METERING COMPETITION
EMBEDDED NETWORKS
METER REPLACEMENT PROCESSES

PROCEDURE CONSULTATION

SECOND STAGE PARTICIPANT RESPONSE TEMPLATE

Participant:

Completion Date:

Table of Contents

1. Glossary and Framework 3
2. Meter Data File Format 8
3. Metrology Procedure: Part A 16
4. Metrology Procedure: Part B 28
5. MSATS Procedures: CATS Procedure Principles and Obligations 47
6. MSATS Procedures: MDM Procedures 85
7. MSATS Procedures: Procedure for the Management of WIGS NMIs 93
8. NEM RoLR Process Part A and B – MSATS Procedure: RoLR Procedures 114
9. NMI Standing Data Schedule 120
10. Service Level Procedures for MDP 122
11. Service Level Procedures for MP 137
12. Other Issues Related to Consultation Subject Matter 142

1. Glossary and Framework

Please delete any rows where there are no particpant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
Chapter 1	Introduction			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.2.1	Glossary			
1.2.2	Interpretation			
1.3	Related Documents			
Chapter 2	Framework			
2.1	The Role of the Retail Market in the NEM			
2.2	Retail Electricity Market Procedures			

2.2.1	Metrology Procedure			
2.2.2	B2B Procedures			
2.2.3	MSATS Procedures	Last sentence should end with a full stop		
2.2.3.1	CATS Procedures			
2.2.3.2	WIGS Procedures	Does not read well as one sentence. Reword/split sentence to: The WIGS Procedures apply to those connection points that do not involve an End User transaction. These are wholesale, interconnector and generation connection points, and sample data used in settlements.		
2.2.3.3	MDM Procedures			
2.2.3.4	NMI Standing Data Schedule			
2.2.3.5	National Metering Identifer Procedure			
2.2.4	RoLR Procedures			
2.2.5	Metering Services Procedures			
2.2.5.1	Metering Service Level	For consistency throughout document with MP &		

	Accreditation Procedure	MDP, reword to: This procedure details how an intending MP or MDP goes about applying for accreditation and the process by which AEMO accredits and registers that party.		
2.2.5.2	Service Level Procedures	Again as MP is first, swap a and b around		
2.2.5.3	Service Provider Compliance and Assessment Procedure			
Chapter 3	Glossary	Reword for consistency: Accreditation Checklists — The questions an applicant for Accreditation as MP or MDP must complete to be accredited. Accumulation Meter — A meter that measures electricity use (kWh, MWh) between Meter Readings, and does not record the interval dates and times when the electricity flows occur. Also known as a 'basic meter'. What about meters set up as Basic – Peak, Shoulder and Offpeak? aseXML Guidelines — Guidelines for the development of a Standard for Energy Transactions in XML (aseXML). (Was missing fullstop and small "a") Category A — A category of MP accreditation meaning the only activity that the MP is accredited for; to provide the installation of a metering installation. Category B — A category of MP accreditation meaning that the MP is accredited for; to provide the installation and maintenance of		

			a metering installation.		
		Category C	A category of MDP accreditation meaning the only activity that the MDP is accredited for; to provide the collection of metering data.		
		Category D	A category of MDP accreditation meaning that the MDP is accredited for; to provide the collection, processing and transfer of metering data.		
		CATS Procedures	Missing fullstop at end		
		Controlled Load	Change eg for consistency to "e.g."		
		Child Name	All the word embedded not italicised		
		Customer Classification Code	Missing fullstop at end		
		Datastream	"e.g."		
		Datastream Status Code	Missing fullstop at end		
		EENSP	remove fullstop at end [as no full stop at end of any other italicised definition. See CT, DNSP, ENM etc]		
		Estimated Reading	An estimate of a Meter Reading where an Actual Meter Reading is not yet available. Statement is incorrect as estimate is forward, so add the word "yet"		
		Load Table	A table of Unmetered Device market loads published by AEMO at		
		Lot Number	Add [except ACT]		
		MarketNet	A web browser over a secure communications channel used by Participants to access AEMO's market		

		systems. MC: remove fullstop MDFF Specification: Missing fullstop at end MMS: Missing fullstop at end NMI Address: Too many fullstops at end NSRD: This is not a “read type code”. Remove please Profile Area: Missing fullstop at end Parent Name: All the word embedded not italicised Profile Area: Missing fullstop at end Register Identifier Status Code: Missing fullstop at end TNI Code: Are all TNI’s virtuals?		
Chapter 4	MSATS Codes			
	4.1			
	4.2			
	4.3			17 pages

2. Meter Data File Format

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope	(b) change “eg” for consistency to “e.g.”		
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	GENERAL RULES AND INFORMATION	(b) fix wording to: recipients of an MDFF file		
3	TECHNICAL INFORMATION			
3.1	Version details			
3.2	File delivery	3.2.2. (a) dot point: ○ Extension =.zip (See Compression rules in paragraph (b)). Entire Clause is referring to standalone .csv, but		

		dot point .zip is included here. Where is the .csv extension? Change to Extension = .csv		
3.3	File construction	3.3.2. (b) (c) (d) change “eg” for consistency to “e.g.” 3.3.3. (a) (ii) dot point should end with a full stop. 3.3.5. (a) confirm if extra space added between “or based”; and same at (c) between “79), time”		
4	INTERVAL METER READING FILE SPECIFICATION AND VALIDATION (NEM12)	Nowhere in the examples or appendix does it show where the CRLF goes for any line. Should the 100 or 900 record have a CRLF or not? Currently receive both.		
4.1	Blocking cycle			
4.2	Header record (100)	RecordIndicator Add full stop at end for consistency as have done so for most other allowed values Allowed value: 100. DateTime Change “date / time to “date/time” for consistency		

4.3	NMI data details record (200)	*RegisterID* change “eg” for consistency to “e.g.” *NextScheduledReadDate* change “eg” for consistency to “e.g.” *MDMDataStreamIdentifier* Add full stop after “N2” *MeterSerialNumber* Add spaces at beginng of new sentence “…replaced.Not required…”		
4.4	Interval data record (300)			
4.5	Interval event record (400)	Change “StartInterval / EndInterval” to “StartInterval/EndInterval” for consistency		
4.6	B2B details record (500)	*RetServiceOrder* Remove space before close bracket “ServiceOrderRequest).” *ReadDateTime* Change for consistency “S’ or “F”), to “S” or “F”)		
4.7	End of data (900)			
5	BASIC METER READING FILE SPECIFICATION AND VALIDATION (NEM13)	Nowhere in the examples or appendix does it show where the CRLF goes for any line. Should the 100 or 900 record have a CRLF or not? Currently receive both.		
5.1	Blocking cycle			

5.2	Header record (100)	DateTime Change “date / time to “date/time” for consistency		
5.3	Basic meter data record (250)	RecordIndicator Add full stop at end for consistency as have done so for most other allowed values Allowed value: 250. *MeterSerialNumber* Is this statement correct by referring to IntervalDate for Accumulation meters? *PreviousQualityMethod* Add full stop after “2 character.” *CurrentQualityMethod* Add full stop after “2 character.” *NextScheduledReadDate* change “eg” for consistency to “e.g.” *PreviousRegisterReadDateTime* & *CurrentRegisterReadDateTime* Change for consistency “S' or “F”), to “S” or “F”)		
5.4	B2B details record (550)	RecordIndicator Add full stop at end for consistency as have done so for most other allowed values Allowed value: 550.		

5.5	End of data (900)	RecordIndicator Add full stop at end for consistency as have done so for most other allowed values Allowed value: 900.		
APPENDIX A	TRANSACTION CODES FLAGS	Normal Read Too many fullstops after “Substitutions”		
APPENDIX B	FORMAT & UNIT OF MEASURE FIELD DETAILS			
APPENDIX C	QUALITY FLAGS	Confirm if extra space added between “flag is” for both A and E Quality flag		
APPENDIX D	METHOD FLAGS			
APPENDIX E	REASON CODES	41 Spelling with “S ite”. Change to “Shite”. 51 Add full stop after sentence 69 Add full stop after sentence		

APPENDIX F	OBSOLETE REASON CODES (ONLY TO BE USED WHEN PROVIDING HISTORICAL DATA)			
APPENDIX G	SUMMARY OF FILE FORMAT AND BLOCKING			
APPENDIX H	EXAMPLE INTERVAL DATA FILE (NEM12)			
H.1	Actual Interval Data – Metering Installations with Remote Acquisition of Metering Data			
H.2	Substituted Interval Data – Metering Installations with Remote Acquisition of Metering Data			
H.3	Interval Metering Data – Manually Read Interval Metering Installation Estimate			
H.4	Multiple NMIs and Datastreams, Metering Installations with Remote			

	Acquisition of Metering Data – (all actual metering data)			
H.5	Interval Metering Data – Remote Read Metering Installations with Remote Acquisition of Metering Data - Multiple QualityMethod/ReasonCode combination			
H.6	Metering Data for Meter Change with Configuration Change – Manaually Read Interval Metering Installation			
H.7	Transfer occurs on the NSRD for Manually Read Interval Metering Installation			
H.8	Meter Change: Metering Installation with Accumulated Metering Data to Manaually Read Interval Metering Installation			
APPENDIX I	EXAMPLE CONSUMPTION DATA FILE (NEM13)			

I.1	Actual Meter Rreading			
I.2	Normal Meter Reading with Estimate			
I.3	Meter Reading and Meter Change			
I.4	Historical Data Values			
I.5	Transfer read			
APPENDIX J	EXAMPLE OF USE OF THE REGISTER READ FIELDS			40

3. Metrology Procedure: Part A

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	DISPUTE RESOLUTION			
3	RESPONSIBILITY FOR METER PROVISION			
3.1	Overall requirements	Need to include paragraph numbering; remove “the”; paragraph 4 move to be after 3.1.1 3.1.1. MCs must use MPs to provide, install, test and maintain the relevant components, characteristics and service requirements of the metering installation as specified in the NER and this Procedure, as appropriate. 3.1.2. An MP must be able to provide detailed specification and design requirements for those metering installations for which accreditation has been provided.		

		3.1.3. MCs are responsible for the design of a metering installation and warrant that the design complies with the components, characteristics and service requirements specified in the NER and this Procedure. 3.1.4. MCs must ensure the components have been selected, installed and commissioned by the MPs so that the metering installation satisfies the relevant accuracy and performance requirements in the NER and this Procedure.		
4	METERING INSTALLATION COMPONENTS			
4.1	Requirement under National Measurement Act and Use of Standards	Need to include paragraph numbering; 4.1.1. Meters used in type 1, 2, 3, 4, 4A, 5, and 6 metering installations must comply with any applicable specifications or guidelines (including transitional arrangements) specified by the National Measurement Institute under the National Measurement Act, and must also meet the relevant requirements of Australian Standards and International Standards: (a) For type 1, 2, 3, 4, 4A, and 5 (including type 3 and 4 whole current) metering installation measurement elements: AS 62052.11, AS 62053.21 and AS 62053.22. (b) For type 6 metering installation measurement elements: AS 1284.1, AS 62053.21 and AS 62052.11. 4.1.2. CTs for type 1, 2, 3, 4, 4A, 5 and 6 metering installations must meet the relevant requirements of AS 60044.1 and must also comply with any applicable specifications or guidelines specified by the National Measurement Institute under the National Measurement Act. 4.1.3. VTs for type 1, 2, 3, 4 ,5 and 6 metering installations must meet the relevant requirements of AS 60044.2, AS 60044.3, AS 60044.5 and AS 1243 and must also comply with any applicable specifications or guidelines (including transitional arrangements) specified by the National Measurement Institute under the National Measurement Act. 4.1.4. Unless otherwise permitted by the NER, the MC must ensure that new meters and related equipment intended to be used at a connection point 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 issued by a NATA accredited laboratory or a body recognised by NATA under the ILAC mutual recognition scheme. Relevant approval certificates must be provided to AEMO on request. 4.1.5. A visible display must be provided to display, at a minimum, the cumulative total energy for each register measured by that metering installation.		

		4.1.6. Any programmable settings available within the metering installation, or any peripheral device that will affect the resolution of displayed or stored data, must meet the relevant requirements of AS 62052.11, AS 62053.21 and AS 62053.22 and must comply with any applicable specifications or guidelines specified by the National Measurement Institute under the National Measurement Act.		
4.2	Use of Optical Ports and Pulse Outputs	Need to include paragraph numbering; 4.2.1. Where requested by a FRMP, the MC must provide pulse output facilities representing the quantity of electricity measured in accordance with the relevant Australian Standard for that meter within a reasonable time of being requested by a FRMP to provide such facilities. 4.2.2. For type 1, 2, 3, 4, 4A and 5 metering installations with a pulse output, the measurement element pulse output must provide a number of energy pulses in each integrating period commensurate with the accuracy class of the metering installation when operating at the top of the range of measurement of the metering installation but may be set at a lower rate where the anticipated operating range is significantly lower than the top of the range of measurement of the metering installation. 4.2.3. A type 4A or 5 metering installation must have an optical port that meets the AS 1284.10.2 or AS 62056.21 or a computer serial port to facilitate downloading of 90 days of interval energy data for each meter associated with the metering installation in 35 seconds or less.		
4.3	Password Allocation			
4.4	“x” values – Calculation and use	Need to include paragraph numbering; 4.4.1. For connection points with a type 5 metering installation, the volume of electricity flowing through the connection point is to be less than “x” MWh per annum, where “x” varies according to Jurisdiction, except for first-tier load type 5 metering installations that meet clause 11.20.3(a) of the NER. 4.4.2. The manner in which the volumes of electricity referred to in the table above are to be calculated in each Jurisdiction is specified in the following table:		
4.5	“y” values – Calculation and use	Need to include paragraph numbering; 4.5.1. For connection points with a type 6 metering installation, the volume of electricity flowing through the connection point is to be less than “y” MWh per annum, where “y” varies according to Jurisdiction, except for first-tier load type 6 metering installations that meet the requirements of clause 11.20.3(a) of the NER. 4.5.2. The manner in which the volumes of electricity flowing through connection points are to be		

		determined are specified for each Jurisdiction in the following table:		
4.6	Grandfathering	Need to include paragraph numbering; 4.6.1. Meters and components for a type 5 or 6 metering installation, which were installed, or which were held in stock prior to the following dates: (a) 1 January 2007 for second-tier loads (b) 1 July 2008 for first-tier loads and which met the requirements of a Jurisdiction at that time, are deemed to meet the requirements of the metrology procedure. 4.6.2. Metering installations that have been installed, or are held in stock for the MC in a Jurisdiction prior to the effective date of that Jurisdiction's initial metrology procedure and do not comply with the NER or the metrology procedure, may be used where approval from a Jurisdictional Regulator had been obtained prior to the effective date of the metrology procedure or approval is obtained from AEMO. 4.6.3. First-tier load summation metering installations that were commissioned prior to 1 July 2008 that complied with the Jurisdictional requirements as at this date and continue to meet the Jurisdictional requirements are taken to be NER and metrology procedure compliant. The summation metering installations are deemed non-compliant if they do not meet the applicable Jurisdictional accuracy standards at 30 June 2008. Defective first-tier load summation metering installations that were commissioned prior to 1 July 2008 must be repaired or replaced so as to ensure the summation metering meets the minimum standards in accordance with the NER and the metrology procedure.		
4.7	Data Storage Requirements for Meters			
4.8	Metering Installation Clock	Need to include paragraph numbering; 4.8.1. A type 4A, 5 or 6 metering installation clock is to be reset to within 20 seconds of Eastern Standard Time on each occasion that the metering installation is accessed in the circumstances referred to in paragraphs a) and b), and the maximum drift in the type 4A or 5 metering installation clock permitted between successive Meter Readings is 300 seconds. (a) MP must reset a type 4A, 5 or 6 metering installation clock when inspecting, maintaining or commissioning the metering installation. (b) MDP must reset a type 4A, or 5 metering installation clock when interval metering data is collected from the metering installation. 4.8.2. A CT-connected type 5 metering installation with a slower download time than specified in		

		section 4.2 may be used where approved by AEMO. 4.8.3. For type 6 metering installations with different time of day rates, the metering installation must meet AS 62054.11, AS 62054.21 and AS 62052.21, or have the switching between the different rates controlled by a frequency injection relay or time clock operated by the LNSP.		
4.9	Interval Meters			
4.10	Alarm Meters			
5	MINIMUM SERVICES SPECIFICATION			
5.1	Minimum Service Levels	Need to include paragraph numbering; add space; italicise metering installation 5.1.2.1. The completion timeframes for each service are detailed in Table 5.1. They will be measured from the time a request is received by the metering installation to the time of completion of the relevant service by the metering installation. 5.1.2.1. Completion timeframes are measuredfrom the time a request is received by the metering installationto the time that the notification of completion of the relevant service by the metering installation appears at the communication interface at or near the metering point(s) where the notification of completion is made available for collection. 5.1.3.1. The services and completion rates for each service are detailed in Table 5.1. The timeframes will be measured from the time a request is received by the metering installation to the time of completion of the relevant service by the metering installation. 5.1.3.2. Upon request from AEMO, the MC must be able to provide evidence demonstrating that small customer metering installations are capable of performing to the completion rates.		
5.2	Technical Requirements	Paragraph numbering good; add space (a) Is 4 quadrant metering required for all sites including toilets or private area lighting, temp builders supply, and must you read and supply that every time? (b) Where a poly-phase metering device is installed the metering installation must be capable of recording and providing the average voltage and current per phase over a nominated TI for one or more nominatedTIs, for all connected phase.		
6	SUMMATION	Paragraph numbering good;		

	METERING			
7	EMBEDDED NETWORKS	Paragraph numbering good; need to fix references remove 2.5.1 but leave [NSW](1)(b) remove 3.4.2 replace with 8[NSW](3) remove 2.5.1 but leave [NSW](1) remove 2.5.1 but leave [ACT](1)		
8	REVERSION OF METERING INSTALLATION TYPES	Paragraph numbering good; need to fix references remove 3.4.2 but leave [NSW](1) remove 2.6.1 but leave [SA](2)		
9	ROUTINE TESTING AND INSPECTION OF METERING INSTALLATIONS	Need to include paragraph numbering; 9.1. Unless an MC has an Asset Management Strategy, metering installations must be tested and inspected in accordance with clause 7.9 and schedule 7.6 of the NER. Section 9 provides AEMO's guidelines in respect of a proposed Asset Management Strategy that the MC will need to take into consideration when seeking approval of an Asset Management Strategy. 9.2. An acceptable alternative testing practice or test plan for in-service meter performance must demonstrate compliance with Australian Standard "AS 1284.13: Electricity Metering in-service compliance testing". 9.3. Unless the MC has developed an alternative accuracy assessment method for type 5 and 6 metering installations that meets the intent of S7.4.3.5 and S7.4.3.6 of the NER and is approved by AEMO, the overall metering installation error is calculated by the vector sum of the errors of each metering installation component, i.e. a + b + c. a = error of VT and wiring b = error of CT and wiring c = error of meter 9.4. Where the MC is not testing and inspecting metering installations in accordance with clauses 7.9 and S7.6 of the NER (i.e. not time-based), the MC must include in its Asset Management Strategy an alternative inspection practice that meets the requirements of clause S7.6 of the NER. 9.5. The MC must provide a copy of the Asset Management Strategy to each relevant MP. 9.6. For those meters for which new or amended pattern approval has been received from the National Measurement Institute or, in the absence of pattern approval, new or amended type testing has been undertaken by a NATA accredited laboratory or a body recognised by NATA under the		

		ILAC mutual recognition scheme, the MC must ensure that the Sample Test Plan stipulates that this population of meter is tested at least once in the first three years of being placed in service.		
10	INSTALLATION OF METER(S)	Need to include paragraph numbering; (a) The MC must use reasonable endeavours to ensure that, at the time of installation, a metering installation is: (a) protected against damage; (i) installed in such a way that it allows safe and unimpeded access to the End User or any person whose obligation it is to test, adjust, maintain, repair, or replace the metering installation, or to collect metering data from the metering installation; and (ii) available to the End User or any person whose obligation it is to test, adjust, maintain, repair, or replace the metering installation, or to collect metering data from the metering installation via safe, convenient and unhindered access when it is not located at the Site. (b) The MC must ensure that when each meter of a type 4 or 4A metering installation is installed, it is checked such that: (i) It has the optical port, communications port and visual display located so that the optical port, communications port, or visual display can be readily accessed for Meter Reading; and (ii) This requirement only applies to the Jurisdiction specified in the following table: (c) Where a Market Participant requests in writing for an MC to provide and install a metering installation, the MC must use reasonable endeavours to provide and install the metering installation within 20 business days of receipt of the written request. Note, an exception to this requirement is where high voltage equipment procurement with long lead times is required.		
10.1	Installation by ASPs	Need to include paragraph numbering; Why not remove completely if it does not apply in any state.		
11	METER CHURN			
11.1	Initiation of a Meter Churn			
11.2	Performance of a Meter Churn			
11.3	Meter Churn Process	Need to add since it is mandatory, both FRMP and MC should take responsibility to ensure MP provided information;		

		(viii) Network Tariff Code and Retailer tariff configuration		
12	DE-COMMISSIONING AND REMOVAL OF METERING EQUIPMENT AND NETWORK DEVICES	Need to include paragraph numbering; (a) Before de-commissioning all or any part of an existing metering installation, including any network device, the MP undertaking the work must ensure that: (i) Arrangements are put in place to ensure a Final Reading is taken, at the time of de-commissioning, of all metering data maintained in the existing meter; and (ii) The ownership of the existing meter is ascertained and arrangements made for the meter or network device to be returned to its owner within 10 business days unless otherwise agreed with theasset owner. (b) Where the metering data from the Final Reading is not transferred to the relevant MDP at the time of de-commissioning, the owner must ensure the metering data or Final Reading (as applicable), is provided to that MDP within two business days of receipt of the meter. (c) Where the metering installation includes equipment for load control or the measurement of reactive energy, the installation and operation of that equipment will be governed by an instrument other than the metrology procedure, for example, a 'use of system' agreement between the LNSP and the FRMP.		
12.1	Network Devices	Need to include paragraph numbering; 12.1.1. (a) For the purposes of clause 7.8.6 of the NER, an existing metering installation that is to be replaced by an MC will be treated as a network device only if the metering installation is performing a function other than supporting the application of a Network Tariff. (b) Where the metering installation includes equipment for load control or the measurement of reactive energy, the installation and operation of that equipment will be governed by an instrument other than the metrology procedure, for example, a 'use of system' agreement between the LNSP and the FRMP. 12.1.2. remove the s (b) where the sole purpose of a network device is to provides a: 12.1.3. (a) Where an LNSP considers that an isolation or alteration is required to a metering installation to facilitate the installation, removal, or replacement of a network device at or near the metering installation, including the removal of any seal, the LNSP must: (i) agree the isolations or alterations with the affected MC and MP prior to the commencement of any alterations;		

		(ii) ensure any work performed on the metering installation is undertaken by a suitably accredited MP; and (iii) ensure that the MC and MP are provided with details of the isolation or alteration, including any new seals. (b) Where a Network device needs to be altered to accommodate a change to the metering installation, including the removal of any seal, the MC must ensure that the LNSP is provided with details of the isolation or alteration, including any new seals.		
13	RESPONSIBILITY FOR METERING DATA SERVICES			
13.1	Metering Data Services			
13.2	Metering Data Collection	Need to include paragraph numbering; fix referencing in tables 3.4.3[Vic] is no longer valid and neither are all the others (a) For type 1, 2, 3, 4, 4A, 5 and 6 metering installations, the MC or AEMO (where applicable) must ensure that metering data is collected in accordance with the applicable service level procedure. (b) Subject to the dates specified in clause 3.4.3[Vic], for type 5 metering installations (excluding sample profile meters for the purposes of developing the CLPs in accordance with section 13.3 of Metrology Procedure: Part B), the MC must: (i) Ensure that interval metering data is collected from a metering installation in accordance with the appropriate service level procedure; and (ii) Use reasonable endeavours to ensure that interval metering data is collected from every type 5 metering installation once every three months and that this metering data is transferred to the metering data services database. (c) For type 6 metering installations, the MC must: (i) Ensure that accumulated energy data is collected from metering installations in accordance with the appropriate service level procedure; and (ii) Use reasonable endeavours to ensure that accumulated energy data is collected from every type 6 metering installation once every three months and that this metering data is transferred to the metering data services database.		

		(d) An MC must use reasonable endeavours to ensure that energy data is collected from a type 4A, 5 or 6 metering installation and transferred to the relevant metering data services database no more than two business days prior to, or two business days subsequent to, the Scheduled Reading Date for that metering installation. (e) For metering installations that do not have remote acquisition, and where the MC is not a TNSP, the MC must use reasonable endeavours to ensure that each metering installation is read every three months, and the Meter Reading frequency is agreed with the FRMP.		
13.3	Metering Data Storage			
13.4	Access to Metering Data	Need to include paragraph numbering; fix referencing in tables 3.6.2, 3.4.9, 3.4.9A is no longer valid and neither are all the others (a) Access to metering data must be provided in accordance with Service Level Procedure (MDP). This requirement only applies to the Jurisdiction specified in the following table: (b) The MC must ensure that metering data from the following is transferred to AEMO: (i) interval metering data for first-tier loads, including First-Tier Controlled Loads calculated metering data for first-tier loads, and (ii) accumulated metering data for First-Tier Controlled Loads in New South Wales and Queensland. (c) The MC must notify AEMO of the interval metering data for first-tier loads that are to be transferred to AEMO.		
13.5	Verification of Metering Data for Type 4A, 5, 6 and 7 Metering Installations	Need to include paragraph numbering; (a) Each MC must ensure that a Sample Test Plan is established and maintained in accordance with Australian Standards “AS 1199: Sampling procedures for inspection by attributes – Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection” or “AS 2490: Sampling Procedures and Charts for Inspection by Variables for Percent Nonconforming” to Validate that all metering data stored in the metering data services database is consistent with the energy data stored in the metering installation or the Physical Inventory (as applicable). (b) Verification tests must be conducted in accordance with the Sample Test Plan, which must not be less than once every 12 months. (c) If there is an inconsistency between the energy data held in a metering installation and the metering data held in the metering data services database, the energy data in the metering		

		installation is to be taken as prima facie evidence of the amount of electricity supplied to that metering point, except if the meter or components of the metering installation are found to be not compliant with the NER (d) The calculated metering data stored in a metering data services database for a NMI is consistent with the Physical Inventory if the error associated with calculating the energy value for the sample, that is: (e) If there is an inconsistency between the Inventory Table held in a metering data services database for a type 7 metering installation and the Physical Inventory, the Physical Inventory is to be taken as prima facie evidence of the actual number of Unmetered Devices.		
13.6	Metering Installation type 7 – sample testing	Need to include paragraph numbering; fix table numbering (a) For the purposes of sample testing type 7 metering installations, the MC must ensure that the sample size is determined using Table 13.6. The sample is to be selected from Unmetered Devices in the Inventory Table for an MC. (b) The MC must ensure that the sample size for the first two Validation tests is based on a 'normal' sample size indicated in Table 13.6. **Table 13.6 - Unmetered Devices in Inventory Table** (c) The MC must ensure that the sample size for subsequent Validation tests is based on the following: I am sure someone could make this diagram look better by making the text fit inside the box. (d) The MC must select sample Unmetered Devices for a Validation test from random geographic areas depending on the sample size. The selection of the geographic area must be such that each Unmetered Device has an equal chance of being included in the sample. (e) The MC must ensure that the Validation test is conducted at least once every six months, commencing from the first Validation test. (f) Should the results of two consecutive Validation tests, based on a reduced sample size, be within the accuracy requirements for that test, the MC must ensure that the next Validation test is conducted at least once every 12 months.		
13.7	Request for Test of Calculated Metering Data	Need to include paragraph numbering; (a) If requested to test a type 7 metering installation by a Registered Participant under clause 7.9.1 of the NER, the MC or AEMO (as applicable) must:		

		(i) arrange to test that the calculated metering data stored in the metering data services database reflects the Physical Inventory for the type 7 metering installation; (ii) use reasonable endeavours to conduct the test within 15 business days of the request; and (iii) prior to any test being undertaken, provide an estimate of costs associated with the test. (b) Where there is a discrepancy between the Inventory Table held in the metering data services database for a type 7 metering installation and the Physical Inventory, the Physical Inventory is to be taken as prima facie evidence of the actual number of Unmetered Devices.		
13.8	AEMO's Metering Data Obligations	Need to improve paragraph numbering; clarify each group 13.8.2. Load Profiling – CLP 13.8.3. Load Profiling – NSLP AEMO must prepare an NSLP by each Profile Area in accordance with section 15 of Metrology Procedure: Part B and apply it by Profile Area to the metering data from type 6 metering installations to produce interval metering data for type 6 metering installations.		
14	EMERGENCY PRIORITY PROCEDURES			
14.1	Criteria for determining Emergency Condition			
14.2	Metering Installations Affected			
14.3	Prioritisation of Services by MC in Emergency Condition	reconnection not italicised		
14.4	Other Laws Prevail			21

4. Metrology Procedure: Part B

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1.	Purpose and Scope			
1.2.	Definitions and Interpretation			
1.3.	Related Documents			
2	PRINCIPLES FOR VALIDATION, SUBSTITUTION AND ESTIMATION			
2.1.	General Validation, Substitution and Estimation Requirements	Need to include paragraph numbering; The principles to be applied to Validation, Substitution and Estimation in the NEM include the following: (a) The MC must coordinate the resolution of issues arising from the non-performance of metering systems, including any liaison with associated Registered Participants, MP(s),MDP(s), and ENM(s). (b) The MC must respond promptly to requests for remedial action from the MDP or AEMO.		

		(c) The MDP must identify metering data errors resulting from data collection and processing operations using Validation processes in accordance with this Procedure. (d) The MDP must apply Substitution processes in accordance with this Procedure, with the MC necessary to ensure that metering data is delivered to AEMO and Registered Participants.		
2.2.	Substitution requirement	Now this is good numbering; AEMO missing here and what is the "-" for? …of or the MC, as appropriate-, (i) after (h)… subsequentlyinformed space required (k) missing full stop		
2.3.	Estimation requirement	Now this is good numbering; (a) "NSRDe" is this a new acronym? not included in glossary (c) …the *estimated*… remove extra space Jurisdictional table missing bits …Service Level Requir for … Full stop at end of last sentence		
2.4.	Metering data quality flags	Need to include paragraph numbering; add space …section2.4(b… **2.4.1. Quality Flags** (a) MDPs must assign the relevant metering data quality flags to metering data as follows: (b) Unless specified otherwise in this Procedure, MDPs must apply the following quality flag rules in the metering data services database: **2.4.2. Final Substitution** (b) remove extra full stop (g) remove comma and add full stop		

2.5.	Summary table of Substitution and Estimation Types			
3	SUBSTITUTION FOR METERING INSTALLATION WITH REMOTE ACQUISITION OF METERING DATA			
3.1.	Application of section 3	Need to include paragraph numbering; add space …3.3the… “metering data” not italicised (a) For all Substitutions undertaken under sections 3.2 and 3.3 the MDP must ensure the selected Substitution values correctly align with the adjoining intervals of metering data and that any intervals of metering data adjacent to the Substituted period are valid. (b) For metering installations with remote acquisition installed in accordance with NER section 7.8.9(b), the MDP may perform Substitutions in accordance with section 4.		
3.2.	Substitution Rules	Need to include paragraph numbering; add space (a) The MDP must obtain clear and concise identification as to the cause of any missing or erroneous metering data for which Substitutions are required. (b) The MDP must undertake to do a type 11 Substitution and use metering data obtained from any check metering installation associated with the connection point as the first choice considered for the source of metering data for any Substitutions undertaken. (c) SCADA data, where available, may be used by the MDP as check metering data for Substitutions. (d) MDPs may only undertake Substitution type 13 where Substitution types 11 and 12 are not applicable or cannot be carried out. (e) For connection points where the FRMP is either a Generator or MSGA: (i) MDPs may directly undertake type 11, type 12 or type 13 Substitutions if metering data has failed		

		Validation. (ii) MDPs may undertake type 16 or 18 Substitutions following consultation and agreement with the affected Generator or MSGA that the substituted metering data is an accurate reflection of the interval metering data concerned. (iii) If metering data cannot be collected from a metering installation or Substituted within the required timeframes, the MDP must undertake type 19 Substitutions as an interim until metering data can be collected from the metering installation or Substituted. (f) MDPs may only undertake Substitution types 14, 15, 16, 17, 18, 19 or 20 where Substitution types 11, 12 and 13 are not applicable or cannot be carried out. (g) MDPs may perform all Substitution types except type 16 or 18 without the agreement of the FRMP, LNSP orLR. MDPs may change the quality flag to an existing type 16 or 18 Substitution without seeking further agreement from those parties. (h) The MDP must notify the LNSP, LR and the FRMP for the connection point of any Substitution within two business days of the Substitution being carried out. Notification is to be achieved via the participant metering data file as detailed in the MDFF.. Remove additional full stop (i) The MDP must ensure that all substituted metering data are replaced with interval metering data when it becomes available. (this paragraph moved up) (j) Where there is a metering installation malfunction that cannot be repaired within the periods specified in the NER, the MDP must: (i) Where the metering installation malfunction is due to a failure of the meter to correctly record interval energy data and the MC has been granted an exemption to repair the metering installation, the MDP must Substitute the missing metering data in accordance with this Procedure; (ii) For type 1-3 metering installations and other instrument transformer connected metering installations, and where a metering installation malfunction is due to a failure of the remote acquisition system, arrange for an alternative method for the collection of metering data from the metering installation, in a timeframe that ensures the MDP complies with metering data delivery requirements; or (iii) For non-instrument transformer connected metering installations, and where a metering installation malfunction is due to a failure of the remote acquisition system, the MDP must Substitute the missing metering data in accordance with this Procedure.		
3.3.	Substitution Types	**3.4 VICAMI meters** (VicAMI is not a substitution type and so needs own numbering)		

		For VICAMI metering installations, w the MDP may also use Substitution types 51 and 52, which are detailed in section 4 of this Procedure. Type 16, this means they must seek agreement for every NMI every time. Very onerous for the volumes expected after Dec '17. Reword statement to: The MDP may undertake to use another method of Substitution (which may be a modification of an existing Substitution type), where none of the existing Substitution types apply, unless informed otherwise by the FRMP, LR, or LNSP, undertake Substitution for any period greater than seven days for type 1-3 metering installations or greater than fifteen days for other metering installation types. This may include changes to existing Substitutions for any period where those affected parties have directed that as a result of Site or End User information, the original Substitutions are in error and a correction is required.		
4	SUBSTITUTION AND ESTIMATION FOR MANUALLY READ INTERVAL METERING INSTALLATIONS			
4.1.	Application of section 4	Need to include paragraph numbering; (a) For all Substitutions and Estimations undertaken under sections 4.2 and 4.3, the MDP must ensure the selected substituted metering data is consistent with the interval metering data from the periods adjacent to the period of the substituted metering data. (b) The Substitution and Estimation requirements in this section 4 are only to be used for metering installations where interval metering data is manually collected as a Scheduled Meter Reading. In the case that remote acquisition of metering data has failed at the metering installation and manual collection of interval metering data is required, the Substitution requirements specified in section 3 apply.		
4.2.	Substitution and Estimation Rules	Need to include paragraph numbering; (a) The MDP must ensure that all substituted metering data and estimated metering data are replaced with accumulated metering data or interval metering data when it becomes available. (b) The MDP must obtain clear and concise identification as to the cause of any missing or erroneous metering data for which Substitutions are required.		

		(c) Where there is a metering installation malfunction that cannot be repaired within the periods specified in the NER, the MDP must Substitute the missing metering data in accordance with this Procedure. (d) The MDP must only apply the following Substitution and Estimation types: (i) Substitutions: type 51, 52, 53, 54, 55, 56, 57 or 58. (ii) Estimations: type 51, 52, 56, 57 or 58. (e) The MDP must only use type 56 or 57 Substitutions or Estimations where the historical metering data does not support the application of a type 51 or 52 Substitution or Estimation. (f) The MDP must notify the LNSP, the LR and the FRMP for the connection point of any Substitution or Estimation within two business days of the Substitution. Notification is achieved via the participant metering data file as detailed within the service level procedures. (g) MDPs must not perform type 53 or 55 Substitutions or type 56 Substitutions or Estimations without the agreement of the LNSP, the LR and the FRMP for the connection point. MDPs may change the quality flag to an existing type 53 or 55 Substitution or type 56 Substitution or Estimation without seeking further agreement from those parties.		
4.3.	Substitution and Estimation Types			
5	SUBSTITUTION AND ESTIMATION FOR METERING INSTALLATIONS WITH ACCUMULATED METERING DATA			
5.1.	Application of section 5			
5.2.	Substitution and Estimation Rules	Need to include paragraph numbering; (a) The MDP must replace all estimated metering data with either accumulated metering data or		

		substituted metering data: (i) When accumulated metering data covering all or part of the Estimation period is obtained; or (ii) When the next Scheduled Meter Reading could not be undertaken, the MDP must replace the estimated metering data with substituted metering data with a quality flag of F (final Substitution). (b) Any final substituted metering data provided by the MDP must be re-Validated, updated or recalculated by the MDP when: (i) The value of the metering data obtained at the next Actual Meter Reading is found to be less than the previous final Substitution; or (ii) The final Substituted value is disputed and following consultation and agreement with the FRMP, LR and the LNSP for the connection point, the new agreed value will be determined using type 64 Substitution. (c) The MDP must obtain clear and concise identification as to the cause of any missing or erroneous metering data for which Substitutions are required. (d) The MDP may apply the following Substitution and Estimation types: (i) Substitutions: type 61, 62, 63, 64, 65, 66, 67 or 68. (ii) Estimations: type 61, 62, 63, 65 or 68. (e) Where the Scheduled Meter Reading cycle is less frequent than monthly, the MDP may only use a type 62 Substitution or Estimation method when metering data from the same, or similar, meter reading period last year (i.e. type 61) is not available. (f) The MDP may use type 63 Substitutions or Estimations only when the metering data from the same, or similar, meter reading period last year and metering data from the previous meter reading period is not available (i.e. when type 61 and type 62 Substitution or Estimation methods cannot be used). (g) The MDP may use type 65 Substitutions or Estimations only when the metering data from the same, or similar, meter reading period last year or the metering data from the previous meter reading period is not available (i.e. when type 61 and type 62 Substitution or Estimation methods cannot be used). (h) The MDP must only use a type 67 Substitution when:		

		(i) Directed by the MC; (ii) Not expressly disallowed in the Jurisdiction concerned; (iii) The End User provided meter reading meets the Validation rules for that Datastream; and (iv) The MDP has no accumulated metering data. (i) MDPs must not perform type 64 or 66 Substitutions without seeking the agreement of the FRMP, LR and the LNSP for the connection point. MDPs may, however, undertake to change the quality flag to an existing type 64 or 66 Substitution without seeking further agreement from those parties. (k) The MDP must notify the LNSP, LR and FRMP for the connection point of any Substitution or Estimation within two business days of the Substitution or Estimation. Notification is achieved via the participant metering data file as detailed within the service level procedures.		
5.3.	Substitution and Estimation Types			
6	SUBSTITUTION AND ESTIMATION FOR CALCULATED METERING DATA			
6.1.	Substitution Rules	Need to include paragraph numbering; (a) The MDP must obtain clear and concise identification as to the cause of any missing or erroneous calculated metering data for which substituted metering data are required. (b) The MDP must ensure that all substituted metering data and estimated metering data are based on calculated metering data and not on any previous Substitutions or Estimations (as applicable). (c) The MDP may apply the following Substitution and Estimations types: (i) Substitutions: type 71, 72, 73, or 74. (ii) Estimations: type 75. (d) The MDP must base calculated metering data for type 7 metering installations on Inventory Table data as follows:		

		(i) Where the Inventory Table has not been updated for the period concerned, calculated metering data must be based on the most recent available information and provided as an Estimate; and (ii) Where the Inventory Table is correct for the period concerned, the calculated metering data must be flagged as A metering data, however, when the Inventory Table is subsequently updated for the period concerned, the calculated metering data must be flagged as S metering data. (e) The MDP must notify the LNSP, LR and FRMP for the connection point of any Substituted calculated metering data within two business days of the Substitution. Notification is achieved via the participant metering data file as detailed within the service level procedures. (f) The MDP must flag all calculated metering data Substitutions as final (F). (g) MDPs must not perform a type 74 Substitution without seeking the agreement with the FRMP, LR and LNSP.		
6.2.	Substitution and Estimation Types			
7	GENERAL DATA VALIDATION REQUIREMENTS			
7.1.	Validation requirements for all metering installations	Need to include paragraph numbering; (a) MDPs must manage systems and processes on the basis that: (i) Stored metering data held in the meter buffer might be subject to installation measurement error; (ii) Data delivered by reading systems, (e.g. remote reading systems, hand-held readers and conversion software) might not be recovered from the meters without corruption. (b) Auditable Validation procedures are of critical importance and can have a direct impact on disputes. It is essential that MDPs comply with these Validation procedures and that all metering data is subject to Validation prior to delivery to AEMO and Registered Participants.		
7.2.	Validation of interval	Need to include paragraph numbering;		

	metering data alarms	(a) The MDP must Validate interval metering data against the following Meter Alarms when these are provided in the meter: (i) power failure/meter loss of supply for instrument transformer connected metering installations only, remove spaces and add comma (ii) VT or phase failure, (iii) pulse overflow, (iv) cyclic redundancy check error, and (v) time tolerance. (b) Where interval metering installations assign alarms to the data channel and the interval metering data concerned, the MDP must process the alarm along with the metering data as part of the required Validation process. (c) The MDP must ensure that all metering data alarm reports are signed off and dated by the person actioning the data exception report review as part of the Validation process. (d) The MDP must Validate all interval metering data with all metering data alarms prior to dispatch to AEMO or Registered Participants. (e) All MDP exception reports must provide, for all instances where the interval metering data was found to be corrupted an indication of the subsequent actions undertaken by the MDP.		
8	VALIDATION WITHIN THE METER READING PROCESS			
8.1.	Validations to be performed during collection of metering data from manually read interval metering installations			

8.2.	Validations to be performed during collection of accumulated metering data			
9	VALIDATION AS PART THE REGISTRATION PROCESS			
9.1.	Validation of metering installations with remote acquisition of metering data			
9.2.	Validation for manually read interval metering installations	Need to include paragraph numbering; (a) MDPs must carry out the following Validations after any installation or change to a metering installation with remote acquisition of metering data, prior to the distribution of any interval metering data to AEMO or Registered Participants for the purposes of settlements: (i) The metering installation that has been installed or changed is recording metering data correctly, in conjunction with the MP. (ii) All DataStreams are captured. (b) For whole current metering installations, MDPs must carry out the following Validations prior to the distribution of any interval metering data to AEMO or Registered Participants for the purposes of settlements. (i) The metering data correctly pertains to the registered metering installation. (ii) All Datastreams are captured.		
9.3.	Validation for metering installations	Need to include paragraph numbering;		

	with accumulated metering data	(a) The MDP must carry out the following Validations for manually read interval metering installations with CT after any changes to a metering installation prior to the distribution of any interval metering data to AEMO or Registered Participants for the purposes of settlements: (i) The metering data correctly pertains to the registered metering installation, in conjunction with the MP. (ii) The magnitude and profile of the metering data is correct for the primary energy, in conjunction with the MP. (iii) All Datastreams are captured, in conjunction with the MP. (b) MDPs must carry out the following Validations of all whole current manually read interval metering installations prior to the distribution of any interval metering data to AEMO or Registered Participants for the purposes of settlements. (i) The metering data correctly pertains to the registered metering installation. (ii) The metering data acquired is of an expected magnitude and profile for the End User type. (iii) All Datastreams are captured.		
9.4.	Validation for metering installations with calculated metering data			
10	VALIDATION OF METERING DATA			
10.1.	General validation requirements			
10.2.	Validations to be performed for metering installations installationswith	Fix space in header, and this section excluded from response template		

	remote acquisition of metering data			
10.3.	Validations to be performed for metering installations with check metering or partial check metering			
10.4.	Validations to be performed for manually read interval metering installations with CTs	Heading does not match response template, nor is it in line with previous headings, Change them all to match please. (f) remove erroneous character …identify (CT…		
10.5.	Validations to be performed for whole current manually read interval metering installations	Heading does not match response template, nor is it in line with previous headings, Change them all to match please.		
10.6.	Validations to be performed for metering installations with accumulated metering data	Heading does not match response template, nor is it in line with previous headings, Change them all to match please.		
10.7	Validations to be performed for	Heading does not match response template, nor is it in line with previous headings, Change them all to match please.		

	metering installations with calculated metering data	Need to improve paragraph numbering; (a) Check against a nominated maximum calculated metering data value. (b) Calculated metering data value is numeric and ≥ 0. (c) Check for null (no values) calculated metering data for all Datastreams. The aim of this check is to ensure that there is a 100% calculated metering data set (and Substitution for any missing calculated metering data has been undertaken). (d) Check the Inventory Tables, Load Tables and On/Off Tables using a process approved by the MC to ensure that the correct version of these tables is being used for the production of calculated metering data. (e) Check against a nominated minimum value, or alternatively, a 'zero' check that tests for an acceptable number of zero Interval values per day. (f) Calculated metering data date > previous calculated metering data date.		
11	LOAD PROFILING – CONVERSION OF ACCUMULATED METERING DATA			
11.1.	Requirements for load profiling			
11.2.	Profile Preparation Service - Controlled Load Profile			
11.3.	Basic Meter Profiler – Controlled Load			
11.4.	Profile Preparation Service - Net System			

	Load Profile			
11.5.	Basic Meter Profiler - Net System Load Profile			
11.6.	Start Dates and End Dates			
12	UNMETERED LOADS – DETERMINATION OF METERING DATA			
12.1.	Requirement to produce calculated metering data	Need to improve paragraph numbering; 12.1.2. (a) A market load can result from the operation of an Unmetered Device. The only market loads in the NEM where Unmetered Devices are being used are: (i) street lights; and (ii) traffic lights in NSW and SA. (b) There are two types of Unmetered Devices: Controlled Unmetered Devices and Uncontrolled Unmetered Devices. (c) For each market load there may be one or more Unmetered Device types that are listed in the Load Table. 12.1.3. (a) Metering data for an unmetered load is calculated by NMI Datastream. A NMI is assigned for each unique combination of: (i) FRMP;		

		(ii) End User; (iii) LNSP; (iv) TNI; and (v) DLF. (b) An unmetered *load NMI* may contain different *market loads* or different Unmetered Device types, but they must have the same FRMP, End User, LNSP, *TNI* and *distribution loss factor*.		
12.2.	Controlled Unmetered Devices	12.2.2. (iii) If timer control or ripple control, the on/off times for the timer control or the ripple control system; missing semi-colon (vi) If an Unmetered Device is not shared with another NMI, the k factor must be equal to 1; missing semi-colon (d) …mustupdate… add space		
12.3.	Uncontrolled Unmetered Devices	12.3.2. (vi) If an Unmetered Device is not shared with another NMI, the k factor must be equal to 1; missing semi-colon		
12.4.	ON delay and OFF delay	…ACTthe … add space		

12.5.	Traffic signal dimming	Need to include paragraph numbering; (a) Section 12.5 applies from 1 July 2015 where traffic signals are classified as a market load. missing full stop (b) These loads have characteristics similar to Controlled Unmetered Devices as they have specifically defined periods that calculated metering data is based on full load values and dimmed load values. These loads also have characteristics similar to Uncontrolled Unmetered Devices as they do not have a constant load and calculated metering data is based on an annual energy consumption for the load. 12.5.1 Need to fix formula as it is off the page 12.5.2 (iv) If timer control, the on/off times for the timer control; missing semi-colon 12.5.5.(a) (ii) Off time = OFF time set on timer (dimming operation OFF). missing full stop		
13	SUBSTITUTION FOR TRANSFER			
13.1.	Application			
13.2.	Manually read interval metering installations	Need to include paragraph numbering; (a) The MDP must ensure the correct management of the NMI Datastream status for the connection points concerned that meets Jurisdictional requirements for settlements and profile preparation. (b) The MDP must ensure that metering data is provided to the Current FRMP up to the transfer date. (c) The MDP must ensure that metering data is provided to the New FRMP from the transfer date which may include provision of a new Estimation.		

		(d) The MDP must ensure Estimations are undertaken in accordance with Section 4. (e) The MDP may Substitute the metering data up to the transfer date in order to facilitate End User billing. Notification to the LNSP, LR, the Current FRMP and New FRMP is in MDFF, with the following configuration: (i) Utilise a reason code of “27”, with an entry in the free text field of “AEMO directed substitution”, and (ii) Utilise a transaction code of N. (f) The MDP must ensure that all substituted metering data and estimated metering data is replaced by metering data based on Actual Meter Readings.		
13.3.	Manually read accumulation metering installations	Need to include paragraph numbering; (a) The MDP must ensure the correct management of the NMI Datastream status for the connection points concerned that meets Jurisdictional requirements for settlements and profile preparation. (b) The MDP must ensure that metering data is provided to the Current FRMP up to the transfer date. (c) The MDP must provide the necessary substituted metering data labelled with a ‘F’ quality flag. (d) The MDP must ensure that metering data is provided to the New FRMP from the transfer date, which may include provision of a new Estimation. (e) The MDP must ensure Estimations are undertaken in accordance with section 5. (f) The MDP must calculate the final substituted metering data in accordance with section 5. (g) The MDP must notify the LNSP, LR, the Current and New FRMP for the connection point of the Substitution. Notification is via the metering data file in MDFF with the following configuration: (i) Utilise a reason code of “27”; and (ii) Utilise a transaction code of ‘N’. (h) The MDP must Validate the final substituted metering data recalculate and update the metering data where: (i) The final Substitution is found to be greater than the Actual Metering Reading when next obtained; or		44

		(ii) Following consultation and agreement with the Current and New FRMP, the LR and LNSP for the connection point a new agreed value as per Section 6.4.3 (type 64) must be provided.		

5. MSATS Procedures: CATS Procedure Principles and Obligations

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
	QUICK REFERENCE GUIDE			
	HOW TO USE THIS DOCUMENT	2.4 (k) and (q) say the same but one has MPB, the other MP. This is throughout the document. Do they have the same meaning? If it relates to the role in MSATS, then MPB, otherwise if referring to participant, MP. Same rule applies to MC and RP. Make a standard throughout AEMO documents e.g. Actual / Cumulative or Actual/Cumulative or Cancel/withdraw or Actual / Subtractive Space or no space. Don't care which, but just one standard, please!		
1	INTRODUCTION			
1.1	PURPOSE AND SCOPE			
1.2	DEFINITIONS AND INTERPRETATION			

1.3	COMMENCEMENT OF CHANGES			
1.4	RELATED DOCUMENTS			
2	OBLIGATIONS BY ROLE			
2.1	GENERAL OBLIGATIONS			
2.2	FINANCIALLY RESPONSIBLE MARKET PARTICIPANT	(q)(iii) remove space before within Fix up alignment of dot points as (b) and (q) not the same, then replicate throughout the document (so far (b) is the odd one)		
2.3	LOCAL NETWORK SERVICE PROVIDER	(c) The LNSP can no longer adopt this role, so reword statement; (c) Apply the Roles nominated by the FRMP for MC, who appoints the MPB, MPC, and MDP as required by the NER. (j) fix to standardise “D” to ‘D’		
2.4	METERING DATA PROVIDER	(c) fix to standardise I to ‘I’ (Inactive)… (d) fix to standardise I to ‘I’ (Inactive)… (e) fix to standardise A to ‘A’ (Active)… Reword to align with wording of other clauses (g) Configure the Datastream as ‘A’ (Active) or ‘I’ (Inactive) in accordance with the metrology procedure. (k) and (q) say the same but one has MPB, the other MP. Fix them!		
2.5	METERING PROVIDER			

	– CATEGORY B			
2.6	MC	Header should be 2.6 Metering Coordinator		
2.7	RETAILER OF LAST RESORT			
2.8	SECOND NETWORK SERVICE PROVIDER			
2.9	AEMO			
2.10	EMBEDDED NETWORK MANAGER	(d) Manage the distribution of NMIs. missing full stop (p) fix to standardise "N" to 'N' (Off Market Child NMI)…		
3	CATS FUNCTIONALITY			
3.1	OVERVIEW	(g) (ii) The day after the Objection Logging Period has been reached, no Objections currently exist, and an Actual Change Date exists. missing full stop (j), (k), (l) …sections 0. References gone missing		
3.2	PRINCIPLES			
3.3	TRANSACTION TYPES	(b), (c) …section 0. References gone missing		
3.4	CHANGE REQUESTS	(j) …section 0.3 References gone missing		
3.5	CHANGE REQUEST STATUS LIFE CYCLE	(b), (c) …section 0. References gone missing Reword to read better (k) When a Change Request is Cancelled, notifications are sent to the relevant Participants in		

		accordance with the Change Request Status Notification Rules. The Cancelled status occurs where: (i) Not all Objections have been withdrawn at expiry of the Objection Clearing Period; or (ii) The initiator of the Change Request has withdrawn the transaction.		
3.6	TRANSACTION VALIDATION	(iv) (B) Participant Status; missing semi-colon (C) Participant Roles. missing full stop		
3.7	VALID PROPOSED CHANGE DATE FOR PROSPECTIVE AND RETROSPECTIVE CHANGE REQUESTS			
4	CATS CODES AND RULES FOR A CHANGE REQUEST			
4.1	INTRODUCTION			
4.2	CHANGE REASON CODE	Table 4-1 Why are there blank lines in the table? Unless to provide a break, remove all blanks.		
4.3	ROLE CODES	Fix up reading and merge (c) with (b) to now read; (b) The Role Codes defined in Table 4-2 are used to define:		
4.4	CHANGE REQUEST INITIATION RULES	Fix up reading and merge (c) with (a) to now read; (a) The Jurisdiction Codes defined in Table 4-3 identifies the Jurisdiction in which a NMI is situated.		

4.5	JURISDICTION CODES			
4.6	TIMEFRAME RULES			
4.7	OBJECTION CODES	Fix up reading and merge (c) with (a) to now read; (a) The Objection Codes defined in Table 4-4 are the only basis on which Participants can Object to a Change Request. NOACC (1) Used… Remove dot point		
4.8	OBJECTION RULES	Fix up Note: to be in correct location, font, style etc		
4.9	NMI CLASSIFICATION CODES			
4.10	END USER CLASSIFICATION	Fix up reading and merge (c) with (a) to now read; 4.10.1 (a) missing full stop (a) The FRMP must update an End User's Customer Classification Code as specified in Table 4-6. 4.10.2 (a) The Customer Threshold Codes defined in Table 4-7 are used to…		
4.11	STATUS CODES (NMI AND DATASTREAM)	Fix up reading and merge (b) with (a) to now read; 4.11.1 (a) The NMI Status Codes defined in Table 4-8 are used to determine if a NMI can be used for a retail transfer. N Off Market Child NMI Applies when a *child connection point* is no longer settled in the *NEM.* missing full stop 4.11.2 (b) The Datastream Status Codes in MSATS are 'A' and 'I', as defined in Table 4-9. Missing		

		4.11.3 (b) The only Meter Register Codes are 'C' and 'R', as defined in Table 4-10. Missing 4.11.4 (b) The Register Identifier Status Codes are 'C' and 'R' and are defined in Table 4-11.. Missing		
4.12	METERING INSTALLATION TYPE CODES	Fix up reading and merge (c) with (a) to now read; (a) The Metering Installation Type Codes defined in Table 4-12 identifies the type of metering installation as specified in the NER.		
4.13	READ TYPE CODE			
4.14	FIELD VALIDATION RULES	Align (a) correctlyand fix reference (Table 4-O) Remove dot points and replace with next level numbering (b) For any Change Reason Code, the Field Validation Rules specify: (i) Which fields must be completed at the time the transaction is Initiated; (ii) Which fields can optionally be completed at the time the transaction is Initiated; (iii) Which fields must be present on the NMI Master Record for the transaction to proceed from Pend Validation to Requested and, if they are not present, which Participant must supply them; and (iv) Whether the Actual Change Date has to be obtained from another Participant for NMIs where the metering installations are manually read (and if it does, who should be asked to supply it). RQ … Requested. missing full stop		
4.15	CHANGE REQUEST STATUS NOTIFICATION RULES			

4.16	MAINTENANCE OF CODES AND RULES			
4.17	DATASTREAM STATUS CODE			
4.18	EMBEDDED NETWORK CODES AND RULES			
4.19	OBTAINING ELECTRONIC DOWNLOADS OF CONFIGURATION RULES			
5	REQUEST A REPORT	Numbering incorrect as two (a)'s (b) MSATS will produce a report using Transaction Type Code RPTD.		
6	GUIDELINES FOR MANAGING CONCURRENT RETAIL TRANSFERS			
6.1	Definition of concurrent retail transfers			
6.2	Guidelines			

7.	AEMO BULK CHANGE TOOL	Reference is incorrect, this is not section 6 7.3 A New FRMP may initiate a Change Request to effect a change of retailer in accordance with section 7.4. missing full stop		
8.	CHANGE RETAILER – SMALL OR LARGE NMI	Reference is incorrect, this is not section 7		
8.1	Application [1000 1010 1020 1030 1040]			
8.2	Conditions Precedent			
8.3	Initiating Rules			
8.4	FRMP Requirements	(h) References gone missing		
8.5	MDP Requirements			
8.6	MC Requirements	References gone missing		
8.7	Timeframe Rules			
8.8	Objection Rules			
8.9	Change Request Status Notification Rules			
9.	CHANGE RETAILER -			

	ERROR CORRECTIONS – SMALL NMIS			
9.1	APPLICATION [1021 1022 1023 1024 1025 1026 1027 1028 1029]	Reference is incorrect, this is not section 8		
9.2	CONDITIONS PRECEDENT			
9.3	Initiation Roles			
9.4	FRMP Requirements			
9.5	MC Requirements			
9.6	Timeframe Rules			
9.7	Objection Rules			
9.8	Change Request Status Notification Rules			
10	CHANGE RETAILER – EMBEDDED NETWORKS – SMALL OR LARGE	Reference is incorrect, this is not section 9		
10.1	APPLICATION [1080			

	1081 1082 1083 1084]			
10.2	CONDITIONS PRECEDENT			
10.3	INITIATION ROLES			
10.4	FRMP Requirements			
10.5	MDP Requirements	Reference is incorrect, Table 9-A does not exist.		
10.6	MC Requirements			
10.7	Timeframe Rules			
10.8	Objection Rules			
10.9	CHANGE REQUEST STATUS NOTIFICATION RULES			
11.	PROVIDE DATA – PROVIDE ACTUAL CHANGE DATE – SMALL OR LARGE	Reference is incorrect, this is not section 10		
11.1	APPLICATION [1500]			
11.2	CONDITIONS PRECEDENT			

11.3	INITIATION ROLES			
11.4	MDP Requirements			
11.5	TIMEFRAME RULES			
11.6	OBJECTION RULES			
11.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
12	CREATE NMI – CREATE A NMI – SMALL OR LARGE	Reference is incorrect, this is not section 11		
12.1	APPLICATION [2000 2001]			
12.2	CONDITIONS PRECEDENT			
12.3	INITIATION ROLES			
12.4	LNSP Requirements	(d) Nominate itself as the LNSP. missing full stop		
12.5	MPB Requirements			
12.6	TIMEFRAME RULES			

12.7	OBJECTION RULES			
12.8	CHANGE REQUEST STATUS NOTIFICATION RULES			
13	CREATE NMI – CREATE CHILD NMI - SMALL OR LARGE	Reference is incorrect, this is not section 12		
13.1	APPLICATION [2020 2021]			
13.2	CONDITIONS PRECEDENT			
13.3	INITIATION RULES			
13.4	ENM Requirements			
13.5	MPB OBLIGATIONS			
13.6	TIMEFRAME RULES			
13.7	OBJECTION RULES			
13.8	CHANGE REQUEST STATUS NOTIFICATION RULES			

14	CREATE NMI – CREATE NMI, METERING INSTALLATION DETAILS AND NMI DATASTREAM – SMALL OR LARGE			
14.1	APPLICATION [2500 2501]			
14.2	CONDITIONS PRECEDENT			
14.3	INITIATION ROLES	References gone missing Numbering all wrong, should restart (a) A new ENM may initiate a change request to create a NMI, metering installation details and MDM datastream for an embedded network in the MSATS system in accordance with clause Error! Reference source not found.. (b) The new ENM must use one of the following change reason codes 2520 or 2521 to establish an initial change request.		
14.4	LNSP Requirements	Numbering all wrong, should restart (a) Obtain the NMI checksum from an approved source. (b) Confirm that the NMI is a valid NMI for the connection point prior to the initiation of a change request. (c) Populate an initial change request with the following information: (d) Nominate itself as the new LNSP. (e) Populate the initial change request with values for the following address fields (as applicable): (f) Populate the initial change request with the following information:		

		(g) Populate the initial change request with the following information for each meter: (h) Populate the initial change request with the following information for each register:		
14.5	TIMEFRAME RULES	14.5, 14.6, 14.7 remove numbering as not required where only 1 meaning		
14.6	OBJECTION RULES	14.5, 14.6, 14.7 remove numbering as not required where only 1 meaning		
14.7	CHANGE REQUEST STATUS NOTIFICATION RULES	14.5, 14.6, 14.7 remove numbering as not required where only 1 meaning		
15.	CREATE NMI – CREATE NMI, METERING INSTALLATION DETAILS AND MDM DATASTREAM – SMALL OR LARGE			
15.1	Application [2520 2521]	Reference is incorrect, this is not section 13		
15.2	Conditions Precedent			
15.3	Initating Roles			
15.4	ENM Requirements	Alignment incorrect for point (d)		
15.5	TIMEFRAME RULES			
15.6	OBJECTION RULES			

15.7	CHANGE REQUEST STATUS NOTIFICATION RULES	References gone missing		
16	MAINTAIN METERING – CREATE METERING INSTALLATION DETAILS – SMALL OR LARGE			
16.1	APPLICATION [3000 3001]	Reference is incorrect, this is not section 14		
16.2	CONDITIONS PRECEDENT			
16.3	INITIATION ROLES			
16.4	MPB Requirements	(d) fix to standardise “C” to ‘C’ (e) fix to standardise “C” to ‘C’ Alignment incorrect for point (f)		
16.5	TIMEFRAME RULES			
16.6	OBJECTION RULES			
16.7	CHANGE REQUEST STATUS NOTIFICATION			

	RULES			
17	MAINTAIN METERING – EXCHANGE OF METERING INFORMATION – SMALL OR LARGE			
17.1	APPLICATION [3004 3005]	Reference is incorrect, this is not section 15		
17.2	CONDITIONS PRECEDENT			
17.3	INITIATION RULES			
17.4	MPB Obligations	(d) fix to standardise “C” to ‘C’ (e) fix to standardise “C” to ‘C’		
17.5	TIMEFRAME RULES			
17.6	OBJECTION RULES			
17.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
18	MAINTAIN METERING – CHANGE METERING INSTALLATION			

	DETAILS – SMALL OR LARGE			
18.1	APPLICATION [3050 3051]	Reference is incorrect, this is not section 16		
18.2	CONDITIONS PRECEDENT			
18.3	INITIATION RULES			
18.4	MPB Requirements	(d) fix to standardise “C” to ‘C’ (e) fix to standardise “C” to ‘C’ (f) fix to standardise “A” to ‘A’		
18.5	TIMEFRAME RULES			
18.6	OBJECTION RULES			
18.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
19	MAINTAIN METERING - ADVANCED CHANGE METERING INSTALLATION DETAILS - SMALL OR			

	LARGE			
19.1	APPLICATION [3080 3081]	Reference is incorrect, this is not section 17		
19.2	CONDITIONS PRECEDENT			
19.3	INITIATION RULES			
19.4	MC Requirements	(d) fix to standardise “C” to ‘C’ (e) fix to standardise “C” to ‘C’ (f) fix to standardise “A” to ‘A’		
19.5	TIMEFRAME RULES			
19.6	OBJECTION RULES			
19.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
20	MAINTAIN METERING - ADVANCED EXCHANGE OF METERING - SMALL OR LARGE			
20.1	APPLICATION [3090	Reference is incorrect, this is not section 18		

	3091]			
20.2	CONDITIONS PRECEDENT			
20.3	INITIATION RULES			
20.4	MC Requirements			
20.5	TIMEFRAME RULES			
20.6	OBJECTION RULES			
20.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
21	MAINTAIN METERING – CHANGE NETWORK TARIFF CODE – SMALL OR LARGE			
21.1	APPLICATION [3100 3101]	Reference is incorrect, this is not section 19		
21.2	CONDITIONS PRECEDENT			
21.3	INITIATION RULES			

21.4	LNSP and ENM Requirements			
21.5	TIMEFRAME RULES			
21.6	OBJECTION RULES			
21.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
22	MAINTAIN DATASTREAM – CREATE MDM DATASTREAM –SMALL OR LARGE			
22.1	APPLICATION [4000 4001]	Reference is incorrect, this is not section 20		
22.2	CONDITIONS PRECEDENT			
22.3	INITIATION RULES			
22.4	MDP Requirements	(d) fix to standardise “A” to ‘A’		
22.5	TIMEFRAME RULES			
22.6	OBJECTION RULES			

22.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
23	MAINTAIN DATASTREAM - EXCHANGE OF DATASTREAM INFORMATION SMALL OR LARGE			
23.1	APPLICATION [4004 4005]	Reference is incorrect, this is not section 21		
23.2	CONDITIONS PRECEDENT			
23.3	INITIATION RULES			
23.4	MDP Requirements	(d) fix to standardise “A” to ‘A’		
23.5	TIMEFRAME RULES			
23.6	OBJECTION RULES			
23.7	CHANGE REQUEST STATUS NOTIFICATION RULES			

24	MAINTAIN DATASTREAM – CHANGE MDM DATASTREAM – SMALL OR LARGE			
24.1	APPLICATION [4050 4051]	Reference is incorrect, this is not section 22		
24.2	CONDITIONS PRECEDENT			
24.3	INITIATION RULES			
24.4	MDP Requirements			
24.5	TIMEFRAME RULES			
24.6	OBJECTION RULES			
24.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
25.	MAINTAIN NMI – UPDATE NEXT SCHEDULED READ DATE – SMALL OR LARGE			

25.1	APPLICATION [5070 5071]	Reference is incorrect, this is not section 23		
25.2	CONDITIONS PRECEDENT			
25.3	INITIATION RULES			
25.4	MDP Requirements			
25.5	TIMEFRAME RULES			
25.6	OBJECTION RULES			
25.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
26	MAINTAIN NMI – BACKDATE A NMI – SMALL OR LARGE			
26.1	APPLICATION [5001 5021]	Reference is incorrect, this is not section 24		
26.2	CONDITIONS PRECEDENT			
26.3	INITIATION RULES			

26.4	LNSP Requirements (5001 ONLY)			
26.5	ENM Requirements (5021 ONLY)			
26.6	AEMO Requirements			
26.7	MPB Requirements			
26.8	TIMEFRAME RULES			
26.9	OBJECTION RULES			
26.10	CHANGE REQUEST STATUS NOTIFICATION RULES			
27	MAINTAIN NMI – CHANGE A NMI – SMALL OR LARGE			
27.1	APPLICATION [5050 5051]	Reference is incorrect, this is not section 25		
27.2	CONDITIONS PRECEDENT			
27.3	INITIATION ROLES			

27.4	LNSP Requirements			
27.5	TIMEFRAME RULES			
27.6	OBJECTION RULES			
27.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
28.	MAINTAIN NMI – CHANGE A NMI - CUSTOMER CLASSIFICATION CODE – SMALL OR LARGE			
28.1	APPLICATION [5054 5055]	Reference is incorrect, this is not section 26		
28.2	CONDITIONS PRECEDENT			
28.3	INITIATION ROLES			
28.4	FRMP Requirements			
28.5	TIMEFRAME RULES			
28.6	OBJECTION RULES			

28.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
29	MAINTAIN NMI – CHANGE NMI EMBEDDED NETWORK (CHILD) – SMALL OR LARGE	Reference is incorrect, this is not section 27		
29.1	APPLICATION [5060 5061]			
29.2	CONDITIONS PRECEDENT			
29.3	INITIATION ROLES			
29.4	ENM Requirements			
29.5	TIMEFRAME RULES			
29.6	OBJECTION RULES			
29.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
30.	MAINTAIN NMI – CHANGE PARENT	Reference is incorrect, this is not section 28		

	NAME – SMALL OR LARGE			
30.1	APPLICATION [5080 5081]			
30.2	CONDITIONS PRECEDENT			
30.3	INITIATION ROLES			
30.4	FRMP Requirements			
30.5	LNSP Requirements			
30.6	TIMEFRAME RULES			
30.7	OBJECTION RULES	References gone missing …section 0.1…		
30.8	CHANGE REQUEST STATUS NOTIFICATION RULES			
31.	MAINTAIN NMI – MAKE NMI A CHILD NMI – SMALL OR LARGE			
31.1	APPLICATION [5090	Reference is incorrect, this is not section 29		

	5091]			
32.2	CONDITIONS PRECEDENT			
31.3	INITIATION ROLES			
31.4	ENM Requirements			
31.5	TIMEFRAME RULES			
31.6	OBJECTION RULES			
31.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
32	CHANGE ROLE – CHANGE LNSP – SMALL OR LARGE			
32.1	APPLICATION [6100 6110]	Reference is incorrect, this is not section 30		
32.2	CONDITIONS PRECEDENT			
32.3	INITIATION ROLES			
32.4	LNSP or ENM			

	Requirements			
32.5	TIMEFRAME RULES			
32.6	OBJECTION RULES			
32.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
33	CHANGE ROLE – CHANGE MDP – SMALL OR LARGE			
33.1	APPLICATION [6200 6210]	Reference is incorrect, this is not section 31		
33.2	CONDITIONS PRECEDENT			
33.3	INITIATION ROLES			
33.4	FRMP Requirements			
33.5	METERING COORDINATOR OBLIGATIONS			
33.6	TIMEFRAME RULES			

33.7	OBJECTION RULES			
33.8	CHANGE REQUEST STATUS NOTIFICATION RULES			
34	CHANGE ROLE – CHANGE MC – SMALL OR LARGE			
34.1	APPLICATION [6300 6301]	Reference is incorrect, this is not section 32		
34.2	CONDITIONS PRECEDENT			
34.3	INITIATION ROLES			
34.4	MC Requirements			
34.5	TIMEFRAME RULES			
34.6	OBJECTION RULES			
34.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
35	CHANGE ROLE – CHANGE LR – SMALL	Reference is incorrect, this is not section 33		

	OR LARGE			
35.1	APPLICATION [6300 6301]			
35.2	CONDITIONS PRECEDENT			
35.3	INITIATION ROLES			
35.4	LR Obligations			
35.5	TIMEFRAME RULES			
35.6	OBJECTION RULES			
35.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
36	CHANGE ROLE – CHANGE LR – CHILD NMI – SMALL OR LARGE			
36.1	APPLICATION [6421]	Reference is incorrect, this is not section 34		
36.2	CONDITIONS PRECEDENT			

36.3	INITIATION ROLES			
36.4	LR Obligations			
36.5	TIMEFRAME RULES			
36.6	OBJECTION RULES			
36.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
37	CHANGE ROLE – CHANGE ROLR – SMALL OR LARGE			
37.1	APPLICATION [6500 6501]	Reference is incorrect, this is not section 35		
37.2	CONDITIONS PRECEDENT			
37.3	INITIATION ROLES			
37.4	ROLR Requirements			
37.5	TIMEFRAME RULES			
37.6	OBJECTION RULES			

37.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
38	CHANGE ROLE – CHANGE MPB OR MPC OR BOTH – SMALL OR LARGE			
38.1	APPLICATION [6700 6701]	Reference is incorrect, this is not section 36		
38.2	CONDITIONS PRECEDENT			
38.3	INITIATION ROLES			
38.4	MC Requirements			
38.5	TIMEFRAME RULES			
38.6	OBJECTION RULES			
38.7	CHANGE REQUEST STATUS NOTIFICATION RULES	Reference is incorrect, Table 9-A does not exist		
39	CHANGE ROLE – CHANGE MULTIPLE ROLES – SMALL OR			

	LARGE			
39.1	APPLICATION [6800 6801]	Reference is incorrect, this is not section 37		
39.2	CONDITIONS PRECEDENT			
39.3	INITIATION ROLES			
39.4	FRMP Requirements			
39.5	MC Obligations			
39.6	MDP OBLIGATIONS			
39.7	TIMEFRAME RULES			
39.8	OBJECTION RULES			
39.9	CHANGE REQUEST STATUS NOTIFICATION RULES			
40	AUTO CHANGE ROLE – CHANGE LOCAL RETAILER EMBEDDED NETWORK CHILD – SMALL OR LARGE			

40.1	APPLICATION [ECLR]	Reference is incorrect, this is not section 39		
40.2	CONDITIONS PRECEDENT			
40.3	TIMEFRAME RULES			
40.4	OBJECTION RULES			
40.5	CHANGE REQUEST STATUS NOTIFICATION RULES			
41	AUTO CHANGE ROLE – CHANGE SECONDARY FRMP PARENT – SMALL OR LARGE	Reference is incorrect, this is not section 39		
41.1	APPLICATION [EPFR]			
41.2	CONDITIONS PRECEDENT			
41.3	TIMEFRAME RULES			
41.4	OBJECTION RULES			
41.5	CHANGE REQUEST STATUS NOTIFICATION RULES			

42	AEMO ONLY - AEMO-INITIATED STANDING DATA UPDATES – SMALL OR LARGE			
42.1	APPLICATION [5100 5101]			
42.2	CONDITIONS PRECEDENT			
42.3	INITIATION ROLES			
42.4	AEMO Requirements			
42.5	TIMEFRAME RULES			
42.6	OBJECTION RULES			
42.7	CHANGE REQUEST STATUS NOTIFICATION RULES			
43	AEMO ONLY - CHANGE ROLE, TNI OR DLF CODE – BULK CHANGE TOOL (BCT) – SMALL OR LARGE			

43.1	INTRODUCTION	(d) The entire set of CATS Standing Data is identified in Table 43-4, Table 43-5, Table 43-6, Table 43-7; and missing semi-colon		
43.2	CONDITIONS PRECEDENT	References gone missing (a) …section 0…		
43.3	REQUESTING PARTICIPANT Requirements	References gone missing (b) …section 0…		
43.4	IMPACTED PARTICIPANT Requirements			
43.5	MDP Requirements			
43.6	TIMEFRAME RULES			
43.7	OBJECTION RULES			
43.8	CHANGE REQUEST STATUS NOTIFICATION RULES			
44	ACCESS TO CATS STANDING DATA			
44.1	INTRODUCTION			

44.2	PARTICIPANT			
44.3	Request a NMI Discovery Search			152

6. MSATS Procedures: MDM Procedures

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	OBLIGATIONS			
2.1	General Obligations			
2.2	AEMO	Need to include paragraph numbering; (a) The MDP must carry out the following Validations for manually read interval metering installations with CT after any changes to a metering installation prior to the distribution of any interval metering data to AEMO or Registered Participants for the purposes of settlements:		
3	MDM FUNCTIONALITY			

3.1	Introduction	Need to include paragraph numbering; MDM comprises two broad areas of functionality – setup functionality and processing functionality. This section outlines the basic features of this functionality. (a) The setup functions are performed initially, whilst commissioning the MDM system, or periodically at random intervals. (b) The processing functionality is performed regularly as work that is preliminary to each settlement run.		
3.2	Setup Functionality	Need to include paragraph numbering; 3.2.1 (a) A Profile Area in MDM is defined by a list of TNIs that AEMO assigns to that Profile Areaand is given a Profile Name. (b) Every TNI must be assigned to a Profile Area. The TNIs must be assigned to Profile Areas in accordance with the metrology procedure. (c) Initially, Profile Areas are based loosely on distribution network boundaries. 3.2.2 (a) A profile can be broadly classified into two different types: NSLP and non-NSLP. (b) The only type of profiles that are currently used in MSATS is the NSLP, and the Controlled Load Profiles in NSW, QLD and SA. Each non-NSLP (e.g. Controlled Load profile) is assigned a unique Profile Name. (c) Note that a dummy Profile Name of NOPROF (for no profile) has been created for interval Datastreams so that MSATS can enforce a requirement that all Datastreams have a Profile Name assigned to them. 3.2.3 (a) The NSLP calculation process for each Profile Area can be summarised as follows: (i) Summate all of the energy of the defined system load datastreams for that Profile Area after		

		adjusting the energy by the marginal loss factor (MLF). (ii) Subtract the energy of all of the non-system load interval Datastreams for that Profile Area after adjusting the energy by the MLF and the DLF. Note this will include any Embedded Generator interval Datastreams and any Basic Meters or unmetered connection points that have been profiled externally to MSATS (these meters will have active interval Datastreams assigned to them in MSATS). (iii) Subtract any non-interval (Basic Meter) Datastreams for that Profile Area that have non NSLP Profile Names tagged to be "peeled-off". This requires the Basic Meter Datastreams' accumulated energy to be converted to interval Datastreams by applying the non NSLP profile to the energy readings after adjusting the accumulated energy by the MLF and the DLF. This tagging is made when the non NSLP Profile Name is assigned to that Profile Area. (b) The NSLP profile uses a number of parameters to define how missing metering data is substituted by MDM. (c) The following table provides a description of the various parameters that can be defined when the NSLP is being set up. 3.2.5 (a) There are 4 basic Types of Settlement Data Scenarios that are processed in MDM and the results are provided to AEMO's Market Management System (MMS) from which the market settlement statements are calculated and posted. These are: (i) Preliminary (Posted from MMS in trading week + 5 business days) (ii) Final (Posted from MMS in trading week plus 18 business days) (iii) Routine Revision 1 (Posted from MMS in trading week + approximately 20 weeks) – denoted R20 (iv) Routine Revision 2 (Posted from MMS in trading week + approximately 30 weeks) – denoted R30. (b) In addition, Special Settlement Scenarios can be run when AEMO Settlements determine that a special revised statement is required to be calculated (e.g. as per clause 3.15.19 of the National Electricity Rules). These special runs will have parameters set for the objective of the run. For example, if at 24 weeks after the settlement week, it was determined that data used in the R20 run		

		was incorrect a new scenario for that trading week could be run with data available at week 24. (c) A scenario defines the basic parameters for that settlement type such as the length of time either side of the settlement period to freeze the profile. (d) The input parameters of a scenario include (i) Scenario Name (ii) Scenario Type (as above) (iii) Profile freeze cut off period. This defines the period for which the system will freeze the Net System Load Profile (NSLP) (currently set to 15 weeks). (e) The relationship between the date ranges used in creating the Settlement Data Scenario can be seen in the following diagram. (f) A Settlement Data Scenario is like a folder that contains different Settlement Cases for a particular Settlement Type. (g) The input parameters of each Settlement Case include: (i) 'Data As of Now' or (ii) 'Data As Of Date/time' (data run based on data that existed at a defined point in time). This is not normally defined as generally the settlement case run will use the latest data available at the time that the case starts processing. (iii) Process cut off start/end date periods. This defines the boundaries of the oldest data date and the latest cut off date for metering data used in the processing. (iv) Case start/end date (this is the settlement date range – normally one week). (v) Scheduled (whether run is to be run now or if it is to be scheduled). The Settlement Case begins to run automatically when the scheduled time is reached. 3.2.6 (a) Settlement Data Processing consists of profile calculation (Profile Preparation Service for non		

		NSLP and NSLP), profile application (Basic Meter Profiling for non NSLP and NSLP) and settlement energy (load) aggregation. (b) For the purposes of Settlement Data Processing, Datastreams can be categorised into four types. Different processes are applied to the respective types at different times during Settlement data Processing. These are: (i) Interval Datastreams. These are all used in the NSLP calculation (i.e. all first and second tier consumer data interval streams). (ii) Non-Interval Datastreams that have a non NSLP profile name assigned and are peeled off during the NSLP calculations. These are used in the NSLP calculation. (iii) Non-Interval Datastreams that have a NSLP profile type. These are only used in the settlement load aggregation process. (iv) Non-Interval Datastreams that have a non NSLP profile name assigned and are not peeled off during NSLP calculations. These are only used in the settlement load aggregation process.		
4	MAINTENANCE OF TNI AND PROFILE AREA			
4.1	Introduction			
4.2	Create a Profile Area			
4.3	Maintain Profile Area Attributes			
5	LOAD DATA – NON-INTERVAL NMI DATASTREAM			

5.1	Conditions Precedent			
5.2	MDP Obligations			
6	LOAD DATA – INTERVAL NMI DATASTREAM			
6.1	Conditions Precedent			
6.2	MDP Obligations			
6.3	Load Sample Meter Data for Defined NMI Datastreams			
6.4	Load Externally Calculated Profile Shape			
7	DEFINE PROFILE			
7.1	Define the Data Source			
7.2	Define the Profile Method			

7.3	Define the Profile Name			
8	PROFILE CALCULATION			
8.1	Settlement Data Scenario	Need to improve paragraph numbering; (a) The purpose of this section is to define the parameters that are required to create settlements ready data. This involves the creation of Settlement Data Scenarios that identify the relationship between key parameters. (b) To create a New Settlement Data Scenario, AEMO must provide the following information: (i) The Settlement Data Scenario Name, which must be unique. (ii) The Settlement Data Scenario Type. (iii) The number of days before the Case End Date to start freezing the NSLP. (iv) The number of days before the Case End Date to stop freezing the NSLP. (v) Whether the NSLP is to be calculated in this Settlement Data Scenario. (c) A Settlement Data Scenario may be edited by the AEMO user who created the Scenario, by the system administrator, or by AEMO super users. Conditions precedent are: (I) A Settlement Data Scenario has been selected (II) No cases/runs have been processed under this scenario (d)To edit the Settlement Data Scenario the following information must be provided: (i) The Settlement Data Scenario Type (ii) The number of days before the Case End Date to start freezing the NSLP		

		(iii) The number of days before the Case End Date to stop freezing the NSLP (iv) Whether the NSLP is to be calculated in this Settlement Data Scenario (e) A Settlement Data Scenario may be deleted by the AEMO user who created the Scenario, by the system administrator, or by AEMO super users. Conditions precedent are: (i) A Settlement Data Scenario has been selected (ii) No cases/runs have been processed under this scenario		
8.2	Settlement Data Cases	Need to improve paragraph numbering; (a) If the scenario to be used has been defined, AEMO must provide the Settlement Data Scenario under which the Case should be run. (b) AEMO may edit a Settlement Data Case by providing the same information as required for when a Settlement Data Case is created as long as the Settlement Data Case is uncommitted (not scheduled). Once the Settlement Data Case has been committed, an edit is not possible.		
9	REPORTS	Misaligned **Report Outputs:**		
9.1	Introduction			
9.2	Report Outlines	Consider formatting and possibly for every “Report Name”, number them 9.2.1, etc		
APPENDIX A	MDM DATA LOAD TRANSACTION PROCESS			26

7. MSATS Procedures: Procedure for the Management of WIGS NMIs

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	Introduction			
1.1.	Purpose and Scope			
1.2.	Definitions and Interpretation			
1.3.	Commencement of Changes			
1.4.	Related Documents			
2	Change FRMP - Change FRMP			
2.1.	Application [1000 1020]			
2.2.	Conditions Precedent			
2.3.	Initiating Roles			
2.4.	FRMP Requirements			

2.5.	LNSP Requirements			
2.6.	MDP Requirements			
2.7.	MC Requirements			
2.8.	MPB Requirements			
2.9.	Timeframe Rules			
2.10.	Objection Rules			
2.11.	Change Request Status Notification Rules			
3	Change FRMP – Embedded Networks – Generator and Wholesale			
3.1.	Application [1080,1082]			
3.2.	Conditions Precedent			
3.3.	Initiating Roles			
3.4.	FRMP Requirements			
3.5.	ENM Requirements			
3.6.	MDP Requirements			

3.7.	MC Requirements			
3.8.	Time Frame Rules			
3.9.	Objection Rules			
3.10.	Change Request Status Notification Rules			
4	Provide Data – Provide Actual Change Date			
4.1.	Application [1500]			
4.2.	Conditions Precedent			
4.3.	Initiating Roles			
4.4.	MDP Requirements			
4.5.	Time Frame Rules			
4.6.	Objection Rules			
4.7.	Change Request Status Notification Rules			
5	CREATE NMI - Create a NMI			

5.1.	Application [2000 2001]			
5.2.	Conditions Precedent			
5.3.	Initiating Roles			
5.4.	LNSP Requirements			
5.5.	MPB Requirements			
5.6.	Timeframe Rules			
5.7.	Objection Rules			
5.8.	Change Request Status Notification Rules			
6	CREATE NMI – Create NMI Embedded Network (child) – wholesal and generatr			
6.1.	Application [2020 2021]			
6.2.	Conditions Precedent			
6.3.	Initiating Roles			
6.4.	ENM Requirements			
6.5.	MPB Requirements			

6.6.	Timeframe Rules			
6.7.	Objection Rules			
6.8.	Change Request Status Notification Rules			
7	CREATE NMI – Create NMI, Metering Installation Details and NMI Datastream			
7.1.	Application [2500 2501]			
7.2.	Conditions Precedent			
7.3.	Initiating Roles			
7.4.	LNSP Requirements			
7.5.	Timeframe Rules			
7.6.	Objection Rules			
7.7.	Change Request Status Notification Rules			
8	Maintain Profile Shapes – Create and Change External Profile Shape			

8.1.	Application [2100 2101 5110 5111]			
8.2.	Conditions Precedent			
8.3.	Initiating Roles			
8.4.	AEMO Requirements			
8.5.	Timeframe Rules			
8.6.	Objection Rules			
8.7.	Change Request Status Notification Rules			
9	Maintain Metering – Create Metering Installation Details			
9.1.	Application [3000 3001]			
9.2.	Conditions Precedent			
9.3.	Initiating Rules			
9.4.	MPB Requirements			
9.5.	Timeframe Rules			

9.6.	Objection Rules			
9.7	Change Request Status Notification Rules			
10	MAINTAIN METERING – EXCHANGE OF METERING INFORMATION			
10.1.	Application [3004 3005]			
10.2.	Conditions Precedent			
10.3.	Initiating Roles			
10.4.	MPB Requirements			
10.5.	Timeframe Rules			
10.6.	Objection Rules			
10.7.	Change Request Status Notification Rules			
11	Maintain Metering – Change Metering Installation Details			
11.1.	Application [3050 3051]			

11.2.	Conditions Precedent			
11.3.	Initiating Rules			
11.4.	MPB Requirements			
11.5.	Timeframe Rules			
11.6.	Objection Rules			
11.7.	Change Request Status Notification Rules			
12	MAINTAIN METERING – CHANGE NETWORK TARIFF CODE			
12.1.	Application [3100 3101]			
12.2.	Conditions Precedent			
12.3.	Initiating Roles			
12.4.	LNSP or ENM Requirements			
12.5.	Timeframe Rules			
12.6.	Objection Rules			

12.7.	Change Request Status Notification Rules			
13	MAINTAIN DATASTREAM – CREATE NMI DATASTREAM			
13.1.	Application [4000 4001]			
13.2.	Conditions Precedent			
13.3.	Initiating Rules			
13.4.	MDP Requirements			
13.5.	Timeframe Rules			
13.6.	Objection Rules			
13.7.	Change Request Status Notification Rules			
14	MAINTAIN DATASTREAM – EXCHANGE OF DATASTREAM INFORMATION			
14.1.	Application [4004 4005]			
14.2.	Conditions Precedent			

14.3.	Initiating Roles			
14.4.	MDP Requirements			
14.5.	Timeframe Rules			
14.6.	Objection Rules			
14.7.	Change Request Status Notification Rules			
15	MAINTAIN DATASTREAM – CHANGE NMI DATASTREAM			
15.1.	Application [4050 4051]			
15.2.	Conditions Precedent			
15.3.	Initiating Roles			
15.4.	MDP Requirements			
15.5.	Timeframe Rules			
15.6.	Objection Rules			
15.7.	Change Request Status Notification Rules			

16	MAINTAIN NMI – BACKDATE A NMI			
16.1.	Application [5001, 5021]			
16.2.	Conditions Precedent			
16.3.	Initiating Roles			
16.4.	LNSP Requirements			
16.5.	ENM Requirements (5021 only)			
16.6.	AEMO Requirements			
16.7.	MPB Obligations			
16.8.	Timeframe Rules			
16.9.	Objection Rules			
16.10.	Change Request Status Notification Rules			
17	MAINTAIN NMI – CHANGE A NMI			
17.1.	Application [5050 5051]			

17.2.	Conditions Precedent			
17.3.	Initiating Roles			
17.4.	LNSP Requirements			
17.5.	Timeframe Rules			
17.6.	Objection Rules			
17.7.	Change Request Status Notification Rules			
18	MAINTAIN NMI – CHANGE NMI EMBEDDED NETWORK (CHILD) – WHOLESAL OR GENERATR			
18.1.	Application [5060 5061]			
18.2.	Conditions Precedent			
18.3.	Initiating Roles			
18.4.	ENM Requirements			
18.5.	Timeframe Rules			
18.6.	Objection Rules			

18.7.	Change Request Status Notification Rules			
19	MAINTAIN NMI – CHANGE PARENT NAME – GENERATOR OR WHOLESALE			
19.1.	Application [5080 5081]			
19.2.	Conditions Precedent			
19.3.	Initiating Roles			
19.4.	FRMP Requirements			
19.5.	LNSP Requirements			
19.6.	Timeframe Rules			
19.7.	Objection Rules			
19.8.	Change Request Status Notification Rules			
20	MAINTAIN NMI – MAKE NMI A CHILD NMI			
20.1.	Application [5090 5091]			

20.2.	Conditions Precedent			
20.3.	Initiating Roles			
20.4.	ENM Requirements			
20.5.	Timeframe Rules			
20.6.	Objection Rules			
20.7.	Change Request Status Notification Rules			
21	CHANGE ROLE – CHANGE LNSP			
21.1.	Application [6100 6110]			
21.2.	Conditions Precedent			
21.3.	Initiating Rules			
21.4.	LNSP Requirements			
21.5.	Timeframe Rules			
21.6.	Objection Rules			
21.7.	Change Request Status Notification Rules			

22	CHANGE ROLE – CHANGE MDP			
22.1.	Application [6200 6210]			
22.2.	Conditions Precedent			
22.3.	Initiating Roles			
22.4.	FRMP Requirements			
22.5.	MC Requirements			
22.6.	Timeframe Rules			
22.7.	Objection Rules			
22.8.	Change Request Status Notification Rules			
23	CHANGE ROLE – CHANGE MC			
23.1.	Application [6300 6301]			
23.2.	Conditions Precedent			
23.3.	Initiating Roles			
23.4.	MC Requirements			

23.5.	Timeframe Rules			
23.6.	Objection Rules			
23.7.	Change Request Status Notification Rules			
24	CHANGE ROLE – CHANGE LR			
24.1.	Application [6400 6401]			
24.2.	Conditions Precedent			
24.3.	Initiating Roles			
24.4.	LR Requirements			
24.5.	Timeframe Rules			
24.6.	Objection Rules			
24.7.	Change Request Status Notification Rules			
25	CHANGE ROLE – CHANGE LR – CHILD NMI – GENERATOR AND WHOLESALE			

25.1.	Application [6421]			
25.2.	Conditions Precedent			
25.3.	Initiating Roles			
25.4.	LR Requirements			
25.5.	Timeframe Rules			
25.6.	Objection Rules			
25.7.	Change Request Status Notification Rules			
26	CHANGE ROLE – Change ROLR			
26.1.	Application [6500 6501]			
26.2.	Conditions Precedent			
26.3.	Initiating Roles			
26.4.	ROLR Requirements			
26.5.	TimeFrame Rules			
26.6.	Objection Rules			

26.7.	Change Request Status Notification Rules			
27	CHANGE ROLE – CHANGE MPB AND / OR MPC			
27.1.	Application [6700 6701]			
27.2.	Conditions Precedent			
27.3.	Initiating Roles			
27.4.	MC Requirements			
27.5.	Timeframe Rules			
27.6.	Objection Rules			
27.7.	Change Request Status Notification Rules			
28	AEMO ONLY - AEMO-INITIATED STANDING DATA UPDATES			
28.1.	Application [5100 5101]			
28.2.	Conditions Precedent			
28.3.	Initiating Roles			

28.4.	AEMO Requirements			
28.5.	Timeframe Rules			
28.6.	Objection Rules			
28.7.	Change Request Status Notification Rules			
29	AEMO ONLY – CHANGE - ROLE, TNI OR DLF – BULK CHANGE TOOL (BCT)			
29.1.	Introduction			
29.2.	Conditions Precedent			
29.3.	Requesting Participant Requirements			
29.4.	Impacted Participant/s Requirements			
29.5.	MDP Requirements			
29.6.	Timeframe Rules			
29.7.	Objection Rules			
29.8.	Change Request Status			

	Notification Rules			
30	AUTO CHANGE ROLE – CHANGE LOCAL RETAILER EMBEDDED NETWORK CHILD – GENERATOR OR WHOLESALE			
30.1.	Application [ECLR]			
30.2.	Conditions Precedent			
30.3.	Timeframe Rules			
30.4.	Objection Rules			
30.5.	Change Request Status Notification Rules			
31	AUTO Change Role – Change secondary FRMP embedded network parent – generator and wholesale			
31.1.	Application [EPFR]			
31.2.	Conditions Precedent			
31.3.	Timeframe Rules			

31.4.	Objection Rules			
31.5.	Change Request Status Notification Rules			

8. NEM RoLR Process Part A and B – MSATS Procedure: RoLR Procedures

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	Summary of ROLR Processes			
2.1	Preconditions			
3	REPORTS			
4	General MSATS OBLIGATIONS			
4.1	Application			
4.2	General Obligations for MSATS Participants			

4.3	AEMO			
4.4	Failed Retailer			
5	AEMO Notifies ROLR Key Contacts Following ROLR Event			
5.1	AEMO Obligations			
5.2	ROLR Affected MSATS Participant Obligations			
6	AEMO Produces and Delivers Summary ROLR Reports			
6.1	AEMO Obligations			
6.2	ROLR Affected MSATS Participant Obligations			
7	AEMO Produces and Delivers NMI List Reports			
7.1	AEMO Obligations			
7.2	ROLR Affected MSATS Participants Obligations			
7.3	Time Frame Rules			

8	AEMO Cancels Transfers in Progress to the Failed Retailer			
8.1	AEMO Obligations			
9	AEMO Cancels Other MSATS Change Requests in Progress Initiated by the Failed Retailer			
9.1	AEMO Obligations			
10	AEMO Accelerates Transfers in Progress from the Failed Retailer			
10.1	AEMO Obligations			
10.2	Time Frame Rules			
11	AEMO Changes the FRMP for Second Tier NMIs from the Failed Retailer			
11.1	Conditions Precedent			
11.2	AEMO Obligations			
11.3	Time Frame Rules			

12	AEMO Changes the LR for Second Tier NMIs from the Failed Retailer			
12.1	Conditions Precedent			
12.2	AEMO Obligations			
12.3	Time Frame Rules			
13	AEMO Changes FRMP and LR Roles for First Tier NMIs from the Failed Retailer and Completes Other Role Changes as Required			
13.1	Application			
13.2	Conditions Precedent			
13.3	AEMO Obligations			
13.4	Time Frame Rules			
14	AEMO Produces Pending Transfer Request and ROC Transfer Confirmation Email for the ROLR			
14.1	AEMO Obligations			

14.2	ROLR Obligations			
15	MDP Provides Metering Data to MSATS for ROLR Effective Transfer Date			
15.1	Conditions Precedent			
15.2	MDP Obligations			
15.3	Related Part B Section			
16	AEMO Changes ROLR Role in MSATS from the Failed Retailer			
16.1	AEMO Obligations			
17	AEMO Ceases all the Failed Retailer's Roles as of ROLR Effective Transfer Date			
17.1	Conditions Precedent			
17.2	AEMO Obligations			
18	Participants Perform a Post ROLR Event Reconciliation of MSATS-Related Data and Prepare a Report for AEMO			

18.1	Conditions Precedent			
18.2	ROLR Event Affected MSATS Participants Obligations			
18.3	Related Part B Section			
19	AEMO CONDUCTS ROLR POST IMPLEMENTATION REVIEW			
19.1	AEMO Obligations			
APPENDIX - 1	SPECIFICATIONS FOR ROLR REPORTS			

9. NMI Standing Data Schedule

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	NMI STANDING DATA SCHEDULE			
3	RIGHTS AND OBLIGATIONS			
3.1	Obligations to supply data for the NMI Standing Data Schedule			

3.2	Obligations when using the NMI Standing Data Schedule	Need to improve paragraph numbering; (a) Prospective *retailers* who are also *Registered Participants* may access the *NMI Standing Data Schedule* for the purposes of: (i) providing an End User with a quotation or proposal for that End User's supply of electricity while seeking to be the FRMP for that End User's *connection point*; (ii) entering a Change Request to change *retailer* in order to become the FRMP for the End User's *connection point;* or (iii) arranging the relevant *connection*. (b) Registered Participants and others may access the NMI Standing Data Schedule in accordance with the CATS Procedures.		5

10. Service Level Procedures for MDP

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	INTRODUCTION			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	OBLIGATIONS			
2.1	Metering data services			
2.2	Use of sub-contractors	Need to improve paragraph numbering; (a) must ensure that auditable processes are in place to certify that all work performed by the sub-contractor complies with the NER and this Procedure; missing semi-colon (b) remains liable for all acts and omissions of any of its sub-contractors; missing semi-colon		
2.3	Specific obligations for	Need to improve paragraph numbering;		

	MDP - Category D	2.3.1 Each MDP - Category D must: Move the following two paragraphs from bottom of clause to be under 2.3.1 and reword (h) Where the metering installation includes the measurement of reactive energy, store this metering data with the metering data in respect of active energy in the metering data services database; (i) ensure that where there is a change of MDP Role for a wholesale or generation connection point any 'special site' list (as contemplated by clause 7.8.12 of the NER) is referenced. If the connection point TNI is included in the 'special site' list, the MDP must first seek AEMO approval to provide metering data services for these Sites; (j) establish and maintain a metering register in their metering data services database in support of AEMO's obligation under clause 7.12.1 of the NER and in accordance with this Procedure; and (k) de-activate Datastreams in MSATS only:… 2.3.2 The MDP must ensure that information in the *metering register* is: (a) registered in cooperation with the MC, the MP and, where necessary, any other MDP or MP associated with the transfer of a connection point; (b) provided on request to respective persons entitled to have access to the data in accordance with clause 7.15.5(c) of the NER; (c) communicated to other MDPs having the right of access as a result of the transfer of a connection point; and (d) populated with the applicable details listed in the clause S7.1 of the NER with the exception of: (i) S7.1.2(b)(5), (6) & (7) of the NER; and (ii) S7.1.2(c) of the NER for metering installation types 4A, 5 (including VICAMI Meters), 6 and 7.		
2.4	Specific obligations for MDP - Category C			
3	SERVICE			

	REQUIREMENTS FOR MDPS – CATEGORY D			
3.1	System requirements	(c) *Registered Participants* ; remove space before semi-colon		
3.2	Collection process requirements	Need to improve paragraph numbering; move paragraphs up for better alignment with process 3.2.1. Each MDP must use reasonable endeavours to ensure Actual Meter Readings and occurrences of Meter Alarms, are collected for all connection points for which they have responsibility for metering data services in MSATS. 3.2.2. On request by the FRMP, an MDP must use reasonable endeavours to carry out a Special Meter Reading or Final Reading within three business days of the receipt of the request unless an alternative timeframe has been agreed. 3.2.3. Each MDP must operate a process that: (a) supports the MC, the MP, or both in the rectification of any metering installation malfunctions or problems associated with the reading function of meters. (b) records and logs faults and problems associated with the reading function of meters. The process must record and log, but is not limited to, any: (i) access problems; (ii) metering installation security problems; (iii) metering installation faults; (iv) read failures; and (v) metering installation time synchronisations errors.		
3.3	Specific collection process requirements for metering installations type 1, 2,	Need to improve paragraph numbering; 3.3.1. Each MDP must be capable of initiating a remote reading where metering data is missing, erroneous or has failed Validation. 3.3.2. Each MDP must operate and maintain a process that:		

	3 and 4	(a) initiates an alternative method to collect metering data where remote acquisition becomes unavailable; and (b) provides a log detailing successful reading events for each metering installation, or alternatively an exception report of failed Meter Readings.		
3.4	Specific collection process requirements for metering installations type 4A, 5 and 6			
3.5	Metering data processing requirements	Need to improve paragraph numbering; move paragraphs up for better alignment with process 3.5.1. Each MDP must have a process to: (a) confirm and utilise the Roles for connection points; (b) assign and store the date/time stamp of when the metering data was entered into the MDP's metering data services database; (c) to aggregate interval metering data for a connection point into a 30-minute interval net Datastream prior to delivery to AEMO as required by the MSATS Procedures, MDM File Format and Load Process and NMI Procedures. (d) ensure that, in accordance with Metrology Procedure: Part B all metering data is stored in the metering data services database with the correct: (i) quality flag; (ii) Substitution or Estimation type code (where applicable); and (iii) Substitution or Estimation reason code (if applicable). (e) check the metering data services database for missing metering data and overlaps; and		

		(f) notify AEMO and the Registered Participants for the connection point whenever any Substitutions or Estimations are carried out. 3.5.2. Where an MC or a MP informs an MDP of a situation that may cause metering data to be erroneous, the MDP must identify and Substitute any erroneous metering data. 3.5.3. Where any Registered Participant or ENM for the connection point disputes metering data, the relevant MDP must investigate, and, if necessary correct the metering data in accordance with the Metrology Procedure: Part B. 3.5.4. Where a Meter Alarm has occurred, the MDP must process the occurrence of the Meter Alarm along with the metering data as part of the Validation process in accordance with the Metrology Procedure: Part B. Each MDP must use reasonable endeavours to load metering data in an alternative format provided by an MP where there is a communications, reading or metering installation malfunction that prevents the normal collection of metering data from a metering installation.		
3.6	Specific Metering Data processing requirements for metering installation types 1, 2, 3 and 4			
3.7	Specific Metering Data processing requirements for Special Sites	Need to improve paragraph numbering (a) …algorithms , to… remove space before comma (h) ensure that any algorithm in support of a logical NMI is accepted by the MC, AEMO and FRMP before being used.		
3.8	Specific Metering Data processing requirements for metering installation type 7	Need to improve paragraph numbering 3.8.1. Each MDP must store Inventory Tables, Load Tables and On/Off Tables in the metering data services database. 3.8.2. Each MDP must ensure: (a) Inventory Tables are updated with any changes provided by the LNSP or MC;		

		(b) On/Off Tables are correct and compliant with details specified in the Metrology Procedure Part B; (c) Load Tables are correct and in agreement with details in the Load Tables for Unmetered Devices, as published by AEMO; (d) that load lables, Inventory Tables and On/Off Tables are complete and correct; (e) the Inventory Table, Load Table and On/Off Table are versioned for metering data calculations; and (f) that all calculated metering data is Validated and processed into TIs. space missing		
3.9	Specific Metering Data estimation requirements for metering installation types 4A, 5, 6 and 7			
3.10	Delivery performance requirements for metering data	Need to improve paragraph numbering; move paragraphs up under 3.10.2. as all start with same thing 3.10.1. Each MDP must ensure only Validated metering data is delivered to AEMO, New MDPs and Registered Participants. 3.10.2. Subject to any agreement to the contrary as contemplated by section 8.1, each MDP must: (a) deliver to AEMO, the New MDP when there has been a Meter Churn and Registered Participants all Actual Meter Readings that passed Validation within two business days of the Actual Meter Readings being received into the metering data services database; (b) Substitute, Validate and deliver to AEMO, the New MDP when there has been a Meter Churn and Registered Participants the substituted metering data within two business days of the Actual Meter Readings being received into the metering data services database and failing Validation; ~~and~~ (c) Substitute, Validate and deliver to AEMO, the New MDP when there has been a Meter Churn and Registered Participants the substituted metering data within two business days of the receipt of any fault reason codes associated with a reading failure or failed interrogation event, into the		

		metering data services database; (d) Validate and deliver to AEMO, the New MDP when there has been a Meter Churn and Registered Participants all substituted metering data within two business days of the metering data being Substituted; (e) For type 4A, 5, 6 and 7 metering installations, Validate and deliver to AEMO and Registered Participants all estimated metering data within two business days of the metering data being Estimated; (f) provide metering data to the relevant FRMP within two business days of receiving a completed notification of a change of FRMP, including estimated metering data, for a type 4A, 5, 6 or 7 metering installation; (g) ensure that all metering data is delivered to AEMO, the New MDP when there has been a Meter Churn and Registered Participants for the full period of any retrospectively created Datastreams within two business days of that Datastream becoming active in MSATS; (h) deliver metering data to the New MDP when there has been a Meter Churn in accordance with this Procedure by delivering the metering data via a method and in the format agreed; (i) deliver metering data to Registered Participants in accordance with this Procedure by delivering the metering data to the B2B e-Hub in the MDFF or via a method and in the format agreed; and (j) deliver metering data to AEMO in accordance with this Procedure by delivering the metering data to the MDP's MSATS inbox in the MDM Data File; and (k) ensure that all failed Validations are reviewed promptly such that: (i) where the initial review of the failed Validation identifies that the Actual Meter Readings are valid, deliver the Actual Meter Readings to AEMO, the New MDP when there has been a Meter Churn and Registered Participants within two business days of the metering data being received into the metering data services database; and (ii) where further information is required to Validate the Actual Meter Readings, and the receipt of such information identifies that the Actual Meter Readings are valid, deliver the Actual Meter Readings to AEMO, the New MDP when there has been a Meter Churn and Registered Participants within two business days of the metering data passing Validation. 3.10.3. Each MDP must deliver metering data that has passed Validation to AEMO for the periods specified in the timetable for all connection points that the MDP is nominated in MSATS, for the		

		specified weekly periods: (a) to a quantity level of at least 98% complete metering data for all settlement weeks; (b) to a quality level of at least 98% 'actual' or 'final', for periods specified as four monthly and six monthly revision settlement weeks only; and (c) by 5pm on the day specified in the timetable for the relevant settlement week. 3.10.4. The MDP must notify AEMO ~~any~~ affected Registered Participants immediately upon the identification of any operational delays which impact on normal expected metering data delivery.		
3.11	Delivery of Metering Data for Prudential Purposes			
3.12	Interface requirements	Need to improve paragraph numbering 3.12.1. Each MDP must establish and maintain business interfaces to: (a) MSATS for the management of connection point updates, notifications, objections, reports, relevant CATS Standing Data, data requests and delivery of metering data to the metering database; (b) the B2B e-Hub for the interface with Registered Participants, , MPs and for the delivery of metering data to Registered Participants and other MDPs; and (c) other technologies such as email, facsimile, phone and internet for the general management of information and alternative delivery of metering data to Registered Participants. 3.12.2. Each MDP must maintain a MarketNet connection for the purposes of communication and file transfer with MSATS. The MDP: (a) will be provided with an inbox and outbox directory on the MSATS file server, which must be used for the transfer of files to and from AEMO via MarketNet and manage the appropriate directories in accordance with the MSATS Procedures; (b) must interface with MSATS either via the browser or a batch interface, or both, using the market aseXML file format in accordance with the related documentation and schemas; and		

		(c) must manage any batch file transfers to MSATS in accordance with the MDM Procedures. 3.12.3. Each MDP must ensure: (a) all transmitted messages comply with the requirements of the aseXML message format; and (b) voice communications with AEMO, Registered Participants, MPs and other MDPs are to be undertaken between 9:00am and 5:00pm on business days except under exceptional circumstances. 3.12.4. The MDP must work with AEMO in the provision of metering data and CATS Standing Data files to AEMO and Registered Participants via alternative means in emergency situations where normal processes cannot be utilised.		
4	SERVICE REQUIREMENTS FOR MDPS - CATEGORY C			
4.1	System Requirements	Need to improve paragraph numbering 4.1.1. Each MDP - Category C must maintain and operate a metering data collection services system to facilitate: (a) the receipt of reading requests and associated information including reading routes, registers, passwords, last read data, Scheduled Reading Date, type of reading required and other information as agreed from time to time with a MDP - Category D; (b) the management of Meter Reading schedules; (c) the collection of metering data from the metering installation and the occurrences of any Meter Alarms as agreed with a MDP - Category D; (d) Validation of metering data relevant to the collection process in accordance with section 8 of the Metrology Procedure: Part B; (e) the transfer of metering data in a format agreed with the relevant MDP - Category D; (f) the storage and archiving of collected metering data;		

		(g) system monitoring and exception reporting; and (h) the prompt notification of a metering installation malfunction to the MDP - Category D so that repairs can be affected in a timely manner. 4.1.2. Each MDP - Category C must ensure the metering data collection services system provides a full audit trail. 4.1.3. Each MDP - Category C must maintain a process for the recording and logging of faults and problems associated with the reading function of meters. The process must log any: (a) access problems; (b) meter security problems; (c) meter faults; (d) read failures; and (e) other information as agreed with the MDP - Category D.		
4.2	Metering Data Collection and Transfer Requirements	Need to improve paragraph numbering; add last paragraph in as additional point and locate where process fits (d) process and provide details of each Meter Alarm occurrence along with the affected metering data to support the Validation process in accordance with the Metrology Procedure: Part B and as agreed with MDP - Category D; (e) inform the MDP - Category D immediately upon identification of an inability to collect or transfer metering data in accordance with the timeframes specified above; (f) ensure that all access issues are communicated to the MDP - Category D; (g) ensure that the meter time of all type 4A and 5 metering installations is synchronised to Eastern Standard Time through the collection process within the accuracy requirements of the NER; (h) ensure for type 4A and 5 metering installations, the MDP – Category D is informed, through an agreed method, where the Meter Reading process failed to synchronise the metering installation time with Eastern Standard Time; and (i) ensure for time of use type 6 metering installations, the MDP – Category D is informed, through		

		an agreed method, where the meter time is not synchronised to Eastern Standard Time.		
5	METER CHURN DATA MANAGEMENT			
5.1	Meter churn scenarios	Need to improve paragraph numbering; 5.1.1. Meter Churn can result in a change to the configuration of metering data recorded by a metering installation. This change in metering data may result in an alteration to the MDFF or MDM Data File. 5.1.2. Each MDP must comply with the MDFF requirements when constructing the MDFF file associated with Meter Churn events for all scenarios. 5.1.3. The sections below detail the requirements that each MDP must comply with for the management of metering data and the construction of the MDM Data File following a Meter Churn when a metering installation is changed from:		
6	SYSTEM ARCHITECTURE & ADMINISTRATION			
6.1	Metering Data Archival and Recovery			
6.2	Data Backup			
6.3	Disaster Recovery	Need to improve paragraph numbering; move paragraphs around for better reading and process alignment 6.3.1. The MDP must ensure that the disaster recovery plan is: (a) is established and in place to ensure that in the event of a system failure, its IT systems can be returned to normal operational service within two business days; (b) up to date with all documentation showing revisions; and		

		(c) witnessed and dated at least annually by the MDP as being current for the systems and processes in place. 6.3.2. Where an MDP adopts a disaster recovery plan that has a complete 'fail-over' system approach, the disaster recovery plan must be subjected to a test annually that facilitates a full 'fail-over' to the recovery system. 6.3.3. Where the MDP adopts a disaster recovery plan that has a segmented system approach, the disaster recovery plan must: (a) detail the interfaces and relationships between system segments; (b) be established for each individual system segment; (c) be tested annually with evidence retained to show disaster recovery for each individual system segment; and (d) have, for each individual system segment, a procedure that clearly details the process to establish a return to full operation. 6.3.4. Expected evidence to support disaster recovery plan testing should include, but not be limited to: (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 MDP operations. 6.3.5. If a system failure occurs, the MDP must ensure that: (a) its metering data services database is restored to operational service within two business days; and (b) all processing and delivery backlogs of metering data to AEMO and Registered Participants is completed within the same two business days in section 6.3(k) . 6.3.6. The MDP must at its earliest opportunity notify AEMO of any failure where the MDP has a		

		requirement to implement its disaster recovery plan.		
6.4	System administration and data management			
6.5	Non-public telecommunications networks	Merged first two paragraphs for better meaning Each MDP must, to the reasonable satisfaction and approval by AEMO, provide information demonstrating that the use of the non-public telecommunications network enables the MDP to meet the NER, metrology procedure and this Procedure, which must include, but not be limited to:		
7	QUALITY CONTROL			
7.1	Scheduled Audits	Need to improve paragraph numbering; 7.1.1. Each MDP must undertake all services in a manner that is auditable, and must support scheduled reviews of their metering data service database, processes, procedures and systems. 7.1.2. AEMO will undertake periodic certification reviews to a negative assurance level of the MDP's metering data service database, processes, procedures and systems to assess the MDP's compliance with the NER, Procedures under the NER and this Procedure. 7.1.3. All scheduled reviews will be through a centralised review process established by AEMO and will be undertaken at the MDP's cost. 7.1.4. Where a review is conducted under this Procedure, the MDP must, at its 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. 7.1.5. Scheduled reviews of the MDP's system will be as follows: (a) the first audit to be nominally within six months after accreditation; (b) subsequent audits will be nominally six monthly; or (c) at AEMO's discretion, at twelve month intervals based on previous satisfactory audit reviews of the MDP.		

		7.1.6. AEMO must provide the MDP a minimum of: (a) 30 business days' notification prior to a scheduled review; and (b) 15 business days' notification for the provision of any specific data requests as part of the audit.		
7.2	Other audits	Need to improve paragraph numbering; 7.2.1. Audits may be undertaken at any time by AEMO in accordance with the NER and may be carried out following a request from a Registered Participant. 7.2.2. Where an audit of a metering installation is conducted by AEMO under clause 7.9.3(e) of the NER, and metering data must be obtained from the MDP in support of this audit, the MDP must provide the metering data within two business days of AEMO's request. 7.2.3. Each MDP must assist AEMO with reasonable requests for the provisioning of metering data and relevant CATS Standing Data information relating to connection points that are part of the market audit process of AEMO, MCs, MPs and MDPs.		
7.3	Corrective action	Need to improve paragraph numbering; 7.3.1. Each MDP must take corrective action on any reported instances of non-compliance identified by AEMO or through the MDP audit process. 7.3.2. Where an MDP becomes aware that incorrect metering data has been delivered to AEMO and Registered Participants, the MDP must provide corrected metering data to all affected parties within one business day as required by clause 7.11.3 (e) of the NER. 7.3.3. AEMO may request corrective action where errors or omissions are found within the settlements process and such requests are to be actioned as a priority by the MDP. 7.3.4. Where the MDP cannot deliver the corrected metering data in the timeframe specified above, the MDP must advise AEMO and agree on an alternative delivery time.		
7.4	Non-compliance and de-registration			
7.5	Review of			

	accreditation			
8	ADMINISTRATION			
8.1	Bilateral agreements			
8.2	Quality systems			
8.3	Disputes			24

11. Service Level Procedures for MP

Please delete any rows where there are no participant comments

Clause	Heading	Participant Comments		
		Metering Competition	Embedded Networks	Meter Replacement Processes
1	Introduction			
1.1	Purpose and Scope			
1.2	Definitions and Interpretation			
1.3	Related Documents			
2	General requirements			
2.1	Metering Provider Capability and Competency			
2.2	Use of sub-contractors			
2.3	Insurance			
3	Device management			

	and Test equipment			
3.1	Purchasing			
3.2	Storage, handling and transport	Need to improve paragraph numbering; (a) The MP must have processes that specify the requirements for storage, transport and handling of meters,instrument transformers and test equipment that: (i) minimise the risk of physical or environmental damage to meters,instrument transformers and test equipment; (ii) identifies conditions under which the physical condition or the accuracy of a meter,instrument transformer and test equipment is compromised as a result of storage, transport or handling; and (iii) includes the use of Good Industry Practice for the packaging and return of removed meters, instrument transformers and network devices from a metering installation to the owner of the relevant equipment. (b) The MP must ensure that meters, instrument transformers and network devices are returned to their owner within 10 business days following removal from a metering installation, unless otherwise agreed with the owner.		
3.3	Management of test equipment			
3.4	Management of meter programming and authorised software			
4	Installation and commissioning requirements			

4.1	General commissioning requirements	Need to move and add (k) remove “and” as there are two additional points still to follow *specification*; ~~and~~ (l) add semi-colon, and “and” seals; and		
4.2	Metering Data Validation Requirements			
4.3	Notifications following Metering Installation Commissioning			
4.4	Meter Churn			
5	Metering installation maintenance			
5.1	Test Plan			
5.2	Management of Metering Installation Malfunctions	Need to improve paragraph numbering; (a) The MP must have processes and systems to support the MC in identifying and rectifying a metering installation malfunction in the timeframes specified in clause 7.8.10(a)(1) and (2) of the NER. (b) Where an MP identifies a metering installation malfunction, the MP must advise the MDP and MC within one business day of identification in accordance with clause 7.8.10(d) of the NER.		
5.3	Telecommunications	Need to improve paragraph numbering; (a) The MP must notify the MDP and MC if communications equipment is to be temporarily disconnected such that it may affect the remote acquisition of metering data. (b) The MP must use reasonable endeavours to assist the MC and the MDP with the manual		

		collection of metering data from the metering installation where remote acquisition becomes unavailable.		
5.4	Non-Conforming Test Results or Calibrations			
6	Systems and administration	Old 6.2 Security Controls for Accessing the Metering Installation section not here, and no 6.7 or 6.8, but was still included for response but then document numbering does not align to this template.		
6.1	Metering Register	Need to improve paragraph numbering; (a) The MP must establish and maintain a register of metering installations which must include the details listed in clause S7.1.2 (b) of the NER, the contents of which must be accessible on-line for a minimum of 13 months for each metering installation from when the details of the metering installation are first recorded in the register and may be archived after this period. (b) The register must be retained for seven years for each metering installation from when the details of the metering installation are first recorded in the register and any archiving retrieval mechanisms must facilitate analysis and management of information using the same processing rules applied to the on-line register. (c) The MP must provide information from their register of metering installations to a party authorised to receive data in accordance with clause 7.15.5 of the NER in a timeframe agreed with that party.		
6.2	Disaster Recovery	Need to improve paragraph numbering; (a) The MP must establish and maintain a disaster recovery plan and business continuity processes that include: (i) detailed documentation that is maintained up to date, showing revisions and the date of the last review; (ii) confirmation at least annually by the MP's management that the plan is current for the systems and processes in place; and (iii) confirmation that the plan has been subjected to an annual end-to-end test that facilitates		

		both a 'fail-over' from and 'recovery' back to the production system. (b) In the event of an IT system failure, the MP must ensure that systems are returned to normal operational service within five business days of the failure, as evidenced by: (i) the software and the most recent back-up of data being restored to operational service within the five business days; and (ii) no outstanding processing or delivery of NMI Standing Data to AEMO and Market Participants. (c) The MP must at its earliest opportunity notify AEMO of any failure where the MP has a requirement to implement its disaster recovery plan.		
6.3	Audits undertaken by AEMO			
6.4	Review of Accreditation			
6.5	Quality Systems			
6.6	Disputes			
6.8				

12. Other Issues Related to Consultation Subject Matter

Document	Clause	Heading	Participant Comments