NEM 12&13 FILE FORMAT CLARIFICATIONS

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FINAL

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Version Control

VERSION	DATE	AUTHOR	COMMENTS
0.1	04/02/05	John Wiskin	Draft of base document.
0.2	07/02/05	John Wiskin	Updated draft for use and publication
1.0	17/02/05	John Wiskin	Final agreed version
2.0	18/02/05	John Wiskin	First publication with requested clarifications following meeting 1
3.0	17/03/05	John Wiskin	Document updated with requested clarifications from meeting 2
4.0	25/03/05	John Wiskin	Document updated with requested clarifications from meeting 3
5.0	01/07/05	John Wiskin	Document updated with requested clarifications from meeting 4
6.0	Sep 2009		Update to AEMO Format

Interpretation

For details of the interpretation of key words, such as addresses, dates, times and field types, refer to the Meter data file Format Specification NEM12 & NEM13 and Technical Guidelines for B2B Procedures.

Documentation Conventions

Refer to the Meter data file Format Specification NEM12 & NEM13 and Technical Guidelines for National B2B Procedures for the details of the documentation conventions.

This document should be used in conjunction with the published Meter Data File Format Specification, document No. ME_MA001v007 published December 2004.

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1. INTRODUCTION

1.1 Document Structure

Section 1 provides an introduction and context to requested format clarifications.

Section 2 provides responses to **general** requested clarifications where no change to the specification is required.

Section 3 provides clarifications where a change to the specification is warranted, but is considered **non-essential**. These changes may be considered by industry at some later stage and implemented through a code consultation process.

Section 4 provides clarifications where the specification has an obvious **error**, usually a typographical error, which needs to be corrected.

1.2 Background

1. The national B2B / MDP working group have established through consultation a new Meter Data File Format (MDFF), NEM12 and NEM13 for the communication and delivery of metering data between service providers and Participants within the National Electricity Market (NEM).
2. As part of the industry consultation phase undertaken on the revised MDFF. The national B2B / MDP working group supported the establishment of a sub working group (refer section 1.6 for elected members), to assist industry participants and service providers with any requested clarification on the MDFF technical format and structure during the implementation stages to 20th July 2005.
3. Clarifications issued by the sub working group are listed within sections 2, 3 and 4 of this document. All clarifications relate to the Meter Data File Format (MDFF) Specification NEM12 & NEM13, document No ME_MA001v007 published December 2004 and which becomes effective from 20th July 2005.

1.3 Purpose

a. This document aims to assist Participants and service providers conform to the technical format requirements as detailed within the MDFF NEM12 and NEM13 Specification.

1.4 Scope

a. This file format clarification document relates solely to:
    1. Meter Data File Format Specification: NEM12 & NEM13
b. Only clarifications and questions which relate solely to the technical format and detail of the NEM12 and NEM13 Meter Data File Format will be considered by the B2B/MDP sub working group.
c. No changes to the structure or specification of the published file format (e.g. any addition or deletion of a specified field), may be considered by the B2B/MDP sub working group.

1.5 Process

a. Only written clarification requests submitted by e-mail are acceptable. The requester is encouraged to provide suggested solutions to be considered by the B2B/MDP sub working group.

b. The B2B/MDP sub working group will meet at once per week to provide responses to any requested file format clarifications submitted.

c. Sections 2, 3 and 4 of this document will be updated with responses to requested clarifications.

d. Any updates to this document will be published on the AEMO web site.

e. It is the responsibility of participants and service providers to check the AEMO web site for published updates to this document.

f. Following the conclusion and implementation of the NEM12 and NEM13 file format by service providers and participants within the industry, the Meter Data File Format (MDFF) Specification NEM12 & NEM13, document No ME_MA001v007 will be updated accordingly in respect to any obvious **error** clarifications issued by the B2B/MDP sub working group.

1.6 Submissions

All requested clarifications are to be submitted by email to john_wiskin @aemo.com.au

Members of the B2B/MDP sub working group consist of:

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2. CLARIFICATIONS - GENERAL

SUBMISSION	RESPONSE
Section 3.2.3 File Naming Standard	
There is no definition of the file for the CSV file in the zip file. Many of the sample files had different names for the csv file from the zip filename. The CSV files do not conform to the naming convention. The requirement is for 1 to 36 alphanumeric character field for the Unique ID block. There appears to be no definition of what is an acceptable alpha numeric character in the NEM12/13 specifications. Ergon 24/06/05	The file name convention applies both to the the **.csv** file, and the resultant compressed **.zip** file. The character # is used as a delimiter within the file name. The use of '**#**' character must therefore not be used within any of the file header fields. Sub Group meeting #4 01/07/05
Section 3.3 File Data	
It does not specifically say in the specification that the file size for the NEM12/13 should be no greater than 1Mb and that participants may get multiple files per day to completely cover all their data. Energex 15/03/05	The 1 Mb limit is a file size limitation on the Transportation mechanism not a file format limitation, (i.e. the limitation relates to the B2B aseXML message which may contain the NEM12/13 file data as a payload). Refer B2B Technical specification clause 4.8, 'Size of aseXML messages. Sub Group meeting #2 17/03/05
Section 3.3.10 Data Grouping	
Clause 3.3.10 Data Grouping of the AEMO NEM12 specification states, "All NMI Suffixes associated with a NMI for a single read event/date should be included in 100-900 event block." TCA would like to send individual NMI Suffixes to participants where meters are not read at the same time. Therefore we are questioning the "single read event/date" and "should" statements above. Single Event/Date - as these 3 meters do not have the same Event Date Should - because should is not mandatory **Scenario** A site has 3 meters, all with a configuration of E1, Q1 for Meter 1, E2,Q2 for Meter 2 and E3, Q3 for Meter 3. Meter 1 is read at 00:45, Meter 2 at 04:00, Meter 3 at 06:00. TCA would like to send E1 and Q1 at 01:00 E2 and Q2 at 04:30 E3 and Q3 at 06:30 but the statement above is not clear. If full Suffix sets are required, TCA will send 3 versions of data for this NMI on the same day, which may cause problems for the receiving Participant. TCA 09/02/05	It is understood that provision of data for all NMI suffixes within the same 100 – 900 record block may not be possible. E.g. (1) Meter data collected from remotely read meters at the same site may not be all collected at the same time (as per the given example) due to a communication failure or similar. (2) Provision of data for all NMI suffixes may not possible within the one file hence the meter data may be across a multiple of NEM## files. The suggested despatch of data files in the given scenario is therefore in line with the technical definitions of the 'Data Grouping' clause. While the Data Grouping requirement relating to a 'Single Event/Date' and 'should' does correctly define the Data Grouping requirements based on industry perception to date. The sub group recognises that the definition may need to be reviewed at a later stage following more industry experience. Sub Group meeting #1 17/02/05

SUBMISSION	RESPONSE
Section 4.3 200 Record, NMI Data Details Record	
Meter Serial Number - Lack of clarity over the when the meter serial number should be changed in outgoing files such as on the physical meter change date or when the site transfers. Ie. For a type 1-4 site where an outgoing MDP finds that the meter they are reading is changed by the incoming MDP/MP prior to the transfer and the incoming MDP is sending churn data, does the outgoing MDP: a) Load the meter data only out of the churn file provided and send the data to the participants using the old meter number (which aligns with MSATS) until the transfer is complete. Or b) Load the meter data and change the meter serial number the data came from to the new meter serial number that is physically on site and which does not align to MSATS. The incoming MP can not change the meter details until the transfer is complete. My opinion is that option a) should be the way we move forward. This is because it cuts down on the effort for the outgoing MDP in chasing the new meter number and keeps the serial number in sync with MSATS incase participants check this as part of the file load. Energex 15/03/05	Meter data provided within the NEM12 or NEM13 format must relate to the Meter serial number from which the data was obtained. This is why the 'Meter Serial Number 'was included as a field within the new file format. This also ensures that the audit trail of data back the 'measurement device or meter' is maintained. It is recognised that there will be synchronisation issues with the update time frames of MSATS standing data for newly installed meters under meter churn situations. Option b) is only acceptable. Sub Group meeting #2 17/03/05
Section 4.5 400 Record, Interval Event Record	
Section 4.5 states "Where the same *QualityMethod* and *ReasonCode* apply to all *IntervalValues* in the 300 record, the *QualityMethod*, *ReasonCode* and *ReasonDescription* in the 300 Record must be used." Therfore: When all the *IntervalValues* in the 300 record of the NEM12 file have the same *QualityMethod, ReasonCode* and *ReasonDescription* then a 400 record is not required. AEMO 21/03/05	**Correct** Sub Group meeting #3 24/03/05
Section 4.6 500 Record, B2B Details record	
Where a 500 record is provided within the NEM12 file, is it expected that a corresponding 300 record is provided within the file for the day of the 'ReadDateTime' in the 500 record? This is not clear within the 500 record statements or the detail provided in clause 3.3.4 TCA 29/06/05	**YES.** There must be a corresponding 300 record within the file whose '*IntervalDate*' corresponds with the 500 records '*ReadDateTime*'. The file structure and blocking cycle is such that the 200 record is qualified by the underlying 300 records, and similarly the 300 records are qualified by the underlying 400 and 500 records. Sub Group meeting #4 01/07/05
Section 5.3 250 Record, Basic Meter Data Record	

SUBMISSION	RESPONSE
The definition of *Quantity* in the 250 record of NEM13 is unclear for demand registers. According to the MDFF Specification, "for non-integrated values, it is the *CurrentRegisterRead* corrected for the register multiplier". This definition suggests that demand register value to be included in the *CurrentRegisterRead* field is not an accumulative value. In the CitiPower/Powercor local area, there are basic meters that have been configured to record accumulative demand whereby the demand register is not reset after each read. What value do we include in the *CurrentRegisterRead* for these types of demand registers*?* CitiPower/Powercor's preference would be to calculate *Quantity* as *CurrentRegisterRead* value less *PreviousRegisterRead* value for these demand registers, just like the time integrated values. Powercor / Citipower 15/03/05	The definition of 'Quantity' within the 250 Record states it is: " The computed quantity, after the application of any multiplier value and taking into account of any meter roll over…… For non-integrated values, it is the *CurrentRegisterRead* corrected for the register multiplier". For management of 'accumulative demand' values, your suggestion is acceptable. i.e. Calculate the demand quantity by subtracting the previous demand from the accumulative demand value and populate the *CurrentRegisterRead* field with the resultant value. As the *PreviousRegisterRead* field is also mandatory, this may be populated with a zero value for 'non-integrated' values. Sub Group meeting #2 17/03/05
	For non-integrated values, the sub group has further considered that it is preferential that the 'previous demand' value be populated in the PreviousRegisterRead field of the 250 record. Sub Group meeting #3 24/03/05
Section 7 Appendix B – Format & Unit of Measure Field	
Please provide a clarification to the NEM12 spec in Appendix 7.1. with respect to the integer format statements that apply to the *IntervalValue* (300 Record) and *Quantity* (250 Record). Believe it should read, "Table 7.1 denotes the maximum number of digits allowed for this field. Rounding will not occur until the significant digits are outside the given formats. TCAUSTM 23/06/05	**Correct** Sub Group meeting #4 01/07/05

3. CLARIFICATIONS – NON-ESSENTIAL

SUBMISSION	RESPONSE
Section 3.3.3 Interval Data	
The specification is not clear on the way a 15/30min or 30/15min interval length change partway through the day is represented. The specification does not say that you are not allowed to have a change partway through the day or that they must always be on a midnight boundary. The specification does support a part day data send if you put in multiple 200/300 records with part day nulls in each section. The answer really depends on the participant systems, but should be clearly stated in the specification. The meter churn document does suggest that the change should occur on a midnight boundary; however a change to the interval length can occur without actually going through a churn process (such as a meter change with a consistent MDP). Energex 15/03/05	This is not a file format detail issue. However the following may be noted: 1. Any and all changes that occur within the NEM are only referenced to midnight within the MSATS system and the CATS Procedures. 2. The Meter Data Churn document which is currently undergoing consultation does address this issue. i.e. Interval change must happen at midnight. All data for the day of change must be in provided in the one interval format. This will require the interval data for the day of change to be appropriately aggregated or disaggregated. Sub Group meeting #2 17/03/05
Section 4.6 500 Record, B2B Details	
"This Record is mandatory where a manual read has been performed or attempted". Does this mean that the 500 record should not be sent for other metering types? TCA 17/02/05	NO. For example, should a participant provide a service order for a Type 1-4 site , then the expectation is that a 500 Record will be provided. Sub Group meeting #1 17/02/05

4. CLARIFICATIONS - ERRORS

SUBMISSION	RESPONSE
Document History	
Document History shows that the last version is 'Version 7 Draft' AEMO	Last entry in the Document History Table should show 'Version 7 Final' Sub Group meeting #1 17/02/05
Section 4.3 200 Record, Interval Meter	
The new NEM specifications define the UOM field as VARCHAR(4) However there are 5 character allowed values such as KVARH and MVARH - the correct definition should be VARCHAR(5) Origin Energy 04/02/05	**Accepted** UOM field should be VARCHAR(5) This is consistent with the current NEM02 and NEM03 file formats. Sub Group meeting #1 17/02/05
Section 5.3 250 Record, Basic Meter	
The new NEM specifications define the UOM field as VARCHAR(4) However there are 5 character allowed values such as KVARH and MVARH - the correct definition should be VARCHAR(5) Origin Energy 04/02/05	**Accepted** UOM field should be VARCHAR(5) This is consistent with the current NEM02 and NEM03 file formats. Sub Group meeting #1 17/02/05
Section 12.3 Appendix G – Interval Data example	
The following errors are believed to be in the example: • Missing 500 record after the 7th 300 record: 500,E,,, • Missing 500 record after the 4th 400 record: 500,N,,20031220154500, Powercor / Citipower 15/03/05	**Not Accepted**. A 500 record is only required where the data pertains to a reading event. The preceding 300 record data blocks are forward estimates. **Accepted.** The preceding 300 records relate to a reading event and as such a 500 record is required here. Example 12.3 (page 40) should show: 400,1,31,A,, 400,32,48,E52,, **500,N,,20031220154500,** Sub Group meeting #2 17/03/05
The time component of *UpdateDateTime* must be '00:00:01' when all intervals are estimate readings. Values within ten 300 records of example 12.3 with a quality flag of 'E52' show an *UpdateDateTime* of '20031220203500' Believe the value should show '20031220000001' Origin 21/03/05	**Accepted.** The ten 300 record lines of example 12.3 relating to forward estimate data (having a quality flag of 'E52' should show an *UpdateTime* of: E52,,,20031220000001,
Section 12.5 Appendix G – Remote Interval Data	
Example 12.5 relates to remote interval data. The 400 line of the example shows a forward estimate code of 'E52' indicating that the meter is a MRIM. Believe this code should be 'S14' Origin 21/03/05	**Accepted.** The last 400 record line of example 12.5 should show: **400**,25,48,S14,, Sub Group meeting #3 24/03/05

SUBMISSION	RESPONSE
Section 12.6 Appendix G Interval Data example	
The following errors are believed to be in the example: • 1st 500 record which provided B2B details relating to the meter churn day (10/8/2004) does not include index read for the old meter. Could AEMO clarify the basis for this? Is it because the preceding 300 record on the meter churn day (3rd 300 record) contain readings from both old and new meter? Will it be non-complying if we were to provide the index read for the old meter (if actual reading can be obtained) in this 500 record since the related 200 record (3rd 200 record) designates the old meter serial number? • 4th 300 record should not have *MSATSLoadDateTime* as readings relate to suffix Q1 • 6th & 7th 300 records are actual reads; however, related 500 record (4th 500 record) has no Index read. This appears inconsistent with the MDP's process where the MDP must have obtained the Index read in order to validate the actual interval data and deliver the interval data in the file. Is this a typo? Powercor / Citipower 15/03/05	**Noted**. This data example relates to 'historical meter data' and as such an *IndexRead* is not required. (Refer clause 3.3.4). It would not be a non-compliance if an IndexRead was provided. **Accepted.** The 300 record should end as: ……0,0,v,,,20040812013500, **Not Accepted.** As above, the data block in this example is historical. (The sub group recommends that further text be added to Appendix G section 12.6. as follows: "This example data block relates to historical data, hence *IndexReads* are not needed." In addition the 100 record to be amended to 100,NEM12,200504121327,MDA1,Ret1 To better example a 'historical' data file. Sub Group meeting #2 17/03/05
Section 12.8 Appendix G Interval Data example	
The following errors are believed to be in the example: • File 1, 1st 250 record – remove extra comma following "A" (*PreviousQualityMethod*); there should be 3 commas after "A", not 4 • File 1 1st 250 record – last 2 dates, *NextScheduledReadDate* and *UpdateDateTime* are in the wrong order; should be "kWh,20031108,20030922113030," Powercor / Citipower 15/03/05	**Accepted.** **Accepted.** The 250 record in the example of section 12.8 relating to File 1 should correctly show: **250**,NABC001492,11,A1,11,11,MET12333,E,000555,20030820103030,A,,,000777,20030921113030,A,,,222,kWh,20031108,20030922113030 Sub Group meeting #2 17/03/05
Section 13.3 Appendix G Meter read and meter change	
A UOM code of 'kvar' is given in the second and the third 250 record lines. Is this correct given that the example relates to a basic meter? In the third 250 record line, a forward estimate is given for this 'kvar' quantity. Is a forward estimate expected to be given for a demand device? Origin 21/03/05	It is entirely possible to have a demand kvar reading, however it is not expected within the current tariffs structures for basic metered customers. The sub group agrees that a *UOM* of kW would better suit in this example. The two 250 Record lines of example 13.3 be amended to show a UOM code of kW. Sub Group meeting #3 24/03/05

SUBMISSION	RESPONSE
Section 13.5 Appendix G Transfer Read example	
The definition for the *CurrentRegisterReadDateTime* of the 250 record states, "For forward estimates the date should be equal to or greater than the *NextScheduledReaddateTime* with a time component of 00:00:00". The values for the *CurrentRegisterReadDateTime* are less than the given *NextScheduledReaddateTime* in the forward estimate 250 records. (i.e 4 off 250 records with *CurrentQualityMethod* = E64) Origin 21/03/05	**Accepted** The *NextScheduledReadDate* and the *CurrentRegisterReadDateTime* will be updated in the example 13.5. The updated values should be as follows: Sub Group meeting #3 24/03/05

Data to New Retailer

100,NEM13,200309011030,MDA1,Ret1

250,NABC001492,4111,1,11,11,MET12333,E,000777,20030820103030,A,,,001000,20030920000000,E64,,,223,kWh,20030920,20030821000000,20030822093738

550,G,SO134567,E,

250,NABC001492,4111,2,41,41,MET12333,E,000545,20030820103030,A,,,000877,20030920000000,E64,,,332,kWh,20030920,20030821000000,20030822093738

550,G,SO134567,E,

900

Data to Old Retailer

100,NEM13,200308231030,MDA1,Ret0

250,NABC001492,4111,1,11,11,MET12333,E,000777,20030720153445,A,,,000777,20030820103030,A,,,0,kWh,20030920,20030821103030,20030822093738

550,D,SO987654,G,

250,NABC001492,4111,1,11,11,MET12333,E,000777,20030820103030,A,,,001000,20030920000000,E64,,,223,kWh,20030920,20030821000000,20030822093738

550,G,,E,

250,NABC001492,4111,2,41,41,MET12333,E,000545,20030720153445,A,,,000545,20030820103030,A,,,0,kWh,20030920,20030821103030,20030822093738

550,D,SO987654,G,

250,NABC001492,4111,2,41,41,MET12333,E,000545,20030820103030,A,,,000877,20030920000000,E64,,,332,kWh,20030920,20030821000000,20030822093738

550,G,,E,

900