Data Standards Body

Technical Working Group

Decision Proposal 194 – Candidate NMI Standing Data End Points

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Publish Date: 16th August 2021

Feedback Conclusion Date: 17th September 2021

Context

This proposal describes the payloads for the NMI Standing Data cluster of data included in the energy sector designation instrument. This proposal includes feedback obtained in response to the following consultation activities:

- **Decision Proposal 109 - NMI Standing Data Payloads**
  This consultation proposed the URIs and payloads for NMI Standing Data. Feedback provided in response to this consultation can be found at:
  https://github.com/ConsumerDataStandardsAustralia/standards/issues/109
- **Decision Proposal 149 - Energy Draft Feedback Cycle 1**
  This consultation thread raised and allowed for holistic feedback to be provided on the draft energy standards as a whole. Feedback provided in response to this consultation can be found at:
  https://github.com/ConsumerDataStandardsAustralia/standards/issues/149
- **Decision Proposal 173 - Energy Draft Feedback Cycle 2**
  This consultation thread raised and allowed for second round of holistic feedback to be provided on the draft energy standards as a whole. Feedback provided in response to this consultation can be found at:
  https://github.com/ConsumerDataStandardsAustralia/standards/issues/173
- **Decision Proposal 180 - Energy Draft Feedback Cycle 3**
  This consultation thread raised and allowed for third round of holistic feedback to be provided on the draft energy standards as a whole. Feedback provided in response to this consultation can be found at:
  https://github.com/ConsumerDataStandardsAustralia/standards/issues/173
  Note: This consultation is still active

The data covered by this proposal is expected to be provided to the primary data holder directly by AEMO as the secondary data holder. This means that the existing data structures defined by AEMO for data transfer within the electricity market is the domain of data that can be included for sharing. Any ongoing consultations conducted by AEMO to expand or change this data set may result in changes to the proposals in this document.

Decision To Be Made

Define the candidate end point URIs and payloads for NMI Standing Data.

Identified Options

When consulting on payloads each field potentially has multiple options. For this reason, this proposal only presents a single option for consultation with the expectation that all parts of the proposal are subject to change in response to community feedback.

This section therefore includes a series of descriptions of the underlying assumptions and rationale that have led to the specific proposal included in the recommendation section.

AEMO Data Domain

The basis for the creation of this proposal is the documentation provided by AEMO for the procedures and data structures for Market Settlement and Transfer Solutions (MSATS).

This documentation can be found at:
https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/market-operations/retail-and-metering/market-settlement-and-transfer-solutions-msats

Specific reference should be made to the document named *Standing Data for MSATS* that describes the data sets held under the MSATS regime relevant to this proposal.

Note that, although AEMO holds usage data and this data is also designated, it is not included in this proposal. This data cluster will be addressed in a separate proposal.

Alignment To MSATS Conventions

The field naming conventions and structures in MSATS support a different context to the CDR regime. The technology, participants and intent vary between the two regimes. For this reason, the CDR payloads will not follow the MSATS conventions exactly and some fields and structures may be different as a result. Where possible, however, consistency has been retained as much as possible.

This is consistent with the treatment of existing data transfer standards in the CDR standards for the banking sector.

Field Inclusion/Exclusion

The choice of whether to include or exclude MSATS data in the CDR proposal has been complicated. In general, the default position was always to include a field to maximise the value of data sharing unless a specific reason for exclusion was identified.

Where a field is excluded the decision was taken for one of the following reasons:

- The underlying quality of the data held by AEMO is low so the inclusion would be of little value to data recipients;
- The field was overly sensitive or high risk (such as free form memo fields with content that is not manually vetted); or
- The field was used to specifically facilitate the MSATS procedures and is not generally useful outside of that context.

All inclusion and exclusion decisions are open and feedback on these matters are specifically requested.

Metering Point Naming

Under the previous consultations the term *site* was used inside the end point URIs to identify metering points and the term *nationalMeteringId* was used to describe the unique identifier (ie. the NMI) for a metering point.

Feedback indicated that the term *site* was confusing for community participants and the term *servicepoint* was suggested as an alternative. This suggestion has been incorporated into this proposal.

Reference Information

This consultation is based on previously established general standards for the CDR. It would be helpful to be familiar with these underlying standards before reviewing the payload recommendation. These references are:

- **CDR Payload Structure:**
  https://consumerdatastandardsaustralia.github.io/standards/#payload-conventions
  These standards describe the overall payload structure for all CDR APIs.
  This includes a description of the use of the generic "data" object and standard error payload. This also includes a section on field naming conventions that outline how individual fields are named in the CDR standards.
  This section also includes a definition of the use of mandatory vs optional statements in CDR payloads.

- **CDR Common Field Types:**
  https://consumerdatastandardsaustralia.github.io/standards/#common-field-types
  These standards describe common field types referred to in payload definitions.

Current Recommendation

The recommended URIs and Payloads for the NMI standing data is presented in the following sections.

Service Point (NMI) End Points Summary

A summary of the metering site end points:

- GET /energy/electricity/servicepoints
- GET /energy/electricity/servicepoints/{servicePointId}

Summary of changes

Endpoints	Field	Change Type	Comments
• Service Point Lists Data • Service Point Detailed Data	validPeriod	Removed	
	fromDate	Removed	
	toDate	Removed	
	creationDateTime	Removed	
	validFromDate	Added	
	servicePointClassification	Modified	Added following new ENUM values • BULK • CROSS_BOUNDARY • NON_CONTEST_UNMETERED_LOAD • NON_REGISTERED_EMBEDDED_GENERATOR • DISTRIBUTION_WHOLESALE (Distribution Connection point where energy is purchased from Spot Market)
	consumerProfile	Modified	Made optional
	classification	Modified	Made optional
	threshold	Modified	Made optional
Service Point Detailed Data	streamStatus	Removed	
	dataStreamType	Removed	
	profileName	Removed	
	peakDemand1	Removed	
	peakDemand2	Removed	
	nextScheduledReadDate	Added	
	lastReadDate	Added	

Endpoints	Field	Change Type	Comments
	lastReadQuality	Added	
	registerConsumption	Added	
	role	Modified	Removed following ENUM values • LR (Local Retailer) • MDP (Metering Data Provider – Category D) • MPB (Metering Provider – Category B) • MPC (Metering Data Provider – Category C) • NEMM (National Electricity Market Operator) • NSP2 (Second Network Service Provider (For Wholesale NMIs only) • ROLR (Retailer of Last Resort) • RP (Metering Coordinator)
	installationType	Modified	Added following new ENUM values • NCOLNUML (Non-contestable meter load - Introduced as part of 5MS)
	unitOfMeasure	Modified	Made optional
	timeOfDay	Modified	Made optional
	multiplier	Modified	Made optional
	controlledLoad	Modified	Made optional
	consumptionType	Modified	Made optional
	streams	Modified	Renamed to registers
	streamId	Modified	Renamed to registerId
	dataStreamType	Modified	Renamed to registerConsumptionType

Service Point List Data

High Level Information

Title	Obtain a list of service points owned by the customer that has authorised the current session
HTTP Method	GET
URI	/energy/electricity/servicepoints
Security Scope	energy:electricity.servicepoints.basic:read
Pagination	Supported
Path Parameters	None
Query Parameters	**page** Page of results to request (standard pagination) **page-size** Page size to request. Default is 25 (standard pagination)

Request Payload

Not applicable

Response Payloads

HTTP Response Code: 200 OK

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
servicePointId	String	Mandatory	Tokenised ID of the service point to be used for referring to the service point in the CDR API suite. To be created in accordance with CDR ID permanence requirements
nationalMeteringId	String	Mandatory	The independent ID of the service point, known in the industry as the NMI

Field	Type	Mandatory	Description
servicePointClassification	Enum	Mandatory	The classification of the service point as defined in MSATS procedures. Must be one of: • EXTERNAL_PROFILE • GENERATOR • INTERCONNECTOR • LARGE • SAMPLE • SMALL • WHOLESALE • BULK • CROSS_BOUNDARY • NON_CONTEST_UNMETERED_LOAD • NON_REGISTERED_EMBEDDED_GENERATOR • DISTRIBUTION_WHOLESALE (Distribution Connection point where energy is purchased from Spot Market)
servicePointStatus	Enum	Mandatory	Code used to indicate the status of the service point. Must be one of: • ACTIVE (An active, energised, service point) • DE_ENERGISED (The service point exists but is de-energised) • EXTINCT (The service point has been permanently decommissioned) • GREENFIELD (Applies to a service point that has never been energised) • OFF_MARKET (Applies when the service point is no longer settled in the NEM)
jurisdictionCode	Enum	Mandatory	Jurisdiction code to which the service point belongs. This code defines the jurisdictional rules which apply to the service point. Must be one of: • ALL (All Jurisdictions) • ACT (Australian Capital Territory) • NEM (National Electricity Market) • NSW (New South Wales) • QLD (Queensland) • SA (South Australia) • TAS (Tasmania) • VIC (Victoria)

Field	Type	Mandatory	Description
isGenerator	Boolean	Optional	This flag determines whether the energy at this connection point is to be treated as consumer load or as a generating unit (this may include generator auxiliary loads). If absent defaults to *false*
validFromDate	Object	Mandatory	The start date from which this service point first became valid
lastUpdateDateTime	DateTimeString	Mandatory	The date and time that the information for this service point was modified
consumerProfile	Object	Optional	
{			
classification	Enum	Optional	A code that defines the consumer class as defined in the National Energy Retail Regulations, or in overriding Jurisdictional instruments. Must be one of: • BUSINESS • RESIDENTIAL
threshold	Enum	Optional	A code that defines the consumption threshold as defined in the National Energy Retail Regulations, or in overriding Jurisdictional instruments. Must be one of: • LOW (Consumption is less than the 'lower consumption threshold' as defined in the National Energy Retail Regulations) • MEDIUM (Consumption is equal to or greater than the 'lower consumption threshold', but less than the 'upper consumption threshold', as defined in the National Energy Retail Regulations) • HIGH (Consumption is equal to or greater than the 'upper consumption threshold' as defined in the National Energy Retail Regulations)
}			
}			
links	Object	Mandatory	
{			
self	URIString	Mandatory	Fully qualified link to this API call
first	URI	Conditional	URI to the first page of this set. Mandatory if this response is not the first page
prev	URI	Conditional	URI to the previous page of this set. Mandatory if this response is not the first page

Field	Type	Mandatory	Description
next	URI	Conditional	URI to the next page of this set. Mandatory if this response is not the last page
last	URI	Conditional	URI to the last page of this set. Mandatory if this response is not the last page
}			
meta	Object	Mandatory	
{			
totalRecords	PositiveInteger	Mandatory	The total number of records in the full set
totalPages	PositiveInteger	Mandatory	The total number of pages in the full set
}			

Service Point Detailed Data

High Level Information

Title	Obtain detailed standing information for a specific service point that is owned by the customer that has authorised the current session
HTTP Method	GET
URI	/energy/electricity/servicepoints/{servicePointId}
Security Scope	energy:electricity.site.detail:read
Pagination	Not Supported
Path Parameters	**servicePointId** ID of the specific service point requested. This is a tokenised ID previous obtained from the Service Point List Data end point. Note that it is not a nationalMeteringId.
Query Parameters	None

Request Payload

Not applicable

Response Payloads

HTTP Response Code: 200 OK

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
servicePointId	String	Mandatory	Tokenised ID of the service point to be used for referring to the service point in the CDR API suite. To be created in accordance with CDR ID permanence requirements
nationalMeteringId	String	Mandatory	The independent ID of the service point, known in the industry as the NMI

Field	Type	Mandatory	Description
servicePointClassification	Enum	Mandatory	The classification of the service point as defined in MSATS procedures. Must be one of: • EXTERNAL_PROFILE • GENERATOR • INTERCONNECTOR • LARGE • SAMPLE • SMALL • WHOLESALE • BULK • CROSS_BOUNDARY • NON_CONTEST_UNMETERED_LOAD • NON_REGISTERED_EMBEDDED_GENERATOR • DISTRIBUTION_WHOLESALE • (Distribution Connection point where energy is purchased from Spot Market)
servicePointStatus	Enum	Mandatory	Code used to indicate the status of the service point. Must be one of: • ACTIVE (An active, energised, service point) • DE_ENERGISED (The service point exists but is de-energised) • EXTINCT (The service point has been permanently decommissioned) • GREENFIELD (Applies to a service point that has never been energised) • OFF_MARKET (Applies when the service point is no longer settled in the NEM)
jurisdictionCode	Enum	Mandatory	Jurisdiction code to which the service point belongs. This code defines the jurisdictional rules which apply to the service point. Must be one of: • ALL (All Jurisdictions) • ACT (Australian Capital Territory) • NEM (National Electricity Market) • NSW (New South Wales) • QLD (Queensland) • SA (South Australia) • TAS (Tasmania) • VIC (Victoria)

Field	Type	Mandatory	Description
isGenerator	Boolean	Optional	This flag determines whether the energy at this connection point is to be treated as consumer load or as a generating unit (this may include generator auxiliary loads). If absent defaults to *false*
validFromDate	Object	Mandatory	The start date from which this service point first became valid
lastUpdateDateTime	DateTimeString	Mandatory	The date and time that the information for this service point was modified
consumerProfile	Object	Optional	
{			
classification	Enum	Optional	A code that defines the consumer class as defined in the National Energy Retail Regulations, or in overriding Jurisdictional instruments. Must be one of: • BUSINESS • RESIDENTIAL
threshold	Enum	Optional	A code that defines the consumption threshold as defined in the National Energy Retail Regulations, or in overriding Jurisdictional instruments. Must be one of: • LOW (Consumption is less than the 'lower consumption threshold' as defined in the National Energy Retail Regulations) • MEDIUM (Consumption is equal to or greater than the 'lower consumption threshold', but less than the 'upper consumption threshold', as defined in the National Energy Retail Regulations) • HIGH (Consumption is equal to or greater than the 'upper consumption threshold' as defined in the National Energy Retail Regulations)
}			
distributionLossFactor	Object	Mandatory	
{			
code	String	Mandatory	A code used to identify data loss factor for the service point values. Refer to AEMO distribution loss factor documents for each financial year to interpret
description	String	Mandatory	Description of the data loss factor code and value
lossValue	Number	Mandatory	The value associated with the loss factor code

Field	Type	Mandatory	Description
}			
relatedParticipants	Array of Objects	Mandatory	
[{			
party	String	Mandatory	The name of the of the party/organisation related to this service point.
role	Enum	Mandatory	The role performed by this participant in relation to the service point. Must be one of: • FRMP (Financially Responsible Market Participant) • LNSP (Local Network Service Provider or Embedded Network Manager for child connection points)
}]			
location	Object	Mandatory	
{			
addressUType		Mandatory	The type of address object present. Must be one of: • simple • paf
simple	Object	Conditional	The address of the service point. Mandatory if addressUType is set to *simple*. The structure of this object is aligned to the existing CommonSimpleAddress structure
paf	Object	Conditional	The address of the service point. Mandatory if addressUType is set to *paf*. The structure of this object is aligned to the existing CommonPAFAddress structure
}			
meters	Array of Objects	Mandatory	
[{			
meterId	String	Mandatory	The meter ID uniquely identifies a meter for a given service point. Is unique in the context of the service point. Is not globally unique.
specifications	Object	Mandatory	Technical characteristics of the meter
{			

Field	Type	Mandatory	Description
status	Enum	Mandatory	A code to denote the status of the meter. Must be one of: • CURRENT (Applies when a meter is current and not disconnected) • REMOVED (Applies when a meter has been removed) • DISCONNECTED (Applies when a meter is present but has been remotely disconnected)
installationType	Enum	Mandatory	The metering Installation type code indicates whether the metering installation has to be manually read. Must be one of: • BASIC (Accumulation Meter – Type 6) • COMMS1 (Interval Meter with communications – Type 1) • COMMS2 (Interval Meter with communications – Type 2) • COMMS3 (Interval Meter with communications – Type 3) • COMMS4 (Interval Meter with communications – Type 4) • COMMS4C (CT connected metering installation that meets the minimum services specifications) • COMMS4D (Whole current metering installation that meets the minimum services specifications) • MRAM (Small customer metering installation – Type 4A) • MRIM (Manually Read Interval Meter – Type 5) • PROF (For Profile Setup) • SAMPLE (Sample Meter) • UMCP (Unmetered Supply – Type 7) • VICAMI (A relevant metering installation as defined in clause 9.9C of the NER) • NCOLNUML (Non-contestable meter load - Introduced as part of 5MS)
manufacturer	String	Optional	Free text field to identify the manufacturer of the installed meter

Field	Type	Mandatory	Description
model	String	Optional	Free text field to identify the meter manufacturer's designation for the meter model
readType	String	Optional	Code to denote the method and frequency of Meter Reading. The value is formatted as follows: - First Character = Remote (R) or Manual (M); - Second Character = Mode: T = telephone W = wireless P = powerline I = infra-red G = galvanic V = visual - Third Character = Frequency of Scheduled Meter Readings: 1 = Twelve times per year 2 = Six times per year 3 = Four times per year D = Daily or weekly For example, MV3 = Manual, Visual, Quarterly.
nextScheduledReadDate	DateString	Optional	This date is the next scheduled meter read date (NSRD). This field is optional and is not required where the meter will not be read again (e.g. meter removed, NMI abolished, MDP will no longer be the MDP).
lastReadDate	DateTimeString	Mandatory	The actual date/time the actual meter reading transaction occurred or, for a substitution (quality = 'SUBSTITUE' or 'FINAL_SUBTITUTE'), when the Meter Reading should have occurred. The time component will be the actual time of the attempted Meter Reading. If this is not available the value of the time component will be 00:00:01.
lastReadQuality	String	Mandatory	Data quality & Substitution/Estimation flag for previous reading. Must be one of: • ACTUAL • SUBSTITUTE • FINAL_SUBSTITUTE
}			
registers		Mandatory	Usage data registers available from the meter
[{			
registerId	String	Mandatory	Unique identifier of the register within this service point. Is not globally unique.
averagedDailyLoad	NaturalNumber	Optional	The energy delivered through a connection point or metering point over an extended period normalised to a "per day" basis (kWh)

Field	Type	Mandatory	Description
registerConsumptionType	Enum	Mandatory	Indicates the type consumption type of register. Must be one of: • INTERVAL • BASIC • PROFILE_DATA • NON_MARKET_ACTIVE_IMPORT • NON_MARKET_ACTIVE • NON_MARKET_REACTIVE_IMPORT • NON_MARKET_REACTIVE
networkTariffType	String	Mandatory	The Network Tariff Code is a free text field containing a code supplied and published by the local network service provider
unitOfMeasure	String	Optional	The unit of measure for data held in this register
timeOfDay	String	Optional	Code to identify the time validity of register contents
multiplier	Number	Optional	Multiplier required to take a register value and turn it into a value representing billable energy
controlledLoad	String	Optional	Indicates whether the energy recorded by this register is created under a Controlled Load regime. ControlledLoad field will have "No" if register does not relate to a Controlled Load. If the register relates to a Controlled Load, it should contain a description of the Controlled Load regime.
consumptionType	Enum	Optional	Actual/Subtractive Indicator: • ACTUAL implies volume of energy actually metered between two dates • CUMULATIVE indicates a meter reading for a specific date899. A second Meter Reading is required to determine the consumption between those two Meter Reading dates
}]			
}]			
}			
links	Object	Mandatory	
{			
self	URIString	Mandatory	Fully qualified link to this API call
}			
meta	Object	Optional	

Field	Type	Mandatory	Description
{			
}			