28 February 2025

Nicky McLean
By email: fyi-request-29936-21498d1f@requests.fyi.org.nz

Tēnā koe Nicky,

Your request

Thank you for your request, received on 30 January 2025, under the Official Information Act 1982 (the Act) for the following information:

> *"Via your organisation's web site Electricity Authority - EMI (market statistics and tools) there are links to seven sub-directories, each containing monthly data files offering half-hourly data on various aspects of electricity generation and consumption in most of New Zealand. Each file contains data for multiple data series, each identified by a sequence of code letters and digits. A straightforward check finds some 2,311 different name sequences across the various files, though some names appear in more than one sub-directory! Many of these names can be deciphered (hopefully correctly, a separate issue), but the problem here is that other name sequences are unintelligible.*
>
> *My request therefore is for information that would elucidate the correct interpretation so that the data series may be placed into proper relationships with other data series. For instance, given names A1, A2, A3, and A it might be that A = (A1 + A2 + A3), or, the total "A" action is (A + A1 + A2 + A3), or, these are all variants of the single activity at A.*
>
> *Instead of more hand-waving generalities, here are specifics on some two hundred and seventeen names whose interpretation is dark to me.*
>
> *First, a collection of names for which every supplied datum is zero:*
>
> *[…]*
>
> *Most of these name sequences do not identify the unit of measurement; those that do state KWH (in a half-hour) as in the penultimate example. Could it be that units are instead Megawatt-hours? This would cause small numbers to appear, though this would have no effect on the all-zero values. But if not, many of the values are being specified to a fraction of a watt-hour (as for the last example), something surely out-of-place in statistics on the national network where a kilowatt is a small thing. Given that this data collection is given the heading "Metered-Data", one wonders just what meters where are measuring this sort of value, and what it means.*
>
> *Many name sequences include the text DEF - one could guess a meaning for this, but it would be better to have definite information in place of guesswork, and for the other name parts too.*

Since this is all information that you publish, I hope that you also have information on the meaning that you can provide."

The Electricity Authority Te Mana Hiko (Authority) has interpreted your request as for:

1. A description of the seven data series mentioned and their relationship with other data series

2. Clarification on codes used, and the consistency of units.

Our response

The Authority is not able to provide you with the level of detail you have requested as we do not hold this information. Set out below is the information that we are able to provide in response to your request.

The seven datasets you referred to are a legacy collection (loosely referred to as the 'metered data collection), which will be discontinued when the Authority has a reliable and appropriately documented replacement. In the meantime, we continue to collect and publish this data, on a best endeavours basis, as a courtesy to those who may have been using it for some time. The data is not used internally by the Authority.

The seven datasets are created from three source datasets. While there is some overlap across the three sources, it is not possible to combine them in their entirety and treat them as a single dataset. Other than splitting one of these three sources into five smaller (mutually exclusive subsets), there is no transformation undertaken on the received data; we simply publish it on EMI in an 'as is' state.

Due to overlaps and extra information between the three datasets, we combine parts of these datasets together to create an eighth (legacy) dataset. This is available here: www.emi.ea.govt.nz/Wholesale/Datasets/Generation/Generation_MD.
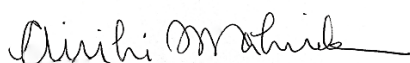
Our preference is to obtain and publish a reliable and documented replacement for the metered data so the metered data series can be decommissioned, rather than create a documented schema for the metered data. However, a table with a list of column names with definitions and specification of the units is included in Appendix A, for your information.

Your rights

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

If you wish to discuss this decision with us, please feel free to contact us by emailing oix@xx.xxxt.nz .

Nāku noa, nā,

Airihi Mahuika
GM Legal, Monitoring and Compliance

Appendix A

Provider	Informal name	Notes	EMI destination	Structure
Reconciliation Manager	RM Embedded Generation	An inappropriately named dataset that contains both generation and offtake, from both embedded and grid connected NSPs. Presumably from half-hourly submissions to the RM. The registry manager informs the reconciliation manager which locations 'qualify' for this dataset. But we're not familiar with all of the conditions that apply. Pulled in to supplement the legacy Generation_MD series for (known) embedded generation.	Metered_data/Embedded_generation	POC (Point of connection) Nwk_Code (Network or direct connect/connecting asset owner) Participant_Code (The trader participant) Loss_Code, large generators need their own independent loss code, grid connections = 'DEF') Flow_Direction (I= Injection, X = Offtake) Trading_Date Trading period 1-50 values. (kWh)
EMS	EMS Unit Level Generation And IR	May be higher than the aggregated EMS Grid Metering values below due to also including reserve injection values. Pulled into Generation_MD series where we can usefully identify separate fuel types per unit, eg, Huntly.	Metered_data/Unit_level_generation_IR	POC (Point of connection) Unit_Code (Identifying separately metered plant at the same site) Participant_Code (The Generators participant code) Gen_Measure (Always kWh) Flow_Direction (Always I=Injection) Gen_Type (Always F =

				Unknown/Unused/Final?) Trading_Date Trading period 1-50 values. (kWh)
EMS	EMS Grid Metering	A combination of grid-level metering measures, subsets of which create the following five data sets.	Metered_data/HVDC_Flows	POC (Point of connection) Nwk_Code (Network or direct connect/connecting asset owner) Generation_Type (Always DC) Trader (Always TPNZ = Transpower) Unit_Measure (Always kWh) Flow_Direction (I= Injection, X = Offtake) Status (Always F = Unknown/Unused/Final?) Trading_Date Trading period 1-50 values. (kWh - as per Unit_Measure above)
			Metered_data/Grid_export	POC (Point of connection) Nwk_Code (Network or direct connect/connecting asset owner) Generation_Type (Grid. GG, GN, GD) Trader (The trading participant) Unit_Measure (Always kWh) Flow_Direction (I= Injection, X = Offtake) Status (Always F = Unknown/Unused/Final?) Trading_Date Trading period 1-50 values. (kWh - as per Unit_Measure above)

	Metered_data/Grid_export_to_Tiwai	POC (Point of connection – Always TWI2201) Nwk_Code (Network or direct connect/connecting asset owner) Generation_Type(Grid. GN) Trader (The trading participant) Unit_Measure (Always kWh) Flow_Direction (I= Injection, X = Offtake) Status (Always F = Unknown/Unused/Final?) Trading_Date Trading period 1-50 values. (kWh - as per Unit_Measure above)
	Metered_data/Grid_import	POC (Point of connection) Nwk_Code (Network or direct connect/connecting asset owner) Generation_Type (Grid. GG, GN, GD) Trader (The trading participant) Unit_Measure (Always kWh) Flow_Direction (I= Injection) Status (Always F = Unknown/Unused/Final?) Trading_Date Trading period 1-50 values. (kWh - as per Unit_Measure above)
	Metered_data/Reactive_power	POC (Point of connection) Nwk_Code (Network or direct connect/connecting asset owner) Generation_Type (Grid. GG, GN, GD)

	Trader (The trading participant)
	Unit_Measure (Always kVArh)
	Flow_Direction (N= None)
	Status (Always F = Unknown/Unused/Final?)
	Trading_Date
	Trading period 1-50 values. (kVArh - as per Unit_Measure above)

Notes:

DEF = Default Loss Code, which should translate to Grid Connected.

All units are kilowatt-hours, unless otherwise stated, ie, Reactive_power = kVArh

As for the number of decimal places, we agree some of the decimal precision is spurious but, as above, we pass through what is received.