

B2B PROCEDURE

METER DATA PROCESS

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DETERMINATION

Document History

Version	Date	Author	Comments
1.0	23/12/2004	NEMMCO	Final Determination version.
1.1 DRAFT	22/4/2005	NEMMCO	Draft issued for Consultation.
	20/6/2005	NEMMCO	Draft issued as Draft Determination.
1.1	1/8/2005	NEMMCO	Final Determination version.
1.2	29/8/2005	NEMMCO	Changes to incorporate clause 7.2A of National Electricity Rules that deals with Manifest and minor or procedural errors.
1.3 DRAFT	30/6/2006	NEMMCO	Update for changes proposed prior to Tranche 1 go live that have no operational impact and changes required to accommodate the commencement of FRC in Queensland.
1.3.DRAFT 2	30/10/2006	NEMMCO	Update following first consultation workshop
1.3 DRAFT 3	5/12/2006	NEMMCO	Updated from comments received in 2 nd stage consultation
1.3 DRAFT FINAL	15/12/2006	NEMMCO	Final Draft
1.3	30/01/07	NEMMCO	Version recommended by the IEC to NEMMCO on 22 January 2007 and approved by NEMMCO for publication on 30 January 2007.
1.4	20/06/2007	NEMMCO	Updated to Service Order Process to accommodate changes in re-energisation service order timings. No changes were made to this document.
1.5	03/12/2008	NEMMCO	Issued as Final Determination
1.5.1	27/04/2009	NEMMCO	Update the version number and release date to retain version numbering with the other B2B Procedures. Updated singular and plural references to the word "Procedure (s)". Issued as FINAL Determination
1.6	23/06/2009	NEMMCO	Update the version number and release date to retain version numbering with the other B2B procedures. Removed clause 1.2(b) and changed the publish date to effective date on the front cover. Published as FINAL Determination.
1.6.1	18/08/2009	AEMO	Update to reflect change of governance from NEMMCO to AEMO. Update the version number and release date to retain version numbering with other B2B Procedures Minor updates to sections 1.2, 1.3, 1.4, to align clauses with the other B2B Procedures. Issued as Determination – Effective 25 November 2009
1.7	17/03/2010	AEMO	Updated version numbers and release date to retain version numbering with other B2B Procedures. Graphical updates to diagrams. Update Clause 1.7. Move Business Event information to the B2B Procedure Technical Guidelines for B2B Procedures. Issued as Final Determination – effective 26 May 2010
1.7a	15/07/2011	AEMO	Updated version number to 1.7a and release date to retain version numbering with other B2B Procedures. Updated procedure to facilitate further extension of contestability to small business customers in Tasmania
1.8	15/08/2011	AEMO	Updated version numbers and release date to retain version numbering with other B2B Procedures.
1.9	06/11/2012	AEMO	Updated version numbers and release date to retain version numbering with other B2B Procedures. Update to clauses 1.5.2 a.4; 1.7 a; 2.4 a; 2.9 a and 3.2.2 a for Meter Data Providers.

Version	Date	Author	Comments
2.0	13/11/2013	AEMO	Updated version numbers and release date to retain version numbering with other B2B Procedures.
2.1	15/05/2014	AEMO	Updated version numbers and release date to retain version numbering with other B2B Procedures.
2.2	21/11/2014	MSWG / AEMO	Minor changes made to section 2.5 and timing requirements for Provide Meter Data Process (section 3.2) added following MSWG review. Updated version numbers and release date to retain version numbering with other B2B Procedures.

Interpretation

For details of the interpretation of key words, such as addresses, dates, times and field types, refer to the B2B Procedure: Technical Guidelines for B2B Procedures.

Documentation Conventions

Refer to the B2B Procedure: Technical Guidelines for B2B Procedures for the details of the documentation conventions.

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1 INTRODUCTION

1.1 Document Structure

- a. Section One provides an introduction to this Procedure.
- b. Section Two details the high-level process flows.
- c. Section Three defines the Timing Requirements for the Meter Data process.
- d. Section Four itemises the data to be provided in each transaction.

1.2 Introduction

- a. This B2B Procedure: Meter Data Process (“Procedure”) is approved by AEMO in accordance with clause 7.2A.5(a)(1) of the National Electricity Rules (“Rules”).
- b. This Procedure may only be amended in accordance with clause 7.2A.3 of the Rules.
- c. In the event of any inconsistency between this Procedure and the Rules, the Rules shall prevail to the extent of the inconsistency.
- d. In the event of any inconsistency between this Procedure and the Metrology Procedure, the Metrology Procedure shall prevail to the extent of the inconsistency.
- e. In the event of any inconsistency between this Procedure and the MSATS Procedures the MSATS Procedures shall prevail to the extent of the inconsistency.
- f. In the event of any inconsistency between this Procedure and the B2B Procedure Technical Delivery Specification or the B2B Procedure Technical Guidelines for B2B Procedures (together referred to as the “B2B Technical Procedures”), unless this Procedure provides otherwise, the relevant B2B Technical Procedure shall prevail to the extent of the inconsistency.
- g. In this Procedure, a capitalised word or phrase has the meaning given to it:
 1. in this Procedure;
 2. if no meaning is given to it in this Procedure, it is defined in the B2B Procedure Technical Guidelines for B2B Procedures; or
 3. if no meaning is given to it in the B2B Procedure Technical Guidelines for B2B Procedures, it is defined in the Rules.
- h. This Procedure shall be interpreted in accordance with the rules of interpretation set out in clause 1.7 of the Rules and the B2B Procedure Technical Guidelines for B2B Procedures. Provisions that are placed in a square box coloured grey are provided by way of explanation and to assist readers and do not form any obligation on Participants or affect the interpretation of this Procedure. Provisions that fall within a section entitled “Worked Example” are provided for assistance only and do not form any obligation on the Participants nor do they affect the interpretation of this Procedure.

1.3 Jurisdictional Instruments

- a. To the extent of any inconsistency between this Procedure and any relevant jurisdictional instrument, the relevant jurisdictional instrument shall prevail to the extent of the inconsistency.

1.4 Purpose

- a. This Procedure defines the standard Meter Data Process and transaction data requirements between participants, with which they must comply.

1.5 Scope

1.5.1 Inclusions

- a. This Procedure enables Meter Data Providers (MDP) to send MDFF Data to Retailers, DNSPs and other MDPs, and to receive confirmation that the MDFF Data has been received and accepted.
- b. The Procedure allows Participants to request the latest version of MDFF Data.
- c. The Procedure allows Participants to query the MDFF Data.

1.5.2 Exclusions

- a. This Procedure does not apply to:
 1. Processes for inventory and load tables for unmetered supplies as dealt with in the Metrology Procedure;
 2. Metering configuration information, namely NMI Standing Data, as dealt within Existing MSATS Procedures;
 3. Changes to the recorded Next Scheduled Read Date;
 4. Delivery of Metering Data to MSATS pursuant to the Metrology Procedure and Service Level Procedure for Metering Data Providers.

1.6 aseXML

- a. A Participant must use the agreed industry standard of aseXML messaging to deliver Transactions pursuant to this Procedure. Participants must ensure that any MDFF Data provided complies with the requirements of the MDFF Specification and is delivered using a MeterDataNotification transaction.

1.7 Application of this Procedure

- a. As required by 7.2A.4(i) of the National Electricity Rules, Local Retailers, Market Customers, Distribution Network Service Providers, AEMO, Metering Data Providers and Metering Providers must comply with this Procedure.
- b. As permitted by clause 7.2A.4(k) of the National Electricity Rules, Local Retailers, Market Customers and Distribution Network Service Providers may on such terms and conditions as agreed between them communicate a B2B Communication on a basis other than as set out in this Procedure, in which case the parties to the agreement need not comply with this Procedure to the extent that the terms and conditions agreed between them are inconsistent with this Procedure.
- c. This Procedure applies to all Meter Installations.
- d. This Procedure applies to MDFF Data in respect of a NMI located in a Participating Jurisdiction as follows:

Transaction	ACT	NSW	QLD	SA	VIC	TAS*
Provide Meter Data Request	Yes	Yes	Yes	Yes	Yes	Yes
Verify Meter Data Request	Yes	Yes	Yes	Yes	Yes	Yes
Meter Data Notification	Yes	Yes	Yes	Yes	Yes	Yes

* Note: Applies to second tier sites only in Tasmania.

Key	
Yes	Applicable as defined.
No	Not applicable.

1.8 Enforceability of the Procedure

- a. The Procedure is enforceable by the Australian Energy Regulator in accordance with its powers under section 15 of the National Electricity Law.

1.9 Terminology and Definitions

1.9.1 Terminology

- a. In this Procedure:
1. the term "Basic Meter Data" refers to accumulated consumption and/or demand data (i.e. data from a Type 6 Metering Installation).
 2. The term "Interval Meter Data" refers to meter consumption data and/or demand for time periods (i.e. data from a Types 1-5, or 7 metering installation).
 3. The term "MDFF" is used to refer to the current effective version of the Participant Meter Data File Format specification. The current Meter Data File Format specification is located on the AEMO web site.
- b. The term "Participant" is limited in its meaning and is not as defined in the B2B Procedure Technical Guidelines for B2B Procedures. In this Procedure Participant means the party receiving MDFF Data from the MDP. A Participant may be any one of the LR, FRMP, TNSP, DNSP or another MDP.
- c. The term "Notification" refers to a MeterDataNotification Transaction.
- d. The term "Request" refers to either ProvideMeterDataRequest or a VerifyMeterDataRequest Transaction.

1.9.2 Business Documents

- a. Throughout this Procedure, the term "Business Document" is used to refer to the key B2B Messages or Transactions sent between the various Participants.
- b. In this Procedure, the relevant Business Documents are:
1. ProvideMeterDataRequest;
 2. VerifyMeterDataRequest, and the
 3. MeterDataNotification

1.9.3 Business Signals

- a. The delivery specification details of transactions in this Procedure are contained in the B2B Procedure B2B Technical Delivery Specification.
- b. Participants must ensure that their technical delivery mechanism supports the following Business Signals:
1. BusinessReceipt, and
 2. BusinessAcceptance/Rejection
- c. A BusinessReceipt indicates that a Business Document has been received and its contents indicate if it is readable by the Recipient.

- d. A *BusinessAcceptance/Rejection* represents formal acceptance or rejection of the appropriate Business Document by the Recipient based on the application of business rules.

1.10 Related Documents

- a. This Procedure has been prepared in conjunction with and should be read in conjunction with:
1. B2B Procedure Technical Delivery Specification
 2. B2B Procedure Technical Guidelines for B2B Procedures
 3. Meter Data File Format Specification
- b. Participants should also refer to the following documents. It should be noted that these documents have been prepared by way of assistance only and are not a legally binding document nor does it affect in any way the interpretation of this Procedure.
1. Meter Churn Data Management Rules
 2. Participant Build Pack - B2B System Interface Definitions
 3. Frequently Asked Questions: Meter Data Process

2 Business Process

2.1 Process Overview

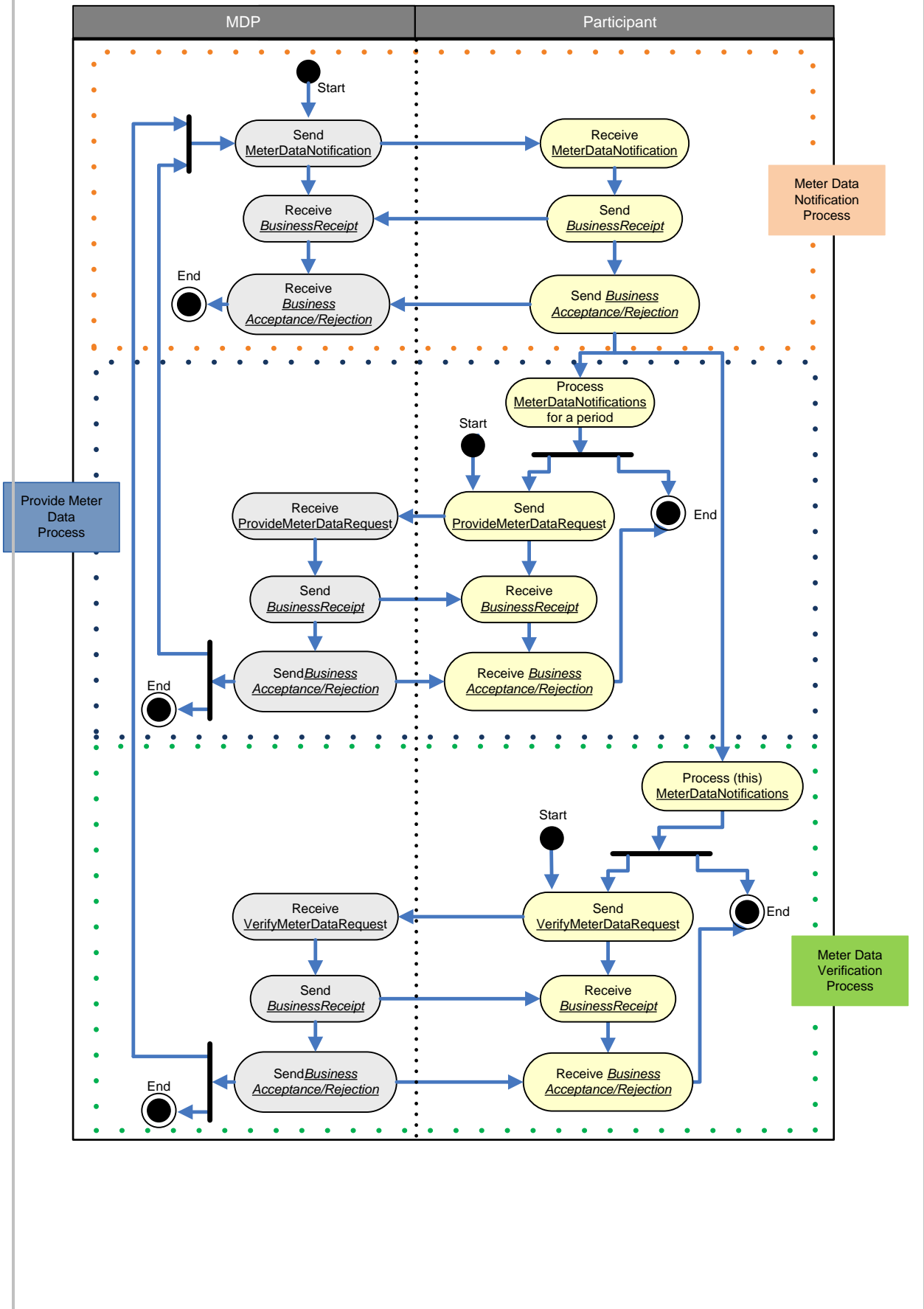
a. There are three distinct business processes associated with this overall process.

1. Meter Data Notification Process - The provision of MDFF Data as part of the MDPs' normal production process obligations. These may include scheduled meter reads, reads in response to a service order request and other MDFF Data (such as forward estimates).
2. Provide Meter Data Process - The process by which a Participant requests the provision of the latest version of MDFF Data held by the MDP. This does not involve the investigation of problems with MDFF Data.
3. Verify Meter Data Process - The process by which a Participant queries MDFF Data. This is normally executed after a ProvideMeterDataRequest to ensure that the latest version of data is being queried.

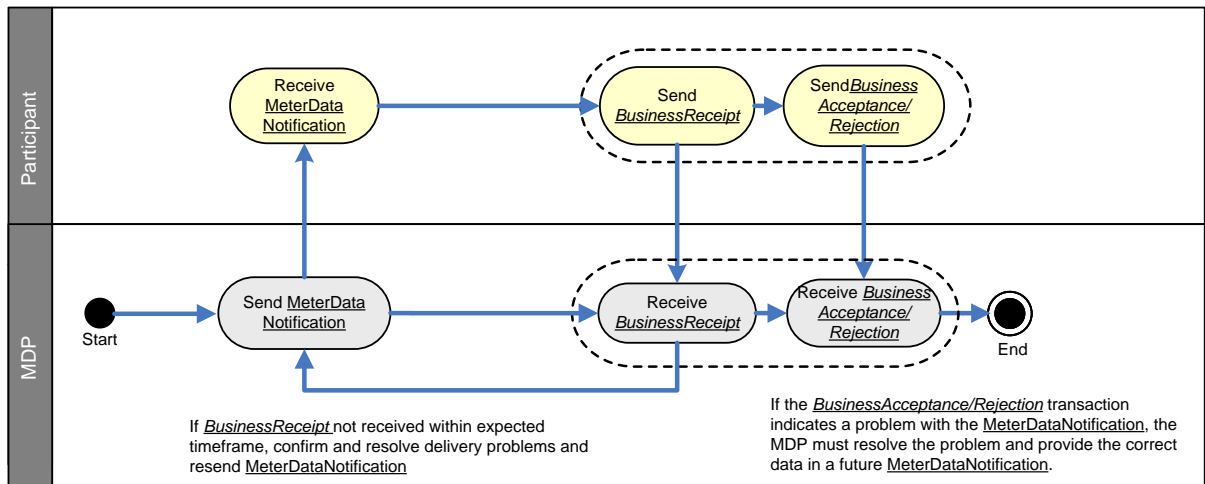
2.2 Process Diagrams

- a. The following diagrams illustrate the high-level process flows and are provided by way of explanation only.
- b. Refer to Section 3.1 for the definition of the timing points (triangles A-F) shown in Figures 2 and 3 below.

Figure 1: Overview of the Meter Data process



Normal Meter Data Notification Process Timing Points



Timing Requirements

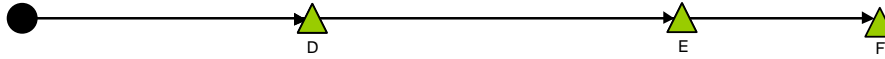


Figure 2: Meter Data Notification process

Provide or Verify Meter Data Process Timing Points

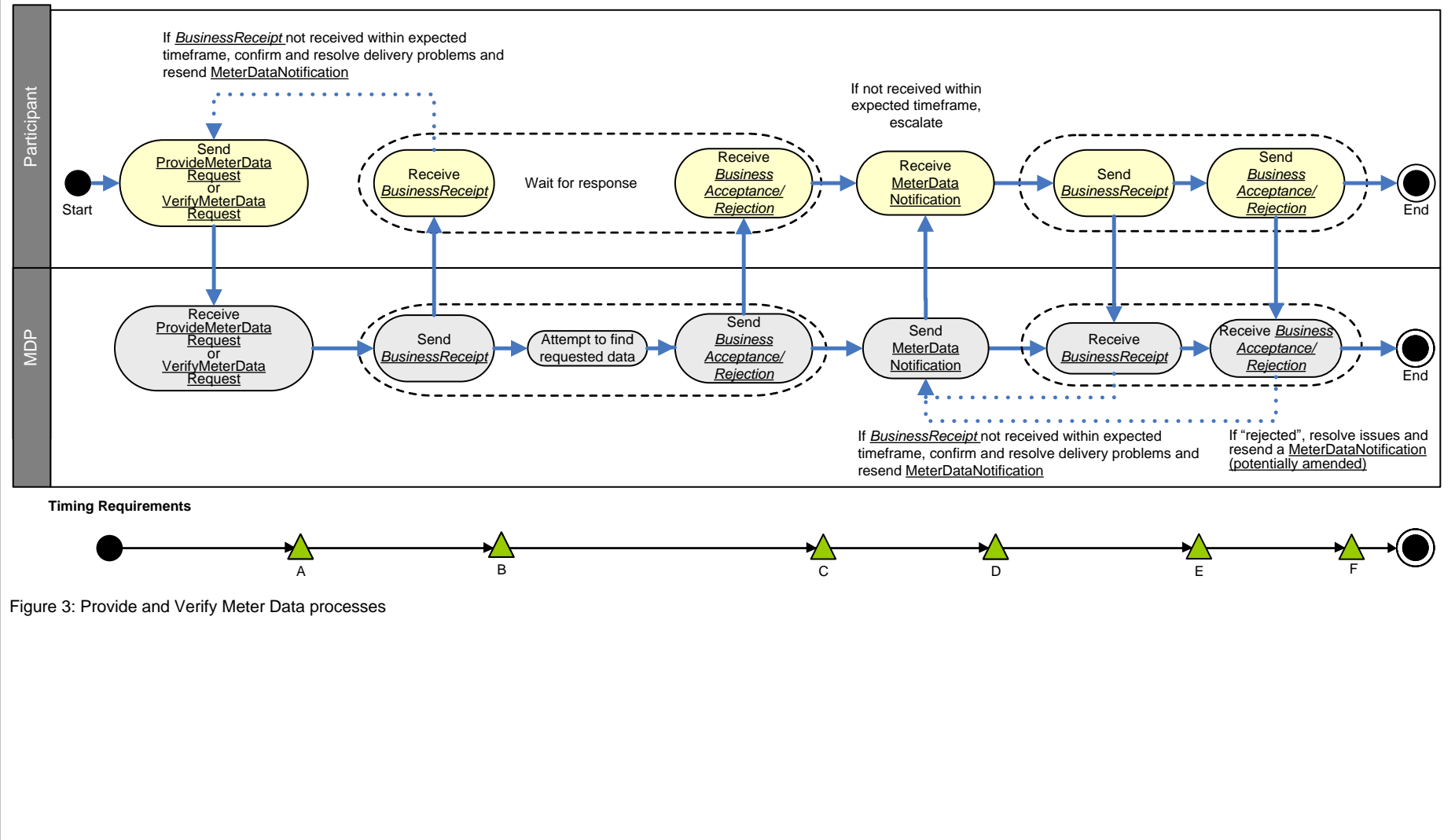


Figure 3: Provide and Verify Meter Data processes

2.3 Timing

- a. All obligations set out in this section 2 of this Procedure must be completed in accordance with the Timing Requirements set out in section 3 of this Procedure.

2.4 Meter Data Notification Process

- a. A MDP must provide MDFF Data to Participants pursuant to the Metrology Procedure and Service Level Procedure for Metering Data Providers. This MDFF Data must be provided by way of a MeterDataNotification.
- b. Upon receipt of a MeterDataNotification from an MDP, a Participant must return a BusinessReceipt to the MDP to confirm the receipt of that MeterDataNotification.
- c. The Participant must then send a BusinessAcceptance/Rejection to the MDP as follows:
 1. A BusinessAcceptance/Rejection with *Status* of "Accept" is to be used to indicate acceptance of the B2B Transaction, including the format of the MDFF Data but excluding the business content of the MDFF Data, and that the entire file has been accepted.
 2. A BusinessAcceptance/Rejection with *Status* of "Reject" is to be used to indicate rejection of the B2B Transaction, including the format of the MDFF Data but excluding the business content, and that the entire file has been rejected. Upon receipt of the BusinessAcceptance/Rejection the MDP must resolve the problem and resend the data if appropriate. If the file format is invalid, the MDP must resolve the problem and resend the data if appropriate. If otherwise, the MDP must communicate the results of the investigation to the Participant who sent the BusinessAcceptance/Rejection.
 3. A BusinessAcceptance/Rejection with *Status* of "Partial" is to be used to indicate a rejection of the B2B Transaction, excluding the business content of the MDFF Data that relates to only part of the file. This is indicated by *KeyInfo* fields with one or more line numbers. The data to be returned by the MDP must include all data relating to each NMI that relates to a line number in the BusinessAcceptance/Rejection. Upon receipt of the BusinessAcceptance/Rejection the MDP must investigate the rejection and determine if the rejection is valid. If the rejection is valid, the MDP must resolve the problem and resend the data if appropriate. If otherwise, the MDP must communicate the results of the investigation to the Participant who sent the BusinessAcceptance/Rejection.
 4. If the error relates to the business content of the MDFF Data, the file should be accepted by the Receiver via a BusinessAcceptance/Rejection. Queries regarding the MDFF Data must be communicated via either a ProvideMeterDataRequest or a VerifyMeterDataRequest.
 5. The term "business content" in the above points means the types of issues covered by the *InvestigationCodes* used in VerifyMeterDataRequests.

2.5 Provide Meter Data Process

- a. A Participant may commence the Provide Meter Data Process if:
 1. a Participant requires MDFF Data from an MDP, to which it is entitled in accordance with the rules;
 2. a Participant requires historical Metering Data from a MDP to which they are entitled pursuant to the CATS Procedure and/or a jurisdictional instrument; or
 3. a Participant requires a MDP to re-send certain MDFF Data.

- b. Upon receipt of a ProvideMeterDataRequest, a MDP must return a BusinessReceipt to the Participant who sent ProvideMeterDataRequest to confirm the receipt by that MDP of the ProvideMeterDataRequest.
- c. Upon receipt of a ProvideMeterDataRequest, a MDP must respond to the Participant who sent the ProvideMeterDataRequest as follows:
 1. If the MDP is able to fully satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a *Status* of “Accept” and send a MeterDataNotification in response to the Request; or
 2. If the MDP can partially satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a *Status* of “Partial” and send a MeterDataNotification in response to the Request. The MDP must provide appropriate *EventCodes* and associated details in the BusinessAcceptance/Rejection to explain why the Request cannot be fully satisfied. The *EventCodes* in the BusinessAcceptance/Rejection must have a *Severity* of “Information”; or
 3. If the MDP is unable to satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a *Status* of “Reject” and must not send a MeterDataNotification in response to the Request. The MDP must provide appropriate *EventCodes* and associated details in the BusinessAcceptance/Rejection to explain why the Request cannot be satisfied. The *EventCodes* in the BusinessAcceptance/Rejection must have a *Severity* of “Error”.
- d. If the BusinessAcceptance/Rejection transaction sent by a MDP indicates a problem (using an appropriate *EventCode*) with the ProvideMeterDataRequest, the Participant must use reasonable endeavours to resolve the problem and provide a new ProvideMeterDataRequest or VerifyMeterDataRequest, if appropriate.
- e. Where a MeterDataNotification is provided in response to a ProvideMeterDataRequest the MDP must ensure that the MeterDataNotification contains the MDFF Data requested in the ProvideMeterDataRequest for that *RequestID*.
- f. The Participant must respond to a MeterDataNotification with BusinessReceipt and BusinessAcceptance/Rejection transactions.
- g. If the BusinessAcceptance/Rejection transaction for a MeterDataNotification has a *Status* of “Reject” or “Partial”, the MDP must use reasonable endeavours to resolve the problem which may include providing the correct MDFF Data to the Participant in a new MeterDataNotification, if appropriate. Any additional MeterDataNotification which is dealing with a problem from a previous MeterDataNotification must have the same *RequestID* as in the original MeterDataNotification.

2.6 Verify Meter Data Process

- a. If:
 1. a Participant reasonably believes the MDFF Data in the MeterDataNotification is erroneous (including but not limited to a potential anomaly with part of the data); or
 2. a Participant reasonably believes that the response provided to a previous Request has not resolved their query,then that Participant may commence the Meter Data Verification Process.
- b. A Participant must ensure that a VerifyMeterDataRequest sent to a MDP contains sufficient details to enable that MDP to investigate and resolve the query which is the subject of the VerifyMeterDataRequest.

- c. Upon receipt of a VerifyMeterDataRequest, an MDP must return a BusinessReceipt to the Participant who sent the VerifyMeterDataRequest to confirm the receipt by that MDP of the VerifyMeterDataRequest.
- d. Upon receipt of a VerifyMeterDataRequest, a MDP must use reasonable endeavours to verify the MDFF Data which is the subject of the Participant's VerifyMeterDataRequest to that Participant. The verification process is re-validation of the data that is held in the MDP's systems without an obligation to perform a field visit.
- e. Upon completion by the MDP of the action in clause (d) above, the MDP must respond to the Participant who sent the VerifyMeterDataRequest as follows:
 1. With the exception of where an InvestigationCode of "Recipient not responsible for the NMI" is used, if the MDP is able to fully satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a Status of "Accept" and send a MeterDataNotification in response to the Request. Where an InvestigationCode of "Recipient not responsible for the NMI" is used, and the MDP sends a BusinessAcceptance/Rejection with a Status of "Accept", the MDP must not send a MeterDataNotification in response to the Request; or
 2. If the MDP can partially satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a Status of "Partial" and send a MeterDataNotification in response to the Request. The MDP must provide appropriate EventCodes and associated details in the BusinessAcceptance/Rejection to explain why the Request cannot be fully satisfied. The EventCodes in the BusinessAcceptance/Rejection must have a Severity of "Information" or "Error"; or
 3. If the MDP is unable to satisfy the Request, the MDP must send a BusinessAcceptance/Rejection with a Status of "Reject" and must not send a MeterDataNotification in response to the Request. The MDP must provide appropriate EventCodes and associated details in the BusinessAcceptance/Rejection to explain why the Request cannot be satisfied. The EventCodes in the BusinessAcceptance/Rejection must have a Severity of "Error".
- f. If the BusinessAcceptance/Rejection transaction indicates a problem (using an appropriate EventCode) with the VerifyMeterDataRequest, that Participant must use reasonable endeavours to resolve the problem which may include providing a new VerifyMeterDataRequest, if appropriate.
- g. Where a MeterDataNotification is provided in response to a VerifyMeterDataRequest the MDP must ensure that the MeterDataNotification contains the MDFF Data requested in the VerifyMeterDataRequest for that RequestID.
- h. A Participant must respond to the MeterDataNotification with BusinessReceipt and BusinessAcceptance/Rejection transactions.
- i. If the BusinessAcceptance/Rejection transaction for a MeterDataNotification has a Status of "Reject" or "Partial", the MDP must use reasonable endeavours to resolve the problem which may include providing the correct MDFF Data to the Participant in a new MeterDataNotification, if appropriate. Any additional MeterDataNotification which is dealing with a problem from a previous MeterDataNotification must have the same RequestID as in the original MeterDataNotification.

2.7 Common Business Rules

- a. Prior to rejecting a Notification or Request Transaction on the basis that the sending Participant does not have the correct Role for the Connection Point, Participants must use reasonable endeavours to confirm that this is correct on the basis of information held in MSATS.

- b. Special circumstances, such as meter changeovers, may create situations where the *ParticipantID* in the Request does not match the Participant relationships for the NMI in MSATS. For further details regarding these situations refer to the AEMO document Meter Churn Data Management Rules.

- c. Participants should be aware that MeterDataNotifications may be received out of sequence.

- d. If a Participant accepts a MeterDataNotification (with a BusinessAcceptance/Rejection transaction) and subsequently discovers a problem with the MDFF Data provided, the Participant may raise a Request to resolve the situation.

2.8 Meter Data Notification Business Rules

- a. A Participant issuing a MeterDataNotification must ensure that the MeterDataNotification only contains basic (a *CSVConsumptionData* record) or interval meter (a *CSVIntervalData* record) data and does not contain a mixture of basic and interval MDFF Data.

The description of these CSV files is defined in the AEMO document *Meter Data File Format*. The *Meter Data File Format specification* can be located on the AEMO web site.

- b. The MDP must ensure that the MDFF Data provided in a MeterDataNotification is the latest version of that data.

2.9 Provide Meter Data Process Business Rules

- a. Participants must be aware that an MDP is only required to maintain Metering Data on-line for a period of 13 months¹. Any ProvideMeterDataRequest with a *StartReadDate* earlier than 13 months prior to the date of the ProvideMeterDataRequest may be rejected by the MDP.

- b. A MDP who receives a ProvideMeterDataRequest must determine what readings the Participant has requested in accordance with the following:
 1. For basic meters, the MDP must provide all available MDFF Data that the Participant is entitled to for the inclusive period of the *StartReadDate* and *EndReadDate* specified in the ProvideMeterDataRequest. This includes all reading periods that ended in the Requested date range.

¹ Or, as defined by the Service Level Procedure for Metering Data Providers.

Worked Example (basic meter only)

MDFF content provided in response to a request for MDFF Data for the period 1 January to 15 April				
Start date	End date	Start read	End read	Consumption
1 Dec	1 Feb	0	100	100
1 Feb	1 Mar	100	200	100
1 Mar	1 Apr	200	300	100

2. For interval meters, the MDP must provide all available MDFF Data that the Participant is entitled to for the inclusive period of the *StartReadDate* and *EndReadDate* specified in the ProvideMeterDataRequest.
- c. If the *EndReadDate* is not provided by a Participant in the ProvideMeterDataRequest, the MDP must provide all MDFF Data on and after the *StartReadDate* that the Participant is entitled to.
- d. Participants must not repeatedly request MDFF Data which they require as a result of a fault within the processing of the data by the Participant's systems.
- e. A Participant must not send a ProvideMeterDataRequest until the regulated period (refer 3.2.2.a) for the delivery of MDFF Data has expired.
- f. If the MDP has the MDFF Data which is the subject of a ProvideMeterDataRequest, they must send a MeterDataNotification transaction containing a MDFF file with the requested data to the relevant Participant. If the MDP is unable to provide the MDFF Data the subject of a ProvideMeterDataRequest, or the MDFF Data to which the MDP has access and wishes to provide to the Participant does not exactly correlate to the subject of the ProvideMeterDataRequest, the associated BusinessAcceptance/Rejection transaction for the ProvideMeterDataRequest must contain a relevant *EventCode* to explain the situation.
- g. MDPs may provide multiple MeterDataNotifications in response to a single ProvideMeterDataRequest.
- h. Where a Participant requests MDFF Data in a ProvideMeterDataRequest for a period which covers a change between basic and interval metering, the MDP must provide to that Participant MeterDataNotifications with the MDFF Data required for each date range applicable to each meter installation type.
- i. A Participant must use reasonable endeavours to ensure that the MDFF Data they are requesting is only for a period where they have a relevant Participant Relationship with the NMI.

2.10 Verify Meter Data business rules

- a. Participants must be aware that an MDP is only required to maintain Metering Data on-line for a period of 13 months. Any VerifyMeterDataRequest with a *StartReadDate* earlier than 13 months prior to the date of the VerifyMeterDataRequest may be rejected by the MDP.
- b. A Participant must provide values in the fields in the VerifyMeterDataRequest to match the level of the data being queried:
 1. If the data being queried is at the NMI level, only the *NMI* needs to be provided.
 2. If the data being queried is at the single meter level, the *NMI* and the *MeterSerialNumber* must be provided.

3. If the data being queried is at an individual data stream level, the *NMI*, *MeterSerialNumber* and *NMISuffix* must be provided.
 4. If the data being queried relates to the configuration of the site, the *NMI* and *NMIConfiguration* must be provided.
 5. The Participant must ensure that the *InvestigationCode* and *InvestigationDescription* match the level of data provided per points 1 to 4 above.
- c. A VerifyMeterDataRequest transaction does not replace a Special Read ServiceOrderRequest. If a Participant requires a site visit the Participant must raise a Special Read ServiceOrderRequest.
 - d. MDPs may provide multiple MeterDataNotifications in response to a single VerifyMeterDataRequest.
 - e. A Participant must ensure that the MDFF Data they are querying is only for a period where they have a relevant Participant Relationship with the NMI.
 - f. A Participant must not send a VerifyMeterDataRequest until the regulated period (refer 3.2.2) for the delivery of Metering Data has expired.

2.10.1 Investigation Codes Usage

- a. The Participant must use the appropriate *InvestigationCode* as defined in the following table to communicate the reason for the VerifyMeterDataRequest.

InvestigationCode	Business Rules
Confirm Reading For Vacant Site	This code is used where a substitution or estimate is provided for a vacant site and the Recipient reasonably believes the consumption is overstated.
Confirm Zero Consumption	This code is used where the Participant requires confirmation of a zero consumption value.
Incomplete Data	<p>This code is used where the Participant reasonably believes that they have not received a complete set of data.</p> <p>For example, there is a gap in the provided data (eg one day's data is not provided for the period requested).</p> <p>This code must only be used following a ProvideMeterDataRequest that has resulted in incomplete MDFF Data being provided.</p>
Invalid MDFF Data	This code is used where the Participant reasonably believes that the MDFF Data does not match the configuration information in the MDFF Data. For example, a datastream is provided in the MDFF Data that does not match the <i>NMIConfiguration</i> .
Invalid Standing Data	This code is used where the Participant reasonably believes that the configuration data in the MDFF Data is not consistent with MSATS. The Participant must not use this code until the required timeframe for updating MSATS has passed (as defined in the MSATS Procedure, CATS Procedure).
Missing Datastream	<p>This code is used where the Participant reasonably believes that the data is incomplete based on the configuration information provided in the MDFF file.</p> <p>This code must only be used following a ProvideMeterDataRequest that has resulted in incomplete MDFF Data being provided.</p>
Recipient not responsible for the NMI	This code is used where a Participant has received MDFF Data for a NMI that they do not have a market relationship with.
Require Actual Reading or Substitute	<p>This code is used where the Participant has received an Estimate reading and requires either an Actual or Substitute reading.</p> <p>This code must only be used following a ProvideMeterDataRequest that has resulted in Estimated MDFF Data being provided.</p>
Require Final Substitute	<p>This code is used where the Participant has received a Substitute reading and requires a Final Substitute reading.</p> <p>This code must only be used following a ProvideMeterDataRequest that has resulted in Substitute MDFF Data being provided.</p>
Require Latest Version	<p>This is where the correct latest version of the meter and configuration data (as recorded in MSATS) has not been made available to the Participant within the required timeframe.</p> <p>This code must only be used following a ProvideMeterDataRequest.</p>
Scheduled Reading Required	<p>This code is used where the Participant reasonably believes that the Next Scheduled Read Date has lapsed and the MDFF Data has not been provided within the required timeframe.</p> <p>This code must only be used following a ProvideMeterDataRequest that has resulted in Estimated MDFF Data being provided.</p>

InvestigationCode	Business Rules
Service Order Reading Required	<p>This code is used where the Participant has received a <i>ServiceOrderResponse</i> with a <i>ServiceOrderStatus</i> of “Partially Completed” or “Completed” and the associated MDFF Data has not been provided within the required timeframe.</p> <p>The Participant must use reasonable endeavours to provide the Service Order Number in the <i>InvestigationDescription</i> field.</p> <p>This code must only be used following a <i>ProvideMeterDataRequest</i> that has resulted in Estimated MDFF Data being provided.</p>
Verify High Reading	<p>This code is used where the Participant reasonably believes the meter reading is too high compared to the consumption history for the site, or following a customer complaint. This request may not initiate a site visit to check readings.</p>
Verify Low Reading	<p>This code is used where the Participant reasonably believes the meter reading is too low compared to the consumption history for the site, or following a customer complaint. This request may not initiate a site visit to check readings.</p>
Other	<p>Any other reason not covered by the other <i>InvestigationCodes</i>, or where multiple <i>InvestigationCodes</i> apply.</p>

3 Timing Requirements

3.1 Definition of Timing Points and Periods

- a. The diagrams in Section 2.2 above will assist in understanding the tables below.
- b. The timing points A to F described and used below are shown in the diagrams in section 2.2.

- c. The following definitions apply:

Timing Point	Definition
A	This timing point is when the Participant issues a Request to the MDP.
B	This timing point is when the Participant receives a <u>BusinessReceipt</u> from the MDP in response to the Request
C	This timing point follows the MDP's attempt to satisfy the Request and is when the MDP sends a <u>BusinessAcceptance/Rejection</u> for a Request to the Participant.
D	This timing point is when the MDP sends a Notification to the Participant.
E	This timing point is when the MDP receives a <u>BusinessReceipt</u> for a Notification from the Participant.
F	This timing point is when the MDP receives a <u>BusinessAcceptance/Rejection</u> for a Notification from the Participant.

- d. The following definitions apply:

Timing Period	Definition	Usage
<u>BusinessReceipt</u> for Requests	This is the period from the Participant sending the <u>ProvideMeterDataRequest</u> or <u>VerifyMeterDataRequest</u> to the receipt of the associated <u>BusinessReceipt</u> by the Participant. Timing Points A and B define this period.	Used by the Participant to determine whether the Request has been received and can be read. If the <u>BusinessReceipt</u> has not been received before the expiry of this period, the Participant may escalate the non-receipt and /or resend the original request.

Timing Period	Definition	Usage
<u><i>BusinessAcceptance/Rejection</i></u> for Requests	This is the period from the Participant sending the <u><i>ProvideMeterDataRequest</i></u> or <u><i>VerifyMeterDataRequest</i></u> to the receipt of a <u><i>BusinessAcceptance/Rejection</i></u> for the Request by the Participant. Timing Points A and C define this period.	Used by the Participant to determine whether a Request has been accepted by the MDP. If the <u><i>BusinessAcceptance/Rejection</i></u> has not been received before the expiry of this period, the Participant may escalate the non-receipt.
<u><i>MeterDataNotification</i></u> for Requests	This is the period from the Participant sending the <u><i>ProvideMeterDataRequest</i></u> or <u><i>VerifyMeterDataRequest</i></u> to the Participant receiving the associated <u><i>MeterDataNotification</i></u> from the MDP. Timing Points A and D define this period.	If the <u><i>MeterDataNotification</i></u> has not been received before the expiry of this period, the Participant may escalate the non-receipt.
<u><i>BusinessReceipt</i></u> for <u><i>MeterDataNotification</i></u>	This is the period from the MDP sending the <u><i>MeterDataNotification</i></u> to the receipt of the associated <u><i>BusinessReceipt</i></u> by the MDP. Timing Points D and E define this period.	Used by the MDP to determine whether a <u><i>MeterDataNotification</i></u> has been received and can be read. If the <u><i>BusinessReceipt</i></u> has not been received before the expiry of this period, the MDP may escalate the non-receipt and /or resend the original request.
<u><i>BusinessAcceptance/Rejection</i></u> for <u><i>MeterDataNotification</i></u>	This is the period from the MDP sending the <u><i>MeterDataNotification</i></u> to the receipt of a <u><i>BusinessAcceptance/Rejection</i></u> for the Request by the MDP. Timing Points D and F define this period.	Used by the MDP to determine whether a <u><i>MeterDataNotification</i></u> has been accepted by the Participant. If the <u><i>BusinessAcceptance/Rejection</i></u> has not been received before the expiry of this period, the MDP may escalate the non-receipt.

3.2 Timing requirements

3.2.1 All transactions

- a. The Timing Requirements for BusinessReceipt and a BusinessAcceptance/Rejection are set out in section 4.10 of the B2B Procedure B2B Technical Delivery Specification, except for BusinessAcceptance/Rejections for Requests. In this case the MDP must send a BusinessAcceptance/Rejection for the Request within the same timeframe as the MeterDataNotification (as specified in 3.2.3.a and 3.2.4a).
- b. The priority granted to these transactions must comply with clause 4.7(a) of the B2B Procedure B2B Technical Delivery Specification.

3.2.2 Timing Requirement for Normal Meter Data Notification Process

- a. A MDP must send the MeterDataNotification within the timeframe defined in each jurisdiction's Metrology Procedure and the Service Level Procedure for Metering Data Providers.

3.2.3 Timing Requirement for ProvideMeterDataRequest.

- a. A Participant must not issue a ProvideMeterDataRequest relating to a scheduled reading event until:
 1. The Fourth Business Day following the read event for type 1, 2, 3 and 4 Metering Installations;
 2. The Sixth Business Day following the published Next Scheduled Read Date for type 5 and 6 Metering Installations; and
 3. The Seventh Business Day of the calendar month for the previous month's MDPF Data, for type 7 Metering Installations
- b. A participant must not issue a ProvideMeterDataRequest, relating to a ServiceOrderRequest for type 5 and 6 Metering Installations until the fourth Business Day following the receipt of the completed ServiceOrderResponse.
- c. Where a MDP is required to send a MeterDataNotification in response to a ProvideMeterDataRequest, the MDP must send the MeterDataNotification within one Business Day of receiving the ProvideMeterDataRequest.

3.2.4 Timing Requirement for sending a MeterDataNotification for a VerifyMeterDataRequest

- a. Where a MDP is required to send a MeterDataNotification in response to a VerifyMeterDataRequest, the MDP must send the MeterDataNotification within five Business Days of receiving the VerifyMeterDataRequest.

4 Transactions

Key	M	=	Mandatory (must be provided in all situations).
	R	=	Required (must be provided if this information is available or has changed).
	O	=	Optional (may be provided and should be used if provided).
	N	=	Not required (not required and may be ignored if provided).

4.1 ProvideMeterDataRequest Transaction Data

- a. Each of the Participants must ensure that the ProvideMeterDataRequest conforms with the usage, format and definitional rules detailed in the following table:

Field	Format	Use	Definition
<i>ParticipantID</i>	VarChar(10)	M	The Participant requesting the MDFF Data. Participant ID as published in MSATS.
<i>ParticipantRole</i>	VarChar(4)	M	The market role of the Participant requesting the MDFF Data. Participant Role as published in MSATS.
<i>MDPID</i>	VarChar(10)	M	The MDP being asked to provide MDFF Data. Participant ID as published in MSATS.
<i>RequestID</i>	VarChar(15)	M	Participant defined reference, used for reference and tracking. Must be a new (unused) number, unique for the initiating Participant.
<i>NMI</i>	Char(10)	M	NMI for the connection point missing data.
<i>NMIChecksum</i>	Char(1)	O	NMI Checksum for the connection point missing data.
<i>StartReadDate</i>	DATE	M	The start date for the period for which the Participant is requesting MDFF Data.
<i>EndReadDate</i>	DATE	O	The end date for the period for which the Participant is requesting MDFF Data. Refer 2.9.

4.2 VerifyMeterDataRequest Transaction Data

- a. Each of the Participants must ensure that the VerifyMeterDataRequest conforms with the usage, format and definitional rules detailed in the following table:

Field	Format	Use - Interval Data	Use - Basic Data	Definition
<i>ParticipantID</i>	VarChar(10)	M	M	The Participant querying the MDFF Data. Participant ID as published in MSATS.
<i>ParticipantRole</i>	VarChar(4)	M	M	The market role of the Participant querying the MDFF Data. Participant Role as published in MSATS.
<i>MDPID</i>	VarChar(10)	M	M	The MDP being asked to verify MDFF Data. Participant ID as published in MSATS.
<i>RequestID</i>	VarChar(15)	M	M	Participant defined reference, used for reference and tracking. Must be a new (unused) number, unique for the initiating Participant.
<i>NMI</i>	Char(10)	M	M	NMI for the Connection Point being queried.
<i>NMIChecksum</i>	Char(1)	O	O	NMI Checksum for the connection point missing data.
<i>NMIConfiguration</i>	VarChar(240)	M/N	M/N	The <i>NMIConfiguration</i> provided in the MDFF Data being queried. If this value is provided, the expected NMI Configuration or the perceived problem of the configuration must be provided in the <i>InvestigationDescription</i> field. Refer to 2.10.b for the rules regarding the usage of this field.
<i>MeterSerial</i>	VarChar(12)	M/N	M/N	Meter serial number. Only Required if the data being queried is at the single meter level or is at an individual data stream level. Refer to 2.10.b for the rules regarding the usage of this field.
<i>NMISuffix</i>	Char(2)	M/N	M/N	As defined in the National Metering Identifier Procedures eg. "E1", "K1", "Q2" etc. The national Metering Identifier Procedure is located on the AEMO Web site. Mandatory if the data being queried is at an individual data stream level (ie a single <i>NMISuffix</i>) or if a <i>CurrentRead</i> value is provided. Refer to 2.10.b for the rules regarding the usage of this field.
<i>RegisterID</i>	VarChar(10)	O	O	Register identifier. Defined the same as the RegisterID field in the CATS_Register_Identifier table. The value must match the value in MSATS. E.g. "1", "2", "E1", "B1". May be provided where the data being queried relates to a single <i>RegisterID</i> or if a <i>CurrentRead</i> value is provided

Field	Format	Use - Interval Data	Use - Basic Data	Definition
<i>CurrentRead</i>	VarChar(15)	N	M/N	Original meter reading provided in the MDFF Data that is being queried. This must be presented as a Register Read. Example of values: 1234567.123 or 0012456.123. Values must include leading zeros. Values must be exclusive of meter multipliers. Mandatory for Basic Meters if any of the following <i>InvestigationCodes</i> are used: <ul style="list-style-type: none"> ▪ Confirm Reading For Vacant Site ▪ Verify High Reading ▪ Verify Low Reading ▪ Confirm Zero Consumption If this field is populated, then the <i>NMISuffix</i> must be populated and the <i>RegisterID</i> may be populated.
<i>CurrentReadDate</i>	DATE	N	M/N	Date of the meter reading in the MDFF Data being queried. Must be provided if <i>CurrentRead</i> is populated.
<i>CurrentConsumption</i>	Numeric(15,3)	N	M/N	Original consumption figure (in kWh) in the MDFF Data that is being queried. Must be provided if <i>CurrentRead</i> is populated.
<i>StartReadDate</i>	DATE	M	M	The first day of the period the Participant is querying.
<i>EndReadDate</i>	DATE	M	O	The last day of the period the Participant is querying. If querying a single day's interval data or a single basic meter reading, this date is the same as the <i>StartReadDate</i> .
<i>InvestigationCode</i>	VarChar(40)	M	M	Allowed values: <ul style="list-style-type: none"> • Confirm Reading For Vacant Site • Confirm Zero Consumption • Incomplete Data • Invalid MDFF Data • Invalid Standing Data • Missing Datastream • Recipient not responsible for the NMI • Require Actual Reading or Substitute • Require Final Substitute • Require Latest Version • Scheduled Reading Required • Service Order Reading Required • Verify High Reading • Verify Low Reading • Other
<i>InvestigationDescription</i>	Varchar(240)	M	M	Free text that must be used to assist the investigation. The Participant must clearly define the reading, the period and the description of the problem.

4.3 MeterDataNotification Transaction Data

- a. Each of the Participants must ensure that the MeterDataNotification conforms with the usage, format and definitional rules detailed in the following table:

Field	Format	Use	Definition
<i>MDPID</i>	VarChar(10)	M	MDP Participant ID as published in MSATS.
<i>ParticipantID</i>	VarChar(10)	M	The Participant to whom the data is being provided. Participant ID as published in MSATS.
<i>ParticipantRole</i>	VarChar(4)	M	The market role of the Participant to whom the data is being provided. Participant Role as published in MSATS.
<i>RequestID</i>	VarChar(15)	N/M	The <i>RequestID</i> provided in the initiating Request. Not required when transaction sent as part of the normal meter data notification process. Mandatory when the transaction is sent to the requesting Participant as a response to a <u>ProvideMeterDataRequest</u> or <u>VerifyMeterDataRequest</u> .
<i>CSVConsumptionData</i>	CSVDATA	R	Contains embedded data in CSV format for basic meters. This is the standard file format for basic meter data-defined in a valid MDFF. Refer to 2.8.a for details of the usage of this field.
<i>CSVIntervalData</i>	CSVDATA	R	Contains embedded data in CSV format for interval meters. This is the standard file format for interval meter data defined in a valid MDFF. Refer to 2.8.a for details of the usage of this field.

4.4 Business Acceptance / Rejection transaction

- a. A Participant must ensure that a BusinessAcceptance/Rejection transaction has a Status field completed as follows.

Field	Format	Use	Definition
<i>Status</i>	Enumeration	M	Allowed values Accept Partial Reject Refer to Clause 2.4, 2.5 and 2.6 for usage.

- b. If the *Status* is not "Accept", a Participant must ensure that one or more of the following Event blocks is provided.

Field	Format	Use	Definition
<i>EventCode</i>	NUMERIC(4)	M	Non-negative number. A code to indicate the reason for the rejection. Applicable codes are in the table at 4.5.
<i>KeyInfo</i>	NUMERIC(*8)	M/N	If this field is populated with a number, the number is the line number within the CSV data block that the event occurred. If the field is not populated, the <i>EventCode</i> refers to the aseXML transaction, not the CSV data.
<i>Context</i>	EventContext	M/N	The Data Element in the received Business Document that cause the Event. For an error in the CSV data block (<i>KeyInfo</i> is populated) this will be a copy of the line where the event was found. Where the line is longer than the field size available, the field is to be fully populated starting from the first character of the line.
<i>Explanation</i>	Unlimited Varchar	M/O	An explanation of the event. Must be provided where the Business Event requires an <i>Explanation</i> .

4.5 Applicable Events

- a. Participants must use the most relevant Business Event(s). Where multiple *EventCode(s)* are applicable these may be provided.
- b. Where the *EventCode* is not in the aseXML reserved range (0-999), an *EventCodeDescription* should be included in accordance with the aseXML Guidelines.
- c. The reference table for Business Events that can apply to this process and the relevant Business Signals, including *EventCode(s)* is located in section 5.2 of the B2B Procedure Technical Guidelines for B2B Procedures.

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