



# STANDING DATA FOR MSATS

**Prepared by:** AEMO MARKETS

**Version:** 5.3~~5~~4

**Effective date:** ~~4 March 2023~~ 17 April 2023

**Status:** ~~Final~~ Final

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**Date:** ~~13 April 2023~~ 27 February 2023

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## Current version release details

| Version              | Effective date                | Summary of changes   |
|----------------------|-------------------------------|--|
| <a href="#">5.35</a> | <a href="#">17 April 2023</a> | <a href="#">Updated to include additional CT Ratio Available</a> |

**Note: There is a full version history at the end of this document.**

# 1. Introduction

## 1.1. Purpose and scope

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

This document forms part of each of the Retail Electricity Market Procedures and will be amended when another Retail Electricity Market Procedure requires amendment. The consultation process applicable to the relevant Retail Electricity Market Procedure will also apply to the necessary amendments to this document.

## 1.2. Definitions and interpretation

The Retail Electricity Market Procedures – Glossary and Framework:

- a) is incorporated into and forms part of this document; and
- b) should be read with this document.

## 1.3. Related documents

| Title   | Location  |
|---|---|
| Retail Electricity Market Procedures – Glossary and Framework | <a href="https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering">https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering</a>   |
| CATS Procedures   | <a href="http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions">http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions</a> |
| WIGS Procedures   | <a href="http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions">http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions</a> |
| MDM Procedures  | <a href="http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions">http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions</a> |
| MSATS CATS history Model                                      | <a href="http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions">http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions</a> |
| MSATS guides  | <a href="http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions">http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions</a> |

# 2. BACKGROUND

The five MSATS master tables contain the standing data stored for each *NMI*. They are the following:

**Table 1 MSATS Master Tables**

| Table                          | Summary of Contents  |
|--------------------------------|--|
| CATS_NMI_DATA                  | Address, TNI Code, DLF Code, aggregate flag, embedded network names, Jurisdiction, NMI status code, etc.   |
| CATS_NMI_PARTICIPANT_RELATIONS | Roles and associated Participants. Separate records are maintained for each Role/Participant relationship. |
| CATS_NMI_DATA_STREAM           | Suffix, ADL Code, Profile Name, Datastream type and datastream status of each MDM Datastream.              |
| CATS_METER_REGISTER            | Meter Serial ID, meter type, meter manufacturer, test results, etc.  |
| CATS_REGISTER_IDENTIFIER       | Meter Serial ID, Network Tariff Code, unit of measure etc.   |

For a *NMI* to be capable of being used in MSATS, it must have the following minimum set of data:

- 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 MDM 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.

### 3. Conventions used within this document

The format of the data fields in the ‘Browser Format Column’ column of Tables is as defined in Section 16.

The following information defines the coded entries in columns used in Tables 3, 6, 9, 12, 15, 18 and 21..

#### 3.1. Column Headed: Standing Data Required

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

**Table 2** Explanation of Standing Data Requirements

| Requirement      | Description  |
|------------------|--|
| 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, 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, “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.                                 |

#### 3.2. NMIs Affected

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

- All *connection points* points where a *transmission network* connects to another *transmission network*.

- All *connection points* where a *transmission network* connects to a *distribution network*, i.e. *bulk supply connection points*.
- All *transmission network connection points* where *energy* is directly purchased from the *spot market* by a *Market Customer*, i.e. *wholesale connection points*.
- All *connection points* on a *distribution network* that *connect that distribution network* to an adjacent *distribution network* (other than an *embedded network*), i.e. *cross boundary connection points*.
- Sample meters as required by Metrology Procedures Part A to calculate CLP for participating jurisdictions.
- All connection points associated with a *non-registered embedded generator*, i.e. a *generating unit* that is not classified by a *Market Generator*, but is eligible to be classified by a *Small Generation Aggregator* as a *market generating unit*.
- All *type 7 loads*.
- All *non-contestable unmetered loads*.
- All *connection points* associated with a *generating unit* classified by a *Market Generator*.
- All *distribution network connection points* where *energy* is directly purchased from the *spot market* by a *Market Customer*.
- All *distribution network connection points* where there is a *market load*.
- All *child connection points*.



## 4. CATS\_METER\_REGISTER

### 4.1. Field Definitions

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 NSRD. It is updated whenever a Change Request containing inbound Meter Register data is completed.

Note: References to 'LNSP' include the ENM for *child connection points*.

**Table 3 CATS\_METER\_REGISTER – Field Definitions**

| Data Element Name                | Description  | Standing Data Required   | Party to Provide |
|----------------------------------|--|--|------------------|
| CurrentTransformerLocation       | A free text field to indicate the location of the current transformer at the site.   | REQUIRED<br>NOT USED for<br>NCONUML, BULK,<br>XBOUNDRY and<br>INTERCON | MPB              |
| CurrentTransformerType           | Whether the current transformer at the metering installation is single phase or three phase. This value must correspond to a valid Current Transformer Type value in the Valid Transformer Fields values reference table listed in section 11. | REQUIRED<br>NOT USED for<br>NCONUML, BULK,<br>XBOUNDRY and<br>INTERCON | MPB              |
| CurrentTransformerRatioAvailable | The available ratio of the current transformer at the metering installation. This value must correspond to a valid Current Transformer Ratio (Available) value in the Valid Transformer Fields values reference table listed in section 11.    | REQUIRED<br>NOT USED for<br>NCONUML, BULK,<br>XBOUNDRY and<br>INTERCON | MPB              |
| CurrentTransformerRatioConnected | The connected ratio of the current transformer at the metering installation. This value must correspond to a valid Current Transformer Ratio (Connected) value in the Valid Transformer Fields values reference table listed in section 11.    | REQUIRED<br>NOT USED for<br>NCONUML, BULK,<br>XBOUNDRY and<br>INTERCON | MPB              |
| CurrentTransformerAccuracyClass  | The accuracy class of the current transformer at the metering installation. This value must correspond to a valid Current Transformer Accuracy Class value in the Valid Transformer Fields values reference table listed in section 11.        | REQUIRED<br>NOT USED for BULK,<br>XBOUNDRY and<br>INTERCON             | MPB              |

| Data Element Name          | Description   | Standing Data Required  | Party to Provide |
|----------------------------|---|---|------------------|
| CurrentTransformerTest     | <p>Type of test performed on metering installation with Current Transformer which can be one of the following:</p> <ul style="list-style-type: none"> <li>TESTED (definition – part of 100% testing)</li> <li>SAMPLE TESTED (definition – tested as part of a sample plan)</li> <li>SAMPLE (definition – part of an approved sample plan)</li> </ul> <p>This value must correspond to a valid transformer test value in the Valid Transformer Test Values reference table listed in section 11.</p> | <p>REQUIRED<br/>NOT USED for BULK, XBOUNDRY and INTERCON</p>  | MPB              |
| CurrentTransformerTestDate | <p>A date that represents actual test date for metering installations with Current Transformer tested or date represents family expiry date for those included in an approved sample plan.</p>  | <p>REQUIRED<br/>NOT USED for BULK, XBOUNDRY and INTERCON</p>  | MPB              |
| GPSCoordinatesLat          | <p>GPS Coordinates Latitude is the angular measurement North or South of the equator in decimal degrees (5-7 decimal places). Angles South of the equator will be represented as negative values. E.g. -37.8886755. It is the latitude of the metering installation and not of the site.</p>  | <p>For NMIs with manually read meters: REQUIRED for 36 months from effective date of these Procedures, MANDATORY thereafter.</p> <p>For NMIs with remotely read meters: MANDATORY for new NMIs established from the effective date of these Procedures and all NMIs when they have a physical field site visit, REQUIRED for all other NMIs.</p> <p>Where no GPS coverage is available, a value of 0.00000 (5-7 decimal places) is to be used.</p> <p>Not Used for NMIS for Type 7 and NCONUML.</p> | MPB              |

| Data Element Name    | Description  | Standing Data Required   | Party to Provide |
|----------------------|--|--|------------------|
| GPSCoordinatesLong   | GPS Coordinates Longitude is the angular measurement East or West of the prime meridian in decimal degrees (5-7 decimal places). Angles East of the Prime Meridian (e.g. Australia) will be represented as positive values. E.g. +145.1410361. It is the longitude of the metering installation and not of the site. | <p>For NMIs with manually read meters: REQUIRED for 36 months from effective date of these Procedures, MANDATORY thereafter.</p> <p>For NMIs with remotely read meters: MANDATORY for new NMIs established from the effective date of these Procedures and all NMIs when they have a physical field site visit, REQUIRED for all other NMIs.</p> <p>Where no GPS coverage is available, a value of 0.00000 (5-7 decimal places) is to be used.<br/>Not Used for NMIS for Type 7 and NCONUML.</p> | MPB              |
| LastTestDate         | The date on which the <i>metering installation</i> was last tested or inspected by the Metering Provider “B”. This date will be used if clause 7.9.4(a) of the NER needs to be applied.  | REQUIRED   | MPB              |
| Hazard               | Free text or code identifying hazards associated with reading, maintaining or installing the <i>meter</i> . If the following are present at the <i>metering installation</i> , they should be listed in this field:<br>Asbestos  | REQUIRED   | MPB              |
| InstallationTypeCode | The InstallationTypeCode may identify attributes of a physical <i>metering installation</i> , <i>metering data</i> collection methods or <i>metering data</i> calculation methods.<br>This value must correspond to a valid Meter Installation Type Code as referenced in MSATS Procedures: CATS Procedures.         | MANDATORY  | MPB              |

| Data Element Name | Description   | Standing Data Required | Party to Provide |
|-------------------|---|------------------------|------------------|
| Location          | Free text descriptive material identifying the relationship between the location of the <i>metering point</i> and the <i>connection point</i> .   | REQUIRED               | MPB              |
| Manufacturer      | Free text field to identify the manufacturer of the installed <i>meter</i> . This field will be an enumerated list of values corresponding to current Meter Manufacturers in the industry with the options of UNMETERED and UNKNOWN.  | MANDATORY              | MPB              |
| Model             | Free text field to identify the <i>meter</i> manufacturer's designation for the <i>meter</i> model. This field will be an enumerated list of values corresponding to current Meter Models in the industry with the options of UNMETERED and UNKNOWN.  | MANDATORY              | MPB              |
| ReadTypeCode      | Code to denote the method and frequency of Meter Reading.<br>First Character = Remote (R) or Manual (M);<br>Second Character = Mode<br>T = telephone<br>W = wireless<br>P = powerline<br>I = infra-red<br>G = galvanic<br>V = visual<br>Third Character = Frequency of Scheduled Meter Readings<br>1 = Twelve times per year<br>2 = Six times per year<br>3 = Four times per year<br>D = Daily or weekly<br>Fourth Character =<br><ul style="list-style-type: none"> <li>o A – 5 minute</li> <li>o B – 15 minute</li> <li>o C – 30 minute</li> <li>o D – Cannot convert to 5-minute (i.e. due to metering installation de-energised)</li> <li>o M - Manually Read Accumulation Meter</li> </ul> For example, MV3M = Manual, Visual, Quarterly, Manually Read Accumulation Meter; RWDC = Remote, Wireless, Daily, 30 minutes interval, RWD = Remote, Wireless, Daily (applicable for Vic AMI <i>metering installations</i> where InstallationTypeCode = 'MRIM' and JurisdictionCode = 'Victoria'). | REQUIRED               | MPB              |

| Data Element Name          | Description  | Standing Data Required  | Party to Provide                    |
|----------------------------|--|---|-------------------------------------|
| SerialNumber               | <p>The Meter Serial ID uniquely identifies a <i>meter</i> for a given <i>NMI</i>. Maximum 12 Characters (alpha numeric). Unique for <i>NMI</i>.</p> <p>Use dummy for UMCP (Type 7), logical (meters) and <i>non-contestable unmetered loads</i>.</p> <p>Except for UMCP, logical, and <i>non-contestable unmetered loads</i>, SerialNumber should be as displayed on the physical device (also known as property number). SerialNumber to be property number if exists, otherwise the <i>meter</i> manufacturer's serial number, otherwise dummy number.</p> | MANDATORY   | MPB                                 |
| Status                     | <p>A code to denote the status of the <i>meter</i>.</p> <p>This value must correspond to a valid Meter Register Status as specified in the MSATS Procedures: CATS Procedures.</p>  | MANDATORY   | MPB                                 |
| Use                        | <p>A code identifying how the <i>meter</i> is used. This value must correspond to a valid Meter Use value in the Valid Meter Use Codes reference table listed in section 11.</p>   | MANDATORY   | MPB                                 |
| NextScheduledReadDate      | <p>Indicates the Scheduled Next Read Date for the <i>meter</i> if a manual Meter Reading is required.</p>  | <p>MANDATORY for manually read meters, REQUIRED for Type 7 metering installations with calculated metering data where the forward estimate process is using a BLOCK methodology, and NOT USED for remotely read meters</p> <p>=</p> | MPB initially, then MDP for updates |
| NMI                        | <p><i>NMI</i>. This number is unique for each <i>connection point</i> within the <i>NEM</i>.</p>   | MANDATORY   | LNSP                                |
| TestResult                 | <p>The result from the test performed on the date indicated in the LastTestDate field. This value must correspond to a valid Test Result value in the Valid Test Result Codes reference table listed in section 11.</p>  | REQUIRED  | MPB                                 |
| VoltageTransformerLocation | <p>A free text field to indicate the location of the voltage transformer at the site.</p>  | <p>REQUIRED</p> <p>NOT USED for NCONUML, BULK, XBOUNDRY and INTERCON</p>  | MPB                                 |

| Data Element Name               | Description  | Standing Data Required  | Party to Provide                  |
|---------------------------------|--|---|-----------------------------------|
| VoltageTransformerType          | Whether the voltage transformer at the metering installation is single phase or three phase. This value must correspond to a valid Voltage Transformer Type value in the Valid Transformer Fields values reference table listed in section 11.   | REQUIRED<br>NOT USED for NCONUML, BULK, XBOUNDRY and INTERCON | MPB                               |
| VoltageTransformerRatio         | The available or connected ratio of the voltage transformer at the metering installation. This value must correspond to a valid Voltage Transformer Ratio value in the Valid Transformer Fields values reference table listed in section 11.   | REQUIRED<br>NOT USED for NCONUML, BULK, XBOUNDRY and INTERCON | MPB                               |
| VoltageTransformerAccuracyClass | The accuracy class of the voltage transformer at the metering installation. This value must correspond to a valid Voltage Transformer Type value in the Valid Transformer Fields values reference table listed in section 11.  | REQUIRED<br>NOT USED for BULK, XBOUNDRY and INTERCON          | MPB                               |
| VoltageTransformerTest          | Type of test performed on metering installation with Voltage Transformer which can be one of the following: <ul style="list-style-type: none"> <li>TESTED (definition – part of 100% testing)</li> <li>Sample SAMPLE TESTED (definition – tested as part of a sample plan)</li> <li>SAMPLE (definition – part of an approved sample plan)</li> </ul> This value must correspond to a valid transformer test value in the Valid Transformer Test Values reference table listed in section 11. | REQUIRED<br>NOT USED for BULK, XBOUNDRY and INTERCON          | MPB                               |
| VoltageTransformerTestDate      | A date that represents actual test date for metering installation with Voltage Transformer tested or date represents family expiry date for those included in an approved sample plan.   | REQUIRED<br>NOT USED for BULK, XBOUNDRY and INTERCON          | MPB                               |
| 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   | Participant 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).<br>A default date of 9999-12-31 is recorded if EndDate is not provided.   | MANDATORY<br>(Defaults to high date unless supplied)          | System generated unless supplied. |
| RowStatus                       | Indicates whether the record is active or inactive.  | MANDATORY   | System generated                  |

| Data Element Name | Description   | Standing Data Required | Party to Provide |
|-------------------|---|------------------------|------------------|
|                   | Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and its MaintActFlg is changed to I (Inactive).   |                        |                  |
| MaintenanceDate   | Date and time the record was updated.<br>A default date of 9999-12-31 is used when the record is created initially.<br>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 |

## 4.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 4 CATS\_Meter\_Register – Browser Cross Reference**

| Browser Field Name                 | aseXML Data Element Name         | aseXML Path                                       | Browser Format | aseXML Data Type          |
|------------------------------------|----------------------------------|---|----------------|---------------------------|
| Current Transformer Location       | CurrentTransformerLocation       | ElectricityMeter/CurrentTransformerLocation       | VARCHAR(50)    | xsd:string<br>maxLen = 50 |
| Current Transformer Type           | CurrentTransformerType           | ElectricityMeter/CurrentTransformerType           | VARCHAR(20)    | xsd:string<br>maxLen = 20 |
| Current Transformer RatioAvailable | CurrentTransformerRatioAvailable | ElectricityMeter/CurrentTransformerRatioAvailable | VARCHAR(50)    | xsd:string<br>maxLen = 50 |
| Current Transformer RatioConnected | CurrentTransformerRatioConnected | ElectricityMeter/CurrentTransformerRatioConnected | VARCHAR(20)    | xsd:string<br>maxLen = 20 |
| Current Transformer Accuracy Class | CurrentTransformerAccuracyClass  | ElectricityMeter/CurrentTransformerAccuracyClass  | VARCHAR(50)    | xsd:string<br>maxLen = 50 |

| Browser Field Name  | aseXML Data Element Name   | aseXML Path                               | Browser Format                               | aseXML Data Type  |
|---|----------------------------|---|--|---|
| Current Transformer Test                                  | CurrentTransformerTest     | ElectricityMeter/CurrentTransformerTest   | VARCHAR2(20)                                 | xsd:string<br>maxLen = 20   |
| Current Transformer Test Date                             | CurrentTransformerTestDate | ElectricityMeter/LastTestDate             | dd-mmm-yyyy                                  | xsd:date  |
| GPS Coordinates - Latitude                                | GPSCoordinates             | ElectricityMeter/GPSCoordinates/Latitude  | NUMERIC (s2.7)                               | xsd:decimal<br>minIncl = -99.9999999<br>maxIncl = 99.9999999<br>totdig = 2<br>fracdig = 7 |
| GPS Coordinates - Longitude                               | GPSCoordinates             | ElectricityMeter/GPSCoordinates/Longitude | NUMERIC (s3.7)                               | xsd:decimal<br>minIncl = 0<br>maxIncl = 999.9999999<br>totdig = 3<br>fracdig = 7          |
| Last Test Date  | LastTestDate               | ElectricityMeter/LastTestDate             | dd-mmm-yyyy                                  | xsd:date  |
| Meter Hazard  | Hazard                     | ElectricityMeter/Hazard                   | VARCHAR2(100)                                | xsd:string<br>maxLen = 100  |
| Meter Installation Type Code                              | InstallationTypeCode       | ElectricityMeter/InstallationType Code    | VARCHAR2(8)                                  | xsd:string<br>maxLen = 8  |
| Meter Location  | Location                   | ElectricityMeter/Location                 | VARCHAR2(200)<br>See AddlSiteInfo<br>(above) | xsd:string<br>maxLen = 200  |
| Meter Manufacturer  | Manufacturer               | ElectricityMeter/Manufacturer             | VARCHAR2(15)                                 | xsd:string<br>maxLen = 15   |
| Meter Model   | Model                      | ElectricityMeter/Model                    | VARCHAR2(12)                                 | xsd:string<br>maxLen = 12   |
| Meter Read Type   | ReadTypeCode               | ElectricityMeter/ReadTypeCode             | VARCHAR(4)                                   | xsd:string<br>maxLen = 4  |
| Meter Serial ID<br>Meter ID<br>(Different on two screens) | SerialNumber               | ElectricityMeter/SerialNumber             | VARCHAR2(12)                                 | xsd:string<br>maxLen = 12   |
| Status Code   | Status                     | ElectricityMeter/Status                   | CHAR(1)                                      | xsd:string<br>with enumeration  |



| Browser Field Name                 | aseXML Data Element Name          | aseXML Path  | Browser Format  | aseXML Data Type          |
|------------------------------------|-----------------------------------|--|---|---------------------------|
| Meter Use                          | Use                               | ElectricityMeter/Use                               | VARCHAR2(10)  | xsd:string<br>maxLen = 10 |
| Next Scheduled Read Date           | NextScheduledReadDate             | ElectricityMeter/NextScheduledReadDate             | dd-mmm-yyyy   | xsd:date                  |
| NMI                                | NMI                               | NMI  | CHAR(10)  | xsd:string<br>maxLen = 10 |
| Test Result                        | TestResult                        | ElectricityMeter/TestResult                        | VARCHAR2(4)   | xsd:string<br>maxLen = 4  |
| Voltage Transformer Location       | VoltageTransformerLocation        | ElectricityMeter/VoltageTransformerLocation        | VARCHAR(50)   | xsd:string<br>maxLen = 50 |
| Voltage Transformer Type           | VoltageTransformerType            | ElectricityMeter/VoltageTransformerType            | VARCHAR(50)   | xsd:string<br>maxLen = 50 |
| Voltage Transformer Ratio          | VoltageTransformerRatio           | ElectricityMeter/VoltageTransformerRatio           | VARCHAR(50)   | xsd:string<br>maxLen = 50 |
| Voltage Transformer Accuracy Class | VoltageTransformerAccuracyClasses | ElectricityMeter/VoltageTransformerAccuracyClasses | VARCHAR(20)   | xsd:string<br>maxLen = 20 |
| Voltage Transformer Test           | VoltageTransformerTest            | ElectricityMeter/VoltageTransformerTest            | VARCHAR2(20)  | xsd:string<br>maxLen = 20 |
| Voltage Transformer Test Date      | VoltageTransformerTestDate        | ElectricityMeter/VoltageTransformerTestDate        | dd-mmm-yyyy   | xsd:date                  |
| 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<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime              |
| Created On                         | CreationDate                      | CreationDate                                       | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss                    | xsd:dateTime              |

| Browser Field Name | aseXML Data Element Name | aseXML Path | Browser Format  | aseXML Data Type               |
|--------------------|--------------------------|-------------|-----------------|--------------------------------|
|                    |                          |             | (detail screen) |                                |
| Activity Status    | RowStatus                | RowStatus   | CHAR(1)         | xsd:string<br>with enumeration |

### 4.3. Field value examples

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.

**Table 5 MSATS\_Meter\_Register - Example**

| Data Element Name<br>(as it appears in XML documents) | Browser Field Name(as it appears in MSATS<br>Browser) | Basic Example | Interval Example | Data Element Name               |
|---|---|---------------|------------------|---------------------------------|
| CurrentTransformerLocation                            | Current Transformer Location                          |               | BEHIND DOOR      | CurrentTransformerLocation      |
| CurrentTransformerType                                | Current Transformer Type                              |               | A                | CurrentTransformerType          |
| CurrentTransformerRatioAvailable                      | Current Transformer Ratio Available                   |               | 20/50/100:5      | CurrentTransformerRatio         |
| CurrentTransformerRatioConnected                      | Current Transformer Ratio Connected                   |               | 400:5            | CurrentTransformerRatio         |
| CurrentTransformerAccuracyClass                       | Current Transformer Accuracy Class                    |               | 0.2M             | CurrentTransformerAccuracyClass |
| CurrentTransformerTest                                | Current Transformer Test                              |               | TESTED           | CurrentTransformerTest          |
| CurrentTransformerTestDate                            | Current Transformer Test Date                         |               | 01-01-2020       | CurrentTransformerTestDate      |
| GPSCoordinates - Latitude                             | GPSCoordinatesLat                                     | -37.8886755   | -37.8886755      |                                 |
| GPSCoordinates - Longitude                            | GPSCoordinatesLong                                    | +145.1410361  | +145.1410361     |                                 |
| LastTestDate  | Last Test Date  | 07-05-2004    | 07-03-2004       | LastTestDate                    |
| Hazard  | Meter Hazard  |               | Asbestos         | Hazard                          |

| Data Element Name<br>(as it appears in XML documents) | Browser Field Name(as it appears in MSATS<br>Browser)   | Basic Example          | Interval Example       | Data Element Name               |
|---|---|------------------------|------------------------|---------------------------------|
| InstallationTypeCode                                  | Meter Installation Type Code                            | BASIC                  | COMMS4                 | InstallationTypeCode            |
| Location  | Meter Location  | ON SUB POLE            | BEHIND DOOR            | Location                        |
| Manufacturer  | Meter Manufacturer                                      | EMAIL                  | EDMI                   | Manufacturer                    |
| Model   | Meter Model   | Q3                     | Q4                     | Model                           |
| ReadTypeCode  | Meter Read Type   | MV3M                   | RTDA                   | ReadTypeCode                    |
| SerialNumber  | Meter Serial ID, Meter ID<br>(Different on two screens) | 525811                 | 201000299              | SerialNumber                    |
| Status  | Status Code   | C                      | C                      | Status                          |
| Use   | Meter Use   | REVENUE                | REVENUE                | Use                             |
| NextScheduledReadDate                                 | Next Scheduled Read Date                                | 04-10-2006             |                        | NextScheduledReadDate           |
| NMI   | NMI   | 1122334455             | 1122334455             | NMI                             |
| TestResulty   | Test Result Accuracy                                    | -0.20000               | -0.11000               | TestResult                      |
| VoltageTransformerLocation                            | Voltage Transformer Location                            |                        | BEHIND DOOR            | VoltageTransformerLocation      |
| VoltageTransformerType                                | Voltage Transformer Type                                |                        | IVT                    | VoltageTransformerType          |
| VoltageTransformerRatio                               | Voltage Transformer Ratio                               |                        | 3300:110               | VoltageTransformerRatio         |
| VoltageTransformerAccuracyClass                       | Voltage Transformer Accuracy Class                      |                        | 0.01M                  | VoltageTransformerAccuracyClass |
| VoltageTransformerTest                                | Voltage Transformer Test                                |                        | Tested                 | VoltageTransformerTest          |
| VoltageTransformerTestDate                            | Voltage Transformer Test Date                           |                        | 01-01-2020             | VoltageTransformerTestDate      |
| FromDate  | Start Date  | 14-03-1990             | 16-03-2002             | FromDate                        |
| ToDate  | End Date  | 31-12-9999             | 18-07-2006             | ToDate                          |
| MaintenanceDate                                       | Updated On  | 31-12-999<br>00:00:00  | 31-12-999<br>00:00:00  | MaintenanceDate                 |
| CreationDate  | Created On  | 19-03-1990<br>00:01:00 | 18-03-2002<br>00:01:00 | CreationDate                    |

## 5. CATS\_DLF\_CODES

### 5.1. Field Definitions

The CATS\_DLF\_Codes table contains a list of DLF Codes and their relevant values. The StartDate and DLFCode fields will need to be provided for *settlements* calculations.

Note: References to 'LNSP' include the ENM for child *connection points*.

**Table 6** CATS\_DLF\_CODES – Field Definitions

| Data Element Name                 | Description  | Standing Data Required | Party to Provide |
|-----------------------------------|--|------------------------|------------------|
| DistributionLossFactorCode        | A four character alpha-numeric code used to identify DLF values. All <i>NMIs</i> must be assigned a DLF Code. Refer to AEMO Distribution Loss Factor documents for each financial year..   | MANDATORY              | AEMO             |
| DistributionLossFactorDescription | Description of the DLF Code and value.   | MANDATORY              | AEMO             |
| DistributionLossFactorValue       | Numeric value up to 5 decimal places, reflecting the value of the DLF Code.  | MANDATORY              | AEMO             |
| JurisdictionCode                  | Jurisdiction code to which the <i>NMI</i> belongs.<br>This value must correspond to Jurisdiction Code values as specified in the MSATS Procedures: CATS Procedures.  | MANDATORY              | AEMO             |
| RowStatus                         | Indicates whether the DLF Code is active or inactive.<br>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and 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              | AEMO             |
| 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).<br>A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY              | System generated |

| Data Element Name | Description   | Standing Data Required | Party to Provide |
|-------------------|---|------------------------|------------------|
| MaintenanceDate   | Date and time the record was updated.<br>A default date of 9999-12-31 is used when the record is created initially.<br>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 |

## 5.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 7 CATS\_DLF\_Codes - Browser Cross Reference**

| Browser Field Name | aseXML Data Element Name          | aseXML Path   | Browser Format | aseXML Data Type   |
|--------------------|-----------------------------------|---|----------------|--|
| DLF Code           | DistributionLossFactorCode        | DistributionLossFactorCode                          | VARCHAR2(4)    | xsd:string<br>maxLen = 4   |
| Description        | DistributionLossFactorDescription | DistributionLossFactorDescription                   | VARCHAR2(50)   | xsd:string<br>maxLen = 50  |
| DLF Value          | DistributionLossFactorValue       | DistributionLossFactorValue                         | NUMBER(6,5)    | xsd:decimal<br>minIncl = 0<br>maxIncl = 6<br>totdig = 6<br>fracdig = 5 |
| Jurisdiction       | JurisdictionCode                  | ElectricityStandingData/MasterData/JurisdictionCode | VARCHAR2(3)    | xsd:string<br>maxLen = 3   |

| Browser Field Name | aseXML Data Element Name | aseXML Path     | Browser Format  | aseXML Data Type               |
|--------------------|--------------------------|-----------------|---|--------------------------------|
| Activity Status    | RowStatus                | RowStatus       | CHAR(1)   | xsd:string<br>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<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |
|                    | CreationDate             | CreationDate    | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |

### 5.3 Field value examples

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.

**Table 8** CATS\_DLF\_Codes - Example

| 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                        |

| Data Element Name | Browser Field Name | Basic & Interval Example |
|-------------------|--------------------|--------------------------|
| 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      |

## 6. CATS\_EMB\_NET\_ID\_CODES

### 6.1. Field Definitions

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 NMI or a Child NMI.

Note: References to 'LNSP' include the ENM for *child connection points*.

**Table 9 CATS\_EMB\_NET\_ID\_CODES – Field Definitions**

| Data Element Name          | Description  | Standing Data Required | Party to Provide |
|----------------------------|--|------------------------|------------------|
| EmbeddedNetworkIdentifier  | Embedded Network Code.<br>Refer to Allocation of Embedded Network Codes for further details.   | MANDATORY              | AEMO             |
| EmbeddedNetworkDescription | Description of embedded network identifier.  | MANDATORY              | AEMO             |
| SuburbOrPlaceOrLocality    | Locality to which the embedded network identifier belongs.   | MANDATORY              | AEMO             |
| PostCode                   | Postcode for the locality to which the embedded network identifier belongs.  | MANDATORY              | AEMO             |
| StateOrTerritory           | State or Territory abbreviation in accordance with AS 4590.  | MANDATORY              | AEMO             |
| RowStatus                  | Indicates whether the code is active or inactive.<br>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and 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.                       | MANDATORY              | AEMO             |

| Data Element Name | Description  | Standing Data Required | Party to Provide |
|-------------------|--|------------------------|------------------|
|                   | 00:00).  |                        |                  |
| 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).<br>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.<br>A default date of 9999-12-31 is used when the record is created initially.<br>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 |



## 6.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 10 CATS\_Emb\_Net\_ID\_Codes - Browser Cross Reference**

| Browser Field Name | aseXML Data Element Name   | aseXML Path  | Browser Format | aseXML Data Type                  |
|--------------------|----------------------------|--|----------------|-----------------------------------|
| Code               | EmbeddedNetworkIdentifier  | EmbeddedNetworkIdentifier  | VARCHAR2(10)   | xsd:string<br>maxLen = 10         |
| Description        | EmbeddedNetworkDescription | EmbeddedNetworkDescription   | VARCHAR2(50)   | xsd:string<br>maxLen = 50         |
| Locality/Suburb    | SuburbOrPlaceOrLocality    | ElectricityStandingData/MasterData/Address/AustralianAddresses/SuburbOrPlaceOrLocality | VARCHAR2(46)   | xsd:string<br>maxLen = 46         |
| Postcode           | PostCode                   | ElectricityStandingData/MasterData/Address/AustralianAddresses/PostCode                | VARCHAR2(4)    | xsd:string pattern:<br>[\p{N}]{4} |
| State              | StateOrTerritory           | ElectricityStandingData/MasterData/Address/AustralianAddresses/StateOrTerritory        | VARCHAR2(3)    | xsd:string<br>with enumerations   |
| Activity Status    | RowStatus                  | RowStatus  | CHAR(1)        | xsd:string<br>with enumeration    |
| Start Date         | FromDate                   | FromDate   | dd-mmm-yyyy    | xsd:dateTime                      |
| End Date           | ToDate                     | ToDate   | dd-mmm-yyyy    | xsd:dateTime                      |

| Browser Field Name | aseXML Data Element Name | aseXML Path     | Browser Format  | aseXML Data Type |
|--------------------|--------------------------|-----------------|---|------------------|
| Updated On         | MaintenanceDate          | MaintenanceDate | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime     |
| Created On         | CreationDate             | CreationDate    | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime     |

### 6.3. Field value examples

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.

Table 11 CATS\_Emb\_Net\_ID\_Codes - Example

| 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         | 5/04/2003                       |
| ToDate                     | End Date           | 31/12/9999                      |
| MaintenanceDate            | Updated On         | 31/12/9999                      |

| Data Element Name | Browser Field Name | Basic & Basic Example |
|-------------------|--------------------|-----------------------|
| CreationDate      | Creation On        | 1/04/2003 13:23       |

## 7. CATS\_NMI\_DATA

### 7.1. Field Definitions

The CATS\_NMI\_DATA table records Master NMI Record data information. It is updated whenever a Change Request containing data in the CATS\_INBOUND\_NMI\_DATA table is completed.

Note: References to 'LNSP' include the ENM for *child connection points*.

Table 12 CATS\_NMI\_DATA – Field Definitions

| Data Element Name            | Description   | Standing Data Required | Party to Provide |
|------------------------------|---|------------------------|------------------|
| NMI                          | <i>NMI</i> .<br>All alpha characters are Upper Case   | MANDATORY              | LNSP             |
| NMI ClassificationCode       | Code used to indicate the NMI Classification Code of this <i>NMI</i> .<br>This value must correspond to NMI Classification Code values as specified in the MSATS Procedures: CATS Procedures.   | MANDATORY              | LNSP             |
| MasterData/ StatusCode       | Code used to indicate the status of the <i>NMI</i> .<br>This value must correspond to NMI Status Code values as specified in the MSATS Procedures: CATS Procedures.   | MANDATORY              | LNSP             |
| TransmissionNode Identifier  | This value must correspond to a valid code in the CATS_TNI_Codes table.   | MANDATORY              | LNSP             |
| TransmissionNode Identifier2 | TNI Code assigned, by AEMO, to a distribution network into which energy normally flows through a connection point between adjacent distribution networks that has a single NMI.<br>This value must correspond to a valid code in the CATS_TNI_Codes table.            | REQUIRED               | AEMO             |
| SharedIsolationPointFlag     | A flag (Yes, No, Isolated or Unknown) to indicate the Shared Fuse Arrangement for the <i>metering installation</i> .<br>Valid values are Y, N, I or U.<br>This value must correspond to a valid shared isolation point flag value in the Valid Shared Isolation Point | MANDATORY              | LNSP             |

| Data Element Name                   | Description  | Standing Data Required | Party to Provide |
|-------------------------------------|--|------------------------|------------------|
|                                     | Flag Values reference table listed in section 11.  |                        |                  |
| MeterMalfunctionExemptionNumber     | The exemption number granted by AEMO when a meter malfunction exemption is granted .   | REQUIRED               | AEMO             |
| MeterMalfunctionExemptionExpiryDate | The end date of the malfunction exemption.   | REQUIRED               | AEMO             |
| JurisdictionCode                    | Jurisdiction code to which the <i>NMI</i> belongs. This code defines the jurisdictional rules which apply to the transfer of this <i>NMI</i> .<br>This value must correspond to Jurisdiction Code values as specified in the MSATS Procedures: CATS Procedures.  | MANDATORY              | LNSP             |
| DistributionLossFactorCode          | Distribution Loss Factor Code. Must be a valid code in the CATS_DLF_Codes table.   | MANDATORY              | LNSP             |
| ConnectionConfiguration             | Two-character code to denote information about the configuration of the connection point.<br>First Character = Connection Type.<br>H = <i>High voltage</i> (as defined in the NER)<br>L = Low voltage (lower than the threshold defined for <i>high voltage</i> in the NER)<br>Second Character = Phases In Use. This refers to phases to the NMI.<br>1 = Single Phase<br>2 = Two-Phase<br>3 = Three-Phase<br>Information registered with a Greenfield NMI may be subject to change during the connection process.<br>Information may be subject to change during the NMI lifecycle. | MANDATORY              | LNSP             |
| ChildEmbeddedNetworkIdentifier      | The embedded network identifier code is used to identify which embedded network this given <i>NMI</i> is the 'child of'. (If on a NMI record this field is not populated, it is assumed the <i>NMI</i> is not the child of any other <i>NMI</i> .)<br>Must be a valid code within the CATS_Emb_Net_ID_Codes table.<br>This field cannot be used unless the Parent NMI has been created and assigned an embedded network identifier code. Refer section 30.4.a of the CATS Procedure.   | REQUIRED               | LNSP             |
| ParentEmbeddedNetworkIdentifier     | The embedded network identifier code is used to identify which <i>embedded network</i> this given <i>NMI</i> is the 'parent of'. (If on a NMI record this field is not populated, it is assumed the <i>NMI</i> is not the parent of any other <i>NMI</i> .)<br>Must be a valid code within the CATS_Emb_Net_ID_Codes table.  | REQUIRED               | LNSP             |

| Data Element Name       | Description   | Standing Data Required | Party to Provide |
|-------------------------|---|------------------------|------------------|
| BuildingOrPropertyName  | A free text description of the full name used to identify the physical building or property as part of its location. Defines the building or property name, reference AS4590.                     | REQUIRED               | LNSP             |
| LotNumber               | The lot reference number allocated to an address prior to street numbering. The word 'LOT' is not required.   | REQUIRED               | LNSP             |
| FlatOrUnitNumber        | Specification of the number of the flat or unit which is a separately identifiable portion within a building/complex.   | REQUIRED               | LNSP             |
| 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.           | REQUIRED               | LNSP             |
| FloorOrLevelNumber      | Floor Number is used to identify the floor or level of a multi-storey building/complex.   | REQUIRED               | LNSP             |
| 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.            | REQUIRED               | LNSP             |
| HouseNumber             | The numeric reference of a house or property. Specifically the house number.  | REQUIRED               | LNSP             |
| HouseNumberSuffix       | The numeric reference of a house or property. Specifically the single character identifying the house number suffix.  | REQUIRED               | LNSP             |
| HouseNumberTo           | The numeric reference of a house or property for scenarios where the address is similar to 4-10 Smith St. For example, HouseNumber = 4 and HouseNumberTo = 10 where the address is 4-10 Smith St. | REQUIRED               | LNSP             |
| StreetName              | Records the thoroughfare name.<br>See notes at end of table for more information on Structured Addresses  | REQUIRED               | LNSP             |
| StreetSuffix            | Records street suffixes. This value must correspond to a valid Street Suffix Code, reference AS4590.  | REQUIRED               | LNSP             |
| StreetType              | Records the street type abbreviation. This value must correspond to a valid Street Type Code, reference AS4590.   | REQUIRED               | LNSP             |
| SuburbOrPlaceOrLocality | The full name of the general locality containing the specific address.  | MANDATORY              | LNSP             |
| LocationDescriptor      | A general field to capture various references to address locations alongside another physical location.   | REQUIRED               | LNSP             |

| Data Element Name       | Description   | Standing Data Required  | Party to Provide                                   |
|-------------------------|---|---|--|
| PostCode                | The descriptor for a postal delivery area, aligned with locality, suburb or place.  | MANDATORY   | LNSP   |
| StateOrTerritory        | Defined State or Territory abbreviation.  | MANDATORY   | LNSP   |
| GNAFPID                 | The Geocoded National Address File (G-NAF) Persistent Identifier (PID) for a given address.   | REQUIRED  | LNSP/<br>AEMO                                      |
| SectionNumber           | A section number corresponds to a reference that contributes to defining the legal boundaries of a plot of land in NSW and ACT  | REQUIRED for NSW and ACT<br>OPTIONAL in all other jurisdictions | LNSP   |
| DPNumber                | A deposited plan (DP) number corresponds to an image that defines the legal boundaries of a plot of land in NSW and ACT   | REQUIRED for NSW and ACT<br>OPTIONAL in all other jurisdictions | LNSP   |
| 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.   | REQUIRED  | LNSP/<br>AEMO                                      |
| Aggregate               | This flag determines whether the energy at this <i>connection point</i> is to be treated as consumer <i>load</i> or as a <i>generating unit</i> (this may include <i>generator</i> auxiliary loads).<br>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 11. | OPTIONAL  | (Defaults to ‘Y’, AEMO updates to ‘N’ as required) |
| 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.   | Required in QLD where   | LNSP   |

| Data Element Name                      | Description  | Standing Data Required                            | Party to Provide                  |
|--|--|---|-----------------------------------|
|  |  | relevant<br>OPTIONAL in all other jurisdictions   |                                   |
| Customer Classification Code           | A code that defines the consumer class as defined in the National Energy Retail Regulations, or in overriding 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 overriding Jurisdictional instruments.   | MANDATORY   | LNSP                              |
| FromDate                               | Start date of the NMI Data record. This indicates the date on which the parameters of this particular NMI data record apply from.<br>The data applies from the beginning of this date (the start of the day, i.e. 00:00).                                    | MANDATORY   | LNSP                              |
| 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).<br>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.<br>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and its MaintActFlg is changed to I (Inactive).   | MANDATORY   | System generated                  |
| MaintenanceDate                        | Date and time the record was updated.<br>A default date of 9999-12-31 is used when the record is created initially.<br>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                  |

## 7.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 13** CATS\_NMI\_Data

| Browser Field Name                      | aseXML Data Element Name                | aseXML Path  | Browser Format | aseXML Data Type          |
|---|---|--|----------------|---------------------------|
| NMI                                     | NMI                                     | NMI  | CHAR(10)       | xsd:string<br>maxLen = 10 |
| NMI Classification Code                 | NMIClassificationCode                   | ElectricityStandingData/MasterData/<br>NMIClassificationCode       | VARCHAR2(8)    | xsd:string<br>maxLen = 8  |
| Status Code                             | Status                                  | ElectricityStandingData/MasterData/Status                          | CHAR(1)        | xsd:string<br>maxLen = 1  |
| TNI Code                                | TransmissionNodeIdentifier              | ElectricityStandingData/MasterData/TransmissionNodeI<br>dentifier  | VARCHAR2(4)    | xsd:string<br>maxLen = 4  |
| TNI Code 2                              | TransmissionNodeIdentifier2             | ElectricityStandingData/MasterData/TransmissionNodeI<br>dentifier2 | VARCHAR2(4)    | xsd:string<br>maxLen = 4  |
| Shared Isolation Point Flag             | SharedIsolationPointFlag                | ElectricityMeter/ SharedIsolationPointFlag                         | CHAR(1)        | xsd:string<br>maxLen = 1  |
| Meter Malfunction Exemption Number      | MeterMalfunctionExemptionNumb<br>er     | ElectricityMeter/MeterMalfunctionExemptionNumber                   | VARCHAR2(8)    | xsd:string<br>maxLen = 8  |
| Meter Malfunction Exemption Expiry Date | MeterMalfunctionExemptionExpiry<br>Date | ElectricityMeter/MeterMalfunctionExemptionExpiryDate               | dd-mmm-yyyy    | xsd:date                  |
| Jurisdiction Code                       | JurisdictionCode                        | JurisdictionCode   | VARCHAR2(3)    | xsd:string<br>maxLen = 3  |



| Browser Field Name          | aseXML Data Element Name        | aseXML Path  | Browser Format | aseXML Data Type                                |
|-----------------------------|---------------------------------|--|----------------|---|
| Connection Configuration    | ConnectionConfiguration         | ElectricityMeter/ConnectionConfiguration   | VARCHAR2(2)    | xsd:string<br>maxLen = 2                        |
| DLF Code                    | DistributionLossFactorCode      | ElectricityStandingData/MasterData/DistributionLossFactorCode  | VARCHAR2(4)    | xsd:string<br>maxLen = 4                        |
| Embedded Network ID (Child) | ChildEmbeddedNetworkIdentifier  | ElectricityStandingData/MasterData/ChildEmbeddedNetworkIdentifier  | VARCHAR2(10)   | xsd:string<br>maxLen = 10                       |
| Embedded Network (Parent)   | ParentEmbeddedNetworkIdentifier | ElectricityStandingData/MasterData/ParentEmbeddedNetworkIdentifier   | VARCHAR2(10)   | xsd:string<br>maxLen = 10                       |
| Building / Property Name    | BuildingOrPropertyName          | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/BuildingOrPropertyName          | VARCHAR2(30)   | xsd:string maxLen = 30<br>x 2                   |
| Lot Number                  | LotNumber                       | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/Lot/LotNumber                   | VARCHAR2(6)    | xsd:string pattern:<br>[\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:<br>[\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<br>[\p{L}\p{N}\p{P}\s]{1,5}          |
| 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<br>maxIncl = 99999       |
| House Number Suffix         | HouseNumberSuffix               | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/House/HouseNumberSuffix         | VARCHAR2(1)    | xsd:string pattern:<br>[\p{L}\p{N}]{1}          |

| Browser Field Name  | aseXML Data Element Name | aseXML Path  | Browser Format | aseXML Data Type   |
|---------------------|--------------------------|--|----------------|--|
| House Number To     | HouseNumberTo            | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/House/HouseNumberTo     | NUMBER(5)      | xsd:nonNegativeInteger<br>maxIncl = 99999                          |
| Street Name         | StreetName               | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/Street/StreetName       | VARCHAR2(30)   | xsd:string pattern:<br>[\p{L}\p{N}\s\-\-]{1,30}                    |
| Street Name Suffix  | StreetSuffix             | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/Street/StreetSuffix     | VARCHAR2(2)    | xsd:string with<br>enumerations                                    |
| Street Type         | StreetType               | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/Street/StreetType       | VARCHAR2(4)    | xsd:string with<br>enumerations                                    |
| Suburb/Locality     | SuburbOrPlaceOrLocality  | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/SuburbOrPlaceOrLocality | VARCHAR2(46)   | xsd:string maxLen =<br>46  |
| Location Descriptor | LocationDescriptor       | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/LocationDescriptor      | VARCHAR2(200)  | xsd:string pattern:<br>[\p{L}\p{N}\p{P}\s]{1,30}                   |
| Postcode            | PostCode                 | ElectricityStandingData/MasterData/Address/AustralianAddress/PostCode                                  | VARCHAR2(4)    | xsd:string pattern:<br>[\p{N}]{4}                                  |
| State               | StateOrTerritory         | ElectricityStandingData/MasterData/Address/AustralianAddress/StateOrTerritory                          | VARCHAR2(3)    | xsd:string with<br>enumerations                                    |
| DPID                | DeliveryPointIdentifier  | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/DeliveryPointIdentifier | NUMBER(8)      | xsd:nonNegativeInteger<br>minIncl = 10000000<br>maxIncl = 99999999 |
| GNAF PID            | GNAFPID                  | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/GNAFPID                 | VARCHAR2(20)   | xsd:string<br>maxLen = 20  |

| Browser Field Name                     | aseXML Data Element Name   | aseXML Path  | Browser Format  | aseXML Data Type               |
|--|----------------------------|--|---|--------------------------------|
| Section Number                         | SectionNumber              | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/SectionNumber | VARCHAR2(20)  | xsd:string<br>maxLen = 20      |
| DP Number                              | DPNumber                   | ElectricityStandingData/MasterData/Address/AustralianAddress/StructuredAddress/DPNumber      | VARCHAR2(20)  | xsd:string<br>maxLen = 20      |
| Aggregate Flag                         | Aggregate                  | ElectricityStandingData/MasterData/Aggregate   | CHAR(1)   | xsd:string<br>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<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |
| Created On                             | CreationDate               | CreationDate   | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |
| Activity Status                        | RowStatus                  | RowStatus  | CHAR(1)   | xsd:string<br>with enumeration |
| Feeder Class                           | Feeder Class               | ElectricityStandingData/MasterData/FeederClass   | VARCHAR2(15)  | xsd:string maxLen = 15         |
| Customer Classification Code           | CustomerClassificationCode | ElectricityStandingData/MasterData/CustomerClassificationCode                                | VARCHAR2(20)  | xsd:string maxLen = 20         |
| Customer Classification Threshold Code | CustomerThresholdCode      | ElectricityStandingData/MasterData/CustomerThresholdCode                                     | VARCHAR2(20)  | xsd:string maxLen = 20         |

### 7.3. Field value examples

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.

**Table 14** CATS\_NMI\_Data Field value examples

| Data Element Name                   | Browser Field Name                      | Basic Example | Interval Example |
|-------------------------------------|---|---------------|------------------|
| NMI                                 | NMI                                     | 122334451     | 1122334455       |
| NMClassificationCode                | NMI Classification Code                 | SMALL         | LARGE            |
| MasterData/Status                   | Status Code                             | A             | G                |
| TransmissionNodeIdentifier          | TNI Code                                | NRGE          | SBER             |
| TransmissionNodeIdentifier2         | TNI Code 2                              |               | SORA             |
| SharedIsolationPointFlag            | Shared Isolation Point Flag             | N             | Y                |
| MeterMalfunctionExemptionNumber     | Meter Malfunction Exemption Number      | ERF 0001      | ERF 0001         |
| MeterMalfunctionExemptionExpiryDate | Meter Malfunction Exemption Expiry Date | 07-05-2020    | 07-05-2020       |
| JurisdictionCode                    | Jurisdiction Code                       | NSW           | SA               |
| ConnectionConfiguration             | Connection Configuration                | L1            | H3               |
| DistributionLossFactorCode          | DLF Code                                | NRGE          | NLV2             |
| ChildEmbeddedNetworkIdentifier      | Embedded Network ID (Child)             | NS01008111    | SE01008111       |
| ParentEmbeddedNetworkIdentifier     | Embedded Network (Parent)               | NS01008111    | SE01008111       |
| BuildingOrPropertyName              | Building / Property Name                | BP            | SHELL            |
| LotNumber                           | Lot Number                              | 22            | 23               |
| FlatOrUnitNumber                    | Flat/Unit Number                        | 1             | 2                |

| Data Element Name       | Browser Field Name  | Basic Example       | Interval Example      |
|-------------------------|---------------------|---------------------|-----------------------|
| 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                     |
| HouseNumberTo           | House Number To     | 10                  | 17                    |
| 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              |
| GNAFPID                 | GNAF PID            | GDA2020             | GDA2020               |
| SectionNumber           | Section Number      | Section 23K         | Section 23K           |
| DPNumber                | DP Number           | DP 825310           | DP 825310             |
| 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                 |

| Data Element Name          | Browser Field Name      | Basic Example | Interval Example |
|----------------------------|-------------------------|---------------|------------------|
| CustomerClassificationCode | Customer Classification | RESIDENTIAL   | BUSINESS         |
| CustomerThresholdCode      | Customer Threshold      | LOW           | HIGH             |

## 8. CATS\_NMI\_DATA\_STREAM

### 8.1. Field Definitions

The CATS\_NMI\_Data\_Stream table is a NMI master table containing data that is stored at the *NMI* Datastream level. Information stored at this level includes suffixes, profile name, average daily load etc. It is updated whenever a Change Request containing inbound Datastream data is completed.

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

Note: References to 'LNSP' include the ENM for *child connection points*.

**Table 15 CATS\_NMI\_DATA\_STREAM – Field Definitions**

| Data Element Name            | Description   | Standing Data Required | Party to Provide |
|------------------------------|---|------------------------|------------------|
| NMI                          | <i>NMI</i>  | MANDATORY              | MDP<br>LNSP      |
| ElectricityDataStream/Suffix | The Metering Datastream identifier (for MDM).<br>Identifies the ElectricityDataStream Suffix as delivered to AEMO for NEM Settlement calculations, profile peeloff, UFE analysis and Vic TUOS sites.<br>The value must be a valid as per Datastream suffix details specified in the MSATS Procedures: National Metering Identifier procedure.<br>The value must match the MDMContributorySuffix value provided in an MDFF File. | MANDATORY              | MDP              |
| ElectricityDataStream/Status | Code used to indicate the status of the suffix.<br>This value must correspond to a valid Datastream Status Code as specified in the MSATS Procedures: CATS procedures.  | MANDATORY              | MDP              |
| AveragedDailyLoad            | The <i>energy</i> delivered or generation delivered via a datastream over an extended period normalised to a  | MANDATORY              | MDP              |

| Data Element Name | Description  | Standing Data Required                               | Party to Provide                  |
|-------------------|--|--|-----------------------------------|
|                   | "per day" basis (kWh).   |  |                                   |
| DataStreamType    | Indicates the primary function of the ElectricityDatastream Suffix. i.e. inclusion within NEM Settlement calculations, UFE analysis, profile peeloff or Vic TUOS.<br>This value must correspond to a valid DataStreamType in the Data Stream Type Codes reference table listed in section 11.  | MANDATORY  | MDP                               |
| ProfileName       | The Profile Name is a code that identifies the name of the algorithmically derived shape that is used to allocate a Datastream's consumption to TIs. This value must correspond to a valid code in the PROFILE table.<br>For all Interval Meters and sample <i>meters</i> , this must be set to 'NOPROF'.<br>For Accumulation Meters, refer to the MDM Profile for valid profile names. <ul style="list-style-type: none"> <li>In Victoria and the ACT, ProfileName must be NSLP.</li> <li>In NSW, QLD and SA, ProfileName must be NSLP or the relevant controlled load profile.</li> </ul> This value must correspond to a valid ProfileName value in the Profile Codes reference table listed in section 11. | MANDATORY  | MDP                               |
| FromDate          | Start date of the <i>NMI</i> data record. This indicates the date on which the parameters of this particular <i>NMI</i> data record apply from.<br>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).<br>A default date of 9999-12-31 is recorded if EndDate is not provided.   | MANDATORY<br>(Defaults to high date unless supplied) | System generated unless supplied. |
| RowStatus         | Indicates whether the record is active or inactive.<br>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and its MaintActFlg is changed to I (Inactive).   | MANDATORY  | System generated                  |
| MaintenanceDate   | Date and time the record was updated.<br>A default date of 9999-12-31 is used when the record is created initially.<br>If the record is subsequently updated, its MaintUpdtDt is changed to the date and time the record was updated.  | MANDATORY  | System generated                  |

| Data Element Name | Description                           | Standing Data Required | Party to Provide |
|-------------------|---------------------------------------|------------------------|------------------|
| CreationDate      | Date and time the record was created. | MANDATORY              | System generated |

## 8.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 16** CATS\_NMI\_DATA\_STREAM- Browser cross reference

| Browser Field name        | aseXML Data Element Name | aseXML Path                            | BrowserFormat | aseXMLData Type             |
|---------------------------|--------------------------|--|---------------|-----------------------------|
| <b>NMI</b>                | NMI                      | NMI                                    | CHAR(10)      | xsd:string maxLen=10        |
| <b>Suffix</b>             | Suffix                   | ElectricityDatastream/Suffix           | VARCHAR2(2)   | xsd:string maxLen=2         |
| <b>Status Code</b>        | Status                   | ElectricityDatastream/Status           | CHAR(1)       | xsd:string maxLen=10        |
| <b>Average Daily Load</b> | AverageDailyLoad         | ElectricityDatastream/AverageDailyLoad | NUMBER(10)    | xsd:integer                 |
| <b>Type</b>               | DataStreamType           | ElectricityDatastream/DatastreamType   | CHAR(1)       | xsd:string with enumeration |
| <b>Profile Name</b>       | ProfileName              | ElectricityDatastream/ProfileName      | VARCHAR2(10)  | xsd:string maxLen=10        |
| <b>Start Date</b>         | FromDate                 | FromDate                               | dd-mmm-yyyy   | xsd:dateTime                |
| <b>End Date</b>           | ToDate                   | ToDate                                 | dd-mmm-yyyy   | xsd:dateTime                |



| Browser Field name     | aseXML Data Element Name | aseXML Path     | BrowserFormat  | aseXMLData Type             |
|------------------------|--------------------------|-----------------|--|-----------------------------|
| <b>Updated On</b>      | MaintenanceDate          | MaintenanceDate | dd-mmm-yyyy (Summary Screen)<br>dd-mmm-yyyy hh:mm:ss (Detail Screen) | xsd:dateTime                |
| <b>Created On</b>      | CreationDate             | CreationDate    | dd-mmm-yyyy (Summary Screen)<br>dd-mmm-yyyy hh:mm:ss (Detail Screen) | xsd:dateTime                |
| <b>Activity Status</b> | RowStatus                | RowStatus       | CHAR(1)  | xsd:string with enumeration |

### 8.3. Field value examples

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.

**Table 17 CATS\_NMI\_Data\_Stream – Examples**

| 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           |



| Data Element Name | Browser Field Name | Basic Example       | Interval Example    |
|-------------------|--------------------|---------------------|---------------------|
| 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                   |

## 9. CATS\_Register\_identifier

### 9.1. Field Definitions

The CATS\_Register\_Identifier table contains 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.

Note: References to 'LNSP' include the ENM for *child connection points*.

**Table 18 CATS\_REGISTER\_IDENTIFIER – Field Definitions**

| Data Element Name             | Description  | Standing Data Required | Party to Provide |
|-------------------------------|--|------------------------|------------------|
| NMI                           | <i>NMI</i> . This number is unique for each <i>connection point</i> within the NEM.  | MANDATORY              | MPB              |
| SerialNumber                  | The Meter Serial ID uniquely identifies a <i>meter</i> for a given <i>NMI</i> . Maximum 12 Characters (alpha numeric). Unique for <i>NMI</i> .<br>Use dummy for UMCP (Type 7), logical ( <i>meters</i> ) and <i>non-contestable unmetered loads</i> .<br>Except for UMCP, logical, and <i>non-contestable unmetered loads</i> , MeterSerial should be displayed on physical device also known as property number).<br>SerialNumber to be property number if exists, otherwise the <i>meter</i> manufacturers' serial number, otherwise dummy number. | MANDATORY              | MPB              |
| RegisterID                    | The RegisterID is used to identify a data source that is obtained from the <i>meter</i> . A single <i>meter</i> may provide multiple data sources.   | MANDATORY              | MPB              |
| NetworkTariffCode             | The Network Tariff Code is a free text field required. The text must match the Network Tariff Codes supplied and published by the LNSP.<br>Must be a valid code from the CATS_Network_Tariff_Codes table.  | MANDATORY              | MPB              |
| NetworkAdditional Information | Free text field.   | REQUIRED               | MPB              |
| UnitOfMeasure                 | Code to identify the unit of measure for data held in this register.   | MANDATORY              | MPB              |

| Data Element Name         | Description  | Standing Data Required | Party to Provide |
|---------------------------|--|------------------------|------------------|
| TimeOfDay                 | Code to identify the time validity of register contents.<br>As published by each LNSP. This value must correspond to a valid Time of Day value in the Time of Day Codes reference table listed in section 11. For Interval meters, use code "INTERVAL".  | MANDATORY              | MPB              |
| Multiplier                | Multiplier required to take a register value and turn it into a value representing billable energy   | MANDATORY              | MPB              |
| DialFormat                | Describes the register display format.<br>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              | MPB              |
| Suffix                    | The Suffix field in the CATS_REGISTER_IDENTIFIER table is used to identify a physical data source that is obtained from the <i>meter</i> . The value must match the value provided in the MDFF File. The Suffix value must be unique for each meter register. The Suffix in the CATS_REGISTER_IDENTIFIER table must be valid as per Datastream suffix details specified in the NMI Procedure. <ul style="list-style-type: none"> <li>For Basic Meters, the Suffix in the CATS_REGISTER_IDENTIFIER table need not match the RegisterID in the CATS_REGISTER_IDENTIFIER table. For basic data streams, the value will be identical to the related Suffix value in the CATS_NMI_DataStream table.</li> <li>For Interval Meters, the Suffix in the CATS_REGISTER_IDENTIFIER table will indicate the individual datastreams: <ul style="list-style-type: none"> <li>contributing to the Nx Suffix value in the CATS_NMI_DataStream table, or</li> <li>associated with the individual register level interval datastream records.</li> </ul> </li> </ul> | MANDATORY              | MPB              |
| ControlledLoad            | Indicates whether the <i>energy</i> recorded by this register is created under a Controlled Load regime<br>ControlledLoad field will have "NO" if register does not relate to a Controlled Load. If the register relates to a Controlled Load, it must correspond to a valid Controlled Load value in the Controlled Load Codes reference table listed in section 11.  | MANDATORY              | MPB              |
| RegisterDetail/<br>Status | Lookup code to indicate if register is active.<br>Must ensure that RegisterDetail/Status is not Current (C) when ElectricityMeter/Status is Removed (R).<br>This value must correspond to a valid Register Identifier Status as specified in the MSATS Procedures: CATS Procedures.  | MANDATORY              | MPB              |

| Data Element Name | Description   | Standing Data Required                               | Party to Provide                  |
|-------------------|---|--|-----------------------------------|
| 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 Meter Reading dates.</p> <p>For an Interval Meter, ActCumInd = A.</p> <p>This value must correspond to a valid ConsumptionType from the Consumption Type Codes reference table listed in section 11.</p> | MANDATORY  | MPB                               |
| FromDate          | <p>Start date of the <i>NMI</i> data record. This indicates the date on which the parameters of this particular <i>NMI</i> 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  | Participant 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<br>(Defaults to high date unless supplied) | System generated unless supplied. |
| RowStatus         | <p>Indicates whether the record is active or inactive.</p> <p>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and its MaintActFlg is changed to I (Inactive).</p>   | MANDATORY  | System generated                  |
| MaintenanceDate   | <p>Date and time the record was updated.</p> <p>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      | Date and time the record was created.   | MANDATORY  | System generated                  |

## 9.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 19 CATS\_Register\_Identifier - Browser Cross Reference**

| Browser Field Name  | aseXML Data Element Name     | aseXML Path   | Browser Format | aseXML Data Type  |
|---|------------------------------|---|----------------|---|
| NMI   | NMI                          | NMI   | CHAR(10)       | xsd:string<br>maxLen = 10                                       |
| Meter Serial ID<br>Meter ID<br>(Different on two screens) | SerialNumber                 | SerialNumber  | VARCHAR2(12)   | xsd:string<br>maxLen = 12                                       |
| Register ID   | RegisterID                   | ElectricityMeterRegisterDetail/RegisterID                   | VARCHAR2(10)   | xsd:string<br>maxLen = 10                                       |
| Network Tariff Code                                       | NetworkTariffCode            | ElectricityMeterRegisterDetail/NetworkTariffCode            | VARCHAR2(10)   | xsd:string<br>maxLen = 10                                       |
| Network Tariff Additional Information                     | NetworkAdditionalInformation | ElectricityMeterRegisterDetail/NetworkAdditionalInformation | VARCHAR2(4000) | xsd:string  |
| Unit of Measure   | UnitOfMeasure                | ElectricityMeterRegisterDetail/UnitOfMeasure                | VARCHAR2(5)    | xsd:string<br>maxLen = 5  |
| Time of Day   | TimeOfDay                    | ElectricityMeterRegisterDetail/TimeOfDay                    | VARCHAR2(10)   | xsd:string<br>maxLen = 10                                       |
| Multiplier  | Multiplier                   | ElectricityMeterRegisterDetail/Multiplier                   | Number(13,5)   | xsd:decimal   |
| Dial Format   | DialFormat                   | ElectricityMeterRegisterDetail/DialFormat                   | Number(4,2)    | xsd:decimal<br>minIncl = 0<br>maxIncl = 9999.99<br>totaldig = 4 |

| Browser Field Name          | aseXML Data Element Name | aseXML Path                                    | Browser Format  | aseXML Data Type               |
|-----------------------------|--------------------------|--|---|--------------------------------|
|                             |                          |  |   | fracdig = 2                    |
| Suffix                      | Suffix                   | ElectricityMeterRegisterDetail/Suffix          | VARCHAR2(2)   | xsd:string<br>maxLen = 2       |
| Controlled Load             | ControlledLoad           | ElectricityMeterRegisterDetail/ControlledLoad  | VARCHAR2(100)   | xsd:string<br>maxLen = 100     |
| Status Code                 | Status                   | ElectricityMeterRegisterDetail/Status          | CHAR(1)   | xsd:string<br>with enumeration |
| Actual/Cumulative Indicator | ConsumptionType          | ElectricityMeterRegisterDetail/ConsumptionType | CHAR(1)   | xsd:string<br>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<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |
| Created On                  | CreationDate             | CreationDate                                   | dd-mmm-yyyy<br>(summary screen)<br>dd-mmm-yyyy<br>hh:mm:ss<br>(detail screen) | xsd:dateTime                   |
| Activity Status             | RowStatus                | RowStatus                                      | CHAR(1)   | xsd:string<br>with enumeration |

### 9.3. Field value examples

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.

Table 20 CATS\_Register\_Identifier - Example

| Data Element Name            | Browser Field Name  | Basic Example                   | Interval Example       |
|------------------------------|---|---------------------------------|------------------------|
| NMI                          | NMI   | 1100445566                      | 2211335544             |
| SerialNumber                 | Meter Serial ID<br>Meter ID<br>(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                          | INTERVAL               |
| Multiplier                   | Multiplier  | 1.00000                         | 120.00000              |
| DialFormat                   | Dial Format   | 5.00                            | 5.10                   |
| Suffix                       | Suffix  | 11                              | E1                     |
| ControlledLoad               | Controlled Load   | YES                             | NO                     |
| Status                       | Status Code   | C                               | C                      |
| ConsumptionType              | Actual/Cumulative Indicator                               | C                               | A                      |
| 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                      |



## 10. CATS\_NMI\_PARTICIPANT\_RELATIONS

### 10.1. Field Definitions

The CATS\_NMI\_Participant\_Relations table is a NMI master table containing data that stores the Roles that 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.

Note: References to 'LNSP' include the ENM for *child connection points*.

**Table 21** CATS\_NMI\_PARTICIPANT\_RELATIONS – Field Definitions

| Data Element Name | Description  | Standing Data Required                               | Party to Provide                  |
|-------------------|--|--|-----------------------------------|
| Party             | The Participant ID whose relationship (Role) with the <i>NMI</i> is defined in this table.   | MANDATORY  | LNSP                              |
| NMI               | <i>NMI</i> . This number is unique for each <i>connection point</i> .  | MANDATORY  | LNSP                              |
| Role              | This defines the relationship (Role) of the Participant with the <i>NMI</i> in this table.   | MANDATORY  | LNSP                              |
| FromDate          | Start date of the record. This indicates the date on which the parameters of this particular record apply from.<br>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).<br>A default date of 9999-12-31 is recorded if EndDate is not provided. | MANDATORY<br>(Defaults to high date unless supplied) | System generated unless supplied. |
| RowStatus         | Indicates whether the record is active or inactive.<br>Whenever a new record is created, it will be A (Active). A change to the data will make this record redundant and its MaintActFlg is changed to I (Inactive).   | MANDATORY  | System generated                  |

| Data Element Name | Description   | Standing Data Required | Party to Provide |
|-------------------|---|------------------------|------------------|
| MaintenanceDate   | Date and time the record was updated.<br>A default date of 9999-12-31 is used when the record is created initially.<br>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 |

## 10.2. Cross Reference of Browser and aseXML Data Elements

The table below lists the names that are used in the MSATS browser. 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.

Section 16 provides data type conventions of the Browser formats shown in this section.

**Table 22 CATS\_NMI\_Participant\_Relations - Browser Cross Reference**

| 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<br>maxLen = 10 |
| Role               | Role                     | Role            | VARCHAR2(4)  | xsd:string<br>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<br>(summary screen)<br>dd-mmm-yyyy hh:mm:ss<br>(detail screen) | xsd:dateTime              |
| Created On         | CreationDate             | CreationDate    | dd-mmm-yyyy<br>(summary screen)  | xsd:dateTime              |



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

## 11. Reference tables

**Table 23 - Valid Aggregate Codes**

| Aggregate | Description    |
|-----------|----------------|
| Y         | Customer load. |
| N         | Generator NMI. |

**Table 24 - Valid Consumption Type Codes**

| Consumptiontype | Description             |
|-----------------|-------------------------|
| ACTUAL          | Actual Consumption.     |
| CUMULATIVE      | Cumulative Consumption. |

Table 25 - Valid Datastream Type Codes

| Datastreamtype | Description  | Datastream suffix (as per NMI Procedure)   |
|----------------|--|--|
| I              | Interval Datastream included in NEM Settlement process.  | A, D, B, E, N  |
| C              | Consumption Datastream is included in NEM Settlement Process.  | First character is 1 to 9  |
| P              | Profile Datastream included in NEM Profile calculations (Sample meters only).                        | E, N   |
| N              | Interval Datastream is not to be included in the NEM Settlement process or NEM Profile calculations. | J, P, S, K, Q, T, G, H, M, V, C, F, L, R, U, Y, W, Z, X<br><br>A,D,B,E when not used for NEM Settlements (e.g. Vic TUOS) |

Table 26 - Valid Profile Codes

| ProfileName | Description  |
|-------------|--|
| NSLP        | Net System Load Profile.<br><br>The profile is calculated by MSATS. NSLP represents the system load after all actual <i>interval metering data</i> or specified previously-calculated profiled <i>metering data</i> that is not dependent on the NSLP has been subtracted from a known total system load and represents system-wide usage by consumption-type <i>metering installations</i> .  |
| CLOADNSWCE  | Controlled Load profile: Country Energy. (Now Essential Energy)<br><br>Profile Names beginning with CLOAD are Controlled Load profiles. Controlled Load profiles are applied to Controlled Load Datastreams 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 = EnergyAustralia). |
| CLOADNSWEA  | Controlled Load profile: EnergyAustralia (Now Ausgrid).  |
| CLOADNSWIE  | Controlled Load profile: IntegralEnergy (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 Datastream types (to indicate that such Datastreams do not need to be profiled to obtain 'readings' for each <i>settlements</i> interval because the data is supplied in 30-minute intervals).   |

Table 27 Valid Transformer Fields values

| Transformer Field | Valid Values                    |
|-------------------|---------------------------------|
| CT Type           | A<br>B<br>C<br>S<br>T<br>U<br>V |

| Transformer Field           | Valid Values  |
|-----------------------------|---|
|                             | W<br>LV OTHER<br>HV 1A<br>HV 5A<br>TBA  |
| <b>CT Ratio (Available)</b> | 1:1<br>10:5<br>100/200/300/400/500/600/800/900/1000/1200:1<br>100/200/300/400/500/800/900/1200:1<br>100/200/300/500/600/800/900/1000/1200:1<br>100/200/300/800/1200:1<br>100/200/300:5<br>100/200/400:1<br>100/200/400:5<br>100/200:1<br>100/200:5<br>100/300/500/750/1250:1<br>100/300/500/1250:1<br>100/300/800/1200:1<br>100/300:5<br>100/400/600/1200:1<br>100/400/600:1<br>100/400/800/1200:1<br>100:1<br>100:5<br>1000/1200/1600/2000:1<br>1000/1200/1600:5<br>1000/1500/2000:5<br>1000/1500:5<br>1000/1600:1<br>1000/2000/3000:5<br>1000:1<br>1000:5<br>1100:1<br>120:1<br>120:5<br>1200/1600/2000:1<br>1200/2400/3600:1<br>1200:1<br>1200:5 |

| Transformer Field | Valid Values             |
|-------------------|--------------------------|
|                   | 125/200:1                |
|                   | 125:1                    |
|                   | 125:5                    |
|                   | 1250:1                   |
|                   | 1250:5                   |
|                   | 1400:1                   |
|                   | 15:5                     |
|                   | 15/25/40/60:5            |
|                   | 150/200:5                |
|                   | 150/300/600/1200:1       |
|                   | 150/300/600/800:1        |
|                   | 150/300/600:1            |
|                   | 150/300/600:5            |
|                   | 150/300:1                |
|                   | 150/300:5                |
|                   | 150/350:1                |
|                   | 150/500/1000/2000:1      |
|                   | 150/600/900/1200:1       |
|                   | 150:1                    |
|                   | 150:5                    |
|                   | 1500/2000/2500:1         |
|                   | 1500/3000:5              |
|                   | 1500:1                   |
|                   | 1500:5                   |
|                   | 160:5                    |
|                   | 1600:1                   |
|                   | 1600:5                   |
|                   | 1700:1                   |
|                   | 1800:1                   |
|                   | 1900:1                   |
|                   | 20/50/100/150:5          |
|                   | 20/50/100:5              |
|                   | 20/50/75:5               |
|                   | 200/300/1200/1600/2400:1 |
|                   | 200/300/1200/1800/2400:1 |
|                   | 200/300/600/800/1200:1   |
|                   | 200/300/800/1200/2400:1  |
|                   | 200/300/800/1200:1       |

| Transformer Field | Valid Values             |
|-------------------|--------------------------|
|                   | 200/300:1                |
|                   | 200/300:5                |
|                   | 200/400/1200:1           |
|                   | 200/400/1600/2400/3200:1 |
|                   | 200/400/1600/2400:1      |
|                   | 200/400/500:5            |
|                   | 200/400/600:1            |
|                   | 200/400/600:5            |
|                   | 200/400/800/1200/2400:1  |
|                   | 200/400/800/1200:1       |
|                   | 200/400/800:1            |
|                   | 200/400/800:5            |
|                   | 200/400:1                |
|                   | 200/400:5                |
|                   | <u>200/600/1200:1</u>    |
|                   | 200/600/900/2400:1       |
|                   | 200/800/1200/2000:1      |
|                   | 200/800/1200/2400:1      |
|                   | 200/800/1200:1           |
|                   | 200:1                    |
|                   | 200:5                    |
|                   | <u>2000/1000/500:1</u>   |
|                   | 2000/3000:5              |
|                   | 2000:1                   |
|                   | 2000:5                   |
|                   | 2400:1                   |
|                   | 2400:5                   |
|                   | 25/50/100/150:5          |
|                   | 25/50/100:5              |
|                   | 25:1                     |
|                   | 25:5                     |
|                   | 250/500/1000:1           |
|                   | 250:1                    |
|                   | 250:5                    |
|                   | 2500:1                   |
|                   | 2500:5                   |
|                   | 30:1                     |
|                   | 30:5                     |
|                   | 300/1200/1600/2400:1     |
|                   | 300/1200/1800/2400:1     |



| Transformer Field | Valid Values               |
|-------------------|----------------------------|
|                   | 300/400/500/800/1200:1     |
|                   | 300/400/500/800/900/1200:1 |
|                   | 300/400/500/900/1200:1     |
|                   | 300/400/500:1              |
|                   | 300/500/2000:1             |
|                   | 300/600/1200/2400:1        |
|                   | 300/600/1200:1             |
|                   | 300/600/800/1200/1600:1    |
|                   | 300/600/800/1200:1         |
|                   | 300/600/800:1              |
|                   | 300/600:1                  |
|                   | 300/600:5                  |
|                   | 300/800/1200:1             |
|                   | 300/800/1200/1600:1        |
|                   | 300/800/1600/2400:1        |
|                   | 300:1                      |
|                   | 300:5                      |
|                   | 3000:1                     |
|                   | 3000:5                     |
|                   | 3150:5                     |
|                   | 3200:1                     |
|                   | 3200:5                     |
|                   | 40/60:1                    |
|                   | 40:5                       |
|                   | 400/1000/1200:1            |
|                   | 400/1000/2000/4000:1       |
|                   | 400/1200/2800/3200:1       |
|                   | 400/1200:1                 |
|                   | 400/1400/1600/2400:1       |
|                   | 400/1600/2400/3200:1       |
|                   | 400/1600/2400/3600:1       |
|                   | 400/1600/2400:1            |
|                   | 400/1600/3200/4000:1       |
|                   | 400/2000/4000/5000:1       |
|                   | 400/500:1                  |
|                   | 400/600:1                  |
|                   | <u>400/600/1000:1</u>      |
|                   | 400/800/1000/1200:1        |

| Transformer Field | Valid Values                  |
|-------------------|-------------------------------|
|                   | 400/800/1200/1600/2400/3600:1 |
|                   | 400/800/1200/2000/2400:1      |
|                   | 400/800/1200:1                |
|                   | 400/800/1200:5                |
|                   | 400/800/1600/2800:1           |
|                   | 400/800/1600:1                |
|                   | 400/800:1                     |
|                   | 400:1                         |
|                   | 400:5                         |
|                   | 4000:1                        |
|                   | 4000:5                        |
|                   | 4500:1                        |
|                   | 4500:5                        |
|                   | 4800:1                        |
|                   | 5:1                           |
|                   | 5:5                           |
|                   | 50/100/150:1                  |
|                   | 50/100/150:5                  |
|                   | 50/100/200:5                  |
|                   | 50/100:1                      |
|                   | 50/100:5                      |
|                   | 50/150/250:5                  |
|                   | 50/150:5                      |
|                   | 50/200:5                      |
|                   | 50/300:1                      |
|                   | 50/75/100/150:5               |
|                   | 50:1                          |
|                   | 50:5                          |
|                   | 500/1000/1500:1               |
|                   | 500/1000:5                    |
|                   | 500/1500/2500:1               |
|                   | 500/1500:1                    |
|                   | 500/800/1000:1                |
|                   | 500/800:1                     |
|                   | 500:1                         |
|                   | 500:5                         |
|                   | 5000:1                        |
|                   | 5000:5                        |
|                   | 60:5                          |
|                   | 600/1200/1600:1               |

| Transformer Field           | Valid Values   |
|-----------------------------|--|
|                             | 600/1200/2400:1<br>600/1200:1<br>600/1200:5<br>600/750:1<br>600/800/1200/1600:1<br>600/900/1200:5<br>600:1<br>600:5<br>6000:5<br>630:1<br>630:5<br>650:1<br>75/150/300:1<br>75/150/300:5<br>75/150:1<br><u>75/150:5</u><br>75:1<br>75:5<br>750/1500:5<br>750:1<br>750:5<br>80:5<br>800/1200/1600:1<br>800/1200/2000:5<br>800/1200/2500:1<br>800/1200:1<br>800/1200:5<br>800/1250:1<br>800/1250:5<br>800/2000/2400/4000:1<br>800:1<br>800:5<br>900:1<br>TBA |
| <b>CT Ratio (Connected)</b> | <u>1:1</u><br>5:1<br>5:5<br>10:5<br>15:5<br>20:5   |

| Transformer Field | Valid Values |
|-------------------|--------------|
|                   | 25:1         |
|                   | 25:5         |
|                   | <u>30:1</u>  |
|                   | 30:5         |
|                   | 40:1         |
|                   | 40:5         |
|                   | 50:1         |
|                   | 50:5         |
|                   | <u>60:1</u>  |
|                   | 60:5         |
|                   | 75:1         |
|                   | 75:5         |
|                   | 80:5         |
|                   | 100:1        |
|                   | 100:5        |
|                   | <u>120:1</u> |
|                   | 120:5        |
|                   | 125:1        |
|                   | 125:5        |
|                   | 150:1        |
|                   | 150:5        |
|                   | 160:5        |
|                   | 200:1        |
|                   | 200:5        |
|                   | 250:1        |
|                   | 250:5        |
|                   | 300:1        |
|                   | 300:5        |
|                   | 350:1        |
|                   | 400:1        |
|                   | 400:5        |
|                   | 500:1        |
|                   | 500:5        |
|                   | 600:1        |
|                   | 600:5        |
|                   | 630:1        |
|                   | 630:5        |
|                   | 650:1        |
|                   | 750:1        |
|                   | 750:5        |

| Transformer Field | Valid Values  |
|-------------------|---------------|
|                   | 800:1         |
|                   | 800:5         |
|                   | 900:1         |
|                   | <u>900:5</u>  |
|                   | 1000:1        |
|                   | 1000:5        |
|                   | 1100:1        |
|                   | 1200:1        |
|                   | 1200:5        |
|                   | 1250:1        |
|                   | 1250:5        |
|                   | 1400:1        |
|                   | 1500:1        |
|                   | 1500:5        |
|                   | 1600:1        |
|                   | 1600:5        |
|                   | 1700:1        |
|                   | 1900:1        |
|                   | 1800:1        |
|                   | 2000:1        |
|                   | 2000:5        |
|                   | 2400:1        |
|                   | 2400:5        |
|                   | 2500:1        |
|                   | 2500:5        |
|                   | 2800:1        |
|                   | 3000:1        |
|                   | 3000:5        |
|                   | 3150:5        |
|                   | 3200:1        |
|                   | 3200:5        |
|                   | 3600:1        |
|                   | 4000:1        |
|                   | 4000:5        |
|                   | 4500:1        |
|                   | 4500:5        |
|                   | 4800:1        |
|                   | 5000:1        |
|                   | 5000:5        |
|                   | <u>6000:5</u> |

| Transformer Field                         | Valid Values   |
|---|--|
|   | TBA  |
| <b>CT Accuracy Class</b>                  | 0.1<br>0.2<br>0.5<br>1<br>2<br>0.05PX<br>0.2M<br>0.2ME1.5<br>0.2ME2<br>0.2ME2.5<br>0.2S<br>0.5EXT200%<br>0.5M<br>0.5ME1.25<br>0.5ME2<br>0.5ME2.5<br>0.5S<br>0.5SEXT200%<br>A<br>AM<br>BM<br>UNKNOWN<br>TBA |
| <b>VT Type</b>                            | IVT<br>CVT<br>COMBINED<br>THREE-PHASE THREE-LIMB<br>THREE-PHASE FIVE-LIMB<br>TBA   |
| <b>VT Ratio (Available and Connected)</b> | 415:110<br>3300:110<br>5000:110<br>5500:110<br>6600:110<br>11000:110<br>11500:110<br>22000:110<br>33000:110<br>44000:110   |

| Transformer Field | Valid Values   |
|-------------------|--|
|                   | 66000:110<br>110000:110<br>132000:110<br>220000:110<br>275000:110<br>330000:110<br>500000:110<br>528000:110<br>TBA |
| VT Accuracy Class | 0.01M<br>0.2<br>0.5<br>0.2M<br>0.5M<br>0.5S<br>1M<br>A<br>AL<br>B<br>BL<br>C<br>D<br>UNKNOWN<br>TBA                |

**Table 28 Valid Meter Use Codes**

| Meter Use | Description                       |
|-----------|-----------------------------------|
| REVENUE   | Revenue meter. or unmetered load. |
| CHECK     | Check meter.                      |
| STATIS    | Statistical meter.                |
| TUOS      | TUOS meter.                       |
| LOGICAL   | Logical meter.                    |
| SAMPLE    | Sample meter.                     |
| AVERAGE   | Average meter.                    |
| PREPAID   | Prepaid meter.                    |
| INFORM    | Information meter.                |
| UNKNOWN   | Unknown meter use code.           |

**Table 29 Valid Time of Day Codes**

| TimeOfDay | Description |
|-----------|-------------|
| ALLDAY    | All day     |

| TimeOfDay  | Description  |
|------------|--|
| INTERVAL   | Interval time of day, used for all Interval metering |
| PEAK       | Peak time of day                                     |
| BUSINESS   | Business time of day                                 |
| SHOULDER   | Shoulder time of day                                 |
| EVENING    | Evening time of day                                  |
| OFFPEAK    | Off peak time of day                                 |
| CONTROLLED | Controlled time of day                               |
| DEMAND     | Demand is used for describing a register             |

**Table 30 Valid Controlled Load Codes**

| ControlledLoad | Description   |
|----------------|---|
| NO             | No controlled load  |
| YES            | There is controlled load associated with a controlled load network tariff on this register  |
| EXT            | There is controlled load which is externally switched by the LNSP associated with a controlled load network tariff on this register |

**Table 31 Valid Test Result Codes**

| Test Result | Description     |
|-------------|-----------------|
| PASS        | Test has passed |
| FAIL        | Test has failed |

**Table 32 Valid Transformer Test Values**

| Test Result   | Description                     |
|---------------|---------------------------------|
| TESTED        | Part of 100% testing            |
| SAMPLE TESTED | Tested as part of a sample plan |
| SAMPLE        | Part of an approved sample plan |

**Table 33 Valid Shared Isolation Point Flag Values**

| SharedIsolationPointFlag | Description   |
|--------------------------|---|
| Y                        | Indicates that a Shared Fuse Arrangement is present   |
| N                        | Indicates that no Shared Fuse Arrangement is present  |
| I                        | Indicates the metering installation is Isolated independently but still part of a Shared Fuse Arrangement |
| U                        | Indicates that the presence of a Shared Fuse Arrangement is Unknown                                       |

Note: Refer to the MSATS CATS Procedure section 4 for details on the valid codes for the following:

- Jurisdiction Codes
- Metering Installation Type Codes
- NMI Classification Codes
- NMI Status Codes
- Datastream Status Codes



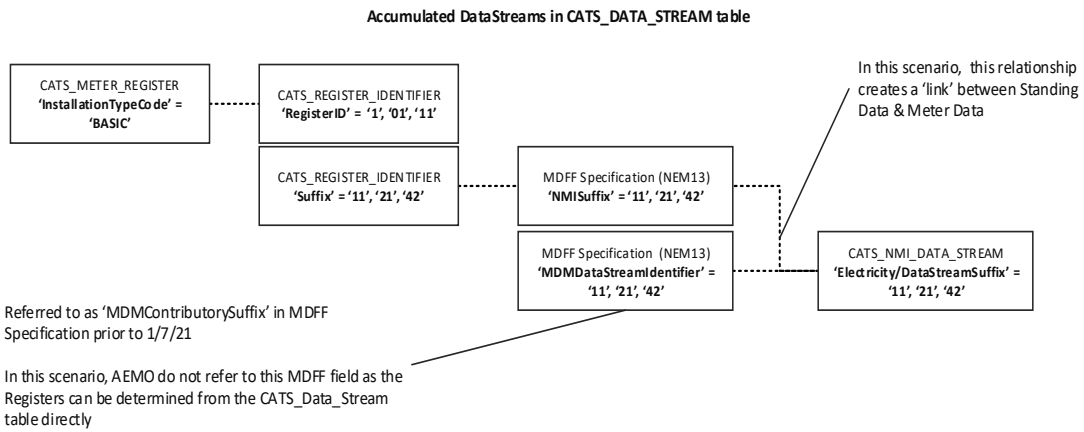
## 12. Use of NMI suffix to populate CATS\_REGISTER\_IDENTIFIERS

For any particular *connection point* there may be multiple *energy* measurement elements and data recorders with multiple channels. Accurate identification of Datastreams is essential.

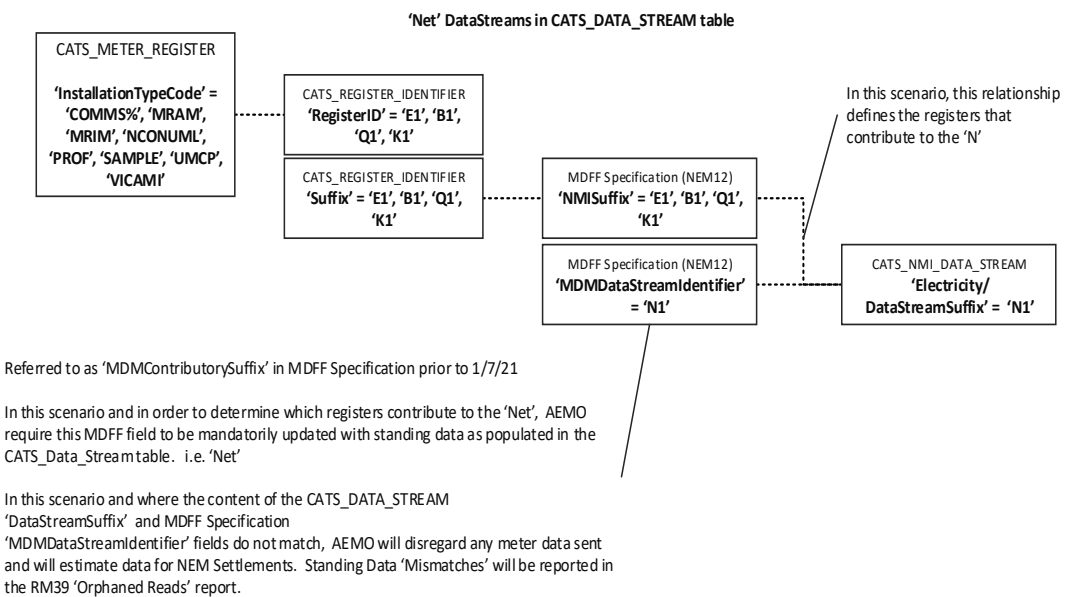
The NMI Procedure includes the requirements for structure of both the Suffix populated in the CATS\_REGISTER\_IDENTIFIERS table and the ElectricityDataStream Suffix populated in the CATS\_DATA\_STREAM table.

The illustrations below provide context to the relationships between ‘Suffix’ across the MDDF Specification and CATS Procedures (specifically the CATS\_REGISTER\_IDENTIFIERS table and CATS\_DATA\_STREAM tables).

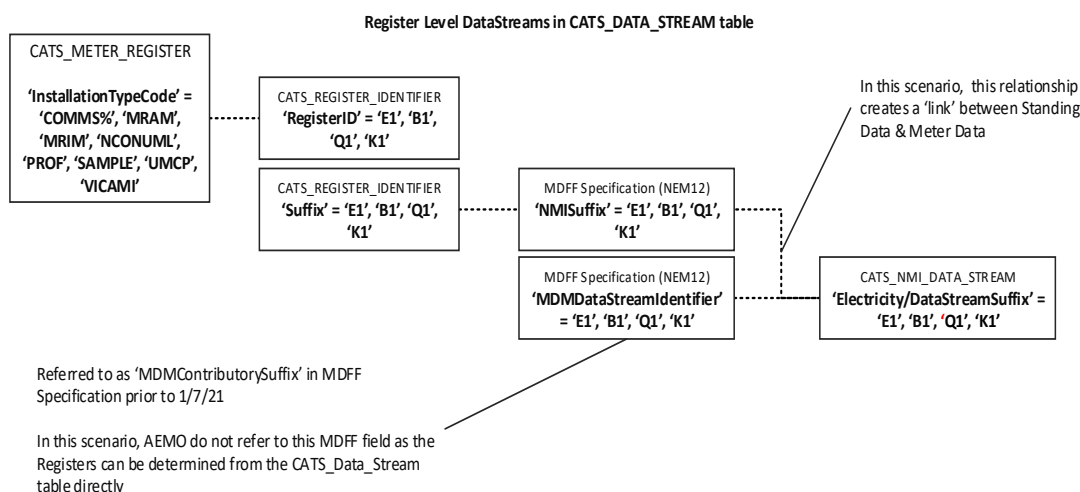
Example of an Accumulated Meter ‘Suffix’



Example of an Interval Meter ‘Suffix’ – Net DataStreams



Example of an Interval Meter “Suffix” – Register Level DataStreams



**Note:**

- A record must be created in the CATS\_REGISTER\_TABLE for each register required for settlements, profiling and UFE calculations.
- An ElectricityDataStream Suffix must be created for all individual DataStreams required for NEM Settlement calculations, profile peeloff, UFE analysis and Vic TUOS sites.

The NMI Procedure includes the requirements for the use of a suffix to the *NMI* that identifies these Datastreams. The DataStreamSuffix detailed in the NMI Procedure provides identification at the measurement element level for all Datastreams from the *connection point* identified by the *NMI*. The DataStreamSuffix is commonly known as the NMISuffix. The NMISuffix is labelled as 'Suffix' in the Browser and is the ElectricityDataStream/Suffix data element in aseXML.

## 12.1. Historical Information and Guideline only

The NMISuffix was first used in the NMI Procedure to describe, in conjunction with the *NMI*, the data transferred from the MDP to AEMO and Participants for *settlements*. The NMISuffix was further extended to describe Datastreams in MSATS, and numeric suffixes were developed to describe the data from type 6 *metering installations*.

In MSATS, the NMISuffix is used in the CATS\_NMI\_DATA\_STREAM table to describe the data as delivered to AEMO. For *settlements* purposes this data must be 'NET' [Export from *network*, less import to *network*] and will be 'Nx' for an interval Datastream, or numeric for an Accumulation 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 Datastream suffix in the CATS\_NMI\_DATA\_STREAM table. The purpose of the table is to enable the alignment of the data held in MSATS and the data being transferred between Participants 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 NMISuffix 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 Meter, and identifies the location of a stored energy value in an Accumulation Meter.
- The ElectricityDataStream/Suffix value in the CATS\_NMI\_DATA\_STREAM table identifies the Datastream registered in MSATS. For *settlements* purposes, Interval Meter Datastreams will be the NET suffix (format Nx) and for Accumulation Meter Datastreams the suffix value is numeric. MSATS requires data to be delivered against this suffix (if the Datastream 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 Datastream(s) contributing to the ElectricityDataStream/Suffix value in the CATS\_NMI\_DATA\_STREAM table. For interval Datastreams, the suffix(es) will indicate the individual Datastream(s) contributing to the Nx Suffix value in the CATS\_NMI\_DATA\_STREAM table where the DataStreamType is P or I (Refer section 14 for examples). For accumulation Datastreams the value will be numeric and will be identical to the related Suffix value in the CATS\_NMI\_DATA\_STREAM table (refer section 13 for examples).
- The ElectricityDataStream/Suffix values used in the CATS\_REGISTER\_IDENTIFIER table are used to identify *metering data* contained in MDFP Files (in the NMI Suffix field).
- The linkage between the RegisterID and ElectricityDataStream/Suffix exists because the ElectricityDataStream/Suffix data element is populated in the CATS\_REGISTER\_IDENTIFIER table.
- 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 ‘datastream’. Conventionally, to field metering personnel, a ‘register’ contains a single value, while a ‘datastream’ represents an array of time separated register values in chronological order.

For Accumulation 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 Accumulation 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 Datastreams against a *NMI* to avoid duplication of ElectricityDataStream/Suffixes and provide correct mapping of RegisterIDs.

### 13. Assignment of data – ACCUMULATION meters

This section details examples of the assignment of data for various basic *metering installations*. For Accumulation Meters, the Suffix values in CATS\_REGISTER\_IDENTIFIER and CATS\_NMI\_DATA\_STREAM tables are always numeric.

### 13.1. Single Meter, no controlled load

A Accumulation Meter with a single register measuring a Non-Controlled Load will have a single Datastream suffix 11 for the *NMI*.

**Table 34 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | 11     | A                            | C              |

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 Datastream identified by Suffix 11 in CATS\_NMI\_DATA\_STREAM table.

**Table 35 Example CATS\_REGISTER\_IDENTIFIER**

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

The ElectricityDataStream Suffix in CATS\_NMI\_DATA\_STREAM table will be recorded as ‘11’ by the MDP and the Suffix in CATS\_REGISTER\_IDENTIFIER table must then be ‘11’.

### 13.2. Two Single Element Meters, no controlled load

The *NMI* has two Accumulation Meters, each *meter* with single register. The data from the two *meters* will be submitted to MSATS as two Datastreams.

**Table 36 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 0123456789 | 11     | A                            | C              |
|               | 0123456789 | 12     | A                            | C              |

**Table 37 Example CATS\_REGISTER\_IDENTIFIER**

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

### 13.3. Two Single Element Meters, one with controlled load

A *NMI* has two Accumulation 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 ElectricityDataStream Suffixes.

**Table 38 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | 11     | A                            | C              |
|               | 0123456789 | 42     | A                            | C              |

**Table 39 Example CATS\_REGISTER\_IDENTIFIER**

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay  | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|------------|--------|-----------------|
| Values        | ABCD1111      | 01         | KWH           | ALLDAY     | 11     | NO              |
|               | XYZA1112      | 01         | KWH           | CONTROLLED | 42     | EXT             |

### 13.4. One Meter with Two Registers, one measuring a controlled load

NMI has one Accumulation Meter with two registers. The second register is measuring a Controlled Load.

**Table 40 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | 11     | A                            | C              |
|               | 0123456789 | 42     | A                            | C              |

**Table 41 Example CATS\_REGISTER\_IDENTIFIER**

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay  | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|------------|--------|-----------------|
| Value         | ABCD1111      | 01         | KWH           | PEAK       | 11     | NO              |
|               | ABCD1111      | 02         | KWH           | CONTROLLED | 41     | YES             |

### 13.5. Single Multi-function Meter

Accumulation Meter has 4 registers, one register being a Controlled Load.

**Table 42 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 0123456789 | 11     | A                            | C              |
|               | 0123456789 | 21     | I                            | C              |

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
|               | 0123456789 | 31     | A                            | C              |
|               | 0123456789 | 41     | A                            | C              |

Each register is separately identified in CATS\_NMI\_Data\_Stream. However, register 2 on meter 1 is inactive in MSATS.

**Table 43 Example CATS\_REGISTER\_IDENTIFIER**

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay  | Suffix | Controlled Load |
|---------------|---------------|------------|---------------|------------|--------|-----------------|
| Values        | ABCD1111      | 01         | KWH           | PEAK       | 11     | NO              |
|               | ABCD1111      | 02         | KWH           | SHOULDER   | 21     | NO              |
|               | ABCD1111      | 03         | KWH           | OFFPEAK    | 31     | NO              |
|               | ABCD1111      | 04         | KWH           | CONTROLLED | 41     | YES             |

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

**Table 44 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 0123456789 | 11     | A                            | C              |
|               | 0123456789 | 21     | A                            | C              |
|               | 0123456789 | 42     | A                            | C              |

**Table 45 Example CATS\_REGISTER\_IDENTIFIER**

| 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           | CONTROLLED | 42     | EXT             |

## 14. Assignment of data – interval meters

This section details examples of the assignment of data for various Interval Meters.

### 14.1. One meter

Table 46 Example CATS\_NMI\_DATA\_STREAM

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | E1     | A                            | I              |

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 ElectricityDataStream Suffix identified by Suffix E1 in the CATS\_NMI\_DATA\_STREAM table.

Table 47 Example CATS\_REGISTER\_IDENTIFIER

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

E1 indicates that it is a single element measuring export.

### 14.2. Import/Export meter

Interval Meter has a two registers, registering import and export *energy*. Multiple ElectricityDataStream Suffixes (E1 and B1) are defined for the *NMI*.

Table 48 Example CATS\_NMI\_DATA\_STREAM

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | E1     | A                            | I              |
| Value         | 0123456789 | B1     | A                            | I              |

The CATS\_REGISTER\_IDENTIFIER table indicates that the *meter* has two registers, one for IMPORT and one for EXPORT.

Table 49 Example CATS\_REGISTER\_IDENTIFIER

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

### 14.3. One meter: multiple registers

Interval Meter has a single measurement element registering import and export *energy*, reactive and *voltage*.

Table 50 Example CATS\_NMI\_DATA\_STREAM

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Value         | 0123456789 | E1     | A                            | I              |
| Value         | 0123456789 | B1     | A                            | I              |
| Value         | 0123456789 | Q1     | A                            | N              |
| Value         | 0123456789 | K1     | A                            | N              |

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.

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

### 14.4. One meter: Twin Measurement Elements

Certain multifunction *meters* have the capability for initial installation as an Accumulation Meter, but can be re-programmed to provide *interval metering data*.

The NER do not permit the use of two different types of *metering installation* on the one *NMI*, and therefore these two *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.

The CATS\_REGISTER\_IDENTIFIER table values for this *meter* when it is operated as an Interval Meter are shown below. The RegisterID for the Accumulation Meter 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.



**Table 51 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 0123456789 | E1     | A                            | I              |
|               | 0123456789 | E2     | A                            | I              |
|               | 0123456789 | 11     | I                            | C              |
|               | 0123456789 | 21     | I                            | C              |
|               | 0123456789 | 31     | I                            | C              |
|               | 0123456789 | 41     | I                            | C              |

**Table 52 Example CATS\_REGISTER\_IDENTIFIER**

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay  | Suffix |
|---------------|---------------|------------|---------------|------------|--------|
| Values        | AB888888      | E1         | KWH           | INTERVAL   | E1     |
|               | AB888888      | E2         | KWH           | INTERVAL   | E2     |
|               | AB888888      | 11         | KWH           | PEAK       | 11     |
|               | AB888888      | 21         | KWH           | SHOULDER   | 21     |
|               | AB888888      | 31         | KWH           | OFFPEAK    | 31     |
|               | AB888888      | 41         | KWH           | CONTROLLED | 41     |

If a second *meter* of the same configuration were established on this *NMI*, ‘E3’ and ‘E4’ RegisterIDs in the CATS\_REGISTER\_IDENTIFIER table and ElectricityDataStream Suffixes in the CATS\_DATA\_STREAM table would be required in order to provide unambiguous identification of Datastreams.

## 14.5. NCONUML and UMCP

**Table 53 Example CATS\_NMI\_DATA\_STREAM**

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 1144885588 | E1     | A                            | I              |

**Table 54 Example CATS\_REGISTER\_IDENTIFIER**

| Data Element: | Serial Number | RegisterID | UnitOfMeasure | TimeOfDay | Suffix |
|---------------|---------------|------------|---------------|-----------|--------|
| Values        | Dummy Value   | E1         | KWH           | INTERVAL  | E1     |

## 15. Assignments of data – sample meters

The application of profiles in accordance with the Metrology Procedure requires *interval metering data* from Sites that have Accumulation Metering. However, the NER do not permit different metering installation types on the one *NMI*, and in any case, the Participants associated with the *interval metering data* are different to those associated with the Accumulation Meter. Therefore, for these *connection points*, two different *NMIs* are used.

There are *meters* that can combine the required Accumulation Metering and Interval Metering functions. An example is shown below.

### 15.1. 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 Accumulation Metering for *energy* trading and Interval Metering for the sample profile.

In this example, NMI 9801234567 is associated with the sample *meter installation* and NMI 9876543210 with the End User installation.

Table 55 Example CATS\_NMI\_DATA\_STREAM

| Data Element: | NMI        | Suffix | ElectricityDataStream/Status | DataStreamType |
|---------------|------------|--------|------------------------------|----------------|
| Values        | 9801234567 | E1     | A                            | P              |
|               | 9876543210 | 11     | I                            | C              |
|               | 9876543210 | 12     | I                            | C              |
|               | 9876543210 | 41     | A                            | C              |

Table 56 Example CATS\_REGISTER\_IDENTIFIER

| Data Element: | NMI        | MeterSerial | RegisterID | UnitOfMeasure | TimeOfDay  | Suffix |
|---------------|------------|-------------|------------|---------------|------------|--------|
| Values        | 9801234567 | AB888888    | E1         | KWH           | INTERVAL   | E1     |
|               | 9876543210 | AB888888    | 11         | KWH           | PEAK       | 11     |
|               | 9876543210 | AB888888    | 12         | KWH           | OFFPEAK    | 12     |
|               | 9876543210 | AB888888    | 41         | KWH           | CONTROLLED | 41     |

## 16. Data type conventions

The Browser formats used in section 16 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 16 refer

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

**Table 57 BROWSER FORMATS**

|   | 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). |

## Version release history

| Version              | Effective date               | Summary of changes  |
|----------------------|------------------------------|---|
| <a href="#">5.34</a> | <a href="#">1 March 2023</a> | <p><u>Updated to include:</u></p> <ul style="list-style-type: none"> <li><a href="#">Additional VT Ratio</a></li> <li><a href="#">Additional CT Ratios Available</a></li> <li><a href="#">Additional CT Ratio Connected</a></li> </ul>  |
| 5.33                 | 16 December 2022             | <p>Updated to include:</p> <ul style="list-style-type: none"> <li>Additional CT Ratio Available enumerations</li> <li>Minor correction in CATS_METER_REGISTER Table 3 of GPS decimals</li> </ul>  |
| 5.32                 | 7 November 2022              | Updated to include new CT Ratios and correct anomalies  |
| 5.31                 | 7 November 2022              | Updated to include minor amendments as part of the CDR consultation   |
| 5.3                  | 7 November 2022              | <p>Updated as part of Retail Electricity October consultation. Consolidated V5.11 and v5.2. Updated implementation date for:</p> <ul style="list-style-type: none"> <li>CIP_049 Controlled Load Enumerations</li> <li>CIP_053 GPS Coordinates Minimum Requirements</li> </ul> <p>Clarified connection configuration</p>   |
| 5.21                 | 7 November 2022              | MSATS Standing Data Review Minor Amendment  |
| 5.2                  | N/A                          | MSATS Standing Data Review Phase 2 – Removed fields Version not used.   |
| 5.11                 | 1 May 2022                   | Updated Controlled Load Enumerations (CIP_049), GPS Coordinates Minimum Requirements (CIP_053) and clarified connection configuration as part of Retail Electricity October 2021 consultation. Consolidated v4.52, v4.6, v5.0 and v5.1.   |
| 5.101                | 1 May 2022                   | MSATS Standing Data Review Minor Amendment  |
| 5.1                  | 1 May 2022                   | Updated as part of Retail Electricity Market Procedures March 2021 Consultation for ICF_037 Redefinition of 'Connection Configuration'.   |
| 5.0                  | 1 May 2022                   | Updated to incorporate amendments for National Electricity Amendment (Global Settlement and Market Reconciliation) Rule 2018 No 14.   |
| 4.6                  | 20 May 2019                  | MSATS Standing Data Review Phase 1 – New and amended fields   |
| 4.52                 | 1 October 2021               | v4.5 and v4.51 consolidation  |
| 4.51                 | 1 October 2021               | <p>Updated to include changes for the Metering ICF Package 2020 consultation, the changes are for the following Information Change Requests (ICFs):</p> <ul style="list-style-type: none"> <li>ICF_027 Average Daily Load (ADL) definition</li> <li>ICF_029 Amend or Revert Definition of the Register ID Field in MSATS.</li> </ul>                              |
| 4.5                  | 01 October 2021              | Updated to incorporate amendments for National Electricity Amendment (Five Minute Settlement) Rule 2017 No. 15 and National Electricity Amendment (Global Settlement and Market Reconciliation) Rule 2018 No 14.  |
| 4.4                  | 01 December 2017             | Final Version   |
| 4.3                  | 01 December 2017             | <p>Updated to incorporate:</p> <ul style="list-style-type: none"> <li>National Electricity Amendment (Expanding competition in metering and related services) Rule 2015. No.12;</li> <li>National Electricity Amendment (Embedded Networks) Rule 2015 No. 15; and</li> </ul> <p>National Electricity Amendment (Meter Replacement Processes) Rule 2016 No. 2.</p> |
| 4.2                  | 28/08/2013                   | <p>Updated wording for Nx suffixes in sections 8, 9 and 12.</p> <p>Updated reference to the CATS procedures for Embedded Networks in section 7.</p> <p>Added new data stream type codes under section 11: Reference Tables.</p> <p>Updated reference to the NEM Metrology Procedures in section 15.</p>   |
| 4.1                  | 19/04/2012                   | Updates to NMI Data tables to include Feeder Class, Customer Classification Code & Customer Threshold Code and minor data corrections.  |
| 4.0                  | Aug 2009                     | Update to AEMO Format   |