stamp will also be recorded in a designated cell within the Excel spreadsheet, i.e. within the *key connection information* datafile itself.

This requirement provides a means of certification that the data published in the *generation information page* was received within the datafile with that compilation date time stamp.

TNSPs must ensure they do not amend a key connection information datafile that has already been transmitted to AEMO and re-send it using the same compilation date time stamp.

5.3. Format

(a) Table 4 specifies the format in which the different elements of *key connection information* must be provided to AEMO. As indicated in Table 4, supporting information may also be required for AEMO to verify or qualify some aspects of *key connection information*. This supporting information is not of itself key connection information and will not be published on the generation information page. Supporting information is identified in the table with an asterisk and 'No' in the 'To be published' column.

(b) TNSPs must use best endeavours to ensure that *key connection information* complies with the required format, and is free from errors.

(c) AEMO will provide a template *key connection information* datafile (Excel spreadsheet) to TNSPs for use in email submission of KCI. The template will include a field to enter the compilation date time stamp, and another field to indicate the TNSP staff member for AEMO to contact in the event of any queries.

Table 4 Format of *key connection information* and supporting information to be provided by TNSPs

KCI Data Section	Data Field Name	Format or Values	To be published	Required for Connection Enquiries	Required for Applications to Connect
Compilation	TNSP Name	AEMO, ElectraNet, Powerlink, TasNetworks, TransGrid	Yes	N/A	N/A
	KCI datafile compilation date time stamp	dd/mm/yyyy hh:mm (NEM time)	Yes	N/A	N/A
Connection Enquiry / Application	TNSP Connection Enquiry / Application ID	Unique ID, TNSP's own format.	Yes	Yes	Yes
	KCI received in / under NER	New connection enquiry (NER 5.3), New application to connect (NER 5.3), Material change to connection enquiry (NER 5.3.8(d1)), Material change to application to connect (NER 5.3.8(e)), Non-material changes only.	Yes	Yes	Yes

KCI Data Section	Data Field Name	Format or Values	To be published	Required for Connection Enquiries	Required for Applications to Connect
	KCI data – Connection Applicant Notification Date	dd/mm/yyyy	Yes	Yes	Yes
	KCI data – TNSP Validation Date	dd/mm/yyyy	Yes	Yes	Yes
	Corresponding Connection Enquiry / Application Activity Status	Active, On-Hold, Withdrawn, Complete.	Yes	Yes	Yes
Connection Proponent	Organisation Name	Text	Yes	Yes	Yes
	ABN	eleven-digit, with or without spaces “00 000 000 000”	Yes	Yes	Yes
	ACN	nine-digit, with or without spaces “000 000 000”	Yes	Yes	Yes
Whole plant	Site Name	The (intended) Power Station Name.[3]	Yes	Yes	Yes
	Site Location Description	Minimum resolution of the description is the relevant Local Government Area (LGA).	Yes	Yes	Yes
	*Latitude	Degrees decimal (6 decimal places)	No	Yes	Yes
	*Longitude	Degrees decimal (6 decimal places)	No	Yes	Yes
	Region to be supplied	NSW1, QLD1, SA1, TAS1, VIC1, NT1	Yes	Yes	Yes
	Maximum power generation (Lower estimate)	Megawatts (Integer)	If provided	If provided	If provided
	Maximum power generation (Upper estimate)	Megawatts (Integer)	Yes	Yes	Yes
	*Earliest expected forecast completion Date	dd/mm/yyyy	No	If provided	If provided
	Latest expected forecast completion Date	dd/mm/yyyy	Yes	Yes	Yes
Individual Generating Unit	Energy Conversion Technology Type	See drop-down lists (Table 5)	Yes	Yes	Yes
	Energy Conversion Technology Sub Type (if known)	See drop-down lists (Table 5)	If provided	If provided	If provided
	Number of individual Generating Units[4] (Lower estimate)	Integer	If provided	If provided	If provided

[3] The Power Station Name to be entered within Section C of the Application for Registration as a Generator in the NEM.

[4] The individually controllable generating facilities registered or capable of being registered with AEMO, as related to the statement of opportunities prepared by AEMO. See definition of *plant* in NER Chapter 10. Please note for photovoltaic systems, generating units are taken to be the system’s inverters.

KCI Data Section	Data Field Name	Format or Values	To be published	Required for Connection Enquiries	Required for Applications to Connect
	Number of individual Generating Units[5] (Upper estimate)	Integer	Yes	Yes	Yes
	Electricity Generation Technology Type	Synchronous, Asynchronous	Yes	Yes	Yes
	*Electricity Generation Technology Manufacturer	Text	No	If provided	Yes
	Maximum power generation (Lower estimate)	Megawatts (up to 3 decimal places)	If provided	If provided	If provided
	Maximum power generation (Upper estimate)	Megawatts (up to 3 decimal places)	Yes	Yes	Yes
	Nameplate Capacity (Lower estimate)	MVA (up to 3 decimal places)	If provided	If provided	If provided
	Nameplate Capacity (Upper estimate)	MVA (up to 3 decimal places)	If provided	If provided	Yes

Table 5 Generating unit energy conversion technology drop-down lists

Energy Conversion Technology Type	Hydro	Reciprocating Engine	Solar PV	Solar Thermal	Storage	Turbine	Wind Turbine	Other
Energy Conversion Technology Sub Type	Dam	Compression ignition	Fixed	Central collector	Battery	CCGT	Onshore	Other
	Run of River	Spark ignition	Single axis tracking	Fresnel Trough	Pumped hydro	OCGT	Offshore	
	Tidal	Other	Dual axis tracking	Other	Thermal - Liquid	Steam Sub Critical	Other	
	Wave		Other		Thermal - Solid	Steam Super Critical		
	Other				Other	Other		

5.4. Victoria

AEMO is the transmission network planner in Victoria and manages connections to the Victorian transmission network. Accordingly, AEMO's Victorian connections team will fulfil the obligation to submit *key connection information.* AEMO will, however, liaise with TNSPs who are *Declared Transmission System Operators* in Victoria, as required, to fulfil the intent and processes of the Guideline.

[5] The individually controllable generating facilities registered or capable of being registered with AEMO, as related to the statement of opportunities prepared by AEMO. See definition of *plant* in NER Chapter 10. Please note for photovoltaic systems, generating units are taken to be the system's inverters.

6. Guidance on evidence required to be a project developer

NER clause 3.13.3AA(c) permits AEMO to identify a person as a *project developer* if AEMO "is reasonably satisfied by the evidence provided" that the person intends to develop *plant* to be connected to a *transmission or distribution system*, in respect of which another person (other than an *intermediary*) must or may be registered as a *Registered Participant.*

6.1. Guidance on AEMO's project developer assessment processes

AEMO will undertake a merit-based assessment of each application for identification as a *project developer* on a case-by-case basis. Assessment is conducted in relation to a specific project and identification as a *project developer* may be revoked under certain circumstances, such as when AEMO is no longer satisfied that development of the project is continuing or when the project is registered. Detailed information on the assessment process, including application form and guide, is available on AEMO's website.

Applicants for assessment as a *project developer* under clause 3.13.3AA(c) will be assigned an AEMO case manager to provide advice regarding the process following receipt of an application. AEMO representatives cannot, however, provide advice on the interpretation or application of the NER to individual circumstances.

6.2. Types of evidence

Please refer to AEMO's website for detailed guidance about the assessment process.

AEMO may require any information necessary in order to be satisfied that it is appropriate identify an applicant as a *project developer*. These requirements generally include:

(a) evidence that the applicant has a long-term arrangement in place to use the land on which the *plant* is to be built;

(b) evidence of a valid *connection enquiry* with the local NSP and a positive response from the NSP;

(c) sign-off from AEMO's connections team that the project has technical merit;

(d) a project plan, consistent with the development process in question, which demonstrates, to AEMO's satisfaction, an intent to progress the project to completion in a timely manner; and

(e) evidence of the applicant's relationship to the project, including its intention is to develop the project and then sell the asset to another person (a *project developer* must not intend to retain any ownership, operation or control of the *plant* after its *connection* to the national grid.

AEMO will, on an annual basis, require that the identification of the application as a *project developer* continues to be appropriate. The applicant must provide any information requested by AEMO to support *project developer* status, in order to avoid revocation. AEMO will

undertake these assessments as part of the annual audit of all *intending participants*, as required under NER clause 2.7(b).

Version release history

Version	Effective Date	Summary of Changes
3.1	24 April 2023	Final Generation Information Guidelines to reflect: • Reliability forecasting guideline and methodology consultation draft report • Changes which are effective from 3 June 2024 under the National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13
3.0		Draft Generation Information Guidelines to reflect: • Reliability forecasting guideline and methodology consultation draft report • Changes which are effective from 3 June 2024 under the National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13
2.1	7 July 2021	Minor change to Section 3.2 to reflect revised commitment status' as per latest ISP Methodology and outcomes of August 2020 FRG consultation.
2.0	23 July 2020	First Issue of Full Guidelines
1.0	5 December 2019	First Issue of Interim Guidelines