

STANDING DATA FOR MSATS

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Version Control

| VERSION | DATE | DETAILS |
|---------|------------|---|
| 1.0 | 3/10/01 | Initial Version |
| 1.1 | 9/10/01 | Title of document amended to Standing Data for MSATS, explanatory notes added, other editorial changes. |
| 2.0 | 22/04/02 | Document amended for Release 2 (Change Request 159) |
| 2.1 | 2/5/02 | Further minor changes prior to issue for MSATS Release 2. |
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| 2.5 | 11/07/2003 | NMI Participant Relations table was included and minor updates and corrections were made |
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| 3.0 | 20/10/2006 | Updated the tables in sections 3 to 9 by replacing the MSATS field details with the aseXML ones and removing the customer transfer column. The new sections are: additional reference tables (section 10); the use of the NMI Suffix field (section 11); examples of the assignment of data for different metering installations (sections 12 to 14); cross reference table of Browser screen fields and aseXML data elements (section 15); examples of typical field values different types of Connection Points (section 16); definitions of the data types used in sections 3 to 9 (section 17); and a glossary 18). |
| 3.1 | 16/06/2009 | Minor updates and typographical corrections. |
| 4.0 | Aug 2009 | Update to AEMO Format |
| 4.1 | 19/04/2012 | Updates to NMI Data tables to include Feeder Class, Customer Classification Code & Customer Threshold Code and minor data corrections. |
| 4.2 | 28/08/2013 | Updated wording for Nx suffixes in sections 7 ,8 and 11. Updated reference to the CATS procedures for Embedded Networks in section 6. Added new data stream type codes under section 10: Reference Tables. Updated reference to the NEM Metrology Procedures in section 14 & 18. |

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1. INTRODUCTION

This document details the data requirements for the various data elements comprising NMI Standing Data, together with relevant examples and definitions.

1.1 Structure of document

Section 2 provides the definitions for the various coded usage requirements used in the tables in sections 3 to 9.

Sections 3 to 9 detail the data that would be provided in aseXML transactions to populate the MSATS standing data tables. These include the five MSATS master tables and two Code tables.

Section 10 provides listings of the allowed values for the data elements with a restricted set of allowed values, where these details are not provided in the tables in sections 3 to 9.

Section 11 provides a detailed explanation of the requirements for the population of the Suffix and RegisterID fields.

Sections 12 to 14 provide examples of the assignment of key data for interval, basic and sample metering installations.

Section 15 maps the aseXML data elements to the names used in the MSATS Browser application. This section also provides details of the format of these fields as shown in the Browser.

Section 16 provides examples of all data element values for several typical metering installations.

Section 17 provides definitions of the Browser formats used in section 15.

Section 18 provides a glossary of terms used within this document.

1.2 Overview

The five MSATS master tables are:

| Table | Summary of Contents |
|--------------------------------|--|
| CATS_NMI_DATA | Address, TNI, DLF, aggregate flag, embedded network names, jurisdiction, NMI status, etc |
| CATS_NMI_PARTICIPANT_RELATIONS | Roles and associated participants. Separate records are maintained for each role / participant relationship. |
| CATS_NMI_DATA_STREAM | Suffix, ADL, profile name, datastream type and datastream status of each MDM datastream. |
| CATS_METER_REGISTER | Meter serial no, meter type, meter manufacturer, test results, etc |
| CATS_REGISTER_IDENTIFIER | Meter serial, network tariff code, unit of measure etc |

These are the five key master tables that contain the standing data stored for each NMI.

For a NMI to exist in MSATS, it must have:

- At least one record on the CATS_NMI_DATA table; and
- At least eight records on the CATS_NMI_PARTICIPANT_RELATIONS table, one for each of the mandatory roles (ROLR, LNSP, LR, RP, FRMP, MDP, MPC and MPB).

It will also normally have:

- At least one record on each of the CATS_METER_REGISTER and CATS_REGISTER_IDENTIFIER (there should be at least one record for each meter and register associated with the NMI) tables.

NMIs may or may not have:

- Records on the CATS_NMI_DATA_STREAM table. If metering data is to be submitted to the Metering Data Management system (MDM) then there must be at least one valid record on this table.

Every time a change is made to any of the data in any of these tables, the old records are made inactive and new records are created, thus ensuring that there is a complete history of all changes.

1.3 Related Documents

MSATS CATS History Model

This document provides an overview of the key data fields that MSATS uses to manage standing data history and describes how and when the five NMI standing data master tables are updated as a result of a participant submitting a change request. It includes an explanation of the relationship between the dates you supplied on a change request and the dates on the master records; examples of updates to data; and explanation of the operation of relevant reports and enquiry screens

2. CONVENTIONS USED WITHIN THIS DOCUMENT

The format of the various data fields indicated in the Data Type column of the following tables is as defined in section 17.

The following information defines the coded entries in columns used in the tables in sections 3 to 9.

2.1 Column Headed: Standing Data Required

The column indicates the requirement to provide this data to MSATS.

- **MANDATORY** Transfer, Validation or Processing cannot proceed without this data.
- **REQUIRED** This data must be provided if this information is available.
- **OPTIONAL** This data is not required for MSATS operational purposes, but will be accepted if delivered.
- **Address Option 1** AEMO's preferred address option. If the applicable fields labelled "Address Option 1" cannot be provided, then "Address Option 2" is **MANDATORY**.
- **Address Option 2** AEMO's non-preferred address option. If Address Option 1 is provided, these fields are not to be supplied.

2.2 NMIs Affected

Data must be provided for every NMI which must be registered in MSATS. The NMIs which must be registered in MSATS are:

- Every NMI eligible for contestability in Victoria, NSW, ACT and South Australia. Include other jurisdictions when FRC is introduced and NMI discovery provided by MSATS.
- Every Second Tier NMI in Queensland and Tasmania.
- Sample meters for non-NSLP profile calculations and embedded generators for NSLP calculations.
- Every Wholesale connection point in NEM, including generators, interconnectors and bulk supply points.

3. CATS_METER_REGISTER

The CATS_Meter_Register table is a NMI master table containing data that is stored at the meter register level. Information stored at this level includes the next scheduled read date. It is updated whenever a change request containing inbound meter register data is completed.

| CATS_METER_REGISTER | | | | |
|------------------------------|--|------------------------|--------------------------|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| AdditionalSite Information | Free text, descriptive information in relation to the site which describes site access and the relationship between the metering point and the connection point. | OPTIONAL | Metering Provider "B" | 7.5.2(a)(3) Site identification names |
| AssetManagement Plan | Asset management plan If a site plan is used, free text description of plan. If a sample plan is used, the name of the AEMO approved plan. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(6) Asset management plan and testing schedule |
| CalibrationTables | Calibration tables – details of any calibration factors programmed into the meter. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(7) Calibration tables, where applied to achieve metering installation accuracy |
| Communications EquipmentType | Used to store baud rate for installed communication equipment in a code, calculated by dividing the baud rate by 100, of the installed communication equipment. For example, 48 = 4800 baud. | OPTIONAL | Metering Provider "B" | 7.5.2(c)(2) Communication equipment type and serial numbers |
| Communications Protocol | Used to provide details of access through switch units (if installed). Data to include Switch Unit, Dial Pkg, Port#, userid, password. | OPTIONAL | Metering Provider "B" | 7.5.2(c)(3) Communication protocol details or references |
| DataConversion | Actual Pulse Multipliers | OPTIONAL | Metering Provider "B" | 7.5.2(c)(4) Data conversion details |
| DataValidations | Free text description of required data validations. | OPTIONAL | Metering Provider "B" | <ul style="list-style-type: none"> ➤ 7.5.2(d)(1)Algorithms ➤ 7.5.2(d)(2)Data comparison techniques ➤ 7.5.2(d)(3)Processing and alarms (eg. voltage source limits; phase-angle limits) ➤ 7.5.2(d)(5)Check metering 7.5.2(d)(4)compensation details ➤ Alternate data sources |
| Estimation Instructions | Estimation instructions. Free Text field | OPTIONAL | Metering Provider "B" | |

| CATS_METER_REGISTER | | | | |
|----------------------------|--|---|---|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| LastTestDate | The date on which the installation was last tested or inspected by the Metering Provider "B". This date will be used if Rules clause 7.9.5(a) needs to be applied. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(5) Test results and references to test certificates |
| MeasurementType | Code based on the NMI Suffix codes, indicating the type of measurements available from the meter. For example, EBQK = bidirectional energy plus reactive interval meter. | OPTIONAL NOT USED for types 6 & 7 Customer Transfers. | Metering Provider "B" | |
| Constant | The meter K_E (intrinsic constraint of meter in Wh/pulse). | OPTIONAL | Metering Provider "B" | 7.5.2(b)(9) Summation scheme values and multipliers |
| Hazard | Free text or code which identifies hazards associated with reading the meter. | OPTIONAL | Metering Provider "B" Responsible Person | 7.5.2(a)(1) Agreed location and reference details (eg drawing numbers) |
| InstallationType Code | The Metering Installation type indicates whether or not the installation has to be manually read. This value must correspond to a valid MeterInstallCode value in the Meter Installation Codes reference table listed in section 10. | MANDATORY | Metering Provider "B" | 7.5.2(b)(3) Metering installation types and models |
| Location | Free text descriptive material which identifies the relationship between the location of the metering point and the connection point. | OPTIONAL | Metering Provider "B" | 7.5.2(a)(1) Agreed location and reference details (eg drawing numbers) |
| Manufacturer | Free text field to identify the manufacturer of the installed meter. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(3) Metering installation types and models |
| Model | Free text field to identify the meter manufacturer's designation for the meter model. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(3) Metering installation types and models |
| Point | Identifies the meter uniquely for the NMI. In the format 0n, where n is the meter number per the protocol described in the NMI Procedure. The allowed values are 01 to 09, 0A to 0H, 0J to 0N, 0P to 0Z. This will allow an audit trail when one meter is removed and a new meter is given the same MeterPoint value. | OPTIONAL | Metering Provider "B" | |
| Program | Free text field providing a description of the program used to initialise the installed meter. | OPTIONAL | Metering Provider "B" | |

| CATS_METER_REGISTER | | | | |
|----------------------------|---|-------------------------------|---|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| ReadTypeCode | Code to denote the method and frequency of meter reading. First Character = Remote (R) or Manual (M); Second Character = Mode T = Telephone W = wireless P = Powerline I = Infra-red G = Galvanic V = Visual Third Character = Frequency of scheduled reads 1 = Twelve times per year 2 = Six times per year 3 = Four times per year D = Daily or weekly Fourth Character = Undefined. For example, MV3 = Manual, Visual, Quarterly. | OPTIONAL | Metering Provider "B" | |
| Route | The route identifier the meter is currently being read in. | OPTIONAL | Metering Provider "B" | |
| SerialNumber | The meter serial number uniquely identifies a meter for a given NMI. Maximum 12 Characters (alpha numeric). Unique for NMI. Use dummy for UMCP (Type 7) and logical (meters). Except for UMCP and logical, SerialNumber should be as displayed on the physical device (also known as property number). SerialNumber to be property number if exists, otherwise the meter manufacturer's serial number, otherwise dummy number. | MANDATORY | Metering Provider "B" | 7.5.2(b)(1) Meter serial numbers |
| Status | A code to denote the status of the meter within the NEM. This value must correspond to a valid ElectricityMeter/Status in the Meter and RegisterID Codes reference table listed in section 10. | MANDATORY | Metering Provider "B" | CATS Rules |
| Use | A Code identifying how the meter is used within the NEM. | OPTIONAL | Metering Provider "B" | |
| NextScheduledReadDate | Indicates the scheduled next read date for the meter if a manual read is required. | OPTIONAL | Metering Provider "B" initially, then MDP for updates | |
| NextTestDate | Next date on which the meter should be tested. | OPTIONAL | Metering Provider "B" | |
| NMI | National Metering Identifier issued by the LNSP in accordance with the NMI Procedure. This number is unique for each connection point within the NEM. | MANDATORY | LNSP | 7.5.2(b)(2) Metering installation identification name |

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| CATS_METER_REGISTER | | | | |
|----------------------------|--|-------------------------------|---------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| Password | Read & Time Set Passwords separated by a space. | OPTIONAL | Metering Provider "B" | 7.5.2(c)(6) 'write' password to be managed outside MSATS |
| RemotePhone Number | The PSTN number to contact a remote site for metering data. Includes STD prefix and no spaces. | OPTIONAL | Metering Provider "B" | 7.5.2(c)(1) Telephone number(s) for access to data |
| TestCalibration Program | Test & calibration program. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(5) Current test and calibration program details |
| TestPerformedBy | Identifying the Metering Provider "B" and the technician responsible for conducting the last test. The technician is not to be named, but is to be identified by a number unique to the Metering Provider "B". | OPTIONAL | Metering Provider "B" | 7.5.2(b)(5) Test results and references to test certificates |
| TestResultAccuracy | The accuracy figure from the test performed on the date indicated in the LastTestDate field. | OPTIONAL | Metering Provider "B" | |
| TestResultNotes | A statement of compliance indicating the standard of the test regime applied at the time of the last test. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(5) Test results and references to test certificates |
| Transformer Location | A free text field to identify the existence of instrument transformers and their location relative to the market connection point. | OPTIONAL | Metering Provider "B" | 7.5.2(a)(1) Agreed location and reference details (eg drawing numbers) |
| TransformerRatio | A statement of the available and applied transformer ratios. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(4) Instrument transformer ratios (available and connected) |
| TransformerType | An explanation of the type of transformation used. | OPTIONAL | Metering Provider "B" | 7.5.2(b)(3) Metering installation types and models |
| UserAccessRights | Details of any end use consumer access to the metering installation; examples include pulse outputs, interface to consumer load management system, or consumer directly accessing data in meter through special agreement. | OPTIONAL | Metering Provider "B" | 7.5.2(c)(5) User access rights |
| FromDate | Start date of the record. This indicates the date on which the parameters of this particular record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | Party sending transaction | |

| CATS_METER_REGISTER | | | | |
|----------------------------|--|---|-----------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY (Defaults to high date unless supplied) | System generated unless supplied. | |
| RowStatus | Indicates whether the record is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |

4. CATS_DLF_CODES

The CATS_DLF_Codes table contains a list of distribution loss factor codes and their relevant values. The StartDate and DLFCODE fields will need to be provided for settlement calculations.

| CATS_DLF_CODES | | | | |
|-----------------------------------|--|------------------------|---------------------------|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| DistributionLossFactorCode | A four character alpha-numeric code used to identify DLF values. Complies with nationally established rules. All NMIs in the system must be assigned a DLF code. Refer to AEMO document no MT_GN1707v00x. | MANDATORY | LNSP (AEMO updates MSATS) | |
| DistributionLossFactorDescription | Description of the DLF code and value. | MANDATORY | LNSP (AEMO updates MSATS) | |
| DistributionLossFactorValue | Numeric value up to 5 decimal places, reflecting the value of the DLF code. | MANDATORY | LNSP (AEMO updates MSATS) | |
| JurisdictionCode | Jurisdiction code to which the NMI belongs. This value must correspond to a valid JurisdictionCode in the Jurisdiction Codes reference table listed in section 10. | MANDATORY | LNSP (AEMO updates MSATS) | |
| RowStatus | Indicates whether the DLF code is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |
| FromDate | Start date of the record. This indicates the date on which the parameters of this particular record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | LNSP (AEMO updates MSATS) | |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY | System generated | |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |

5. CATS_EMB_NET_ID_CODES

The CATS_Emb_Net_ID_Codes table contains embedded network identifier codes, which are used to identify which embedded network a NMI belongs to, either as a parent or a child.

| CATS_EMB_NET_ID_CODES | | | | |
|----------------------------|--|------------------------|---------------------------|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| EmbeddedNetworkIdentifier | Code for embedded network identifier. Refer to Allocation of Embedded Network Codes (Document No. MT_GN1710) for further details. | MANDATORY | LNSP (AEMO updates MSATS) | |
| EmbeddedNetworkDescription | Description of embedded network identifier. | MANDATORY | LNSP (AEMO updates MSATS) | |
| SuburbOrPlaceOrLocality | Locality to which the embedded network identifier belongs. | MANDATORY | LNSP (AEMO updates MSATS) | |
| PostCode | Postcode for the locality to which the embedded network identifier belongs. | MANDATORY | LNSP (AEMO updates MSATS) | |
| StateOrTerritory | Defined State or Territory abbreviation per AS4590. | MANDATORY | LNSP (AEMO updates MSATS) | |
| RowStatus | Indicates whether the code is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |
| FromDate | Start date of the record. This indicates the date on which the parameters of this particular record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | LNSP (AEMO updates MSATS) | |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY | System generated | |

| CATS_EMB_NET_ID_CODES | | | | |
|------------------------------|---|-------------------------------|---------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |

6. CATS_NMI_DATA

The CATS_NMI_Data table records master NMI data information. It is updated whenever a change request containing inbound NMI Data is completed.

Note: The LR / ENLR is the party required to source the data in the case of an embedded network child NMI.

| CATS_NMI_DATA | | | | |
|---------------------------------|--|------------------------|--------------------------|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| NMI | Unique National Metering Identifier. All alpha characters are Upper Case | MANDATORY | LNSP See note above | |
| NMI ClassificationCode | Code used to indicate the NMI classification code of this NMI. This value must correspond to a valid NMIClassCode value in the NMI Class Codes reference table listed in section 10. | MANDATORY | LNSP See note above | |
| MasterData/ StatusCode | Code used to indicate the status of the NMI. This value must correspond to a valid MasterData/Status value in the NMI Status Codes reference table listed in section 10. | MANDATORY | LNSP See note above | |
| TransmissionNode Identifier | This value must correspond to a valid code in the CATS_TNI_Codes table. | MANDATORY | LNSP See note above | |
| JurisdictionCode | Jurisdiction code to which the NMI belongs. This code defines the jurisdictional rules which apply to the transfer of this NMI. This value must correspond to a valid JurisdictionCode value in the Jurisdiction Codes reference table listed in section 10. | MANDATORY | LNSP See note above | |
| DistributionLoss FactorCode | Distribution Loss Factor Code. Must be a valid code in the CATS_DLF_Codes table. | MANDATORY | LNSP See note above | |
| ChildEmbedded NetworkIdentifier | The embedded network identifier code is used to identify which embedded network this given NMI is the 'child of'. (If on a NMI record this field is not populated, it is assumed the NMI is not the child of any other NMI.) Must be a valid code within the CATS_Emb_Net_ID_Codes table. This field cannot be used unless the parent NMI has been created and assigned an embedded network identifier code. Refer CATS Procedure section 31.4.a | REQUIRED | LNSP See note above | |

| CATS_NMI_DATA | | | | |
|---------------------------------|--|-------------------------------|---------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| ParentEmbeddedNetworkIdentifier | The embedded network identifier code is used to identify which embedded network this given NMI is the 'parent of'. (If on a NMI record this field is not populated, it is assumed the NMI is not the parent of any other NMI.) Must be a valid code within the CATS_Emb_Net_ID_Codes table. | REQUIRED | LNSP See note above | |
| BuildingOrPropertyName | A free text description of the full name used to identify the physical building or property as part of its location. | Address Option 1 | LNSP See note above | |
| LotNumber | The lot reference number allocated to an address prior to street numbering. The word 'LOT' is not required. | Address Option 1 | LNSP See note above | |
| FlatOrUnitNumber | Specification of the number of the flat or unit which is a separately identifiable portion within a building/complex. | Address Option 1 | LNSP See note above | |
| FlatOrUnitType | Specification of the type of flat or unit which is a separately identifiable portion within a building/complex. This value must correspond to a valid Flat Type Code, reference AS4590. | Address Option 1 | LNSP See note above | |
| FloorOrLevelNumber | Floor Number is used to identify the floor or level of a multi-storey building/complex. | Address Option 1 | LNSP See note above | |
| FloorOrLevelType | Floor Type is used to identify the floor or level of a multi-storey building/complex. This value must correspond to a valid Floor Type Code in the Floor Type Codes, reference AS4590. | Address Option 1 | LNSP See note above | |
| HouseNumber | The numeric reference of a house or property. Specifically the house number. | Address Option 1 | LNSP See note above | |
| HouseNumberSuffix | The numeric reference of a house or property. Specifically the single character identifying the house number suffix. | Address Option 1 | LNSP See note above | |
| StreetName | Records the thoroughfare name. See notes at end of table for more information on Structured Addresses | Address Option 1 | LNSP See note above | |
| StreetSuffix | Records street suffixes. This value must correspond to a valid Street Suffix Code, reference AS4590. | Address Option 1 | LNSP See note above | |
| StreetType | Records the street type abbreviation. This value must correspond to a valid Street Type Code, reference AS4590. | Address Option 1 | LNSP See note above | |
| SuburbOrPlaceOrLocality | The full name of the general locality containing the specific address. | MANDATORY | LNSP See note above | |

| CATS_NMI_DATA | | | | |
|--------------------------|--|---|--|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| LocationDescriptor | A general field to capture various references to address locations alongside another physical location. | Address Option 1 | LNSP See note above | |
| PostCode | The descriptor for a postal delivery area, aligned with locality, suburb or place. | MANDATORY | LNSP See note above | |
| StateOrTerritory | Defined State or Territory abbreviation. | MANDATORY | LNSP See note above | |
| DeliveryPointIdentifier | Delivery point identifier - the numeric descriptor for a postal delivery point which is equal to a physical address. The values are in the range 10000000 – 99999999. | OPTIONAL | LNSP See note above | |
| AddressLine | To provide the unstructured address (line 1) where a structured address cannot be supplied. | Address Option 2 | LNSP See note above | |
| AddressLine | To provide the unstructured address (line 2) where a structured address cannot be supplied. | Address Option 2 | LNSP See note above | |
| AddressLine | To provide the unstructured address (line 3) where a structured address cannot be supplied. | Address Option 2 | LNSP See note above | |
| Aggregate | This flag determines whether the energy at this connection point is to be treated as consumer load or as a generating unit (this may include generator auxiliary loads). MSATS will initially set this field to “Y” This value must correspond to a valid Aggregate value in the Aggregate Codes reference table listed in section 10. | OPTIONAL | (Defaults to ‘Y’, AEMO updates to ‘N’ as required) | |
| FromDate | Start date of the NMI Data record. This indicates the date on which the parameters of this particular NMI data record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | LNSP See note above | |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY (Defaults to high date unless supplied) | System generated unless supplied. | |
| RowStatus | Indicates whether the record is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |

| CATS_NMI_DATA | | | | |
|--|---|-------------------------------|---------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |
| Feeder Class | A code to provide participants with information to indicate the appropriate Service Level timeframes for performing work in relation to Service Order requests. | OPTIONAL | LNSP See note above | |
| Customer Classification Code | A code that defines the consumer class as defined in the National Energy Retail Regulations, or in over-riding jurisdictional instruments | MANDATORY | Current FRMP | |
| Customer Classification Threshold Code | A code that defines the consumption threshold as defined in the National Energy Retail Regulations, or in over-riding jurisdictional instruments. | MANDATORY | LNSP See note above | |

7. CATS_NMI_DATA_STREAM

The CATS_NMI_Data_Stream table is a NMI master table containing data that is stored at the NMI data stream level. Information stored at this level includes suffixes, profile name, average daily load etc. It is updated whenever a change request containing inbound data stream data is completed.

Note: Data is only required for this table if the NMI is active ¹in the NEM or is used for profile peel-off in accordance with the Metrology Procedure

| CATS_NMI_DATA_STREAM | | | | |
|----------------------------------|---|------------------------|--------------------------|--|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| NMI | NMI | MANDATORY See Note. | MDP LNSP | |
| ElectricityDataStream/ Suffix | Metering data stream identifier (for MDM). Identifies the data stream as delivered to AEMO for settlement purposes. The value must be a valid suffix for this NMI and is active for this date range. The value must comply with requirements of National Metering Identifier Procedure (NMI) (Document No. ME_GN0590). If the MeterInstallCode is COMMSn, MRIM or UMCP, the Suffix value must be in the form Nx where DataStreamType is I or P for an interval data stream. If the MeterInstallCode is BASIC, the Suffix value must be numeric. | MANDATORY See Note. | MDP | |
| ElectricityDataStream/ Status | Code used to indicate the status of the suffix. This value must correspond to a valid StreamStatusCode in the Stream Status Codes reference table listed in section 10. | MANDATORY See Note. | MDP | |
| AveragedDailyLoad | The electrical energy delivered through a connection point or metering point over an extended period normalised to a "per day" basis (kWh). | MANDATORY See Note. | MDP | |
| DataStreamType | Indicates the type of data that the data stream will report includes interval and basic. Profile data meters are: 1.) For registering sample meters used for the calculation of profile shapes where the NMI & Datastream are not used for settlement. 2.) For providing external profile shapes into MDM (external PPS). This value must correspond to a valid DataStreamType value in the Data Stream Type Codes reference table listed in section 10. | MANDATORY See Note. | MDP | |

¹ Either 2nd Tier or required for Net System or Control Load Profile.

| CATS_NMI_DATA_STREAM | | | | |
|-----------------------------|--|--|-----------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| ProfileName | <p>The profile name is a code that identifies the name of the algorithmically derived shape that is used to allocate a data stream's consumption to trading intervals. This value must correspond to a valid code in the MDM Profile table.</p> <p>For all Interval and Profile meters, this must be set to 'NOPROF'.</p> <p>For Basic Meters, refer to the MDM Profile for valid profile names. In Victoria and the ACT, ProfileName must be NSLP. In NSW and SA, ProfileName must be NSLP or the relevant controlled load profile.</p> <p>This value must correspond to a valid ProfileName value in the Profile Codes reference table listed in section 10.</p> | MANDATORY See Note. | MDP | |
| FromDate | <p>Start date of the NMI Data record. This indicates the date on which the parameters of this particular NMI data record apply from.</p> <p>The data applies from the beginning of this date (the start of the day, i.e. 00:00).</p> | MANDATORY | Party sending transaction | |
| ToDate | <p>End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59).</p> <p>A default date of 9999-12-31 is recorded if EndDate is not provided.</p> | MANDATORY (Defaults to high date unless supplied) | System generated unless supplied. | |
| RowStatus | <p>Indicates whether the record is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive).</p> | MANDATORY | System generated | |
| MaintenanceDate | <p>Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially.</p> <p>If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated.</p> | MANDATORY | System generated | |
| CreationDate | <p>Date and time the record was created.</p> | MANDATORY | System generated | |

8. CATS_REGISTER_IDENTIFIER

The CATS_Register_Identifier table is a NMI master table containing data that is stored at the register identifier level. Information stored at this level includes the network tariff code. It is updated whenever a change request containing inbound register identifier data is completed.

| CATS_REGISTER_IDENTIFIER | | | | |
|-------------------------------|--|-------------------------|---|--|
| Data Element Name | Description | Standing Data Required) | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| NMI | National Metering Identifier issued by the LNSP in accordance with the NMI Procedure. This number is unique for each connection point within the NEM. | MANDATORY | LNSP | Metering installation identification name 7.5.2(b)(2) |
| SerialNumber | The meter serial number uniquely identifies a meter for a given NMI. Maximum 12 Characters (alpha numeric). Unique for NMI. Use dummy for UMCP (Type 7) and logical (meters). Except for UMCP and logical, MeterSerial should be displayed on physical device also known as property number). SerialNumber to be property number if exists, otherwise the meter manufacturers' serial number, otherwise dummy number. | MANDATORY | Metering Provider "B" | Meter serial numbers 7.5.2(b)(1) |
| RegisterID | The RegisterId is used to identify a data source that is obtained from the meter. A single meter may provide multiple data sources. | MANDATORY | Metering Provider "B" | |
| NetworkTariffCode | The Network Tariff code is a free text field required by the CATS rules. The text must match the network tariff codes supplied and published by the LNSP. Must be a valid code in the CATS_Network_Tariff_Codes table. | REQUIRED | Metering Provider "B" LNSP on update | |
| NetworkAdditional Information | Free text field. | OPTIONAL | Metering Provider "B" | |
| UnitOfMeasure | Code to identify the UOM for data held in this register. | MANDATORY | Metering Provider "B" | Data register coding details 7.5.2(b)(10) |
| TimeOfDay | Code to identify the time validity of register contents. As published by each LNSP. | MANDATORY | Metering Provider "B" | Data register coding details 7.5.2(b)(10) |
| Multiplier | Multiplier required to take a register value and turn it into a value representing billable energy | MANDATORY | Metering Provider "B" | Summation scheme values and multipliers 7.5.2(b)(9) |
| DialFormat | Describes the register display format. First number is the number of digits to the left of the decimal place, and the second number is the number of digits to the right of the decimal place. | MANDATORY | Metering Provider "B" | Data register coding details 7.5.2(b)(10) |

| CATS_REGISTER_IDENTIFIER | | | | |
|---------------------------------|--|--------------------------------|---------------------------------|---|
| Data Element Name | Description | Standing Data Required) | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| Suffix | <p>Metering data stream identifier (for MDM). Identifies each data stream at the measurement element level for the connection point identified by the NMI. The value must be a valid suffix for this NMI and is active for this date range. The value must match the value provided in the MDFF file.</p> <p>The Suffix value must be unique for each meter.</p> <p>The value must comply with requirements of National Metering Identifier Procedure (NMI) (Document No. ME_GN0590.</p> <p>For interval data streams, the suffix will indicate the individual data streams contributing to the Nx Suffix value in the CATS_NMI_DataStream table where DataStreamType is I or P.</p> <p>For basic data streams the value will be identical to the related Suffix value in the CATS_NMI_DataStream table.</p> | OPTIONAL | Metering Provider "B" | |
| ControlledLoad | <p>Indicates whether the energy recorded by this register is created under a controlled load regime</p> <p>Controlled Load field will have "No" if register does not relate to a controlled load.</p> <p>If the register relates to a controlled load, it should contain a description of the controlled load regime.</p> | MANDATORY | Metering Provider "B" | |
| RegisterDetail/Status | <p>Lookup Code to indicate if register is active.</p> <p>Must ensure that RegisterDetail/Status is not Current (C) when ElectricityMeter/Status is Removed (R).</p> <p>This value must correspond to a valid RegisterDetail/Status in the Meter and RegisterID Codes reference table listed in section 10.</p> | MANDATORY | Metering Provider "B" | |
| ConsumptionType | <p>Actual/Subtractive Indicator.</p> <p>Actual (A) implies volume of energy actually metered between two dates.</p> <p>Cumulative (C) indicates a meter reading for a specific date. A second meter reading is required to determine the consumption between those two read dates.</p> <p>For an interval meter, ActCumInd = A.</p> <p>This value must correspond to a valid ConsumptionType in the Consumption Type Codes reference table listed in section 10.</p> | MANDATORY | Metering Provider "B" | |

| CATS_REGISTER_IDENTIFIER | | | | |
|---------------------------------|--|---|---|---|
| Data Element Name | Description | Standing Data Required) | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| Demand1 | This field contains the peak demand value for Summer for network tariff purposes. Units in kW or kVA | OPTIONAL | Metering Provider "B" (Refers to Network Tariff Code) | |
| Demand2 | This field contains an additional demand value (not Summer period). Units in kW or kVA | OPTIONAL | Metering Provider "B" (Refers to Network Tariff Code) | |
| FromDate | Start date of the NMI Data record. This indicates the date on which the parameters of this particular NMI data record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | Party sending transaction | |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY (Defaults to high date unless supplied) | System generated unless supplied. | |
| RowStatus | Indicates whether the record is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |

9. CATS_NMI_PARTICIPANT_RELATIONS

The CATS_NMI_Participant_Relations table is a NMI master table containing data that stores the roles participants play for each NMI. It is updated whenever a change request containing inbound roles is completed. Each role record, which contains a single Role code and a single Participant ID, has a Start Date and an End Date, as well as information about when it was created and when it became inactive if it is no longer an active record.

| CATS_NMI_PARTICIPANT_RELATIONS | | | | |
|---------------------------------------|--|---|-----------------------------------|---|
| Data Element Name | Description | Standing Data Required | Party Required To Source | Rules Schedule 7.5 Reference / Description |
| Party | The Participant ID whose relationship (Role) with the NMI is defined in this table. | MANDATORY | LNSP | |
| NMI | National Metering Identifier issued by the LNSP in accordance with the NMI Procedure. This number is unique for each connection point within the NEM. | MANDATORY | LNSP | |
| Role | This defines the relationship (Role) of the Participant with the NMI in this table. | MANDATORY | LNSP | |
| FromDate | Start date of the NMI Participant Relations record. This indicates the date on which the parameters of this particular record apply from. The data applies from the beginning of this date (the start of the day, i.e. 00:00). | MANDATORY | Party sending transaction | |
| ToDate | End date of the record. This indicates the date on which the parameters of this particular record end. The data applies until the end of this date (the end of the day, i.e. 23:59). A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY (Defaults to high date unless supplied) | System generated unless supplied. | |
| RowStatus | Indicates whether the record is active or inactive. Whenever a new record is created, it will be A (Active). When, because there has been a change to the data, this record becomes redundant, its MaintActFlg is changed to I (Inactive). | MANDATORY | System generated | |
| MaintenanceDate | Date and time the record was updated. A default date of 9999-12-31 is used when the record is created initially. If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated. | MANDATORY | System generated | |
| CreationDate | Date and time the record was created. | MANDATORY | System generated | |

10. REFERENCE TABLES

Valid Aggregate Codes

| Aggregate | Description |
|-----------|--------------------------|
| Y | Customer load |
| N | Registered generator NMI |

Valid Consumption Type Codes

| Consumptiontype | Description |
|-----------------|------------------------|
| A | Actual Consumption |
| C | Cumulative Consumption |

Valid Data Stream Type Codes

| Datastreamtype | Description |
|----------------|----------------------------|
| I | Interval |
| C | Basic |
| P | Profile Data |
| 1 | Non-Market Active Import |
| 2 | Non-Market Active |
| 3 | Non-Market Reactive Import |
| 4 | Non-Market Reactive |

Valid Jurisdiction Codes

| Jurisdictioncode | Description |
|------------------|------------------------------|
| ACT | Australian Capital Territory |
| NEM | National Electricity Market |
| NSW | New South Wales |
| QLD | Queensland |
| SA | South Australia |
| VIC | Victoria |
| TAS | Tasmania |

Valid Meter Installation Codes

| Installationtypecode | Description |
|----------------------|---|
| BASIC | Basic Consumption Meter – Type 6 |
| COMMS1 | Interval meter with communications – Type 1 |
| COMMS2 | Interval meter with communications - Type 2 |
| COMMS3 | Interval meter with communications – Type 3 |
| COMMS4 | Interval meter with communications – Type 4 |
| MRIM | Manually Read Interval Meter – Type 5 |
| UMCP | Unmetered Supply – Type 7 |
| PROF | Profile Setup |
| SAMPLE | Sample Meter |

Valid Meter Status and RegisterID Status Codes

| Electricitymeter/Status Or Registerdetail/Status | Description |
|--|-------------|
| C | Current |
| R | Removed |

Valid NMI Class Codes

| Nmiclassificationcode | Description |
|------------------------------|---|
| LARGE | Large |
| GENERATR | Generator |
| WHOLESAL | Wholesale |
| EPROFILE | External Profile Shape |
| SAMPLE | Sample Meter |
| INTERCON | Interconnector |
| SMALL | Small (Defined by jurisdictions – generally less than 160MWh per annum consumption) |

Valid NMI Status Codes

| Masterdata/Status | Description |
|--------------------------|------------------------------|
| D | Not Energised (De-energised) |
| X | Extinct NMI |
| A | Active NMI |
| G | Green Field Site NMI |

Valid Profile Codes

| Profilename | Description |
|-------------|---|
| NSLP | Net System Load Profile. The profile is calculated by MSATS. NSLP represents the system load after all actual interval metering data or specified previously-calculated profiled metering data that is not dependent on the NSLP has been subtracted from a known total system load and represents system-wide usage by consumption-type metering installations. |
| CLOADNSWCE | Controlled load profile: Country Energy.(now Essential Energy) Profile names beginning with CLOAD are controlled load profiles. Controlled load profiles are applied to controlled load data streams in NSW. There is one controlled load profile for each LNSP area. The names all begin with CLOADNSW to indicate that they are NSW profile names followed by two characters to indicate the LNSP area to which it belongs (e.g. EA = Energy Australia). |
| CLOADNSWEA | Controlled load profile: Energy Australia (now AUSGRID). |
| CLOADNSWIE | Controlled load profile: Integral Energy.(now Endeavour Energy) |
| QLDEGXCL31 | Controlled load profile Energex tariff 31 |
| QLDEGXCL33 | Controlled load profile Energex tariff 33 |
| SACLOAD | South Australian Controlled Load. |
| NOPROF | Used for interval data stream types (to indicate that such data streams do not need to be profiled to obtain 'readings' for each settlement interval because the data is supplied in 30 minute intervals). |

Valid Stream Status Codes

| Electricitydata Stream/Status | Description |
|-------------------------------|-------------------------|
| I | Inactive MDM Datastream |
| A | Active MDM Datastream |

11. USE OF NMI SUFFIX TO POPULATE CATS_REGISTER_IDENTIFIER

For any particular connection point there may be multiple energy measurement elements and data recorders with multiple channels. Accurate identification of data streams is essential. The NMI Procedure includes the requirements for the use of a suffix to the NMI that identifies these data streams. The Data Stream Suffix detailed in the NMI Procedure provides identification at the measurement element level for all data streams comprising the connection point identified by the NMI. The Data Stream Suffix is commonly known as the NMI Suffix. The NMI Suffix is labelled as Suffix in the Browser and is the ElectricityDataStream/Suffix data element in aseXML.

The NMI Suffix was first used in the NMI Procedure to describe, in conjunction with the NMI, the data transferred from MDP to AEMO and participants for settlement of market energy. The NMI Suffix was further extended to describe data streams in MSATS, and numeric suffixes were developed to describe the data from type 6 (basic) metering installations.

In MSATS, the NMI Suffix is used in CATS_NMI_Data_Stream to describe the data as delivered to AEMO. For settlement purposes this data must be NET [Export from network, less import to network] and will be Nx for an interval data stream, or numeric for a basic meter.

In MSATS release 2.0 a new table CATS_Register_Identifier was introduced to link identifiers for the source meter register(s) to the data stream suffix in CATS_NMI_Data_Stream. The purpose of the table is to enable the alignment of the data held in MSATS and the data being transferred between Participants and Service Providers in the B2B process.

This link is achieved through the RegisterID [which describes the data source at the metering installation] and ElectricityDataStream/Suffix [which describes the NMI Suffix to which the RegisterID contributes] data elements. This is a many-to-one relationship, i.e. there may be multiple RegisterID values for each ElectricityDataStream/Suffix value in the CATS_Register_Identifier table.

- The RegisterID identifies the measurement element and type of measurement for an interval metering installation, and identifies the location of a stored energy value in a basic metering installation.
- The ElectricityDataStream/Suffix value in the CATS_NMI_Data_Stream table identifies the data stream registered in MSATS. For settlement purposes, interval data streams will be the NET suffix (format Nx) and for basic data streams the suffix value is numeric. MSATS requires data to be delivered against this suffix (if the data stream is ACTIVE). MSATS does not validate the values entered in this field.
- The ElectricityDataStream/Suffix value in the CATS_Register_Identifier table identifies the individual data stream(s) contributing to the ElectricityDataStream/Suffix value in the CATS_NMI_Data_Stream table. For interval data streams, the Suffix(es) will indicate the individual data stream(s) contributing to the Nx Suffix value in the CATS_NMI_DataStream table where the datastreamtype is P or I (Refer section 13 for examples). For basic data streams the value will be numeric and will be identical to the related Suffix value in the CATS_NMI_DataStream table (refer section 12 for examples).
- The ElectricityDataStream/Suffix values used in the CATS_Register_Identifier table are used to identify metering data contained in MDFF files (in the NMISuffix field).
- The linkage between the RegisterID and ElectricityDataStream/Suffix can only occur if the ElectricityDataStream/Suffix data element is populated in the CATS_Register_Identifier table. As this data element is Optional in this table, the linkage is reliant on action by the MPB to manage and provide this data.

- The RegisterID data element has no standard format; therefore the MPB must determine the appropriate population of this field, e.g. it may be used to indicate the programming code of the register.

There is an inconsistent understanding across industry of the meaning of the terms *register* and *data stream*. Conventionally, to field metering personnel, a *register* contains a single value, while a *data stream* represents an array of time separated register values in chronological order.

For Basic meters, the RegisterID refers to the non-volatile storage of the cumulative energy register(s). The RegisterID will have identification with the displays of the meters, or identification of internal data stores.

For Basic meters, the ElectricityDataStream/Suffix data element in the CATS_Register_Identifier table may have a many-to-one relationship with the ElectricityDataStream/Suffix data element in the CATS_NMI_Data_Stream table. That is, the same Suffix may occur several times in the CATS_Register_Identifier table and occur once only in the CATS_NMI_Data_Stream table.

For Interval meters, the definition of the RegisterID field is less obvious. To make this field useful, the RegisterID should be associated with the ElectricityDataStream/Suffix. As Interval meters may have multiple measurement elements and there may be multiple meters for a NMI, the MDP must manage data streams against a NMI to avoid duplication of ElectricityDataStream/Suffixes and provide correct mapping of RegisterIDs.

12. ASSIGNMENT OF DATA – BASIC METERS

This section details examples of the assignment of data for various basic metering installations. For basic meters, the Suffix values in CATS_Register_Identifier and CATS_NMI_Data_Stream tables are always numeric.

12.1 Single Meter, no controlled load

A Basic meter with a single register measuring a non-controlled load will have a single data stream suffix 11 defined for the NMI.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Value | 0123456789 | 11 | A |

The CATS_Register_Identifier table indicates that the meter has only one register. The Suffix in the CATS_Register_Identifier [11] denotes that data from RegisterID 01 contributes to the data stream identified by Suffix 11 in CATS_NMI_Data_Stream.

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Value | ABCD1111 | 01 | KWH | ALLDAY | 11 | No |

The Suffix in CATS_NMI_Data_Stream will be recorded as 11 by the Metering Data Provider and the Suffix in CATS_Register_Identifier must then be 11.

12.2 Two Single Element Meters, no controlled load

The NMI has two basic meters, each meter with single register. The data from the two meters will be submitted to MSATS as two data streams.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Values | 0123456789 | 11 | A |
| | 0123456789 | 12 | A |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Values | ABCD1111 | 01 | KWH | ALLDAY | 11 | No |
| | XYZA1112 | 01 | KWH | ALLDAY | 12 | No |

12.3 Two Single Element Meters, one with controlled load

A NMI has two basic meters, each meter has a single register, and one meter is measuring a controlled load. The data from the two meters is submitted to MSATS as two data streams.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Value | 0123456789 | 11 | A |
| | 0123456789 | 42 | A |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Values | ABCD1111 | 01 | KWH | TOTAL | 11 | No |
| | XYZA1112 | 01 | KWH | CL1 | 42 | HWLoad |

12.4 One Meter with Two Registers, one measuring a controlled load

NMI has one basic meter with two registers. The second register is measuring a controlled load.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Values | 0123456789 | 11 | A |
| | 0123456789 | 41 | A |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Value | ABCD1111 | 01 | KWH | PEAK | 11 | No |
| | ABCD1111 | 02 | KWH | CL1 | 41 | HWLoad |

12.5 Single Multi-function Meter

Basic meter has 4 registers, one register being a controlled load.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Values | 0123456789 | 11 | A |
| | 0123456789 | 21 | I |
| | 0123456789 | 31 | A |
| | 0123456789 | 41 | A |

Each register is separately identified in **CATS_NMI_Data_Stream**. However, register 2 on meter 1 is inactive in MSATS, and therefore data is not accepted by MSATS for this Suffix.

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Values | ABCD1111 | 01 | KWH | ALLDAY | 11 | No |
| | ABCD1111 | 02 | KWH | NOTUSED | 21 | No |
| | ABCD1111 | 03 | KWH | OFFPEAK | 31 | No |
| | ABCD1111 | 04 | KWH | CL1 | 41 | HWLoad |

Note: The meter may have register identification and therefore these numbers can be used in the table as **RegisterID**.

12.6 Two meters, three registers. One register measures a controlled load.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Values | 0123456789 | 11 | A |
| | 0123456789 | 21 | A |
| | 0123456789 | 42 | A |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|-----------|--------|-----------------|
| Values | ABCD1111 | 01 | KWH | PEAK | 11 | No |
| | ABCD1111 | 02 | KWH | OFFPEAK | 21 | No |
| | XYZA1112 | 01 | KWH | CL1 | 42 | HWLoad |

13. ASSIGNMENT OF DATA – INTERVAL METERS

This section details examples of the assignment of data for various interval metering installations.

13.1 One meter

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Value | 0123456789 | N1 | A |

The CATS_Register_Identifier table indicates that the meter has only one register. The Suffix in the CATS_Register_Identifier [E1] denotes that data from RegisterID 01 contributes to the data stream identified by Suffix N1 in the CATS_NMI_Data_Stream table.

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|---------------|---------------|------------|---------------|-----------|--------|
| Value | ABCD1111 | 01 | KWH | ALLDAY | E1 |

E1 indicates that it is a single element measuring export.

13.2 Import / Export meter

Interval meter has a two registers, registering import and export energy. A single data stream suffix N1 is defined for the NMI indicating a netting-off of Export less Import data streams for this connection point.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Value | 0123456789 | N1 | A |

The CATS_Register_Identifier table indicates that the meter has two registers, one for IMPORT and one for EXPORT.

The Suffixes in the CATS_Register_Identifier denote that data from RegisterIDs E1 and B1 contribute to the data stream identified by suffix N1 in CATS_NMI_Data_Stream. That is, the data streams E1 and B1 supplied by the MDP to the FRMP for this meter have contributed to the data stream N1 in MSATS.

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|---------------|---------------|------------|---------------|-----------|--------|
| Values | ABCD1111 | E1 | KWH | ALLDAY | E1 |
| | ABCD1111 | B1 | KWH | ALLDAY | B1 |

Only one RegisterID with the suffix E1 permitted per meter in CATS_Register_Identifier.

Only one RegisterID with the suffix B1 permitted per meter in CATS_Register_Identifier.

The Energy volumes for the Suffix N1 in CATS_NMI_Data_Stream are calculated by $N1 = E1 - B1$.

13.3 One meter: multiple registers

Interval meter has a single measurement element registering import and export energy, reactive and voltage. A single data stream suffix N1 is defined for the NMI indicating netting-off of all energy data streams for this connection point.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Value | 0123456789 | N1 | A |

The CATS_Register_Identifier table indicates that the meter has five registers: two for IMPORT of energy and reactive; two for EXPORT of energy and reactive; and one for voltage monitoring.

The suffixes in the CATS_Register_Identifier [N1] denote that data from RegisterID E1 and B1 contribute to the data stream identified by suffix N1 in CATS_NMI_Data_Stream.

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|---------------|---------------|------------|---------------|-----------|--------|
| Values | ABCD1111 | E1 | KWH | ALLDAY | E1 |
| | ABCD1111 | B1 | KWH | ALLDAY | B1 |
| | ABCD1111 | Q1 | KVARH | ALLDAY | Q1 |
| | ABCD1111 | K1 | KVARH | ALLDAY | K1 |
| | ABCD1111 | V1 | VOLTS | ALLDAY | V1 |

The energy supplied to MSATS against N1 is NET (E1 – B1).

13.4 One meter: Twin Measurement Elements

Certain multifunction meters have the capability for initial installation as a basic meter, but can be re-programmed to provide interval metering data.

The Rules do not permit the use of two different types of metering installation on the one NMI, and therefore the interval and basic metering functions MUST NOT be active simultaneously in MSATS. ***The MDP and RP will be held accountable for a breach of this requirement.***

The CATS_Register_Identifier can be used to record the meter capability.

If this meter were configured as a basic meter in MSATS, the configuration might be as shown in the two tables below.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|----------------------|------------|---------------|--------------------------------------|
| Values | 0123456789 | N1 | I |
| | 0123456789 | N2 | I |
| | 0123456789 | 11 | A |
| | 0123456789 | 21 | A |
| | 0123456789 | 31 | A |
| | 0123456789 | 41 | A |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|----------------------|----------------------|-------------------|----------------------|------------------|---------------|
| Values | AB888888 | E1 | KWH | ALLDAY | null |
| | AB888888 | E2 | KWH | ALLDAY | null |
| | AB888888 | 25 | KWH | PEAK | 11 |
| | AB888888 | 26 | KWH | SHOULDER | 21 |
| | AB888888 | 35 | KWH | OFFPEAK | 31 |
| | AB888888 | 36 | KWH | CL1 | 41 |

The CATS_Register_Identifier table values for this meter when it is operated as an interval meter are shown below. The RegisterID for the basic registers in this type of meter are user defined. The interval meter suffixes must be added to the NMI and made active, and the basic suffixes made inactive at the same date.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status |
|---------------|------------|--------|-------------------------------|
| Values | 0123456789 | N1 | A |
| | 0123456789 | N2 | A |
| | 0123456789 | 11 | I |
| | 0123456789 | 21 | I |
| | 0123456789 | 31 | I |
| | 0123456789 | 41 | I |

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|---------------|---------------|------------|---------------|-----------|--------|
| Values | AB888888 | E1 | KWH | ALLDAY | E1 |
| | AB888888 | E2 | KWH | ALLDAY | E2 |
| | AB888888 | 25 | KWH | PEAK | null |
| | AB888888 | 26 | KWH | OFFPEAK | null |
| | AB888888 | 35 | KWH | PEAK | null |
| | AB888888 | 36 | KWH | OFFPEAK | null |

If a second meter of the same configuration were established on this NMI then E3 and E4 would be required for the data streams to provide MDPs and Retailers with unambiguous identification of data streams.

14. ASSIGNMENTS OF DATA – SAMPLE METERS

The application of profiles in accordance with the Metrology Procedure, requires interval metering data from sites that have basic metering. However, the Rules do not permit different metering installation types on the one NMI, and in any case, the Participants associated with the interval data are different to those associated with the basic meter. Therefore, for these Connection Points, two different NMIs are used.

There are meters that can combine the required basic metering and interval metering roles. An example is shown below.

14.1 Multifunction Sample Meter

In this case, a single meter is registered within MSATS for two purposes against two NMIs. This is a special case, and should not be used other than for this non-standard purpose. The meter has two circuits, with basic metering for energy trading and interval metering for the sample profile.

In this example, the NMI 9801234567 is the Sample meter installation and NMI 9876543210 is the end-use consumer installation.

| Data Element: | NMI | Suffix | ElectricityData Stream/Status | DataStreamType |
|---------------|------------|--------|-------------------------------|----------------|
| Values | 9801234567 | N1 | A | P |
| | 9876543210 | 11 | I | C |
| | 9876543210 | 12 | I | C |
| | 9876543210 | 41 | A | C |

| Data Element: | NMI | Meter Serial | Register ID | UnitOf Measure | TimeOf Day | Suffix |
|---------------|------------|--------------|-------------|----------------|------------|--------|
| Values | 9801234567 | AB888888 | E1 | KWH | ALLDAY | E1 |
| | 9876543210 | AB888888 | 11 | KWH | PEAK | null |
| | 9876543210 | AB888888 | 12 | KWH | OFFPEAK | null |
| | 9876543210 | AB888888 | 41 | KWH | CL1 | 41 |

Note: Suffix 11/12 have a Status of 'I' for 1st Tier and 'A' for 2nd Tier.

First tier metering data is not required for AEMO to settle the market.

Control load data for first tier and second tier is required by AEMO to settle the market.

In the example above, once the end-use consumer becomes second tier, all three basic data streams need to become active (StreamStatusCode = A).

15. CROSS REFERENCE OF BROWSER AND aseXML DATA ELEMENTS

The tables below list the names that are used in the Browser for each of the MSATS tables detailed in sections 3 to 9. The table also provides the aseXML data element names and the respective formats used in each context.

In some cases, such as date fields, the format of the field is shown differently in the Browser to that used in the related aseXML transactions. Also, aseXML uses full words throughout, rather than the coded values used in the Browser.

Refer section 16 for examples of the typical data element values as shown in the Browser. Section 17 provides definitions of the Browser formats shown in this section.

| CATS_Meter_Register | | | | |
|------------------------------|---------------------------------|--|--|----------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Additional Site Information | AdditionalSiteInformation | ElectricityMeter/ AdditionalSiteInformation | VARCHAR2(100) | xsd:string maxLen = 100 |
| Asset Management Plan | AssetManagementPlan | ElectricityMeter/ AssetManagementPlan | VARCHAR2(50) | xsd:string maxLen = 50 |
| Calibration Tables | CalibrationTables | ElectricityMeter/ CalibrationTables | VARCHAR2(50) | xsd:string maxLen = 50 |
| Communication Equipment Type | Communications EquipmentType | ElectricityMeter/ Communications EquipmentType | VARCHAR2(4) | xsd:string maxLen = 4 |
| Communication Protocol | CommunicationsProtocol | ElectricityMeter/ CommunicationsProtocol | VARCHAR2(50) | xsd:string maxLen = 50 |
| Data Conversion | DataConversion | ElectricityMeter/ DataConversion | VARCHAR2(50) | xsd:string maxLen = 50 |
| Data Validations | DataValidations | ElectricityMeter/ DataValidations | VARCHAR2(50) | xsd:string maxLen = 50 |
| Estimation Instruction | EstimationInstructions | ElectricityMeter/ EstimationInstructions | VARCHAR2(50) | xsd:string maxLen = 50 |
| Last Test Date | LastTestDate | ElectricityMeter/ LastTestDate | dd-mmm-yyyy | xsd:date |
| Measurement Type | MeasurementType | ElectricityMeter/ MeasurementType | VARCHAR2(4) | xsd:string maxLen = 4 |
| Meter Constant | Constant | ElectricityMeter/ Constant | VARCHAR2(12) | xsd:string maxLen = 12 |
| Meter Hazard | Hazard | ElectricityMeter/ Hazard | VARCHAR2(12) | xsd:string maxLen = 12 |
| Meter Installation Type Code | InstallationTypeCode | ElectricityMeter/ InstallationTypeCode | VARCHAR2(8) | xsd:string maxLen = 8 |
| Meter Location | Location | ElectricityMeter/ Location | VARCHAR2(50) See AddSiteInfo (above) | xsd:string maxLen = 50 |
| Meter Manufacturer | Manufacturer | ElectricityMeter/ Manufacturer | VARCHAR2(15) | xsd:string maxLen = 15 |
| Meter Model | Model | ElectricityMeter/ Model | VARCHAR2(12) | xsd:string maxLen = 12 |

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| CATS_Meter_Register | | | | |
|--|---------------------------------|---|-----------------------|--|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Meter Point | Point | ElectricityMeter/ Point | VARCHAR(2) | xsd:string maxLen = 2 |
| Meter Program | Program | ElectricityMeter/ Program | VARCHAR2(30) | xsd:string maxLen = 30 |
| Meter Read Type | ReadTypeCode | ElectricityMeter/ ReadTypeCode | VARCHAR(4) | xsd:string maxLen = 4 |
| Meter Route | Route | ElectricityMeter/ Route | VARCHAR2(12) | xsd:string maxLen = 12 |
| Meter Serial ID Meter ID (Different on two screens) | SerialNumber | ElectricityMeter/ SerialNumber | VARCHAR2(12) | xsd:string maxLen = 12 |
| Status Code | Status | ElectricityMeter/ Status | CHAR(1) | xsd:string with enumeration |
| Meter Use | Use | ElectricityMeter/ Use | VARCHAR2(10) | xsd:string maxLen = 10 |
| Next Scheduled Read Date | NextScheduled ReadDate | ElectricityMeter/ NextScheduledReadDate | dd-mmm-yyyy | xsd:date |
| Next Test Date | NextTestDate | ElectricityMeter/ NextTestDate | dd-mmm-yyyy | xsd:date |
| NMI | NMI | NMI | CHAR(10) | xsd:string maxLen = 10 |
| Passwords | Password | ElectricityMeter/ Password | VARCHAR2(20) | xsd:string maxLen = 20 |
| Remote Phone Number | RemotePhoneNumber | ElectricityMeter/ RemotePhoneNumber | VARCHAR2(12) | xsd:string maxLen = 12 |
| Test & Calibration Program | TestCalibrationProgram | ElectricityMeter/ TestCalibrationProgram | VARCHAR2(50) | xsd:string maxLen = 50 |
| Test Performed By | TestPerformedBy | ElectricityMeter/ TestPerformedBy | VARCHAR2(20) | xsd:string maxLen = 20 |
| Test Result Accuracy | TestResultAccuracy | ElectricityMeter/ TestResultAccuracy | NUMBER(8,5) | xsd:decimal totaldig = 8 fracdig = 5 |
| Test Result Notes | TestResultNotes | ElectricityMeter/ TestResultNotes | VARCHAR2(50) | xsd:string maxLen = 50 |
| Transformer Location | TransformerLocation | ElectricityMeter/ TransformerLocation | VARCHAR2(30) | xsd:string maxLen = 30 |
| Transformer Ratio | TransformerRatio | ElectricityMeter/ TransformerRatio | VARCHAR2(20) | xsd:string maxLen = 20 |
| Transformer Type | TransformerType | ElectricityMeter/ TransformerType | VARCHAR2(20) | xsd:string maxLen = 20 |
| User Access Rights | UserAccessRights | ElectricityMeter/ UserAccessRights | VARCHAR2(50) | xsd:string maxLen = 50 |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |

| CATS_Meter_Register | | | | |
|----------------------------|---------------------------------|--------------------|---|-----------------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Created On | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |

| CATS_DLF_Codes | | | | |
|---------------------------|-----------------------------------|---|---|--|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| DLF Code | DistributionLossFactorCode | DistributionLossFactorCode | VARCHAR2(4) | xsd:string maxLen = 4 |
| Description | DistributionLossFactorDescription | DistributionLossFactorDescription | VARCHAR2(50) | xsd:string maxLen = 50 |
| DLF Value | DistributionLossFactorValue | DistributionLossFactorValue | NUMBER(6,5) | xsd:decimal minIncl = 0 maxIncl = 2 totdig = 6 fracdig = 5 |
| Jurisdiction | JurisdictionCode | ElectricityStandingData/ MasterData/ JurisdictionCode | VARCHAR2(3) | xsd:string maxLen = 3 |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |

| CATS_Emb_Net_ID_Codes | | | | |
|------------------------------|---------------------------------|--|---|-------------------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Code | EmbeddedNetworkIdentifier | EmbeddedNetworkIdentifier | VARCHAR2(10) | xsd:string maxLen = 10 |
| Description | EmbeddedNetworkDescription | EmbeddedNetworkDescription | VARCHAR2(50) | xsd:string maxLen = 50 |
| Locality/ Suburb | SuburbOrPlaceOrLocality | ElectricityStandingData/ MasterData/ Address/AustralianAddress / SuburbOrPlaceOrLocality | VARCHAR2(46) | xsd:string maxLen = 46 |
| Postcode | PostCode | ElectricityStandingData/ MasterData/ Address/AustralianAddress / PostCode | VARCHAR2(4) | xsd:string pattern: [p{N}]{4} |
| State | StateOrTerritory | ElectricityStandingData/ MasterData/ Address/AustralianAddress / StateOrTerritory | VARCHAR2(3) | xsd:string with enumerations |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |

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| CATS_NMI_Data | | | | |
|-----------------------------|----------------------------------|--|-----------------------|---|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| NMI | NMI | NMI | CHAR(10) | xsd:string maxLen = 10 |
| NMI Classification Code | NMIClassificationCode | ElectricityStandingData/ MasterData/ NMIClassificationCode | VARCHAR2(8) | xsd:string maxLen = 8 |
| Status Code | Status | ElectricityStandingData/ MasterData/ Status | CHAR(1) | xsd:string maxLen = 1 |
| TNI Code | TransmissionNode Identifier | ElectricityStandingData/ MasterData/ TransmissionNodeIdentifier | VARCHAR2(4) | xsd:string maxLen = 4 |
| Jurisdiction Code | JurisdictionCode | JurisdictionCode | VARCHAR2(3) | xsd:string maxLen = 3 |
| DLF Code | DistributionLoss FactorCode | ElectricityStandingData/ MasterData/ DistributionLossFactorCode | VARCHAR2(4) | xsd:string maxLen = 4 |
| Embedded Network ID (Child) | ChildEmbedded NetworkIdentifier | ElectricityStandingData/ MasterData/ ChildEmbedded NetworkIdentifier | VARCHAR2(10) | xsd:string maxLen = 10 |
| Embedded Network (Parent) | ParentEmbedded NetworkIdentifier | ElectricityStandingData/ MasterData/ ParentEmbedded NetworkIdentifier | VARCHAR2(10) | xsd:string maxLen = 10 |
| Building / Property Name | BuildingOrPropertyName | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ BuildingOrPropertyName | VARCHAR2(30) | xsd:string maxLen = 30 x 2 |
| Lot Number | LotNumber | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/Lot/ LotNumber | VARCHAR2(6) | xsd:string pattern: [p{L}p{N}p{P}]s{{1,6}} |
| Flat/Unit Number | FlatOrUnitNumber | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ FlatOrUnit/ FlatOrUnitNumber | VARCHAR2(7) | xsd:string pattern: [p{L}p{N}p{P}]s{{1,7}} |
| Flat/Unit Type | FlatOrUnitType | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ FlatOrUnit/ FlatOrUnitType | VARCHAR2(4) | xsd:string with enumerations |
| Floor/Level Number | FloorOrLevelNumber | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ FloorOrLevel/ FloorOrLevelNumber | VARCHAR2(5) | xsd:string [p{L}p{N}p{P}]s{{1,5}} |

| CATS_NMI_Data | | | | |
|---------------------------|---------------------------------|--|-----------------------|--|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Floor/Level Type | FloorOrLevelType | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ FloorOrLevel/ FloorOrLevelType | VARCHAR2(2) | xsd:string with enumerations |
| House Number | HouseNumber | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/House/ HouseNumber | NUMBER(5) | xsd:nonNegativeInteger maxIncl = 99999 |
| House Number Suffix | HouseNumberSuffix | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/House/ HouseNumberSuffix | VARCHAR2(1) | xsd:string pattern: [p{L}p{N}]{1} |
| Street Name | StreetName | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/Street/ StreetName | VARCHAR2(30) | xsd:string pattern: [p{L}p{N}]s- '{1,30} |
| Street Name Suffix | StreetSuffix | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/Street/ StreetSuffix | VARCHAR2(2) | xsd:string with enumerations |
| Street Type | StreetType | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/Street/ StreetType | VARCHAR2(4) | xsd:string with enumerations |
| Suburb/Locality | SuburbOrPlaceOrLocality | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ SuburbOrPlaceOrLocality | VARCHAR2(46) | xsd:string maxLen = 46 |
| Location Descriptor | LocationDescriptor | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ LocationDescriptor | VARCHAR2(30) | xsd:string pattern: [p{L}p{N}p{P}]s{1,30} |
| Postcode | PostCode | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ PostCode | VARCHAR2(4) | xsd:string pattern: [p{N}]{4} |

| CATS_NMI_Data | | | | |
|--|---------------------------------|---|--|--|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| State | StateOrTerritory | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StateOrTerritory | VARCHAR2(3) | xsd:string with enumerations |
| DPID | DeliveryPointIdentifier | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ StructuredAddress/ / DeliveryPointIdentifier | NUMBER(8) | xsd:nonNegativeInteger minIncl = 1000000 maxIncl = 9999999 |
| Unstructured Address | AddressLine | ElectricityStandingData/ MasterData/ Address/AustralianAddress/ UnstructuredAddress/ Address/ AddressLine | VARCHAR2(80) | xsd:string maxLength = 80 x 3 |
| Aggregate Flag | Aggregate | ElectricityStandingData/ MasterData/ Aggregate | CHAR(1) | xsd:string with enumeration |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Created On | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |
| Feeder Class | Feeder Class | ElectricityStandingData/ MasterData/ FeederClass | VARCHAR2(15) | xsd:string maxLength = 15 |
| Customer Classification Code | CustomerClassificationCode | ElectricityStandingData/ MasterData/ CustomerClassificationCode | VARCHAR2(20) | xsd:string maxLength = 20 |
| Customer Classification Threshold Code | CustomerThresholdCode | ElectricityStandingData/ MasterData/ CustomerThresholdCode | VARCHAR2(20) | xsd:string maxLength = 20 |

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| CATS_NMI_Data_Stream | | | | |
|-----------------------------|---------------------------------|---|---|--------------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| NMI | NMI | NMI | CHAR(10) | xsd:string maxLen = 10 |
| Suffix | Suffix | ElectricityDataStream/ Suffix | VARCHAR2(2) | xsd:string maxLen = 2 |
| Status Code | Status | ElectricityDataStream/ Status | CHAR(1) | xsd:string maxLen = 1 |
| Average Daily Load | AveragedDailyLoad | ElectricityDataStream/ AveragedDailyLoad | NUMBER(10) | xsd:integer |
| Type | DataStreamType | ElectricityDataStream/ DataStreamType | CHAR(1) | xsd:string with enumeration |
| Profile Name | ProfileName | ElectricityDataStream/ ProfileName | VARCHAR2(10) | xsd:string maxLen = 10 |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Created On | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |

| CATS_Register_Identifier | | | | |
|---|---------------------------------|--|---|--|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| NMI | NMI | NMI | CHAR(10) | xsd:string maxLen = 10 |
| Meter Serial ID Meter ID (Different on two screens) | SerialNumber | SerialNumber | VARCHAR2(12) | xsd:string maxLen = 12 |
| Register ID | RegisterID | ElectricityMeter RegisterDetail/ RegisterID | VARCHAR2(10) | xsd:string maxLen = 10 |
| Network Tariff Code | NetworkTariffCode | ElectricityMeter RegisterDetail/ NetworkTariffCode | VARCHAR2(10) | xsd:string maxLen = 10 |
| Network Tariff Additional Information | NetworkAdditional Information | ElectricityMeter RegisterDetail/ NetworkAdditional Information | VARCHAR2(4000) | xsd:string |
| Unit of Measure | UnitOfMeasure | ElectricityMeter RegisterDetail/ UnitOfMeasure | VARCHAR2(5) | xsd:string maxLen = 5 |
| Time of Day | TimeOfDay | ElectricityMeter RegisterDetail/ TimeOfDay | VARCHAR2(10) | xsd:string maxLen = 10 |
| Multiplier | Multiplier | ElectricityMeter RegisterDetail/ Multiplier | Number(13,5) | xsd:decimal |
| Dial Format | DialFormat | ElectricityMeter RegisterDetail/ DialFormat | Number(4,2) | xsd:decimal minIncl = 0 maxIncl = 99.99 totdig = 4 fracdig = 2 |
| Suffix | Suffix | ElectricityMeter RegisterDetail/ Suffix | VARCHAR2(2) | xsd:string maxLen = 2 |
| Controlled Load | ControlledLoad | ElectricityMeter RegisterDetail/ ControlledLoad | VARCHAR2(100) | xsd:string maxLen = 100 |
| Status Code | Status | ElectricityMeter RegisterDetail/ Status | CHAR(1) | xsd:string with enumeration |
| Actual/Cumulative Indicator | ConsumptionType | ElectricityMeter RegisterDetail/ ConsumptionType | CHAR(1) | xsd:string with enumeration |
| Demand 1 | Demand1 | ElectricityMeter RegisterDetail/ Demand1 | Number(8) | xsd:integer totdig = 8 |
| Demand 2 | Demand2 | ElectricityMeter RegisterDetail/ Demand2 | Number(8) | xsd:integer totdig = 8 |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Created On | CreationDate | CreationDate | dd-mmm-yyyy | xsd:dateTime |

| CATS_Register_Identifier | | | | |
|---------------------------------|---------------------------------|--------------------|--|--------------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| | | | (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |

| CATS_NMI_Participant_Relations | | | | |
|---------------------------------------|---------------------------------|--------------------|---|--------------------------------|
| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format | aseXML Data Type |
| Participant ID | Party | Party | VARCHAR2(10) | xsd:string |
| NMI | NMI | NMI | CHAR(10) | xsd:string maxLen = 10 |
| Role | Role | Role | VARCHAR2(4) | xsd:string maxLen = 4 |
| Start Date | FromDate | FromDate | dd-mmm-yyyy | xsd:dateTime |
| End Date | ToDate | ToDate | dd-mmm-yyyy | xsd:dateTime |
| Updated On | MaintenanceDate | MaintenanceDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Created On | CreationDate | CreationDate | dd-mmm-yyyy (summary screen) dd-mmm-yyyy hh:mm:ss (detail screen) | xsd:dateTime |
| Activity Status | RowStatus | RowStatus | CHAR(1) | xsd:string with enumeration |

16. EXAMPLES OF TYPICAL FIELD VALUES

This section provides examples of typical sets of data element values associated with different types of Connection Points.

The data shown in each example is as shown in the Browser. This reverses the sequence of the day-month-year communicated via aseXML transactions.

| CATS_Meter_Register | | | |
|------------------------------|---|--|--|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| AdditionalSite Information | Additional Site Information | MTR ON SITE AT 17B | Red Rooster |
| AssetManagement Plan | Asset Management Plan | CITIPOWER METER MANAGEMENT PLAN | PER CE DOC: TYPES 1-4 ASSET MANAGEMENT & TEST PLAN |
| CalibrationTables | Calibration Tables | Q | |
| Communications EquipmentType | Communication Equipment Type | FACE | 96 |
| Communications Protocol | Communication Protocol | NA | EMAIL MINI GATEWAY S/N SU121 MV90 2 TBD TBD |
| DataConversion | Data Conversion | .0005 | .0005 |
| DataValidations | Data Validations | AS PER AEMO DOC MT_MA1680 (CLAUSE -7, 8, 8.3,11) | AS PER AEMO DOC MT_MA1680 (CLAUSE -8, 8.1, 9.3) |
| Estimation Instructions | Estimation Instruction | AS PER AEMO DOC MT_MA1680 (TYPES -61, 62, 65) | AS PER AEMO DOC MT_MA1680 (TYPES -14) |
| LastTestDate | Last Test Date | 07-05-2004 | 07-03-2004 |
| MeasurementType | Measurement Type | EQ | EQ |
| Constant | Meter Constant | 40 | .5 |
| Hazard | Meter Hazard | | Asbestos |
| InstallationType Code | Meter Installation Type Code | BASIC | COMMS4 |
| Location | Meter Location | ON SUB POLE | BEHIND DOOR |
| Manufacturer | Meter Manufacturer | EMAIL | EDMI |
| Model | Meter Model | Q3 | Q4 |
| Point | Meter Point | 01 | 01 |
| Program | Meter Program | 30 - NP 3.2 CT FACE PLATE READ | 10- AE CT KVAR 9600 |
| ReadTypeCode | Meter Read Type | MV3 | RTD |
| Route | Meter Route | 11618 | 1305 |
| SerialNumber | Meter Serial ID Meter ID (Different on two screens) | 525811 | 201000299 |
| Status | Status Code | C | C |
| Use | Meter Use | REVENUE | REVENUE |

Standing Data for MSATS

| CATS_Meter_Register | | | |
|----------------------------|----------------------------|------------------------|-------------------------|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| NextScheduledReadDate | Next Scheduled Read Date | 04-10-2006 | |
| NextTestDate | Next Test Date | 17-05-2004 | 10-05-2004 |
| NMI | NMI | 1122334455 | 1122334455 |
| Password | Passwords | 12345 | 12345 |
| RemotePhone Number | Remote Phone Number | FACE READ | 0555 825 987 |
| TestCalibrationProgram | Test & Calibration Program | AS PER AS/NZ 1284 | AS PER AS/NZ 1284 |
| TestPerformedBy | Test Performed By | Ron Sargeant | SMU |
| TestResultAccuracy | Test Result Accuracy | -0.20000 | -0.11000 |
| TestResultNotes | Test Result Notes | CHECK AND RESEAL METER | METER TEST CORRECT |
| Transformer Location | Transformer Location | | REAR OFBUILDING |
| TransformerRatio | Transformer Ratio | | 1500/5 |
| TransformerType | Transformer Type | | 24 WIRE WOUND |
| UserAccessRights | User Access Rights | AS PER AS/NZ 1284 | MDP ONLY ACCESS |
| FromDate | Start Date | 14-03-1990 | 16-03-2002 |
| ToDate | End Date | 31-12-9999 | 18-07-2006 |
| MaintenanceDate | Updated On | 31-12-999 00:00:00 | 31-12-999 00:00:00 |
| CreationDate | Created On | 19-03-1990 00:01:00 | 18-03-2002 00:01:00 |
| RowStatus | Activity Status | A | A |

| CATS_DLF_Codes | | |
|-----------------------------------|---------------------------|-------------------------------------|
| Data Element Name | Browser Field Name | Basic & Interval Example |
| DistributionLossFactorCode | DLF Code | NHV1 |
| DistributionLossFactorDescription | Description | UMPLP - High Voltage |
| DistributionLossFactorValue | [The actual DLF value] | 1.11111 |
| JurisdictionCode | Jurisdiction Code | SA |
| RowStatus | Activity Status | A |
| FromDate | Start Date | 01-07-1999 |
| ToDate | End Date | 30-06-2000 |
| MaintenanceDate | Updated On | 31-05-2000 00:30:27 |
| CreationDate | | 01-06-1999 00:23:32 |

| CATS_Emb_Net_ID_Codes | | |
|------------------------------|---------------------------|----------------------------------|
| Data Element Name | Browser Field Name | Basic & Basic Example |
| EmbeddedNetworkIdentifier | Code | SE01008111 |
| EmbeddedNetworkDescription | Description | Kingston-On-Murray Caravan Park |
| SuburbOrPlaceOrLocality | Suburb / Locality | Kingston-On-Murray |
| PostCode | Postcode | 5331 |
| StateOrTerritory | State | SA |
| RowStatus | Activity Status | A |
| FromDate | Start Date | 05-04-2003 |
| ToDate | End Date | 31-12-9999 |
| MaintenanceDate | Updated On | 31-12-9999 |
| CreationDate | | 01-04-2003 13:23:35 |

Standing Data for MSATS

| CATS_NMI_Data | | | |
|----------------------------------|-----------------------------|----------------------|-------------------------|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| NMI | NMI | 122334451 | 1122334455 |
| NMIClassificationCode | NMI Classification Code | SMALL | LARGE |
| MasterData/Status | Status Code | A | G |
| TransmissionNode Identifier | TNI Code | NRGE | SBER |
| JurisdictionCode | Jurisdiction Code | NSW | SA |
| DistributionLoss FactorCode | DLF Code | NRGE | NLV2 |
| ChildEmbedded NetworkIdentifier | Embedded Network ID (Child) | NS01008111 | SE01008111 |
| ParentEmbedded NetworkIdentifier | Embedded Network (Parent) | NS01008111 | SE01008111 |
| BuildingOrProperty Name | Building / Property Name | BP | SHELL |
| LotNumber | Lot Number | 22 | 23 |
| FlatOrUnitNumber | Flat/Unit Number | 1 | 2 |
| FlatOrUnitType | Flat/Unit Type | U | U |
| FloorOrLevelNumber | Flat/Unit Number | 1 | 1 |
| FloorOrLevelType | Floor/Level Type | FL | FL |
| HouseNumber | House Number | 6 | 10 |
| HouseNumberSuffix | House Number Suffix | A | B |
| StreetName | Street Name | BORIS | DORIS |
| StreetSuffix | Street Name Suffix | N | W |
| StreetType | Street Type | DR | ST |
| SuburbOrPlaceOrLocality | Suburb/Locality | ORANGE | LOXTON |
| LocationDescriptor | Location Descriptor | CNR FRED ST | SHELL SERVICE STATION |
| PostCode | Postcode | 2211 | 5333 |
| StateOrTerritory | State | NSW | SA |
| DeliveryPointIdentifier | DPID | 01234567 | 12345678 |
| AddressLine | Unstructured Address 1 | Text | Text |
| AddressLine | Unstructured Address 2 | Text | Text |
| AddressLine | Unstructured Address 3 | Text | Text |
| Aggregate | Aggregate Flag | Y | Y |
| FromDate | Start Date | 01-06-2004 | 01-06-2001 |
| ToDate | End Date | 31-12-9999 | 01-01-2003 |
| MaintenanceDate | Updated On | 31-12-9999 00:00:00 | 05-01-2003 00:01:00 |
| CreationDate | Created On | 04-01-2004 09:31:00 | 01-06-2001 00:01:00 |
| RowStatus | Activity Status | A | A |
| FeederClass | Feeder Class | ERGUD | ERGUD |
| Customer | Customer | RESIDENTIAL | BUSINESS |

| CATS_NMI_Data | | | |
|--------------------------|---------------------------|----------------------|-------------------------|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| ClassificationCode | Classification | | |
| CustomerThresholdCode | Customer Threshold | LOW | HIGH |

| CATS_NMI_Data_Stream | | | |
|---|---------------------------|----------------------|-------------------------|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| NMI | NMI | 1100445566 | 2211335544 |
| ElectricityDataStream/Suffix | Suffix | 31 | N1 |
| ElectricityDataStream/Status | Status Code | A | A |
| ElectricityDataStream/AveragedDailyLoad | Average Daily Load | 5 | 800 |
| ElectricityDataStream/DataStreamType | Type | C | I |
| ElectricityDataStream/ProfileName | Profile Name | NSLP | NOPROF |
| FromDate | Start Date | 31-12-2001 | 01-06-2005 |
| ToDate | End Date | 31-12-9999 | 31-12-9999 |
| MaintenanceDate | Updated On | 02-01-2004 13:27:58 | 31-12-9999 |
| CreationDate | Created On | 19-01-2002 17:15:23 | 05-06-2005 15:12:20 |
| RowStatus | Activity Status | I | A |

| CATS_Register_Identifier | | | |
|---------------------------------|---|---------------------------------|-------------------------|
| Data Element Name | Browser Field Name | Basic Example | Interval Example |
| NMI | NMI | 1100445566 | 2211335544 |
| SerialNumber | Meter Serial ID Meter ID (Different on two screens) | 000012345 | 112258 |
| RegisterID | Register ID | 1 | E1 |
| NetworkTariffCode | Network Tariff Code | BLNB2CO | MB2RI |
| NetworkAdditionalInformation | Network Tariff Additional Information | General Supply Non TOU Eligible | LV TOU Demand Eligible |
| UnitOfMeasure | Unit of Measure | KWH | KWH |
| TimeOfDay | Time of Day | ALLDAY | ALLDAY |
| Multiplier | Multiplier | 1.00000 | 120.00000 |
| DialFormat | Dial Format | 5.00 | 5.10 |
| Suffix | Suffix | 11 | E1 |
| ControlledLoad | Controlled Load | HWLoad | No |
| Status | Status Code | C | C |
| ConsumptionType | Actual/Cumulative Indicator | C | A |
| Demand1 | Demand 1 | 0 | 0 |
| Demand2 | Demand 2 | 0 | 0 |
| FromDate | Start Date | 01-08-2004 | 01-06-2005 |
| ToDate | End Date | 31-12-9999 | 31-12-9999 |
| MaintenanceDate | Updated On | 31-12-9999 | 31-12-9999 |
| CreationDate | Created On | 01-11-2005 22:30:30 | 05-06-2005 09:09:09 |
| RowStatus | Activity Status | A | A |

| CATS_NMI_Participant_Relations | | |
|---------------------------------------|---------------------------|-------------------------------------|
| Data Element Name | Browser Field Name | Basic & Interval Example |
| Party | Participant | ACTEWNGY |
| NMI | NMI | 9988776655 |
| Role | Role ID | FRMP |
| FromDate | Start Date | 01-08-2006 |
| ToDate | End Date | 31-12-9999 |
| MaintenanceDate | Updated On | 31-12-9999 |
| CreationDate | Created On | 08-08-2006 17:53:59 |
| RowStatus | Activity Status | A |

17. DATA TYPE CONVENTIONS

The Browser formats used in section 15 are as defined in the following table.

The value of "x" must be positive and cannot be zero.

For explanation of the aseXML data types shown in section 15 refer

<http://www.w3.org/TR/xmlschema-0/#simpleTypesTable>.

| | Format | Definition |
|----|---------------|---|
| 1. | CHAR(x) | Indicates a field that can only contain alphanumeric characters and must contain exactly "x" characters. Note that leading and trailing "spaces" are considered significant (i.e. form part of the "x" characters for the field). |
| 2. | VARCHAR2(x) | Indicates a character field containing up to "x" characters. |
| 3. | NUMBER(x) | Indicates a positive integer (zero or above) up to "x" significant digits long; any leading zeroes are not significant and hence "050" is equivalent to "50". |
| 4. | NUMBER(x.y) | Indicates a positive number with up to "x" significant characters to the left of the decimal point and "y" decimal places after the decimal point (trailing zeros are optional). In other words, the maximum length of the field as a whole is "x"+"y"+1 characters (the +1 reserving space for the decimal point). |

18. GLOSSARY

| Term | Explanation |
|---------------------|--|
| NEM | National Electricity Market |
| NSLP | Net System Load Profile |
| UMCP | Unmetered Connection Point |
| NMI Procedure | National Metering Identifier Procedure (NMI), Document No.: ME_GN059 |
| Metrology Procedure | NEM Metrology Procedure. |

End of Document