



B2B PROCEDURE: METER DATA PROCESS

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1. INTRODUCTION

1.1. Purpose and Scope

This B2B Procedure: Data Request Process (Procedure) is published by AEMO in accordance with clause 7.17.3 of the NER and specifies the standard MDFF data request processes.

1.2. Definitions and Interpretation

The Retail Electricity Market Procedure – Glossary and Framework:

- (a) is incorporated into and forms part of this Procedure; and
- (b) should be read with this Procedure
- (c) In the event of any inconsistency between this Procedure and the B2B Procedure Technical Delivery Specification, unless this Procedure provides otherwise, the B2B Procedure: Technical Delivery Specification shall prevail to the extent of the inconsistency.

1.3. Related AEMO Documents

Title	Location
Retail Electricity Market Procedures – Glossary and Framework	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Glossary-and-Framework
B2B Procedure Technical Delivery Specification	
B2B Procedure Service Order Process	
B2B Procedure Customer and Site Details Notification Process	
Metrology Procedure: Part A	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering
Metrology Procedure: Part B	
MDFF Specification	
B2B Guide	
NMI Procedure	
CATS Procedures	

2. BUSINESS COMMUNICATION PROCESSES

2.1. Overview

Table 1 details the request processes this Procedure applies to, indicates which Business Documents are used to initiate each type of data request and provides a brief description of each:

Table 1 Overview of Applicable Processes

Name of Process	Business Document	Description
Meter Data Notification	<u>MeterDataNotification</u>	A delivery mechanism of MDFF data from an MDP. Includes Scheduled Meter Readings, Meter Readings taken by an MDP in response to a <u>ServiceOrderRequest</u> and other MDFF data (such as Estimations). The type of data that may be requested by an Initiator using ProvideMeterDataRequest, VerifyMeterDataRequest or RemoteOnDemandMeterRead.
Provide Meter Data	<u>ProvideMeterDataRequest</u>	An Initiator can request the provision of the latest version of MDFF data held by the Recipient. It does not involve the investigation of problems with MDFF data. It is not to be used to request meter data under the Meter Data Provision Procedure.

Name of Process	Business Document	Description
Verify Meter Data	<u>VerifyMeterDataRequest</u>	An Initiator can query MDFF data to ensure that the latest version is being queried. Normally initiated after a <u>ProvideMeterDataRequest</u> has been completed.
Meter Installation Inquiry	<u>MeterInstallationInquiryRequest</u>	An Initiator can request from a participant with whom they have a contract for service, a single point in time <i>metering information</i> or scheduled point in time service.
Meter Installation Inquiry	<u>MeterInstallationInquiryResponse</u>	A Recipients response to a Meter Installation Inquiry Response
Remote On Demand Meter Read	<u>MeterReadRequest</u>	An Initiator can request from a participant with whom they have a contract for service, <i>metering data</i> on demand.

2.2. Descriptions of Processes

2.2.1. General

- (a) Upon receipt of a ProvideMeterDataRequest, VerifyMeterDataRequest, PreInstallationRequest, MeterInstallationInquiryRequest, or RemoteOnDemandMeterReadRequest a Recipient must return a BusinessReceipt to the Initiator.
- (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.

2.2.2. Meter Data Notification Process

- (a) A Initiator must provide MDFF Data to Recipients pursuant to the Metrology Procedure and Service Level Procedure (MDP).
- (b) MDFF Data must be provided by way of a MeterDataNotification.
- (c) The Recipient must then send a BusinessAcceptance/Rejection to the Initiator as follows:
 - (i) A BusinessAcceptance/Rejection with *Status* of “Accept” must be used to indicate acceptance, including the format of the MDFF Data but excluding the business content of the MDFF Data, and that the entire file has been accepted.
 - (ii) A BusinessAcceptance/Rejection with *Status* of “Reject” must be used to indicate rejection, 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 Initiator must resolve the problem and resend the data if appropriate. If the file format is invalid, the Initiator must resolve the problem and resend the data if appropriate, otherwise the Initiator must communicate the results of the investigation to the Recipient who sent the BusinessAcceptance/Rejection.
 - (iii) A BusinessAcceptance/Rejection with *Status* of “Partial” must be used to indicate a rejection, 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 Initiator 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 Initiator must investigate the rejection and determine if it is valid. If it is valid, the Initiator must resolve the problem and resend the data. If the rejection is not valid, the Initiator must communicate the results of the investigation to the Recipient who sent the BusinessAcceptance/Rejection.
 - (iv) If the error relates to the business content of the MDFF Data, the file should be accepted by the Recipient via a BusinessAcceptance/Rejection. Queries regarding the MDFF Data must be communicated via either a ProvideMeterDataRequest or a VerifyMeterDataRequest.
 - (v) The term “business content” in the above refers to the types of issues covered by the InvestigationCodes used in VerifyMeterDataRequests.

2.2.3. Provide Meter Data Process

- (a) An Initiator may commence the Provide Meter Data Process if they require:
 - (i) MDFF Data to which they are entitled to under the NER;
 - (ii) historical metering Data to which they are entitled under the CATS Procedure and/or a jurisdictional instrument; or
 - (iii) a Recipient to re-send specified MDFF Data.
- (b) Upon receipt of a ProvideMeterDataRequest, a Recipient must return a BusinessReceipt to the Initiator who sent the ProvideMeterDataRequest to confirm the receipt by that Recipient of the ProvideMeterDataRequest.
- (c) Upon receipt of a ProvideMeterDataRequest, a Recipient must respond to the Initiator who sent the ProvideMeterDataRequest as follows:
 - (i) If the Recipient is able to fully satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Accept" and send a MeterDataNotification in response to the Request; or
 - (ii) If the Recipient can partially satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Partial" and send a MeterDataNotification in response to the Request. The Recipient 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
 - (iii) If the Recipient is unable to satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Reject" and must not send a MeterDataNotification in response to the Request. The Recipient 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 Recipient indicates a problem (using an appropriate *EventCode*) with the ProvideMeterDataRequest, the Initiator 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 Recipient must ensure that the MeterDataNotification contains the MDFF Data requested in the ProvideMeterDataRequest for that *RequestID*.
- (f) The Initiator 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 Recipient must use reasonable endeavours to resolve the problem which may include providing the correct MDFF Data to the Initiator 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.

2.2.4. Verify Meter Data Process

- (a) An Initiator may commence the Meter Data Verification Process if:
 - (i) the MDFF Data specified in the MeterDataNotification is erroneous; or
 - (ii) the response provided to a previous Request has not resolved their query.
- (b) An Initiator must ensure that a VerifyMeterDataRequest sent to a Recipient contains sufficient details to enable the Recipient to investigate and resolve the Initiator's query.

- (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 Recipient must use reasonable endeavours to verify the MDFF Data which is the subject of the Initiator's VerifyMeterDataRequest. The required verifications consists of a desktop re-validation of the MDFF.
- (e) Upon completion by the Recipient of the action in clause (d) above, the Recipient must respond to the Initiator who sent the VerifyMeterDataRequest as follows:
 - (i) If the Recipient is able to fully satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Accept" and send a MeterDataNotification in response to the Request; or
 - (ii) If the Recipient can partially satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Partial" and send a MeterDataNotification in response to the Request. The Recipient 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
 - (iii) If the Recipient is unable to satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Reject" and must not send a MeterDataNotification in response to the Request. The Recipient 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.

2.2.5. Meter Installation Inquiry Process

An Initiator may commence a MeterInstallationInquiryRequest process if they:

- (a) are authorised to receive the information; and
- (b) require information from the Current MP regarding a *metering installation*.
- (c) Upon receipt of a MeterInstallationInquiryRequest, a Recipient must respond to the Initiator who sent the MeterInstallationInquiryRequest, as follows:
 - (i) If the Recipient is able to fully satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Accept" and send a MeterInstallationInquiryResponse, in response to the Request; or
 - (ii) If the Recipient is unable to satisfy the Request, the Recipient must send a BusinessAcceptance/Rejection with a *Status* of "Reject" and must not send a MeterInstallationInquiryResponse, in response to the Request. The Recipient 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".

2.2.6. Remote On Demand Meter Read Process

- (a) An Initiator may commence a RemoteOnDemandMeterReadRequest process if they are authorised to receive the information.
- (b) Upon receipt of a RemoteOnDemandMeterReadRequest, a Recipient must respond to the Initiator who sent the RemoteOnDemandMeterReadRequest as follows:
 - (i) If the Recipient is able to fully satisfy the Request, the Recipient must send a *BusinessAcceptance/Rejection* with a Status of "Accept" and send a *MeterDataNotification* in response to the Request; or
 - (ii) If the Recipient is unable to satisfy the Request, the Recipient must send a *BusinessAcceptance/Rejection* with a Status of "Reject" and must not send a *MeterDataNotification* in response to the Request. The Recipient 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".

2.3. Diagrams

Each of the five processes described in section 2.1 is illustrated in Figures 1-5:

Figure 1 Overview of the Meter Data Process

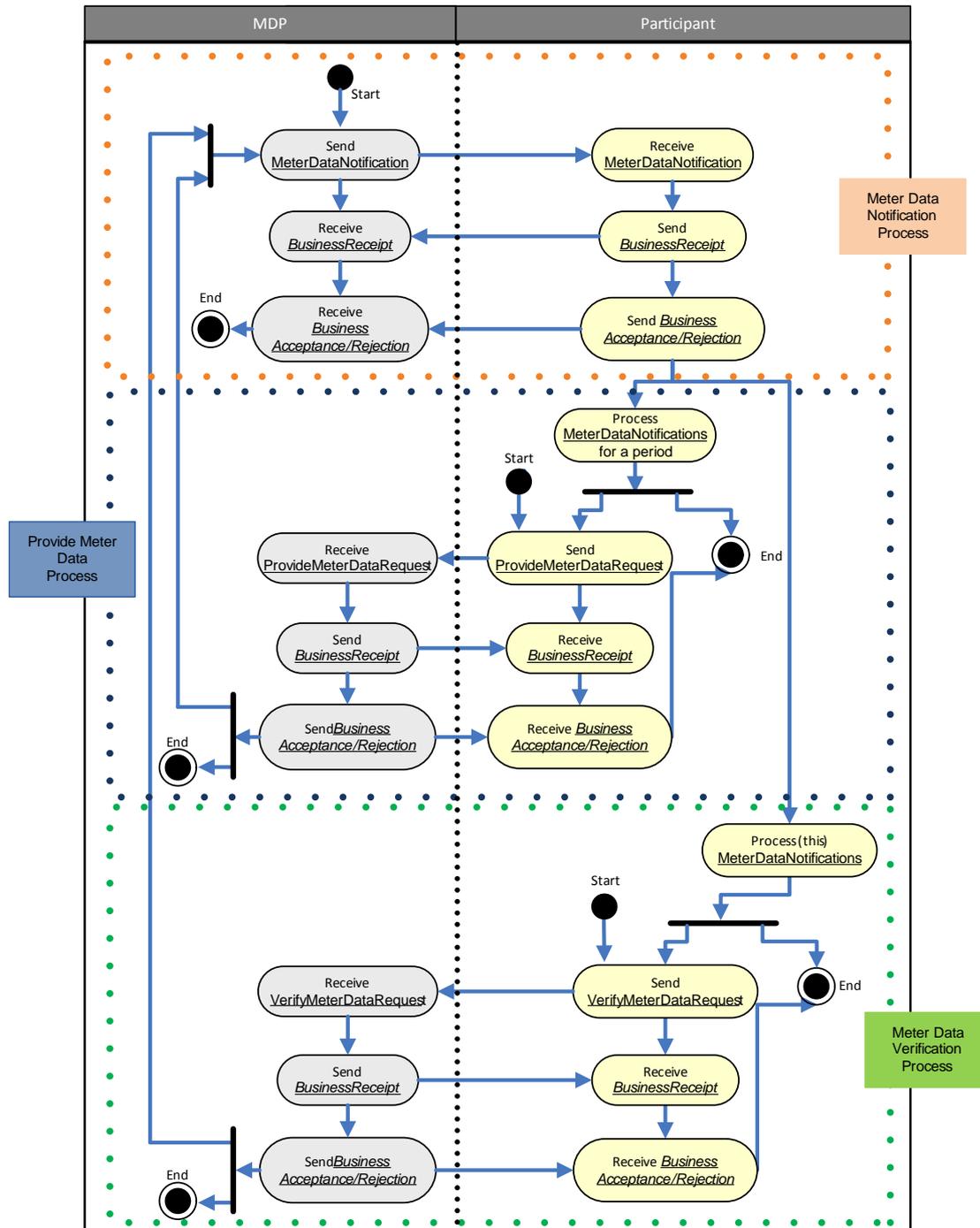
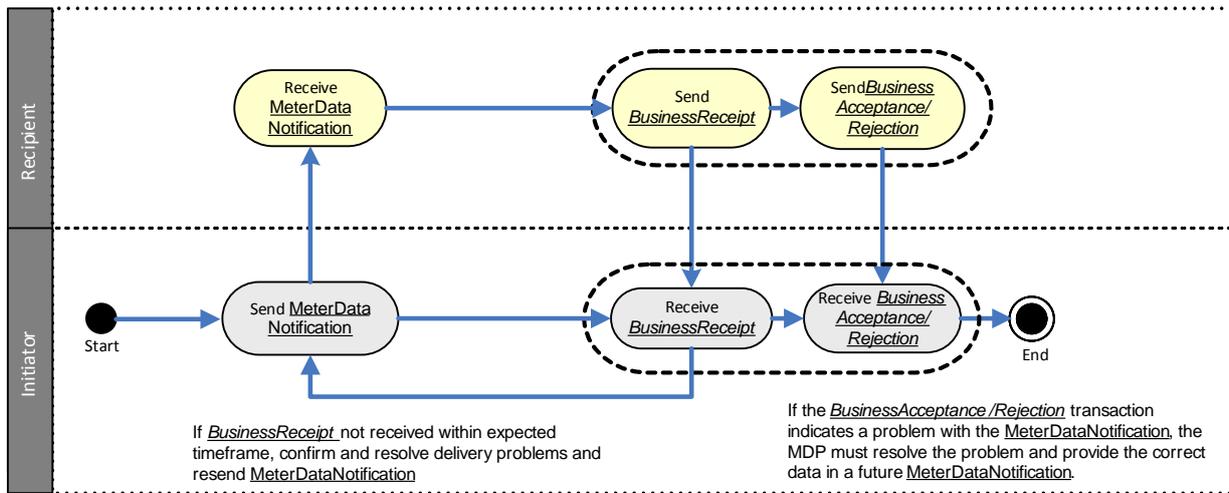


Figure 2 Meter Data Notification Process



Timing Requirements

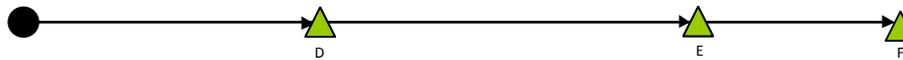


Figure 3 Provide or Verify Meter Data Process

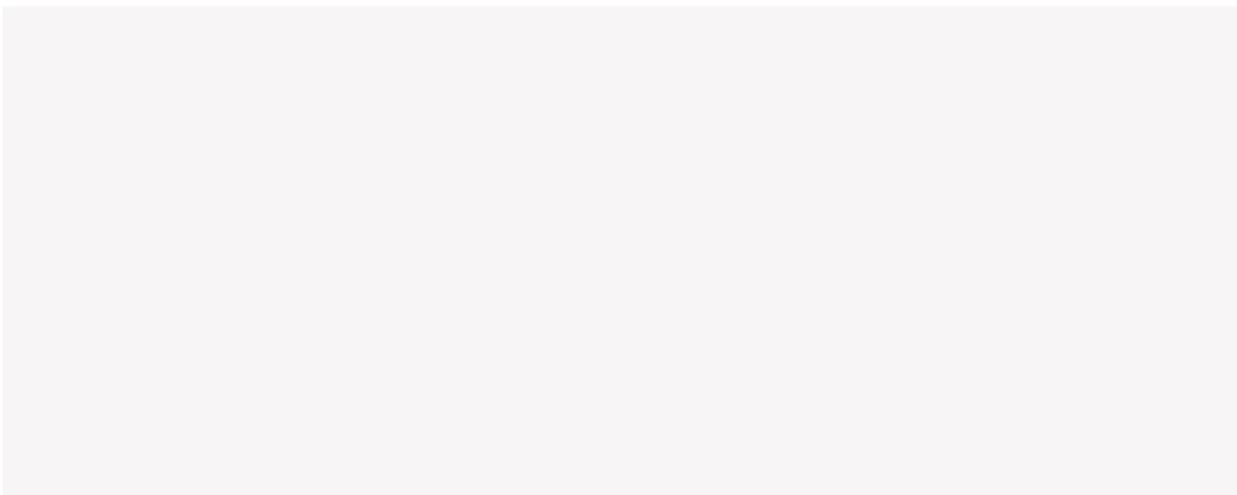
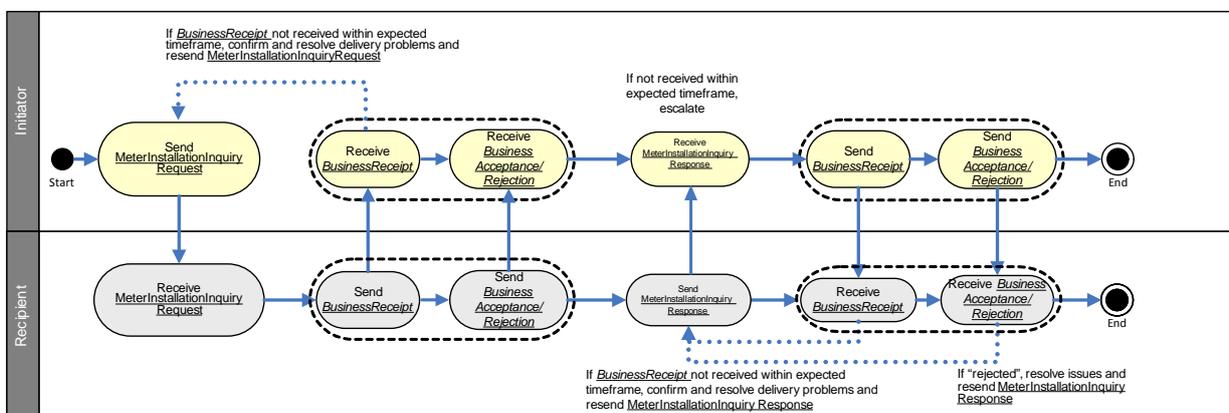


Figure 4 Meter Installation Inquiry Process



Timing Requirements

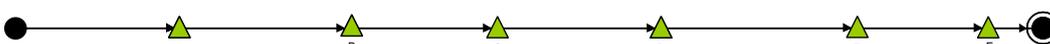
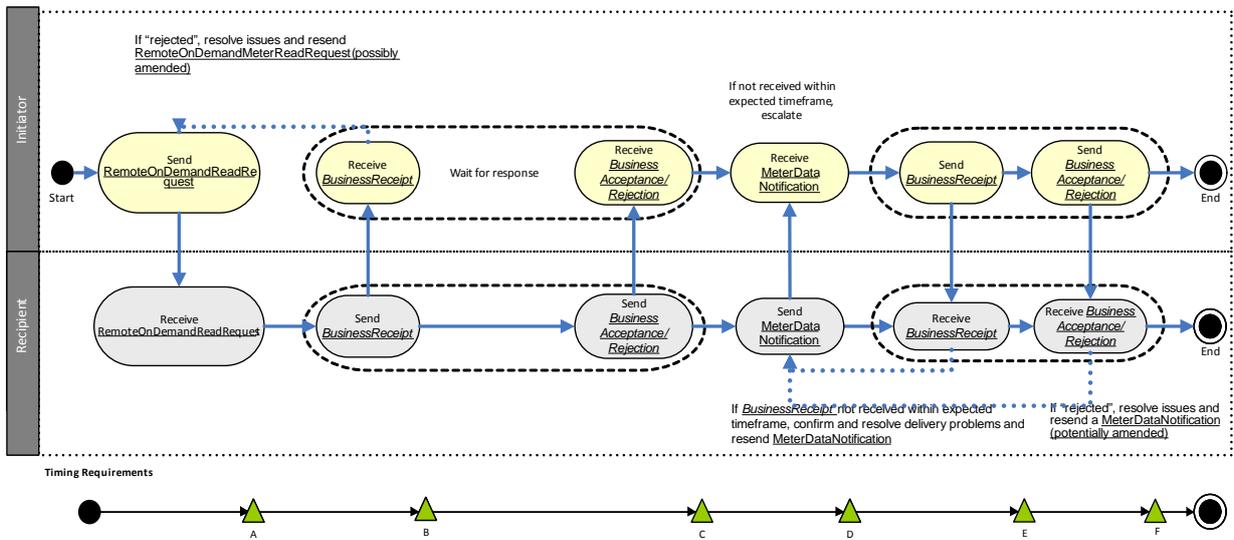


Figure 5 Remote On Demand Meter Read Request Process



2.4. Timing Requirements

The Timing Points associated with each of the processes described in section 2.2 are illustrated as points A to F in the diagrams and are defined in Table 2 and the associated Timing Periods are defined in Table 3.

Table 2 Timing Points

Timing Point	Definition
A	When the Initiator issues a Request to the Recipient.
B	When the Initiator receives a <u>BusinessReceipt</u> from the Recipient
C	When the Recipient is attempting to satisfy the initiators Request and sends a <u>BusinessAcceptance/Rejection</u>
D	When the Recipient sends a <u>BusinessAcceptance/Rejection</u> for a Request to the Initiator.
E	When the Recipient sends a Notification or Response to the Initiator.
F	When the Recipient receives a <u>BusinessAcceptance/Rejection</u> for a Notification or Response from the Initiator.

Table 3 Timing Periods

Timing Period	Definition	Usage
<u>BusinessReceipt</u> for Requests	This is from the Initiator sending the Request to the receipt of a <u>BusinessReceipt</u> by the Initiator. Commences at Timing Point A and ends at Timing Point B	Used by the Initiator 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 timing period the Initiator may escalate the non-receipt and/or resend the original request.
<u>BusinessAcceptance/Rejection</u> for Requests	This is from the Initiator sending the Request to the receipt of a <u>BusinessAcceptance/Rejection</u> for the Request by the Recipient. Commences at Timing Point A and ends at Timing Point C.	Used by the Initiator to determine whether a Request has been accepted by the Recipient. If the <u>BusinessAcceptance/Rejection</u> has not been received before the expiry of this Timing Period, the Initiator may escalate the non-receipt.
<u>MeterDataNotification/Response</u> for Requests	This is from the Initiator sending a Request to the Initiator receiving the associated <u>MeterDataNotification or Response</u> from the Recipient. Commences at Timing Point A and ends at D.	If the <u>MeterDataNotification</u> or <u>Response</u> has not been received before the expiry of this Timing Period, the Initiator may escalate the non-receipt.
<u>BusinessReceipt</u> for <u>MeterDataNotification/Response</u>	This is from the Recipient sending the MeterDataNotification or Response to the receipt of a BusinessReceipt by the Recipient Commences at Timing Point D and ends at Timing Point E	Used by the Recipient to determine whether a <u>MeterDataNotification</u> or <u>Response</u> has been received and can be read. If the <u>BusinessReceipt</u> has not been received before the expiry of this timing period the Recipient may escalate the non-receipt and/or resend the original <u>MeterDataNotification</u> or <u>Response</u> .
<u>BusinessAcceptance/Rejection</u> for <u>MeterDataNotification</u>	This is the period from the Recipient sending the MeterDataNotification or Response to the receipt of a <u>BusinessAcceptance/Rejection</u> for the Request by the Recipient. Commences at Timing Point D and ends at Timing point F.	Used by the Recipient to determine whether a <u>MeterDataNotification</u> or <u>Response</u> has been accepted by the Initiator. If the <u>BusinessAcceptance/Rejection</u> has not been received before the expiry of this Timing Period, the Recipient may escalate the non-receipt.

2.4.1. Timing Requirements for Business Signals

The Timing Requirements for a BusinessReceipt and a BusinessAcceptance/Rejection in the B2B Procedure: B2B Technical Delivery Specification, except for BusinessAcceptance/Rejections for Requests, which must meet the timing requirements for the Meter Data Notification Process, as specified in section 2.4.2

2.4.2. Timing Requirement for Normal Meter Data Notification Process

- (a) An Initiator must send a MeterDataNotification within the timeframe specified in Jurisdictional instruments, contractual arrangements and the Service Level Procedure (MDP).

2.4.3. Timing Requirement for ProvideMeterDataRequest and VerifyMeterDataRequest

Unless otherwise agreed between the parties the timings for PMD and VMD will be as follows:

- (a) An Initiator must not issue a ProvideMeterDataRequest relating to a scheduled reading event until:
 - (i) The Fourth Business Day following the read event for remotely read *metering installations*;
 - (ii) The Sixth Business Day following the published Next Scheduled Read Date for manually read *metering installations*; and
 - (iii) The Seventh Business Day of the calendar month for the previous month's MDFF Data, for Controlled Unmetered Devices
- (b) A participant must not issue a ProvideMeterDataRequest, relating to a ServiceOrderRequest for a manually read *metering installation* until the fourth Business Day following the receipt of the completed ServiceOrderResponse.
- (c) Where a Recipient is required to send a MeterDataNotification in response to a ProvideMeterDataRequest, the Recipient must send the MeterDataNotification within one Business Day of receiving the ProvideMeterDataRequest.
- (d) Where a Recipient is required to send a MeterDataNotification in response to a VerifyMeterDataRequest, the Recipient must send the MeterDataNotification within five Business Days of receiving the VerifyMeterDataRequest.

2.4.4. Timing Requirement for Meter Installation Inquiry and Remote On Demand Meter Read Requests

- (a) All timings are as agreed between the Recipient and the Initiator.

2.5. Business Rules

2.5.1. Common

- (a) MeterDataNotifications may be received out of sequence.
- (b) Prior to rejecting a Notification or Request Transaction on the basis that the Initiator does not have the correct Role for the *connection point*, Initiators must confirm that this is correct on the basis of information held in MSATS.
- (c) If a Recipient accepts a MeterDataNotification (with a BusinessAcceptance/Rejection) and subsequently discovers a problem with the MDFF data provided, the Recipient may raise a Request to resolve the situation.
- (d) Any ProvideMeterDataRequest or VerifyMeterDataRequest with a StartReadDate earlier than the time limit prescribed in the NER for holding online data may be rejected by the Recipient.

2.5.2. Meter Data Notification

- (a) An Initiator issuing a MeterDataNotification must ensure that the MeterDataNotification contains either Accumulation Meter (a CSVConsumptionData record) or Interval Meter (a CSVIntervalData record) data and does not contain a mixture of the two.
- (b) An Initiator must ensure that the MDFF data provided in a MeterDataNotification is the latest version of that data.

2.5.3. Provide Meter Data

- (a) A Recipient who receives a ProvideMeterDataRequest must determine which Meter Readings the Initiator has requested in accordance with the following:
 - (i) For Accumulation Meters, the Recipient must provide all available MDFF data that the Initiator 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.
 - (ii) For Interval Meters, the Recipient must provide all available MDFF data that the Initiator is entitled to for the inclusive period of the *StartReadDate* and *EndReadDate* specified in the ProvideMeterDataRequest.
- (b) If the *EndReadDate* is not provided in a ProvideMeterDataRequest, the Recipient must provide all MDFF data on and after the *StartReadDate* that the Initiator is entitled to receive.
- (c) Initiators must not repeatedly request MDFF data required as a result of a fault within the processing of the data by the Initiator's systems.
- (d) Where an Initiator requests MDFF data in a ProvideMeterDataRequest for a period that covers a change between an Accumulation Meter and an Interval Meter, the Recipient must provide to the Initiator MeterDataNotifications with the MDFF data required for each date range applicable to each meter installation type.

2.5.4. Verify Meter Data

An Initiator must provide values in the fields in the VerifyMeterDataRequest to match the level of the data being queried:

- (a) If the data being queried is at the *NMI* level, only the *NMI* needs to be provided.
- (b) If the data being queried is at the single *meter* level, the *NMI* and the *MeterSerialNumber* must be provided.
- (c) If the data being queried is at an individual Datastream level, the *NMI*, *MeterSerialNumber* and *NMISuffix* must be provided.
- (d) If the data being queried relates to the configuration of a Site, the *NMI* and *NMIConfiguration* must be provided.
- (e) The Initiator must ensure that the *InvestigationCode* and *InvestigationDescription* match the level of data provided as provided in paragraphs (a) - (d).

2.5.4.1. Investigation Codes Usage

The Initiator must use the appropriate *InvestigationCode* as specified in Table 3 to communicate the reason for the VerifyMeterDataRequest.

Table 4 Investigation Code Explanations

InvestigationCode	Use
Confirm Reading For Vacant Site	Used where <i>substituted metering data</i> or <i>estimated metering data</i> is provided for a vacant site and the Initiator reasonably believes the consumption is overstated.
Confirm Zero Consumption	Used where the Initiator requires confirmation of a zero consumption value.
Incomplete Data ¹	Used where the Initiator reasonably believes that they have not received a complete set of data. This code must only be used following a <u>ProvideMeterDataRequest</u> that has resulted in incomplete MDFF Data being provided.
Invalid MDFF Data	Used where the Initiator reasonably believes that data in the MDFF data (300/350line) does not match the configuration information in the MDFF data (200/250 line)..

¹ Must only be used after a ProvideMeterDataRequest is completed.

InvestigationCode	Use
Invalid Standing Data	This code is used where the Initiator reasonably believes that the configuration data in the MDFF data is inconsistent with MSATS. The Initiator must not use this code until the required timeframes for updating MSATS have passed.
Missing Datastream ³	Used where the Initiator reasonably believes that the channel/s are incomplete based on the configuration information provided. This could be in the MDFF file or information obtained elsewhere. This code must only be used following a ProvideMeterDataRequest that has resulted in incomplete MDFF Data being provided.
Require Actual Reading or Substitute ³	Used where the Initiator reasonably believes that they are entitled to Actual Metering Data or <i>substituted metering data</i> for a specified period. This code must only be used following a ProvideMeterDataRequest that has not provided Actual or Substituted data.
Require Final Substitute ³	Used where the Initiator has received a Substitution and reasonably believes they should have received a Substitution with a quality flag of 'F' (see section 2.4 of Metrology Procedure: Part B).
Scheduled Reading Required	Used where the Initiator reasonably believes that the NSRD has lapsed and the MDFF data has not been provided within the required timeframe. This code must only be used following a ProvideMeterDataRequest that resulted in Estimated <i>metering data</i> being provided.
Service Order Reading Required	Used where the Initiator has received a ServiceOrderResponse with a <i>ServiceOrderStatus</i> of 'Partially Completed' or 'Completed' and the associated MDFF data has not been provided within the required timeframe. The Initiator must provide the <i>ServiceOrderNumber</i> in the <i>InvestigationDescription</i> field. This code must only be used following a ProvideMeterDataRequest that has resulted in Estimated MDFF Data being provided.
Verify High Reading	Used where the Initiator reasonably believes the Meter Reading is too high compared to Historical Data, or following a customer complaint. The verification required is desktop only.
Verify Low Reading	Used where the Initiator reasonably believes the Meter Reading is too low compared to Historical Data, or following an End User complaint. The verification required is desktop only.
Verify/Missing Register ³	Used where the Initiator reasonably believes that the registers received in the MDFF do not align with those in MSATS. This code must only be used following a ProvideMeterDataRequest that has resulted in incomplete MDFF Data being provided
Require Estimate Data ³	Used where the Initiator reasonably believes they are entitled to an Estimation. This code must only be used following a ProvideMeterDataRequest that has resulted in a business event code of no data found
Meter Churn	Used where the Initiator reasonable believes that they have not received actual Meter Churn data.
Other	Any other reason not covered by any other <i>InvestigationCode</i> .

2.5.5. Meter Installation Inquiry

- (a) Only one [MeterInstallationInquiry](#) must be sent per *NMI* per day.
- (b) The Recipient must send a [BusinessAcceptance/Rejection](#) to the Initiator following validation of the [MeterInstallationInquiry](#).
- (c) The Recipient must send a [MeterInstallationInquiryResponse](#) (see Section 3.7) details of the *metering installation* for the requested *NMI*.
- (d) The details provided in a [MeterInstallationInquiryResponse](#) must be current as at the date and time that it was sent.

2.5.6. Remote On Demand Meter Read Request

- (a) Only one [RemoteOnDemandMeterReadRequest](#) must be sent per *NMI* per day.
- (b) The Recipient must send a [BusinessAcceptance/Rejection](#) to the Initiator following validation of the [RemoteOnDemandMeterReadRequest](#).

- (c) The Recipient must send a MeterDataNotification.
- (d) The details provided in a MeterDataNotification must be current as at the date and time that the Response was sent.

3. 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).

3.1. ProvideMeterDataRequest Data

Initiators must ensure that the ProvideMeterDataRequest conforms with the usage, format and definitional rules detailed in the following table:

Table 5 ProvideMeterDataRequest Data

Field	Format	Use	Definition
<i>InitiatorID</i>	VarChar(10)	M	The Initiator's Participant ID requesting the MDFF data. Participant ID as published in MSATS.
<i>InitiatorRole</i>	VarChar(4)	M	The Initiator's Role requesting the MDFF Data. Participant Role as published in MSATS.
<i>RecipientID</i>	VarChar(10)	M	The Recipient's Participant ID as published in MSATS.
<i>RequestID</i>	VarChar(15)	M	Initiator defined reference, used for reference and tracking. Must be a new (unused) number, unique for the Initiator.
<i>NMI</i>	Char(10)	M	<i>NMI</i> for the <i>connection point</i> missing data.
<i>NMIChecksum</i>	Char(1)	O	NMI Checksum for the <i>connection point</i> missing data.
<i>StartReadDate</i>	DATE	M	The start date for the period for which the Initiator is requesting MDFF data.
<i>EndReadDate</i>	DATE	O	The end date for the period for which the initiator is requesting MDFF data.

3.2. VerifyMeterDataRequest Data

Initiators must ensure that the VerifyMeterDataRequest conforms with the usage, format and definitional rules detailed in the following table:

Table 6 VerifyMeterDataRequest Data

Field	Format	Use - Interval Data	Use - Accumulation Data	Definition
<i>InitiatorID</i>	VarChar(10)	M	M	The Initiator querying the MDFF Data. Participant ID as published in MSATS.
<i>InitiatorRole</i>	VarChar(4)	M	M	The market role of the Initiator querying the MDFF Data. Participant Role as published in MSATS.
<i>RecipientID</i>	VarChar(10)	M	M	The Recipient being asked to verify MDFF Data. Participant ID as published in MSATS.
<i>RequestID</i>	VarChar(15)	M	M	Initiator defined reference, used for reference and tracking. Must be a new (unused) number, unique for the Initiator.
<i>NMI</i>	Char(10)	M	M	<i>NMI</i> for the <i>connection point</i> being queried.
<i>NMIChecksum</i>	Char(1)	O	O	NMI Checksum for the <i>connection point</i> .

Field	Format	Use - Interval Data	Use - Accumulation Data	Definition
<i>NMIConfiguration</i>	VarChar(240)	M/N	M/N	The NMIConfiguration 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 2.5.4 for the rules regarding the usage of this field.
<i>MeterSerial</i>	VarChar(12)	M/N	M/N	Meter Serial ID. Only required if the data being queried is at the single <i>meter</i> level or an individual Datastream level. Refer to 2.5.4 for the rules regarding the usage of this field.
<i>NMISuffix</i>	Char(2)	M/N	M/N	As defined in the NMI Procedure eg. 'E1','K1','Q2' etc. Mandatory if the data being queried is at an individual Datastream level (ie a single NMISuffix) or if a <i>CurrentRead</i> is provided. Refer to 2.5.4 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. May be provided where the data being queried relates to a single <i>RegisterID</i> or if a <i>CurrentRead</i> is provided
<i>CurrentRead</i>	VarChar(15)	N	M/N	Original Meter Reading provided in the MDFF data 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 <i>meter</i> multipliers. Mandatory for Accumulation 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, 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 being queried. Must be provided if <i>CurrentRead</i> is populated.
<i>StartReadDate</i>	DATE	M	M	The first day of the period the Initiator is querying.
<i>EndReadDate</i>	DATE	M	O	The last day of the period the Initiator is querying. If querying a single day's <i>interval metering data</i> or a single accumulationMeter 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 • Require Actual Reading or Substitute • Scheduled Reading Required • Require Final Substitute • Service Order Reading Required • Verify High Reading • Verify Low Reading • Verify/Missing Registers • Require Estimate Read • Meter Churn • Other



Field	Format	Use - Interval Data	Use - Accumulation Data	Definition
<i>InvestigationDescription</i>	Varchar(240)	M	M	Free text that must be used to assist the investigation. The Initiator must specify the Meter Reading, the period and the description of the problem.

3.3. MeterDataNotification Data

Initiators must ensure that the MeterDataNotification conforms with the usage, format and definitional rules detailed in the following table:

Table 7 MeterDataNotification Data

Field	Format	Use	Definition
<i>InitiatorID</i>	VarChar(10)	M	Initiator's Participant ID as published in MSATS.
<i>RecipientID</i>	VarChar(10)	M	The Recipient's Participant ID as published in MSATS.
<i>RecipientRole</i>	VarChar(4)	M	The Recipient's Role as published in MSATS.
<i>RequestID</i>	VarChar(15)	N/M	The RequestID 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 Initiator as a response to a <u>ProvideMeterDataRequest</u> , <u>VerifyMeterDataRequest</u> or <u>RemoteOnDemandMeterReadRequest</u>
<i>CSVConsumptionData</i>	CSVDATA	R	Contains embedded data in CSV format for Accumulation Meters. This is the standard file format for <i>accumulated metering data</i> -defined in a valid MDFF. Refer to 2.5.2 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 <i>interval metering data</i> -defined in a valid MDFF. Refer to 2.5.2 a for details of the usage of this field

3.4. MeterInstallationInquiryRequest Data

Initiators must ensure that the MeterInstallationInquiryDataRequest conforms with the usage, format and definitional rules detailed in the following table:

Table 8 MeterInstallationInquiryRequest Data

Field	Format	Use	Definition
<i>InitiatorID</i>	VARCHAR(10)	M	Initiator's Participant ID as published in MSATS.
<i>InitiatorRole</i>	VARCHAR(4)	M	Initiator's Role as published in MSATS.
<i>RecipientID</i>	VARCHAR(10)	M	Recipient's Participant ID.as published in MSATS
<i>RequestID</i>	VARCHAR(15)	M	Initiator defined reference, used for reference and tracking. Must be a new (unused) number, unique for the Initiator.
<i>NMI</i>	CHAR(10)	M	<i>NMI</i> for the <i>connection point</i> .
<i>NMIChecksum</i>	CHAR(1)	O	NMI Checksum for the <i>connection point</i> .
<i>MeterSerial Number</i>	VARCHAR(12)	M	Meter Serial ID(s). This is a repeatable field.to allow for the provision of multiple meters.
<i>ServiceType</i>	VARCHAR(15)	M	Permitted content: On Demand
<i>InquiryCode</i>	VARCHAR(80)	M	Permitted content <ul style="list-style-type: none"> • Meter Connection Status • Voltage and Current • Average Voltage • Power • Frequency • Meter Event Retrieval • All of the above
<i>TradingInterval</i>	VARCHAR(140)	O	Nominated TIs to calculate average <i>voltage</i> and current, e.g 1,10,20,30,48.
<i>SpecialNotes</i>	VARCHAR(240)	O	Any special notes the Initiator wishes to convey to the Recipient.

3.5. MeterInstallationInquiryDataResponse Data

Recipients must ensure that the MeterInstallationInquiryDataResponse conforms with the usage, format and definitional rules detailed in the following table:

Table 9 MeterInstallationDataResponse Data

Field	Format	Use	Definition
<i>InitiatorID</i>	VARCHAR(10)	M	Participant ID as published in MSATS.
<i>InitiatorRole</i>	VARCHAR(4)	M	Participant Role as published in MSATS.
<i>RecipientID</i>	VARCHAR(10)		Participant ID as published in MSATS
<i>RequestID</i>	VARCHAR(15)	M	Initiator defined reference, used for reference and tracking. Must be a new (unused) number, unique for the Initiator.
<i>NMI</i>	CHAR(10)	M	NMI for the connection point.
<i>NMIChecksum</i>	CHAR(1)	O	NMI Checksum for the connection point
<i>MeterSerial Number</i>	VARCHAR(12)	M	This field repeats to allow the provision of details for multiple meters.
<i>ReadDateTme</i>	DATETIME(14)	M	The date and time the meter was interrogated.
<i>Status</i>	VARCHAR(1)	M/N	Status of the switch used to effect the disconnection and reconnection services. Must be a Meter Status Code equivalent to the codes in CATS Mandatory where Meter Connection Status or All of the Above <i>Inquiry Code</i> is used.
<i>Voltage</i>	VARCHAR(7)	M/N	The <i>voltage</i> as measured by the <i>metering installation</i> Mandatory where Voltage and Current or All of the Above <i>Inquiry Code</i> is used.
<i>Current</i>	VARCHAR(7)	M/N	The current as measured by the <i>metering installation</i> Mandatory where Voltage and Current or All of the Above <i>Inquiry Code</i> is used.
<i>Power</i>	VARCHAR(7)	M/N	The power (watts) as measured by the <i>metering installation</i> Mandatory where Power or All of the Above <i>Inquiry Code</i> is used.
<i>Frequency</i>	VARCHAR(7)	M/N	The supply frequency (Hertz) as measured by the <i>metering installation</i> Mandatory where Frequency or All of the Above <i>Inquiry Code</i> is used.
<i>Average</i>	VARCHAR(7)	M/N	The average <i>voltage</i> and current over a nominated TI for one or more nominated TI's; Mandatory where Voltage and Current or All of the Above <i>Inquiry Code</i> is used.
<i>Events</i>	VARCHAR(100)	M/N	Events that have been recorded in <i>meter</i> log (or logs) including recorded information in the tamper detection alarm, reverse energy flow alarm and <i>metering</i> device temperature alarm. Minimum event types that must be returned are: <ul style="list-style-type: none"> • Temperature alarm • generation detected • under voltage • over voltage • tamper • over current Mandatory where Meter Event Retrieval or All of the Above <i>Inquiry Code</i> is used

3.6. RemoteOnDemandMeterRead Request

Recipients must ensure that the RemoteOnDemandMeterReadRequest conforms with the usage, format and definitional rules detailed in the following table:

Table 10 RemoteOnDemandMeterReadRequest Data

Field	Format	Use	Definition
<i>InitiatorID</i>	VARCHAR(10)	M	Initiator's Participant ID as published in MSATS.
<i>InitiatorRole</i>	VARCHAR(4)	M	Initiator's Role as published in MSATS.
<i>RecipientID</i>	VARCHAR(10)	M	Recipient's Participant ID as published in MSATS
<i>RequestID</i>	VARCHAR(15)	M	Initiator defined reference, used for reference and tracking. Must be a new (unused) number, unique for the Initiator.
<i>NMI</i>	CHAR(10)	M	<i>NMI</i> for the <i>connection point</i> .
<i>NMIChecksum</i>	CHAR(1)	O	NMI Checksum for the <i>connection point</i> .
<i>MeterSerial Number</i>	VARCHAR(12)	M	Meter Serial ID(s). This is a repeatable field to allow for the provision of multiple meters.
<i>ServiceType</i>	VARCHAR(15)	M	Permitted content: <ul style="list-style-type: none"> On Demand
<i>SpecialNotes</i>	VARCHAR(240)	O	Any special notes the Initiator wishes to convey to the Recipient

3.7. BusinessAcceptance/Rejection

- (a) A Participant must ensure that a BusinessAcceptance/Rejection has a *Status* as specified in the following table:

Table 11 Business Acceptance/Rejection Data

Field	Format	Use	Definition
<i>Status</i>	Enumeration	M	Permitted content: <ul style="list-style-type: none"> Accept Partial Reject Refer to Clause 2.4, 2.5, 2.6 and guide for usage.

- (b) If the *Status* is not 'Accept', a Participant must provide one or more of the Event blocks in the following table:

Table 12 BusinessAcceptance/Rejection Data if not Accepted

Field	Format	Use	Definition
<i>EventCode</i>	NUMERIC(4)	M	A code to indicate the reason for the rejection. Applicable codes are in the table at 4.5. A positive number.
<i>KeyInfo</i>	NUMERIC(x8)	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> .

3.8. 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 relevant Business Events and *EventCode*(s) are in the table below

Table 13 Meter Data Process - Business Event Details

Business Event	Explanation Required	Severity	MeterData Notification	ProvideMeterDataRequest	VerifyMeterDataRequest	MeterInstallat ionInquiryRequ est	RemoteOnDe mandMeterR eadRequest	Event Code	Relevant Procedure Clause or Reference Notes
Requested data has previously been sent in response to a previous <u>ProvideMeterDataRequest</u> .	No	Error		Yes				1936	Initiator has made more than one request for the same version of the MDFF data.
Participant is not entitled to requested data for part of the date range requested	No	Information		Yes				1934	The <i>Severity</i> is 'Information' as the Recipient will send a <u>MeterDataNotification</u> to the Initiator with the available MDFF data. Refer Clauses 2.6.3 & 2.6.4
Participant is not entitled to requested data for part of the date range requested	No	Error			Yes			1934	The <i>Severity</i> is 'Error' as the Recipient will not send a <u>MeterDataNotification</u> to the Initiator with the available MDFF data. Refer Clauses 2.6.3 & 2.6.4
Participant is not entitled to requested data for date range requested	No	Error		Yes	Yes	Yes		1933	General market principle.
Insufficient information provided to action Request.	Yes	Error			Yes			1958	The Initiator has not clearly defined the reading, the period and the description of the problem.
NSRD not past yet (ie allowed timeframe to provide reading has not expired yet).	No	Error			Yes			1948	
Query has been investigated and no change made to the MDFF Data.	Yes	Error			Yes			1959	
<i>StartReadDate</i> is before the MDP SLR ² on-line storage requirement.	No	Information		Yes	Yes			1960	2.6.1a

² Note that the term 'SLR' refers to 'SLP' or Service Level Procedure.



B2B PROCEDURE:
METER DATA PROCESS

Requested data is no longer on-line	No	Error		Yes	Yes			1946	2.6.1
No data found	No	Error		Yes	Yes			1931	
New request with previously used <i>RequestID</i> .	Yes	Error		Yes	Yes	Yes	Yes	1913	
NMI abolished.	No	Error		Yes	Yes	Yes	Yes	1961	
No active meters.	No	Error		Yes	Yes	Yes	Yes	1962	
Recipient is not the MDP for the whole period.	No	Information		Yes				1963	
Recipient is not the MDP for the whole period.	No	Error			Yes			1963	
Recipient is not responsible for the supplied NMI.	Yes	Error		Yes	Yes	Yes	Yes	1923	The Recipient is not responsible for the <i>NMI</i> .
Format problem found in MDFF	Yes	Error	Yes					1925	An error occurred while loading the MDFF. <i>Status</i> indicates the data that has been rejected (Table 14)
Required timeframe for updating MSATS has not passed	No	Error			Yes			1968	Used where the Initiator has not waited the required time for MSATS to be updated.
Invalid Request	Yes	Error			Yes			1969	Used where the Request does not make sense to the Recipient.
Recipient did not initiate request	Yes	Error	Yes					206	Standard aseXML Code. The <i>RequestID</i> in the <i>MeterDataNotification</i> is not one provided by the Recipient.
Accept	No	Information	Yes	Yes	Yes	Yes	Yes	0	Standard aseXML Code
Data missing. Details provided in <i>Explanation</i>	Yes	Error	Yes	Yes	Yes	Yes	Yes	201	Standard aseXML Code Used where data with a usage of Required in the Procedure is missing.
Invalid data. Details provided in <i>Explanation</i>	Yes	Error	Yes	Yes	Yes	Yes	Yes	202	Standard aseXML Code Covers situations where the data in a field or combination of fields is invalid.
Request matches an existing Request. The <i>TransactionID</i> of the related Request is provided in <i>Explanation</i> .	Yes	Error			Yes			1965	
No further data available.	No	Information		Yes				1966	Used where the Recipient provides all the data it has but this does not satisfy a <i>ProvideMeterDataRequest</i> . Used in a <i>BusinessAcceptance/Rejection</i> with a <i>Status</i> of 'Partial'.
No Contract	No	Error				Yes	Yes	TBC	Used where the Recipient does not have a contract with the Initiator to provide the service requested.



B2B PROCEDURE:
METER DATA PROCESS

Service Not Provided	No	Error				Yes	Yes	TBC	Used where the Recipient does not provide the service requested.
No Comms	No	Error				Yes	Yes	TBC	Used where communications were not available at the time of the request.

