

HANGE CHANGE

Australian Energy Market Commission

RULE DETERMINATION

National Electricity Amendment (Publication of zone substation data) Rule 2014

Rule Proponent

National Generators Forum

13 March 2014

For and on behalf of the Australian Energy Market Commission

Inquiries

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Reference: ERC0156

Citation

AEMC 2014, Publication of zone substation data, Rule Determination, 13 March 2014, Sydney

About the AEMC

The Council of Australian Governments (COAG), through its then Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. In June 2011, COAG established the Standing Council on Energy and Resources (SCER) to replace the MCE. The AEMC has two main functions. We make and amend the national electricity, gas and energy retail rules, and we conduct independent reviews of the energy markets for the SCER.

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Summary

The Australian Energy Market Commission (AEMC or Commission) has determined to make a rule (the rule as made), requiring Distribution Network Service Providers (DNSPs) to provide historical zone substation load data to requesting parties. The Commission considers the rule as made will add to transparency of information, and will allow interested parties to undertake empirical analysis and prepare forecasts of electricity demand at the sub-regional level, should they wish to do so. This could lead to more informed decision making and timely and efficient investments which would be in the long term interests of consumers with regards to the operation and use of electricity services.

Zone substations form part of the electricity distribution system and connect the higher voltage sub-transmission network with the lower voltage distribution network.

The National Generators Forum (NGF) requested a rule change to amend the National Electricity Rules (NER) that would require DNSPs to publish, on their websites, historical electricity load data at half-hourly intervals, for all zone substations within their networks. The NGF proposed that zone substation data be provided on an annual basis and, where available, for each of the preceding ten years.

The rule as made introduces a new rule in Chapter 5 of the NER, under which:

- DNSPs are required to provide historical zone substation load information in its raw form, where this data is available;
- DNSPs are required to publish on their websites information on how a person may request historical zone substation load information;
- interested parties are able to request from DNSPs historical zone substation load information as:
 - a once-only report, providing data for the preceding ten years from the commencement date of the final rule; and/or
 - an annual report, providing data for the most recently completed year for which data is available;
- DNSPs are not required to provide data, if in the reasonable opinion of the DNSP, that information is confidential or commercially-sensitive to a third party;
- data recipients are required to acknowledge that:
 - any zone substation information provided by DNSPs is provided as raw data;
 - DNSPs have not analysed, assessed or validated the quality or accuracy of the historical data; and

- DNSPs make no warranty or guarantee as to the data's quality or suitability for any particular purpose.
- DNSPs are able to charge a fee for the provision of the data, which must not exceed the reasonable costs anticipated to be incurred by a DNSP in providing the data.

The rule as made commences on 13 March 2014. However, as noted above, a DNSP is not required to comply with rule 5.13A until its first DAPR date after the rule commences.

The rule as made is the same as the draft rule, except that it:

- includes a transitional provision that provides that a DNSP's obligations under the rule is to commence on the date that it is required to publish its next distribution annual planning report (DAPR date);
- includes a provision that clarifies that a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the new rule 5.13A; and
- no longer provides an example in the rules of additional information relating to load at the zone substation that the DNSP may wish to provide (for example, apparent power, reactive power, or power factor). This example is now included in a note in the rules.

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1 National Generators Forum's rule change request

1.1 The rule change request

On 24 January 2013, the National Generators Forum (NGF) (rule proponent) made a request to the Australian Energy Market Commission (Commission) to make a rule regarding the publication of zone substation data (rule change request). In this rule change request, the NGF sought to amend the National Electricity Rules (NER) by requiring Distribution Network Service Providers (DNSPs) to publish historical annual electricity load data for all zone substations within their networks.

1.2 Rationale for the rule change request

The purpose of the NGF's rule change request is for DNSPs to provide zone substation load data that would facilitate the modelling of the key determinants of electricity demand changes at the sub-regional level by recipients of the data.

The key issues that the NGF sought to address were:¹

- that there is not sufficient granularity in existing published data to undertake any
 valid empirical assessment of the key factors that are driving changes in
 electricity demand; and
- that by providing access to detailed historical load data at the sub-regional level, any interested party would be able to undertake or commission its own forecasts of electricity demand, independently of the Australian Energy Market Operator (AEMO).

1.3 Solution proposed in the rule change request

The rule proponent proposed to resolve the issues discussed above by requesting the AEMC to make a rule that introduces an additional requirement for DNSPs in the 'distribution annual planning report' process (Chapter 5, schedule 5.8 of the NER).

Specifically, the proposed rule would require DNSPs to include in their distribution annual planning report (DAPR) a website address, where:²

- half-hourly load data for all zone substations within each of their respective distribution systems is available;
- the DNSPs provide this data on an annual basis and, where available, for each of the preceding ten years and update it annually; and
- the DNSPs publish this data on their websites.

NGF, rule change request and cover letter, 24 January 2013, pp.1-2.

NGF, rule change request and cover letter, 24 January 2013, p.3.

1.4 Background

For the purpose of providing context and to support stakeholders' understanding of this rule change request, this section provides information on:

- definitions of key terms;
- DNSP reporting processes;
- electricity demand information published by AEMO that is relevant to this rule change proposal; and
- the related NGF proposal to AEMO for the publication of connection point data.

1.4.1 NER definitions

This rule change request relates to zone substations in an electricity distribution network. Zone substations form part of the distribution system and are used to provide the network link between the sub-transmission network and elements of the distribution system.³

The NER defines:

- a zone substation as:⁴
 - "...a substation for the purpose of connecting a distribution network to a sub-transmission network."
- a distribution network as:⁵
 - "...a network which is not a transmission network."
- sub-transmission as:⁶

"...any part of the power system which operates to deliver electricity from the transmission system to the distribution network and which may form part of the distribution network, including zone substations."

2

A distribution system consists of a distribution network and associated connection assets and is connected to another transmission or distribution system (Chapter 10 of the NER).

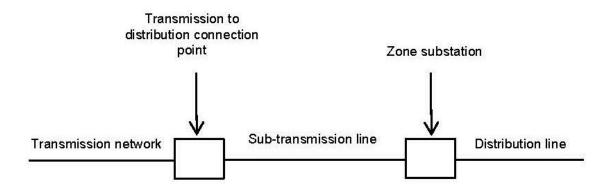
⁴ Clause 5.10.2 of the NER.

Chapter 10 of the NER. A transmission network is a network within any participating jurisdiction operating at nominal voltages of 220 kV and above. It may also be any part of a network operating at nominal voltages between 66 kV and 220 kV that either: operates in parallel to and provides support to the higher voltage transmission network; or is deemed by the AER to be part of the transmission network (Chapter 10 of the NER).

⁶ Clause 5.10.2 of the NER.

Figure 1.1 illustrates the relationship between a zone substation and the transmission network, sub-transmission line and distribution line.

Figure 1.1



1.4.2 Distribution annual planning review and reporting

This rule change request also relates to the distribution annual planning review (or DAPR) and reporting process, which is set out in Chapter 5 of the NER.⁷

The DAPR and reporting process was the subject of a rule change completed by the AEMC in October 2012.⁸

As part of this process, DNSPs are required to undertake annual planning reviews, covering a minimum forward planning period of five years, for the purpose of supporting these businesses in making efficient planning decisions. The planning review must include all distribution assets and activities undertaken by the distribution businesses that would be expected to have a material impact on their networks.⁹

DNSPs are also required to publish a DAPR. The DAPR sets out the outcomes of the annual planning review and is to include information on forecasts (including capacity and load forecasts for transmission to distribution connection points, sub-transmission lines and zone substations) and system limitations. As shown in Table 1.1, each DNSP is required to publish its DAPR by the date specified by the relevant jurisdictional government.¹⁰

⁷ Schedule 5.8 of the NER.

AEMC, Final rule determination, National Electricity Amendment (Distribution Network Planning and Expansion Framework) rule 2012, 11 October 2012.

AEMC, Final rule determination, *National Electricity Amendment (Distribution Network Planning and Expansion Framework)* rule 2012, 11 October 2012, pp.i-ii.

AEMC, Final rule determination, *National Electricity Amendment (Distribution Network Planning and Expansion Framework)* rule 2012, 11 October 2012, p.ii.

Table 1.1 DAPR publication dates for DNSPs, by jurisdiction

Jurisdiction	DAPR publication due date
New South Wales	31 December
Victoria	31 December
Australia Capital Territory	31 December
South Australia	31 December
Queensland	30 September
Tasmania	30 June

The NGF submitted that, while DNSPs are required to provide analysis and explanation of any aspects of the forecasts and information in the DAPRs that have changed significantly from the previous year, they are not required to report any historical data on loading levels for particular assets on a regular basis. It noted that licence conditions in some jurisdictions had previously required DNSPs to publish peak load levels for various distribution assets including zone substations. ¹¹

1.4.3 AEMO's published electricity demand information

AEMO currently publishes electricity demand for the five regions of the National Electricity Market (NEM), namely: New South Wales/Australian Capital Territory; Victoria; Queensland; South Australia; and Tasmania. This includes both forecast annual demand data (for the next 10 years) and historical monthly demand data (extending back to December 1998). Demand forecasts are published annually in the National Electricity Forecasting Report (NEFR) and in the Electricity Statement of Opportunities (ESOO).¹²

1.4.4 Publication of connection point data proposal

As a separate matter to this rule change request, the NGF has also requested AEMO to publish half-hourly electricity demand data at the connection points between a transmission network and a distribution network.

As the transmission to distribution connection point is a level above the zone substation level in the supply chain, there is less granularity in electricity demand data at connection points than at zone substations. Given that zone substation load data provides a greater level of detail, it may be possible from this data to analyse electricity demand trends at a more localised level, than what otherwise may be achieved using the transmission to distribution connection point data.

NGF, rule change request and cover letter, 24 January 2013, p.8.

¹² See www.aemo.com.au

In August 2012, in response to the NGF's request for connection point demand data, AEMO published a consultation paper. AEMO sought comment on its proposal to release two years of historical connection point data and all actual data as it became available. It also proposed to aggregate connection points where there are three or fewer customers receiving supply from that metering point.¹³

In December 2012, AEMO published a response paper addressing issues raised by stakeholders in their submissions. AEMO noted that while most stakeholders were supportive of the proposal, some expressed concerns that commercially-sensitive information may be disclosed. Also, in response to concerns about costs of publication relative to the likely benefits to be gained, AEMO suggested that the benefits of publishing the data would be considerable given the significant recent changes in demand and the effects of these changes on future investment decisions. It also suggested that costs for the initial upload to their website of historical data would be relatively small.¹⁴

The AEMC understands that, at the time of writing, AEMO is currently developing a business case to determine the feasibility of the connection point data proposal and will further consult with stakeholders on the aggregation criteria. ¹⁵

In their rule change request, the NGF submitted that, while it is supportive of the publication of connection point data, it considered that the publication of zone substation data offers the additional benefit of providing a more complete cross section of customer types throughout the NEM, particularly at the residential level where changes in peak demand may be occurring. Also, the NGF suggested that there are more zone substations than connection points in the NEM. It considered that implementing the proposed rule change would provide time series data which would be annually updated and could be used for meaningful statistical analysis. ¹⁷

1.5 Commencement of rule making process

On 26 April 2013, the Commission published a notice under section 95 of the National Electricity Law (NEL) advising of its intention to commence the rule making process and the first round of consultation in respect of the rule change request. A consultation paper on the rule change request was also published at the time by the AEMC, identifying specific issues or questions for stakeholder comment. ¹⁸

AEMO, Proposal to publish connection point demand data, 30 August 2012, p.4.

¹⁴ AEMO, Proposal to publish connection point demand data: response to stakeholder submissions, 10 December 2012, p.4.

AEMO, Proposal to publish connection point demand data: response to stakeholder submissions, 10 December 2012, p.4.

The proponent estimates that there are 1,500 zone substations in the NEM (NGF, rule change request and cover letter, 24 January 2013, p.3).

NGF, rule change request and cover letter, 24 January 2013, p.7.

Submissions on the consultation paper closed on 24 May 2013.

In response to the consultation paper, the Commission received 20 submissions. ¹⁹ A summary of the issues raised in stakeholders' submissions, and the Commission's response to each issue is contained in Appendix A.1.

1.6 Extension of time

On 1 August 2013, the Commission gave notice, under section 107 of the NEL, to extend the period of time for the making of the draft rule determination to 5 December 2013. The Commission decided to extend the period to allow time for the rule proponent to investigate the quality of data that is currently able to be produced by DNSPs and its fitness for purpose. This was in response to concerns raised in submissions to the consultation paper with regards to data quality and availability. Also, some stakeholders questioned the suitability of the DNSP data that the NGF has requested to be published.

The NGF was provided with sample raw data sets from four DNSPs, which was co-ordinated by the Energy Networks Association (ENA). Following the NGF's investigations of these data sets, the Commission facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the National Electricity Objective (NEO). The outcome of discussions between the NGF and ENA was general support for a set of key parameters for the provision of data.²⁰

1.7 Draft rule determination and draft rule

On 5 December 2013, the Commission published a notice under section 99 of the NEL and a draft rule determination in relation to the rule change request (draft rule determination). The draft rule determination included a draft rule.²¹

The Commission received seven submissions on the draft rule determination. These submissions are available on the AEMC website²². A summary of the issues raised in submissions, and the Commission's response to each issue, is contained in Appendix A.2.

Publication of zone substation data

¹⁹ These submissions are available on the AEMC website www.aemc.gov.au.

ENA, letter to AEMC, 25 October 2013, p.1.

²¹ Submissions on the draft rule determination closed on 30 January 2014.

²² www.aemc.gov.au

2 Final rule determination

2.1 Commission's determination

In accordance with section 102 of the NEL the Commission has made this final rule determination in relation to the rule proposed by the NGF (the rule proponent). In accordance with section 103 of the NEL, the Commission has determined to make, with amendments, the rule proposed by the NGF.²³ The rule as made is the same as the draft rule, except that it:

- includes a transitional provision that provides that a DNSP's obligations under the rule is to commence on its next DAPR date;
- includes a provision that clarifies that a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the new rule 5.13A; and
- no longer provides an example in the rules of additional information relating to load at the zone substation that the DNSP may wish to provide (for example, apparent power, reactive power, or power factor). This example is now included in a note in the rules.

The Commission's reasons for making this final rule determination are set out in section 3.1.

The *National Electricity Amendment (Publication of zone substation data) Rule 2014 No 1* (rule as made) is published with this final rule determination. The rule as made commences on 13 March 2014. Its key features are described in section 3.2.

2.2 Commission's considerations

In assessing the rule change request, the Commission considered:

- the Commission's powers under the NEL to make the rule;
- the rule change request;
- the fact that there is no relevant Ministerial Council on Energy (MCE) Statement of Policy Principles;²⁴

Under section 103(3) of the NEL the rule that is made in accordance with section 103(1) need not be the same as the draft of the proposed rule to which a notice under section 95 relates or the draft of a rule contained in a draft rule determination.

²⁴ Under section 33 of the NEL, the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. In September 2011, the Council of Australian Governments created the Standing Council of Energy and Resources, which includes Ministers responsible for energy. These Ministers comprise the membership of the legally enduring MCE.

- submissions received during the first and second round of consultation;
- the outcome of discussions between the NGF and ENA;²⁵ and
- the Commission's analysis as to the ways in which the proposed rule will, or is likely to, contribute to the National Electricity Objective (NEO).

2.3 Commission's power to make the rule

The Commission is satisfied that the rule as made falls within the subject matter about which the Commission may make rules. The rule as made falls within section 34(1)(a)(iii) of the NEL which relates to: "the activities of persons (including registered participants) participating in the national electricity market or involved in the operation of the national electricity system".

2.4 Rule making test

Under section 88(1) of the NEL, the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO. This is the decision making framework that the Commission must apply.

The NEO is set out in section 7 of the NEL, as follows:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system."

For this rule change request, the Commission considers that the relevant aspect of the NEO relates to the efficient operation of, and investment in, electricity services for the long term interests of consumers of electricity with respect to the price, reliability and security of the national electricity system.²⁶

The Commission is satisfied that the rule as made will, or is likely to, contribute to the achievement of the NEO because:

• greater transparency of information such as the provision of electricity demand data, has the potential, in various ways, to improve the decision making of market participants. The availability of zone substation load data may, for

²⁵ ENA, letter to AEMC, 25 October 2013, pp.1-4.

Under section 88(2), for the purposes of section 88(1) the AEMC may give such weight to any aspect of the NEO as it considers appropriate in all the circumstances, having regard to any relevant MCE Statement of Policy Principles.

example, inform generators and providers of demand side management,²⁷ thereby providing them with a better understanding of the factors that may drive electricity demand. This may lead to improved decision making likely leading to greater efficiency in the operation and use of electricity services, which would be in the long term interests of consumers.

Under section 91(8) of the NEL, the Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of AEMO's declared network functions. The rule as made is compatible with AEMO's declared network functions because it is unrelated to them, and therefore it does not affect the performance of these functions.

Demand side management is the modification of consumer demand for electricity through various methods such as financial incentives and education. Usually, the goal of demand side management is to encourage the consumer to use less energy during peak hours, or to move the time of energy use to off-peak times.

3 Commission's reasons

The Commission has analysed the rule change request and assessed the issues arising from it. For the reasons set out below, the Commission has determined to make a rule. Its analysis of the NGF's proposed rule and the key features of the rule as made are also set out below.

3.1 Assessment of issues

In submitting the rule change request, the NGF sought to require DNSPs to publish historical annual electricity load data for all zone substations in their networks. DNSPs record this data for their own operational purposes and it is currently not publically available. The purpose of the NGF's rule change request is for DNSPs to provide zone substation load data that would facilitate the modelling of the key determinants of electricity demand changes at the sub-regional level, by recipients of the data.

The key issues that the NGF sought to address were:²⁸

- that there is not sufficient granularity in existing published data to undertake any
 valid empirical assessment of the key factors that are driving changes in
 electricity demand; and
- that by providing access to detailed historical load data at the sub-regional level, any interested party would be able to undertake or commission its own forecasts of electricity demand, independently of AEMO.

In assessing the proposed rule, the Commission considered the quality and availability of zone substation data and the provision of this data. The Commission also considered other issues related to data confidentiality and the requested provision of single line diagrams that were raised by stakeholders in consultation. In considering these issues, the Commission considered the views of the rule proponent and stakeholders, as well as the outcome of discussions between the NGF and ENA, prior to the making of this final rule determination.²⁹

In considering stakeholders' views, the Commission acknowledges that there are issues with regards to the quality and availability of historical zone substation data. It also recognises that not all zone substations are metered for half-hour energy data, and that where data is recorded and collected, the data series may not necessarily extend back for ten years, nor be continuous.

Despite the data limitations, the Commission considers that the provision of raw zone substation load information, on request, is a practical and low cost approach to making data available for use in empirical analysis and/or the forecasting of electricity

NGF, rule change request and cover letter, 24 January 2013, pp.1-2.

²⁹ ENA, letter to AEMC, 25 October 2013, pp.1-4.

demand. For this reason, the Commission has decided to make a rule that requires DNSPs to provide raw zone substation load information where this data is available.

With respect to concerns regarding the public release of data which could reasonably be considered as confidential or commercially-sensitive to third parties, the Commission considers that DNSPs are in the best position to deal with issues of confidentiality. This is because the DNSPs may have individual contractual relationships with large customers supplied directly from their zone substations that may include data confidentiality obligations. To disclose such data may allow competing customers to decipher commercially-sensitive information, such as production costs and volumes. Also, the DNSPs have detailed knowledge of their networks which could assist in making judgements with respect to possible data aggregation so as to minimise the risk of confidential information being publically released.

With respect to the requested provision of single line diagrams, which show schematically how zone substations are linked together in the distribution network, the Commission considers that DNSPs should not be required to provide this information under the rule as made. The Commission considers that the provision of additional detailed information that may be contained in the single line diagrams is not warranted when balanced against the security concerns that may flow from the provision of such information.

3.2 Key features of the rule as made

The Commission has made a rule that requires DNSPs to provide historical zone substation load information on request. This data, where it is available, is to be provided for a period of up to ten reporting years prior to the commencement date of the rule as made, and on an annual basis.

The rule as made inserts a new rule 5.13A after clause 5.13.2 of the NER which sets out the requirements for the provision of distribution zone substation data.

The key features of the rule as made are that it:

- requires DNSPs to provide historical zone substation load information in its raw form, where this data is available;
- requires DNSPs to publish on their websites information on how a person may request historical zone substation load information;
- allows for interested parties to request from DNSPs historical zone substation load information as:
 - a once-only report, providing data for the ten reporting years prior to the commencement date of the rule as made; and/or
 - an annual report, providing data for the most recently completed reporting year for which data is available;

- permits DNSPs not to provide data, if in the reasonable opinion of a DNSP, that information is confidential or commercially-sensitive to a third party;
- requires data recipients to acknowledge that:
 - any zone substation information provided by DNSPs is provided as raw data;
 - DNSPs have not analysed, assessed or validated the quality or accuracy of the historical data; and
 - DNSPs make no warranty or guarantee as to the data's quality or suitability for any particular purpose;
- provides for DNSPs to charge a fee for the provision of the data, which must not exceed the reasonable costs anticipated to be incurred by a DNSP in providing the data.

The rule as made also includes a transitional provision that provides that a DNSP's obligations under the rule is to commence on the date that it is required to publish its next DAPR.

The rule as made differs from the proposed rule as follows:

- it provides for data to be provided by DNSPs to interested parties on request (rather than requiring publication on a DNSP's website);
- it requires data to be provided in its raw form only;
- it requires the person who receives the information to acknowledge that the DNSP has not analysed, assessed or validated the quality or accuracy of the data, and has provided the data without any warranty or guarantees as to the data's quality or suitability for any particular purpose;
- it permits DNSPs not to provide data, if in the reasonable opinion of the DNSP that information is confidential or commercially-sensitive to a third party; and
- it provides for DNSPs to charge a fee for the provision of the data.

The rule as made is the same as the draft rule, except that it:

- includes a transitional provision that provides that a DNSP's obligations under the rule is to commence on its next DAPR date;
- includes a provision that clarifies that a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the new rule 5.13A; and

• no longer provides an example in the rules of additional information relating to load at the zone substation that the DNSP may wish to provide (for example, apparent power, reactive power, or power factor). This example is now included in a note in the rules.

3.2.1 Potential benefits

The Commission considers that the provision of zone substation load data, where it is available, has the potential, in various ways, to improve the decision making of market participants. The availability of zone substation load data may, for example, inform generators and providers of demand side management, thereby providing them with a better understanding of the factors that may be driving electricity demand, which may lead to improved decision making.

The Commission considers that consumers will benefit, in the long term, from improved decision making by market participants, which may lead to greater efficiency in the operation and investment in electricity services.

3.2.2 Costs

The Commission considers that the costs associated with implementing the rule as made are likely to be relatively low when compared to the potential benefits that may arise under the rule. The rule as made requires DNSPs to provide raw zone substation data. The Commission considers that by providing such data on an as available basis and in a raw form, the costs that are likely to be incurred by DNSPs in regard to processing, formatting and distributing the data are minimised.

With respect to a DNSP's recovery of costs for the provision of zone substation data, the Commission considers that the direct beneficiaries of the data (that is, the users of the data) should pay a reasonable fee to the DNSP for the provision of the data. The Commission considers that this fee should be no more than that required to meet the reasonable costs anticipated to be incurred by the DNSP in providing the data and this is reflected in clause 5.13A(d)(7) of the rule as made. The Commission also considers that DNSPs charging a fee for the provision of data may reduce the likelihood of any spurious requests for data being made to DNSPs, thereby keeping DNSPs' costs and, in turn, fees to a minimum.

The Commission notes that at the time of the next regulatory determination for a DNSP, the Australian Energy Regulator (AER) may decide to classify the service provided under the rule as made and regulate the price of the service. The AER may choose to classify such a service as either a standard control service or an alternative control service. For a standard control service, the cost of providing the service would be borne by all network users. Whereas, for an alternative control service, the AER may determine another form of control mechanism such as a fixed fee the DNSP may charge a person for using the service.

To the extent that a DNSP's fees for providing the service under rule 5.13A are not regulated by the AER under a distribution determination, a DNSP will be constrained in the amount it can charge for the service by the requirement in clause 5.13A(d)(7) that the fee be no more than that required to meet the reasonable costs anticipated to be incurred by the DNSP. If a data requester considers a DNSP is charging an unreasonable fee, it could request the AER to take action against the DNSP for a breach of the rules.

3.3 Civil Penalties

The rule as made does not amend any clauses that are currently classified as civil penalty provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the Standing Council on Energy and Resources (SCER) that the rule as made be classified as a civil penalty provision.

4 **Commission's assessment approach**

This chapter describes the analytical framework that the Commission has applied to assess the rule change request in accordance with the requirements set out in the NEL (and explained in chapter 2).

In assessing the rule change request against the NEO, the Commission has considered whether the public availability of information, as proposed in the request, is likely to bring about the efficiency benefits in the electricity system. For example, by allowing for more accurate forecasting and targeting the need for investment in electricity services.

The Commission has considered whether these benefits are likely to outweigh the costs of providing the data, and any potential negative impacts on market participants.

It has considered and focussed on the following issues:

- zone substation load data quality and availability;
- the provision of zone substation load data;
- other related issues, including:
 - data confidentiality, where a zone substation is supplying a single or several large consumers; and
 - the requested provision of single line diagrams to identify the linkages between zone substations.

The Commission has focussed on this set of issues because they relate to how zone substation load data can be made publically available, and were issues that were raised by stakeholders.

In addition to the above considerations, the Commission's analysis has also incorporated the outcome of discussions between the NGF and ENA.³⁰ The AEMC facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the NEO.

³⁰ ENA, letter to AEMC, 25 October 2013, pp.1-4.

5 Data quality and availability

This chapter discusses zone substation data quality and availability. The views of the rule proponent and stakeholders, the outcome of discussions between the NGF and ENA, and the Commission's analysis and decisions, are set out below.

5.1 Rule proponent's view

As outlined in chapter 1, the NGF, in its rule change request, is seeking the publication of historical zone substation load data that is measured in half-hourly intervals. It is seeking that DNSPs provide this data on an annual basis and, where available, for each of the preceding ten years.³¹

5.2 Stakeholders' views

5.2.1 First round of consultation

In submissions to the AEMC's consultation paper,³² stakeholders expressed mixed views about the quality and availability of zone substation data. DNSPs considered that there were significant issues in relation to data quality and availability, and questioned whether the data that is available is sufficiently robust to enable reliable econometric analysis and forecasts to be undertaken. In particular, DNSPs noted that:³³

- not all zone substations are metered and, those that are metered, may not have data extending back for ten years;
- zone substations are metered for operational and planning purposes and mostly have supervisory control and data acquisition (SCADA)³⁴ data;
- the metered data is measured in MW at different time intervals (for example, at 1, 5, 10, 15 or 30 minute intervals) and would require conversion to MWh at half-hour intervals;
- switching and load transfer can occur between zone substations at any given point in time which can result in significant variations in load recorded at those substations affected;

NGF, rule change request and cover letter, 24 January 2013, p.3.

The first round of consultation commenced on 26 April 2013 and finished on 24 May 2013.

Citipower and Powercor, submission, 24 May 2013, p.2; Energy Networks Association, ENA, submission, 27 May 2013, pp.4-5; Energex, submission and cover letter, 23 May 2013, pp.1-4; Ergon Energy, submission, 24 May 2013, pp.4-6; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.1-2; Networks NSW, submission, 24 May 2013, pp.1-2; SA Power Networks, submission, 24 May 2013, pp.1-3; and United Energy, submission and cover letter, 24 May 2013, pp.1-4.

Computer controlled systems that monitor and control industrial processes that are at multiple sites and over large distances.

- the metered data may contain gaps or missing data due to device failure or metering equipment being offline for a period of time;
- the metered data is raw data and has not been corrected for spikes in the data, abnormal switching, outliers in the data and weather dependent variables;
- the metered data is gross energy data and consists of distribution load data as well as data from unmetered supplies (such as non-scheduled generators and solar photovoltaic (PV) generation);
- the metered data is not disaggregated by customer category; and
- the metered data for each DNSP will need to be assembled from records which are currently not in a standardised format.

In their submission, Aurora Energy (Aurora) said that it is unconvinced that the publication of zone substation data for Tasmania will be of use. This is because of the non-standard asset boundary that exists between transmission and distribution in Tasmania. Aurora submitted that it takes its supply from the Transmission Network Service Provider (TNSP) either at sub-transmission voltages to supply its zone substations, or at distribution voltages to supply its distribution feeders.³⁵

The ENA submitted that the transmission to distribution connection point data proposal that AEMO is currently investigating, if implemented, has the potential to provide more accurate data at the sub-regional level than the proposed publication of zone substation data. It suggested that the connection point proposal be evaluated before consideration be given to any incremental benefits from the proposed rule change.³⁶

SA Power Networks submitted that about half of its zone substations only have SCADA facilities. It estimated that it would cost \$16 million to install accurate metering (National Grid Meters) and communications to all of its 363 zone substations.³⁷

On the other hand, stakeholders who were supportive of the proposed rule change, considered that zone substation load data should be made available on a routine basis and in a standardised format. Some stakeholders suggested that it be made available more frequently than what has been proposed.³⁸ This is discussed further in chapter 6.

5.2.2 NGF and ENA investigations and discussions

As discussed in chapter 1, in response to concerns raised in the first round of submissions with regards to data quality and availability, the Commission decided to

Aurora Energy, submission, 27 May 2013, pp.1-2.

Energy Networks Association, ENA, submission, 27 May 2013, pp.1-4.

³⁷ SA Power Networks, submission, 24 May 2013, pp.1&3.

Alinta Energy, submission, 24 May 2013, p.2; Clean Energy Council, submission, 31 May 2013, p.2; EnergyAustralia, submission, 16 May 2013, pp.1-2; EnerNOC, submission, 24 May 2013, pp.1-2; GDF Suez, submission, 24 May 2013, p.1; and Westpac Energy, submission, 29 April 2013, p.1.

extend the period of time for the making of the draft rule determination until 5 December 2013. This was to allow time for the NGF to investigate the quality of data that is currently able to be produced by DNSPs and its fitness for purpose.

The NGF was provided with sample raw data sets from four DNSPs, which was co-ordinated by the ENA. Following the NGF's investigations of these data sets, the Commission facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the NEO. The outcome of discussions between the NGF and ENA was general support for a set of key parameters for the provision of data.³⁹ These key parameters are discussed further in chapter 6.

With respect to data quality, the NGF and ENA generally supported that unprocessed or raw data (for example, SCADA data), where it was available, should be provided as part of this rule change. ⁴⁰ The NGF was of the view that the data would be useful in its most raw form to provide information on long term changes in demand patterns. It also considered that releasing the data in a raw form would reduce DNSPs' costs of collecting and distributing the data under this rule change. ⁴¹ The ENA noted that in discussions between itself, the NGF and the AEMC, support was given for data to be sourced from SCADA systems, and provided in raw form. ⁴²

5.2.3 Second round of consultation

In its submission to the draft rule determination, Ergon Energy (Ergon) sought clarification from the AEMC that bulk supply substations (that is, substations that are not at transmission to distribution connection points and do not connect to customers) and transmission to distribution connection points are excluded from public requests for data from DNSPs under this rule change. Ergon considered that these substations and connection points should be excluded as zone substations deliver energy to customers and any shared asset is merely a transport mechanism. ⁴³

The NGF submitted that it accepts that DNSPs do not have sophisticated metering equipment installed on many zone substations given the costs involved and that high-quality metering data for billing purposes is collected elsewhere in the transmission and distribution networks.⁴⁴

5.3 Commission analysis and conclusion

The Commission acknowledges that there are limitations with regards to the quality and availability of zone substation data. It recognises that not all zone substations are

ENA, letter to AEMC, 25 October 2013, p.1.

ENA, letter to AEMC, 25 October 2013, p.3.

⁴¹ NGF, submission, 24 May 2013, p.8.

ENA, letter to AEMC, 25 October 2013, p.3.

Ergon Energy, submission, 30 January 2014, p.3.

NGF, submission, 30 January 2014, p.1.

metered for half-hour energy data and that, where data is recorded and collected, the data series may not necessarily extend back for ten years, nor be continuous.

Given the limitations in the data that is available, the Commission considers that the provision of raw zone substation load data, as generally supported by the NGF and ENA, is a practical way of making data available that may be used for empirical analysis and forecasting of electricity demand. 45 The Commission considers that the provision of raw data is likely to be the least cost method for a DNSP to provide zone substation data. This is because DNSPs would not be required to process the data beyond that required for public release (for example, formatting for key parameters). The Commission also considers that the provision of raw data may be advantageous to data requesters, as they may perform their own analysis on the data knowing that it has not been previously manipulated. In this way, data requesters will be able to determine, for themselves, the appropriate level of resource to be applied toward data analysis and investigation.

The Commission does not expect DNSPs to provide data that is not readily available, or for DNSPs to install metering equipment for the specific purpose of providing data to meet their obligations under the rule as made. The details of key parameters of this data, and how this data is to be provided, are discussed in chapter 6.

5.3.1 Commission's response to issues raised in the first round of consultation

In responding to Aurora's submission that the proposed rule would have limited application in Tasmania, the Commission noted in the draft rule determination that the draft rule would only apply to substations that are defined as zone substations under the NER (that is, substations that are connected to a sub-transmission network and a distribution network).46 This means that, under the draft rule (and the rule as made), Aurora would not be required to provide data for its substations that take their supply directly from the transmission network as these substations are not connected to a sub-transmission network and are, therefore, not defined as a zone substation under the NER.

With regard to the transmission to distribution connection point data proposal that AEMO is currently investigating, the Commission also noted that while this is a similar proposal in that it relates to the publication of sub-regional electricity demand data, AEMO's evaluation of this proposal is unrelated to the Commission's consideration of this rule change request as it does not form part of the rule change request. The Commission noted that while the electricity demand data collected at transmission to distribution connection points is of a higher quality than zone substation load data, it is less granular as it is at a higher level in the supply chain. Given that zone substation load data provides a greater level of detail, it may be possible from this data to analyse electricity demand trends at a more localised level, than what otherwise may be achieved using the transmission to distribution connection point data.

⁴⁵ ENA, letter to AEMC, 25 October 2013, p.3.

In responding to SA Power Networks' concern that it would have to install metering equipment and improve the quality of metered data at all of its zone substations in order to meet its obligations under the proposed rule, the Commission did not consider this to be the case. As discussed above, under the draft rule (and the rule as made), DNSPs would only be required to provide raw zone substation data where this data is available. DNSPs would not be expected to install metering equipment where metering does not currently exist at zone substations, or to improve the quality of their metered data for the specific purpose of meeting their obligations under the new rule.

5.3.2 Commission's response to issues raised in the second round of consultation

In responding to Ergon's request on clarification on whether bulk supply substations and transmission to distribution connection points are excluded from public requests for data from DNSPs under this rule change, the Commission notes that only those substations that fall within the NER definition of a zone substation will be covered by the rule as made. Under the NER, a zone substation is a substation for the purpose of connecting a distribution network to a sub-transmission network.⁴⁷

This means that bulk supply substations that do not connect a distribution network to a sub-transmission network and are therefore not considered to be zone substations, will not be affected by the rule. Substations at transmission to distribution connection points are also excluded from the rule as they do not fall within the NER definition of a zone substation and are at a higher level in the supply chain.

With respect to the NGF's submission, the Commission notes the NGF's views on the limitations to quality and availability of data collected by DNSPs at the zone substation level.

⁴⁶ Clause 5.10.2 of the NER.

⁴⁷ Clause 5.10.2 of the NER.

6 Provision of data

This chapter discusses the provision of zone substation data. The views of the rule proponent and stakeholders, the outcome of discussions between the NGF and ENA, and the Commission's analysis and decisions, are set out below.

6.1 Rule proponent's view

As outlined in chapter 1, the NGF in its rule change request is seeking that DNSPs publish on their websites historical zone substation load data on an annual basis and, where available, for each of the preceding ten years.⁴⁸

6.2 Stakeholders' views

6.2.1 First round of consultation

There were mixed views in stakeholders' submissions to the AEMC's consultation paper with regard to the provision of zone substation data.⁴⁹ Approximately half of the submissions received were supportive of the proposed rule, while the remainder were not.

DNSPs were generally not supportive of publishing zone substation data, as they considered that it has not been demonstrated that the anticipated benefits outweigh any costs imposed. Apart from their concerns with respect to data quality and availability, as discussed in chapter 5, DNSPs also had concerns about publishing large volumes of zone substation data on their websites. Specifically, DNSPs raised concerns that their websites are not designed to handle the large volumes of data that would be required to be published.

Several DNSPs submitted that significant costs would need to be incurred to increase the capacity of their websites and to implement IT systems to manage such large volumes of data.⁵¹

Energex and Ergon suggested that DNSPs provide the data to a central body to co-ordinate and publish the data on its website, and that this would be beneficial to both DNSPs and data requesters.⁵²

NGF, rule change request and cover letter, 24 January 2013, p.3.

The first round of consultation commenced on 26 April 2013 and finished on 24 May 2013.

Citipower and Powercor, submission, 24 May 2013, pp.1-2; Energy Networks Association, ENA, submission, 27 May 2013, pp.1-5; Energex, submission and cover letter, 23 May 2013, p.1; Ergon Energy, submission, 24 May 2013, p.3; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.1-2; Networks NSW, submission, 24 May 2013, pp.1-2; SA Power Networks, submission, 24 May 2013, p.7; and United Energy, submission and cover letter, 24 May 2013, pp.1-7.

Ergon Energy, submission, 24 May 2013, pp.6-7; and Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.1-2&4.

Jemena and United Energy suggested that any potential data requesters should first register with the DNSP and for the DNSP to then provide them with the data offline.⁵³

Energex submitted that it did not consider that the costs of extracting raw SCADA data would be material. It estimated that it would take approximately one–two weeks for a full time equivalent (FTE) employee to extract historical raw data from its records in the format that is currently available. It also estimated that it would take approximately another week per year for a FTE employee to extract, compile and publish the data on an annual basis. However, Energex considered that if the DNSP is required to perform other activities, including data cleansing, verification and reconciliation, then the DNSP may incur material costs which may be passed onto network customers.⁵⁴

Another concern raised by DNSPs with the proposed rule change is that they do not have current resources available to handle potential queries from data requesters about data quality issues and interpretation of the data. To do so, it was submitted, would impose significant costs on DNSPs.⁵⁵

United Energy submitted that providing derived consumption data, without the corresponding event data and networks' operations knowledge, may not be useful. It suggested an extensive business-to-business project which United Energy suggested could take several years for DNSPs to standardise data formats and to provide meter register information and meter event collection and use. It estimated that this could cost each DNSP between \$4–10 million (not including the costs to improve metering and data quality work). ⁵⁶

The ENA submitted that if zone substation data is to be provided by DNSPs, then it should be subject to the following caveats:⁵⁷

- the source, form and limitations of the data must be explicitly recognised;
- privacy concerns for individual customers need to be adequately addressed; and
- information provided by DNSPs should be made available on an 'as provided basis' and users accept the data at their own risk without recourse.

Energex, submission and cover letter, 23 May 2013, p.1; and Ergon Energy, submission, 24 May 2013, pp.1&10.

Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.2&4; and United Energy, submission and cover letter, 24 May 2013, p.4.

Energex, submission and cover letter, 23 May 2013, p.4; and Energex, submission, 5 June 2013, p.1.

Citipower and Powercor, submission, 24 May 2013, p.2; Energy Networks Association, ENA, submission, 27 May 2013, p.5; Energex, submission and cover letter, 23 May 2013, p.1; Ergon Energy, submission, 24 May 2013, p.3; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, p.5; and United Energy, submission and cover letter, 24 May 2013, p.5.

United Energy, submission and cover letter, 24 May 2013, p.4.

⁵⁷ Energy Networks Association, ENA, submission, 27 May 2013, p.1.

The ENA also submitted that, as a general principle, it considers that the direct beneficiaries of the proposed rule change should bear the costs.⁵⁸

Stakeholders who were supportive of the proposed rule change cited the potential benefits of publishing zone substation load data.⁵⁹

The AER submitted that, in principle, it supports the public release of market information as it provides greater transparency to the operation of the market and provides market participants with more reliable information on which to base their decisions, thereby promoting more efficient outcomes. The AER considered that, provided the data is robust, then the benefits cited by the NGF in its rule change request are likely to occur from the proposed rule change.⁶⁰

Generators supported the proposed rule change, noting that it will allow competing forecasts of electricity demand and will encourage empirical assessment of the factors that are driving electricity demand.⁶¹ EnerNOC (a demand response aggregator) submitted that in addition to significantly increasing transparency by making more detailed load data routinely available, the proposed rule change could benefit demand-side aggregators in assessing the potential for demand-side solutions to network issues.⁶² The Clean Energy Council (CEC) submitted that the publication of zone substation data could allow greater scrutiny of DNSPs' investment proposals for the augmentation of their networks.⁶³

Energy Australia and Westpac submitted that consideration should be given to publishing the data on a real time basis. 64

Stakeholders who were supportive of the proposed rule change considered that the data should be published in a standardised format that would allow users to access and analyse the data consistently.⁶⁵

Energy Networks Association, ENA, submission, 27 May 2013, p.4.

Alinta Energy, submission, 24 May 2013, pp.1-2; AER, submission, 24 May 2013, pp.1-2; Clean Energy Council, submission, 31 May 2013, pp.4-5; Creative Analytics, submission, 19 August 2013, p.1; EnergyAustralia, submission, 16 May 2013, pp.1-3; EnerNOC, submission, 24 May 2013, pp.1-3; GDF Suez, submission, 24 May 2013, p.2; NGF, submission, 24 May 2013, p.9; St. Kitts Associates, submission, 23 May 2013, p.1; and Westpac Energy, submission, 29 April 2013, pp.1-4.

⁶⁰ AER, submission, 24 May 2013, p.1.

Alinta Energy, submission, 24 May 2013, pp.1-2; EnergyAustralia, submission, 16 May 2013, pp.1&3; GDF Suez, submission, 24 May 2013, p.2; and NGF, submission, 24 May 2013, pp.1-9.

EnerNOC, submission, 24 May 2013, p.1.

⁶³ Clean Energy Council, submission, 31 May 2013, p.4.

EnergyAustralia, submission, 16 May 2013, p.1; and Westpac Energy, submission, 29 April 2013, p.4.

Alinta Energy, submission, 24 May 2013, p.2; Clean Energy Council, submission, 31 May 2013, p.2; EnergyAustralia, submission, 16 May 2013, p.2; EnerNOC, submission, 24 May 2013, p.1-2; GDF Suez, submission, 24 May 2013, p.1; and Westpac Energy, submission, 29 April 2013, p.1.

6.2.2 NGF and ENA investigations and discussions

As discussed in chapter 1, in response to concerns raised in the first round of submissions with regards to data quality and availability, the Commission decided to extend the period of time for the making of the draft rule determination. This was to allow time for the NGF to investigate the quality of data that is currently able to be produced by DNSPs and its fitness for purpose.

The NGF was provided with sample raw data sets from four DNSPs, which was co-ordinated by the ENA. Following the NGF's investigations of these data sets, the Commission facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the NEO. The outcome of discussions between the NGF and ENA was general support for a set of key parameters for the provision of data.⁶⁶

The key parameters and the requirements that were generally supported by the NGF and ENA are provided below.⁶⁷ A description of the finalised key parameters and requirements included in the rule as made is provided at section 6.3.3.

- Data type:
 - raw data (for example, SCADA data).
- Data to be clearly labelled with the:
 - identifier of the zone substation, which corresponds to the zone substation identifier in the DNSP's DAPR;
 - date and time of the meter reading;
 - time interval or frequency of the data;
 - unit of measurement (for example, MW, kV, MVA), including power factors, where appropriate.
- Data format:
 - standard electronic format (for example, comma separated values (CSV) or text format).
- Provision of data:
 - DNSPs would provide information on their website on how an interested party could make a request for zone substation load data;
 - upon receiving such a request, the DNSP would make the data available to the person making the request in a reasonable time;

⁶⁶ ENA, letter to AEMC, 25 October 2013, p.1.

⁶⁷ ENA, letter to AEMC, 25 October 2013, pp.3-4.

- the data to be made available includes:
 - a. once-only provision of historical load data (extending back ten years, if available);
 - b. ongoing historical annual data (that is, load data for the previous year only), which the DNSP updates annually as part of the DAPR process.
- DNSPs have the option of providing the data either offline via a data storage device (for example, compact disc (CD) or universal serial bus (USB) drive) or online via a secure website download.

The NGF and ENA generally supported that the proposed rule change should:⁶⁸

- recognise the limitations of the available data;
- provide that the data should be available to users on an 'as provided basis' and users should accept the use of the data at their own risk without recourse; and
- provide that unprocessed or raw data (for example, SCADA data), where it was available, should be provided by DNSPs.

6.2.3 Second round of consultation

In submissions to the draft rule determination, stakeholders were generally supportive of the draft rule determination and draft rule.

The CEC and Ergon considered that it would be desirable if the final rule included the reactive component of demand (that is, as either MV, MVAr or power factor), in addition to the required quantities measured in kW or MW.⁶⁹ The CEC considered that this additional piece of information is a significant component of any analysis for which the data may be used and that, in its absence, any modelling that is undertaken will have a lower value due to the lost accuracy introduced by estimating the reactive component. It suggested that where the reactive component is not recorded, DNSPs should be required to provide an indication of the values which are used for planning processes for the zone substation in question. The CEC submitted that with the prevalence of more intelligent metering and control systems expected to be included in distribution systems, it is anticipated that the reactive component of zone substations' demand will become more readily accessible over time.⁷⁰ Ergon submitted that this information is generally available in its systems and that it considers that it meets the intent of the rule change.⁷¹

⁶⁸ ENA, letter to AEMC, 25 October 2013, p.3.

⁶⁹ Clean Energy Council, submission, 30 January 2014, p.2; and Ergon Energy, submission, 30 January 2014, p.4.

⁷⁰ Clean Energy Council, submission, 30 January 2014, p.2.

Figon Energy, submission, 30 January 2014, p.4.

Ergon also sought clarification from the AEMC on whether:⁷²

- the annual zone substation reports, or the ten year zone substation reports, are to include all zone substations or individual zone substation (noting that the inclusion of an option for allowing parties to select individual zone substations could be seen to be more cost-reflective);
- there is any predetermined qualifications required of the party requesting the data from DNSPs; and
- a DNSP may refuse to supply the data if it has reasonable grounds to suspect the data will not be used in accordance with the intent of the rule.

With respect to resources required by DNSPs to provide the zone substation data, Ergon suggested that additional IT operational support would be required, based on its recent experience of providing historical data to external parties as part of its Demand Reduction Potential Review. It also considered that providing data on USB drives was inconvenient and resource intensive and that its preference would be to provide the data through a secure website download.⁷³

Energex considered that the final rule should include additional subparagraphs to the effect that: 74

- DNSPs are not obliged to provide further detailed network information beyond the raw data for analysis purposes;
- zone substation data provided is to be used for the purposes for which it has been provided and should not be passed on to a third party without the DNSP's consent; and
- any published material relying on zone substation data must prominently include a reference to the limitations of the raw data provided by DNSPs.

Both Energex and the ENA supported the draft rule's inclusion of 30 business days, time period for the provision of data by a DNSP to a requesting party. The ENA considered that a standard 30 business day response is appropriate, to allow for a request to be made, fees to be paid and the zone substation data to be made available. 76

Figon Energy, submission, 30 January 2014, p.3.

Figor Energy, submission, 30 January 2014, pp.4-5.

The Figure 74 Energex, submission, 28 January 2014, pp.1-2.

ENA, submission, 4 February 2014, p.1; and Energex, submission, 28 January 2014, p.1.

⁷⁶ ENA, submission, 4 February 2014, p.1.

6.3 Commission analysis and conclusion

As discussed in chapter 2, the Commission considers that the provision of zone substation load data, where it is available, has the potential, in various ways, to improve the decision making of market participants. For example, the availability of zone substation load data may inform generators' decisions on where and when to build new generation plant, or which and when to retire existing generation plant to maximise efficiency of use. It may also allow providers of demand side management to offer more efficient demand side response services. By obtaining a better understanding of the drivers of electricity demand, including where changes in demand may be occurring across the NEM, generators and providers of demand side management are able to target their resources in areas of the network that they are likely to have the most value. This may improve the efficiency of their investments and services. Improved decision making by market participants promotes the efficient operation and investment in electricity services, which is in the long term interests of consumers.

6.3.1 Commission's response to issues raised in the first round of consultation

In the draft rule determination, the Commission noted the potential benefits and costs that have been identified by stakeholders in relation to the proposed rule change. The Commission considered that it is possible to provide zone substation data on the lowest cost terms possible, where the potential benefits arising from the provision of this data would outweigh the costs.

The Commission considered that the key parameters and requirements generally supported by the NGF and ENA are a practical way of making zone substation data available at the lowest possible cost. The Commission considered that providing raw zone substation load data, on request, is likely to minimise the costs to DNSPs associated with processing, formatting and distributing the data. As discussed above, data that is to be provided by DNSPs will be unprocessed. Formatting requirements are to be kept to a minimum by using a standard electronic format and clearly labelling the data. Also, with DNSPs only providing data on request, this is likely to minimise the costs of providing the data as a DNSP would not be required to publish the data on their website. As the data is to be provided on request, rather than being published, the potential costs likely to have been incurred by DNSPs, in relation to upgrading their websites to handle such large volumes of data, can be avoided.

For these reasons, the Commission decided to base its draft rule (and the rule as made) on the key parameters and requirements that were generally supported by the NGF and ENA. A description of the rule as made is provided at section 6.3.3.

In the draft rule determination, in response to DNSPs' concerns with regard to the potential costs of processing and publishing the data, and explained above, the Commission considered that, under the draft rule (and the rule as made), the processes required and the associated costs incurred to make the data available are likely to be minimal. The Commission noted Energex's submission which indicated that it would

take approximately one-two weeks for a FTE employee to extract historical raw data and that it would take approximately another week for a FTE employee to extract, compile and publish the data on an annual basis. Under the draft rule (and the rule as made), the Commission considered that the costs of providing the data are likely to be lower than has been suggested by some DNSPs because the data, only where it is readily available, is to be provided as unprocessed or raw data. Further, the data is to be provided only upon request, rather than requiring it to be published. Also, the Commission noted that the key parameters and requirements of the data that is to be made available by DNSPs, has the general support of the ENA.⁷⁷

With regard to the recovery of DNSPs' costs for the provision of zone substation data via charging a fee to data requesters, in the draft rule determination, the Commission considered that this is the best approach for the recovery of such costs. This is because:

- The direct beneficiary of the data should pay for the data (that is, the 'user pays principle'). The Commission considered that under the alternative approach for the recovery of costs, where DNSPs' costs are recovered from electricity consumers via network charges for standard control services, consumers may not directly benefit from the provision of data. Rather, market participants (such as, generators) are likely to directly benefit as the provision of zone substation data could potentially lead to better investment decisions. This may be of benefit to consumers in the long term.
- DNSPs' costs for the provision of zone substation data, as required under the draft rule (and the rule as made), are likely to be lower than has been suggested by some DNSPs (for reasons discussed above).
- Charging a fee for the provision of zone substation data is likely to reduce the likelihood of spurious requests being made to DNSPs for data, thereby keeping DNSPs' costs and, in turn, fees to a minimum.
- The AER may, in the next regulatory determination process for a DNSP, classify the service provided under the rule as made, as a direct control service and regulate the fee that can be charged by the DNSP.

In responding to Energex and Ergon's suggestion that DNSPs provide the data to a central body which can co-ordinate and publish the data on its website, in the draft rule determination, the Commission considered that while this approach could have potential benefits for both data requesters and DNSPs, it is unlikely to be the least cost approach and would require a greater degree of co-ordination and administration.

Instead of requiring DNSPs to 'publish' zone substation data, in the draft rule determination, the Commission decided to take the approach of requiring DNSPs to make this data available, on request. The Commission considered that the provision of data on request is the least cost approach. The Commission noted this approach was suggested by Jemena and United Energy.

⁷⁷ ENA, letter to AEMC, 25 October 2013, pp.1-4.

In responding to DNSPs' concerns that they would have to employ additional resources to answer queries from data requesters on data quality and interpretation issues, in the draft rule determination, the Commission considered that, under the draft rule (and the rule as made), this is not likely to be the case. This is because the data is to be provided on an 'as provided basis' and data requesters are expected to accept the data at their own risk without any warranty or guarantees as to the data's quality or suitability for any particular purpose. The Commission noted that, under the draft rule (and the rule as made), DNSPs are not obliged to provide information beyond the required zone substation raw data. For this reason, the Commission did not consider the costs suggested by United Energy for providing additional information to the zone substation data are likely to eventuate under the new rule.

In responding to the ENA's concern that if the proposed rule is made, then the rule should be subject to several caveats regarding the limitations of the data, data confidentiality issues and that the data be provided on an 'as provided basis', in the draft rule determination, the Commission noted that each of these issues are addressed by the draft rule (and the rule as made). Confidentiality issues are discussed further in chapter 7.

In responding to stakeholders' suggestions that zone substation data should be made available more frequently than what has been proposed (with some suggesting that it be made available on a real time basis), in the draft rule determination, the Commission considered that it had not been provided with sufficient reasons to support such a proposition and that, in any event, it is unlikely to be the least cost approach in providing zone substation data.

6.3.2 Commission's response to issues raised in the second round of consultation

In responding to the CEC's and Ergon's suggestion that DNSPs, in addition to being required to provide zone substation load data (measured in kW or MW), should be required (as opposed to having the option) to provide the reactive component of demand, the Commission considers that this is not necessary. The Commission notes that the rule as made does not preclude a DNSP from providing this additional information (for example this may include kVA or MVA, kVAr or MVAr or power factor) should it wish to do so. It considers that requiring DNSPs to provide this additional information as part of the standard raw data set, may add to DNSPs' costs in providing zone substation load data.

In responding to the points raised by Ergon and Energex, the Commission notes that, under the rule as made:

• All zone substations are to be included in the annual zone substation reports, or the ten year zone substation reports. The reports will refer to all zone substations

but will specify that the load for a zone substation is not being disclosed due to confidentiality reasons.⁷⁸

However, this does not prevent a DNSP from additionally providing a report with data on identified single zone substations, if requested.

- Any person may make a request to a DNSP for the provision of zone substation data.⁷⁹ There are no predetermined qualifications required of the party requesting the data.
- Under the rule as made, a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the rule.⁸⁰ A DNSP cannot refuse to supply the requested data if it has reasonable grounds to suspect the data will not be used in accordance with the intent of the rule.

The Commission notes that under the rule as made, the person making a request must acknowledge that the DNSP has not provided any warranty or guarantee as to the data's quality or suitability for any particular purpose.⁸¹

- DNSPs are only to provide zone substation load data as required by clause 5.13A(b) of the rule as made. No additional information is required to be supplied.
- The rule as made does not restrict a party that receives the zone substation data from passing it on to a third party without the DNSP's consent. The Commission considers that to make a rule which would require the person requesting the data to obtain the DNSP's consent before passing it on to a third party, would be difficult to enforce.
- There is no requirement on the person requesting the data to include a reference on any published material relying on the zone substation data that notes the data's limitations. Under the rule as made, the person requesting the data is required to acknowledge the limitations of the data when making its request to the DNSP.⁸²

The Commission notes Ergon's suggestion that additional IT operational support may be required for it to comply with the rule as made. As previously explained, the Commission considers that under the rule as made, the processes required and the associated costs incurred to make the data available are likely to be minimal. This is because the data that is to be provided is unprocessed raw data and it is provided on

⁷⁸ Clause 5.13A(b)(2) of the rule as made.

⁷⁹ Clause 5.13A(e) of the rule as made.

Clause 5.13A(e)(5)(f)(2) of the rule as made.

⁸¹ Clause 5.13A(e)(3)(ii) of the rule as made.

⁸² Clause 5.13A(e)(3) of the rule as made.

an 'as provided basis'. This means that users are expected to accept the data at their own risk without any warranty or guarantees as to the data's quality or suitability for any particular purpose.

Finally, the Commission notes that the ENA and Energex consider a 30 business day period for a DNSP to respond to a request for zone substation data to be appropriate. This period of time has been included in the drafting of the rule as made.

6.3.3 A description of the rule as made

The rule as made is the same as the draft rule, except that it includes a transitional provision that provides that a DNSP's obligations under the rule is to commence on the date that it is required to publish its next DAPR. The need for this transitional provision is discussed further in chapter 9.

The rule as made inserts a new rule 5.13A, after clause 5.13.2 of the NER, which sets out the requirements for the provision of distribution zone substation data. The rule as made requires that each DNSP provide historical zone substation data, on request, for each of its zone substations.

Under the rule as made, zone substation information means the following data for each zone substation on the DNSP's distribution network:⁸³

- the name or other identifier for the zone substation that corresponds to that used by the DNSP in its DAPR regional development plan;
- where data has not been provided for reasons of confidentiality, a statement to that effect;
 - Under the rule as made, a DNSP is not required to provide zone substation information if, in the reasonable opinion of the DNSP, that information is confidential or commercially-sensitive to a third party;⁸⁴
- each date and time interval for which load data is available for that zone substation;
- for each specified date and time interval specified for each zone substation, load data (measured in kW or MW); and
- any additional information relating to load at the zone substation that the DNSP wishes to provide. For example, this may include:
 - apparent power (measured in kVA or MVA);
 - reactive power (measured in kVAr or MVAr); or

⁸³ Clause 5.13A(b) of the rule as made.

Clause 5.13A(g) of the rule as made.

power factor.

Under the rule as made, any person can request the DNSP to provide historical zone substation reports of the following kinds:⁸⁵

- an annual zone substation report, which contains historical zone substation data for one reporting year. The reporting year is defined as a period of one year that ends on the same date in each reporting year (for example, a period of one year ending on 30 June); and
- a ten year zone substation report, which contains historical zone substation data for the ten reporting years prior to the commencement of the rule as made.

A DNSP can determine its own reporting year based on its current data collection practices.

With respect to requesting the data, the rule as made requires that the DNSP must publish the following information on its website:⁸⁶

- information on how a person may request zone substation reports;
- the electronic or other format(s) in which the DNSP can make the zone substation reports available;
- the start and end dates of the DNSP's reporting year;
- the start and end dates of the period to which the ten year zone substation report relates;
- details of the annual zone substation reports that are available on request;
- information on when the next annual zone substation report will be available on request; and
- the amount of the fee payable to the DNSP for the provision of the ten year zone substation report and each annual zone substation report;
 - Under the rule as made, the fee charged by the DNSP must be no more than that required to meet the reasonable costs anticipated to be incurred by the DNSP in providing the data.

The rule as made requires that a person requesting data to:87

- specify whether they require:
 - a ten year zone substation report; and/or

Clause 5.13A(a) of the rule as made.

⁸⁶ Clause 5.13A(d) of the rule as made.

⁸⁷ Clause 5.13A(e) of the rule as made.

- one or more annual zone substation reports;
- specify the format in which they wish to receive the zone substation reports, which must be a format specified by the DNSP;
- acknowledge that:
 - any zone substation information provided by the DNSP is provided as raw data;
 - the DNSP has not analysed, assessed or validated the quality or accuracy of the data; and
 - the DNSP makes no warranty or guarantee as to the data's quality or suitability for any particular purpose.
- provide any applicable fees specified on the DNSP's website; and
- submit a request in the format reasonably required by the DNSP and as specified on its website.

Upon receiving such a request, the rule as made requires that the DNSP must provide the report(s) requested as soon as practicable but, in any event, within 30 business days of the date of the request. Also, the DNSP must not require the person who requested the report(s) to meet any further conditions or make any further acknowledgments or undertakings to the DNSP before providing those report(s).88

7 Confidential customer information

This chapter discusses the issue of confidential customer information. The views of the rule proponent and stakeholders, the outcome of discussions between the NGF and ENA, and the Commission's analysis and decisions, are set out below.

With the provision of zone substation data, there is the potential to reveal information about an individual customer or market participant which could reasonably be considered by those customers as being confidential or commercially-sensitive. This issue may arise where a zone substation is supplying a single or several consumers that account for a substantial proportion of the load. Although there may be many consumers in total being supplied by that particular zone substation, under such circumstances, it may be possible to broadly deduce an individual consumer's electricity consumption profile which may be considered to be commercially-sensitive.

To mitigate against this risk, one potential solution may be for the data, from the zone substation where there are concerns with regards to confidentiality, to be aggregated with data from other neighbouring zone substation(s). Another potential solution may be to exclude the data from the zone substation information that is to be made available by the DNSP.

7.1 Rule proponent's view

The NGF in its rule change request did not specifically address the issue of confidentiality. However, when discussing the publication of connection point data proposal that AEMO is currently investigating, the NGF noted that some stakeholders, in their submissions to AEMO's consultation paper on the proposal, had raised concerns that commercially-sensitive information may be disclosed.⁸⁹

7.2 Stakeholders' views

7.2.1 First round of consultation

There were mixed views in stakeholders' submissions to the AEMC's consultation paper with regard to the confidentiality issue. Most stakeholders recognised that there is a need to address such concerns that may arise with the provision of zone substation data. ⁹⁰

NGF, rule change request and cover letter, 24 January 2013, p.8.

Alinta Energy, submission, 24 May 2013, p.2; AER, submission, 24 May 2013, p.2; Aurora Energy, submission, 27 May 2013, p.2; Citipower and Powercor, submission, 24 May 2013, p.2; Clean Energy Council, submission, 31 May 2013, p.3; EnergyAustralia, submission, 16 May 2013, p.2; Energex, submission and cover letter, 23 May 2013, pp.5-7; EnerNOC, submission, 24 May 2013, p.2; Ergon Energy, submission, 24 May 2013, pp.3, 7-8; GDF Suez, submission, 24 May 2013, p.1; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.2&5; Networks NSW, submission, 24 May 2013, p.2; SA Power Networks, submission, 24 May 2013, p.4; United

Aggregation of zone substation data was generally seen as the best approach to reducing the risk of releasing data that could be considered as confidential. Westpac submitted that when aggregating zone substations for confidentiality purposes, similar customer types should be aggregated together, where possible. However, GDF Suez cautioned against an overly conservative approach by DNSPs unnecessarily aggregating data to avoid issues of confidentiality. It considered that such an approach would restrict the granularity and, hence, utility of the data. EnerNOC submitted that when aggregating zone substation data, care should be taken, where possible, to form aggregations in a way which is consistent with the network topology. This is so that the zone substations concerned will generally lie on the same side of any likely constraint.

Several DNSPs submitted that when aggregating data to avoid issues of confidentiality, consideration not only be given to the number of customers sharing a zone substation, but also the relative demand of customers at the zone substations concerned. For example, a zone substation may have one major industrial customer and many individual smaller customers, and that the load of the zone substation will largely reflect the load of the major customer.⁹⁵

Some DNSPs considered that due to network configuration, in some instances, it may not be possible to aggregate zone substation loads to avoid disclosure of major customer loads. ⁹⁶ In such circumstances, exclusion of the zone substation data from public release should be permitted. ⁹⁷

Ergon submitted that the definition of zone substation data that is required to be published be clarified so that: 98

- zone substations that are dedicated to a single customer should be excluded, as well as substations that have commercial or confidentiality issues; and
 - Energy, submission and cover letter, 24 May 2013, p.6; and Westpac Energy, submission, 29 April 2013, pp.1-2.
- Alinta Energy, submission, 24 May 2013, p.2; AER, submission, 24 May 2013, p.2; Citipower and Powercor, submission, 24 May 2013, p.2; EnerNOC, submission, 24 May 2013, p.2; GDF Suez, submission, 24 May 2013, p.1; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.2&5; SA Power Networks, submission, 24 May 2013, p.4; United Energy, submission and cover letter, 24 May 2013, p.6; and Westpac Energy, submission, 29 April 2013, pp.1-2.
- Westpac Energy, submission, 29 April 2013, p.1.
- 93 GDF Suez, submission, 24 May 2013, p.1.
- 94 EnerNOC, submission, 24 May 2013, p.2.
- Ergon Energy, submission, 24 May 2013, pp.7-8; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, p.5; and SA Power Networks, submission, 24 May 2013, p.4.
- Aurora Energy, submission, 27 May 2013, p.2; Energex, submission and cover letter, 23 May 2013, p.5; Ergon Energy, submission, 24 May 2013, pp.3&8; and SA Power Networks, submission, 24 May 2013, p.4.
- Energex, submission and cover letter, 23 May 2013, p.5; Ergon Energy, submission, 24 May 2013, pp.3&8; SA Power Networks, submission, 24 May 2013, p.4.
- 98 Ergon Energy, submission, 24 May 2013, p.3.

• zone substations below a certain MVA threshold (for example, 2MVA) should be excluded on the basis of likely confidentiality issues, and the costs of maintaining data for a relatively insignificant benefit.

Energex, Jemena and SA Power Networks submitted that judgements on confidentiality with regards to releasing data should be made at the discretion of the DNSP. Energex submitted that the confidentiality of customer information is governed by contract terms which prevent disclosure of information except in specific circumstances where Energex is required to disclose the information by law. It considered that the proposed rule change should include a mechanism or an exemption that allows a DNSP to not have to disclose zone substation data if it believes that by doing so it would be likely to breach customer confidentiality obligations. ¹⁰⁰

The CEC considered a more appropriate approach to the treatment of confidential information would be a requirement for market participants or individual customers who consume electricity above a certain threshold level to 'opt-out' of the publication of demand data. If the customer chooses to 'opt-out', then the relevant DNSP should make the appropriate decision about aggregating data for that customer's connection point. Otherwise, the CEC considered that all data should remain disaggregated. ¹⁰¹

The NGF was also not supportive of restricting the release of zone substation data. It considered that the benefits of publishing all data in a consistent form may outweigh any concerns about releasing data on zone substation loads from which only a few customers take supply. It noted that smelters and large industrial customers generally take their supply from the sub-transmission network and consequently will not be affected by the proposed rule change. In its submission, the NGF stated its reasons why it considers that the publication of all zone substation data should not create any significant concern about commercial disclosure, as:¹⁰²

- for a person to use this information to track an individual customer's load profile, they would need to know the identity of the relevant zone substation, how many other customers receive supply from that substation, and the approximate load shape of each customer taking supply;
- the proposed publication of zone substation data is historical data not real time data;
- the zone substation data only relates to the volume and profile of electricity supply, it does not reveal the value of any supply contracts;
- publication of zone substation data would seem compatible with other initiatives to quantify and publish details of the extent of demand response in the NEM;

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Energex, submission and cover letter, 23 May 2013, p.7; Jemena Electricity Networks, Jemena, submission and cover letter, 24 May 2013, pp.2&5-6; Ergon Energy, submission, 24 May 2013, pp.3&8; SA Power Networks, submission, 24 May 2013, p.4.

Energex, submission and cover letter, 23 May 2013, p.6.

¹⁰¹ Clean Energy Council, submission, 31 May 2013, p.3.

¹⁰² NGF, submission, 24 May 2013, p.8.

- electricity represents a relatively small proportion of business costs for the vast majority of businesses in the NEM; and
- AEMO publishes data on generator unit operations at five minute intervals along with a range of other technical and commercial data for each power station facility. Generators do not object to the publication of this information.

The NGF also submitted that aggregation of zone substation data may shuffle loads between zone substations as customer numbers increase or decrease through time. 103

7.2.2 NGF and ENA investigations and discussions

As discussed in chapters 5 and 6, prior to publicly consulting on the draft rule determination, the Commission facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the NEO. The outcome of discussions between the NGF and ENA was general support for a set of key parameters for the provision of data.

However, the NGF and ENA did not agree on two issues, namely confidentiality and the requested provision of single line diagrams.¹⁰⁴ The requested provision of single line diagrams is discussed in chapter 8.

With respect to the issue of confidentiality, the ENA's position is that any proposed rule change should allow DNSPs to exclude confidential or commercially-sensitive data from public release. It noted that: 105

- customer confidentiality obligations are imposed on DNSPs under connection contracts;
- aggregation will not always avoid confidentiality issues, as it may not be possible given the configuration of the network to conceal certain customer loads;
- manipulation of the data adds to costs and aggregation could run counter to the objective of analysing locational loads; and
- confidential or commercially-sensitive information is excluded from the DAPRs.

7.2.3 Second round of consultation

Stakeholders were supportive of the provisions of the draft rule that allow DNSPs to decide whether zone substation data is confidential or commercially-sensitive to a third party and to exclude the data from zone substation reports on that basis.

¹⁰³ NGF, submission, 24 May 2013, pp.8-9.

¹⁰⁴ ENA, letter to AEMC, 25 October 2013, pp.1-2.

¹⁰⁵ ENA, letter to AEMC, 25 October 2013, p.4.

The ENA and Energex considered that it should be left to the discretion of DNSPs as to whether confidential or commercially sensitive data should be aggregated or excluded. 106

Ergon sought the AEMC's guidance as to whether a DNSP should provide the reasons for data exclusions due to confidentiality on its website prior to a data request, or only after a request, for the zone substation data has been received by the DNSP. ¹⁰⁷

While the NGF accepted that DNSPs may use their discretion in these matters, it sought the co-operation from the DNSPs to ensure that only genuinely commercial-in-confidence data is excluded from the zone substation raw data. It raised a concern that any inconsistent treatment of commercial-in-confidence data will make the time series of zone substation data less useful. The NGF submitted that this would occur whether the data is aggregated or excluded from the data provided. It requested that DNSPs apply consistency of treatment on a year-to-year basis, while acknowledging that some loads will appear or disappear over time as larger users expand or exit operations. ¹⁰⁸

7.3 Commission analysis and conclusion

The Commission considers that the DNSP is in the best position to deal with issues of confidentiality arising with the public release of zone substation data. DNSPs may have contractual relationships with customers with regards to the supply of network services. These contracts may have customer confidentiality obligations that have the effect of restricting the publication of information that relates to the customer's electricity consumption profile. Also, DNSPs have detailed knowledge of the configuration of their networks. This may include the number of customers and their relative load sizes that are supplied from each of their zone substations. It is this information that DNSPs would use to make judgements on zone substation data aggregation or, if necessary, to make a judgement on excluding data from public release that is considered confidential or commercially-sensitive to a third party.

For this reason, the Commission has decided to make a rule that provides discretion to DNSPs to decide on how to deal with issues of data confidentiality that may arise with the public release of zone substation data. Under the rule as made, the DNSP is not required to provide data for a zone substation if, in the reasonable opinion of the DNSP, that information is confidential or commercially-sensitive to a third party. ¹⁰⁹

ENA, submission, 4 February 2014, p.1; and Energex, submission, 28 January 2014, p.1.

Ergon Energy, submission, 30 January 2014, p.4.

¹⁰⁸ NGF, submission, 30 January 2014, pp.3-4.

¹⁰⁹ Clause 5.13A(g) of the rule as made.

7.3.1 Commission's response to issues raised in the first round of consultation

In responding to stakeholders' views as to aggregating zone substation data to avoid concerns of confidentiality, in the draft rule determination, the Commission considered that it is difficult to prescribe what level of aggregation should be applied, without significantly impacting on the usefulness of the data. This is because it is dependent on the particular circumstances of the zone substation concerned (for example, how it relates to the surrounding network, it's location and the number and relative load sizes of the customers supplied). Also, it may be difficult to assess what level of aggregation is acceptable without significantly impacting on the usefulness of the data. As the ENA noted, aggregation could run counter to the objective of analysing locational loads and data manipulation would add to DNSPs' costs. For these reasons, the Commission decided not to make provision for the aggregation of zone substation data in the draft rule.

In the draft rule determination, the Commission acknowledged that, in some cases, it may not be practically possible to aggregate zone substation data to avoid issues of confidentiality. Such circumstances may arise due to network configurations, where it is not possible to conceal an individual customer's load profile. In such circumstances, any data that is considered confidential or commercially-sensitive to a third party may be excluded from the publically released data set. In responding to DNSPs' views that data exclusion for the purposes of avoiding confidentiality concerns should be permitted under any proposed rule change, the Commission noted that under the draft rule (and the rule as made), DNSPs may choose the method they think is reasonable and appropriate to deal with issues of confidentiality. This may include not providing information on a zone substation under the draft rule. 110

In responding to Ergon's suggestion that zone substations below a certain MVA threshold should be excluded from the publically released data set, in the draft rule determination, the Commission considered that unless there are reasonable concerns that the information is confidential or commercially-sensitive to a third party, then all available zone substation data should be released. The Commission considered that this is consistent with the objective of the rule change request which requires that, as far as possible, a complete set of zone substation load information from each DNSP is made public.

In responding to the CEC's suggestion that there should be an 'opt-out' option available for customers who have concerns about data confidentiality, in the draft rule determination, the Commission considered that such an approach places the onus on the individual customer to object. As outlined above, the Commission considered that the DNSP is in the best position to make judgements on issues with regard to data confidentiality. If a DNSP has concerns that there may be potential confidentiality issues with regard to releasing zone substation load data that could be linked to a particular individual customer, then the DNSP could, for example, contact that

¹¹⁰ Clause 5.13A(b)(2) of the rule as made.

customer to establish whether they have any objections to that data being publically released.

In responding to the NGF's view that the publication of all zone substation data should not create any significant concern about commercial disclosure, in the draft rule determination, the Commission considered that large consumers (such as industrial plants) which are supplied directly from zone substations would be highly sensitive to the public release of load data that could be used to derive their electricity consumption profiles. To disclose such data may allow competing customers to decipher commercially-sensitive information, such as production costs and volumes.

7.3.2 Commission's response to issues raised in the second round of consultation

The Commission notes that there was general support from stakeholders in their submissions to the draft rule determination that DNSPs should have the discretion to determine how to deal with data that, in their reasonable opinion, is confidential or commercially-sensitive to a third party.

In responding to Ergon's query as to when persons requesting zone substation data should be informed by the DNSPs that data has been excluded due to confidentiality reasons, the Commission considers that, for information transparency reasons, this should be done at the earliest practical opportunity, and no later than when the zone substation data reports are provided by the DNSPs. The rule as made only requires DNSPs to provide this information as part of the information that is to be provided in the zone substation reports. ¹¹¹

The Commission notes the comments made by the NGF on the exclusion of data which may be considered as being commercial-in-confidence to a third party, and encourages DNSPs to adopt a consistent approach, in terms of assessment of data and from year to year, when dealing with issues of data confidentiality.

¹¹¹ Clause 5.13A(b)(2) of the rule as made.

8 Provision of single line diagrams

This chapter discusses the issue of the provision of single line diagrams by DNSPs. The views of the rule proponent and stakeholders, the outcome of discussions between the NGF and ENA, and the Commission's analysis and decisions, are set out below.

In discussions with the NGF and ENA, the NGF raised the issue that under any proposed rule requiring the provision of zone substation load information, DNSPs should also be required to provide single line diagrams as part of that information. The AEMC understands that the NGF's interpretation of what a single line diagram is, is a schematic diagram that shows the linkages between zone substations.

8.1 Rule proponent's view

The NGF in its rule change request did not raise the issue of single line diagrams directly.

8.2 Stakeholders' views

8.2.1 First round of consultation

Stakeholders' submissions in response to the AEMC's consultation paper did not raise the issue of single line diagrams. This issue was not discussed in the AEMC's consultation paper.

8.2.2 NGF and ENA investigations and discussions

As discussed in chapters 5, 6 and 7, the Commission, prior to publicly consulting on the draft rule determination, the Commission facilitated discussions between the NGF and ENA with the aim to provide the Commission with more information to assist its assessment of the proposed rule change against the NEO. The outcome of discussions between the NGF and ENA was general support for a set of key parameters for the provision of data.

However, the NGF and ENA did not agree on two issues, namely confidentiality and the requested provision of single line diagrams.¹¹² The requested provision of single line diagrams is discussed below.

The NGF was of the view that DNSPs should be required to provide single line diagrams, or detailed network diagrams that show the linkages between zone substations.

The AEMC understands that the NGF considers that these diagrams would assist in the interpretation of the zone substation raw data, particularly where there are step

¹¹² ENA, letter to AEMC, 25 October 2013, pp.1-2.

changes in the data. Step changes may be the result of load switching from one zone substation to another or the sectioning of the local 11kV network. Where load switching occurs, a sudden change in load at a given zone substation would normally result in a corresponding opposite load change at another zone substation. We understand from the NGF, that data requesters may wish to develop algorithms to interpret these load step changes and to attribute the load to specific network areas. The NGF considers that in order to achieve this, single line diagrams, or detailed network diagrams are required which show the linkages between zone substations, and also the likely points where the distribution network could be sectioned.

We understand that the NGF considers that single line diagrams are particularly needed where the distribution network is highly meshed. It also considers that the network diagrams shown in the DAPRs are at a very high level and do not provide sufficient detail for such analysis to be undertaken.

In response, the ENA submitted that it does not support the public release of spatial information on the location of zone substations and the provision of single line diagrams, as proposed by the NGF. It noted that where this information is currently available, it is subject to confidentiality agreements. The ENA considered that the public release of such information raises potential security concerns. ¹¹³

The ENA considered that there is sufficient detail in the maps published in the DAPRs to provide connectivity of the zone substation to its supplying substation.¹¹⁴

8.2.3 Second round of consultation

The NGF considers that the provision of single line diagrams showing the linkages between zone substations would be a necessary input into developing modelling tools (that is, algorithms) to interpret step load changes and to attribute the load to a physical network area. ¹¹⁵

In their submission on the draft rule determination, the NGF supported the approach suggested by the AEMC, with regard to the provision of single line diagrams. That is, that interested parties may directly approach and negotiate confidentiality agreements with DNSPs, for the provision of single line diagrams. To facilitate this approach the NGF, in their submission requested DNSPs' ongoing cooperation in this matter. ¹¹⁶

The NGF submitted that it has reviewed the network maps provided by DNSPs as part of their DAPRs. It noted that the quality of these maps varies very widely between DNSPs. The NGF considered that none of these network maps that are currently

ENA, letter to AEMC, 25 October 2013, p.4.

¹¹⁴ ENA, letter to AEMC, 25 October 2013, p.4.

NGF, submission, 30 January 2014, p.2.

NGF, submission, 30 January 2014, p.4.

published show sufficient detail to enable a robust analysis of the raw zone substation data. 117

With regard to the release of single line diagrams of zone substations under confidentiality agreements, the NGF submitted that a DNSP would need to be satisfied that the third party had a legitimate intention to use the schematic network diagrams to assist with processing the zone substation load data. It suggested that the agreement would need to set out restrictions on publishing or disseminating any information contained in the single line diagrams. The NGF submitted that it would anticipate that there should be no reason why a registered NEM participant or any NEM data consultancy business should be denied access to this information under such an agreement. 118

8.3 Commission analysis and conclusion

The Commission considers that DNSPs should not be required to provide single line diagrams or any other network design information that is not already included in the DAPRs.

In reaching this decision, the Commission notes that:

- there are legitimate concerns regarding network security and commercial-in-confidence issues with the public release of detailed network diagrams and information. The Commission considers that the provision of additional detailed information that may be contained in the single line diagrams is not warranted when balanced against the security concerns that may flow from the provision of such information;
- each DNSP, as part of its DAPR, is required to provide a regional development plan which consists of a map of its network identifying sub-transmission lines, zone substations and transmission-distribution connection points;¹¹⁹
- it would be difficult in a rule to qualify what level of subjective detailed information would be required to resolve data interpretation issues;
- the provision of detailed network diagrams and information would add to DNSPs' costs of providing zone substation data; and
- interested persons who request zone substation data under the rule as made, may directly approach and negotiate with individual DNSPs to obtain any detailed network information that they may require on a confidential basis (for example, by signing a confidentiality agreement).

NGF, submission, 30 January 2014, p.2.

NGF, submission, 30 January 2014, p.2.

¹¹⁹ Schedule 5.8(n) of the NER.



9 Regulation of the fee charged and commencement of DNSPs' obligations

This chapter discusses the issues of the regulation of the fee charged by DNSPs for the provision of zone substation data and when DNSPs' obligations under the rule as made should commence. The Commission raised these issues in the draft rule determination for stakeholder comment. Set out below are stakeholders' views on these issues and the Commission's analysis and decisions.

9.1 Stakeholders' views

9.1.1 Second round of consultation

Regulation of the fee charged

In the draft rule determination, the Commission invited stakeholders to comment on whether it would be desirable for the AER to regulate the price of the service for the provision of zone substation data prior to the start of the next regulatory control period for a DNSP. Stakeholders were also invited to comment on the nature of the transitional arrangements that should be put in place if they thought it desirable for the AER to regulate the fee charged during this period. ¹²⁰

In submissions in response to the draft rule determination, stakeholders were generally not in support of transitional provisions which allowed for the AER to regulate the price of the service prior to the start of the next regulatory control period. The exception was the NGF who supported the addition of transitional provisions for this purpose.

In its submission, the AER noted that the classification of all services is considered as part of the framework and approach (F&A) stage prior to each regulatory determination process. The AER considered that it is not necessary to pre-empt the F&A process to predetermine the service classification. It considered that the F&A process provided under the NER is the appropriate and consistent mechanism by which to decide on the regulation of the service for the provision of zone substation data. ¹²¹

The AER also submitted that it is yet to formally consider the most appropriate classification for this service for the purposes of cost recovery. It noted that if the service was classified as an alternative control service, then the DNSP would be able to set a fee that is proportionate to its cost in providing the service, which would need to be approved by the AER. 122

¹²⁰ AEMC, draft rule determination, 5 December 2013, p.ii.

¹²¹ AER, submission, 29 January 2014, p.1.

Refer to section 3.2.2 for a discussion on standard control and alternative control services.

The AER also noted that where the service was to be unregulated, the charge imposed may be subject to monopoly rent.¹²³

In its submission, the CEC considered that there is no need for transitional provisions. Instead, it considered that the NER should be more prescriptive than simply requiring that fees that a DNSP can charge should be reflective of reasonable costs. It submitted that the NER should require DNSPs to demonstrate that their fees are reasonable, by providing a cost breakdown demonstrating hours, rates and expenses relevant to the task. The CEC considered that such an approach would likely remove the need for the AER to regulate the price of this service, and therefore avoid any associated transitional arrangements. ¹²⁴

The ENA also considered that there is no need for transitional provisions. It considered that it is appropriate for the AER to consider this matter on a case by case basis in its F&A within the regulatory determination process. It noted the different views of some of its members on this matter (such as, Energex and Jemena) which it suggests reflects their individual circumstance. 125

Energex considered that it currently has the ability to charge for this service under existing AER approved pricing arrangements for alternative control services. As such, there is no need for transitional provisions. It also submitted that DNSPs should be able to charge a reasonable fee for the service and that the AER should regulate the price as part of the regulatory determination process. ¹²⁶

Ergon submitted that if the AEMC accepts Ergon's request for a delay in the commencement of the new rule to at least September 2015 because of Ergon's IT systems upgrade, then no transitional arrangements would be required. This is because the rule would take effect after its next regulatory determination. Ergon also submitted that it would support the service being made an alternative control service if it were subject to regulation by the AER. 127

Jemena considered that it would be inefficient to regulate the fee for the provision of zone substation data. It submitted that the fees recover the reasonable costs of providing zone substation reports and the costs would vary depending on whether the request is for one or more annual reports or for a ten year report. 128

The NGF supported the need for transitional provisions. The NGF submitted that the fact that the AER may step in and set a fee for this service should provide a discipline on the DNSPs. It also suggested that the AER could take advice from generators and other data requesters when considering whether to determine service fees on an ongoing basis. With regards to setting fees that are reasonable, the NGF seeks the

¹²³ AER, submission, 29 January 2014, p.1.

¹²⁴ Clean Energy Council, submission, 30 January 2014, pp.1-2.

ENA, submission, 4 February 2014, pp.1-2.

Energex, submission, 28 January 2014, p.1.

Ergon Energy, submission, 30 January 2014, p.5.

Jemena, submission, 30 January 2014, pp.1-2.

cooperation of DNSPs so that the fees charged reflect the actual costs incurred in collecting and distributing the data. 129

The commencement of DNSPs' obligations

In the draft rule determination, the Commission invited stakeholders to comment on whether a delay to the commencement date of the final rule is required to allow time for DNSPs' to put in place business processes and/or systems that may be required for the provision of zone substation data. Stakeholders were also invited to comment on what they would consider an appropriate time frame for DNSPs to make adequate preparations.¹³⁰

In submissions in response to the draft rule determination, stakeholders were generally supportive of DNSPs' obligations under the rule commencing on the first DAPR date after the rule commences.

The ENA, Energex and Jemena considered that the commencement date of the final rule should be aligned to the date of the next DAPR for each network. ¹³¹ Jemena considered that this would allow adequate time for it to put in place the processes and systems to provide the zone substation data. ¹³² Energex noted that for Queensland, DNSPs must publish their DAPR by 30 September. ¹³³

However, Ergon considered that the commencement date of the final rule should be delayed until at least September 2015. This it considered is necessary to allow time for the implementation of a new source system for its load data and to make changes to the DAPR process. Moreover, it noted that there is already a significant regulatory workload during 2014/15 year. ¹³⁴

Ergon submitted that if the final rule were made, then it will need to review its processes and systems involved before the commencement of any new rule. It also considered that it is necessary that the information provided be aligned with the DAPR and that timing, processes and IT solutions to provide the zone substation data will also need to be aligned with the DAPR process. ¹³⁵

The ENA also noted Ergon's submission on this matter, commenting that the rule change will only require the provision of zone substation data where it is available. 136

¹²⁹ NGF, submission, 30 January 2014, pp.3-4.

¹³⁰ AEMC, draft rule determination, 5 December 2013, p.ii.

ENA, submission, 4 February 2014, p.1; Energex, submission, 28 January 2014, p.1; and Jemena, submission, 30 January 2014, p.1.

Jemena, submission, 30 January 2014, p.1.

Energex, submission, 28 January 2014, p.1

Ergon Energy, submission, 30 January 2014, p.5.

Ergon Energy, submission, 30 January 2014, pp.3-4.

ENA, submission, 4 February 2014, p.2

9.2 Commission analysis and conclusion

9.2.1 Regulation of the fee charged

The Commission considers that transitional provisions, that would allow the AER to regulate the fee charged for the provision of zone substation data before the start of the next regulatory control period for each DNSP, are not necessary. In reaching this conclusion, the Commission notes that:

- A person who requests data from a DNSP and has concerns that the fee charged by the DNSP is not reasonable (that is, that the DNSP may be in breach of the rule as made), may consider taking their concerns to the AER for investigation.
- The knowledge that the AER may investigate any concerns raised by persons
 potentially requesting zone substation data, should provide a degree of discipline
 on DNSPs when they are determining the level of fees to be charged.
- The AER, in any case, may classify the service for the provision of zone substation data and the appropriateness of the level of fees charged for this service as part of the process for the next regulatory determination for each DNSP.

The Commission considers that the CEC's suggestion that DNSPs should be required to provide a cost breakdown of their services, while it may add to information transparency, is also not necessary for the reasons outlined above.

The Commission notes the views expressed by the ENA and Energex for the AER to determine, on a case by case basis, the level of fees charged during the regulatory determination process. The Commission also notes Energex's view that it currently has the ability to charge for this service under existing AER approved pricing arrangements for alternative control services.

In responding to Jemena's view that the regulation of such a service by the AER is unnecessary and it would be inefficient, the Commission considers that this is not the case. The Commission notes that the provision of zone substation data would be a monopoly service. Because of this, as noted by the AER, if the service were to be unregulated, then the charge imposed may be subject to monopoly rent. Therefore, the Commission considers that it is appropriate for the AER to determine the type of regulation that should apply to the service.

The Commission notes the NGF's views about the need for transitional provisions, but for reasons outlined above, the Commission considers that transitional provisions are not necessary. In responding to the NGF's comment regarding DNSPs' cooperation in setting fees that are reflective of actual costs, the Commission notes that the rule as made requires that any fee charged must be no more than that required to meet the reasonable costs that are anticipated to be incurred by the DNSP.¹³⁷

¹³⁷ Clause 5.13A(d)(7) of the rule as made.

In responding to Ergon's submission that transitional provisions would not be required if the commencement date of the rule was delayed until after Ergon's next regulatory determination, the Commission does not consider it necessary to delay the commencement date of the rule. This is discussed further in section 9.2.2 below.

9.2.2 The commencement of DNSPs' obligations

The Commission considers that the commencement date for a DNSP's obligations under the rule, should be its first DAPR date after the rule has commenced on 13 March $2014.^{138}$

The Commission notes the views expressed by the ENA, Energex and Jemena that the rule commencement date should be aligned to the next DAPR date for each DNSP.

In responding to Ergon's submission that the rule commencement date should be delayed until at least September 2015, the Commission considers that this is not necessary. This is because the rule as made requires DNSPs to provide zone substation data where this data is available. If Ergon cannot make its zone substation data available because it has not in place IT systems to extract and compile this data, then the Commission would consider that this data is unavailable until such time as these IT systems are operational. The Commission understands from Ergon's submission that its IT systems will be operational for it to fulfil its obligations under the rule by late 2015.

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The Commission notes that dates by which DNSPs are required to publish their DAPRs vary depending upon the jurisdiction. DNSPs in NSW, Victoria, South Australia and the ACT are required to publish their DAPRs by 31 December, DNSPs in Queensland are required to publish their DAPRs by 30 September and in Tasmania it is by 30 June.

¹³⁹ Clause 5.13A(b)(3) of the rule as made.

Abbreviations

AEMC Australian Energy Market Commission

AEMO Australian Energy Market Operator

AER Australian Energy Regulator

Commission See AEMC

DAPR Distribution annual planning report

DAPR date The date by which a DNSP is required to publish a

DAPR - see clause 5.13.2 of the NER.

DNSP Distribution Network Service Provider

CD Compact disc

CEC Clean Energy Council

CSV Comma separated values

ENA Energy Networks Association

FTE Full time equivalent

kV Kilovolts

kVA Kilovolt-amperes

kVAr Kilovolt-amperes reactive

kW Kilowatts

MCE Ministerial Council on Energy

MVA Megavolt-amperes

MVAr Megavolt-amperes reactive

MW Megawatt

MWh Megawatt-hour

NEL National Electricity Law

NEM National Electricity Market

NEO National Electricity Objective

NER National Electricity Rules

NGF National Generators Forum

PV Photovoltaic

SCADA Supervisory control and data acquisition

SCER Standing Council on Energy and Resources

TNSP Transmission Network Service Provider

USB Universal serial bus

A Summary of issues raised in submissions

A.1 First round of consultation

Stakeholder	Issue	AEMC Response
DNSPs who were generally not supportive of the proposed rule change: Aurora Energy (Aurora), Citipower and Powercor, Energy Networks Association (ENA),Energex, Ergon Energy (Ergon), Jemena Electricity Networks (Jemena), Networks NSW, SA Power Networks and United Energy. Other stakeholders who were supportive of the proposed rule change: Alinta Energy, Clean Energy Council, EnergyAustralia, GDF Suez, National Generators Forum (NGF) and Westpac Energy (Westpac).	 Data quality and availability DNSPs considered that there were significant issues in relation to data quality and availability, and questioned whether the data that is available is sufficiently robust to enable reliable econometric analysis and forecasts to be undertaken. In particular, DNSPs noted that: not all zone substations are metered and, those that are metered, may not have data extending back for ten years; zone substations are metered for operational and planning purposes and mostly have supervisory control and data acquisition (SCADA) data; the metered data is measured in MW at different time intervals (for example, at 1, 5, 10, 15 or 30 minute intervals) and would require conversion to MWh at half-hour intervals; switching and load transfer can occur between zone substations at any given point in time, which can result in significant variations in load recorded at those substations affected; the metered data may contain gaps or missing data due to 	Data quality and availability The Commission acknowledged that there are limitations with regards to the quality and availability of zone substation data. It recognised that not all zone substations are metered for half-hour energy data and that, where data is recorded and collected, the data series may not necessarily extend back for ten years, nor be continuous.
	device failure or metering equipment being offline for a	

Stakeholder	Issue	AEMC Response
	 the metered data is raw data and has not been corrected for spikes in the data, abnormal switching, outliers in the data and weather dependent variables; the metered data is gross energy data and consists of distribution load data as well as data from unmetered supplies (such as non-scheduled generators and solar photovoltaic (PV) generation); the metered data is not disaggregated by customer category; and the metered data for each DNSP will need to be assembled from records which are currently not in a standardised format. Aurora submitted that it is unconvinced that the publication of zone substation data for Tasmania, will be of use. This is because of the non-standard asset boundary that exists between transmission and distribution in Tasmania. The ENA submitted that the connection point data proposal that AEMO is currently investigating, if implemented, has the potential to provide more accurate data at the sub-regional level than the proposed publication of zone substation data. It suggested that the connection point proposal be evaluated before consideration be given to any incremental benefits from the proposed rule change. 	The Commission considered that under the draft rule, Aurora would not be required to provide data for its substations that take their supply directly from the transmission network as these substations are not connected to a sub-transmission network and are, therefore, not defined as a zone substation under the NER. The Commission noted while the transmission to distribution connection point data proposal is a similar proposal in that it relates to the publication of sub-regional electricity demand data, AEMO's evaluation of this proposal is unrelated to the Commission's consideration of this rule change request as it does not form part of the rule change request. The Commission noted that while the electricity demand data collected at transmission to distribution connection points is of a higher quality than zone substation load data, it is less granular as it is at a higher level in the supply chain. Given that zone

Stakeholder	Issue	AEMC Response
		substation load data provides a greater level of detail, it may be possible from this data to analyse electricity demand trends at a more localised level, than what otherwise may be achieved using the transmission to distribution connection point data.
	SA Power Networks submitted that about half of its zone substations have SCADA facilities. It estimated that it would cost \$16 million to install accurate metering (National Grid Meters) and communications to all of its 363 zone substations.	The Commission considered that DNSPs would not be expected to install metering equipment where metering does not currently exist at zone substations, or to improve the quality of their metered data for the specific purpose of meeting their obligations under the draft rule.
	Stakeholders who were supportive of the proposed rule change considered that zone substation load data should be made available on a routine basis and in a standardised format.	The Commission noted the comments made by stakeholders who were supportive of the proposed rule change.
	The NGF was of the view that the data would be useful in its most raw form to provide information on long term changes in demand patterns. It also considered that releasing the data in a raw form would reduce DNSPs' costs of collecting and distributing the data.	The Commission noted the comments made by the NGF in relation to the provision of raw data.
DNSPs who were generally not	Provision of data	Provision of data
supportive of the proposed rule change: Citipower and Powercor, Energy Networks Association (ENA), Energex, Ergon Energy (Ergon), Jemena Electricity Networks (Jemena),	DNSPs were generally not supportive of publishing zone substation data as they considered that it has not been demonstrated that the anticipated benefits outweigh any costs imposed.	The Commission considered that it is possible to provide zone substation data on the lowest cost terms possible, where the potential benefits arising from the provision of this data would outweigh the costs. It considered that the draft rule achieves this.
Networks NSW, SA Power Networks, and United Energy. Other stakeholders who were supportive of the proposed rule	DNSPs had concerns about publishing large volumes of zone substation data on their websites. They considered that their websites are not designed to handle the large volumes of data that would be required to be published. Ergon and Jemena submitted that significant costs would need to be incurred to	The Commission considered that under the draft rule, the potential costs likely to have been incurred by DNSPs, in relation to upgrading their websites to handle such large volumes of data, can be avoided. This is because DNSPs

Stakeholder	Issue	AEMC Response
change: Alinta Energy, Australian Energy Regulator	increase the capacity of their websites and to implement IT systems to manage such large volumes of data.	would only be required to provide data on request, rather than publishing the data on their websites.
(AER), Clean Energy Council (CEC), Creative Analytics, EnergyAustralia, EnerNOC, GDF Suez, National Generators Forum (NGF), St. Kitts Associates, Westpac Energy	Energex and Ergon suggested that DNSPs provide the data to a central body to co-ordinate and publish the data on its website, and that this would be beneficial to both DNSPs and data requesters.	The Commission considered that providing data to a central body to publish, is unlikely to be the least cost approach and would require a greater degree of co-ordination and administration.
(Westpac).	Jemena and United Energy suggested that any potential data requesters should first register with the DNSP and for the DNSP to then provide them with the data offline.	The Commission noted that the provision of data on request is the approach taken under the draft rule.
	Energex submitted that it did not consider that the costs of extracting raw SCADA data would be material. It estimated that it would take approximately one—two weeks for a FTE employee to extract historical raw data from its records in the format that is currently available. It also estimated that it would take approximately another week per year for a FTE employee	The Commission noted Energex's cost estimates for the provision of zone substation data.
	to extract, compile and publish the data on an annual basis. DNSPs were also concerned that they do not have current resources available to handle queries from data requesters about data quality issues and interpretation of the data. To do so, it was submitted, would impose significant costs on DNSPs.	The Commission did not consider that DNSPs would need to employee additional resources to handle queries from data requesters. This is because the data is provided on an 'as provided basis' and users are expected to accept the data at their own risk without any warranty or guarantees as to the data's quality or suitability for any particular purpose.
	United Energy submitted that providing derived consumption data, without the corresponding event data and networks' operations knowledge, may not be useful. It suggested an extensive business-to-business project which it suggested could take several years for DNSPs to standardise data formats and to provide meter register information and meter event collection and use. It estimated that this could cost each DNSP between \$4–10 million (not including the costs to improve metering and data quality work).	The Commission considered that the costs suggested by United Energy for providing additional information to the zone substation data would not eventuate under the draft rule. This is because under the draft rule, DNSPs are not obliged to provide information beyond the required raw zone substation data.

Stakeholder	Issue	AEMC Response
	The ENA submitted that if zone substation data is to be provided by DNSPs, then it should be subject to the following caveats:	The Commission noted that each of these issues identified by the ENA are addressed by the draft rule.
	 the source, form and limitations of the data must be explicitly recognised; 	
	 privacy concerns for individual customers need to be adequately addressed; and 	
	 information provided by DNSPs should be available on an 'as provided basis' and user's accept the data at their own risk without recourse. 	
	The ENA also submitted that, as a general principle, it considers that the direct beneficiaries of the proposed rule change should bear the costs.	The Commission noted that under the draft rule, data requesters who are the direct beneficiaries of the draft rule are required to pay a fee to the DNSPs for the provision of zone substation data.
	The AER submitted that, in principle, it supports the public release of market information as it provides greater transparency to the operation of the market and provides market participants with more reliable information on which to base their decisions, thereby promoting more efficient outcomes. The AER considered that, provided the data is robust, then the benefits cited by the NGF in its rule change request are likely to occur from the proposed rule change.	The Commission noted the comments made by the AER in support of the proposed rule change.
	Generators (Alinta Energy, EnergyAustralia, GDF Suez and the NGF) considered that the proposed rule change will allow competing forecasts of electricity demand and will encourage empirical assessment of the factors that are driving electricity demand.	The Commission noted the comments made by stakeholders who were supportive of the proposed rule change.

Stakeholder	Issue	AEMC Response
	EnerNOC submitted that in addition to significantly increasing transparency by making more detailed load data routinely available, the proposed rule change could benefit demand-side aggregators in assessing the potential for demand-side solutions to network issues. The CEC submitted that the publication of zone substation data could allow greater scrutiny of DNSPs' investment proposals for the augmentation of their networks. EnergyAustralia and Westpac submitted that consideration should be given to publishing the data on a real time basis. Stakeholders who were supportive of the proposed rule change considered that the data should be published in a standardised format that would allow users to access and analysis the data consistently.	The Commission noted the comments made by the EnerNOC in support of the proposed rule change. The Commission noted the comments made by the CEC in support of the proposed rule change. The Commission considered that it has not been provided with sufficient reasons to support making data available on a real time basis and that, in any event, it is unlikely to be the least cost approach in providing zone substation data. The Commission noted the comments made by stakeholders who were supportive of the proposed rule change.
Alinta Energy, AER, Aurora Energy (Aurora), Citipower and Powercor, Clean Energy Council (CEC), EnergyAustralia, Energex, EnerNOC, Ergon Energy (Ergon), GDF Suez, Jemena Electricity Networks (Jemena), National Generators Forum (NGF), Networks NSW, SA Power Networks, United Energy, and Westpac Energy (Westpac).	Confidentiality issue Aggregation of zone substation data was generally seen as the best approach to reducing the risk of releasing data that could be considered as confidential.	Confidentiality issue The Commission considered that it is difficult to prescribe what level of aggregation should be applied, without significantly impacting on the usefulness of the data. This is because it is dependent on the particular circumstances of the zone substation concerned (for example, how it relates to the surrounding network, it's location and the number and relative load sizes of the customers supplied). Also, it may be difficult to assess what level of aggregation is acceptable without significantly impacting on the usefulness of the data. Aggregation could run counter to the objective of analysing locational loads and data manipulation may add to DNSPs' costs. For these reasons, the Commission did not make provision for the

Stakeholder	Issue	AEMC Response
		aggregation of zone substation data in the draft rule.
	Westpac submitted that when aggregating zone substations for confidentiality purposes, similar customer types should be aggregated together, where possible.	The Commission noted the comments made by Westpac, GDF Suez and EnerNOC in relation to aggregating data.
	GDF Suez cautioned against an overly conservative approach by DNSPs unnecessarily aggregating data to avoid issues of confidentiality. It considered that such an approach would restrict the granularity and, hence, utility of the data.	
	EnerNOC submitted that when aggregating zone substation data, care should be taken, where possible, to form aggregations in a way which is consistent with the network topology. This is so that the zone substations concerned will generally lie on the same side of any likely constraint.	
	Several DNSPs (Ergon, Jemena, and SA Power Networks) submitted that when aggregating data to avoid issues of confidentiality, consideration not only be given to the number of customers sharing a zone substation, but also the relative demand of customers at the zone substations concerned. For example, a zone substation may have one major industrial customer and many individual smaller customers, and that the load of the zone substation will largely reflect the load of the major customer.	The Commission considered that DNSPs are in the best position to make judgements on zone substation aggregation. This is because DNSPs have detailed knowledge of the configuration of their networks including where zone substations are located with respect of any likely constraint. DNSPs may also have knowledge on the number of customers and their relative load sizes that are supplied from each of their zone substations.
	Some DNSPs (Aurora Energy, Energex, Ergon Energy and SA Power Networks) considered that due to network configuration, in some instances, it may not be possible to aggregate zone substation loads to avoid disclosure of major customer loads. It was considered that in such circumstances, exclusion of the zone substation data from public release should be permitted.	The Commission acknowledged that in some cases, it may not be practically possible to aggregate zone substation data to avoid issues of confidentiality. In such circumstances, any data that is considered confidential or commercially-sensitive to a third party may be excluded

Stakeholder	Issue	AEMC Response
	Ergon submitted that the definition of zone substation data that is required to be published be clarified so that:	from the publically released data set. The Commission considered that unless there are
	 zone substations that are dedicated to a single customer should be excluded, as well as substations that have a commercial or confidentiality issues; and 	reasonable concerns that the information is confidential or commercially-sensitive to a third party, then all available zone substation data should be released. The
	 zone substations below a certain MVA threshold (for example, 2MVA) should be excluded on the basis of likely confidentiality issues, and the costs of maintaining data for a relatively insignificant benefit. 	Commission considered that this is consistent with the objective of the rule change request which requires that, as far as possible, a complete set of zone substation load information from each DNSP is made public.
	Energex, Jemena and SA Power Networks submitted that judgements on confidentiality with regards to releasing data should be made at the discretion of the DNSP.	The Commission noted that the draft rule provides discretion to DNSPs to decide on how to deal with issues of data confidentiality that may arise with the public release of zone substation data.
	Energex submitted that the confidentiality of customer information is governed by contract terms which prevent disclosure of information except in specific circumstances where Energex is required to disclose the information by law. It considered that the proposed rule change should include a mechanism or an exemption that allows a DNSP to not have to disclose zone substation data if it believes that by doing so it would be likely to breach customer confidentiality obligations.	The Commission noted the comments made by Energex in relation to disclosure of customers' confidential information.
	The CEC considered a more appropriate approach to the treatment of confidential information would be a requirement for market participants or individual customers who consume electricity above a certain threshold level to 'opt-out' of the publication of demand data. If the customer chooses to 'opt-out', then the relevant DNSP should make the appropriate decision about aggregating data for that customer's connection point. Otherwise, the CEC considered that all data should	The Commission considered that an 'opt-out' approach as suggested by the CEC places the onus on the individual customer to object. The Commission considered that the DNSP is in the best position to make judgements on issues with regards to data confidentiality. If the DNSP had concerns about releasing data that could be linked to a particular individual customer, then the DNSP could, fo example, contact that customer to establish whether they have any objections to that data being publically released

Stakeholder	Issue	AEMC Response
	remain disaggregated. The NGF was not supportive of restricting the release of zone substation data. It considered that the benefits of publishing all data in a consistent form may outweigh any concerns about releasing data on zone substation loads from which only a few customers take supply. It noted that smelters and large industrial customers generally take their supply from the sub-transmission network and consequently will not be affected by the proposed rule change. The NGF submitted that the reasons why it considers that the publication of all zone substation data should not create any significant concern about commercial disclosure, are: • for a person to use this information to track an individual customer's load profile, they would need to know the identity of the relevant zone substation, how many other customers receive supply from that substation, and the approximate load shape of each customer taking supply; • the proposed publication of zone substation data is historical data, not real time data; • the zone substation data only relates to the volume and profile of electricity supply, it does not reveal the value of any supply contracts; • publication of zone substation data would seem compatible with other initiatives to quantify and publish details of the extent of demand response in the NEM; • electricity represents a relatively small proportion of business costs for the vast majority of businesses in the	The Commission noted the comments made by the NGF in relation to publically releasing data that may be considered as confidential. The Commission considered that large consumers (such as, industrial plants) which are supplied directly from zone substations would be highly sensitive to the public release of load data that could be used to derive their electricity consumption profiles.

Stakeholder	Issue	AEMC Response
	NEM; and	
	AEMO publishes data on generator unit operations at five minute intervals along with a range of other technical and commercial data for each power station facility. Generators do not object to the publication of this information.	
	The NGF also submitted that aggregation of zone substation data may shuffle loads between zone substations as customer numbers increase or decrease through time.	The Commission noted the comments made by the NGF in relation to aggregating data.

A.2 Second round of consultation

Stakeholder	Issue	AEMC response
Ergon Energy (Ergon) and National Generators Forum (NGF)	Ergon sought clarification from the AEMC that bulk supply substations and transmission to distribution connection points are excluded from public requests for data from DNSPs under this rule change. It considered that these substations and connection points should be excluded as zone substations deliver energy to customers and any shared asset is merely a transport mechanism. The NGF submitted that it accepts that DNSPs do not have sophisticated metering equipment installed on many zone substations given the costs involved and that high-quality metering data for billing purposes is collected elsewhere in the transmission and distribution networks.	Data quality and availability The Commission clarifies that only those substations that fall within the NER definition of a zone substation will be covered by the rule as made. This means that bulk supply substations will not be affected by the rule, so long as they do not fall within the definition of a zone substation. Substations at transmission to distribution connection points are also excluded from the rule as they do not fall within the NER definition of a zone substation and are at a higher level in the supply chain. The Commission notes the comments made by the NGF in relation to the limitations to the quality and availability of zone substation data collected by DNSPs.

Stakeholder	Issue	AEMC response
Clean Energy Council (CEC), Energy Networks Association (ENA), Energex and Ergon Energy (Ergon)	Provision of data Stakeholders were generally supportive of the draft rule in regard to the provision of zone substation data. The CEC and Ergon considered that it would be desirable if the final rule included the reactive component of demand (that is, as either MV, MVAr or power factor), in addition to the required quantities measured in kW or MW. The CEC submitted that with the prevalence of more intelligent metering and control systems expected to be included in distribution systems, it is anticipated that the reactive component of zone substations' demand will become more readily accessible over time. Ergon submitted that this information is generally available in its systems and that it considers that it meets the intent of the rule change. Ergon also sought clarification from the AEMC on whether: • the annual zone substation reports, or the ten year zone substation reports, are to include all zone substations or individual zone substation; • there is any predetermined qualifications required of the party requesting the data from DNSPs; and • a DNSP may refuse to supply the data if it has reasonable grounds to suspect the data will not be used in accordance with the intent of the rule.	Provision of data The Commission considers that it is not necessary to require DNSPs to provide the reactive component of demand. It notes that the rule as made does not preclude a DNSP from providing this additional information (for example, this may include kVA or MVA, kVAr or MVAr, or power factor) should it wish to do so. It considers that requiring DNSPs to provide this additional information as part of the standard raw data set, may add to DNSPs' costs in providing zone substation load data. The Commission clarifies that under the rule as made: • All zone substations are to be included in the annual zone substation reports, or the ten year zone substations but will specify that the load for a zone substation is not being disclosed due to confidentiality reasons. However, this does not prevent a DNSP from additionally providing a report with data on identified single zone substations, if requested. • Any person may make a request to a DNSP for the provision of zone substation data.
		Under the rule as made, a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further

Stakeholder	Issue	AEMC response
		acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the rule. A DNSP cannot refuse to supply the requested data if it has reasonable grounds to suspect the data will not be used in accordance with the intent of the rule.
	Ergon suggested that additional IT operational support would be required, based on its recent experience of providing historical data to external parties as part of its Demand Reduction Potential Review. It also considered that providing data on USB drives was inconvenient and resource intensive and that its preference would be to provide the data through a secure website download.	The Commission notes Ergon's suggestion that additional IT operational support may be required for it to comply with the rule as made. The Commission considers that under the rule as made, the processes required and the associated costs incurred to make the data available are likely to be minimal. This is because the data that is to be provided is unprocessed raw data and it is provided on an 'as provided basis'. Also the Commission notes that under the rule as made, the DNSP is able to choose the format in which it is to provide the data.
	 Energex considered that the final rule should include additional subparagraphs to the effect that: DNSPs are not obliged to provide further detailed network information beyond the raw data for analysis purposes; zone substation data provided is to be used for the purposes for which it has been provided and should not be passed on to a third party without the DNSP's consent; and any published material relying on zone substation data must prominently include a reference to the limitations of the raw data provided by DNSPs. 	 The Commission notes that under the rule as made: DNSPs are only to provide zone substation load data as required by clause 5.13A(b) of the rule as made. No additional information is required to be supplied. The purpose for which the data may be used is not stipulated, and the data may be passed on to a third party without the consent of the DNSP. As noted above, under the rule as made, a DNSP must not require a person who requests zone substation information to meet any further conditions or make any further acknowledgements or undertakings to the DNSP before providing the information if the request is in the form required by the rule.

Stakeholder	Issue	AEMC response
		There is no requirement on the person requesting the data to include a reference on any published material relying on the zone substation data that notes the data's limitations. Under the rule as made, the person requesting the data is required to acknowledge the limitations of the data when making its request to the DNSP.
	Energex and the ENA supported the draft rule's inclusion of 30 business days, time period for the provision of data by a DNSP to a requesting party.	The Commission notes the support of the ENA and Energex to the appropriateness of 30 business day period for a DNSP to respond to a request for zone substation data. This period of time has been included in the drafting of the rule as made.
Energy Networks Association (ENA), Energex, Ergon Energy (Ergon) and National Generators Forum (NGF)	Confidential customer information Stakeholders were supportive of the provisions of the draft rule that allow DNSPs to decide whether zone substation data is confidential or commercially-sensitive to a third party and to exclude the data from zone substation reports on that basis. The ENA and Energex considered that it should be left to the discretion of DNSPs as to whether confidential or commercially sensitive data should be aggregated or excluded.	Confidential customer information The Commission notes the support of the ENA and Energex to the draft rule with respect to DNSPs using their discretion in determining how to deal with data that, in their reasonable opinion, is confidential or commercially-sensitive to a third party.
	Ergon sought the AEMC's guidance as to whether a DNSP should provide the reasons for data exclusions due to confidentiality on its website prior to a data request, or only after a request, for the zone substation data has been received by the DNSP.	The Commission considers that, for information transparency reasons, DNSPs should provide the reasons for data exclusions at the earliest practical opportunity, and no later than when the zone substation data reports are provided by the DNSPs. The rule as made only requires DNSPs to provide this information as part of the information that is to be provided in the zone

Stakeholder	Issue	AEMC response
	While the NGF accepted that DNSPs may use their discretion in these matters, it sought the co-operation from the DNSPs to ensure that only genuinely commercial-in-confidence data is excluded from the zone substation raw data. It raised a concern that any inconsistent treatment of commercial-in-confidence data will make the time series of zone substation data less useful. The NGF requested that DNSPs apply consistency of treatment on a year-to-year basis, while acknowledging that some loads will appear or disappear over time as larger users expand or exit operations.	substation reports. The Commission notes the comments made by the NGF on the exclusion of data which may be considered as being commercial-in-confidence to a third party, and encourages DNSPs to adopt a consistent approach, in terms of assessment of data and from year to year, when dealing with issues of data confidentiality.
National Generators Forum (NGF)	Provision of single line diagrams The NGF considers that the provision of single line diagrams showing the linkages between zone substations would be a necessary input into developing modelling tools (that is, algorithms) to interpret step load changes and to attribute the load to a physical network area. The NGF supported the approach suggested by the AEMC in that determination, with regard to the provision of single line diagrams. That is, that interested parties may directly approach and negotiate confidentiality agreements with DNSPs, for the provision of single line diagrams. To facilitate this approach in their submission, the NGF requested DNSPs' ongoing cooperation in this matter.	Provision of single line diagrams The Commission notes that the provision of single line diagrams is not an obligation placed on DNSPs under the rule as made.
Australian Energy Regulator (AER), Clean Energy Council (CEC), Energy Networks Association (ENA), Energex,	Regulation of the fee charged Stakeholders were generally not in support of transitional provisions which allowed for the AER to regulate the price of	Regulation of the fee charged

Stakeholder	Issue	AEMC response
Ergon Energy (Ergon), Jemena Electricity Networks (Jemena) and National Generators Forum (NGF)	the service prior to the start of the next regulatory control period. The exception was the NGF who supported the addition of transitional provisions for this purpose.	
	The AER noted that the classification of all services is considered as part of the framework and approach (F&A) stage prior to each regulatory determination process. It considered that it is not necessary to pre-empt the F&A process to predetermine the service classification. The AER also considered that the F&A process provided under the NER is the appropriate and consistent mechanism by which to decide on the regulation of the service for the provision of zone substation data.	The Commission notes the comments made by the AER in its submission.
	The CEC considered that there is no need for transitional provisions. Instead, it considered that the NER should be more prescriptive than simply requiring that fees that a DNSP can charge should be reflective of reasonable costs. It submitted that the NER should require DNSPs to demonstrate that their fees are reasonable, by providing a cost breakdown demonstrating hours, rates and expenses relevant to the task.	The Commission considers that the CEC's suggestion that DNSPs should be required to provide a cost breakdown of their services, while it may add to information transparency, it is also not necessary for the reasons outlined in section 9.2.1 of this final determination.
	The ENA considered that it is appropriate for the AER to consider this matter on a case by case basis in its F&A within the regulatory determination process. It noted the different views of some of its members on this matter (such as, Energex and Jemena) which it suggests reflects their individual circumstance.	The Commission notes the views expressed by the ENA and Energex for the AER to determine, on a case by case basis, the level of fees charged during the regulatory determination process.
	Energex considered that it currently has the ability to charge for this service under existing AER approved pricing arrangements for alternative control services. As such, there is no need for transitional provisions.	The Commission notes Energex's view that it currently has the ability to charge for this service under existing AER approved pricing arrangements for alternative control services.

Stakeholder	Issue	AEMC response
	Ergon submitted that if the AEMC accepts Ergon's request for a delay in the commencement of the new rule to at least September 2015 because of Ergon's IT systems upgrade, then no transitional arrangements would be required. This is because the rule would take effect after its next regulatory determination.	The Commission does not consider it necessary to delay the commencement of the rule until after Ergon's next regulatory determination. This is discussed further in section 9.2.2 of this final determination.
	Jemena considered that it would be inefficient to regulate the fee for the provision of zone substation data. It submitted that the fees recover the reasonable costs of providing zone substation reports and the costs would vary depending on whether the request is for one or more annual reports or for a ten year report.	The Commission does not consider that the regulation of such a service by the AER is unnecessary and it would be inefficient. The Commission notes that the provision of zone substation data would be a monopoly service. Because of this, as noted by the AER, if the service were to be unregulated, then the charge imposed may be subject to monopoly rent. Therefore, the Commission considers that it is appropriate for the AER to determine the type of regulation that should apply to the service.
	The NGF submitted that the fact that the AER may step in and set a fee for this service should provide a discipline on the DNSPs. It also suggested that the AER could take advice from generators and other data requesters when considering whether to determine service fees on an ongoing basis.	The Commission notes the NGF's views about the need for transitional provisions, but for reasons outlined in section 9.2.1 of this final determination, the Commission considers that transitional provisions are not necessary.
Energy Networks Association (ENA), Energex, Ergon Energy (Ergon) and Jemena Electricity Networks (Jemena)	The commencement of DNSPs' obligations The ENA, Energex and Jemena considered that the commencement date of the final rule should be aligned to the date of the next DAPR for each network.	The commencement of DNSPs' obligations The Commission notes the views expressed by the ENA, Energex and Jemena that the rule commencement date should be aligned to the next DAPR date for each DNSP. The Commission considers that the commencement date for a DNSP's obligations under the rule, should be its first DAPR date after the rule has commenced on 13 March 2014. This is to allow DNSPs sufficient time to make

Stakeholder	Issue	AEMC response
		preparations required to fulfil their obligations under the rule as made.
	Ergon considered that the commencement date of the final rule should be delayed until at least September 2015. This it considered is necessary to allow time for the implementation of a new source system for its load data and to make changes to the DAPR process. Moreover, it noted that there is already a significant regulatory workload during 2014/15 year.	The Commission considers that it is not necessary to delay the rule commencement date until at least September 2015 to allow Ergon sufficient time to implement its new source IT system. This is because if Ergon cannot make its zone substation data available because it has not in place IT systems to extract and compile this data, then the Commission would consider that this data is unavailable until such time as these IT systems are operational.
	The ENA also noted Ergon's submission on this matter, commenting that the rule change will only require the provision of zone substation data where it is available.	The Commission notes ENA's comments with regards to the rule as made only requiring the provision of zone substation data where this data is available.