

Proposed Changes to the National Electricity Rules

First tier metering installation requirements

1. Background

The jurisdictional regulators of the National Electricity Market (NEM) jointly conducted a review of the jurisdictional metrology procedures in 2003-2004. The final report was published in 2004 as the Joint Jurisdictional Review of the Metrology Procedures – Final Report¹, and contained a number of recommendations in relation to Metrology in the NEM.

Two key recommendations were:

- the harmonisation of metrology requirements between jurisdictions, and
- the establishment of a single set of metrology standards for metering installations that were independent of whether the end-use consumer was purchasing electricity from a second tier retailer or from the Local Retailer.

The JJR also requested that NEMMCO take the lead role in the implementation of certain recommendations. NEMMCO's approach to addressing the recommendations has been to develop metrology 'projects' to address groups of related recommendations as manageable work packages. This approach is outlined in the paper titled NEM Metrology Programme Plan² available via the NEMMCO website.

The first NEMMCO project addressed the group of JJR recommendations pertaining to the expiration of derogations within Chapter 9 of the Rules related to responsibility for metering, and harmonisation of second tier metrology across jurisdictional boundaries. The final deliverables of the first project were a Rules change proposal to the AEMC and subsequent Rules changes (November 2006) and a single NEM Metrology Procedure which came into effect on 1 January 2007.

The Rules changes proposed in this submission are an output of the second NEMMCO metrology project, *Integrate First Tier Metrology*, which was scoped to address those JJR recommendations that proposed the harmonisation of first tier jurisdictional metrology requirements into the NEM metrology framework, with the purpose of establishing consistent obligations and technical requirements across both first and second tier metering installations.

These first tier Rules change proposals have been developed in consultation with the jurisdictional regulators and industry, through the Metrology Reference Group (industry representation at an operational level) and the Retail Market Executive Committee (industry representation at an executive level).

While NEMMCO has received support from the above parties to submit these change proposals, we note that some of the above parties have reserved their position on certain matters and will consider making submissions to the AEMC during the public consultation stages of the Rules change process.

¹ Available from the website of the Essential services Commission Victoria at: <http://www.esc.vic.gov.au/public/Energy/Regulation+and+Compliance/Decisions+and+Determinations/Reviews+of+Metrology+Procedure+2002+and+2004/Reviews+of+Metrology+Procedure+2002+and+2004.htm> [accessed 4 April 2007]

² Available from the NEMMCO website at: <http://www.nemmco.com.au/meteringandretail/640-0082.htm> [accessed 4 April 2007]

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2. Design Principles for the 'Integrate First Tier Metrology project'

As part of the NEM Metrology Programme of work, the following design principles were developed for the Integrate First Tier Metrology project in conjunction with jurisdictional regulators and industry participants and have been used in the development of these Rules change proposals and the associated NEM Metrology Procedure:

- Consistency with the National Electricity Law and the NEM objective;
- Alignment with the JJR recommendations without re-visiting the assessments made in their review;
- Include technical metrology provisions for first and second tier customers;
- Ensure that, where necessary, existing first tier metering is 'grandfathered' with respect to compliance with technical metering standards; and
- Non-technical matters that are to apply in each jurisdiction, such as consumer protection requirements are to continue to be the responsibility of each jurisdictional regulator or the AER.

3. Description of each Rule Change Proposal in this submission

This request for Rule changes has been split into six groups of changes for ease of presentation and explanation of how the requirements of the National Electricity Regulations are met:

- Incorporate and harmonise metrology requirements for first tier connection points, which are currently under the responsibility of individual jurisdictions, into the NEM metrology framework;
- Consequential upon accepting the changes above, these Rule changes harmonise current jurisdictional metrology requirements for first tier connection points with existing requirements for second tier connection points to the maximum extent possible, consistent with jurisdictional policy;
- Remove duplicate requirements within the existing Rules;
- Address NEM efficiency issues identified as a consequence of the industry consultation undertaken as part of NEMMCO's Integrate First Tier Metrology project;
- Address a metering installation audit issue identified by NEMMCO; and
- Addresses minor editorial changes identified when developing the change proposals above.

The work required to compare and analyse relevant clauses across the jurisdictional instruments and between the jurisdictions and the NEM requirement was substantial and generated around 1000 pages of intermediate documentation. As a result of the breadth of this activity, further opportunities for addressing matters that improve market efficiency and reflect industry practices were identified and included within these Rules change proposals.

Some typographical errors and editorial changes within Chapter 7 of the Rules that improve readability, correct errors, and recognise changes which have occurred to Australian Standards have also been included.

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4. NEM Objective

The first tier Rule change proposals allow the Rules to better meet the NEM objective than the current Rules by:

4.1 Promotion of efficient use of electricity services

Harmonisation of metrology requirements commenced with the *Integrate Second Tier Metrology* project and has continued within this project, encouraging industry to review current practices and processes across jurisdictional boundaries, with the result that many aspects of 'best practice' are now proposed to be introduced into the NEM through the Metrology Procedure.

This will have the effect of reducing the number of regulatory instruments and bring together essentially similar regulatory requirements into a common location.

Removal of variation in requirements, whether they are actual variations or just variations in wording, will reduce the risk to industry participants in relation to compliance, and encourage them to operate outside their home jurisdiction. This should lead to increased competition within geographic areas of the NEM and assist retailers and service providers manage compliance across jurisdictional boundaries.

The JJR makes reference to concerns expressed by the ACCC "...that the benefits of Full Retail Competition (FRC) would be reduced without nationally consistent metrology procedures." Submissions to the JJR also expected economies of scale and reduced compliance costs to flow from a harmonisation of metering-related instruments.

The harmonisation of first tier metrology requirements into the NEM metrology requirements provides for a more efficient use of electricity services, consistent with the NEM objective.

4.2 Promotion of efficient investment

The harmonisation of metrology requirements across the NEM and the identification of jurisdictional differences will greatly assist equipment manufacturers to deliver common products that meet NEM-wide requirements. It will also facilitate investment by metering providers and metering data providers by reducing the risks of investing and operating across jurisdictional boundaries.

A single metrology framework for first and second tier metering installations will facilitate the transfer of consumers between local retailers and second tier retailers without the need for changes to the metering installation, leading to a reduction in meter churn, and a greater willingness upon service providers to invest in metering equipment. This will promote more efficient investment in metering installations.

4.3 Support retail competition and the long term interests of consumers

The harmonisation of the Second Tier metrology requirements promoted competition in the NEM. This Rule change proposal will deliver further levels of harmonisation. It is assumed that reduced industry costs achieved through harmonisation will eventually flow to consumers through the benefits of competition, and hence are in the long-term interests of consumers.

4.4 Management of Risk

The cost to industry of operating under multiple regulatory environments is significant. Development of consistent harmonised practices across jurisdictions improves the clarity of remaining jurisdictional differences, reduces the risk of non compliance for participants and

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service providers, and removes a barrier that discourages movement by Retailers across jurisdictional borders by lowering the level of regulatory uncertainty and compliance costs.

4.5 Good Regulatory Practice

Bringing the current multiple jurisdictional metrology requirements into a single national harmonised framework creates a more predictable and stable regulatory environment. It also increases the transparency of the operation of the NEM and reduces differences between government regulators (or at a minimum, makes differences more visible).

4.6 Consistency with Public Policy Settings

The proposed changes detailed in this submission, which will establish a common set of national metrology requirements, are consistent with the activity of the Ministerial Council on Energy's Retail Policy Working Group to develop a national framework for distribution and retail regulation.

4.7 Implementation Expense

In submissions to NEMMCO, industry requested that where possible, existing paragraph numbering in the Rules remains unchanged. This is due to the significant amount of time and cost required to update compliance systems and amend procedures that refer to Rules' clauses.

The proposed Rules changes and complementary NEM Metrology Procedure changes have been developed with industry with a view to minimising the need for system changes as a direct result of this package of Rules changes.

The first tier Rule change proposals collectively and individually contribute to the NEM objective. More specific information is provided against each individual proposal.

5. Power to make Rules

The National Electricity Law (NEL), Schedule 1, authorises the making of Rules in relation to:

- the metering of electricity to record the production or consumption of electricity;
- the registration of metering installations used to meter electricity;
- the regulation of persons providing metering services relating to the metering of electricity; and
- any matter or thing that is the subject of, or is of a kind dealt with by the National Electricity Code immediately prior to the commencement of the Rules.

Each of the proposed Rules changes are within the scope of the above matters under Schedule 1 of the NEL.

6. Draft of proposed amended Rules

Change marked MS-WORD versions of Chapter 7, and relevant parts of Chapter 10 (the Glossary) and Chapter 11 of the Rules have been attached to this Request at Attachment B - in accordance with the AEMC's 'Guidelines for Proponents: Preparing a Rule Change Proposal'.

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7. Summary of Rule Change Proposals in this Submission

Group 1: Incorporate and harmonise metrology requirements for first tier connection points into the NEM metrology framework	
No. 1	Extend the scope of Chapter 7 of the Rules to include the metrology for all connection points in the National Grid.
No. 2	Grandfathering of Existing First Tier Requirements
Group 2: Rule changes to harmonise current jurisdictional metrology requirements for first tier connection points with existing requirements for second tier connection points	
No. 3	Jurisdictional Variations in the Election of the Responsible Person
No. 4	Recognition of arrangements to provide facilities in addition to those normally provided by the Responsible Person
No. 5	Data Storage Capacity of type 6 Metering Installations
No. 6	Management of Losses between Connection Point and Metering Point
No. 7	Metering Standards for non-market generation
No. 8	Process for the conduct of a participant requested meter test
No. 9	Record Keeping
No. 10	Rights of Access to metering data
No. 11	On-site meter testing
No. 12	Metering databases
No. 13	Metering installation malfunctions
No. 14	Security seals
No. 15	Type 7 metering installations
Group 3: Remove duplicate requirements within the existing Rules	
No. 16	Data validation, substitution and estimation
Group 4 Address NEM efficiency issues identified as a consequence of the industry consultation undertaken as part of NEMMCO's Integrate First Tier Metrology project	
No. 17	Incorporate Queensland's Minimalist Transition Approach to FRC in the Rules
No. 18	Use of standard set of terms and conditions
No. 19	Time Setting
No. 20	Design Standards
No. 21	Recognition of International Laboratory Accreditation Cooperation (ILAC)
No. 22	Timeframes for inspection and testing of various metering installation types
No. 23	Review of Overall Accuracy Tables (Rules Schedule 7.2)
No. 24	Single table of requirements (Rules Schedule 7.3)
Group 5 Address a metering installation audit issue identified by NEMMCO	
No. 25	NEMMCO audit of meter 'test results'
Group 6 Address minor editorial changes identified when developing the change proposals above	
No. 26	Editorial changes within Chapter 7

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Rule Change Proposal No. 1

Description of the proposed Rule:

Incorporate first tier metrology requirements into the NEM – Extend the scope of Chapter 7 of the Rules to include the metrology for all connection points in the National Grid

Statement of issue identifying each problem or issue with the existing Rules:

Recommendation 3.1 of the JJR recommends that Chapter 7 be extended to include first tier metering and that a single NEM Metrology Procedure should be developed to establish NEM-wide technical metrology provisions for both first tier and second tier customers. This would eliminate the need for metering installation changes when the connection point transferred between first tier and second tier (or vice versa), or where service providers operated across jurisdictional boundaries.

The first step toward a NEM-wide metrology framework occurred with NEMMCO's Integrate Second Tier Metrology project, which harmonised the metrology requirements for connection points associated with market customers. However the jurisdictional requirements for metering installations that are associated with the Local Retailer are not currently subject to the metrology standards of the NEM. This results in two key issues.

The first issue identified with the existing Rules is that different technical standards may apply to a first tier metering installation as compared with a second tier metering installation. In this situation a change of metering equipment is required before the site can transfer between the Local Retailer and a second tier retailer, and a further change of metering equipment may be required at the end of the retail contract if the site owner required a transfer back to the Local Retailer.

The second issue occurs when Metering Providers operate across jurisdiction boundaries. Under current arrangements the Metering Provider needs to work to different technical standards for first tier metering, in accordance with the requirements of the jurisdiction where the metering installation is located.

In the JJR discussion it is also apparent that the meanings inferred by the JJR for first tier customer and second tier customer are not identical with the meanings given by Rules clauses 2.3.2 and 2.3.3. The usage implied by the context of the JJR report is that a first tier customer is a customer that purchases electricity supplied through the national grid at a connection point directly and in its entirety from the Local Retailer. This usage is not reliant on classification under the Rules as a first tier load. Similarly, the JJR assumes that it is not necessary to declare the load to be a second tier load in order to identify the end-use customer as a second tier customer.

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The JJR therefore assumes that the load at each connection point to the national grid is either first tier or second tier and has not considered the requirement for the relevant Market Participant to classify the load under the Rules. The JJR recommendation is therefore understood by industry to mean that each connection point to the National Grid should be the subject of Chapter 7 of the Rules and the NEM Metrology Procedure.

Statement of issue describing the proposed solution for each issue identified:

The Rule change proposal is to establish a 'head of power' within the Rules for a single common metrology standard to apply to metering installations irrespective of whether the energy is being purchased through the Local Retailer, from a second tier retailer, or directly from the NEM.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change is to amend the application of Chapter 7 by amending the Rules at clause 7.1.1.

Currently, clause 7.1.1 restricts the application of the Chapter in respect of a Market Customer or a Local Retailer to specific classes of connection points. The proposed amendment to clause 7.1.1 is to broaden the application to Registered Participants, Metering Providers and NEMMCO at any connection point.

This broadening will result in a single standard of metrology (as defined by the NEM Metrology Procedure under the Rules) being applicable to all connection points within the National Grid.

The proposed changes establish responsibilities for metering at a connection point, as outlined later in Chapter 7 with specific application to relevant parties. In addition, the proposed changes contribute to the efficiency of the NEM by replacing the need for jurisdictions to separately maintain metrology standards for first tier metering installations, and to ensure that changes at the first tier level are coordinated with changes at the second tier level.

This benefits service providers who will be able to avoid the maintenance of separate compliance registries for first and second tier metering installations. Alignment of first tier metrology standards across jurisdictions will simplify the training arrangements for personnel who are operating across jurisdictional boundaries, and remove the need for service providers to participate in jurisdictional consultations where there is only a low level of participation in that jurisdiction.

During the course of this harmonisation process 35 jurisdictional documents were reviewed, and significant areas of duplication were identified. This Rule change would create the opportunity to significantly reduce duplication within regulatory instruments.

The creation of a common base standard for the regulation of metrology across jurisdictions forms a foundation for further reform that

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might otherwise be inhibited if the diversity of metrology standards across jurisdictions is allowed to continue.

The creation of a common metrology standard will also facilitate competition within the metering equipment area because there will be a larger market for a common standard of metering equipment.

A single metrology instrument for all metering installations will make metrology differences (to the extent they continue) between the different first tier and second tier metering installations and across jurisdictions more transparent, and reduce compliance costs and risk to retailers and service providers who wish to operate across jurisdictional boundaries.

[Where it is necessary to consider consequential changes to Rules as a result of adopting the above proposal, the consequential changes are identified as separate Rule change proposals within this submission.]

**Draft of the
proposed Rule:**

Amend Rules clause 7.1.1 Application of Metering Chapter as follows:

7.1.1 Application of Metering Chapter

- (a) This Chapter applies to Registered Participants, Metering Providers and NEMMCO.
- (b) [Deleted]

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Rule Change Proposal No. 2

Description of the proposed Rule:

Incorporate first tier metrology requirements into the NEM – Grandfathering of existing first tier requirements

Statement of issue identifying each problem or issue with the existing Rules:

Recommendation 3.2 (b) from the JJR recommends that, where necessary, existing first tier metering requirements are grandfathered with respect to compliance with technical metering standards.

The discussion in the JJR makes it clear that to the extent that current metrology standards for first tier metering might be inferior to the NEM metrology standards, it is not the intention of the JJR recommendations to require an immediate replacement of existing first tier metering installations following the inclusion of first tier metering standards within the Rules. Rather, a ratchet approach is proposed whereby maintenance or replacement of an existing first tier metering installation will require the upgrade of the metering installation to the NEM standard.

Statement of issue describing the proposed solution for each issue identified:

This Rules change proposal is submitted conditionally upon the substantial acceptance of Rules Change Proposal No 1.

Rules change proposal No 1 does not provide for grandfathering, and therefore would not have the effect as recommended by the JJR. The inclusion of grandfathering provisions by means of this Rule change proposal is to give affect to the recommendation of the JJR.

The mechanism proposed for ensuring grandfathering is to introduce sub-clauses in Schedule 7.2 to allow first tier metering installations that were installed prior to an effective date to be deemed compliant with the Rules if they met the applicable jurisdictional requirements at that effective date.

The effective date proposed is 1 January 2008 on the basis that it is sufficiently in the future that current industry participants are forewarned of the need to run down stocks of meters or other equipment that might not be compliant, and this date approximates the time when the complementary amendments to the associated NEM Metrology Procedure might be effective.

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Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change will facilitate introduction of a single common metrology standard for first and second tier metering installations, and the opportunity to commence the accrual of benefits from this harmonisation without the need for a significant investment to rollout new metering equipment.

This approach provides certainty in relation to the technical standards to be applied without impinging on future decisions on meter rollouts to be made either as a policy decision (for interval meters) or as an investment decision (for the replacement of superseded equipment).

Draft of the proposed Rule:

Add the following provisions to Schedule S7.2.1 General requirements:

S7.2.1 General requirements

- (c) First tier load metering installations that were commissioned prior to 1 January 2008 that complied with the applicable jurisdictional requirements at this date and continue to meet the applicable jurisdictional requirements are taken to be Rules compliant.
- (d) First tier load metering installations that fail to meet the compliance standards detailed in clause (c) must be repaired or replaced to meet the Rules requirements for a new metering installation.

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Rule Change Proposal No. 3

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Jurisdictional Variations in the Election of the Responsible Person

Statement of issue identifying each problem or issue with the existing Rules:

The current Rules limit the election of the responsible person by the Financially Responsible Market Participant (FRMP) to type 1-4 metering installations only and define the LNSP as the responsible person for types 5-7 metering installations. However two jurisdictions in their first tier metering instruments have allowed for variations in who can be the responsible person for first tier connection points for some type 5 and 6 metering installations.

Statement of issue describing the proposed solution for each issue identified:

This Rule change proposal provides a head of power at sub-clause 7.2.3 (i) to permit the responsible person for first tier type 5 and 6 metering installations to be determined in the same manner as for type 1 – 4 metering installations if authorised in the NEM Metrology Procedure.

To improve the readability of the overall sub-clauses, it is proposed that sub clauses (1) and (2) in clause 7.2.2(a) be replaced with a reference to clause 7.2.4 (Joint Metering Installations).

Should the above Rule change be accepted, a consequential change should to be made to clause 7.2.3 (a) (2) to introduce a similar cross reference to clause 7.2.4(Joint Metering Installations).

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change reflects the outworking of previous consultations undertaken by Essential Services Commission of South Australia (ESCOSA) and Essential Services Commission (Victoria) (ESC). Through this process, ESCOSA and the ESC established that a variation in the requirements for the election of the responsible person resulted in a benefit as determined in accordance with jurisdictional policy.

The inclusion of these policies into the national framework maintains the efficiencies and improvements previously determined by these jurisdictions.

Draft of the proposed Rule:

Add sub-clause (i) Rules clause to 7.2.3:

7.2.3 Responsibility of the Local Network Service Provider

(i) Notwithstanding sub-clauses (d) to (h) above, the metrology procedure may require that the responsible person for a type 5 or type 6 metering installation for a first tier load be determined in the same

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manner as provided in sub-clauses (b) and (c).

Amend the following provisions:

7.2.2 Responsibility of the Market Participant

- (a) Subject to clause 7.2.4, a Market Participant may elect to be the responsible person for:
 - (1) a type 1, 2, 3 or 4 metering installation; or
 - (2) another type of metering installation in accordance with the metrology procedure for first tier loads.
- (b) A Market Participant is the responsible person for a type 1, 2, 3 or 4 metering installation, or in accordance with the metrology procedure for first tier loads if:
 - (1) the Market Participant elects not to request an offer from, or does not accept the offer of, the Local Network Service Provider for the provision of a metering installation under clause 7.2.3; or
 - (2) an agreement under clause 7.2.3 is terminated due to a breach by the Market Participant.

7.2.3 Responsibility of the Local Network Service Provider

- (a) Subject to clause 7.2.4, the Local Network Service Provider is the responsible person for:
 - (1) any type 1, 2, 3 or 4 metering installation connected to, or proposed to be connected to, the Local Network Service Provider's network where the Market Participant has accepted the Local Network Service Provider's offer in accordance with paragraphs (b) and (c); and
 - (2) any type 5, 6 or 7 *metering installations* connected to, or proposed to be connected to, the *Local Network Service Provider's network* in accordance with paragraphs (ca) to (i).
- (b) A Market Participant may request in writing an offer from the Local Network Service Provider to act as the responsible person where a type 1, 2, 3 or 4 metering installation is, or is to be, installed or, where allowed in the metrology procedure for first tier loads.

Rule Change Proposal No. 4

Description of the proposed Rule:	Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Recognition of arrangements to provide facilities in addition to those normally provided by the Responsible Person.
Statement of issue identifying each problem or issue with the existing Rules:	Jurisdictional provisions allow the end-use customer access to additional facilities at metering installations at the end-use customer's expense. The jurisdictional instruments allow parties involved at a connection point to install or modify metering installations to include capabilities that are in addition to those normally provided by the responsible person.
Statement of issue describing the proposed solution for each issue identified:	<p>The Rule change proposal recognises jurisdictional arrangements that allow retailers to facilitate the provision of 'value added services' to end-use customers and provides a 'head of power' for these to be incorporated into the NEM Metrology Procedure.</p> <p>The supporting clauses within the NEM Metrology Procedure cover aspects such as payment, technical requirements and timing requirements.</p>
Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:	This proposed change promotes delivery of end-use customer expectations, satisfaction and quality by providing a mechanism that facilitates the interaction between the end-use customer and retailer for alternatives or enhancements to a metering installation at an end-use customer's request.
Draft of the proposed Rule:	<p>Add the following provisions to clause 7.2.3 Responsibility of the Local Network Service Provider:</p> <p>7.2.3 Responsibility of the Local Network Service Provider:</p> <p>All metering installations</p> <p>(j) Subject to clause 7.2.5(d), where the Market Participant cannot be the responsible person for a metering installation, the Local Network Service Provider must not unreasonably withhold its consent to a Market Participant's request to install a metering installation of a type that is different from that already installed, or that provides facilities in addition to that which the Local Network Service Provider otherwise would install, in accordance with the metrology procedure.</p>

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Rule Change Proposal No. 5

Description of the proposed Rule:	Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Data storage capacity of Type 6 metering installations
Statement of issue identifying each problem or issue with the existing Rules:	Currently data storage capacity requirements for interval metering installations are set out in the Rules and data storage requirements for accumulation metering installations are set out in jurisdictional instruments. To harmonise jurisdictional metrology requirements with NEM metrology requirements it is necessary to incorporate additional requirements into the national framework that are not currently addressed by either the Rules or the NEM Metrology Procedure.
Statement of issue describing the proposed solution for each issue identified:	The proposed Rule change will incorporate the data storage requirements for accumulation metering, as outlined in jurisdictional instruments. As a result, the relevant Rules clause will specify the data storage requirements for interval data metering installations and accumulation metering installations.
Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:	<p>The proposed Rule change improves the clarity of obligations and requirements in relation to data storage capacity of type 6 metering installations, increasing efficiencies and reducing the risk of non compliance.</p> <p>The single definition for the storage of energy data within accumulation meters is consistent with the harmonising benefit identified by the JJR.</p>
Draft of the proposed Rule:	<p>Add the following provisions to clause 7.3.1(a):</p> <p>7.3.1 Metering installation components</p> <p>(a) A metering installation must:</p> <p style="padding-left: 40px;">(11b) if it is a type 6 metering installation, include facilities to record the total accumulated energy supplied through it over a period of at least 12 months;</p>

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Rule Change Proposal No. 6

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Management of losses between connection point and metering point

Statement of issue identifying each problem or issue with the existing Rules:

It is not always physically possible to install the metering point at the connection point. The management of energy losses between the connection point and metering point is partly covered in Rules clause 7.3.2 and partly in some jurisdictional instruments. There is a need to harmonise the management of losses and specify a common NEM approach.

In some circumstances the energy loss is more than the uncertainties of measurement in the metering installation and the difference between ‘as metered’ and ‘true energy’ is material. Obligations ensuring satisfactory adjustment to energy values are therefore required.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rule change incorporates aspects of the jurisdictional requirements by providing clarity to the party responsible for the management and adjustment of the losses. The proposed changes are consistent with current industry practice and ensure that the necessary adjustments are made for energy losses between the connection point and metering point, where these are considered material.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change adds clarity and simplifies the current approach by bringing together the management of losses between the connection point and metering point into a single location within the Rules and ensures obligations are in place to deliver the required outcomes. A harmonised consistent approach to this requirement facilitates the achievement of the benefits of harmonisation envisaged by the JJR.

Draft of the proposed Rule:

Amend clause 7.3.2 as follows:

7.3.2 Connection and metering point

- (b) The Market Participant, the Local Network Service Provider and NEMMCO must use their best endeavours to agree to adjust the metering data which is recorded in the metering database to allow for material electrical energy losses between the metering point and the relevant connection point where a meter is used to measure the flow of electricity in a power conductor.
- (ba) The responsible person must determine if the electrical energy losses between the metering point and the relevant connection point are material and must review this determination upon

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request by a Market Participant.

- (bb) Where the responsible person determines under paragraph (ba) that the electrical energy losses between the metering point and the relevant connection point are material, the responsible person must ensure that electrical energy losses between the metering point and the relevant connection point are accounted for.
- (bc) For the purposes of clauses 7.3.2 (b), (ba) and (bb), electrical energy losses between the metering point and the connection point are material if the responsible person estimates that the annual volume of these losses will exceed 50% of the energy volume attributable to the maximum permissible error of the metering installation.

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Rule Change Proposal No. 7

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Metering standards for non-market generation

Statement of issue identifying each problem or issue with the existing Rules:

Jurisdictional instruments have established metering standards for non-market generation that differ from the NEM metering standards and are different between jurisdictions.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rule change introduces metrology obligations for non-market generation into the NEM metrology framework. The different standards for non-market generation need to be addressed in the Rules since adoption of current NEM requirements for market generators at the time of promulgation of these Rule changes would represent a significant cost to industry, would require the installation of interval metering, and would potentially reduce the accuracy of energy measurement.

Jurisdictional metrology standards for non-market generators use a demand value rather than an energy volume to determine applicable accuracy standards. The proposed Rule reflects the jurisdictional instruments in that a generating unit with an output capacity greater than 1 MW is required to meet existing NEM standards, whilst a generating unit with output capacity less than 1 MW is permitted to meet a lesser standard.

The jurisdictional standards are based on output capacity rather than annual energy volumes sent out; reflecting the low utilisation factors commonly associated with these types of small non-market generating units and the need for higher accuracy standards than might be achieved by using the existing NEM type 1 to 4 energy based standards.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule harmonises the approach to metering requirements for non-market generators across the NEM and requires a metering solution that is lower cost than existing NEM standards for generators below 1 MW capacity, without compromising the measurement accuracies appropriate for the energy volumes supplied.

Note – the Rule change proposal is not addressing the metering standards to be applied to generating units operated by parties exempted from registering with NEMMCO. This issue is the subject of a separate NEMMCO review.

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**Draft of the
proposed Rule:**

Add new section 7.3.4A Metering installation standards for non-market generating units as follows:

7.3.4A Metering installation standards for non-market generating units

- (a) The minimum standards for a metering installation for non-market generating units installed after 1 January 2008 are as follows:
- (1) The metering installation must be capable of separately registering and recording flows in each direction where bi-directional active energy flows occur.
 - (2) Where payments for the purchase of electricity generated by a non-market generating unit are based on different rates according to the time of day, the metering installation must be capable of recording interval energy data.
 - (3) The metering installation for a non-market generating unit with an output greater than 1 MW must:
 - (i) comply with the minimum standards of accuracy for metering installations for market generating units; and
 - (ii) be able to measure active energy and reactive energy.
 - (4) The minimum standards of accuracy for new accumulation metering equipment for non-market generating units with an output of 1 MW or less are for the active energy meter, class 1.0 or 2.0 watt-hour meters in accordance with Schedule S7.2.6.1(f).
 - (5) The minimum standards of accuracy for a new metering installation capable of recording interval energy data for non-market generating units with an output of 1 MW or less are for the active energy meter, in accordance with Schedule 7.2 in respect of type 3 or type 4 metering installations (based on projected sent out annual energy volumes).
 - (6) The current transformer (if installed), in accordance with Schedule S7.2 in respect of type 3 metering installations.
 - (7) The voltage transformer (if installed), in accordance with Schedule 7.2 in respect of type 3 metering installations.
 - (8) The reactive energy meter (if installed), in accordance with Schedule 7.2 in respect of type 3 metering installations. The reactive energy meter may be combined within the same case as the active energy meter and may share common measurement and processing facilities.
 - (9) If required by the Distribution Network Service Provider, after taking into account the size of the generating unit, its proposed role and its location in the network, a non-market

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generating unit with an output of 1 MW or less must have their active energy and reactive energy measured.

- (10) A new metering installation must comply with all other requirements for new metering installations.
- (b) Metering installations for non-market generating units that were installed prior to 1 January 2008 that complied with the applicable jurisdictional requirements at this date and continue to meet those jurisdictional requirements are taken to be Rules compliant.
- (c) Metering installations for non-market generating units that fail to meet the compliance standards detailed in clause (b) must be repaired or replaced in accordance with rule 7.2.4A(a).

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Rule Change Proposal No. 8

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Process for the conduct of a participant requested meter test

Statement of issue identifying each problem or issue with the existing Rules:

The current Rules for requested meter tests for second tier metering installations places obligations on NEMMCO to facilitate testing of the metering installation, while current jurisdictional requirements for first tier metering installations places the obligation for a requested meter test on the LNSP.

Statement of issue describing the proposed solution for each issue identified:

The current Rules model for second tier installations places obligations on NEMMCO to facilitate testing of the metering installation. In practice, Industry believes it would be generally more efficient for this testing to be arranged between the retailer and network operator to meet the requirements of individual end-use consumers. In the majority of circumstances it is not necessary to have NEMMCO involvement.

However, industry formed the view that it was not possible to eliminate the NEMMCO role from the Rules obligations for those situations where the need for the installation test arose from a wholesale market energy data matter, or if the responsible person was tardy in meeting their obligations.

Industry proposes to harmonise the different requirements to a NEM wide standard whereby a participant may request the responsible person or NEMMCO to undertake a meter test, with an obligation that the party receiving the request must act.

The proposed Rule change aligns with current industry practice for testing, where the responsible person meets the testing cost if the installation is non-compliant, otherwise the requesting party meets the testing cost.

The jurisdictional requirements allowed the end-use customer to attend a test and to make a direct request for testing of first tier metering installations; however the model proposed assumes that the end-use customer will make such requests through their Retailer. Jurisdictional instruments contain additional provisions to support the consumer/retailer relationship.

The amendments bring together the requirements that were previously split between clause 7.6.1 and Schedule 7.3 (at S7.3.1 (d) and at S7.3.1 (f)).

The joining together and relocation of the requirements at a single location within the body of the Chapter, rather than a schedule, was the preferred option of industry.

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Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed changes harmonise and integrate aspects of the Rules and jurisdictional provisions as well as improving industry efficiencies.

This proposal offers an economically efficient model that facilitates jurisdictional requirements for end-use consumer requested meter testing without involvement of all market parties, and still permits the more formal metering testing arrangements of the Rules where wholesale market issues are associated with the need for a meter test.

While jurisdictional requirements allowed the end-use consumer to make a direct request for testing of first tier metering installations, and to attend the test, the model proposed assumes that the end-use consumer will make such requests through their Retailer.

Additional provisions to support the consumer/retailer relationship will be required within jurisdictional instruments.

The amendments proposed bring together in one area requirements that are currently split between Clause 7.6.1 and schedule 7.3 (at S7.3.1 (d) and S7.3.1 (f)) and improve market efficiency by having related provisions together.

The requirements have also been modified so that test results are managed on the basis of exception. This approach has been taken so that only non-compliant test results are brought to the attention of Market Participants, and offers process efficiencies for all concerned.

Draft of the proposed Rule:

Amend and add the following provisions to 7.6.1:

7.6.1 Responsibility for testing

- (a) Testing of a metering installation must be carried out in accordance with the inspection and testing requirements detailed in schedule 7.3.
- (b) A Registered Participant may request that the responsible person or NEMMCO arrange for the testing of any metering installation and the responsible person or NEMMCO, as the case may be, must not refuse any reasonable request.
- (bb) Affected parties may witness the tests on request to the responsible person and the responsible person must give those affected parties 5 business days notice (or such lesser period as agreed between the relevant parties) of when and where a test of the metering installation is to be carried out and what method of testing is to be adopted.
- (c) NEMMCO must check test results recorded in the metering register by arranging for sufficient audit testing of metering

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installations so as to satisfy itself that the accuracy of each metering installation conforms with the requirements of this Chapter 7.

- (d) The responsible person must co-operate with NEMMCO to provide access to the metering installation for the purpose of testing or inspection of the metering installation where NEMMCO agrees to comply with the responsible person's reasonable security and safety requirements and has first given the responsible person at least two business days' notice of its intention to access the metering installation for the purpose of testing or inspection of the metering installation, which notice must include:
 - (1) the name of the representative who will be conducting the test on behalf of NEMMCO; and
 - (2) the time when the test or inspection will commence and the expected time when the test or inspection will conclude.
- (e) If the responsible person, undertook the testing of a metering installation under clause 7.6.1, the responsible person must make the test results available to NEMMCO and any Registered Participant registered against this connection point in NEMMCO's connection point registration system; if NEMMCO undertook the testing of a metering installation under clause 7.6.1, NEMMCO must make the test results available to any Registered Participant registered against this connection point in NEMMCO's connection point registration system:
 - (1) as soon as practicable, if the results indicate a deviation from the technical requirements for that type of metering installation; or
 - (2) upon request, if the installation meets the technical requirements for that type of metering installation.
- (f) Where a Registered Participant has requested that the responsible person or NEMMCO arrange for the testing of a metering installation in accordance with paragraph (b), the responsible person or NEMMCO (as the case may be) must provide the test results to other affected Registered Participant as soon as practicable.
- (g) If the test results indicate that the metering installation is Rules compliant, the responsible person must store the test results, and provide a copy to NEMMCO upon request or as part of an audit.

Delete provision S7.3.1(d) and (f) (amalgamated with provision 7.6.1)

S7.3.1. General

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- (d) [Deleted]
- (f) [Deleted]

Rule Change Proposal No. 9

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Record keeping

Statement of issue identifying each problem or issue with the existing Rules:

Rules clause 1.9 contains a general requirement for keeping relevant records for 7 years. A retention period of 7 years past the record creation date is insufficient when the record relates to the compliance of equipment that may remain in service for a further 20 years beyond the date when the test record was created. Therefore it is necessary to establish alternative record keeping requirements appropriate to metrology related records.

In addition, each of the jurisdictional metrology instruments specifies the type of records that must be maintained and in some circumstances varies the timeframes required for record retention as a result of factors such as asset management plans and equipment maintenance cycles.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rule change identifies specific metrology records which must be retained, defines retention periods in terms of related maintenance activities rather than the record creation date, and specifies the party responsible for maintaining the relevant records.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change harmonises existing jurisdictional and NEM requirements and identifies specific records essential to establishing the compliance of a metering installation and maintaining the veracity of energy data used for NEM settlement.

These records are essential for supporting resolution of NEM disputes and maintaining a confidence in energy data used in the NEM. The proposed Rule clarifies the responsibility for retention of a record which may exist in duplicate from amongst a group of participants. Clarity in relation to an understanding of the Rules requirements aids compliance and market confidence resulting in more efficient market processes, thereby contributing to the NEM objective.

Draft of the proposed Rule:

Add a new clause 7.6A as follows:

7.6A Retention of Records and Documents

- (a) All records and documents prepared under Chapter 7 or the

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metrology procedure must be retained in accordance with paragraphs (b) to (f).

- (b) A responsible person must ensure:
- (1) Records of sample testing of meters are kept for 7 years while meters of the relevant type remain in service and the most recent sample test results are kept for 7 years after meters of that type are no longer in service;
 - (2) Records of non-sample testing of meters are kept for 7 years while the meters remain in service and the most recent test results are kept for 7 years after the meters are no longer in service;
 - (3) Records of sample testing of instrument transformers are kept for 10 years while instrument transformers of the relevant type remains in service and the most recent sample test results are kept for 7 years after instrument transformers of that type are no longer in service; and
 - (4) Records of non-sample testing of instrument transformers are kept for 10 years while they remain in service and the most recent test results are kept for 7 years after they are no longer in service.
- (c) A responsible person must ensure records of type tests and pattern approvals carried out or obtained in accordance with clauses S7.2.6.1(f) and S7.2.6.1(g) are kept while metering equipment of that type remains in service and for 7 years after it is no longer in service.
- (d) The responsible person must ensure the test records for new metering equipment are kept for 7 years while metering equipment of that the relevant type remains in service and for 7 years after it is no longer in service.
- (e) The responsible person must ensure that metering data in respect of each metering installation is stored separately for a period of 7 years, in the form in which it was collected.
- (f) The responsible person must ensure that a separate record of each adjustment or substitution to metering data in respect of each metering installation is stored for 7 years.

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Rule Change Proposal No. 10

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Rights of access to metering data

Statement of issue identifying each problem or issue with the existing Rules:

The existing Rules requirements for metering data access specify the parties with either direct or remote access to metering installations, the metering database or the metering register. Industry participants identified that the current requirements leave some ambiguity as to the entitlements of persons to have direct access to the stored data versus an entitlement to receive data through a service provider or NEMMCO.

Jurisdictional instruments make provision for end-use customer access to metering data, and provision for this requirement needs to be taken into account in the harmonisation activity.

In accordance with the JJR recommendations, there differing requirements need to be harmonised and included in the Rules.

Statement of issue describing the proposed solution for each issue identified:

The Rule change proposal specifies entitlements to data, with further access management being supported by procedures such as MSATS and B2B Procedures and NEMMCO's meter churn guidelines.

It is proposed that the end-use customer requiring data will make such a request through their financially responsible Market Participant. In situations where electronic access to the meter is required by the end-use customer, the involvement of the responsible person is considered essential (clause 7.8.2(ca)).

The current provisions also duplicate the rights of access for the 'Customer', which is already covered under the category of Registered Participant. Moreover the rights of the Registered Participant are detailed in two provisions, 7.7(a)(1) and (6). The proposed changes simplify this by referring to the Registered Participant only once at clause 7.7(a)(1).

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule clarifies data entitlements without mandating a right to direct access to records stored within meters or databases. Industry participants have identified that improved clarity in relation to 7.7(a) will simplify compliance obligations and result in reduced compliance costs in relation to this requirement.

In addition, current security practices strictly limit direct access to data held within the metering installation to NEMMCO, the metering provider and the party providing data collection services. The current wording of clause 7.7(a) has been interpreted as an entitlement to direct access to the metering installation. Such direct access has potential to erode market confidence in the quality of the data held within the metering

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installation, and consequently erode confidence in the NEM.

The proposed amendments are necessary to support a strong security policy in relation to metering data, and hence maintain confidence in market data.

**Draft of the
proposed Rule:**

Amend the heading and provisions of clause 7.7 as follows:

7.7 Rights of Access to Metering Data

- (a) The only persons entitled to receive metering data, NMI standing data or data from the *metering register* for a metering installation are:
- (1) Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation, and as provided for in the Market Settlement and Transfer Solution Procedures, B2B Procedures and meter churn guidelines;
 - (2) the Metering Provider(s) with an agreement to service the metering installation, in which case access is restricted to allow authorised work only;
 - (3) Metering Providers in accordance with meter churn guidelines developed under clause 7.3.4 (j);
 - (4) the Network Service Provider(s) associated with the connection point;
 - (5) NEMMCO and its authorised agents;
 - (6) The AER or Jurisdictional Regulator upon request to NEMMCO;
 - (7) An Ombudsman in accordance with clauses 7.7(d), (e) and (f); and
 - (8) A financially responsible Market Participant's customer upon request to the financially responsible Market Participant with a financial interest in the metering installation or the energy measured by that metering installation.

Amend clause 7.8.2 as follows:

7.8.2 Security controls

- (ca) Subject to authorisation by the responsible person, a financially responsible Market Participant shall provide a 'read only' only password to its customer upon request.

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Rule Change Proposal No. 11

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – On-site meter testing

Statement of issue identifying each problem or issue with the existing Rules:

Jurisdictional instruments require that in relation to on-site meter testing, the end-use customer is not required to pay for material energy flows recorded by the meter that occur as a result of a meter test, and specify when alteration to stored energy data within a meter should occur. These requirements need to be harmonised and incorporated into the Rules.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rule change will harmonise the existing jurisdictional requirements and merge them into the Rules. The proposed wording reflects key aspects of industry best practice, where the energy data stored in a meter is not altered and, if that data is identified as misrepresenting the billable energy, a change is made to the metering database in accordance with agreed industry procedures.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change picks up the jurisdictional requirements, harmonises them into best industry practice, and incorporates this practice into the Rules. This change provides industry certainty and allows all metering providers to establish standard internal processes which will be compliant across first and second tier metering installations, and across jurisdictional boundaries. Further, this Rule change will provide certainty for retailers and network providers who will know that all data substitutions will take place within the premises of Metering Data Agents and Metering Data Providers and in accordance with an agreed industry procedure.

Each of the above points contributes to market certainty, and builds confidence in market processes. Standard processes based on industry best practice result in improved market efficiency. Market confidence in energy data reduces the likelihood of market disputes, and encourages all parties to resolve anomalies when they are identified. Market confidence further contributes to market efficiency and meeting the NEM objectives.

Draft of the proposed Rule:

Amend and add the following provisions to clause 7.8.4 as follows:

7.8.4 Changes to metering data

- (a) Alteration to the original stored energy data in a meter must not be made except when the meter is reset to zero as part of a repair or reprogramming.
- (b) If an on-site test of a metering installation requires the injection of

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current, the responsible person must ensure that the energy data stored in the metering installation is inspected and, if necessary, that the metering database is altered in accordance with the NEMMCO validation, substitution and estimation procedures under the metrology procedure to ensure that the metering data in the metering database is not materially different from the energy volumes flowing in the connection point during the period of the test.

- (c) If a test is based on actual connection point loads, no adjustment is required.

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Rule Change Proposal No. 12

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Metering databases

Statement of issue identifying each problem or issue with the existing Rules:

Rules clause 7.9.1(f) currently specifies requirements for storing historical metering data within the metering database for type 1 – 4 metering installations.

The historical metering data for Second Tier type 1 - 4 metering installations is stored within the metering database and is specified within the Rules. For Second Tier type 5-7 metering installations, historical metering data is stored within the metering installation database and is specified in the metrology procedure. Although the database differences make harmonisation of data storage requirements difficult, there are benefits in locating the requirements for both databases in one instrument.

Further, data storage requirements for first tier type 5-7 metering installations exist within jurisdictional instruments.

The location of requirements for metering databases in different instruments, or at different locations within the same instrument creates opportunities for mis-reading of compliance requirements and a risk of participant error.

In developing a solution to this issue, a further matter identified is the inconsistent industry usage of the terms 'metering data' and 'energy data'. Industry discussion indicated ambiguity as to the understanding of 'historical data' as used in clause 7.9.1 (f). This ambiguity has been addressed within this proposal.

Statement of issue describing the proposed solution for each issue identified:

This Rules change proposal harmonises First and Second Tier requirements and brings the requirements together in the same area of the Rules for all meter types so that differences between data storage requirements are more apparent, and industry users of the Rules have all the relevant obligations at a single location.

A new sub-clause 7.9.1(g) for metering installations type 5-7 is proposed to be added to the Rules that parallels the requirements of the existing clause 7.9.1 (f) for metering installations type 1-4, but reflects the differences in database names.

To resolve the terminology matter and clarify the data to be stored within the respective databases, it is proposed to:

- replace the reference to 'historical data' in clause 7.9.1 by the defined term 'metering data';
- extend the definition of 'metering data' to include 'estimated

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energy data’;

- remove the reference to estimated energy data from the glossary term ‘energy data’; and
- create a new glossary term ‘substituted energy data’.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

Rules clause 7.9.1(f) currently establishes requirements for storing historical data within the *metering database* for type 1 – 4 metering installations. The proposed Rule change establishes a similar requirement for the data from type 5 - 7 metering installations, which promotes efficiency within service providers who deal with metering installations from both the type 1 - 4, and the type 5 - 7.

Standardisation of practices contributes to the efficiency of service providers and through competitive processes improves service and costs. These benefits flow to consumers through the competition between retailers.

Bringing similar requirements for types 1 - 4 and types 5 - 7 metering installations into the same clause (7.9.1) assists industry participants to understand the differences and similarities between the requirements for different metering types, and therefore assists in their management of their compliance matters.

Amending the definition of the terms ‘energy data’ and ‘metering data’ by removing ‘estimated data’ from ‘energy data’ and including this into the definition of ‘metering data’ assists in the standardisation of processes across type 1 - 4 and types 5 - 7 metering installations, and confirms the current industry practice of using the definition of ‘energy data’ to refer to data within a meter and ‘metering data’ to refer to the data external to the meter (i.e. data obtained from a metering installation, the processed data, estimated energy data or substituted energy data). Using the amended definitions clarifies the boundaries used to describe data usage within the industry, including the historical data required for storage.

The proposed definitions for substituted energy data and estimated energy data are simplified in as far as the Rules glossary are concerned, and rely on the procedures defined within the Metrology Procedure. This greatly simplifies the understanding required when using the Rules, and leaves the detailed procedure to a separate document.

Draft of the proposed Rule:

Amend and add the following provisions to clause 7.9.1 as follows:

7.9.1 Metering databases

- (f) In respect of any type 1, type 2, type 3 or type 4 metering installation, the metering database must contain metering data that is:
 - (1) held online for 13 months in accessible format; and

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- (2) held for a further 5 years and 11 months in archive in a form that is accessible independently of the format in which the data is stored.
- (g) In respect of a type 5, type 6 or type 7 metering installation, the metering installation database must contain metering data that is:
 - (1) held online for 13 months in accessible format; and
 - (2) held for a further period of 5 years and 11 months in archive in a form that is accessible independently of the format in which the data is stored.

Amend the following provisions to clause 7.9.3 as follows:

7.9.3 Periodic energy metering

- (b) Where a metering installation database is used as a data logger (metering installation types 6 and 7), the metering data relating to the amount of active energy passing through a connection point must be collated or determined in trading intervals within a metering installation unless it is specified in the metrology procedure that the data may be converted into trading interval data in the NEMMCO substitution process referred to in clause 7.9.4(a), in which case the metrology procedure must specify:
 - (1) the parameters to be used in preparing the trading interval data for each market load, including the algorithms;
 - (2) the first-tier energy data that is to be used in the conversion process;
 - (3) the quality and timeliness of the first-tier metering data;
 - (4) the party responsible for providing the first-tier metering data; and
 - (5) if required, the method of cost recovery in accordance with clause 7.3.6(c).

Amend or create Glossary terms in Chapter 10 as follows:

energy data

Interval energy data or accumulated energy data

metering data

The data obtained from a metering installation, the processed data, estimated energy data or substituted energy data.

substituted energy data

Metering data substituted in accordance with the metrology procedure

estimated energy data

Metering data estimated in accordance with the metrology procedure

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Rule Change Proposal No. 13

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Metering installation malfunctions

Statement of issue identifying each problem or issue with the existing Rules:

Currently the Rules and the NEM Metrology Procedure require a 2 day timeframe for the responsible person to arrange the rectification of a metering installation malfunction, however the timeframes stated within jurisdictional instruments may vary up to 10 days for the repair of a first tier metering installation.

Statement of issue describing the proposed solution for each issue identified:

This Rule change proposal will establish a harmonised approach to metering installation malfunctions across the NEM as follows:

- Rectification or notification to NEMMCO within 2 days is required for a connection point with a metering installation type 1, 2 or 3.
- Rectification or notification to NEMMCO within 10 days is required for a connection point with a metering installation type other than type 1, 2 or 3.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change will provide a consistent approach across the NEM for metering installation malfunctions and clarifies the response time obligations; aids compliance and market confidence and results in more efficient market processes.

The proposed approach takes into account the energy volume at the connection point and establishes shorter response times for larger energy volumes.

The harmonisation of diverse jurisdictional requirements will lead to more efficient and consistent business processes across the NEM that will ultimately flow through to achievable end-use customer benefits. A proposed amendment to the clause heading better reflects the content of the clause.

Draft of the proposed Rule:

Amend the clause heading and add the following provisions to clause 7.11.2 as follows:

7.11.2 Metering installation malfunctions

- (a) In respect of a connection point with a metering installation type 1, 2 or 3, if a malfunction occurs to the metering installation, repairs must be made to it as soon as practicable and in any event within 2 business days of detection, or such time as detection should have reasonably occurred, unless an exemption is obtained from NEMMCO.

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- (ab) In respect of a connection point with a metering installation type other than type 1, 2 or 3, if a malfunction occurs to the metering installation, repairs must be made to it as soon as practicable and in any event within 10 business days of detection, or such time as detection should have reasonably occurred, unless an exemption is obtained from NEMMCO.

Amend clause 7.11.2 (b) as follows:

- (b) NEMMCO must establish and publish a procedure applicable to the provision of exemptions in accordance with paragraphs (a) and (ab) and NEMMCO may revise the procedure from time to time.

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Rule Change Proposal No. 14

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Security seals

Statement of issue identifying each problem or issue with the existing Rules:

Jurisdictional instruments currently contain diverse approaches to the sealing of metering equipment and situations where a security seal has been broken.

The current NEM approach to this matter is relatively light handed with current jurisdictional requirements used to address the deficiency.

This Rules change proposes stronger, harmonised NEM obligations to replace diverse jurisdictional requirements.

Statement of issue describing the proposed solution for each issue identified:

This Rules change proposes adoption of an industry ‘best practice’ approach for the sealing of metering equipment in the NEM, which has been developed through a harmonisation of current jurisdictional requirements.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed arrangements provide a comprehensive framework for the application of security seals to metering installations, replacement of damaged seals, and cost recovery for the replacement of security seals and provide clarity in relation to participant obligations for security seals across the NEM.

A consistent NEM-wide approach to the application and replacement of security seals assists participants to meet their compliance obligations irrespective of the jurisdiction in which the metering installation exists.

Certainty allows participants to establish common work practices across first and second tier metering installations, and facilitates transfer of consumer loads between first tier and second tier without the need for metering installation changes. This contributes to NEM efficiency and the NEM objective.

Draft of the proposed Rule:

Add the following sub-clauses to clause 7.11.2 as follows (noting the previous change to this clause):

7.11.2 Outages and malfunctions

- (ac) If a Local Network Service Provider, financially responsible Market Participant, or Metering Provider discovers that a seal protecting metering equipment has been broken, it must notify the responsible person within 5 business days.

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- (ad) The responsible person must replace a broken seal on the first occasion the metering equipment is visited to take a reading after receiving notification that a seal has been broken, or within 100 days, whichever is the earlier.

- (ae) The costs of replacing broken seals are to be borne:
 - (1) by the relevant Registered Participant if the seal was broken by its customer;
 - (2) by the Registered Participant if the seal was broken by the Registered Participant; or
 - (3) otherwise by the responsible person.

- (af) If it appears that, as a result of or in connection with the breaking of a seal, the relevant metering equipment may no longer meet the relevant minimum standard, then the responsible person must test the metering equipment.

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Rule Change Proposal No. 15

Description of the proposed Rule:

Consequential change to harmonise jurisdictional metrology requirements with existing NEM requirements – Type 7 metering installations

Statement of issue identifying each problem or issue with the existing Rules:

The Rules require that a type 7 metering installation metering only be allowed for a 'market load'.

The Rules and jurisdictional instruments do not currently clarify the criteria to be used when determining whether an un-metered supply may be categorised as a type 7 metering installation, but rather use examples.

Statement of issue describing the proposed solution for each issue identified:

This Rule change proposes:

- that the first reference to 'market loads' in Item 5 of Schedule S7.2.3 be made a reference to 'loads at connection points' in order to permit type 7 metering installations to be applied to first tier un-metered supplies; and
- that the coverage and the listed examples be replaced with principles to be applied when determining if a load qualifies as a type 7 metering installation, taking account of experience since competition commenced and metering developments.

It is proposed to incorporate in the Rules the principles applied in the metrology procedure and jurisdictional metering instruments (for the first tier) so that the Rule provides a framework for determining connection points that may be un-metered.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The Rule change proposal clarifies NEMMCO's role in determining which connection points qualify as type 7 metering installations in the NEM and address the criteria under which a connection point can be type 7.

If adopted, the determination of type 7 metering installations will be consistent for first and second tier loads, providing greater clarity to the industry and metering service providers, and contributing to market efficiency.

The Rules change does not affect existing jurisdictional arrangements for franchise loads.

Draft of the proposed Rule:

Amend Item 5 of Schedule S7.2.3 as follows:

S7.2.3 Accuracy requirements for metering installations

Item 5: A type 7 metering installation applies to the condition where it

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has been determined by NEMMCO that a metering installation does not require a meter to measure the flow of electricity in a power conductor and accordingly there is a requirement to determine by other means the energy data that is deemed to flow in the power conductor. This condition will only be allowed for connection points where it is determined that:

- (a) The load pattern is predictable and for the purposes of market settlement can be reasonably calculated by a relevant method set out in the metrology procedure; and
- (b) It would not be cost effective to meter the connection point taking into account;
 - (i) the magnitude of the load; and
 - (ii) the connection arrangements.
- (c) [Deleted]
- (d) [Deleted]

The metrology procedure must include arrangements for type 7 metering installations that have been classified as market loads.

The initial use of a type 7 classification does not remove the requirement for these connection points to be metered at some future time.

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Rule Change Proposal No. 16

Description of the proposed Rule:

Remove duplicate requirements – Data validation, substitution and estimation

Statement of issue identifying each problem or issue with the existing Rules:

For type 1-4 metering installations, responsibility for data validation, substitution and estimation falls to NEMMCO and is carried out by the Metering Data Agent in accordance with a metering data validation and substitution procedure established by NEMMCO under Rules clause 7.9.4.

For type 5-7 metering installations, responsibility for this activity falls to the responsible person, and is carried out by the Metering Data Provider in accordance with the NEM Metrology Procedure.

Hence, although the processes are identical for type 4 and type 5 metering installations, the obligations are located in different documents.

This split places an obligation on NEMMCO to maintain the identical data validation, substitution and estimation procedures in two places as follows:

- the procedures defined under Rule clause 7.9.4, and
- the NEM Metrology Procedure.

There are risks to the market associated with not keeping these documents aligned.

Rules clause 7.9.4(a) and Schedule S7.5.2(d) refer to ‘data validation and substitution’, while Rules clause 7.9.4(b) and the NEM Metrology Procedure refer to ‘data validation, substitution and estimation’. In addressing the substantive issue there is an opportunity to establish a consistent nomenclature and a NEM wide requirement.

Statement of issue describing the proposed solution for each issue identified:

This Rule change proposes to bring the obligations for data validation, substitution and estimation together in adjacent sub-clauses within Rules clause 7.9.4. The obligations on NEMMCO (for type 1 - 4 metering installations) and the responsible person (for type 5 - 7 metering installations) remain unchanged.

The procedures for data validation, substitution and estimation may be readily combined into a single document, and this is the most efficient process for ready access by service providers and Market Participants. As this procedure is essentially common with existing material within the NEM Metrology Procedure, it is proposed to bring all the data validation, substitution and estimation processes and algorithms together within a common area of the NEM Metrology Procedure.

To facilitate this change, this Rule change proposes the amendment of clause 7.9.4 to reference the NEM Metrology Procedure rather than

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‘...procedures developed by NEMMCO...’ This will allow the existing separate NEMMCO procedure under clause 7.9.4 to be withdrawn.

The heading for clause 7.9.4 is proposed to be amended to ‘Data validation, substitution and estimation’ along with the text within the Rule, and the reference at Schedule S7.5.2(d). These changes aid clarity by adopting a consistent harmonised approach and nomenclature.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

Discussion with industry groups and NEMMCO operational personnel indicates that a single reference document for service providers (whether MDAs or MDPs) is the most efficient arrangement for both the parties providing the service and the parties with responsibility for the service. This reflects the commonality of processes for data validation, substitution and estimation across the different metering installation types.

For the period that two documents exist, NEMMCO must ensure the common elements remain aligned, and therefore consultation on amendments to the two procedures must be conducted in parallel, with a common final determination and effective date. Notionally, participants are required to duplicate submissions to consultations, and NEMMCO is required to provide duplicate responses to the submissions.

The proposed Rules changes will provide a single efficient process for the management of data validation, substitution and estimation processes. More efficient processes provide benefits to service providers, responsible persons, retailers and reduce NEMMCO costs. These cost savings are all capable of translation into benefits to consumers.

The rationalisation of these two procedures into one is in conformity with recommendation 3.2(e) of the JJR, to reduce duplications in procedures and obligations.

Draft of the proposed Rule:

Amend provision (a) and add new provision (ab) to clause 7.9.4; and relocate clause (b) to clause 7.14.1(c)

7.9.4 Data validation, substitution and estimation

- (a) NEMMCO is responsible for the validation, substitution and estimation of metering data for type 1, type 2, type 3 and type 4 metering installations, which must be undertaken in accordance with the metrology procedure.
- (ab) The responsible person is responsible for the validation, substitution and estimation of metering data for type 5, type 6 and type 7 metering installations, which must be undertaken in accordance with the Metrology Procedure.

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(b) [Deleted]

(Relocate from clause 7.9.4(b))

7.14.1 Requirements of the metrology procedure

(c) The metrology procedure must include:

- (7) procedures for the preparation of settlements ready data in accordance with the Rules consultation procedures on the following matters:
 - (i) data validation and substitution in accordance with rule 7.9.4;
 - (ii) data estimation for the purposes of rule 7.11; and
 - (iii) in relation to matters specified in rule 7.9.3, the method:
 - (A) by which accumulated metering data is to be converted into trading interval data; and
 - (B) of managing the first-tier energy data that is necessary to enable this conversion to take place.

Amend Schedule S7.5.2. Metering register information as follows:

S7.5.2. Metering register information

- (d) Data validation, substitution and estimation processes agreed between affected parties, including:

(Noting that sub-clauses 1 to 5 are to remain).

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Rule Change Proposal No. 17

Description of the proposed Rule:

Address NEM efficiencies – Incorporate Queensland’s Minimalist Transition Approach to FRC in the Rules

Statement of issue identifying each problem or issue with the existing Rules:

The proposed harmonisation of first tier metrology requirements into the Rules as per this submission will result in the blanket application of NEM obligations to all metering installations in Queensland which is inconsistent with Queensland Government policy as outlined in the Queensland Electricity Industry Code.

The introduction of FRC by Queensland in July 2007 is predicated on transitional arrangements outlined in the Queensland Electricity Industry Code.

This Rule change is to incorporate the Queensland Minimalist Transition Approach within the transitional provisions of Chapter 11 of the Rules.

Statement of issue describing the proposed solution for each issue identified:

With the introduction of FRC in Queensland in July 2007, the government has developed a number of transitional National Metering Identifier (NMI) information requirements. This is known as the Minimalist Transition Approach and is outlined in the Queensland Electricity Industry Code.

This Rule change addresses these transitional arrangements as applicable to Chapter 7.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

This Rules change proposal facilitates the introduction of FRC in Queensland and the inclusion of Queensland’s first tier metrology requirements into the Rules and NEM Metrology Procedure.

This proposal allows the Minimalist Transition Approach being adopted by Queensland for FRC (as outlined in the Queensland Electricity Industry Code) to remain in place and introduce NEM wide first tier metering installation requirements.

Draft of the proposed Rule:

Add the following provisions to Chapter 11:

Queensland transitional provisions

In respect of entities operating under the Minimalist Transition Approach in Queensland, rules clauses 7.2.3(h)(2), 7.2.5(b)(2), 7.2.5(d)(6) and 7.3.1(f) do not apply in respect of a metering installation that in accordance with the Market Settlement and Transfer Solution Procedures, has a NMI classification of SMALL and the Local Network Service Provider has not received a valid request from a Market Customer for the NMI to be registered with NEMMCO.

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For the purposes of this Rule clause, the 'Minimalist Transition Approach' is defined in the Queensland Electricity Industry Code.

Rule Change Proposal No. 18

Description of the proposed Rule:

Address NEM efficiencies – Use of a Standard Set of Terms and Conditions

Statement of issue identifying each problem or issue with the existing Rules:

To facilitate timely retail transfers the LNSP generally publishes a set of terms and conditions under which the LNSP is willing to act as responsible person for type 5, 6 or 7 metering installations.

The existing Rules, in Chapter 7, provide that a Market Participant must request an offer from the Local Network Service Provider (LNSP) to act as the responsible person where a type 5, 6 or 7 metering installation is, or is to be installed.

Industry recognises that the timely transfer of retailer connection points at lower energy volumes is dependent upon an efficient and relatively automated process. The recognition of standard terms and conditions in the Rules as an alternative to the formal requirement for the retailer to request an offer from the LNSP has potential to facilitate further efficiencies in the retail transfer process.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rules change is to recognise in Chapter 7 the use of LNSP terms and conditions in responsible person arrangements for type 5–7 metering installations, to provide greater clarity to the industry and contribute to market efficiency.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The use of LNSP terms and conditions supports the efficient transfer of consumer connection points between retailers in the NEM.

The proposed Rule changes recognise practices developed in the market to facilitate efficient retail transfers for Full Retail Competition. Reflecting these practices within the Rules will provide greater certainty to Market Participants and service providers and therefore build confidence in market processes. It is assumed that reduced costs of this process efficiency eventually flow onto the end-use customer.

Draft of the proposed Rule:

Amend and add the following provisions to clause 7.2.3:

7.2.3 Responsibility of the Local Network Service Provider

Types 5 -7 metering installations

(ca) The Local Network Service Provider may provide Market Participants with a standard set of terms and conditions on which it will agree to act as the responsible person for type 5, 6 or 7 metering installation.

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- (d) Where the Local Network Service Provider has not provided the Market Participant with a standard set of terms and conditions on which it will agree to act as the responsible person for type 5, 6 or 7 metering installation under paragraph (ca), the Market Participant must request an offer from the Local Network Service Provider to act as the responsible person where:
 - (1) a type 5, 6 or 7 metering installation is, or is to be installed; and
 - (2) the Market Participant cannot be the responsible person for that metering installation.
- (e) The Local Network Service Provider must, within 15 business days of receipt of the request under paragraph (d), make an offer to a Market Participant setting out the terms and conditions on which it will agree to act as the responsible person.
- (f) The terms and conditions of an offer made under paragraphs (ca) or (e) must:
 - (1) be fair and reasonable; and
 - (2) not unreasonably discriminate, or have the effect of discriminating unreasonably, between Market Participants, or between the customers of any Market Participant.
- (g) A Market Participant must, in relation to an offer made under paragraphs (ca) or (e):
 - (1) accept the offer; or
 - (2) dispute the offer in accordance with rule 8.2.
- (h) If a Market Participant accepts the offer under paragraphs (ca) or (e), the Local Network Service Provider:
 - (1) becomes the responsible person; and
 - (2) must provide NEMMCO with the NMI for the metering installation within 10 business days of entry into a connection agreement under clause 5.3.7 with that Market Participant.

Rule Change Proposal No. 19

Description of the proposed Rule:

Address NEM efficiencies – Time Setting

Statement of issue identifying each problem or issue with the existing Rules:

Within the NEM, the parties responsible for time setting in each metering installation may vary depending upon the type of metering. The current Rules relating to time setting are principally to support type 1-4 metering installations and do not recognise the time setting requirement or obligations for type 5-7 metering installations. Further, the existing Rules do not assign responsibility for maintaining timing requirements.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rule change distinguishes between the different obligations of NEMMCO and the responsible person in maintaining timing requirements for a metering installation, metering database and metering installation database as a function of the type of metering installation, including types 5-7.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed arrangement provides NEMMCO and industry with a clear understanding of the allocation of responsibilities in a single clause. This assists industry to understand the differences and similarities between the requirements for the various metering types, assisting in their management of the responsibility and with compliance.

This Rules change will promote efficiency within participants while maintaining the integrity of meter related time.

Bringing similar obligations together within the Rules assists participants meet their compliance obligations, and aids market efficiency. This contributes to the NEM objectives.

Draft of the proposed Rule:

Amend and add the following provisions to clause 7.12 Meter Time :

7.12 Time Settings

- (a) The responsible person must ensure that all metering installation and data logger clocks are to be referenced to Australian Eastern Standard Time and maintained to a standard of accuracy in accordance with the load through the metering point in accordance with schedule 7.2.
- (aa) In relation to type 1, type 2, type 3 or type 4 metering installations, the responsible person must provide to NEMMCO suitable remote data access to set the time function of the metering installation.

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- (ab) In relation to type 5 or type 6 metering installations the responsible person must set the time function of the metering installation.
- (b) NEMMCO must ensure that the metering database clock is maintained within ± 1 second of Australian Eastern Standard Time for type 1, type 2, type 3 or type 4 metering installations.
- (ba) The responsible person must ensure that the metering installation database clock is maintained within ± 1 second of Australian Eastern Standard Time for type 5, type 6 or type 7 metering installations.
- (c) [Deleted]

Rule Change Proposal No. 20

Description of the proposed Rule:

Address NEM efficiencies – Design Standards

Statement of issue identifying each problem or issue with the existing Rules:

The current arrangement for general design standards and requirements for meters and new instrument transformers under the Rules are spread over a number of provisions and rely on superseded Australian and International Standards, and National Standards Institute arrangements.

The statement relating to the responsible person providing the relevant approval certificates to NEMMCO on request is also redundant, as the Federal enforcement mechanisms under the National Measurement Institute are sufficient.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rules change reflects updates to Australian and International Standards and incorporate related provisions of Schedules S7.2.6.1 (f) and (g) and S7.3.1(a) to provide a single location for these requirements. The changes also reflect the current practice under the National Measurement Institute in the application of type test certificates in transitional arrangements.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed changes increase clarity and remove ambiguity from the specification of design standards, resulting in ease of compliance and thus improved market efficiency.

The proposed changes reflect current industry practice and contribute to market certainty, and therefore build confidence in market processes.

Draft of the proposed Rule:

Amend Schedule S7.2.6.1 as follows:

S7.2.6.1 Design requirements

- (f) Meters must meet the relevant requirements of AS 1284:1, AS 62053.21, AS 62053.22, and AS 62052.11; and must have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate where no pattern approval exists.
- (g) New instrument transformers must meet the relevant requirements of AS60044.1, AS60044.2, AS 60044.3, and AS 60044.5; and must have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern

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approvals exist, a valid type test certificate where no pattern approval exists.

Delete provision S7.3.1(a) as follows:
(amalgamated with provisions S7.2.6.1 (f) and (g))

S7.3.1. General

(a) [Deleted]

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Rule Change Proposal No. 21

Description of the proposed Rule:

Address NEM efficiencies – Recognition of International Laboratory Accreditation Cooperation (ILAC)

Statement of issue identifying each problem or issue with the existing Rules:

The Rules dealing with the source of measurement standards reflect a requirement to meet standards and practices established and maintained through Australian institutions. This was industry practice at the time of the drafting of the original National Electricity Code.

Modern industry practice is to recognise international standards and accreditations where this is possible without reducing the technical standards of the Rule or procedure.

Some measurement and test equipment used in Australia must be sourced from overseas. Under current Rule requirements, this equipment must be tested at a National Association of Testing Authorities (NATA) accredited laboratory before it is placed into service. This equipment will have been tested prior to despatch and hence the retesting in an Australian laboratory is a duplication of effort, which delays putting the equipment into service and is an unnecessary inefficiency.

Statement of issue describing the proposed solution for each issue identified:

The proposed solution is to recognise the certification of overseas testing laboratories which are appropriately accredited.

The International Laboratory Accreditation Cooperation (ILAC) is a formal cooperation with a charter to establish a network of mutual recognition agreements among accreditation bodies. NATA is a member of ILAC, and NATA recognises the certification provided by laboratories that are accredited by an ILAC member body.

The proposed solution is to accept test certificates issued by a body recognised by NATA under the ILAC mutual recognition scheme.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The proposed Rule change will allow Metering Providers to arrange for the testing of imported test equipment prior to dispatch from the country of manufacture, and facilitate the equipment going into service at an early time.

Because the Metering Provider can have confidence that the equipment meets the Rules requirement at the time of receipt, there will be a shorter delay to place equipment into service. Current practice requires that test equipment is received into the Metering Provider's depot, and then testing is arranged at the NATA laboratory. This may involve a substantial delay – twelve months is not unknown – before the purchased equipment can be put into service.

The proposed Rule change will reduce the period between expenditure on test equipment and commencement of service, and hence improve

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return on assets employed for Metering Providers. This contributes to market efficiency.

Certainty of investment will be improved for Metering Providers, who may be encouraged to invest in more efficient test equipment. Competitive pressures between Metering Providers will ensure that the financial benefits of such investments will, in time, become benefits to NEM consumers.

**Draft of the
proposed Rule:**

Amend Schedule S7.3.2 as follows:

S7.3.2. Notes (These are technical guidelines)

- (b) All reference/calibrated equipment used by Metering Providers for the purpose of meeting test or inspection obligations must have current test certificates issued by a NATA accredited body or a body recognised by NATA under the ILAC mutual recognition scheme.

Rule Change Proposal No. 22

Description of the proposed Rule:

Address NEM efficiencies – Timeframes for Inspection and Testing of Various Metering Installation Types

Statement of issue identifying each problem or issue with the existing Rules:

The current timeframes outlined for inspection and testing of various metering installation types under the Rules limits the flexibility for development and innovation in the area of inspection and testing of metering installations by restricting the allowable timeframes.

Statement of issue describing the proposed solution for each issue identified:

The proposed Rules change recognises that alternate asset management strategies may be utilised, if approved by NEMMCO, to allow for innovation in maintenance programs without reducing the overall standard of performance.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The amendments assist market efficiency by allowing for alternative testing strategies to be developed outside the ‘default’ strategy. This creates the opportunity for Metering Providers to innovate and develop more efficient business processes for the management of their installed metering equipment and promote more efficient investment. Additionally this will lead to increased effectiveness of NEM processes and services and therefore add to efficiency for the ultimate benefit of end-use customers.

Draft of the proposed Rule:

Add the following provision to the base of Table S7.3.2 Maximum Period Between Tests:

Table S7.3.2 Maximum Period Between Tests:

Unless the responsible person has developed an asset management strategy that defines practices that meet the intent of this Schedule and that NEMMCO has approved, the maximum period between tests must be in accordance with this table.

Add the following provision to the base of Table S7.3.3 Period Between Inspections

Table S7.3.3 Period Between Inspections

Unless the responsible person has developed an asset management strategy that defines practices that meet the intent of this Schedule and that NEMMCO has approved, the period between inspections must be in accordance with this table.

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Rule Change Proposal No. 23

Description of the proposed Rule:

Address NEM efficiencies – Review of overall accuracy tables (Schedule 7.2)

Statement of issue identifying each problem or issue with the existing Rules:

The accuracy tables contained within Schedule 7.2 of the Rules are based on Australian Standards for meters and instrument transformers that were current in 1998.

Subsequently, in 2003, Australian Standards for instrument transformers (AS1243-1982 and AS1675-1986) were superseded by new Australian Standards (AS60044.1 and AS60044.2) based on international instrument transformer standards.

An industry working group convened by NEMMCO in 2004 (Metering Technology Working Group) reviewed the accuracy requirements contained within Schedule 7.2 and developed recommendations for amendments to schedule 7.2 for submission to the National Electricity Code Administrator (NECA). At the time of the conversion from Code to Rules in 2005, NECA had not attempted to address this submission.

This Rule change proposal addresses some of the issues initially raised by the Metering Technology Working Group in relation to Schedule 7.2 of the Rules, and further refined by the Metrology Reference Group. These issues are:

- The new Australian Standards for instrument transformers widens the allowable error tolerances at lower currents, and nominates test points for determining accuracy requirements that differ from the test points nominated in the Rules. This has the effect that the test points which must be tested to assure compliance with the Australian Standards are different to the test points required for assurance of compliance with the Rules, forcing additional testing of instrument transformers.
- The errors in tables S7.2.3.2 to S7.2.3.5 are based on using instrument transformers compliant with the former Australian Standards. The errors have been re-calculated to accommodate the requirements under the new Australian Standards. Industry practitioners are finding the test point at 50% rated load, 0.5 lagging is very difficult to achieve in practice and propose a loosening of the requirements at this point.
- There is no co-relation of comparative errors across tables at load points where such a relation might be expected. For example, industry practitioners considered that there should be co-relation between the 100% rated load point for a type 2 installation and the 10% rated load point for a type 1 installation.
- Type 5 and 6 metering installations do not have tables of accuracy similar to the tables of accuracy used for types 1 - 4 metering installations. The publication of such tables would be beneficial to users of the Rules.

Accuracy standards are referred to 25 degrees Celsius, whereas

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international practice, reflected in current Australian Standards for metering equipment, is to use a reference temperature of 23 degrees Celsius.

Statement of issue describing the proposed solution for each issue identified:

The Rules change proposes that the errors specified in Tables S7.2.3.2 to S7.2.3.5 be amended to reflect the requirements under the new Australian Standards for instrument transformers.

Industry also proposes that a co-relation of comparative errors across tables be established for load points that are equivalent. For example, it would be appropriate to set the anticipated maximum errors for the 100% rated load point for a type 2 installation to a similar value to the 10% rated load point for a type 1 installation.

Establishment of a table of errors for type 6 metering installations (Table S7.2.3.6) that is similar to the existing tables for types 1 - 4.

Inclusion of type 5 in the heading of Table S7.2.3.5, to recognise that type 4 and type 5 accuracy standards are similar.

Amend the note below table S7.2.3.6 to align the reference temperatures with international practice and current Australian Standards for metering equipment.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

In many instances instrument transformers can only be sourced from overseas, and hence there is a need for accuracy standards to be based on international technical requirements.

Requirements under Australian Standards have been harmonised to equivalent international standards, and the resultant changes need to be reflected into the Rules in order that Metering Providers can readily use equipment manufactured to international standards, and which can often not be sourced locally.

The changes to the tables S7.2.3.2 to S7.2.3.5 and the new table S7.2.3.6 add clarity and assist participants and service providers to understand the requirements necessary for compliance. There is a benefit to all industry participants if compliance requirements are explicit and understood without the need for interpretation. This benefit translates into a market efficiency which is to the ultimate benefit of end use consumers.

Changes to values in the tables S7.2.3.2 to S7.2.3.5 make compliance at some test points less technically onerous, and without materially reducing the quality and accuracy of the metering installation. Those test points which were difficult to achieve for Metering Providers added to testing costs without adding to the overall quality of the metering installation. Compliance with the strict values in the current tables was not offering a value to end-consumers commensurate with the complication and cost of the testing.

Alignment of the reference temperature with international standards greatly simplifies the comparison of test results from overseas, and eliminates the need for a translation or interpretation of results.

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**Draft of the
proposed Rule:**

The changes proposed involve changes in values and format of tables, and are best described by reference to Attachment B accompanying this submission.

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Rule Change Proposal No. 24

Description of the proposed Rule:

Address NEM efficiencies – Single table of requirements (Schedule 7.3)

Statement of issue identifying each problem or issue with the existing Rules:

Testing uncertainty requirements are currently split across Rules Schedule S7.3.1 (b) and Table S7.3.1. However the presence of these requirements at two locations creates the possibility of ambiguity and uncertainty about the requirements.

In the case of current and voltage transformers, the uncertainties are currently expressed solely in terms of ratio error, whereas phase error specification is equally important.

For voltage transformers, the phase error uncertainty (in crad) can be set at the same as the ratio error – thus a ratio error of 0.1% matches a phase error of 0.1 crad.

For current transformers, the phase error limits need to be opened out to 50% greater than the ratio error; in this case a ratio error of 0.1% is matched to a phase error of 0.15 crad.

In many cases metering equipment is tested before the metering installation type is determined. It would therefore be more appropriate for testing uncertainty to be specified in terms of the class of the equipment rather than the metering installation type.

Statement of issue describing the proposed solution for each issue identified:

The Rules change proposes that testing uncertainty requirements that are currently split across Schedule S7.3.1 (b) and Table S7.3.1 be amalgamated into a single table.

In relation to the expression of uncertainties for current and voltage transformers, new uncertainty values are proposed that better reflect the accuracies being sought. These values are expressed in terms of ratio error and phase error.

If the maximum allowable testing uncertainties are specified in terms of the accuracy class of the equipment under test, the test house or Metering Provider is in an unambiguous position as to the standard of testing required, because the class of the equipment is contained on the plant nameplate. The proposed solution to this issue is therefore to re-cast Table S7.3.1 so that the requirements are in terms of the 'metering equipment class' of the equipment being tested rather than in terms of the destination metering installation type.

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Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

Amalgamating the testing uncertainty requirements that are currently split across Schedule S7.3.1 (b) and Table S7.3.1 into an amended Table S7.3.1 will improve clarity of requirements. Removal of potential ambiguity aids efficiency in the NEM. The proposed amalgamation is effectively editorial, as it makes no material difference to the requirements of the existing two requirements that are being merged into the amended Table S7.3.1. Having a single source (Table S7.3.1) for requirements assists Metering Providers to meet their compliance obligations.

The expression of uncertainties for current and voltage transformers in terms of ratio error and phase error reflects the industry standard in relation to defining transformer errors. The current expression in terms of an absolute error requires interpretation, and one interpretation could result in an overly onerous requirement that adds cost to testing and hence unnecessary costs to the end-use consumer. The proposed expression of errors reflects national and international standards for the expression of errors for instrument transformers, and is unambiguous.

The expression of maximum allowable level of testing uncertainty in terms of the 'metering equipment class' allows the laboratory conducting the test to establish the test requirements without needing to determine the ultimate location of the metering equipment, or the energy volumes anticipated for the site. It also facilitates the testing of equipment as 'spares', knowing that the equipment may be installed in, say, type 1, type 2 or a type 3 metering installation with confidence that the equipment will have been tested to the requirements of the Rules. This opens up flexibilities for Metering Providers and Network Providers in relation to preparation of instrument transformers for major connection points, which has potential benefits in relation to planning and investment decisions. These benefits contribute to the NEM objective by making the provision and testing of metering equipment more cost effective.

Draft of the proposed Rule:

The changes proposed involve changes in values and format of tables, and are best described by reference to Attachment B accompanying this submission.

Rule Change Proposal No. 25

Description of the proposed Rule:	Address audit issue – NEMMCO Audit of Meter ‘Test Results’
Statement of issue identifying each problem or issue with the existing Rules:	<p>Rules clause 7.6.1 (c) requires NEMMCO to check the test results of every meter tested by the responsible person (under clause (a) and in accordance with Schedule 7.3).</p> <p>While this might have been possible at the commencement of the market, the requirement for NEMMCO to check the test results of every meter test is impractical and considered to be unnecessary, provided sufficient sample checking of test results is undertaken.</p> <p>Additionally, the application of Chapter 7 to first tier metering installations will mean a huge increase in the number of meters operating under the Rules, increasing the difficulty and cost of checking the test results of every metering installation. When these mass market meters were the responsibility of the jurisdictional metering codes that similar test procedures for meter families did not require the regulator to view every test result.</p>
Statement of issue describing the proposed solution for each issue identified:	<p>The Rules change proposes to vary the clause to put in place a more practical approach to the audit of meter tests so that NEMMCO must audit the test results and arrange for sufficient testing of meters to satisfy itself of the accuracy of metering installations.</p>
Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:	<p>The proposed Rule change will;</p> <p>Reduce the burden on NEMMCO that would otherwise result from checking the results of every metering installation tested which would increasingly include mass market meters.</p> <p>Reduce costs and improve efficiencies compared with the existing requirement without any reduction in overall accuracy of the meter population.</p>
Draft of the proposed Rule:	<p>Amend clause 7.6.1 as follows:</p> <p>7.6.1 Responsibility for testing</p> <p>(c) NEMMCO must check test results recorded in the metering register by arranging for sufficient audits of metering installations so as to satisfy itself that the accuracy of metering installations conforms with the requirements of this Chapter 7.</p>

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Rule Change Proposal No. 26

Description of the proposed Rule:

Statement of issue identifying each problem or issue with the existing Rules:

Address editorial changes – Editorial changes within Chapter 7

This proposed Rule change addresses a number of minor issues identified in the course of developing the ‘first tier’ Rules change proposals including issues relating to readability of the Rules, errors, use of language and updates to relevant Australian Standards.

The following issues/improvements were identified:

Clause 7.2.1(1)

The current wording contains duplication between sub clause (1) and (3) in reference to Chapter 7 that could be removed.

Clause 7.2.3(a)

Clause 7.2.3(a) needs to be made subject to Rules clause 7.2.4 to address joint metering installation requirements in a manner that is consistent with clause 7.2.2(a).

Clause 7.8.1 (a) & (b)

Industry considered the terminology used to describe the security of metering installations outdated. The use of the terms such as seals and devices is based on historical metering security practices, and do not reflect accurately the wider security means now available or acceptable. An amendment is required to recognise these differences.

Table S7.2.3.1 - Item 1

The Australian Standard 1284.1 referenced within this clause has been superseded and as a result the reference requires updating.

Schedule S7.2.5

The Australian and International Standards referenced within this schedule have been superseded and as result the references require updating.

Statement of issue describing the proposed solution for each issue identified:

The following improvements were identified during this process

Clause 7.2.1 (1)

Reword sub clause to improve readability and remove redundancy.

Clause 7.2.3 (a)

It is proposed to amend this clause to include ‘Subject to clause 7.2.4, the...’. The provision is subject to the same conditions as clause 7.2.2 and the amendment improves clarity relating to joint (shared) metering installations.

Clause 7.8.1 (a) & (b)

Update the heading to read ‘Security of metering installations’, to align

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with terminology used in section paragraphs.

Amend terminology in paragraphs (a) and (b) to more accurately reflect industry practice for the security of a metering installation.

Table S7.2.3.1 - Item 1

Correct the reference to Australian Standards.

Schedule S7.2.5

Correct the references to Australian and International Standards.

Analysis of how the proposed Rule (if made) will contribute or is likely to contribute to the achievement of the NEM Objective:

The collective purpose of these proposed Rules changes is to clarify and improve the accuracy of the expressed requirements. Ambiguity or errors in the Rules introduces increased compliance risk to service providers and NEM participants.

Correction of errors and improved readability will improve industry understanding of the Rules, and make the operation of NEM processes and services less costly, and therefore add to efficiency.

Better understanding and clarity of the Rules will reduce regulatory risk, which will reduce the need to factor higher costs into pricing and investment decisions to the ultimate benefit of consumers.

Draft of the proposed Rule:

Amend clause 7.2.1(1) as follows:

7.2.1 Responsible Person

The responsible person is the person responsible for the provision, installation and maintenance of a metering installation in accordance with:

- (1) Chapter 7; and
- (2) the metrology procedure

Amend clause 7.2.3 (a) as follows:

7.2.3 Responsibility of the Local Network Service Provider

- (a) Subject to clause 7.2.4, the Local Network Service Provider is the responsible person for:

Amend clause 7.8.1 (a) & (b) as follows:

7.8.1 Security of metering installations

- (a) The responsible person must ensure that a metering installation is secure and that associated links, circuits and information storage and processing systems are protected by security mechanisms acceptable to NEMMCO.

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- (b) NEMMCO may override any of the security mechanisms fitted to a metering installation with prior notice to the responsible person.

Amend Table S7.2.3.1 - Item 1 as follows:

S7.2.3 Accuracy requirements for metering installations

Item 1: For types 3, 4, 5 and 6 metering installations, it is acceptable to use direct connected meters meeting the relevant requirements of AS 1284:1, AS 62053.21, AS 62053.22, and AS 62052.11. The metering installation must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurements Act.

Amend Schedule S7.2.5 as follows:

S7.2.5 Resolution and accuracy of displayed or captured data

Any programmable settings available within a metering installation, data logger or any peripheral device, which may affect the resolution of displayed or stored data, must meet the relevant requirements of AS1284:1, AS 62053.21, AS 62053.22, and AS 62052.11; and must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Standards Institute under the National Measurements Act.