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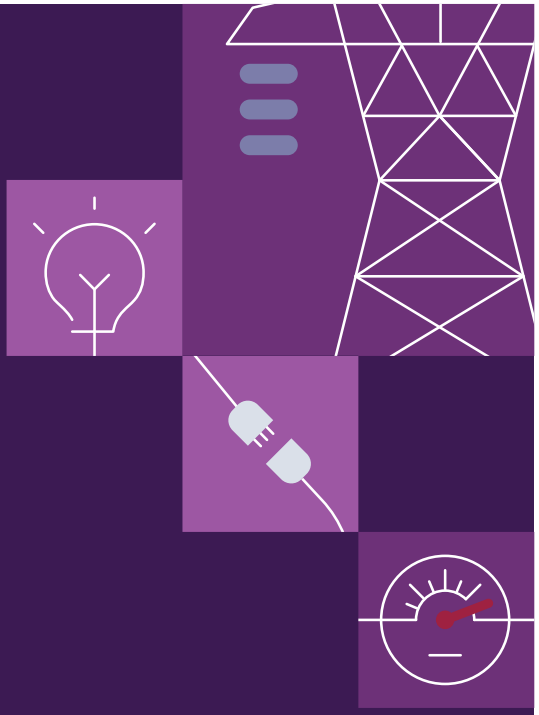

2025 Metering Services Review Package 3 Consultation

Consultation paper - Standard consultation for the National Electricity Market

Published: 4 April 2025

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New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

Australian Energy Market Operator Ltd ABN 94 072 010 327

Explanatory statement and consultation notice

This Consultation Paper commences the first stage of the standard rules consultation procedure conducted by AEMO (**Consultation**) to consider the changes that are proposed (**Proposal**) to the Retail Electricity Market Procedures (**REMPs**) under the National Electricity Rules (**NER**), which relate to changes described in the Accelerating Smart Meter Deployment (**ASMD**) rule.

Development of a Basic Power Quality Data Procedure

The ASMD Final Rule introduces a new term, Basic Power Quality Data (basic PQD), which is defined as the power supply measured by the meter measuring volts, amps, and phase angle. The Rule introduces new obligations for:

- Metering Coordinators to remotely collect and process basic PQD and relevant NMI Standing Data from *small customer metering installations.*
- AEMO to establish, maintain and publish procedures relevant to basic PQD.

AEMO's Procedures must include:

- procedures for the collection and processing of basic power-quality data;
- the appropriate service levels for basic power quality data; and
- the processes and procedures for sharing basic power quality data.

Package 3 Issues Paper proposes to create a new Basic Power Quality Data procedure defining Metering Coordinator's basic PQD obligations. A draft copy of this Procedure is provided at the Issues Paper stage to facilitate discussion before the draft determination.

Consultation notice

AEMO is now consulting on this proposal and invites written submissions from interested persons on the issues identified in this paper to NEM.Retailprocedureconsultations@aemo.com.au by 5:00 pm (Melbourne time) on 16 May 2025.

All submissions must be forwarded in electronic format (both pdf and Word). Please send any queries about this Consultation to the same email address.

Submissions may make alternative or additional proposals you consider may better meet the objectives of this consultation and the national electricity objective in section 7 of the National Electricity Law. Please include supporting reasons.

Before making a submission, please read and take note of AEMO's consultation submission guidelines, which can be found at https://aemo.com.au/consultations. Subject to those guidelines, submissions will be published on AEMO's website.

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so. Material identified as confidential may be given less weight in the decision-making process than material that is published.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Interested persons can request a meeting with AEMO to discuss any particularly complex, sensitive or confidential matters relating to the proposal. Please refer to NER 8.9.1(k). Meeting requests must be received by the end of the submission period and include reasons for the request. We will try to accommodate reasonable meeting requests but, where appropriate, we may hold joint meetings with other stakeholders or convene a meeting with a broader industry group. Subject to confidentiality restrictions, AEMO will publish a summary of matters discussed at stakeholder meetings.

Contents

1. Stakeholder consultation process

As required by National Electricity Rules (NER), AEMO is consulting on the Proposal in accordance with the standard rules consultation procedure in NER 8.9.2.

This Consultation Paper uses terms defined in the NER, which are intended to have the same meanings.

AEMO's indicative process and timelines for the Consultation are outlined below. Future dates may be adjusted, and additional steps may be included, if necessary, during the Consultation.

Table 1 Consultation process and timeline

Consultation steps	Dates
Consultation paper published	4 April 2025
Submissions closed on the consultation paper	16 May 2025
Draft report published	20 June 2025
Submissions due on draft report	25 July 2025
Final report published	30 September 2025

Pre-consultation engagement

AEMO discussed the proposal of the Procedure and inputs of the Technical Specification with interested parties on 28 February 2025.

Feedback from this session has been considered as part of this consultation.

2. Background

2.1. Context for this consultation

On 28 November 2024, the Australian Energy Market Commission (AEMC) published the Accelerating Smart Meter Deployment (ASMD) Final Rule to achieve universal smart meter deployment in the NEM by 2030. The Final Rule introduces a package of reforms designed to accelerate the deployment of smart meters and unlock the benefits of smart meter data.

In consultation with industry before the publication of the Draft Rule in April 2024, AEMO split the consultation into three work packages. The work packages reflect the Draft Rule approach of considering several core reforms and enabling reforms to accelerate the deployment of smart meters and utilise the functionality of the smart meters. The core reforms relate to the acceleration of smart meters in the NEM and delivery of power quality data to DNSPs; enabling reforms include reducing barriers to installing smart meters and new approaches to minimise the costs for industry and consumers for testing and inspection of metering installations. The Final Rule has kept the approach of core reforms and enabling reforms from the Draft Rule.

Table 2 outlines the consultation approach across the three packages of work.

Table 2 Consultation Packages

Consultation	Issue Paper	Expected Final Determination
Package 1: Acceleration	29 May 2024	2 April 2025
Package 2: Testing/Inspection and Malfunctions	10 February 2025	1 July 2025
Package 3: Basic Power Quality Data	4 April 2025	30 September 2025

This consultation reviews the procedural impact of Package 3: Basic Power Quality Data.

- Package 3: Basic Power Quality Data

The expansion of consumer energy resources in the National Electricity Market has impacted the stability and efficiency of the low-voltage distribution network. Smart meters can capture electrical parameters that can assist DNSPs in improving their network management. The AEMC identified the following benefits to giving DNSPs better access to basic PQD, which supports their understanding of the network:

- Save energy by maximising CER hosting capacity.
- Reduce line losses
- Minimise safety risks, such as through earlier detection of neutral integrity faults and voltage excursions at customer premises
- Drive down costs within the distribution network by extracting the most value from the existing.

For consumers and the broader energy system, the access and exchange arrangements of basic PQD will also provide the following outcomes:

- improving standardisation in the structure, types, sequencing, and frequency of basic PQD provided across market participants
- reducing differences in exchange architectures or methods for basic PQD access

- Addressing a potential lack of competitive pricing where basic PQD is required from a high percentage of sites.

The Rule has introduced new requirements for power quality data to be captured by smart meters. The changes specifically relate to:

- A new definition of 'basic power quality data', referring to measuring volts, amps and phase angle from a small customer metering installation
- Requiring MCs to provide basic PQD to DNSPs free of charge
- Under certain circumstances, exempting MCs from providing basic PQD
- Allowing AEMO and the AER to access this data free of charge
- New obligations for AEMO to establish, maintain, and publish procedures related to basic PQD.

The new requirements:

- Standardise the delivery of basic PQD from the MC to the DNSP
- Standardise the delivery architecture
- The new architecture for basic PQD does not provide advanced services - existing commercial agreements between MCs and DNSPs to deliver advanced PQD remain.

Design Architecture

The approach outlined in the Final Rule differs from that of the Draft Rule. The Draft Rule proposed that MCs and MDPs provide Basic PQD. However, under the Final Rule, there is no obligation for MDPs to supply basic PQD or to be accredited for fulfilling these basic PQD obligations on behalf of MCs.

AEMO's evaluation of this change indicates that it allows MCs to deliver available basic PQD from metering installations for small customers without storing the data. This represents a significant shift in how basic PQD is exchanged between the MC and the DNSP. This exchange pattern is a critical consideration in designing the overall architecture.

AEMO has recommended implementing a new Industry Data Exchange (IDX) mechanism between the MC and DNSP to facilitate the provision of basic PQD. This model will enable data exchange between participants, with AEMO as a data delivery guarantor. AEMO would provide the following services:

- AEMO-hosted channels for initiating inbound and outbound data submissions and receipts.
- Data Exchange Environment services that ensure confidentiality, integrity, and availability.

Although the technical specifications[1] are not included in this Issues Paper and will be addressed separately, the data exchange pattern between the MC and DNSP is an essential input for this Procedure.

AEMO notes that the Final Rule allows DNSPs, AEMO, and the Australian Energy Regulator (AER) to access basic PQD free of charge. The AER currently does not have any access to AEMO's systems. How an MC delivers basic PQD is beyond the scope of this Procedure; MCs will need to consider the mechanism to provide this data if required.

[1] The AEMO technical specifications include: Routing document, IDX technical specification, BPQD technical specification and SMP Technical guide

Metering Services Review

In its determination, the AEMC noted that AEMO would consider the work and findings of the Metering Services Review (the Review).

As part of the Review, a Reference Group comprising energy industry members was established to discuss the AEMC's Review of the regulatory framework for metering services. A Services and Data Working Group was also formed to examine basic PQD.

The Services and Data Working Group proposed the following specifications for basic PQD:

- Captured from all communications-enabled Type 4 small customer meters.
- Record voltage, current, and phase angle for both export and import.
- Captured at 5-minute intervals, aligned with market time.
- Delivered at least once per day, with a preferred frequency of every six hours (covering the previous 72 market intervals).
- Identified using NMI#, serial#, and each element of the meter.
- Enabled access to additional basic functionalities, such as enquiry services and multi-meter ping capabilities.

AEMO considered this specification in the development of this procedure.

This discussion paper focuses on creating the Basic Power Quality Data (BPQD) Procedure and making amendments to the retail and market procedures affected by the BPQD Procedure.

The Rule requires the Procedures to be finalised by 30 September 2025; the effective date of the reform is 1 July 2026.

2.2. NER requirements

AEMO is responsible for establishing and maintaining the Retail electricity market procedures specified in NER Chapter 7, except for procedures established and maintained under NER 7.17.

AEMO must establish and maintain the procedures authorised by NER Chapter 7 in accordance with the Rules consultation procedures.

2.3. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO will seek to make a determination that is consistent with the national electricity objective (NEO) and, where considering options, to select the one best aligned with the NEO.

The NEO is expressed in section 7 of the National Electricity Law as:

> 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; and
>
> (c) the achievement of targets set by a participating jurisdiction—
>
> (i) for reducing Australia's greenhouse gas emissions; or
>
> (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

3. MSR Package Three: Proposals

AEMO is proposing to:

- Create a new AEMO Basic Power Quality Data Procedure defining Metering Coordinator's BPQD obligations.
- Update 'Retail Electricity Market Procedures – Glossary and Framework' to include new Basic Power Quality Data Procedure terms, update to diagrams and reference to the Basic Power Quality Data Procedure.
- Update 'Guide to the Role of the Metering Coordinator' to include new BPQD obligations to fulfil the Basic Power Quality Data Procedure obligations.

A new AEMO BPQD Technical Specification will define the sender and recipient delivery requirements of BPQD.

This Issues Paper includes draft version of an AEMO Basic Power Quality Data Procedure and proposed changes to the AEMO 'Guide to the Role of the Metering Coordinator' and 'Retail Electricity Market Procedures – Glossary and Framework'.

3.1. Basic Power Quality Data Procedure

- Description and effect of proposal

New clauses have been included in the NER which require Metering Coordinators to deliver basic power quality data and require AEMO to establish, maintain and publish procedures related to this data.

Specifically:

Metering Coordinators

MCs are required to remotely collect and process basic power quality data and relevant NMI standing data from *small customer metering installations*. A metering coordinator is not required to comply with remote collection or processing of basic power quality data from a small customer metering installation if:

- the metering installation is not capable of supporting the remote collection and communication of basic power quality data;
- for reasons outside of the Metering Coordinator's control, the metering installation is temporarily unable to collect and/or communicate basic power quality data;
- the metering installation was installed before 1 December 2018;
- the metering installation is a type 4A or type 8B metering installation.

If a MC becomes aware that basic PQD delivered to a person in accordance with the NER is incorrect, the MC must provide corrected basic PQD.

AEMO

AEMO is required to establish, maintain, and publish procedures related to basic PQD. To enable the collection, processing and delivery of basic power quality data, the Final Rule requires AEMO to publish procedures to support the delivery of basic power quality data, which includes:

- procedures for the collection and processing of basic PQD
- the appropriate service levels for basic PQD
- the processes and procedures for sharing basic power quality data by the Rules
- any other matters necessary for collecting, processing and delivering basic PQD.

The Final Rule allows AEMO to establish basic PQD in existing procedures or publish it as a stand-alone document. AEMO proposes to create a new basic PQD procedure. The following section details key elements of the Basic Power Quality Data Procedure required by MCs to deliver basic PQD.

• Proposed content of the Basic Power Quality Data Procedure

Metering Coordinator obligations

In the Draft Rule, the AEMC proposed that the Metering Data Provider provide basic PQD to the DNSP. The Final Rule has removed this requirement and expanded the responsibilities assigned to the MC to remotely collect, process and deliver basic PQD from *small customer metering installations*.

AEMO proposes to utilise NMI standing data attributes (as defined in MSATS Procedures – Principles and Obligations for all Connection Points) to define what meters are required to provide basic PQD.

Key points proposed under this section:

- Specify the NMI standing data items from MSATS Procedures – Principles and Obligations for all Connection Points that require delivery of basic PQD to the DNSP, where these include:
    - *Meter installation type in MSATS: COMMS4C or COMMS4D*
        - The Final Rule requires delivery of basic PQD from meters which meet the minimum services specification. AEMO propose only meter installation types COMMS4C or COMMS4D as a standing data condition to provide basic PQD.
    - *NMI Status in MSATS: Active*
        - AEMO proposes only NMIs which are denoted as Active in MSATS are required to provide basic PQD.
    - *Meter Register Status Code in MSATS is 'Current'*
        - AEMO recognises small customer metering installations can be remotely disconnected with a Meter Register Status Code of D. AEMO proposes only those small customer metering installations with a meter register status code of C is required to provide basic PQD.
    - *Meter Installation within Victoria*
        - The final rule requires MCs to give basic PQD from small customer meters capable of remote collection and communication and required to meet the minimum services specification in Schedule 7.5. Consequently, Victorian AMI meters, where the MC is the DNSP, do not meet this requirement.

Meters not required to supply BPQD

- Include those metering installations which are not required to provide basic PQD.
    - Clause 7.3.2(l) of the Final Rule specifies situations where basic PQD is not required to be delivered. They are:
        - the metering installation is not capable of supporting the remote collection and communication of basic power quality data
        - for reasons outside of the Metering Coordinator's control, the metering installation is temporarily unable to collect and/or communicate basic power quality data;
        - the metering installation was installed before 1 December 2018
        - the metering installation is a type 4A or type 8B metering installation
    - Advanced services refer to measurements in addition to those or basic PQD that materially differ from the services outlined in this procedure. AEMO proposes that where an MC has bilateral agreements with the DNSP, including providing basic PQD, the MC is not required to provide basic PQD if advanced PQD includes the basic PQD measurements outlined in this procedure. Any bilateral agreement is auditable to confirm why a small customer metering installation has not provided basic PQD.

No cost

- Define that there is no cost to provide basic PQD to DNSPs, AEMO and the AER.

Service Levels

In its review of Metering Services, the AEMC proposed that the batching and provision of basic PQD be provided once per day to the DNSP. AEMO proposes that more detail is required in the procedure to clarify the service levels required by the MC and to consider the responses received from the IDX platform and the response times an MC needs to resend data.

This service level assumes that the compliance obligation for the MC is met by the MC receiving confirmation from the delivery system, not the recipient. This messaging pattern is a critical input into the technical specification.

Key points proposed under this section:

Basic PQD is delivered once per day.

- AEMO proposes a new term included in the Retail Electricity Market Procedures – Glossary and Framework termed *BPQD Period.* It would be the period of the previous calendar day, i.e. Day –1, representing the basic PQD data an MC must provide to the DNSP.

Confirmation of delivery

- The IDX delivery mechanism will confirm whether the hub has accepted the message to the MC. If the MC has received a rejection from the hub, the MC must resend the data within one business day of receiving the response. AEMO proposes that the delivery confirmation is included in the Retail Electricity Market Procedures – Glossary and Framework as a positive AEMO BPQD transmission signal or negative AEMO BPQD transmission signal.

Unable to deliver basic PQD

- If the MC is unable to deliver basic PQD it must inform the DNSP within one business day

Processing

Key points proposed under this section:

NMI and Serial Number

- The determination requires the MC must confirm the basic PQD came from the associated small customer meter at a NMI. The Final Rule requires the MC to provide relevant NMI standing data when providing basic PQD. AEMO proposes this should include the NMI and the serial number of the meter providing the basic PQD. MC's must validate the basic PQD against the NMI and serial number of the meter.

Where BPQD is not required

- The Final Rule only requires an MC to send basic PQD which is stored in the meter for the previous *BQPD Period.*
- There is no requirement for the MC to validate, edit or substitute the basic PQD.

Delivery

AEMO proposes that the MC is only required to provide the previous calendar day's basic PQD. AEMO has not defined when the MC should extract data from the meter. Consequently, how MCs collect basic PQD, whether via a rolling mechanism or simultaneously, is the decision of MCs when considering its systems and processes.

Key points under this section:

Data requirements

- AEMO propose the following data set is provided for basic PQD:
    - Start and end date
    - NMI and meter serial number
    - AEMO proposes a new term in the AEMO 'Retail Electricity Market Procedures – Glossary and Framework' termed Data Type Measurement, which defines the meter's unit of measure and phase number. This attribute would include the unit of measure and phase, for example, V2, which is the voltage on the second phase.
    - The Data Type Measurement is a value recorded at the start of the interval as an instantaneous value
    - Data is provided for 288 intervals per phase for a *BPQD Period*
- Daily delivery
    - Consistent with the Review's recommendation of data frequency, AEMO proposes that basic PQD be delivered once per day from the MC to the DNSP.
- Incomplete data
    - If a meter records one or more basic PQD trading intervals for the BPQD Period, the MC must deliver that data to the DNSP. Consequently, the MC can provide null values to the DNSP.
- Meter exchange
    - When a meter exchange occurs, the MC must only provide basic PQD from the date of a full *BPQD Period*.
- Communications Fault
    - When a communications fault occurs, the MC is only required to provide basic PQD from the day the meter resumes communicating.

- New MC and BPQD Period
    - When a new MC is assigned to a NMI, the BPQD Period refers to the first full day after the MC became effective in MSATS.

AEMO proposes an appendix with diagrams is included in the Procedure to illustrate these use cases.

Exception Management

If an MC becomes aware that an incorrect basic PQD has been delivered, the MC must resend the correct basic PQD within one business day.

Compliance Monitoring

To ensure MCs comply with their obligations to deliver basic PQD to DNSPs, AEMO proposes changes to the Guide to the Metering Coordinator to include a new section to define the responsibilities concerning Basic Power Quality Data.

• Proposed content of AEMO Technical Specification

AEMO proposes developing an AEMO BPQD Technical Specification to provide a standardised architecture to address Basic Power Quality Data obligations.

In pre-consultation with the industry, AEMO has recommended using a new industry data exchange (IDX) mechanism between the MC and DNSP to provide BPQD. This model would support data exchange between participants, and where AEMO play a role as a data delivery guarantor. AEMO would provide the following:

- AEMO-hosted channels through which to initiate Inbound and Outbound data submission and receipt.
- Data Exchange Environment services guaranteeing confidentiality, integrity, and availability.

The AEMO BPQD Technical Specification is beyond the scope of this Issues Paper; nonetheless, it is an essential input into the pattern of data exchange between the MC and DNSP. Pre-consultation with the industry has indicated that receiving a technical response from the DNSP to confirm receipt of MC data is not required to deliver BPQD. This data exchange pattern forms the basis of the proposed delivery method for this Procedure.

AEMO's Basic PQD procedure has proposed a pattern that only requires positive/negative delivery of BPQD to AEMO Exchange architecture. Based on consultation feedback, a change to this pattern would require changes to the Procedure and the AEMO BPQD Technical Specification.

Further development and consultation are required to complete the technical specification; AEMO will work on the AEMO BPQD Technical Specification separately from this Issues Paper.

• Proposed change to the Retail Electricity Market Procedures – Glossary and Framework

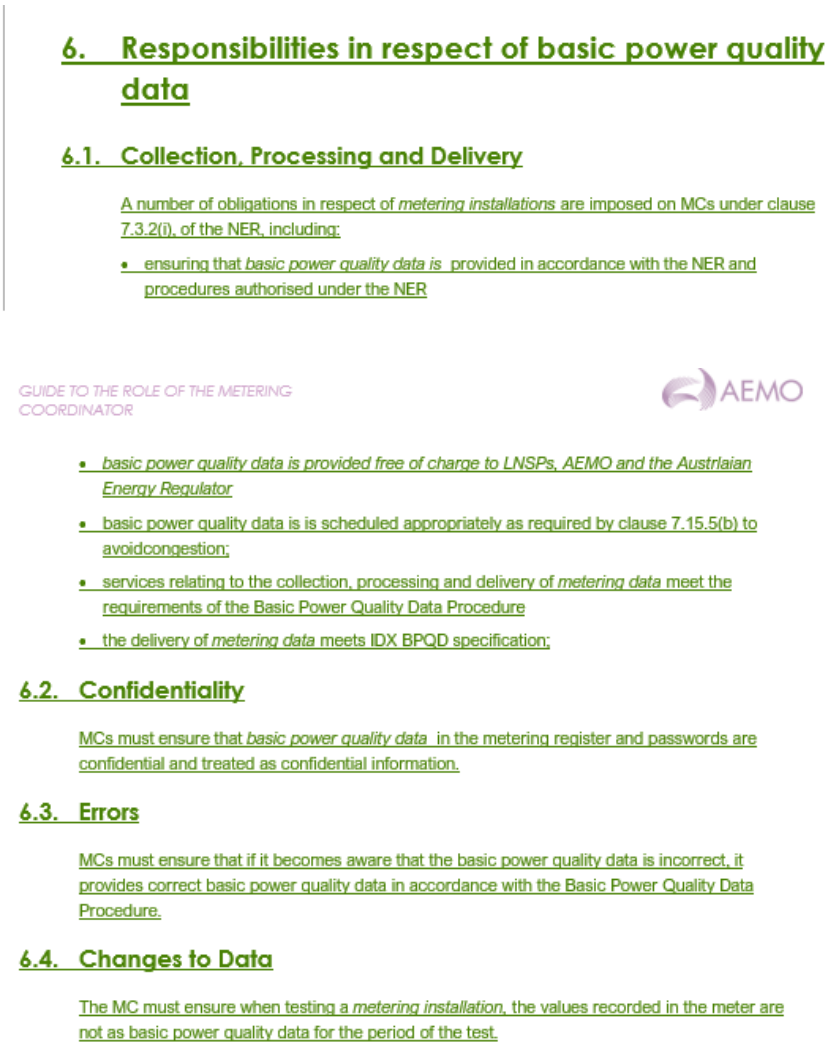
AEMO proposes new terms in the Retail Electricity Market Procedures – Glossary and Framework:

Term	Definition
BPQD	Basic Power Quality Data refers to a small customer metering installation recording a Data Type Measurement at the start of a trading interval
Data Type Measurement	• V1: Voltage for the first phase recorded as a numeric number • V2: Voltage for the second phase recorded as a numeric number • V3: Voltage for the third phase recorded as a numeric number • C1: Current for the first phase recorded as a numeric number • C2: Current for the second phase recorded as a numeric number • C3: Current for the third phase recorded as a numeric number • A1: Phase angle for the first phase measured in degrees / allowable value between -180/180 • A2: Phase angle for the second phase measured in degrees / allowable value between -180/180 • A3: Phase angle for the third phase measured in degrees / allowable value between -180/180 Where phase relates to the phase recorded in the meter.
BPQD Period	The period of the previous calendar day i.e. Day –1.
IDX	Industry Data Exchange. An AEMO unified data exchange mechanism to support the secure and efficient exchange of data between energy stakeholders
Positive AEMO BPQD Transmission Signal	Identification of successful delivery of BPQD to AEMO Exchange architecture
Negative AEMO BPQD Transmission Signal	Identification of unsuccessful delivery of BPQD to AEMO Exchange architecture. Any Negative AEMO BPQD Transmission Signal must be acted upon by MC for resolution as per the Basic Power Quality Data Procedure.

- Proposed change to the Guide to the Metering Coordinator

AEMO proposes a new section is included in the AEMO 'Guide to the Metering Coordinator' to outline the responsibilities an MC is required to fulfill regarding the Rule and AEMO's procedure. These changes would be included in an MC annual audit.

Figure 1 Proposed change to Guide to the Role of the Metering Coordinator



6. Responsibilities in respect of basic power quality data

6.1. Collection, Processing and Delivery

A number of obligations in respect of *metering installations* are imposed on MCs under clause 7.3.2(i), of the NER, including:

- ensuring that *basic power quality data is* provided in accordance with the NER and procedures authorised under the NER

GUIDE TO THE ROLE OF THE METERING COORDINATOR

AEMO

- *basic power quality data is provided free of charge to LNSPs, AEMO and the Australian Energy Regulator*
- basic power quality data is is scheduled appropriately as required by clause 7.15.5(b) to avoidcongestion;
- services relating to the collection, processing and delivery of *metering data* meet the requirements of the Basic Power Quality Data Procedure
- the delivery of *metering data* meets IDX BPQD specification;

6.2. Confidentiality

MCs must ensure that *basic power quality data* in the metering register and passwords are confidential and treated as confidential information.

6.3. Errors

MCs must ensure that if it becomes aware that the basic power quality data is incorrect, it provides correct basic power quality data in accordance with the Basic Power Quality Data Procedure.

6.4. Changes to Data

The MC must ensure when testing a *metering installation*, the values recorded in the meter are not as basic power quality data for the period of the test.

AEMO proposes that the MC annual audit would confirm compliance to the basic PQD Procedure. And the auditing process would be completed via negative assurance.

Package 3 Consultation Questions

Questions
1. Do you agree with AEMO's proposal new terms to define the delivery of basic power quality data?
2. Is Data Type Measurement and the proposed values appropriate? Does a single-phase multi-element meter required to record volts, amps, phase angle per element?
3. Should MCs provide part day basic PQD data and provide the remaining values with Nulls?
4. Is delivery once per day appropriate?
5. Should the MC receive confirmation from the DNSP that data is receipted?
6. Should the MC provide data only for the basic PQD for prior day? Are there any problems participants see with examples of communication faults, meter churn and MC churn?
7. Are the changes to the Guide of the Metering Coordinator appropriate?
8. Are there any other issues you would like to raise?