

Tracking Document:

Comparing Type 1-4 SLP to the new combined SLP

Header meanings:

- Heading/Clause – of the old document
- Header/Description – text within the old document for the clause
- New Heading/Description – new section heading or wording in the new document (if required)

Changes – changes to document

- **Text** – means reworded
- **Text** – means deleted
- **Text** – added

Heading/Clause number	Header/Description	New Heading/Description	Changes
1. General	This service level procedure details the requirements that the Metering Data Provider, must comply with for the provision of metering data services for metering installation types 1, 2, 3 and 4	1. General This service level procedure details the requirements that the Metering Data Provider must comply with for the provision of metering data services for all metering installation types in accordance with the Rules.	Reworded to cater for all metering types
1.1 Purpose	<p>1.1.1 This service level procedure is established under clause 7.14.1A of the Rules and details the obligations, technical requirements, measurement processes and performance requirements that are to be performed, administered and maintained by the Metering Data Provider.</p> <p>1.1.2 This service level procedure details the:</p> <ul style="list-style-type: none"> a) Obligations of the Metering Data Provider in the provision of metering data services; b) Obligations of the Metering Data Provider to establish and maintain a metering data services database; c) Processes that must be undertaken in the substitution and validation of metering data by the Metering Data Provider; 	2. Purpose	<p>1.1.1 now 2 a)</p> <p>1.1.2 now 2 b)</p> <p>c) Deleted as this is covered in Metrology Procedures. Document advises participants that they need to comply with Metrology A & B</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>d) Data collection, processing and transfer requirements for metering installation types 1, 2, 3 and 4;</p> <p>e) Obligations assigned to the Metering Data Provider within any procedures under the Rules; and</p> <p>f) Obligations assigned to the Metering Data Provider in support of the responsible person.</p>		
New 2 c)		<p>2. Purpose</p> <p>2 c) This service level procedure consolidates the following service level procedures related to Metering Data Provider activities.</p> <p>i. Service Level Procedure: Metering Data Provider Services Category D for Metering Installation Types 1, 2, 3 and 4;</p> <p>ii. Service Level Procedure: Metering Data Provider Services Category D for Metering Installation Types 5, 6 and 7; and</p> <p>iii. Service Level Procedure: Metering Data Provider Services Category Type 5C and 6C.</p>	Identifies origin of this document
1.2 Interpretation	<p>1.2 Interpretation</p> <p>1.2.1 In this service level procedure words that are shown in italics have the meaning specified in the Rules or, if they are not specified in the Rules, they have the meaning specified in clause 1.5.</p> <p>1.2.2 A reference in this service level procedure to a provision in</p>	Glossary	Moved to the glossary and reworded

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>the Rules is taken to be a reference to that provision as renumbered from time to time.</p> <p>1.2.3 In this service level procedure words in the singular include the plural and words in the plural include the singular.</p> <p>1.2.4 In this service level procedure diagrams are provided as an overview. If there are ambiguities between a diagram and the text, the text shall take precedence.</p>		
1.3 Regulatory Framework	<p>1.3 Regulatory Framework</p> <p>1.3.1 In accordance with clause 7.4.1A of the Rules, the provision of metering data services must only be carried out by a Metering Data Provider.</p> <p>1.3.2 In accordance with clause 7.4.2A (e) of the Rules, a Metering Data Provider must comply with the provisions of the Rules and procedures authorised under the Rules.</p> <p>1.3.3 In accordance with clause 7.4.2A (a) (2) of the Rules, Metering Data Providers providing metering data services in the National Electricity Market must be accredited by and registered with AEMO. The accreditation</p>	3. Legal and Regulatory Framework	same

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>requirements are set out in the accreditation procedures and checklists for each category of registration which include requirements as set out in:</p> <ul style="list-style-type: none"> a) Chapter 7 of the Rules; and b) Authorised procedures under the Rules. 		
1.4 References	<p>1.4.1 In this service level procedure, a reference to:</p> <ul style="list-style-type: none"> a) 'Metrology procedure: Part B' is a reference to the "Metrology Procedure: Part B. Metering Data Validation, Substitution and Estimation Procedure for Metering Types 1-7". For the avoidance of any doubt, any reference within this procedure to: <ul style="list-style-type: none"> i. Validate or validation refers to the process as expressed within the metrology procedure: Part B; and ii. Substitute or substitution refers to the process as expressed within the metrology procedure: Part B. b) 'Metrology procedure: Part A' is a reference to the "Metrology Procedure: Part A. Any reference within this service level procedure is in accordance with the context of the provision and in relation to: 	4 References	<p>Removed spurious txt Remove as document does not refer to FRMP churn</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>i. The responsibility for metering data services; and</p> <p>ii. The requirement to be registered with AEMO for the provision of metering data services,</p> <p>c) 'MSATS Procedures' is a reference to any one or all of the following documents in accordance with the context of the provision:</p> <p>i. 'CATS Procedure' is a reference to the CATS Procedures Principles and Obligations;</p> <p>ii. 'WIGS Procedure' is a reference to the Procedures for the Management of Wholesale, Interconnector, Generator and Sample (WIGS) NMIs;</p> <p>iii. 'Standing Data' is a reference to the static metering data held within MSATS as detailed in 'Standing Data for MSATS'; and</p> <p>iv. 'MDM Procedures' is a reference to MSATS Procedures: MDM Procedures.</p> <p>d) 'B2B Procedures' is a reference to any one or all of the following documents in accordance with the context of the provision:</p> <p>i. 'Customer and Site Details Notification Process';</p> <p>ii. 'Service Order Process';</p> <p>and</p>		

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>iii. 'Meter Data Process'.</p> <p>e) 'NMI Procedure' is a reference to the latest version of the "National Metering Identifier Procedure".</p> <p>f) 'Data Delivery Calendar' is a reference to the applicable version of the 'AEMO Data Delivery Calendar'.</p> <p>g) 'Meter Churn Data Procedure' is a reference to the 'Meter Churn Data Management Procedure' that Metering Data Providers must comply with.</p> <p>h) 'FRMP Churn Procedures' is a reference to the 'Meter Churn Procedures' for financially responsible Market Participants'.</p> <p>i) 'MDFF' is a reference to;</p> <p>i. The 'Meter Data File Format Specification' for provision of metering data to Local Retailers, Market Customers, Network Service Providers and other Metering Data Providers. This document is currently the "Meter Data File Format Specification NEM12 & NEM13".</p> <p>ii. An alternative version of the Meter Data File Format Specification which may be used for the provision of metering data</p>		

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	<p>to a Generator participant. This is currently the NEM01 format as specified in the “Meter Data File Format – NEM01 specification”.</p> <p>j) ‘MDM data file’ is a reference to the aseXML metering data file to be used for sending metering data to AEMO’s MSATS system. The latest version of the ‘MDM File Format and Load Process’ procedure details the process and file format to be complied with by Metering Data Providers.</p> <p>k) ‘Market Management Systems Access Procedure’ is a reference to the latest version of AEMO’s Market Management Systems Access Procedure, Policy 02113.</p> <p>l) ‘Special Sites’ is a reference to the latest version of ‘Special and Technology Related sites’ supporting document and published ‘List of Special and Technology Related Sites’ within the NEM.</p> <p>m) ‘Service level procedure’ is a reference to this document.</p>		
1.5 Definitions and Acronyms	<p>data stream</p> <p>A data stream means a stream of energy data or metering data</p>	GLOSSARY	New Glossary and new definitions

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>associated with a metering point, as represented by a NMI. For example, a NMI will have multiple data streams where one or more meters or one or more channels or registers comprise a single meter. Each data stream is identified by a suffix, which is associated with the NMI to which it belongs.</p> <p>substitution, substitute, substituted A process undertaken by a Metering Data Provider or AEMO for the substitution of missing (null) or erroneous metering data or where the metering data has failed the validation process.</p> <p>validation, validate, validated A process undertaken by the Metering Data Provider to test the veracity and integrity of metering data prior to transfer to AEMO and other Registered Participants.</p>	<p>CATS Standing Data</p> <p>CATS Standing Data means those data items that are held in the following database tables:</p> <ul style="list-style-type: none"> • CATS_NMI_Data_Stream • CATS_NMI_Data • CATS_Meter_Register •CATS_NMI_Participants_Relationships • CATS_Register_Identifier <p>NMI Standing Data is a sub-set of CATS Standing Data</p> <p>Collection, collect, collected</p> <p>A process undertaken by the <i>Metering Data Provider</i> to obtain <i>metering data</i> from a meter or <i>metering installation</i>.</p> <p>data stream</p> <p>data stream means a stream of energy data or metering data associated with a metering point, as represented by a NMI. For example, a NMI will have multiple data streams where one or more meters or one or more channels or registers comprise a single meter. Each data stream is identified by a</p>	

Heading/Clause number	Header/Description	New Heading/Description	Changes
		<p>suffix, which is associated with the NMI to which it belongs.</p> <p>estimation, estimate, estimated</p> <p>The processing of metering data, A process undertaken by a Metering Data Provider, for the forward estimation of metering data where the scheduled meter reading cycle does not support the delivery time frames of metering data to AEMO and other Registered Participants.</p> <p>substitution, substitute, substituted</p> <p>A process undertaken by a Metering Data Provider or AEMO for the substitution of missing (null) or erroneous metering data or where the metering data has failed the validation process.</p> <p>validation, validate, validated</p> <p>A process undertaken by the Metering Data Provider to test the veracity and integrity of metering data prior to transfer to AEMO and other Registered Participants.</p>	
1.6 Document Responsibility	<p>1.6.1 In accordance with clauses 7.1.3, 7.1.4 and 7.14.1A or the Rules, AEMO is responsible for:</p> <p>a) Preparing the service level procedure in accordance with Rules consultation procedures;</p> <p>b) Revising the service level procedure in accordance with Rules</p>	<p>1 Introduction</p>	<p>1.6.1 now 1 b) Reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>consultation procedure; and c) Publishing the service level procedure.</p> <p>1.6.2 The service level procedure must be available for public access on the AEMO website.</p> <p>1.6.3 Where AEMO considers a proposed amendment to the service level procedure is of a minor or administrative nature, AEMO is not required to undertake consultation in accordance with the Rules consultation procedures but must comply with the requirements of clause 7.1.4 (e) of the Rules.</p>		<p>Deleted as publishing under the rules means to provide access to the document.</p> <p>1.6.3 became 1c)</p>
2.1 Metering Data Provider Obligations	2.1.1 Where the Metering Data Provider is responsible for the provision of metering data services, the Metering Data Provider must: <ul style="list-style-type: none"> a) Provide compliant metering data services; b) Establish and administer a metering data services database; c) Establish and maintain a metering register in their metering data service database; d) Maintain the security and confidentiality of any metering 	<ul style="list-style-type: none"> 5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D 6 Service requirements for Metering Data Providers – Category D 6.1 System requirements 	<p>New c) a), (with extra wording), d) e)(with extra wording), f)(with extra wording) retained.</p> <p>Old c) Moved to 5.3.1 i).</p> <p>g) moved to 6.1.1a)</p> <p>h) moved to 5.3.1a) and reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	passwords; e) Ensure that metering data and NMI Standing Data is kept confidential and secure in accordance with Rule obligations; f) Undertake the remote acquisition of metering data through the processes that the Metering Data Provider has been accredited and engaged for; g) Collect metering data; and h) Undertake validation and substitution of metering data in accordance with the metrology procedure: Part B.		
	2.1.2 The Metering Data Provider must comply with the provisions of the Rules and procedures authorised under the Rules.	3 Legal and Regulatory Framework	2.1.2 covered in 3 b)
	2.1.3 The Metering Data Provider must ensure that any and all deliveries or transfers of metering data, relevant NMI Standing Data or metering register data for a metering installation from the Metering Data Provider's metering data services database, is only provided to persons entitled to have access to the data in accordance with clause 7.7(a) of the Rules.	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	2.1.3 covered in 5.3.3 f)

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2.2 Metering Data Provider Services	2.2.1 The Metering Data Provider must comply with this service level procedure.		2.2.1 deleted as spurious information
	2.2.2 The Metering Data Provider is required to provide metering data services which relate to the collection, processing and transfer of metering data and the management of relevant NMI Standing Data for all connection points for which they have responsibility for in MSATS. The Metering Data Provider must continue to perform the services until otherwise advised by: a) The financially responsible Market Participant, the responsible person or AEMO through the MSATS Procedures; or b) AEMO, as part of an action undertaken within the 'Service Provider Compliance and Deregistration Procedure'.	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	2.2.2 reworded as 5.3.1 c
	2.2.3 In complying with clause 2.2.2 of this service level procedure, the Metering Data Provider must be compliant with the additional obligations within the 'Meter Churn Data		2.2.3 deleted as 5.1.2 advises what documents the MDP must comply with.

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	<p>Procedure' and the 'FRMP Churn Procedures' which are associated with customer transfers, participant role and metrology changes.</p>		
	<p>2.2.4 The Metering Data Provider is responsible for all metering data services from the point of collection (remote acquisition) of metering data from the physical metering installation to the point of metering data and relevant NMI Standing Data delivery interfaces to MSATS, the B2B e-Hub, Registered Participants and other service providers, as detailed in this service level procedure.</p>		<p>2.2.4 deleted as 5.1.2 advises what documents the MDP must comply with.</p>
	<p>The Metering Data Provider is required to:</p> <p>a) Actively assist in the prompt registration of connection point data streams in accordance with the MSATS Procedures;</p> <p>b) Ensure registered details of the connection point are fully recorded in the Metering Data Provider's metering data services database. These details must be</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p> <p>5.2 Use of sub-contractors</p> <p>5.3 Specific obligations for Metering Data Provider - Category D</p>	<p>2.2.5 a) to e) now 5.3.1 d), e), f), g)</p> <p>2.2.5 f) now 5.2.1h), g) now 5.2.1i), h) deleted upon review at MSWG Nov,</p> <p>i now 5.1.1 b), c) & d), j) deleted upon review at MSWG Nov, k) now 5.1.1 j)</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>managed in an accessible and auditable manner;</p> <p>c) Ensure metering details are correct, particularly parameters that affect the translation of metering data, relevant NMI Standing data or metering register data from each metering installation into the Metering Data Provider's metering data services database;</p> <p>d) Facilitate the timely commissioning of the metering installation and the confirmation of metering installation details;</p> <p>e) Ensure that there is no continued metering data being registered for the connection point before deactivating the data stream(s) in MSATS or discontinuing the remote acquisition of the metering installation;</p> <p>f) Be accredited by AEMO to provide metering data services;</p> <p>g) Comply with all directions from AEMO to fulfil any obligation under this service level procedure;</p> <p>h) Comply with any statutes, regulations, bylaws, codes, Rules, procedures under the Rules and governmental policies relating to</p>		

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>the provision of metering data services;</p> <p>i) Provide and maintain equipment and facilities sufficient to enable the Metering Data Provider to properly carry out the metering data services;</p> <p>j) Maintain the auditability, integrity and veracity of the Metering Data Provider's metering data services database and metering register for all metering installations for which they are the nominated Metering Data Provider in MSATS; and</p> <p>k) Make all reasonable endeavours to co-operate in good faith with:</p> <p>i. AEMO;</p> <p>ii. All Registered Participants; and</p> <p>iii. Other accredited Metering Data Providers and Metering Providers within the National Electricity Market.</p>		
	<p>2.2.6 Where the metering installation includes the measurement of reactive energy, the Metering Data Provider is required to store this metering data along with the metering installations active metering data in</p>	<p>5 Obligations</p> <p>5.3 Specific obligations for Metering Data Provider - Category D</p>	<p>2.2.6 now 5.3.3</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>the Metering Data Provider's metering data services database. The Metering Data Provider is required to include the provisioning of all reactive metering data to Registered Participants who have right of access to that metering data.</p>		
3. PROCEDURAL OBLIGATIONS	<p>3.1 NMI Procedure 3.1.1 The Metering Data Provider must maintain compliance with the NMI Procedure and in particular: a) That correct allocation and control of all data stream suffixes are maintained within the Metering Data Provider's metering data services database; and, b) Verify that the NMI is registered in MSATS.</p>	<p>5 Obligations 5.1 Metering data services</p>	<p>Condensed and all explanatory txt removed</p>
<p>3.2 MSATS Procedures 3.2.1 The Metering Data Provider is responsible for the provision of metering data services for all connection points for which they are the nominated Metering Data Provider in MSATS. 3.2.2 The Metering Data Provider must remain compliant with all applicable MSATS Procedures. 3.2.3 The Metering Data</p>	<p>5 Obligations 5.1 Metering data services</p>		

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Provider must meet the specified obligations with respect to customer establishment and customer transfers within the timeframes defined in the MSATS Procedures.</p> <p>3.2.4 The Metering Data Provider must maintain and operate an interface with AEMO's MSATS system for the delivery of metering data and relevant NMI Standing Data to AEMO's metering database.</p>		
	<p>3.3 B2B Procedures</p> <p>3.3.1 The Metering Data Provider must remain compliant with all applicable B2B Procedures.</p> <p>3.3.2 The Metering Data Provider must maintain and operate an interface with the B2B e-Hub for the purposes of managing relevant B2B communications and for the delivery of metering data and relevant NMI Standing Data to relevant Registered Participants, other Metering Data Providers and AEMO.</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	
	<p>3.4 Metering Data File Format</p> <p>a) 3.4.1 The Metering Data Provider must deliver metering data to all relevant Registered</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Participants in a format that is compliant with the requirements of the MDFF specification.</p> <p>3.4.2 The Metering Data Provider must deliver metering data to AEMO compliant with the process and format as specified in the 'MDM File Format and Load Process' procedure.</p> <p>3.4.3 The Metering Data Provider must deliver metering data to all relevant Registered Participants and AEMO interfaces as specified within this service level procedure.</p>		
	<p>3.5 Meter Churn Data</p> <p>3.5.1 The Metering Data Provider must comply with the Meter Churn Data Procedure.</p> <p>3.5.2 The Metering Data Provider must be especially cognisant of connection point transfers that are retrospective and ensure that the integrity and veracity of metering data is not impaired with the change of service provision.</p> <p>3.5.3 The Metering Data Provider may be requested to assist the financially responsible Market Participant and or responsible person in the</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	

Heading/Clause number	Header/Description	New Heading/Description	Changes
	management of meter churn as detailed in the FRMP Churn Procedure for financially responsible Market Participants.		
	<p>3.6 Metrology Procedure: Part B</p> <p>3.6.1 The Metering Data Provider must comply with the metrology procedure: Part B in so much that it applies to metering installation types 1, 2, 3 and 4.</p> <p>3.6.2 The Metering Data Provider must subject all metering data to full and complete validation before any metering data is delivered to AEMO, Registered Participants and other Metering Data Providers.</p> <p>3.6.3 The Metering Data Provider must undertake substitutions in accordance with the metrology procedure: Part B.</p> <p>3.6.4 The Metering Data Provider must have a process in place that ensures that all connection points are commissioned into the Metering Data Provider's metering data services database in accordance with the 'Validation within the Registration Process', as detailed within the metrology procedure:</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Part B.</p> <p>3.6.5 The Metering Data Provider must validate the metering data collected from each registered metering installation as soon as practicable after being advised by the financially responsible Market Participant, the responsible person or the Metering Provider that the installation is ready for service.</p> <p>3.6.6 The Metering Data Provider must have a process in place to maintain auditable records that:</p> <ul style="list-style-type: none"> a) Show all metering data has been validated within the registration process and that sign off with the Metering Provider was undertaken; b) Show all metering data has been subjected to all of the required validation criteria inclusive of meter alarms and that all validation failures are authenticated; and c) Detail the reason code(s) and substitution method code(s) for any substitution of metering data. 		
	3.7 Metrology Procedure: Part A	5 Obligations 5.1 Metering data services	

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>3.7.1 The Metering Data Provider must comply with the metrology procedure: Part A in so much that it applies to the collection of metering data and the provision of metering data services for metering installation types 1, 2, 3 and 4.</p>		
	<p>3.8 Responsible Person and Metering Provider</p> <p>3.8.1 Notwithstanding that it is the responsible person who is primarily accountable for the compliance and performance of the metering installation, it must be recognised that the Metering Data Provider, through this service level procedure, affords the responsible person a very significant degree of support.</p> <p>3.8.2 Disputes arising from failure to adequately deliver performance shall be addressed in good faith by the Metering Data Provider, the responsible person and AEMO, with the aim of jointly rectifying any problems. The review procedures put in place by AEMO will review the Metering Data Provider's success at meeting</p>		<p>3.8 deleted. Duplication in the documents, was stating rules requirements and they provided no additional value</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>the performance criteria under this service level procedure.</p> <p>3.8.3 The Metering Data Provider must keep the responsible person and the Metering Provider informed of any outages or metering installation malfunctions.</p> <p>3.8.4 The Metering Data Provider must, on behalf of the responsible person, initiate a manual acquisition process with the assistance of the Metering Provider for the manual collection and processing of metering data from the metering installation where remote acquisition becomes unavailable.</p> <p>3.8.5 The Metering Data Provider must actively assist in the timely commissioning of the metering installation and the confirmation of the metering installation details with the Metering Provider.</p>		
4. TECHNICAL REQUIREMENTS	<p>4.1 Metering Register</p> <p>4.1.1 The Metering Data Provider must establish and maintain a metering register in their metering data services database in support of AEMO's obligation under clause 7.5.1 of the</p>	<p>5 Obligations</p> <p>5.3 Specific obligations for Metering Data Provider - Category D</p>	4.1.1 now 5.3.1 i)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	Rules and in accordance with this service level procedure.		
	4.1.2 The Metering Data Provider must ensure that the metering register contains the details listed in the clause S7.5 of the Rules with the exception of clause S7.5.2(b) of the Rules sub clauses 5, 6 and 7.	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	4.1.2 now 5.3.2 d)
	4.1.3 The Metering Data Provider must coordinate the registration of information in the metering register in cooperation with the responsible person, the Metering Provider and, where necessary, any other Metering Data Provider or Metering Provider associated with the transfer of a connection point.	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	4.1.3 now 5.3.2 a)
	4.1.4 The Metering Data Provider must provide the metering register information on request to respective persons entitled to have access to the data in accordance with clause 7.7(a) of the Rules.	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	4.1.4 now 5.3.2 b)
	4.1.5 The Metering Data Provider must facilitate communication of the metering register information to other respective Metering Data Providers having the right of access as a	5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D	4.1.5 now 5.3.2 c)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	result of an active transfer of a connection point.		
5.METERING DATA PROCESS			
	5.1 diagram		deleted
	<p>5.1.1 The Metering Data Provider is required to maintain and operate a metering data process as indicated in Figure 1, ('Metering Data Process'). The process and system must facilitate:</p> <p>a) The remote acquisition and collection of metering data;</p> <p>b) The storage (online) and archiving of collected metering data;</p> <p>c) The processing of the collected metering data;</p> <p>d) The validation and substitution of metering data;</p> <p>e) The storage (online) and archiving of validated metering data;</p> <p>f) System monitoring and exception reporting;</p> <p>g) The delivery of metering data and metering register data to AEMO, Registered Participants and other service providers; and</p> <p>h) The assignment and version management of relevant roles for connection points as provided by the MSATS system.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.1 System requirements</p> <p>7 Service requirements for Metering Data Providers - Category C</p> <p>7.1 System requirements</p>	<p>5.1.1 now 6.1.1</p> <p>a) = a)</p> <p>c) & d) = b)</p> <p>e) = g)</p> <p>g) = c)</p> <p>h) = d)</p> <p>f) moved to 7.1.1g)</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>5.1.2 The Metering Data Provider is required to maintain and operate a metering data services database that provides full audit trail and version control capabilities. This functionality must be applied to all:</p> <ul style="list-style-type: none"> a) Metering data and NMI Standing Data, including backups and archived data; b) Assigned data quality flags; c) Substitution types; d) Significant meter alarms ; e) Metering register information; f) Delivery of metering data to AEMO, Registered Participants and other Metering Data Providers; and g) The correct mapping of all metering data streams (including logical metering data streams). 		<p>5.1.2 now 6.1.2 a) = a) & b) b) = c) c) = d) d) = e) e) = f) f) = g) g) = h)</p>
	<p>5.1.3 The Metering Data Provider is required to maintain and operate a system or process that supports the provision of various exception reports to enable the early detection of system and/or process errors. These exception reports should include but not be limited to:</p> <ul style="list-style-type: none"> a) Missed reads and missing 	<p>6 Service requirements for Metering Data Providers – Category D 6.1 System requirements</p>	<p>5.1.3 now 6.1.3 j) removed incorporated under g) rest the same slight rewording of d) and bracketed words removed as they did not add value</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>intervals of metering data within the metering data services database (Quantity checks);</p> <p>b) Long term substitutions (Quality checks);</p> <p>c) Metering data errors and data overlaps;</p> <p>d) Validation, NMI Standing Data or metering register errors;</p> <p>e) Failed batch processing, database errors and hardware failures;</p> <p>f) The trapping of file syntax errors, failed and rejected deliveries;</p> <p>g) Status management of remote acquisition interface;</p> <p>h) Status management of B2B e-Hub and MSATS interfaces;</p> <p>i) Status management of metering installation malfunctions;</p> <p>and</p> <p>j) Status management of the manual collection of metering data where remote acquisition becomes unavailable.</p>		
5.2 Remote Reading of Data 5.2.1 The Metering Data Provider must maintain and operate a system to undertake remote acquisition and data collection services. Systems and		6 Service requirements for Metering Data Providers – Category D 6.1 System requirements 6.2 Collection process requirements	5.2.1 now a) = 6.1.1 e) b) covered in 6.2.1 c) covered in 6.2.1 d) = 6.1.1 g)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>processes must be in place that enable:</p> <ul style="list-style-type: none"> a) The commissioning of each metering installation into the Metering Data Provider's metering data services database; b) The remote communication with the metering installations at each site; c) The remote acquisition of interval metering data from the metering installation inclusive of any assigned significant metering data alarms; and d) The storage of metering data from the metering installation in the Metering Data Provider's metering data services database. 		
	<p>5.2.2 The Metering Data Provider's system must facilitate:</p> <ul style="list-style-type: none"> a) The recovery of missing data by initiating a remote re-read of the meter, where appropriate; b) The remote re-read of a metering installation where metering data previously acquired is found to be erroneous or has failed validation; c) The provision of a reading event log which details successful read events for each metering installation, or alternatively an 	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.2 Collection process requirements</p> <p>6.3 Specific collection process requirements for metering installations type 1, 2, 3 and 4</p>	<p>5.2.2 now</p> <ul style="list-style-type: none"> a) = 6.3.1 b) = 6.3.1 c) = 6.3.2 c) d) = 6.2.2 a) e) = 6.3.2 b) f) = 6.3.2 a)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>exception report of failed meter reads;</p> <p>d) The immediate notification of any metering installation malfunction to the responsible person and the Metering Provider so that repairs to the metering installation can be affected;</p> <p>e) A process which initiates a request for the manual collection of metering data where remote acquisition becomes unavailable; and</p> <p>f) A process to support the responsible person and/or Metering Provider in the rectification of any metering installation malfunction and the management of metering data substitutions.</p>		
	<p>5.2.3 The Metering Data Provider must use reasonable endeavours to ensure that metering data is collected for all connection points for which they have responsibility for metering data services in MSATS.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.2 Collection process requirements</p>	<p>5.2.3 now 6.2.1</p>
	<p>5.2.4 The metering data collected under clause 5.2.3 relates to all intervals of metering data for all relevant channels, including significant meter alarms.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.2 Collection process requirements</p>	<p>5.2.4 incorporated in 6.2.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	5.3 Data Processing 5.3.1 The Metering Data Provider must maintain and operate a system to process collected interval metering data.	6 Service requirements for Metering Data Providers – Category D 6.1 System requirements	5.3.1 now 6.1.1 a)
	5.3.2 The Metering Data Provider must have a process that can confirm the responsibility for connection points by maintaining and updating a list that synchronises with MSATS.	6 Service requirements for Metering Data Providers – Category D 6.1 System requirements	5.3.2 now 6.1.1 d)
	5.3.3 The Metering Data Provider must have a process that can support the receipt and processing of Provide and Verify Meter Data Requests received from Registered Participants and service providers in accordance with B2B Procedures.	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.3 now 6.6.1 b)
	5.3.4 The Metering Data Provider’s system must assign the relevant metering data quality flags to all intervals of metering data in accordance with the metrology procedure: Part B.	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.4 & 5.3.5 a), b), c) are 6.6.1 d)
	5.3.5 The Metering Data Provider must ensure that all interval metering data values stored in the Metering Data Provider’s metering data services database, whether ‘actual’ or ‘substituted’, are stored with the	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.4 & 5.3.5 a), b), c) are 6.6.1 d) 5.3.5 d) now 6.6.1 c)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>correct:</p> <p>a) Quality Flag;</p> <p>b) Substitution Type (where applicable);</p> <p>c) Substitution Reason Code (if applicable); and</p> <p>d) Date/Time Stamp of when the metering data was entered into the Metering Data Provider's metering data services database.</p>		
	<p>5.3.6 The Metering Data Provider must undertake all validation of interval metering data whether 'substituted' or 'actual' in accordance with the metrology procedure: Part B.</p>	<p>5 Obligations</p> <p>5.3 Specific obligations for Metering Data</p>	<p>5.3.6 now 5.3.1 a)</p>
	<p>5.3.7 The Metering Data Provider must have a process that checks the metering data for missing data intervals and overlaps in the metering data services database.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.6 Metering data processing requirements</p>	<p>5.3.7 now 6.6.1 e)</p>
	<p>5.3.8 The Metering Data Provider must substitute for any missing interval metering data in accordance with the metrology procedure: Part B.</p>	<p>5 Obligations</p> <p>5.3 Specific obligations for Metering Data</p>	<p>5.3.8 now 5.3.1 a)</p>
	<p>5.3.9 Where the responsible person or the Metering Provider informs the Metering Data Provider of a situation that may cause metering data to be erroneous, the</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.6 Metering data processing requirements</p>	<p>5.3.9 now 6.6.2</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	Metering Data Provider must identify and substitute any erroneous metering data		
	5.3.10 Where any Registered Participant for the connection point disputes a metering data substitution, the Metering Data Provider should investigate, and if necessary re-substitute the metering data in accordance with the metrology procedure: Part B	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.10 now 6.6.3
	5.3.11 The Metering Data Provider is required to notify the Registered Participants for the connection point whenever any substitutions are carried out. This notification is to be achieved by delivery of metering data within the MDFF file.	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.11 now 6.6.1 f)
	5.3.12 Where the meter assigns alarms to the data channel and/or the interval metering data concerned, the Metering Data Provider's system must process the alarm along with the metering data as part of the required metering data validation process in accordance with the metrology procedure: Part B.	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.12 now 6.6.5
	5.3.13 The Metering Data Provider's system must be capable of loading metering data provided	6 Service requirements for Metering Data Providers – Category D 6.1 System requirements	5.3.13 now 6.1.1 f)

Heading/Clause number	Header/Description	New Heading/Description	Changes
	in MDFF files relating to meter churn.		
	5.3.14 The Metering Data Provider must load metering data in an alternative format provided by the Metering Provider where there is a communications metering installation malfunction and the Metering Data Provider has a system capable of loading the alternate format.	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.3.14 now 6.6.6
	5.4 Metering Data Adjustment and Aggregation 5.4.1 The Metering Data Provider must have a process that will aggregate interval metering data for a connection point into a net metering data stream prior to delivery to AEMO as follows: a) Where metering data is collected in submultiples of 30 minute intervals, the metering data must be aggregated into 30 minute intervals, and b) Where the metering data collected comprises separate export and import data streams, the respective export and import intervals must be aggregated into net metering data. Note: the Net metering data for an active Generator is generally	6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements	5.4.1 now 6.6.7 reworded

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>negative. Net metering data for a data stream is as follows. Net metering data 30 mins interval = Export 30 mins interval – Import 30 mins interval i.e N130 mins interval = E130 mins interval – B130 mins interval</p>		
	<p>5.4.2 The Metering Data Provider’s system must have the functionality to aggregate metering data to meet Meter Churn Data Procedure requirements.</p>	<p>6 Service requirements for Metering Data Providers – Category D 6.6 Metering data processing requirements</p>	<p>5.4.2 now 6.6.4</p>
	<p>5.4.3 The Metering Data Provider’s system must be capable of undertaking simple cumulative or subtractive processes to manage embedded metering configurations. Typically the system must support:</p> <ul style="list-style-type: none"> a) An A+B+C or A-B-C aggregation configuration; b) Metering data validation capability for standard partial or check meter connection points which incorporate a simple comparison of single data stream of metering data to a single data stream of check metering data within an acceptable tolerance; and c) For metering installations where the check metering installation duplicates the metering 	<p>6 Service requirements for Metering Data Providers – Category D 6.7 Specific Metering Data processing requirements for metering installation types 1, 2, 3 and 4</p>	<p>5.4.3 now 6.7.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>installation and accuracy level, the average of the two validated data sets must be calculated and provisioned to AEMO and Registered Participants.</p>		
	<p>5.5 Special and Technology Related Sites 5.5.1 Subject to the Metering Data Providers level of accreditation and system capability to manage 'Special Sites' in relation to Interconnectors, transmission connection points, Generator connection points and cross boundary/border supply points between distribution or Local Retailer regions, the Metering Data Provider's system must have an enhanced system functionality to accommodate the following:</p> <ul style="list-style-type: none"> a) Ability to handle complex transformer and or line loss compensation algorithms, to compensate for losses between the metering point and connection point; b) Ability to perform more complex calculations of data streams; c) Ability to perform nodal check metering validation and substitution functionality; 	<p>6 Service requirements for Metering Data Providers – Category D 6.8 Specific Metering Data processing requirements for Special Sites</p>	<p>5.5 now 6.8</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>d) Ability to undertake Supervisory Control and Data Acquisition (SCADA) data validation and substitution for Generator connection points;</p> <p>e) Ability to manage logical meters and nested logical meter calculations;</p> <p>f) Ability to handle threshold test variances to equations such as the use of 'If Then Else' statements; and</p> <p>g) Any combination of the above.</p>		
	<p>5.5.2 The Metering Data Provider must first ensure that any algorithm for any special and technology related site in support of a logical NMI is accepted by the responsible person, AEMO and financially responsible Market Participant before being used.</p>		
	<p>5.6 Delivery Performance of Metering Data</p> <p>5.6.1 The Metering Data Provider must ensure that only metering data that has passed validation is delivered to AEMO, Metering Data Providers and Registered Participants.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.11 Delivery performance requirements for metering data</p>	<p>5.6.1 now 6.11.1</p>
	<p>5.6.2 The Metering Data Provider must deliver to AEMO,</p>	<p>6 Service requirements for Metering Data Providers – Category D</p>	<p>5.6.2 now 6.11.2 b)</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	Metering Data Providers and Registered Participants all intervals of actual metering data that has passed validation within two business days of the metering data being received into the metering data services database.	6.11 Delivery performance	
	5.6.3 Where metering data fails validation, the Metering Data Provider must substitute, validate and deliver to AEMO, Metering Data Provider and Registered Participants, all intervals of the substituted metering data within two business days of the original metering data being received into the metering data services database.	6 Service requirements for Metering Data Providers – Category D 6.11 Delivery performance	5.6.3 now 6.11.2 c)
	5.6.4 The Metering Data Provider must substitute, validate and deliver to AEMO, Metering Data Providers and Registered Participants all missing intervals of metering data from a failed remote interrogation within two business days of the failed interrogation event.	6 Service requirements for Metering Data Providers – Category D 6.11 Delivery performance	5.6.4 is 6.11.2 c)
	5.6.5 The Metering Data Provider must validate and deliver to AEMO, Metering Data Providers and Registered Participants all substituted metering data within	6 Service requirements for Metering Data Providers – Category D 6.11 Delivery performance	5.6.5 now 6.11.3

Heading/Clause number	Header/Description	New Heading/Description	Changes
	two business days of the metering data being substituted.		
	<p>5.6.6 The Metering Data Provider must ensure that all failed validations are reviewed promptly such that:</p> <p>a) Where the initial review of the failed validation identifies that the actual metering data is valid, deliver the actual metering data to AEMO, Metering Data Providers and Registered Participants within two business days of the metering data being received into the metering data services database; and</p> <p>b) Where further information is required to validate the actual metering data, and the receipt of such information identifies that the actual metering data is valid, deliver the actual metering data to AEMO, Metering Data Providers and Registered Participants within two business days of the metering data passing validation.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.11 Delivery performance</p>	<p>5.6.6 now 6.11.5</p>
	<p>5.6.7 The Metering Data Provider must deliver metering data that has passed validation to AEMO for the periods specified in the Data Delivery Calendar for all connection points that the</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.11 Delivery performance</p>	<p>5.6.7 now 6.11.6</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Metering Data Provider has nominated responsibility for in MSATS for the specified weekly periods, to:</p> <p>a) A quantity level of at least 98% complete data for all settlement weeks;</p> <p>b) A quality level of at least 98% 'actual' or 'final', for periods specified as four monthly and six monthly revision settlement weeks only; and</p> <p>c) By 5pm on the day specified in the Data Delivery Calendar for the relevant settlement week</p>		
	<p>5.6.8 The Metering Data Provider must ensure that all metering data is delivered to AEMO and registered participants for the full period of any retrospectively created data streams within two business days of that data stream becoming active in MSATS.</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.11 Delivery performance</p>	<p>5.6.8 now 6.11.7</p>
	<p>5.6.9 Summary Data Delivery Table.</p> <p style="text-align: center;">DELIVERY TO ENTITLED REGISTERED PARTICIPANT i.e. LNSP, TNSP, LR, FRMP</p> <p style="text-align: center;">DELIVERY TO AEMO</p> <p>Data Type NMI data stream</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.11 Delivery performance</p>	<p>5.6.9 now 6.11.8 table change to incorporate 5,6 & 7 and to stylise using AEMO style guide.</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>(e.g. E1, B1) Deliver validated interval metering data including any substitutions. net NMI data stream (e.g. N1) Deliver validated metering data including any substitutions as net metering data aggregated to 30 minutes. File Format 'MDFF' Meter Data File Format (or Agreed Format). 'MDM' AEMO aseXML data file format. Delivery Point To the Registered Participants via B2B e-Hub inbox (or Agreed Method). To the Metering Data Provider's MSATS inbox</p>		
	<p>5.6.10 Notwithstanding the requirements of clause 7.3 in this service level procedure, the Metering Data Provider must notify AEMO and affected participants of any operational delays which impact on normal expected data delivery.</p>	<p>6 Service requirements for Metering Data Providers – Category D 6.11 Delivery performance</p>	<p>5.6.10 now 6.11.10</p>
	<p>5.7 Delivery of Metering Data for Prudential Processing 5.7.1 AEMO must communicate to the Metering Data Provider the requirement for prudential metering data by 10am (Eastern</p>	<p>6 Service requirements for Metering Data Providers – Category D 6.12 Delivery of Metering Data for prudential processing</p>	<p>5.7 now 6.12 reworded a little. 6.1.1 now 6.13.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Standard Time) the day before the data is required.</p> <p>5.7.2 The Metering Data Provider must deliver prudential metering data to AEMO and Registered Participants for periods nominated by AEMO as follows:</p> <p>a) The Metering Data Provider is required to deliver metering data to:</p> <p>i. AEMO by 8am (Eastern Standard Time) on the day(s) specified; and</p> <p>ii. Registered Participants by close of business on the same day.</p> <p>b) The metering data delivered must relate to all connection points that the Metering Data Provider has responsibility for in MSATS and must be at least:</p> <p>i. A 90% complete set of validated actual metering data for connection points which relate to wholesale market boundary and Market Generator connection points (these relate to connection points identified in MSATS as WHOLESAL, GENERATR and INTERCON); and</p> <p>ii. An 80% complete set of validated actual metering data for</p>	<p>6 Service requirements for Metering Data Providers – Category D</p> <p>6.12 Delivery of Metering Data for prudential processing</p>	<p>5.7 now 6.12 reworded a little.</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	all other connection points.		
6. INTERFACES	<p>6.1 Interface Requirements</p> <p>6.1.1 The Metering Data Provider must comply with AEMO's Market Management Systems Access Procedure.</p>	6.13 Interface requirements	6.1.1 now 6.13.1
	<p>6.1.2 The Metering Data Provider must establish and maintain business interfaces to:</p> <p>a) The MSATS system for the required management of connection point updates, notifications, objections, reports, NMI Standing Data, data requests and delivery of metering data to the metering database;</p> <p>b) The B2B e-Hub for the required business interface with Registered Participants, other service providers and for the delivery of metering data to Registered Participants and other Metering Data Providers;</p> <p>c) The Metering Data Provider must demonstrate that any non public communications network which is to be used for the remote acquisition of metering data is first approved by AEMO and has controls and processes that support the following requirements:</p>	6.13 Interface requirements	<p>6.1.2 now 6.13.2</p> <p>6.1.2 c) now 6.13.3</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	i. Maintain data security, integrity and confidentiality; ii. Meets functional, performance and capacity requirements; and iii. Has contingency strategy for component failure. d) Other email, facsimile, phone, internet and interfaces for the general management of information and alternative delivery of metering data to Registered Participants and the metering database.		
	6.1.3 Figure 2 outlines the key Metering Data Provider interfaces: Figure 2: Metering Data Provider Interfaces	6.13 Interface requirements	6.1.3 now 6.13.12
	6.2 NEMNet 6.2.1 The Metering Data Provider must maintain a NEMNet connection for the purposes of communication and file transfer with MSATS.	6.13 Interface requirements	6.2.1 now 6.13.4
	6.3 MSATS Interface 6.3.1 The Metering Data Provider will be provided with an inbox and outbox directory on the MSATS file server, which the Metering Data Provider must use for the transfer of files to and from	6.13 Interface requirements	6.3.1 now 6.13.5

Heading/Clause number	Header/Description	New Heading/Description	Changes
	AEMO via NEMNet.		
	6.3.2 The Metering Data Provider is responsible for the placing of all files in the appropriate directory, and the collection and deletion of reports and file acknowledgments from the appropriate directory in accordance with the MSATS Procedures.	6.13 Interface requirements	6.3.2 now 6.13.5
	6.3.3 The Metering Data Provider must interface to MSATS either via the interactive browser interface or via a batch interface, or both, using the market aseXML file format in accordance with the related documentation and schemas.	6.13 Interface requirements	6.3.3 now 6.13.6
	6.3.4 The Metering Data Provider must manage any batch file transfers to MSATS to ensure that: a) Any data files transferred to MSATS have been received and acknowledged; b) Any file rejection notifications are processed; c) The naming structure as detailed in the aseXML file format schema is followed; and d) The deliveries of metering data files to MSATS are in file sizes	6.13 Interface requirements	6.3.4 now 6.13.7

Heading/Clause number	Header/Description	New Heading/Description	Changes
	no larger than one megabyte uncompressed		
	<p>6.4 B2B Interface</p> <p>6.4.1 The Metering Data Provider must maintain an ongoing active line of communication with the B2B e-Hub for the management and response to B2B e-Hub Requests and Notifications.</p>	6.13 Interface requirements	6.4.1 now 6.13.8
	<p>6.4.2 The Metering Data Provider must ensure that:</p> <p>a) All transmitted messages comply with the requirements of the aseXML message format; and</p> <p>b) All files transacted through the B2B e-Hub interface must comply with the requirements of the aseXML message size requirements and B2B Technical Delivery Specification.</p>	6.13 Interface requirements	6.4.2 now 6.13.9
	<p>6.5 Other Interfaces</p> <p>6.5.1 Except where otherwise required in this service level procedure, all voice communications with AEMO, Registered Participants, Metering Providers and other Metering Data Providers are to be undertaken between 9:00am and 5:00pm on business days.</p>	6.13 Interface requirements	6.5.1 now 6.13.10
	6.5.2 The Metering Data		6.5.2 deleted duplication.

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Provider is required to liaise with the responsible person and the Metering Provider in the prompt resolution of any metering installation malfunctions.</p>		
	<p>6.5.3 The Metering Data Provider is required to work with AEMO in the provision of metering data and standing data files to AEMO and Registered Participants via alternate means in emergency situations where normal processes cannot be utilised.</p>	<p>6.13 Interface requirements</p>	<p>6.5.3 now 6.13.11</p>
<p>7. SYSTEM ARCHITECTURE & ADMINISTRATION</p>	<p>7.1 Data Archival and Recovery 7.1.1 The Metering Data Provider must ensure that their metering register information and metering data is accessible, online and archived in accordance with clause 7.11.3 of the Rules</p>	<p>8. System architecture & administration 8.1 Data archival and recovery</p>	<p>7.1.1 now 8.1.1 same</p>
	<p>7.1.2 The Metering Data Provider must have retrieval mechanisms that allow the archived data to be recovered, re-evaluated and dispatched in agreed timeframes to AEMO and Registered Participants</p>	<p>8. System architecture & administration 8.1 Data archival and recovery</p>	<p>7.1.2 now 8.1.2 reworded</p>
	<p>7.2 Data Backup 7.2.1 All metering data and metering register information must be backed-up on a daily basis and</p>	<p>8. System architecture & administration 8.2 Data backup</p>	<p>7.2.1 now 8.2.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	held in a secure environment.		
	<p>7.3 Disaster Recovery</p> <p>7.3.1 The Metering Data Provider must ensure that a Disaster Recovery Plan is established and in place to ensure that in the event of a system failure, the system can be returned to normal operational service within two business days.</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	7.3.1 now 8.3.1
	<p>7.3.2 The Metering Data Provider must ensure that the Disaster Recovery Plan is:</p> <p>a) Maintained fully up to date with all documentation showing revisions; and</p> <p>b) Witnessed and dated at least annually by the Metering Data Provider as being current for the systems and processes in place.</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	7.3.2 now 8.3.2
	<p>7.3.3 Where the Metering Data Provider adopts a Disaster Recovery Plan that has a complete 'fail-over' system approach, the Disaster Recovery Plan must be:</p> <p>a) Subjected to a test annually that facilitates a full 'fail-over' to the recovery system.</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	7.3.3 now 8.3.3 reworded.
	<p>7.3.4 Where the Metering Data Provider adopts a Disaster Recovery Plan that has a segmented system approach, the</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	7.3.4 now 8.3.4 reworded.

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Disaster Recovery Plan must also:</p> <ul style="list-style-type: none"> a) Detail the selected business system segments and the interfaces and relationships the segment has to other business system segments; b) Be established for each individual segment of the business system; c) Be tested annually with evidence retained to show disaster recovery for each individual segment of the business system; and d) Have, for each individual segment of the business system, a procedure that clearly details the process to establish a return to a fully operational system. 		
	<p>7.3.5 Expected evidence to support Disaster Recovery Plan testing should include, but not be limited to:</p> <ul style="list-style-type: none"> a) A Test Plan of the fail-over; b) Results of the fail-over including timing; c) System logs indicating fail-over and recovery; and d) Logs or notations evidencing resumption of Metering Data Provider operations. 	<p>8. System architecture & administration 8.3 Disaster recovery</p>	<p>7.3.5 now 8.3.5</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>7.3.6 In the event a system failure does occur, the Metering Data Provider must ensure that:</p> <p>a) The Metering Data Provider's metering data services database is restored to operational service within the two business days; and</p> <p>b) That all processing and delivery backlogs of metering data to AEMO and Registered Participants is completed within the same two business days.</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	<p>7.3.6 a) now 8.3.6 a)</p> <p>7.3.6 b) now 8.3.6 b) reworded.</p>
	<p>7.3.7 The Metering Data Provider must at its earliest opportunity notify AEMO of any failure where the Metering Data Provider has a requirement to implement its established Disaster Recovery Plan.</p>	<p>8. System architecture & administration</p> <p>8.3 Disaster recovery</p>	<p>7.3.7 now 8.3.7</p>
	<p>7.4 Time Synchronisation</p> <p>7.4.1 The Metering Data Provider's metering data services database, including all distributed systems and personal computers used for data acquisition, must be synchronised to Australian Eastern Standard Time within the accuracy requirements of clause 7.12 (e) of the Rules.</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	<p>7.4.1 now 5.1.1 d)</p>
	<p>7.4.2 The Metering Data Provider through their remote</p>	<p>5 Obligations</p> <p>5.1 Metering data services</p>	<p>7.4.2 now 5.1.1 f) reworded.</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>acquisition process must ensure that all meters are synchronised to Australian Eastern Standard Time within the accuracy requirements of clause 7.12 (f) of the Rules for the relevant metering installation type.</p>		
	<p>7.5 System Administration and Data Management 7.5.1 Tools required by each Metering Data Provider for the administration and data management of their metering data services database must include, but should not be limited to:</p> <ul style="list-style-type: none"> a) Operator Interface – for use by the database operator with the database processes, including facilities to: <ul style="list-style-type: none"> i. Control access to systems and data using unique identification and password for each user, regular password changes, etc; ii. Prevent an operator or user from deleting or over-writing data; iii. Administer the database system using day-to-day operations management; system back-up and recovery; security management; 	<p>8. System architecture & administration 8.4 System administration and data management</p>	<p>7.5.1 now 8.4.1 reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>process monitoring and control; etc., but restricting access to the underlying database tables to a nominated System Administrator using a separate password;</p> <p>iv. View data in tabular and graphical form, where appropriate;</p> <p>v. Viewing logs and reports, including reports from the remote acquisition system;</p> <p>vi. Monitor reporting processes, including B2B communications or e-mail requests by Registered Participants, the provision of reports, logs and delivery notifications and the transfer of metering data and relevant NMI Standing Data to each authorised recipient;</p> <p>vii. Processes to support manual metering data calculation, validation and substitution processes; and</p> <p>viii. Exception monitoring facilities to support metering data validation requirements.</p> <p>b) Access Control – to assign/restrict Registered Participant access to metering data and relevant NMI Standing Data provided via reports, based on the relationships defined in the</p>		

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>metering register and in accordance with clause 7.7 of the Rules.</p> <p>c) Task Control – for the metering data service database processes, including the ability to run processes out of sequence (e.g. to enable changes to metering data and relevant NMI Standing Data without initiating the metering data delivery process; or initiate a metering data delivery process for test purposes) and for the provision of back-up and recovery, archiving and recovery, and disaster recovery functionality.</p> <p>d) System Availability – provide a service delivery that meets AEMO’s and Registered Participants’ metering data delivery requirements, with at least 95% availability (i.e. hardware and systems downtime do not exceed a maximum of 438 hours per annum (5%)).</p>		
	<p>7.5.2 The Metering Data Provider must maintain full audit trails of metering register information, metering data and relevant NMI Standing Data so that any data output produced by the system can be re-produced from</p>	<p>8. System architecture & administration 8.4 System administration and data management</p>	<p>7.5.2 & 7.5.3 now 8.4.2 reworded.</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>source data at any time within seven years of the obtaining of that metering data, metering register information or relevant NMI Standing Data details.</p>		
	<p>7.5.3 The Metering Data Provider must ensure that version control and audit trails are maintained by the provision of a change-log to record any change that is not managed automatically within the metering data service database</p>	<p>8. System architecture & administration 8.4 System administration and data management</p>	<p>7.5.2 & 7.5.3 now 8.4.2 reworded.</p>
	<p>7.5.4 The Metering Data Provider must ensure that where there is a change of Metering Data Provider role for a wholesale or generator connection point the special site list is referenced. If the connection point TNI is included in the special site list, the Metering Data Provider must first seek AEMO approval, to provide metering data services from these sites.</p>	<p>5 Obligations 5.3 Specific obligations for Metering Data Provider - Category D</p>	<p>7.5.4 now 5.3.4</p>
<p>8. QUALITY CONTROL</p>	<p>8.1 Scheduled Metering Data Audits 8.1.1 The Metering Data Provider must undertake all services in a manner that is auditable by AEMO, and must support scheduled reviews of their</p>	<p>9 Quality control 9.1 Scheduled Metering Data audits</p>	<p>8.1.1 now 9.1.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	metering data service database, processes, procedures and systems.		
	8.1.2 AEMO will undertake periodic review certification, to a negative assurance level of the Metering Data Provider's system, process and procedures to assess the Metering Data Provider's compliance to the Rules, Procedures under the Rules and this service level procedure.	9 Quality control 9.1 Scheduled Metering Data audits	8.1.2 now 9.1.2
	8.1.3 All scheduled reviews will be through a centralised review process established by AEMO and will be undertaken at the Metering Data Provider's own costs.	9 Quality control 9.1 Scheduled Metering Data audits	8.1.3 now 9.1.3
	8.1.4 Where a review is conducted under this service level procedure, the Metering Data Provider must, at its own cost, provide all reasonable assistance including making databases, equipment and premises available for inspection, making personnel available for questioning, and providing copies of any data or information as requested.	9 Quality control 9.1 Scheduled Metering Data audits	8.1.4 now 9.1.4
	8.1.5 Scheduled reviews of the Metering Data Provider's system will be as follows: a) The first audit to be	9 Quality control 9.1 Scheduled Metering Data audits	8.1.5 now 9.1.5 reworded

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>nominally within six months after accreditation at a time that suitably coincides with AEMO's market audit report.</p> <p>b) Subsequent audits will be nominally six monthly and at a time that suitably coincides with AEMO's market audit report; or</p> <p>c) At AEMO's discretion, at twelve month intervals based on previous satisfactory audit reviews of the Metering Data Provider.</p>		
	<p>8.1.6 The Metering Data Provider is required to establish with AEMO the business days for audit reviews in advance. A minimum of 15 business days notice will be given to the Metering Data Provider for the provision of any specific data requests as part of the audit.</p>	<p>9 Quality control 9.1 Scheduled Metering Data audits</p>	<p>8.1.6 now 9.1.6 reworded</p>
	<p>8.2 Other Audits 8.2.1 Audits may be undertaken at any time by AEMO, in accordance with Rules requirements. Audits may be carried out by AEMO following a request from a Registered Participant.</p>	<p>9 Quality control 9.2 Other audits</p>	<p>8.2.1 now 9.2.1 reworded</p>
	<p>8.2.2 Where an audit of a metering installation is conducted by AEMO under clause 7.6.3 (d) of</p>	<p>9 Quality control 9.2 Other audits</p>	<p>8.2.2 now 9.2.2 reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>the Rules, and metering data is required to be obtained from the Metering Data Provider in support of this audit, the Metering Data Provider is required to provide the metering data within two business days of AEMO's request.</p>		
	<p>8.3 Reporting 8.3.1 AEMO will undertake to provide regular reports to the Metering Data Provider relating to quality and timeliness of deliverables as part of AEMO's performance monitoring and benchmarking processes. 8.3.2 The content of the Metering Data Provider reports will reflect performance monitoring across all Metering Data Providers with respect to the deliverables of this service level procedure. 8.3.3 The frequency of the Metering Data Providers reports provided by AEMO will be nominally monthly, unless otherwise advised.</p>		<p>Deleted as it added no value</p>
	<p>8.4 Corrective Action 8.4.1 The Metering Data Provider is required to take corrective action on any reported instances of non-compliance documented within either the</p>	<p>9 Quality control 9.3 Corrective action</p>	<p>8.4.1 now 9.3.1 reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	monthly reporting process or through the scheduled Metering Data Provider audit process.		
	8.4.2 Where the Metering Data Provider becomes aware that incorrect metering data has been delivered to AEMO and Registered Participants, the Metering Data Provider must provide corrected metering data to all affected parties within one business day as required by clause 7.11.3 (e) of the Rules.	9 Quality control 9.3 Corrective action	8.4.2 now 9.3.2
	8.4.3 Subject to any concerns that AEMO may have relating to metering data, metering register or relevant NMI Standing Data details, AEMO may further request the Metering Data Provider to undertake metering data, metering register or relevant NMI Standing Data investigations and corrections where errors or omissions are found within AEMO's settlements process. These requests are to be actioned as a priority by the Metering Data Provider.	9 Quality control 9.3 Corrective action	8.4.3 now 9.3.3
	8.4.4 Where AEMO in the preparation of settlements ready data detects metering data that fails AEMO validation processes, AEMO will notify the Metering Data		Deleted as this is just restating AEMO's obligations under the rules

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Provider within one business day of detection in accordance with clause 7.9.4 of the Rules.</p>		
	<p>8.4.5 Where AEMO has notified the Metering Data Provider, the Metering Data Provider must use best endeavours to provide corrected metering data to AEMO within one business day or notify AEMO of the reason for the delay.</p>		<p>Deleted as this is just restating AEMO's obligations under the rules</p>
	<p>8.4.6 Where there is a reason for delay in delivering the correct metering data, the Metering Data Provider and AEMO must agree on the revised delivery time frame.</p>	<p>9 Quality control 9.3 Corrective action</p>	<p>8.4.6 now 9.3.4 reworded</p>
	<p>8.5 Non Compliance and De-registration 8.5.1 The 'Service Provider Compliance Assessment and Deregistration Procedure' (established under clause 7.4.3 (a) of the Rules) shall be used by AEMO in any assessment of a non-conformance or breach by a Metering Data Provider to remain compliant with the Rules, any procedure authorised under the Rules or this service level procedure.</p>	<p>9 Quality control 9.4 Non-compliance and de-registration</p>	<p>8.5.1 now 9.4.1</p>
	<p>8.5.2 Subject to the assessed breach level as defined within the 'Service Provider Compliance</p>	<p>9 Quality control 9.4 Non-compliance and de-registration</p>	<p>8.5.2 now 9.4.2</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>Assessment and Deregistration Procedure', actions that may be taken by AEMO in the event that the Metering Data Provider has failed to take corrective action, includes:</p> <ul style="list-style-type: none"> a) Loss of accreditation of the Metering Data Provider; b) Deregistration from categories of accreditation; c) Suspension from operation in the National Electricity Market; d) Other applied limitation or level of restriction; or e) Any combination of the above. 		
	<p>8.6 Review of Accreditation 8.6.1 Circumstances where AEMO may require a Metering Data Provider to review its accreditation and subsequently apply for re-accreditation include:</p> <ul style="list-style-type: none"> a) Where a Metering Data Provider has been de-registered and seeks re-registration; b) Where a Metering Data Provider has been suspended from providing services under certain categories and seeks to have the suspension lifted; c) Subsequent changes to Rules requirements, Procedures 	<p>9 Quality control 9.5 Review of accreditation</p>	<p>8.6.1 now 9.5.1</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>under the Rules, or Service Level Procedures. This is likely to apply in instances where Rules changes have been made or new versions of the Metrology Procedure have been issued which require significant functional system, process or procedural changes to be made by Metering Data Providers.</p> <p>d) Significant changes or upgrades to a Metering Data Provider's existing systems or a system platform change to any part of the metering data service database. The Metering Data Provider must apply and be re-accredited prior to implementing the changes into their production environment and accepting or transmitting any market transactions, in accordance with the Metering Service Provider Accreditation Procedure; and</p> <p>e) Organisational mergers and acquisitions.</p>		
	<p>8.7 Sub-Contractors</p> <p>8.7.1 Where an accredited Metering Data Provider engages a sub-contractor to perform any of the obligations specified within the Rules or this service level</p>	<p>5 Obligations</p> <p>5.2 Use of sub-contractors</p>	<p>8.7.1 now 5.2.1 reworded a title</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>procedure, the Metering Data Provider must ensure that auditable processes are in place to certify that all work performed by the sub-contractor is compliant with the Rules and this service level procedure.</p>		
	<p>8.7.2 The Metering Data Provider is responsible and liable for all acts and omissions of any engaged sub-contractor.</p>	<p>5 Obligations 5.2 Use of sub-contractors</p>	<p>8.7.2 now 5.2.2</p>
	<p>8.7.3 In the event a Metering Data Provider elects to change a subcontractor that is delivering any part of the metering data services, the Metering Data Provider must notify AEMO prior to implementing the change, further:</p> <p>a) Subject to AEMO's assessment, the Meter Data Provider may be required to undertake an accreditation review to validate the new systems or processes in place; and</p> <p>b) Where practicable the re-accreditation review process would take place as part of a scheduled industry audit. The scope of the re-accreditation and the timing of the review would be assessed on a case by case basis between AEMO and the Metering Data Provider.</p>	<p>5 Obligations 5.2 Use of sub-contractors</p>	<p>8.7.3 now 5.2.3 & 5.2.4 reworded</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
9. ADMINISTRATION	<p>9.1 Change Management</p> <p>9.1.1 This document may only be changed or updated in accordance with the Rules consultation procedures.</p>	1 Introduction	9.1 is 1 b)
	<p>9.2 Document Location</p> <p>9.2.1 The AEMO documents listed in this document are available from AEMO's website: http://www.aemo.com.au.</p>		9.2 deleted spurious information
	<p>9.3 Bilateral Agreements</p> <p>9.3.1 A Registered Participant may request the Metering Data Provider to:</p> <p>a) Provide metering data in an alternate format; and/or</p> <p>b) Deliver metering data in an alternate method; and/or</p> <p>c) Deliver metering data in an alternate time frame; and/or</p> <p>d) Provide any other metering data services.</p>	<p>10 Administration</p> <p>10.1 Bilateral agreements</p>	9.3.1 now 10.1.1
	<p>9.3.2 Pursuant to clause 9.3.1 of this procedure, there is no mandated requirement for a Metering Data Provider to implement system changes and processes to facilitate bilateral agreements.</p>	<p>10 Administration</p> <p>10.1 Bilateral agreements</p>	9.3.2 now 10.1.2

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p>9.3.3 Any acceptance by the Metering Data Provider to deliver metering data to a Registered Participant in accordance with clause 9.3.1 of this procedure must not impact on metering data delivery to AEMO or any other Registered Participant for the connection point(s) concerned.</p>	<p>10 Administration 10.1 Bilateral agreements</p>	<p>9.3.3 now 10.1.3</p>
	<p>9.3.4 Any bilateral agreement established between the Registered Participant and the Metering Data Provider must be supported in writing for service level procedure audit compliance purposes.</p>	<p>10 Administration 10.1 Bilateral agreements</p>	<p>9.3.4 now 10.1.4</p>
	<p>9.4 Professionalism</p> <p>9.4.1 Wherever a common approach to services is required across Metering Data Providers and Metering Providers in the NEM, each Metering Data Provider must develop, document and apply its procedures for the services in cooperation with AEMO and each relevant responsible person and Network Service Provider to facilitate the effective management of metering data flows between all relevant Registered Participants.</p>		<p>Whole section deleted added no value to the document.</p>

Heading/Clause number	Header/Description	New Heading/Description	Changes
	<p data-bbox="636 261 1064 507">9.4.2 The Metering Data Provider must establish the necessary working relationships to ensure that matters of customer transfer, data provisioning and maintenance of NMI Standing Data are achieved proficiently.</p> <p data-bbox="636 528 1064 879">9.4.3 The Metering Data Provider is required to assist AEMO with reasonable requests for the provisioning of metering data and NMI Standing Data information relating to connection points that are part of the market audit process of AEMO, responsible persons, Metering Providers and Metering Data Providers.</p> <p data-bbox="636 900 1064 1385">9.4.4 In regard to connection points that are part of retailer of last resort events or where the participating jurisdiction has requested AEMO to undertake customer transfers, the Metering Data Provider is required to proactively assist AEMO and Registered Participants with functionality associated with the management of transfers, the processing and transfer of metering data, metering register and NMI Standing Data information in</p>		

Heading/Clause number	Header/Description	New Heading/Description	Changes
	relation to those connection points.		
	<p>9.5 Quality Systems</p> <p>9.5.1 The Metering Data Provider must:</p> <p>a) Apply and comply with appropriate quality system standards in providing the services required by this service level procedure; and</p> <p>b) Have and retain a quality system that meets clause S7.6.3 of the Rules to the satisfaction of AEMO. AEMO has traditionally accepted quality accreditation to the ISO9001 or ISO9002 standards, subject to the respective business system design and level of accreditation, as meeting this requirement.</p>	<p>10 Administration</p> <p>10.2 Quality system</p>	<p>9.5.1 now 10.2.1 reworded</p>
	<p>9.6 Disputes</p> <p>9.6.1 If a dispute arises between the Metering Data Provider and AEMO, a Registered Participant, a Metering Provider or any other Metering Data Provider, in relation to the provision of metering data services or this service level procedure, then the Dispute Resolution process as detailed clause 8.2 of the Rules shall apply.</p>	<p>10 Administration</p> <p>10.3 Disputes</p>	<p>9.6 now 10.3.1</p>