

07 August 2018

Mr John Pierce
Chairman
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Dear Mr Pierce

Register of Distributed Energy Resources Draft Rule Determination – ERC0227

Thank you for the opportunity to respond on the Australian Energy Market Commission's (AEMC) Draft Determination and Rule for the National Electricity Amendment (Register of Distributed Energy Resources) Rule 2018.

AEMO is supportive of the intent of the AEMC's draft Rule, which seeks to expand the collection and sharing of information about Distributed Energy Resources (DER) in the National Energy Market (NEM) in the form of a DER Register (the Register), to be implemented and maintained by AEMO. AEMO notes our *Visibility of DER Report* outlines the importance of DER visibility to power system security and reliability.

AEMO also supports the solution proposed in the Council of Australian Government's (COAG) initial rule change request, which was that a principles-based framework should be established within the National Electricity Rules (NER) to determine the types and capacity of DER that should be included in the Register. AEMO maintains that a technology-neutral approach supported by an adaptable framework that can evolve with ongoing changes in the power system, new technologies and changing business models, will be the most efficient and effective for industry.

AEMO has also provided some specific feedback on several other areas covered within the Draft Determination and Rule.

If you would like to discuss the contents of this submission further, please do not hesitate to contact Violette Mouchaileh, Group Manager Market Enhancement, on 03 9609 8551.

Yours sincerely



Peter Geers
Executive General Manager, Markets

Attachment 1 – Submission

Attachment 2 – Revised draft Rule

AEMO SUBMISSION – DRAFT DETERMINATION ON REGISTER OF DISTRIBUTED ENERGY RESOURCES

Attachment 1: AEMO Submission to Draft National Electricity Amendment (Register of distributed energy resources) Rule 2018

This submission outlines AEMO's broad support for the AEMC's Draft Determination and Rule for the National Electricity Amendment (Register of distributed energy resources) Rule 2018 and provides a proposed framework to utilise a principles-based approach to identify the DER to be specified for inclusion in the Register.

1. Obligations placed on AEMO

AEMO is supportive of the AEMC's proposed obligations placed on it to:

- Establish, maintain and update the Register;
- Establish, maintain and publish the Guidelines; and
- Share relevant Register information with other market participants and emergency services, in accordance with applicable privacy laws.

2. Principles-based framework which is technology neutral and adaptable to sectoral changes

AEMO agrees with the AEMC's view that the Rule should not include unnecessary prescription of technical or administrative matters, and further that onerous data collection obligations are not imposed on Network Service Providers (NSPs).

However, AEMO's position is that the draft Rule does not allow sufficient flexibility in the development of the Guidelines to define types of DER that are to be included in the Register (see proposed wording for clauses 3.7E(b)(3), (h)(3) and (h)(10) in Attachment 2).

AEMO contends that this rule change should be used as an opportunity to develop a broader, more encompassing strategy that can accommodate any future DER without the need for a subsequent rule change. By using the current approach, information requirements are constrained to generation and active load, whereas a less prescriptive approach would also enable AEMO visibility on other load relevant to AEMO's statutory obligations.

This approach would deliver a result where the Rules govern and outline what needs to be done, and AEMO, through industry consultation, identifies how to achieve the required outcome within the NER framework, on an ongoing basis.

Utilising a principles-based approach is important in defining what DER will, and will not, be collected for the purposes of the Register, while avoiding onerous data collection for NSPs and introducing extraneous information into the Register and reporting. Above all else, AEMO is seeking to implement a flexible framework that will allow it to maintain a contemporary approach to the Register content, keeping up with the pace of change more efficiently. This approach will provide the most timely and effective information to support decision making and market reform.

There are several examples in other parts of the NER which provide a principles-based approach to implementation of the Rules, three of which are provided below:

- **Example 1:** Given a head of power in the NER, the Credit Limit procedures¹ specify a set of factors to be used by AEMO to determine the prudential settings that apply to Market Participants. The prudential settings are a significant market mechanism, and clause 3.3.8(d)(10) enables AEMO to stipulate in these procedures ‘*any other factors that AEMO considers relevant having regard to the objective of the credit limit procedures under paragraph (b)*’². In doing so the NER establishes a framework that provides both limited scope, and flexibility, as to the additions that AEMO can incorporate into a procedure that has a significant impact on the market. A similar approach could be applied to the DER Register Rule to promote a proactive approach to drafting and maintaining the Guidelines.
- **Example 2:** The Network Support and Control Ancillary Services (NSCAS) tender guidelines Rule dictates that the guidelines must include ‘*the principles AEMO will apply in assessing NSCAS expressions of interest and NSCAS tenders*’³. In this instance the NER specify a list of mandatory inclusions in these guidelines, however, it also provides for ‘*any other matter considered appropriate by AEMO*’⁴. Whilst broader than the similar provision applicable to the Credit Limit Procedure, inclusion of a similar clause in the DER Register Rule would still establish a minimum framework within which AEMO must operate, while providing the requisite flexibility to have the DER Register remain contemporary.
- **Example 3:** A further example of less prescriptive terminology in the rules can be found for the Network Device Procedures⁵. In this instance, the NER detail which participants the procedures apply to, and when the procedures apply, while enabling the detailed content of the procedures to be determined by AEMO through consultation with industry.

3. AEMO use of Register information for power system security

A technology neutral framework is important due to the changing nature of load (and generation) being connected to the network, which will likely see an increase in inverter connected load devices. Such devices, visibility of their location and disturbance response settings, are important to managing system security in a similar manner to ‘generation’ DER - as detailed in AEMO’s *Visibility of DER Report*⁶.

AEMO also previously examined the importance visibility of inverter connected trip settings has to system security, in AEMO’s *Response of Existing PV Inverters to Frequency Disturbances* report⁷. This report was undertaken as power systems in other parts of the world identified a potential risk to system operation due to large numbers of photovoltaic (PV) system inverters simultaneously disconnecting from the grid in response to a frequency disturbance. The data collected indicated a low probability of inverters tripping in unison, as there is a spread in the frequency settings and timing of when inverters will trip. AEMO was only able to identify whether or not a security risk existed, and in-turn whether to manage it,

¹ Established under NER 3.3.8(d)

² NER 3.3.8(b)

³ NER 3.11.5(b)(7)

⁴ NER 3.11.5(b)(8)

⁵ NER 7.8.6(i)

⁶ AEMO, 2017. Available at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Reports/2016/AEMO-FPSS-program----Visibility-of-DER.pdf

⁷ AEMO, 2016. Available at: <https://aemo.com.au/-/media/Files/PDF/Response-of-Existing-PV-Inverters-to-Frequency-Disturbances-V20.pdf>

as the Clean Energy Regulator had been collecting information about PV inverters since 2010, and AEMO was able to survey the manufacturers.

Furthermore, the benefits and challenges of EV infrastructure to power system operations, and the need for visibility of this form of DER (including passive), has been further detailed in AEMO's submission to the Senate Select Committee on electric vehicles.⁸

4. AEMO use of Register information in load forecasting

AEMO supports the AEMC's position outlined in the draft determination that Register information should be considered in AEMO's load forecasting. However, AEMO is concerned that the draft Rule is overly prescriptive and does not allow sufficient flexibility to determine where it is appropriate to take Register information into account when developing load forecasts. For example, DER data reported by NSPs may only represent a subset of the total population of DER within the market, meaning that the Register information is a partial contributor to how AEMO assesses the impact of DER within its modelling processes. Further, while the Register will be a source for load forecasting for AEMO, there are other primary sources of participant provided information, outside of the register, that AEMO utilises.

AEMO considers that clause 3.7E(e) of the draft Rule should be modified (see Attachment 2) to enable it discretion when determining what information should be directly considered when developing load forecasts, or how it is applied within the forecasting model. Doing so is consistent with a *Reliability Frameworks Review* recommendation that a rule change be submitted that will require AEMO to consult on and prepare a new guideline that it will follow in developing and amending its forecasting methodologies⁹.

AEMO is supportive of the AEMC's proposed obligation for it to report on the extent to which Register information informs its load forecasts, or the performance of its power system security responsibilities.

5. Requirements for NSPs to provide data to AEMO

The draft Rule requires NSPs to provide DER generation information to AEMO. AEMO supports this collection framework given that there are existing processes for NSPs to be provided with this data by electrical installers at the time of installation. AEMO supports the utilisation of an existing data collection processes, which will be cost-effective for NSPs.

6. Data privacy requirements

AEMO notes that clause 3.7E(h)(9) is a new inclusion in the draft Rule. AEMO does not regard this provision as required. It overlaps in part with rule 8.6.6 (where AEMO is to develop and implement an information policy), and AEMO's Privacy Act obligations (such as the use of a Privacy Policy). In turn, clause 3.7E(i)(2) is viewed as sufficient in placing requirements on AEMO in relation to the unauthorised use or disclosure of confidential and personal information included in the DER Register.

⁸ AEMO, 2018. *AEMO Submission Senate Select committee on EVs*. Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Electric_Vehicles/ElectricVehicles/Submissions
⁹ AEMC, 2018. *Reliability Frameworks Review*, p iii. Available at: https://www.aemc.gov.au/sites/default/files/2018-07/Final%20report_0.pdf

7. Confidential information and emergency services agencies

Clause 3.7E(s) is a new inclusion in the draft Rule, and requires AEMO to use reasonable endeavours to ensure that any confidential information provided to an emergency services agency under this Rule is treated as confidential information by that agency.

AEMO will place conditions around the provision of the data, as standard operating procedure for such data provision, so to ensure that it is only provided as authorised. However, AEMO submits that an obligation on AEMO to ensure that the recipient of the data treats the data as confidential is an obligation unclear in scope in which AEMO cannot practically discharge. AEMO does not regard clause 3.7E(s) as necessary. Existing measures, such as the statutory obligation on AEMO to protect information under section 54 of the National Electricity Law, are regarded as sufficient.

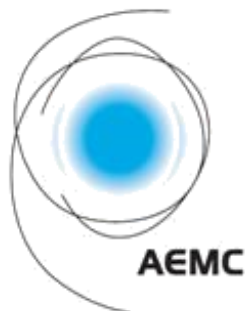
8. Provisional arrangements - AEMO to develop and publish DER Register Information Guidelines

The draft Rule requires that AEMO must make and publish the Guidelines by 1 June 2019.

AEMO is proposing that some flexibility in relation to the fixed date is prescribed that will make some allowance should complexities not anticipated during the Rule development occur and during the development and implementation of the Guideline with industry. AEMO has proposed that paragraph (a) of clause 11.XXX.2 be amended to read:

“By 1 June 2019, or as soon as reasonably practicable thereafter, *AEMO* must make and *publish* the first *DER register information guidelines* under new clause 3.7E and in doing so must comply with the *Rules consultation procedures*”.

Attachment 2:
Revised draft Rule



Draft National Electricity Amendment (Register of distributed energy resources) Rule 2018 No. X

under the National Electricity Law to the extent applied by:

- (a) the National Electricity (South Australia) Act 1996 of South Australia;
- (b) the Electricity (National Scheme) Act 1997 of the Australian Capital Territory;
- (c) the Electricity - National Scheme (Queensland) Act 1997 of Queensland;
- (d) the Electricity - National Scheme (Tasmania) Act 1999 of Tasmania;
- (e) the National Electricity (New South Wales) Act 1997 of New South Wales;
- (f) the National Electricity (Victoria) Act 2005 of Victoria;
- (g) the National Electricity (Northern Territory)(National Uniform Legislation) Act 2015; and
- (h) the Australian Energy Market Act 2004 of the Commonwealth.

The Australian Energy Market Commission makes the following Rule under the National Electricity Law.

John Pierce
Chairman
Australian Energy Market Commission

Draft National Electricity Amendment (Register of distributed energy resources) Rule 2018 No. X

1 Title of Rule

This Rule is the *Draft National Electricity Amendment (Register of distributed energy resources) Rule 2018 No. X*.

2 Commencement

Schedules 1 to 3 will commence operation on [COMMENCEMENT_DATE].

Schedule 4 will commence operation on [date rule is made].

3 Amendment of the National Electricity Rules

The National Electricity Rules are amended as set out in Schedule 1.

4 Amendment of the National Electricity Rules

The National Electricity Rules are amended as set out in Schedule 2.

5 Amendment of the National Electricity Rules

The National Electricity Rules are amended as set out in Schedule 3.

6 Savings and Transitional Amendments to the National Electricity Rules

The National Electricity Rules are amended as set out in Schedule 4.

Schedule 1 Amendment to the National Electricity Rules

(Clause 3)

[1] Rule 3.7D Demand side participation information

In clause 3.7D(a), omit the following definition:

- (a) **demand side participation information**

[2] Rule 3.7D Demand side participation information

In clause 3.7D(b), after “provide”, omit “demand side participation information” and substitute “*demand side participation information*”.

[3] Rule 3.7D Demand side participation information

In clauses 3.7D(c) and 3.7D(d), omit “demand side participation information” wherever it appears and substitute “*demand side participation information*”.

[4] Rule 3.7D Demand side participation information

In subclause 3.7D(e)(2), 3.7D(e)(3), 3.7D(e)(4) and 3.7D(e)(5), omit “demand side participation information” wherever it appears and substitute “*demand side participation information*”.

[5] Rule 3.7D Demand side participation information

In subclause 3.7D(f)(1), after “from the use of”, omit “demand side participation information” and substitute “*demand side participation information*”.

[6] Rule 3.7D Demand side participation information

After rule 3.7D, insert:

3.7E Register of DER information

Definitions

- (a) In this rule:

emergency means an emergency due to the actual or imminent occurrence of an event (such as fire, flood, storm, earthquake, explosion, accident, act of terrorism or cyber attack) that in any way endangers or threatens to endanger the safety or health of any person or animal, or that destroys or damages, or threatens to destroy or damage, any property.

emergency services agency means an agency or person prescribed, approved or accredited under jurisdictional emergency management legislation as an emergency services agency or equivalent (and

includes without limitation the relevant ambulance service, state emergency service, police force, fire and rescue service, community and rural fire agencies, and first responder agencies).

jurisdictional emergency management legislation means legislation of a participating jurisdiction that relates to the management of emergencies.

AEMO must establish a DER register

- (b) *AEMO* must establish, maintain and update a *DER register*. The *DER register*:
- (1) must include *DER generation information* reported to *AEMO* by *Network Service Providers* in accordance with paragraph (d);
 - (2) must include any *demand side participation information* provided to *AEMO* by *Registered Participants* in accordance with rule 3.7D(b) which in *AEMO*'s reasonable opinion will assist *Network Service Providers* to meet their *regulatory obligations or requirements*; and
 - (3) may include information (other than the information referred to in subparagraphs (1) and (2)) provided to *AEMO* by any person in connection with, or requested by *AEMO* of *Registered Participants* in connection with, the performance of *AEMO*'s statutory functions and which in *AEMO*'s reasonable opinion will assist *AEMO* or *Network Service Providers* to meet their *regulatory obligations or requirements*.
- (c) *AEMO* will be taken to satisfy the requirement to establish and maintain a *DER register* in paragraph (b) if it stores *DER register information* in one or more databases, including without limitation the databases it maintains under the *Market Settlement and Transfer Solution Procedures*.

Obligation on NSPs to provide DER generation information to AEMO

- (d) *Network Service Providers* must provide to *AEMO* in accordance with the *DER register information guidelines*, *DER generation information* in relation to *connection points* on their *network* which they are entitled to collect under the *Rules*, including but not limited to *DER generation information* they are entitled to collect under clauses 5.3.3(c)(4a), 5A.B.2, or 5A.C.3.

AEMO may use DER register information in performing its functions

- (e) *AEMO* ~~is permitted to use~~ must take into account *DER register information* when developing ~~or using~~ *load forecasts*.
- (f) For the avoidance of doubt, *AEMO* may use *DER register information* for the purpose of the exercise of its statutory functions

under the *National Electricity Law* or *Rules*, including performing its *power system security* responsibilities.

Note

Under section 53D of the *National Electricity Law*, AEMO may use information it collects under the Rules for any purpose connected with its statutory functions unless otherwise specified in the *National Electricity Law*, these Rules or the Regulations made under the *National Electricity Law*.

- (g) AEMO must *publish* details, no less than annually, on the extent to which, in general terms, *DER register information* has informed AEMO's development or use of *load* forecasts, or the performance of its *power system security* responsibilities under the *Rules*.

DER register information guidelines

- (h) AEMO must develop, maintain and *publish* guidelines that specify:
- (1) details of the *DER generation information* that *Network Service Providers* must provide to AEMO under paragraph (d), including any minimum size of *small generating units* for which a *Network Service Provider* is required to provide *DER generation information*;
 - (2) the type of *demand side participation information* provided to AEMO by *Registered Participants* under rule 3.7D(b) that AEMO will include in the *DER register*;
 - (3) the principles AEMO will apply in assessing the type of information to be provided to AEMO under rule 3.7E(b)(3) that AEMO will include in the DER register;
 - ~~(3)~~(4) when *Network Service Providers* must provide and update *DER generation information*;
 - ~~(4)~~(5) how *DER generation information* should be provided to AEMO by *Network Service Providers*, including, for example:
 - (1) the format in which the information must be provided; and
 - (2) any additional information AEMO requires to assess the accuracy of the information;
 - ~~(5)~~(6) how the information in the *DER register* is stored by AEMO;
 - ~~(6)~~(7) the manner and form in which AEMO will *publish* details, in accordance with paragraph (g), on the extent to which *DER register information* has informed its *load* forecasts or the performance of its *power system security* responsibilities;
 - ~~(7)~~(8) details of how AEMO will provide *Network Service Providers* with access to *DER register information* under paragraph (o);

~~(8)~~⁽⁹⁾ the contents, form and timing of the *DER register report* to be published by *AEMO* in accordance with paragraph (m) and how the *DER register information* to be included in that report will be aggregated; and

(10) any other matter considered appropriate by *AEMO*.

~~*AEMO's approach to the protection of any confidential information and personal information contained in the *DER register*.*~~

- (i) In developing and amending the *DER register information guidelines*, *AEMO* must:
- (1) have regard to the reasonable costs of efficient compliance by *Network Service Providers* with the guidelines compared to the likely benefits from the use of *DER generation information* as contemplated under this rule 3.7E;
 - ~~(2)~~ consider any risk of unauthorised use or disclosure of *confidential information* or personal information that may arise from including information in the *DER register* compared to the likely benefits of including that information in the register; and
 - ~~(2)~~
 - ~~(3)~~
 - ~~(4)~~⁽³⁾ subject to paragraph (j), comply with the *Rules consultation procedures*.
- (j) *AEMO* is not required to comply with the *Rules consultation procedures* when making minor or administrative amendments to the *DER register information guidelines*.
- (k) The *DER register information guidelines* must include a minimum period of 3 months between the date of *publication* and the date when the guidelines commence other than when the guidelines are amended under paragraph (j), in which case the guidelines may commence on the date of *publication*.
- (l) There must be *DER register information guidelines* in place at all times after the first *DER register information guidelines* are published by *AEMO* under these *Rules*.

Reporting by *AEMO*

- (m) *AEMO* must prepare and publish on its website a report of aggregated *DER register information* (*DER register report*) in accordance with the *DER register information guidelines*.
- (n) The information in the *DER register report* must be aggregated such that it does not:
- (1) directly or indirectly disclose *confidential information*; or

- (2) result in a breach of applicable privacy legislation.

Enabling access to DER register information

- (o) *AEMO* must provide or give access to *DER register information* to each *Network Service Provider* in relation to that *Network Service Provider's network* in accordance with the *DER register information guidelines*.
- (p) A *Network Service Provider* must only use the *DER register information* it receives or accesses under paragraph (o) for the purposes of meeting a *regulatory obligation or requirement*.
- (q) Any information received or accessed by a *Network Service Provider* under paragraph (o) must be treated as *confidential information* by the *Network Service Provider*.

AEMO may provide DER register information to emergency services

- ~~(r)~~—If requested by an *emergency services agency*, *AEMO* may provide relevant *DER register information* to that *emergency services agency* for the purpose of the agency's response to an *emergency* or for planning in relation to *emergency responses*.

~~(s)(r) *AEMO* must use reasonable endeavours to ensure that any confidential information it discloses to an emergency services agency under paragraph (r) is treated as confidential information by the emergency services agency.~~

Protection of DER register information

- (t) Nothing in this rule 3.7E:
- (1) requires *AEMO* to make available *DER register information* where the collection, use or disclosure of that information by *AEMO* would breach applicable privacy laws; or
- (2) precludes *AEMO* from disclosing *confidential information* in the circumstances in which disclosure of confidential information is ~~permitted~~ authorised under the *National Electricity Law* or these *Rules*.

Schedule 2 Amendment to the National Electricity Rules

(Clause 4)

[1] Clause 5.3.3 Response to connection enquiry

After clause 5.3.3(c)(4), insert:

- (4a) *DER generation information* that the *Network Service Provider* requires;

[2] Clause 5A.B.2 Proposed model standing offer for basic connection services

In clause 5A.B.2(b)(7)(iii), omit “.” and substitute “; and”

[3] Clause 5A.B.2 Proposed model standing offer for basic connection services

After clause 5A.B.2(b)(7)(iii), insert:

- (iv) the *DER generation information* that the *Distribution Network Service Provider* requires.

[4] Clause 5A.B.4 Standard connection services

After clause 5A.B.4(c)(1), insert:

- (1a) the *DER generation information* that the *Distribution Network Service Provider* requires; and

[5] Clause 5A.C.3 Negotiation framework

After clause 5A.C.3(a)(1), insert:

- (1a) the *connection applicant* must, at the request of the *Distribution Network Service Provider*, provide the *Distribution Network Service Provider* with *DER generation information*.

[6] Clause 5A.C.3 Negotiation framework

In clause 5A.C.3(b)(1), omit “paragraph (a)(2) and substitute “paragraphs (a)(1a) or (a)(2)”.

[7] Schedule 5A.1 Minimum content requirements for connection contract

Part B Connection offer involving embedded generation

After paragraph (a)(2) of Part B of Schedule 5A.1, insert:

- (2a) details of the *DER generation information* required to be provided to the *Distribution Network Service Provider* by the *embedded generator*; and

Schedule 3 Amendment to the National Electricity Rules

(Clause 5)

[1] Chapter 10 New Definitions

In Chapter 10, insert the following new definitions in alphabetical order:

demand side participation information

Information referred to in clause 3.7D(e)(1).

DER generation information

Standing data in relation to a *small generating unit*.

DER register

The register established and maintained by *AEMO* in accordance with rule 3.7E.

DER register information

The information contained in the *DER register*.

DER register information guidelines

Guidelines made, amended and *published* by *AEMO* in accordance with clauses 3.7E(h) to (l).

DER register report

The report of aggregated *DER register information* required to be developed and *published* by *AEMO* under clause 3.7E(m).

Schedule 4 Savings and Transitional Amendments to the National Electricity Rules

(Clause 6)

[1] Chapter 11 Savings and Transitional Amendments to the National Electricity Rules

After Part ZZZ[X], insert:

Part ZZZ[X] Register of distributed energy resources

11.XXX Rules consequential on the making of the National Electricity Amendment (Register of distributed energy resources) Rule 2018

11.XXX.1 Definitions

For the purposes of this rule 11.XXX:

Amending Rule means the *National Electricity Amendment (Register of distributed energy resources) Rule 2018*.

commencement date means [the date of commencement of Schedules 1 to 3 of the Amending Rule].

New clause 3.7E means clause 3.7E of the *Rules* as will be in force immediately after the commencement date.

11.XXX.2 AEMO to develop and publish DER register information guidelines

- (a) By 1 June 2019 or as soon as reasonably practicable thereafter, AEMO must make and *publish* the first *DER register information guidelines* under new clause 3.7E and in doing so must comply with the *Rules consultation procedures*.

11.XXX.3 NSPs to provide AEMO with existing DER generation information

- (a) No later than 3 months after AEMO *publishes* the first *DER register information guidelines* under clause 11.XXX.2, *Network Service Providers* must provide AEMO with all information that they hold which would be *DER generation information* under the Amending Rule.
- (b) *DER generation information* provided to AEMO under paragraph (a) must be provided in the form and manner specified in the *DER register information guidelines*.

- (c) Despite paragraph (a), a *Network Service Provider* is not required to provide to *AEMO DER generation information* under paragraph (a) where the collection, use or disclosure of that information by *Network Service Providers* would breach applicable privacy laws.
-