
Co-Ordinated Retail Market Message Guide

ROI Implementation - Data Processing

<i>Document Information</i>	
Business Area:	ESB Networks
Status:	Final
Author/s:	ESBN
Version Number:	3.1
Reason for Change	Co-ordinated Baseline V3.1

Co-Ordinated Retail Market Message Guide – Data Processing

Document Updates			
Name	Date	Reason	Version
H&SP Project	22/02/2012	Initial Draft	2.3
MMR 10.2	21/11/2013	Updated following approval at IGG of MCR 1134	2.4
Co-MMR 10.4	11/02/2015	341 MM & 342 mm – Replaced PDS with ESBN 341 MM & 342 MM – Read Date Amended 2.5.8 – Message to TSO deleted 2.5.10 – Advise interval meter readings for export channels deleted and message to TSO deleted	2.5
Co-MMR 10.6	04/12/2015	341 MM – Channel Level Details – “and may have zero, one or two Export Channels” deleted from “Each Meter Point will have two import channels and may have zero, one or two Export Channels” 342 MM – Read Date updated to read “The date on which the export recorded in the message occurred”	2.6

Co-Ordinated Retail Market Message Guide – Data Processing

Co-MMR 10.7	02/06/2016	AIQ 5842 "Generation Unit ID" removed from the MPRN Level Information on MM 342 on page 80	2.7
Schema Release V11.0	05/08/2016	Re-versioned as part of Schema Release V11.0	3.0
Co-MMR 11.1	02/10/2017	AIQ 6034 "Generation Unit ID" added to the MPRN Level Information on MM 342 on page 80	3.1

Table of Contents

1 INTRODUCTION	5
1.1 PURPOSE OF THE MESSAGE IMPLEMENTATION GUIDE	5
1.2 VALIDATION	7
1.3 MESSAGE VERSION	8
1.4 NOTES	8
2 DATA PROCESSING MESSAGE GROUP	9
2.1 SCOPE AND BUSINESS CONTEXT.....	9
2.2 MESSAGE USAGE SUMMARY.....	10
2.3 RELATED BUSINESS DOCUMENTS	12
2.4 MESSAGE DIRECTORY – SUPPLIER TO ESB NETWORKS	13
2.4.1 <i>Message 208: Replacement Reading</i>	13
2.4.2 <i>Message 210: Supplier Provided Reading</i>	20
2.4.3 <i>Message 252: Request for Special Reading</i>	27
2.5 MESSAGE DIRECTORY – DATA PROCESSOR/DATA COLLECTOR TO SUPPLIER	34
2.5.1 <i>Message 300: Validated Non Interval Readings (Scheduled)</i>	34
2.5.2 <i>Message 300S: Valid Non Interval Readings (Special)</i>	41
2.5.3 <i>Message 300W: Withdrawn Non Interval Readings</i>	48
2.5.4 <i>Message 303R: Customer Read Rejection</i>	54
2.5.5 <i>Message 305: Non Settlement Estimates</i>	59
2.5.6 <i>Message 308: Non Interval Load Factor Reading Exception</i>	64
2.5.7 <i>Message 321: Read Cycle Notification</i>	66
2.5.8 <i>Message 341: Interval Meter Daily Data</i>	68
2.5.9 <i>Message 352R: Special Reading Request Rejection</i>	74
2.5.10 <i>Message 342: Interval Meter Daily Data (Export)</i>	78
APPENDIX 1	84
2.6 APPENDIX 1A – MESSAGE 300 COMBINATIONS	84
2.7 APPENDIX 1B – MESSAGE 300S COMBINATIONS.....	87
2.8 APPENDIX 1C - MESSAGE 305 COMBINATIONS.....	88
3 APPENDIX 2	89
3.1 APPENDIX 2A – SUPPLIER PROVIDED READING VALIDATION SEQUENCE DIAGRAM.....	89
3.2 APPENDIX 2B – PROPOSED REPLACEMENT READING VALIDATION SEQUENCE DIAGRAM.....	90

INTRODUCTION

1.1 Purpose of the Message Implementation Guide

This document is a Message Implementation Guide to assist Suppliers in:

- The construction of market messages to be sent to DSO and MRSO; and
- The interpretation of messages received from DSO and MRSO.

The Message Implementation Guides are organized into separate **Message Groups** documents based around key business processes. These are:

- Registration, including Change of Supplier
- Customer Data and Agreements
- Data Processing
- Data Aggregation
- DUoS and Transaction Payments
- Meter Works
- SSA
- Unmetered
- Market Gateway Activity

Co-Ordinated Retail Market Message Guide – Data Processing

This document is the **Data Processing Message Group** Implementation Guide.

Each Message Group section contains:

- An introduction outlining the scope and business context for the message group
- A Message Usage Summary with a description of when each message is used
- A list of Related Business Documents that govern the process
- A message directory with a section for each separate message which includes:
 - A description of each message and when it should be used
 - An overview diagram of the structure of the message.
 - For messages sent by Suppliers:
 - A table containing composition instructions on how to populate each segment and field
 - A table describing how the message will be validated
 - A description of the responses that can be expected
 - For messages sent by ESB Networks:
 - A table containing a description of how each segment and field will be populated.

The same type of data is often provided in several messages and, irrespective of the message type, this data is subject to common rules for population. An example is the Meter Point Address.

Co-Ordinated Retail Market Message Guide – Data Processing

A separate document exists to describe the population rules for these types of data, providing:

- An overview of the structure of the segment
- Instructions relating to how to populate each segment and field.

This is the Common Data Segments Implementation Guide.

1.2 Validation

The document provides notes on how ESB Networks will validate the messages received. The purpose of these notes is to aid the Supplier in the population of each message and is intended to avoid instances where messages are rejected due to the incorrect population of a message field. The validation described is therefore limited to field specific validations.

Syntax validation is excluded from the validation notes. This is performed by using standard XML Schema validation against the ieXML schema provided that defines the data structures of all market messages in scope. Syntax validation includes:

- Checks that the structure of the message is correct
- Checks that all mandatory fields are provided. Mandatory fields are, however, indicated in the instructions for populations.
- Checks that any data code is selected from the list of data codes issued in the ROI Market Design.

In cases where the segment on a message fails on any of these reasons, a negative acknowledgement is sent back as a market message to the message sender containing the following information:

- The Transaction Reference Number supplied on the inbound message

Co-Ordinated Retail Market Message Guide – Data Processing

- A copy of the message contents as received by ESB Networks
- A description of the error.

General market process validations that are not specific to individual market message fields are excluded. These are described in the appropriate ROI Specific Market Procedure Documents (MPD) referenced in each section.

If there is any inconsistency between an MPD and the Message Implementation Guide then the MPD will take precedence.

1.3 Message Version

This Message Guide refers to and is consistent with the Discussion Request (DR 176) which is based on Market Design version 8 and the 131 market message from MCR0171. NI specific validations are not included in this guide.

1.4 Notes

In this document, the references to segment and field levels should be interpreted as follows:

- The level number indicated against the segment refers to the level of the data items and segments within that segment. Therefore, for example, in message 208 where 'MPRN Level Information –Level 2' is stated it is the data items and segments that comprise 'MPRN Level Information' that are level two items (e.g. MPRN field, Market Participant Business Reference field, Meter ID segment). Accordingly, within this document, MPRN Level Information segment is shown as a Level 1 segment.
- Message Header is a Level 1 segment is a child of Header Level Information.

2 DATA PROCESSING MESSAGE GROUP

2.1 Scope and Business Context

The purpose of the Data Processing messages is to enable a Supplier to provide meter readings to or request meter readings from ESB Networks and to enable the Data Processor to provide validated readings to the Supplier.

Data Processing messages are used in the following business contexts:

- The processing of Interval readings where message 341 and 342 are sent by the Data Processor.
- The processing of scheduled Non Interval readings where messages 300 and 305 342 are sent by the Data Processor.
- The notification of the read cycle where message 321 342 are sent by the Data Processor.
- The processing of special reads where message 252 is sent by a Supplier and messages 352R or 300S may be received from the Data Processor.
- The processing of customer reads where message 210 may be sent by a Supplier and messages 303R or 300 may be received from the Data Processor.

In addition meter readings can also be sent to the Data Processor using messages 010 (Change of Supplier) and 016 (Change of Legal Entity). These are described in the Registration and Customer Data sections respectively. Change of Supplier reading messages 310 and 320 are also described in the Registration section.

Meter readings may also be withdrawn for a variety of reasons. Message 300W is used to communicate withdrawn readings to Suppliers.

In addition meter readings are also sent by the Data Processor as a result of Meter Works. These messages, 306, 307 and 332, and their associated withdrawal messages are described in the Meter Works sections.

Co-Ordinated Retail Market Message Guide – Data Processing

The following table lists the Market Process Diagrams (MPD) where the messages are used:

MPD 1	Change of Supplier – NQH Metered
MPD 14	Readings Processing – NQH Metered
MPD 15	Data Processing –NQH Metered
MPD 18	Special Read Request

2.2 Message Usage Summary

The following table provides a trigger list for each message detailing when it is used.

Message	Title	Sender	Recipient	Trigger	Predecessor	MPD Ref.
208	Replacement Reading	Supplier	Data Processor	Supplier decides to dispute a Change of Supplier reading by providing a replacement	310 or 320	MPD 1
210	Supplier Provided Reading	Supplier	Data Processor	Supplier has elected to provide a customer reading for a Change of Supplier or other purpose		MPD 14 Also MPD 1

Co-Ordinated Retail Market Message Guide – Data Processing

Message	Title	Sender	Recipient	Trigger	Predecessor	MPD Ref.
252	Request for Special Reading	Supplier	Data Collector	Supplier requests a special reading to dispute a previous reading or for other purposes		MPD 18 Also MPD 1
300	Validated Non Interval Readings	Data Processor	Supplier	A scheduled reading is collected and processed. A customer reading is obtained and processed.	Scheduled Read, 016 or 210	MPD 14
300S	Validated Non Interval Readings (Special)	Data Processor	Supplier	A special reading is obtained and processed.	252	MPD 14, 18
300W	Withdrawn Non Interval Reading	Data Processor	Supplier	A scheduled, customer or special reading or estimate is withdrawn by the Data Processor	300, 300S, 305	MPD 14
303R	Customer Read Rejection	Data Processor	Supplier	Data Processor rejects a Customer Read	010, 016 or 210	MPD 14 Also MPD 1
305	Non Settlement Estimates	Data Processor	Supplier	A 'no read' condition is returned by the Data Collector for a scheduled reading event	None	MPD 14
308	Non Interval Load Factor Reading Exception	Data Processor	Supplier	A load factor has been calculated from readings to be consistently different to that currently recorded	Any Non Interval reading	MPD 14
321	Read Cycle Notification	Data Collector	Supplier	Data Collector makes a change to the read schedule for a Meter Point	None	MPD 14

Co-Ordinated Retail Market Message Guide – Data Processing

Message	Title	Sender	Recipient	Trigger	Predecessor	MPD Ref.
341	Interval Meter Daily Readings (Import)	Data Processor	Supplier and TSO	Data Processor receives import Interval meter readings	None	MPD 15
342	Interval Meter Daily Readings (Export)	Data Processor	Supplier and Generator	Date Processor receives export Interval meter readings	None	MPD 15
352R	Special Reading Request Rejection	Data Collector	Supplier	Data Collector rejects a request for a special reading	252	MPD 18

2.3 Related Business Documents

Estimation Briefing Paper

QH Validation, Estimation and Substitution

2.4 Message Directory – Supplier to ESB Networks

2.4.1 Message 208: Replacement Reading

Purpose and Description of Message/Validation

Message 208 is sent by a New or Old Supplier to the Data Processor in order to dispute a Change of Supplier reading.

It contains a nominated replacement reading that, if agreed by both Suppliers, will be used to replace the Change of Supplier reading. The readings should be dated at, and will be applied as at, a Read Date equal to the original Change of Supplier date. The Data Processor will undertake the validation.

Message 208 is used in the following Market Processes:

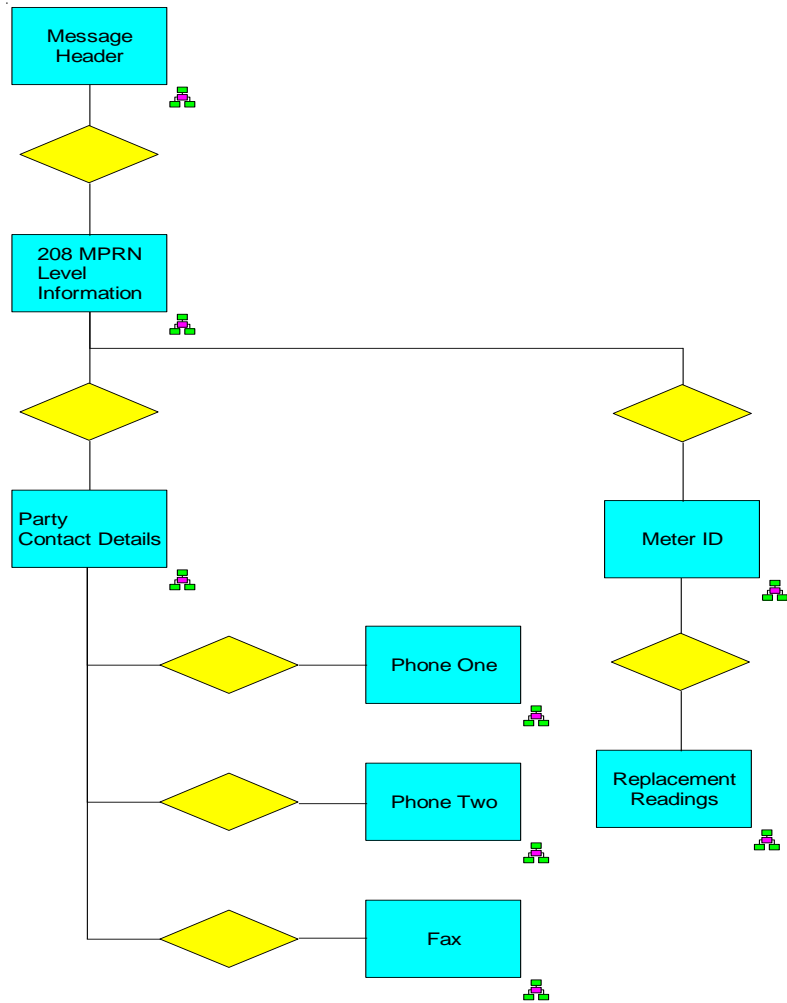
Process Number and Title		Use of Message
MPD 1	Change of Supplier – NQH Metered	To dispute a Change of Supplier reading.

Message 208 should only be sent when:

- Message 310 or 320 has been received
- The replacement reading has been agreed with the other Supplier involved.

Readings must not be provided for Maximum Demand registers.

Data Hierarchy Diagram



Co-Ordinated Retail Market Message Guide – Data Processing

Composition Instructions/Validation

Supplier should follow the instructions below in populating the Replacement Reading message. The Data Processor will undertake the validation

Segment and Field Level Identifier – 208 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.	Not validated by Data Processor
1 MPRN Level Information			1	Mandatory		
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the replacement readings are provided All elements of the MPRN must be provided	The MPRN must either be currently registered to the Supplier or have been registered to the Supplier as the immediate previous Supplier.
2	FLD	Market Participant Business Reference	1	Mandatory	The Supplier must provide an internal reference number.	Not validated by Data Processor
2	FLD	Read Date	1	Mandatory	The Read Date is the date to which the reading will be applied. It should be the date of the reading being replaced as communicated on message 310 or 320.	MRSO will check that the Read Date relates to the date of a Change of Supplier reading
2	FLD	Read Reason	1	Mandatory	A code that indicates the reason that the reading is provided.	The Read Reason should be set to: 26 – Change of Supplier

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 208 Message		Rpt	Optionality	Description / Purpose and composition instructions	Validation	
				The Read Reason should be set to: <ul style="list-style-type: none"> ○ 26 – Change of Supplier: 		
2	FLD	Supplier ID	1	Mandatory	The Supplier ID should be set to the Party ID of the Supplier providing the replacement reading.	The Supplier ID should be the Party ID of the Supplier providing the replacement reading.
2	SEG	Party Contact Details	1	Optional	Details enabling the Supplier to be contacted in the event of a query with the replacement reading. See Common Data Segments for detailed notes on structure and population	.Not validated by Data Processor
2	SEG	Meter ID	1:N	Mandatory		

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 208 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
3	FLD	Meter Category	1	See instructions	<p>A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.</p> <p>This field is not required although it may be obtained from the meter readings provided by DSO.</p>	Not validated by Data Processor
3	FLD	Serial Number	1	See instructions	<p>The physical number found on a meter.</p> <p>. The complete serial number should be provided if possible, but if not, at least the last four digits should be provided. The serial number can be obtained from the meter readings provided by DSO</p>	If provided the Data Processor will match the last four characters of the Serial Number to the Serial Number(s) recorded for the Meter Point by DSO and if a unique match cannot be found the readings will be rejected.
3	SEG	Register Reading	1:N	Mandatory	Where customer readings are to be provided then a reading should be provided for every consumption and attles register together with sufficient information to identify the appropriate register. Readings should not be provided for Maximum Demand registers.	The Data Processor will expect a reading for every consumption and wattles register installed at the Meter Point. The Data Processor will not replace previously used Maximum Demand register readings based on data this message.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 208 Message				Rpt	Optionality	Description / Purpose and composition instructions	Validation
						In normal circumstances only one of Meter Register Sequence, Timeslot or Register Type is required	
4	FLD	Meter Register Sequence	1	See Instructions	<p>An identifier to distinguish between different meter dials on a physical meter or set of meters.</p> <p>The Meter Register Sequence must be provided if neither Timeslot nor Register Type can be provided. If provided, it may be obtained from information published or readings data provided by DSO.</p>	If provided, the Data Processor will match the Meter Register Sequence to the Meter Register Sequence (s) recorded for the Meter Point by DSO. If a unique match cannot be found the readings will be rejected.	
4	FLD	Timeslot	1	See Instructions	<p>A code that indicates the period that a meter is recording electricity consumption or attles reactive energy.</p> <p>The Timeslot must be provided if neither Meter Register Sequence nor Register Type can be provided. If provided, it may be obtained from information published or readings data provided by DSO.</p> <p><i>Refer to the data published by ESB DSO for the current set of codes.</i></p>	If provided, the Data Processor will match the Timeslot to the Timeslot (s) recorded for the Meter Point and Meter Serial Number matched above. If a unique match cannot be found the readings will be rejected.	
4	FLD	Register	1	See	A code that indicates the purpose of the	If provided and the Data Processor cannot otherwise match readings to a register, the Data Processor will	

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 208 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
		Type		Instructions	<p>register.</p> <p>The Register Type must be provided if Meter Register Sequence is not provided or if Timeslot is not known or not unique. This will enable the Data Processor to distinguish between the types of register. If provided, it may be obtained from readings data provided by DSO.</p> <p><i>Refer to the data published by ESB DSO for the current set of codes.</i></p>	match the Register Type to the Register Type (s) recorded for the Meter Point and Meter Serial Number matched above. If a unique match cannot be found the readings will be rejected
4	FLD	Reading	1	Mandatory	This should be the replacement reading the Supplier requests to be used for meter register identified by the Serial Number and Meter Register Sequence, Timeslot and Register Type data provided and which will be treated as effective on the Read Date.	Provided the readings are not rejected, the Data Processor will validate the readings according to the rules specified in MPD14. A positive consumption exceeding tolerance will generally be accepted if agreed by both Suppliers
4	FLD	Read Type	1	Mandatory	<p>This should be set to:</p> <ul style="list-style-type: none"> ○ RC denoting a Replacement Reading for a Change of Supplier 	Not validated by Data Processor

Providing that the validation is successful then the Data Processor will contact the other Supplier involved at the Change of Supplier to confirm that the Change of Supplier reading is acceptable. If so, the Data Processor will replace the original Change of Supplier readings with the Replacement readings and will use messages 310W, 310, 320W and 320 to communicate the withdrawn and replacement readings.

2.4.2 Message 210: Supplier Provided Reading

Purpose and Description of Message/Validation

Message 210 can be sent by a Supplier to the Data Processor for a variety of reasons:

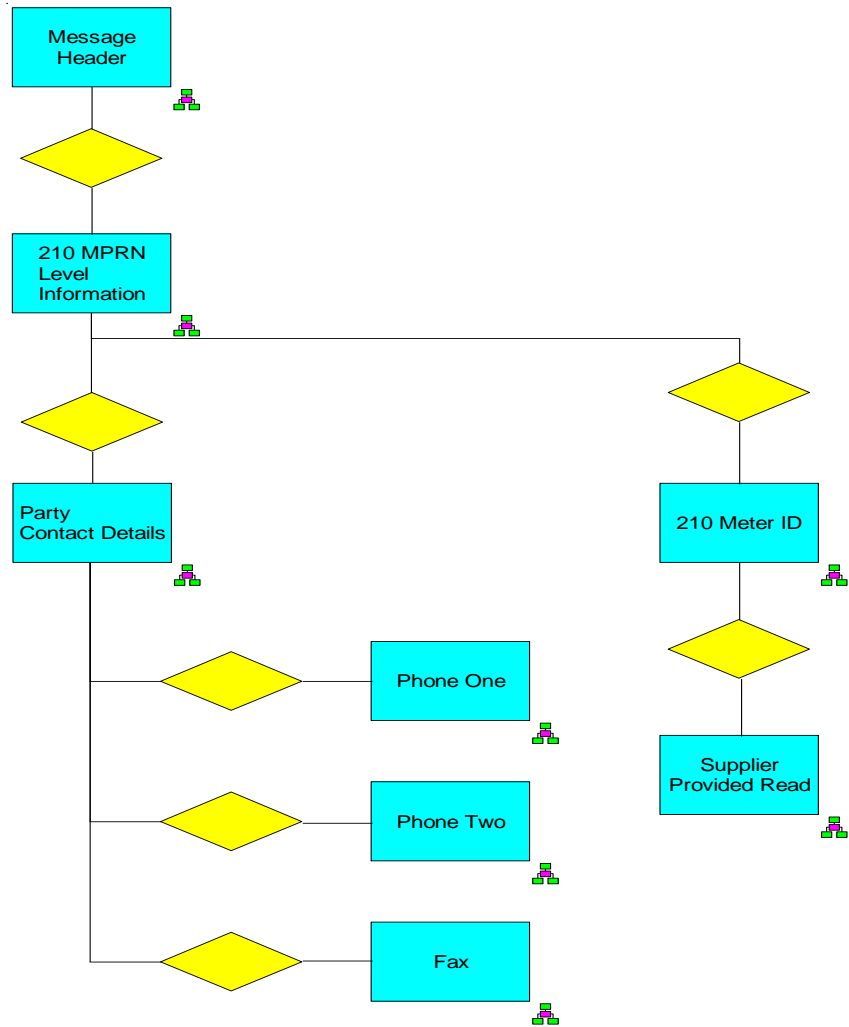
- By a New Supplier in order to provide a Change of Supplier Reading
- By an existing Supplier to fulfil a scheduled meter read order
- By an existing Supplier to correct a DuoS billing over-estimate.

Message 210 is used in the following Market Processes:

Process Number and Title		Use of Message
MPD 1	Change of Supplier – NQH Metered	To provide a Change of Supplier reading.
MPD 14	Readings Processing – NQH Metered	To provide a customer reading where a scheduled meter read order is open. To correct a DuoS billing over-estimate

Message 210 should not be used for a Maximum Demand or Interval Meter Point.

Data Hierarchy Diagram



Co-Ordinated Retail Market Message Guide – Data Processing

Composition Instructions/Validation

Supplier should follow the instructions below in populating the Supplier Provided Reading message. The Data Processor will reject Supplier or Customer readings for Maximum Demand sites. The Data Processor will also undertake the validation.

Segment and Field Level Identifier – 210 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.	Not validated by Data Processor
1 MPRN Level Information			1	Mandatory		
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the customer reading is provided. All elements of the MPRN must be provided	The MPRN must either be currently registered to the Supplier or, if the Read Reason denotes Change of Supplier, be subject to a registration request from the Supplier that has not yet been confirmed as complete. The MPRN must not identify a Meter Point that is a Maximum Demand or Interval Meter Point.
2	FLD	Market Participant Business Reference	1	Mandatory	The Supplier must provide an internal reference number.	Not validated by Data Processor
2	FLD	Read Date	1	Mandatory	The Read Date is the date to which the reading	If the Read Reason denotes a Change of Supplier, then the Read Date must not be more

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 210 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
					<p>will be applied.</p> <p>The date on which the reading was obtained from the meter should be provided.</p>	<p>than three days prior to the date of receipt by the Data Processor.</p> <p>If the Read Reason does not denote a Change of Supplier, then the Read Date must not be prior to the date of the last DuoS Bill.</p>
2	FLD	Read Reason	1	Mandatory	<p>A code that indicates the reason that the reading is provided.</p> <p>The Read Reason should be set to one of the following:</p> <ul style="list-style-type: none"> ○ 26 – If the reading is provided for a Change of Supplier ○ 95 – If the reading is provided for any other purpose (i.e. not for Change of Supplier) ○ 27 – If the reading is provided for a Change of Legal Entity 	<p>Read Reason is used to determine how the other validations are performed.</p>

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 210 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
2	FLD	Supplier ID	1	Mandatory	The Supplier ID should be the Party ID of the Supplier providing the reading.	If the Read Reason denotes Change of Supplier, then the Supplier must have an incomplete registration request in progress. Otherwise, the Supplier ID should be the Supplier that is registered at the Meter Point.
2	SEG	Party Contact Details	1	Optional	Details enabling the Supplier to be contacted in the event of a query with the customer reading. See Common Data Segments for detailed notes on structure and population	.Not validated by Data Processor
2	SEG	Meter ID	1:N	See instructions	Suppliers should provide sufficient information so that the readings provided for the Meter Registers on site can be identified.	
3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter. This field is not required although it may be obtained from meter data provided by DSO.	.Not validated by Data Processor
3	FLD	Serial Number	1	Required	The physical number found on a meter.	If provided the Data Processor will match the last four characters of the Serial Number to the Serial Number(s) recorded for the Meter Point by DSO and if a unique match cannot be found

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 210 Message				Rpt	Optionality	Description / Purpose and composition instructions	Validation
						<p>The serial number should be provided if there is more than one meter installed. The complete serial number should be provided if possible, but if not, at least the last four digits should be provided. The serial number can be obtained either:</p> <ul style="list-style-type: none"> ○ From the meter itself ○ From information published by DSO (<i>refer to MPRN Publication</i>). 	the readings will be rejected.
3	SEG	Supplier Provided Read		1:N	Mandatory	<p>Where customer readings are to be provided then a reading should be provided for every consumption and attles register together with sufficient information to identify the appropriate register.</p> <p>In normal circumstances only one of Meter Register Sequence, Timeslot or Register Type is required</p>	The Data Processor will expect a reading for every register installed at the Meter Point
4	FLD	Meter Register Sequence		1	See Instructions	<p>An identifier to distinguish between different meter dials on a physical meter or set of meters.</p> <p>The Meter Register Sequence must be provided</p>	If provided, the Data Processor will match the Meter Register Sequence to the Meter Register Sequence (s) recorded for the Meter Point by DSO. If a unique match cannot be found the

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 210 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
					if neither Timeslot nor Register Type can be provided. If provided, it may be obtained from information published by DSO (<i>refer to MPRN Publication</i>).	readings will be rejected.
4	FLD	Timeslot	1	See Instructions	<p>A code that indicates the period that a meter is recording electricity consumption or attles reactive energy.</p> <p>The Timeslot must be provided if neither Meter Register Sequence nor Register Type can be provided. If provided, it may be obtained from information published by DSO or made available on prior readings messages.</p>	If provided, the Data Processor will match the Timeslot to the Timeslot (s) recorded for the Meter Point and Meter Serial Number matched above. If a unique match cannot be found the readings will be rejected.
4	FLD	Register Type	1	See Instructions	<p>A code that indicates the purpose of the register.</p> <p>The Register Type must be provided if Meter Register Sequence is not provided or if Timeslot is not known or not unique. This will enable the Data Processor to distinguish between the types of register</p>	If provided and the Data Processor cannot otherwise match readings to a register, the Data Processor will match the Register Type to the Register Type (s) recorded for the Meter Point and Meter Serial Number matched above. If a unique match cannot be found the readings will be rejected.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 210 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
4	FLD	Reading	1	Mandatory	This should be the reading recorded on the read date on the meter register identified by the Serial Number and Meter Register Sequence, Timeslot and Register Type data provided.	Provided the readings are not rejected, the Data Processor will validate the readings according to the rules specified in MPD14.
4	FLD	Read Type	1	Mandatory	This should be set to: <ul style="list-style-type: none"> ○ SC denoting a Supplier Provided Customer Reading 	Not validated by Data Processor

If the validation is not successful then the Data Processor will reject the reading using message 303R. If the validation is successful then the Data Processor will process the reading as described in MPD 14 and communicate the results using message 300 or, for a Change of Supplier, 310 and 320.

2.4.3 Message 252: Request for Special Reading

Purpose and Description of Message/Validation

Message 252 is sent by a Supplier to the Data Collector in order to request a special reading. The Data Processor will undertake the validation.

A special reading may be sought for a variety of reasons including:

Co-Ordinated Retail Market Message Guide – Data Processing

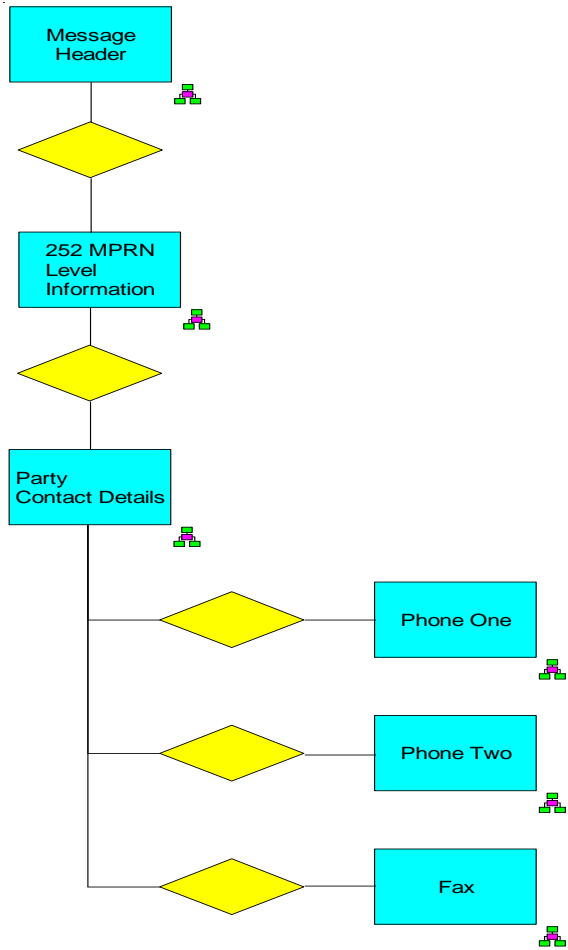
- An Old or New Supplier disputing of a Change of Supplier reading
- A registered Supplier obtaining a reading to be used at a Change of Tenancy

Message 252 can also be used by an Old or New Supplier to request an estimate to resolve a Change of Supplier reading dispute.

Message 252 is used in the following Market Processes:

Process Number and Title		Use of Message
MPD 1	Change of Supplier – NQH Metered	To dispute a Change of Supplier reading.
MPD 18	Special Read Request	To request a special reading in cases other than Change of Supplier

Data Hierarchy Diagram



Co-Ordinated Retail Market Message Guide – Data Processing

Composition Instructions/Validation

Supplier should follow the instructions below in populating the Request for Special Reading Message. The Data Processor will undertake the validation.

Segment and Field Level Identifier – 252 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.	Not validated by Data Processor
1 MPRN Level Information			1	Mandatory		
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the request is made. All elements of the MPRN must be provided	The MPRN must either be currently registered to the Supplier or have been registered to the Supplier as the immediate previous Supplier.
2	FLD	Market Participant Business Reference	1	Mandatory	The Supplier must provide an internal reference number.	Not validated by Data Processor
2	FLD	Supplier ID	1	Mandatory	The Supplier ID should be the Party ID of the Supplier requesting the reading or estimate.	If the Read Reason is for a Change of Supplier then the Supplier ID may identify: <ul style="list-style-type: none"> • the Supplier that is currently registered at the Meter Point; or • the Supplier that was registered as the immediate previous Supplier.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 252 Message		Rpt	Optionality	Description / Purpose and composition instructions	Validation
					Otherwise the Supplier ID must identify the Supplier that is currently registered at the Meter Point.
2	SEG	Party Contact Details	1	Optional Details enabling the Supplier to be contacted in the event of a query with the request. See Common Data Segments for detailed notes on structure and population	No validation of this segment.
2	FLD	Read Type	1	Mandatory A code that indicates the type of reading required. The Read Type should be set to one of the following: <ul style="list-style-type: none"> • A – denoting that an actual reading is required • E – denoting that an estimated reading is required for Change of Supplier only. This setting may only be used with a Read Reason of 04. 	If the Read Reason is for a dispute (04) then the Read Type may be for an Actual Read or Estimate. Otherwise the Read Type may only be for an Actual Read.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 252 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
2	FLD	Read Reason	1	Mandatory	<p>A code that indicates the reason that the reading is required</p> <p>The Read Reason should be set to one of the following:</p> <ul style="list-style-type: none"> • 04 – denoting that a special reading is required to dispute a previous reading • 02 – denoting a chargeable special reading that is required for any reason other than a dispute. 	The request will be rejected if the Read Reason is not 02 or 04.
2	FLD	Request Status	1	Mandatory	<p>An indicator that a request is being initiated or withdrawn</p> <p>The Request Status should be set to one of the following:</p> <ul style="list-style-type: none"> • I – to initiate the request • W – to withdraw the request 	<p>The request will be rejected if it does not either:</p> <ul style="list-style-type: none"> ○ initiate a special read request ○ withdraw an initiated request that in not completed and can still be withdrawn

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 252 Message			Rpt	Optionality	Description / Purpose and composition instructions	Validation
2	FLD	Required Date	1	See Instructions	<p>If an Actual Read is to be collected on a specific day then this date should be provided here. At least five working days notice is required. If this field is omitted then the Data Collector will schedule the reading within the following five days in accordance with service levels (<i>to be agreed</i>).</p> <p>If an Estimate is required to settle a dispute then this date should be set to the date of the reading being disputed.</p>	If provided, the Required Date must not be within five days of the receipt of the request by the Data Collector. Otherwise the request is rejected.
2	FLD	Access Arrangements	1	Optional	Text may be provided to describe any special arrangements required for access to the meters. It is recommended that sufficient detail is provided to enable the customer to be contacted as visits that do not result in the collection of a reading may still be chargeable.	No validation of this field
2	FLD	Appointment ID	1	Optional	Not used in ROI	No validation on this field

If the validation is successful then the Data Collector will obtain the requested special reading (or estimate) and this will be communicated using message 300S or, for a Change of Supplier, 310 and 320. If the above validation is not successful then the Data Collector will send rejection message 352R to the Supplier.

2.5 Message Directory – Data Processor/Data Collector to Supplier

2.5.1 Message 300: Validated Non Interval Readings (Scheduled)

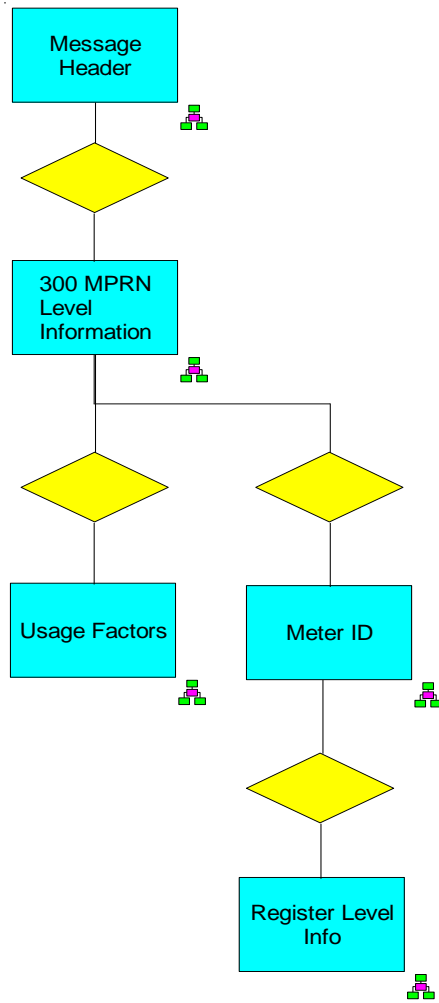
Purpose and Description of Message

Message 300 is sent by the Data Processor to a Supplier to advise of processed scheduled and customer meter readings.

Message 300 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise processed scheduled and customer meter readings to the Supplier

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 300 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the readings are provided.
2	FLD	Market Participant Business Reference	1	Optional	A reference to the Market Participant Business Reference provided in the Message Header of the 016 or 210 message sent by the Supplier. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Networks Reference Number	1	Mandatory	A unique reference allocated by ESB Networks to the readings
2	FLD	Load Profile	1	Mandatory	A code denoting the standard load profile that determines, when coupled with Timeslot, the derived profile that is applied to consumption usage for settlement purposes. <i>Refer to the Data Codes published by MRSO for a complete list of codes.</i>
2	FLD	DuoS Group	1	Mandatory	A code which denotes the use of system tariff applied by ESB DSO to the Meter Point.
2	FLD	Meter Point Status	1	Mandatory	The connection status of the Meter Point. This will be: <ul style="list-style-type: none"> • D – Meter Point is De-Energised

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300 Message			Rpt	Optionality	Description and Purpose
					<ul style="list-style-type: none"> E – Meter Point is Energised
2	FLD	Read Date	1	Mandatory	The date on which the readings provided in the message were read from the meter or the date to which any estimate applies. The time of the readings is assumed to be 23h59 at the end of the day.
2	SEG	Usage Factors	0..N	See instructions	<p>Usage factors will be calculated for all actual readings.</p> <p>Usage factors are also calculated for certain events which are billed to an estimated reading – these are:</p> <ul style="list-style-type: none"> •CoS •CoLE •Change of DuoS Group •De-Registration •De-energisation •Add Device/Register •Replace/Remove Meter •Re-programme Meter (change register group) •De-energisation <p>For each Timeslot there will be two usage segments; one containing actual usage and one containing estimate usage, each with their own</p>

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300 Message				Rpt	Optionality	Description and Purpose
						separate Effective From Date.
	3	FLD	Timeslot	1	Mandatory	A code that indicates the time intervals for which a usage factor is effective and will be aggregated.
	3	FLD	Effective From Date	1	Mandatory	The inclusive date from which the estimated or actual usage factor will be aggregated. Refer to MPD14 section 3.10 for how the date is set.
	3	FLD	Actual Usage Factor	1	See instructions	A statement in kWh of the actual consumption for the Timeslot from the Effective From Date to the Read Date inclusive, extrapolated to an annual consumption based on the applicable <u>derived</u> profile.
	3	FLD	Estimated Usage Factor	1	See instructions	A statement in kWh of the estimated consumption for the Timeslot for the 365 days starting from the Effective From Date
2	SEG	Meter ID		1:N	Mandatory	
	3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
	3	FLD	Serial Number	1	Mandatory	The physical number found on the meter.
	3	SEG	Register Level Information	1:N	Mandatory	
	4	FLD	Meter Register Sequence	1	Mandatory	An identifier to distinguish between different meter dials on a physical meter or set of meters.
	4	FLD	Timeslot	1	Mandatory	A code that indicates the period that a Meter register is recording.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300 Message			Rpt	Optionality	Description and Purpose
4	FLD	Unit of Measurement	1	Mandatory	A code that indicates the value that is measured on this register.
4	FLD	Meter Multiplier	1	Mandatory	A factor to be applied to an advance or reading at a register in order to derive a true value
4	FLD	Reading	1	Mandatory	The reading for this register.
4	FLD	Read Reason	1	Mandatory	A code that indicates the reason that a reading was collected. This should be set to one of the following: <ul style="list-style-type: none"> • 01 – Scheduled Read • 10 – Ad hoc, non chargeable check read • 27 – Change of Legal Entity
4	FLD	Read Type	1	Mandatory	A code that indicates whether the reading is: <ul style="list-style-type: none"> ○ A – An actual reading obtained by ESB Networks ○ CU – A reading provided directly by a customer ○ E – An estimate due to no access ○ ED – An estimate due to a CoLE reading preceding the last DuoS billing date ○ EF – An estimate due to an implausible reading / No read available ○ SC – A customer reading provided by a Supplier

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300 Message			Rpt	Optionality	Description and Purpose
4	FLD	Previous Read Date	1	Mandatory	The date to which a reading prior to the one currently being reported applies, i.e. this is the end of the of the previous consumption period for the register.
4	FLD	Consumption	1	See instructions	The consumption in kWh calculated from the Previous Read Date. This is provided for kWh registers only.
4	FLD	Read Status	1	Mandatory	A code that indicates: <ul style="list-style-type: none"> • RV –Reading which is plausible • RREL – Reading was originally implausible but released on investigation as plausible • REST – Reading was estimated and usage factors deriving from estimate will be used in Settlement. See Read Type for reason for estimate. • RENS – Reading was estimate but usage factors are not updated and will not be used in settlement. This is if there is a mixture of actual and estimated readings.
4	FLD	Register Type	1	Mandatory	A code that indicates the purpose of the register.
2	SEG	Meter Reader Remarks (Meter Reader Remarks Type)	1:N	Optional	Not used in ROI
3	FLD	Meter Reader Remark Code	1	Mandatory	Not used in ROI

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300 Message			Rpt	Optionality	Description and Purpose
3	FLD	Meter Reader Remarks	1	Optional	Not used in ROI

2.5.2 Message 300S: Valid Non Interval Readings (Special)

Purpose and Description of Message

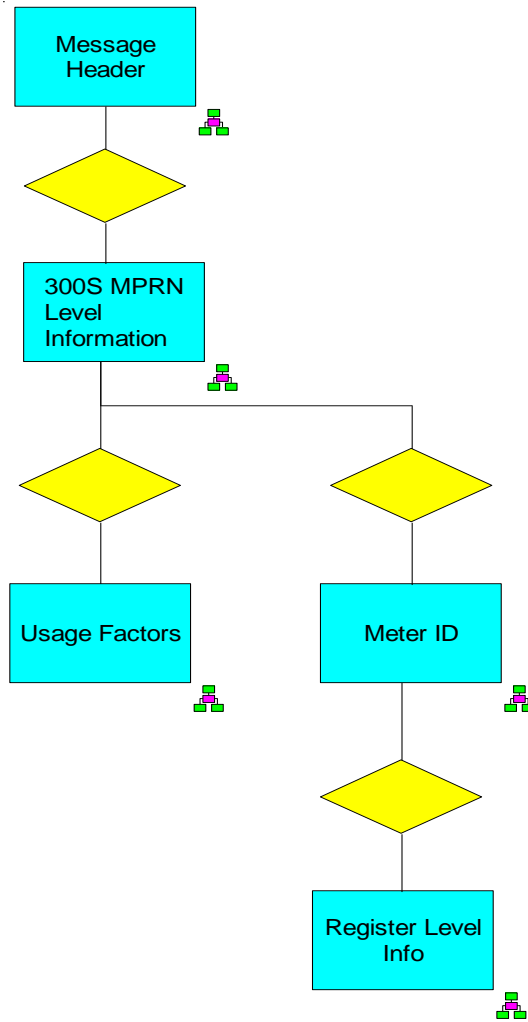
Message 300S is sent by the Data Processor to a Supplier to advise of processed special meter readings.

Message 300S is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise processed special meter readings to the Supplier

Data Hierarchy Diagram

Co-Ordinated Retail Market Message Guide – Data Processing



Message Structure and Interpretation

ROI Market Message Guide - Data Processing Baseline V3.1

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300S Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the readings are provided.
2	FLD	Market Participant Business Reference	1	See Description	A reference to the Market Participant Business Reference provided in the Message Header of an originating 252 message if this was sent by the Supplier to the Data Collector. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Networks Reference Number	1	Mandatory	A unique reference allocated by ESB Networks to the readings
2	FLD	Load Profile	1	Mandatory	A code denoting the standard load profile that determines, when coupled with Timeslot, the <u>derived</u> profile that is applied to consumption usage for settlement purposes. <i>Refer to the Data Codes published by MRSO for a complete list of codes.</i>
2	FLD	DuoS Group	1	Mandatory	A code which denotes the use of system tariff applied by ESB DSO to the Meter Point.
2	FLD	Meter Point Status	1	Mandatory	The connection status of the Meter Point. This will be:

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300S Message			Rpt	Optionality	Description and Purpose
					<ul style="list-style-type: none"> • D – Meter Point is De-Energised • E – Meter Point is Energised
2	FLD	Read Date	1	Mandatory	The date on which the readings provided in the message were read from the meter or the date to which any estimate applies. The time of the readings is assumed to be 23h59 at the end of the day.
2	SEG	Usage Factors	0..N	See instructions	<p>Usage factors will be calculated for all actual readings.</p> <p>Usage factors are also calculated for certain events which are billed to an estimated reading – these are:</p> <ul style="list-style-type: none"> •CoS •CoLE •Change of DuoS Group •De-Registration •De-energisation •Add Device/Register •Replace/Remove Meter •Re-programme Meter (change register group) •De-energisation <p>For each Timeslot there will be two usage segments; one containing</p>

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300S Message				Rpt	Optionality	Description and Purpose
						actual usage and one containing estimate usage, each with their own separate Effective From Date.
	3	FLD	Timeslot	1	Mandatory	A code that indicates the time intervals for which a usage factor is effective and will be aggregated.
	3	FLD	Effective From Date	1	Mandatory	The inclusive date from which the estimated or actual usage factor will be aggregated. Refer to MPD14 section 3.10 for how the date is set.
	3	FLD	Actual Usage Factor	1	See instructions	A statement in kWh of the actual consumption for the Timeslot from the Effective From Date to the Read Date inclusive, extrapolated to an annual consumption based on the applicable <u>derived</u> profile.
	3	FLD	Estimated Usage Factor	1	See instructions	A statement in kWh of the estimated consumption for the Timeslot for the 365 days starting from the Effective From Date
2	SEG	Meter ID		1..N	Mandatory	
	3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
	3	FLD	Serial Number	1	Mandatory	The physical number found on the meter.
	3	SEG	Register Level Information	1..N	Mandatory	
	4	FLD	Meter Register Sequence	1	Mandatory	An identifier to distinguish between different meter dials on a physical meter or set of meters.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300S Message			Rpt	Optionality	Description and Purpose
4	FLD	Timeslot	1	Mandatory	A code that indicates the period that a meter register is recording.
4	FLD	Unit of Measurement	1	Mandatory	A code that indicates the value that is measured on this register.
4	FLD	Meter Multiplier	1	Mandatory	A factor to be applied to an advance or reading at a register in order to derive a true value
4	FLD	Reading	1	Mandatory	The reading for this register.
4	FLD	Read Reason	1	Mandatory	A code that indicates the charging status of the reading. This will be set to: <ul style="list-style-type: none"> • 02 – Special Read that is chargeable • 09 – Special Read that is non-chargeable
4	FLD	Read Type	1	Mandatory	A code that indicates whether the reading is: <ul style="list-style-type: none"> ○ A – An actual reading obtained by ESB Networks ○ E – An estimate due to no access or a missing register reading ○ EF – An estimate due to an implausible reading / No read available
4	FLD	Previous Read Date	1	Mandatory	The date to which a reading prior to the one currently being reported applies, i.e. this is the end of the of the previous consumption period for the register.
4	FLD	Consumption	1	See	The consumption in kWh calculated from the Previous Read Date.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300S Message			Rpt	Optionality	Description and Purpose
				instructions	This is provided for kWh registers only.
4	FLD	Read Status	1	Mandatory	<p>A code that indicates:</p> <ul style="list-style-type: none"> • RV –Reading which is plausible • RREL – Reading was originally implausible but released on investigation as plausible • REST – Reading was estimated and usage factors deriving from estimate will be used in Settlement. See Read Type for reason for estimate. • RENS – Reading was estimate but usage factors are not updated and will not be used in settlement. This is generally because a full set of readings was estimated due to implausibility.
4	FLD	Register Type	1	Mandatory	A code that indicates the purpose of the register.

2.5.3 Message 300W: Withdrawn Non Interval Readings

Purpose and Description of Message

ROI Market Message Guide - Data Processing Baseline V3.1

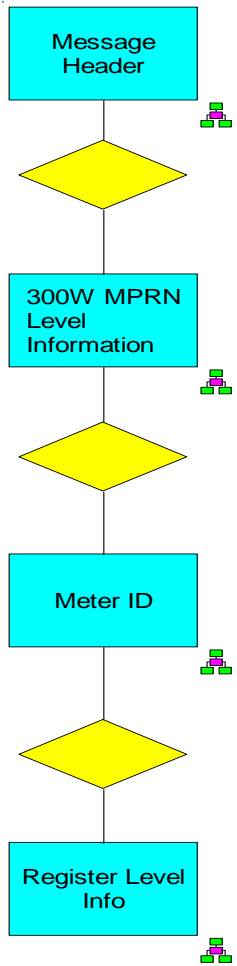
Co-Ordinated Retail Market Message Guide – Data Processing

Message 300W is sent by the Data Processor to a Supplier to advise withdrawn scheduled, special and customer meter readings and withdrawn estimates.

Message 300W is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise withdrawn meter readings or estimates to the Supplier

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 300W Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the readings are provided.
2	FLD	Market Participant Business Reference	1	Optional	A reference to the Market Participant Business Reference of the withdrawn reading. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Networks Reference Number	1	Mandatory	A reference to the Networks Reference allocated by ESB Networks to the readings that are being withdrawn.
2	FLD	Load Profile	1	Mandatory	A code denoting the standard load profile that determines, when coupled with Timeslot, the <u>derived</u> profile that is applied to consumption usage for settlement purposes. <i>Refer to the Data Codes published by MRSO for a complete list of codes.</i>
2	FLD	DuoS Group	1	Mandatory	A code which denotes the use of system tariff applied by ESB DSO to the Meter Point
2	FLD	Meter Point Status	1	Mandatory	The connection status of the Meter Point. This will be:

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300W Message			Rpt	Optionality	Description and Purpose
					<ul style="list-style-type: none"> • D – Meter Point is De-Energised • E – Meter Point is Energised
2	FLD	Read Date	1	Mandatory	The date of the readings that are being withdrawn.
2	FLD	Withdrawal Reason	1	Mandatory	<p>A code to indicate the reason that the reading was withdrawn. This will be set to one of the following values:</p> <p>A1 Erroneous Change of Supplier</p> <p>A2 Disputed CoS Meter Reading</p> <p>A3 Change of Supplier Cancellation</p> <p>A4 Change of Supplier</p> <p>A5 Change of Legal Entity</p> <p>B1 Incorrect MPRN</p> <p>C1 Incorrect Estimation</p> <p>C2 Incorrect Meter Reading</p> <p>D1 Incorrect Rate</p> <p>D2 Incorrect Billing Period</p> <p>D3 Incorrect Meter</p>

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300W Message				Rpt	Optionality	Description and Purpose
2	SEG	Meter ID		1..N	Mandatory	
3	FLD	Meter Category		1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
3	FLD	Serial Number		1	Mandatory	The physical number found on the meter.
3	SEG	Register Level Information		1..N	Mandatory	
4	FLD	Meter Register Sequence		1	Mandatory	An identifier to distinguish between different meter dials on a physical meter or set of meters.
4	FLD	Timeslot		1	Mandatory	A code that indicates the period that a meter register is recording.
4	FLD	Unit of Measurements		1	Mandatory	A code that indicates the value that is measured on this register.
4	FLD	Meter Multiplier		1	Mandatory	A factor to be applied to an advance or reading at a register in order to derive a true value
4	FLD	Reading		1	Mandatory	The reading, for this register, that is being withdrawn.
4	FLD	Read Reason		1	Mandatory	A code that indicates the reason that a reading was collected.
4	FLD	Read Type		1	Mandatory	A code that indicates whether the type of reading being withdrawn.
4	FLD	Previous Read Date		1	Mandatory	The date to which a reading prior to the one being withdrawn applies, i.e. this is the end of the of the previous consumption period for the register.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 300W Message			Rpt	Optionality	Description and Purpose
4	FLD	Consumption	1	See instructions	The consumption in kWh calculated from the withdrawn reading. This is provided for kWh registers only.
4	FLD	Read Status	1	Mandatory	A code that indicates the status of the reading being withdrawn.
4	FLD	Register Type	1	Mandatory	A code that indicates the purpose of the register.

2.5.4 Message 303R: Customer Read Rejection

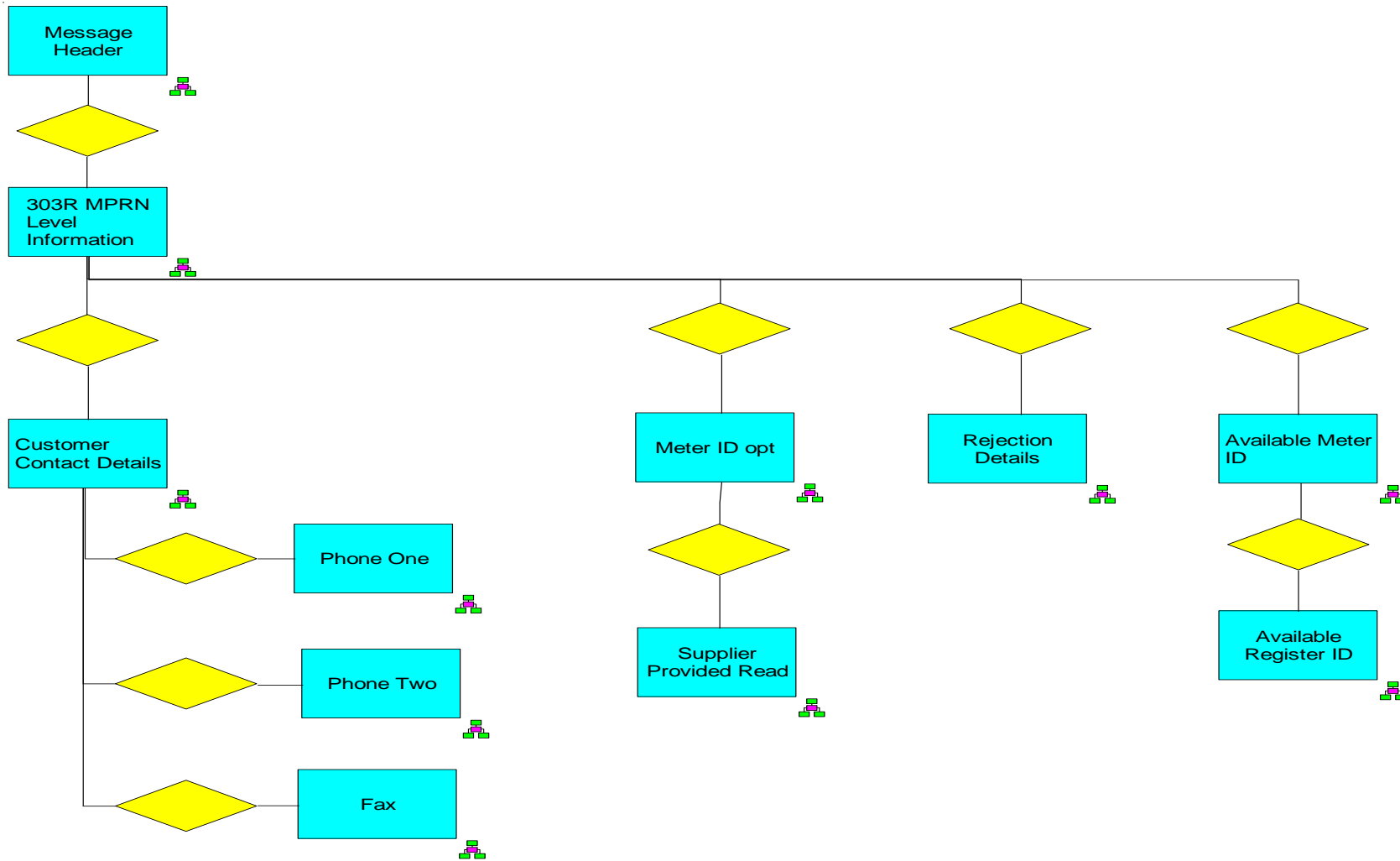
Purpose and Description of Message

Message 303R is sent by the Data Processor to a Supplier to advise that a customer reading has been rejected.

Message 303R is used in the following Market Processes:

Process Number and Title		Use of Message
MPD 1	Change of Supplier – NQH Metered	To advise the Supplier that a customer read has been rejected
MPD 14	Readings Processing – NQH Metered	To advise the Supplier that a customer read has been rejected

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 303R Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the readings are rejected.
2	FLD	Market Participant Business Reference	1	Mandatory	A reference to the Transaction Reference provided in the Message Header of the 010, 016 or 210 message sent by the Supplier. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Read Date	1	Mandatory	The Read Date provided by the Supplier
2	FLD	Read Reason	1	Mandatory	The Read Reason provided by the Supplier
2	FLD	Supplier ID	1	Mandatory	The Supplier Id provided by the Supplier
2	SEG	Party Contact Details	1	See Instructions	The Party Contact Details if and as provided by the Supplier
2	SEG	Meter ID	1..N	Mandatory	This segment provides details of the rejected readings
3	FLD	Meter Category	1	See Instructions	The Meter Category as and if provided by the Supplier
3	FLD	Serial Number	1	See	The Serial Number as and if provided by the Supplier

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 303R Message			Rpt	Optionality	Description and Purpose
				instructions	
3	SEG	Supplier Provided Read		1..N	Mandatory
4	FLD	Meter Register Sequence	1	See Instructions	The Meter Register Sequence if and as provided by the Supplier
4	FLD	Timeslot	1	See Instructions	The Timeslot if and as provided by the Supplier
4	FLD	Reading	1	Mandatory	The Reading provided by the Supplier
4	FLD	Read Type	1	Mandatory	The Read Type provided by the Supplier
4	FLD	Register Type	1	See Instructions	The Register Type if and as provided by the Supplier
2	SEG	Rejection Details		1..N	Mandatory
3	FLD	Reject Reason	1	Mandatory	<p>A code to identify why data was rejected</p> <ul style="list-style-type: none"> • IA – A customer reading has been received for a Maximum Demand Meter Point or Networks already hold a reading for the read date • IMP – The MPRN does not exist or is not valid for this jurisdiction • IMT – The Meter Id does not exist at this MPRN according to

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 303R Message			Rpt	Optionality	Description and Purpose
					<p>data held by DSO</p> <ul style="list-style-type: none"> • IRP – Register Type does not exist at Meter Point according to data held by DSO • IRS – Register Sequence does not exist at Meter Point according to data held by DSO • ITI – Timeslot does not exist at Meter Point according to data held by DSO • NRS – No register identification data (sequence number, timeslot or register type) has been provided • SNR – The Supplier providing the reading is not registered to the Meter Point • TIM – The Read Date has not passed the date validations specified for messages 010, 016 or 210 • IID – The original readings provided contained invalid or incomplete data to allow Data Processor to process the readings
2	SEG	Available Meter ID	1..N	See Instructions	This segment will be provided if the readings were rejected due to invalid or absent meter or register data. It provides the data currently held by ESB DSO.
3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 303R Message			Rpt	Optionality	Description and Purpose
3	FLD	Serial Number	1	Mandatory	The physical number found on the meter.
3	SEG	Available Register Level Information	1..N	Mandatory	
4	FLD	Meter Register Sequence	1	Mandatory	An identifier to distinguish between different meter dials on a physical meter or set of meters.
4	FLD	Timeslot	1	Mandatory	A code that indicates the period that a meter register is recording.
4	FLD	Register Type	1	Mandatory	A code that indicates the purpose of the register.

2.5.5 Message 305: Non Settlement Estimates

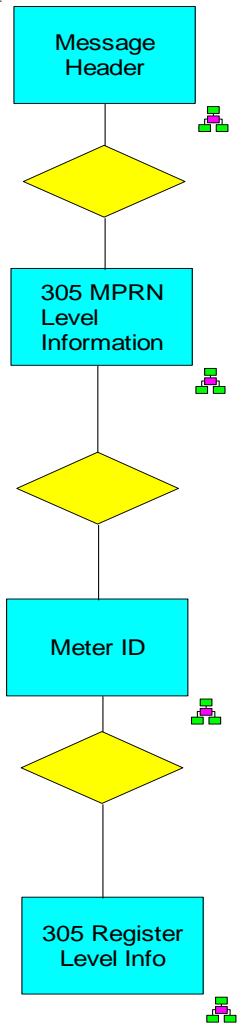
Purpose and Description of Message

Message 305 is sent by MRSO to a Supplier to advise that an estimate has been created for use in DuoS Billing due to a no-read situation.

Message 305 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise the Supplier that an estimate has been created for use in DuoS Billing due to a no-read situation

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 305 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the estimates are provided.
2	FLD	Networks Reference Number	1	Mandatory	A unique reference allocated by ESB Networks to the estimates
2	FLD	Market Participant Business Reference	1	See instructions	This is the Suppliers reference where one was provided on a 210 Supplier Provided reading and this message was sent in response (where no actual read was obtained)
2	FLD	DuoS Group	1	Mandatory	A code which denotes the use of system tariff applied by ESB DSO to the Meter Point.
2	FLD	Meter Point Status	1	Mandatory	The connection status of the Meter Point. This will be: <ul style="list-style-type: none"> • D – Meter Point is De-Energised • E – Meter Point is Energised
2	FLD	Read Date	1	Mandatory	The date of the estimates provided in the message. The estimates will be dated at the scheduled read date.
2	FLD	No Read Code	1	Mandatory	A code to describe why no read was obtained on a site visit or that no site visit was made.
2	FLD	Re-estimation Flag	1	Optional	A flag that alerts a supplier that a recalculation of estimates has been

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 305 Message			Rpt	Optionality	Description and Purpose
					<p>carried out on this MPRN for a debit amount.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> • 1 i.e. a logical value of True where recalculation has occurred • 0 i.e. a logical value of False where recalculation has not occurred.
2	SEG	Meter ID	1..N	Mandatory	
3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
3	FLD	Serial Number	1	Mandatory	The physical number found on the meter.
3	SEG	Register Level Information	1..N	Mandatory	
4	FLD	Meter Register Sequence	1	Mandatory	An identifier to distinguish between different meter dials on a physical meter or set of meters.
4	FLD	Timeslot	1	Mandatory	A code that indicates the period that a meter register is recording.
4	FLD	Unit of Measurements	1	Mandatory	A code that indicates the value that is measured on this register.
4	FLD	Meter Multiplier	1	Mandatory	A factor to be applied to an advance or estimate at a register in order to derive a true value
4	FLD	Reading	1	Mandatory	The estimated reading determined for this register. This is calculated

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 305 Message			Rpt	Optionality	Description and Purpose
					according to the approach described in MPD 14 and the <i>Estimation Briefing Paper</i> .
4	FLD	Read Reason	1	Mandatory	A code that indicates the reason that a reading was due to have been collected. This should be set one of the following: <ul style="list-style-type: none"> ○ 01 – Scheduled Read ○ 14 – Estimate
4	FLD	Read Type	1	Mandatory	A code that indicates whether the reading is: <ul style="list-style-type: none"> ○ E – An estimate due to no-access ○ EP – An estimate due to a planned no-visit ○ EU – An estimate due to an unplanned no-visit ○ EF – An estimate due to an Implausible read / No read available
4	FLD	Previous Read Date	1	Mandatory	The date to which a reading prior to the one currently being reported applies, i.e. this is the end of the of the previous consumption period for the register.
4	FLD	Consumption	1	See instructions	The consumption in kWh calculated from the Previous Read Date. This is provided for kWh registers only.
4	FLD	Register Type	1	Mandatory	A code that indicates the purpose of the register.

2.5.6 Message 308: Non Interval Load Factor Reading Exception

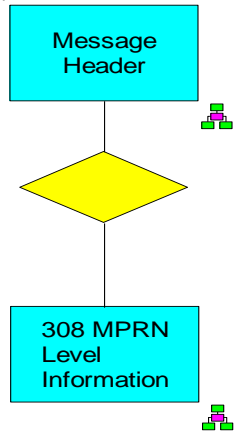
Purpose and Description of Message

Message 308 is sent by MRSO to a Supplier to advise that a consistent change to the load factor has been determined from two consecutive readings.

Message 308 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise the Supplier of a consistent change to the calculated load factor

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 308 Message			Rpt	Optionality	Description and Purpose
1	Message Header		1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1	MPRN Level Information		1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which the load factor exception has been detected.
2	FLD	Meter Point Status	1	Mandatory	The connection status of the Meter Point. This will be:

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 308 Message			Rpt	Optionality	Description and Purpose
					<ul style="list-style-type: none"> • D – Meter Point is De-Energised • E – Meter Point is Energised
2	FLD	Read Date	1	Mandatory	The date of the reading from which the load factor exception has been determined.
2	FLD	Read Reason	1	Mandatory	The reason for the reading from which the load factor exception has been determined.
2	FLD	Load Factor	1	Mandatory	A code that identifies the current Load Factor for the Meter Point
2	FLD	Load Factor (New)	1	Mandatory	A code that identifies the Load Factor now suggested by the meter readings received for the Meter Point

Based on the new Load Factor, MRSO may change the Load Profile associated with the Meter Point. This is communicated using message 301.

2.5.7 Message 321: Read Cycle Notification

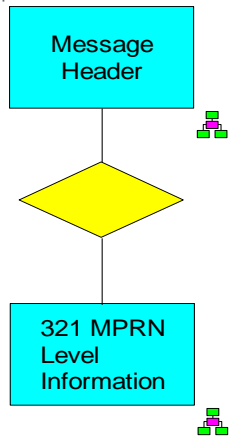
Purpose and Description of Message

Message 321 is sent by the Data Collector to a Supplier to advise a change to the read schedule for an Non Interval Meter Point.

Message 321 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 14	Readings Processing – NQH Metered	To advise the Supplier of a change to the read schedule for an Non Interval Meter Point

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 321 Message			Rpt	Optionality	Description and Purpose
1	Message Header		1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1	MPRN Level Information		1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which read schedule is provided
2	FLD	Read Frequency	1	Mandatory	A code that indicates the frequency with which a meter reading is scheduled to be taken by ESB Data Collector. Typically this will be set to: <ul style="list-style-type: none"> • B – Bi-Monthly.
2	FLD	Read Cycle Day	1	Mandatory	The day in a 41 day cycle that a meter is due to be read.

2.5.8 Message 341: Interval Meter Daily Data

Purpose and Description of Message

Message 341 is sent by the Data Processor in the following circumstances:

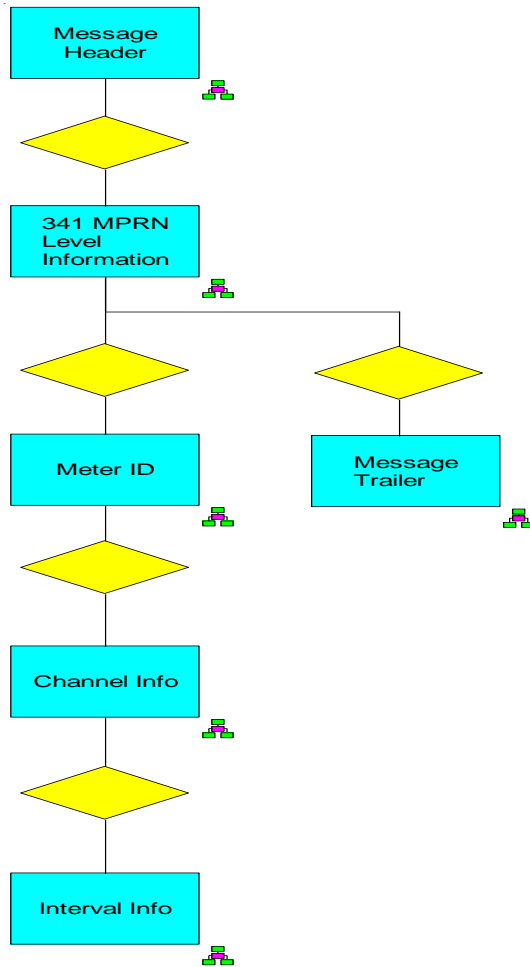
To a Supplier and to TSO to advise processed Interval meter readings data for Import Channels

Message 341 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 15	Data Processing – QH Metered	To advise the Supplier and TSO of processed Interval meter readings data

Data Hierarchy Diagram

Co-Ordinated Retail Market Message Guide – Data Processing



Message Structure and Interpretation

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 341 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			10	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which Interval reading data is provided.
2	FLD	Read Date	1	Mandatory	The date on which the import recorded in the message occurred.
2	FLD	Transformer Loss Factor (Applied)	1	See instructions	<p>A factor that is applied to account for transformer losses when a meter point is metered at lower voltage than the connection voltage. An example is 1.005 representing a 0.5% loss.</p> <p>The majority of sites are not metered in this way and therefore the Transformer Loss Factor will not normally be present.</p>
2	FLD	Version Number	1	Mandatory	The version number acts as a counter which increments by 1 every time there is reading replacement of interval data for a particular day.
2	FLD	Alert Flag (old Channel Status)	1	Mandatory	<p>A code to indicate the validity of the data</p> <ul style="list-style-type: none"> • VV– all values are valid • VI – values are invalid. Typically this will be due to non-zero values on a de-energised site

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 341 Message			Rpt	Optionality	Description and Purpose
2	SEG	Meter ID	1..N	Mandatory	The current design does not support the provision of more than one meter for interval sites even though the message permits multiple meters.
3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
3	FLD	Serial Number	1	Mandatory	The identification number for the meter to which data is allocated in the Data Processor system. At complex sites data may be collected from multiple physical meters and totalised against a single nominated meter.
3	SEG	Channel Level Details	1..N	Mandatory	Each Meter Point will have two import channels.
4	FLD	Metering Interval	1	Mandatory	The length in minutes of a period when consumption is recorded on an interval meter. This will normally be set to: <ul style="list-style-type: none"> • 15 – denoting Interval
4	FLD	Register Type	1	Mandatory	A code that indicates the type of value recorded for the channel. The typical settings for interval meters will be: <ul style="list-style-type: none"> • 50 – denoting import kilowatts • 51 – denoting import kVA reactive • 52 – denoting export kilowatts • 53 – denoting export kVA reactive

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 341 Message			Rpt	Optionality	Description and Purpose
4	FLD	Unit of Measurements	1	Mandatory	<p>A code that indicates the value that is measured. The typical settings for Interval meter will be:</p> <ul style="list-style-type: none"> • KWT – denoting kilowatts • KVR – denoting kVA reactive
4	SEG	Interval Data	N	Mandatory	<p>Except for days on which the clocks change, there will normally be 96 intervals</p>
5	FLD	Value (Interval Demand)	1	Mandatory	<p>The value of a reading or estimate (refer to Interval Status) in the form passed to the Data Processor measured in the units identified by Unit of Measurement including the application of multipliers and transformer loss factors where appropriate.</p>
5	FLD	Interval Period Timestamp	1	Mandatory	<p>The start time of an interval period when data is recorded on an interval meter.</p>
5	FLD	Interval Status	1	Mandatory	<p>A code that indicates the status of the value for the interval. It can take the following values:</p> <ul style="list-style-type: none"> • VEST – indicates that the value is estimated • VCHG – indicates a value that has been manually changed by MRSO • VACH – indicates a value that has been manually changed (substituted) by ESBN • VVAK – indicates that the value is collected or totalised from

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 341 Message			Rpt	Optionality	Description and Purpose
					a meter
5	FLD	Value (Net Active Demand)	1	See instructions	<p>The net of the Interval Demand Value for Import and the Interval Demand Value for Export.</p> <p>Suppliers receive import data for all Interval Autoproducers and CHP and will have netted values for Import populated on the 341 message.</p> <p>Where the Interval Meter Point is an Autoproducer or a CHP this field will always be present on the 341 Import flow, and where export exceeds import in an interval then the net import communicated is zero.</p>
1 Message Trailer			1	Mandatory	
2	FLD	MPRN Count	1	Mandatory	A count of the number of MPRN segments included in the message
2	FLD	Channel Count	1	Mandatory	A count of the number of Channel level segments included in the message

2.5.9 Message 352R: Special Reading Request Rejection

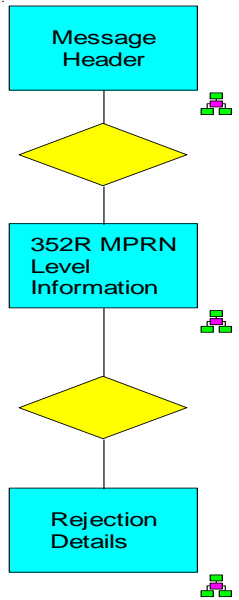
Purpose and Description of Message

Message 352R is sent by the Data Collector to a Supplier to advise that a special read request has been rejected.

Message 352R is used in the following Market Process:

Process Number and Title		Use of Message
MPD 18	Special Read Request	To advise the Supplier that a special read request has been rejected

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 352R Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which a Special Read Request is rejected
2	FLD	Market Participant Business Reference	1	Mandatory	A reference to the Business Reference provided in the 252 message sent by the Supplier. It enables the Supplier to identify the original message to which this is the response.
2	FLD	Supplier Id	1	Mandatory	The Supplier Id provided by the Supplier
2	FLD	Read Type	1	Mandatory	The Read Type provided by the Supplier
2	FLD	Read Reason	1	Mandatory	The Read Reason provided by the Supplier
2	FLD	Request Status	1	Mandatory	The Request Status provided by the Supplier
2	FLD	Required Date	1	Optional	The Required Date if and as provided by the Supplier
2	SEG	Rejection Details	1..N	Mandatory	An instance of this segment is provided for each rejection reason provided.
3	FLD	Reject Reason	1	Mandatory	A code to identify why data was rejected <ul style="list-style-type: none"> • IMP – The MPRN does not exist or is not valid for this

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 352R Message			Rpt	Optionality	Description and Purpose
					jurisdiction <ul style="list-style-type: none"> • IRQ – The Request Status provided was invalid • IRR – The Read Reason has not passed the validations specified for message 252 • IRT – The Read Type has not passed the validations specified for message 252 • SNR – The Supplier providing the reading is not registered to the Meter Point • IDT – The Required Date has not passed the validations specified for message 252

2.5.10 Message 342: Interval Meter Daily Data (Export)

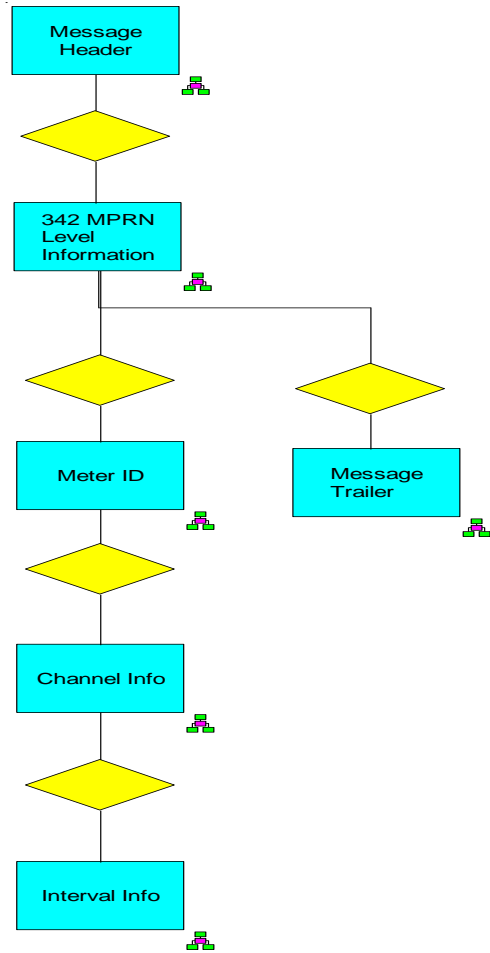
Message 342 is sent by the Data Processor in the following circumstances:

- To the Generator to advise processed Interval meter readings data for Export Channels
- To TSO to advise processed Interval meter readings data for Export Channels. .

Message 342 is used in the following Market Process:

Process Number and Title		Use of Message
MPD 15	Data Processing – QH Metered	To advise the Supplier and TSO of processed Interval meter readings data

Data Hierarchy Diagram



Message Structure and Interpretation

Segment and Field Level Identifier – 342 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 MPRN Level Information			N	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which Interval reading data is provided.
2	FLD	Read Date	1	Mandatory	The date on which the export recorded in the message occurred
2	FLD	Transformer Loss Factor (Applied)	1	See instructions	A factor that is applied to account for transformer losses when a meter point is metered at lower voltage than the connection voltage. An example is 1.005 representing a 0.5% loss. The majority of sites are not metered in this way and therefore the Transformer Loss Factor will not normally be present.
2	FLD	Generation Unit ID	1	See instructions	The unique identifier referencing the generation unit linked to this MPRN, provided only where data is provided for an export site.
2	FLD	Generator MPID	1	See instructions	The participant identification code of a Generator, provided only where data is provided for an export site.
2	FLD	Version Number	1	Mandatory	The version number acts as a counter which increments by 1 every time there is reading replacement of interval data for a particular day.

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 342 Message			Rpt	Optionality	Description and Purpose
2	FLD	Alert Flag (old Channel Status)	1	Mandatory	A code to indicate the validity of the data <ul style="list-style-type: none"> • VV– all values are valid • VI – values are invalid. Typically this will be due to non-zero values on a de-energised site
2	SEG	Meter ID	1..N	Mandatory	The current design does not support the provision of more than one meter for Interval sites even though the message permits multiple meters.
3	FLD	Meter Category	1	Optional	A code allocated by Meter Asset Manager to denote the manufacturer and type of meter.
3	FLD	Serial Number	1	Mandatory	The identification number for the meter to which data is allocated in the Data Processor system. At complex sites data may be collected from multiple physical meters and totalised against a single nominated meter.
3	SEG	Channel Level Details	1..N	Mandatory	Each Meter Point will have one or two Export Channels.
4	FLD	Metering Interval	1	Mandatory	The length in minutes of a period when consumption is recorded on an interval meter. This will normally be set to: <ul style="list-style-type: none"> • 15 – denoting Interval
4	FLD	Register Type	1	Mandatory	A code that indicates the type of value recorded for the channel. The typical settings for an interval meter will be:

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 342 Message			Rpt	Optionality	Description and Purpose
					<ul style="list-style-type: none"> • 52 – denoting export kilowatts • 53 – denoting export kVA reactive
4	FLD	Unit of Measurements	1	Mandatory	<p>A code that indicates the value that is measured. The typical settings for an interval meter will be:</p> <ul style="list-style-type: none"> • KWT – denoting kilowatts • KVR – denoting kVA reactive
4	SEG	Interval Data	N	Mandatory	<p>Except for days on which the clocks change, there will normally be 96 intervals</p>
5	FLD	Value (Interval Demand)	1	Mandatory	<p>The value of a reading or estimate (refer to Interval Status) in the form passed to the Data Processor measured in the units identified by Unit of Measurement including the application of multipliers and transformer loss factors where appropriate.</p>
5	FLD	Interval Period Timestamp	1	Mandatory	<p>The start time of an interval period when data is recorded on an interval meter.</p>
5	FLD	Interval Status	1	Mandatory	<p>A code that indicates the status of the value for the interval. It can take the following values:</p> <ul style="list-style-type: none"> • VEST – indicates that the value is estimated • VCHG – indicates a value that has been manually changed by MRSO • VACH – indicates a value that has been manually changed

Co-Ordinated Retail Market Message Guide – Data Processing

Segment and Field Level Identifier – 342 Message			Rpt	Optionality	Description and Purpose
					(substituted) by ESBN <ul style="list-style-type: none"> VVAK – indicates that the value is collected or totalised from a meter
5	FLD	Value (Net Active Demand)	1	See instructions	The net of the Interval Demand Value for Import and the Interval Demand Value for Export. Suppliers receive import data for all Interval Autoproducers and CHP and will have netted values for Import populated on the 342 message. Where the Interval Meter Point is an Autoproducer or a CHP this field will always be present on the 342 Import flow, and where export exceeds import in an interval then the net import communicated is zero.
1 Message Trailer			1	Mandatory	
2	FLD	MPRN Count	1	Mandatory	A count of the number of MPRN segments included in the message
2	FLD	Channel Count	1	Mandatory	A count of the number of Channel level segments included in the message

APPENDIX 1

The tables below outline the valid combinations of Read Reason, Read Type and Read Status that can be found on messages 300, 300S and 305.

2.6 Appendix 1A – Message 300 Combinations

Scenarios	Read Reason	Read Type	Read Status	Comments
Change of Legal Entity	27 - Change of Legal Entity	A - Actual	RV	.
		A - Actual	RREL	
		EF - Estimate (Implausible /No read available)	REST	Where some of the reads provided were implausible but not all
		ED - Estimate (DUoS billing has occurred)	REST	
		SC - Supplier Provided Customer Reading	RV	Where read provided on 016

Co-Ordinated Retail Market Message Guide – Data Processing

Scenarios	Read Reason	Read Type	Read Status	Comments
		SC - Supplier Provided Customer Reading	RREL	Where read provided on 016
Out of Cycle Customer Reads	10 - Ad-hoc, non chargeable check read	CU - Customer	RV	Reading provided via the IVR
		CU - Customer	RREL	Reading provided via the IVR
		SC - Supplier Provided Customer Reading	RV	Reading provided on 210
		SC - Supplier Provided Customer Reading	RREL	Reading provided on 210
		EF - Estimate (Implausible / No read available)	REST	Where some of the reads provided by Customer/Supplier fail validation but not all
Scheduled Reads	01 - Scheduled	A - Actual	RV	
		A - Actual	RREL	
		CU - Customer	RV	
		CU - Customer	RREL	
		EF - Estimate (Implausible / No read available)	REST	Where some of the register reads fail validation but not all

Co-Ordinated Retail Market Message Guide – Data Processing

Scenarios	Read Reason	Read Type	Read Status	Comments
		SC - Supplier Provided Customer Reading	RV	
		SC - Supplier Provided Customer Reading	RREL	
Opening Reading following CoS Cancellation	01 – Scheduled	A – Actual	RV	
		A – Actual	RREL	
		A – Actual	REST	
		CU – Customer	RV	
		CU _ Customer	RREL	
		CU – Customer	REST	
		EF – Estimate (Implausible/No Read available)		

2.7 Appendix 1B – Message 300S Combinations

Scenarios	Read Reason	Read Type	Read Status	Comments
Special read	02 - Special Read - Chargeable	A - Actual	RV	
		A - Actual	RREL	
		EF - Estimate (Implausible / No read available)	REST	Where a mixture of actuals and estimates are to be provided
		EF - Estimate (Implausible / No read available)	RENS	Where a complete set of estimates are provided
		E - Estimate (No access)	RENS	Where a complete set of estimates are provided
		E – Estimate (No access)	REST	
	09 - Special Read - Non Chargeable	A - Actual	RV	
		A - Actual	RREL	
		EF - Estimate (Implausible / No read available)	REST	Where a mixture of actuals and estimates are to be provided

Co-Ordinated Retail Market Message Guide – Data Processing

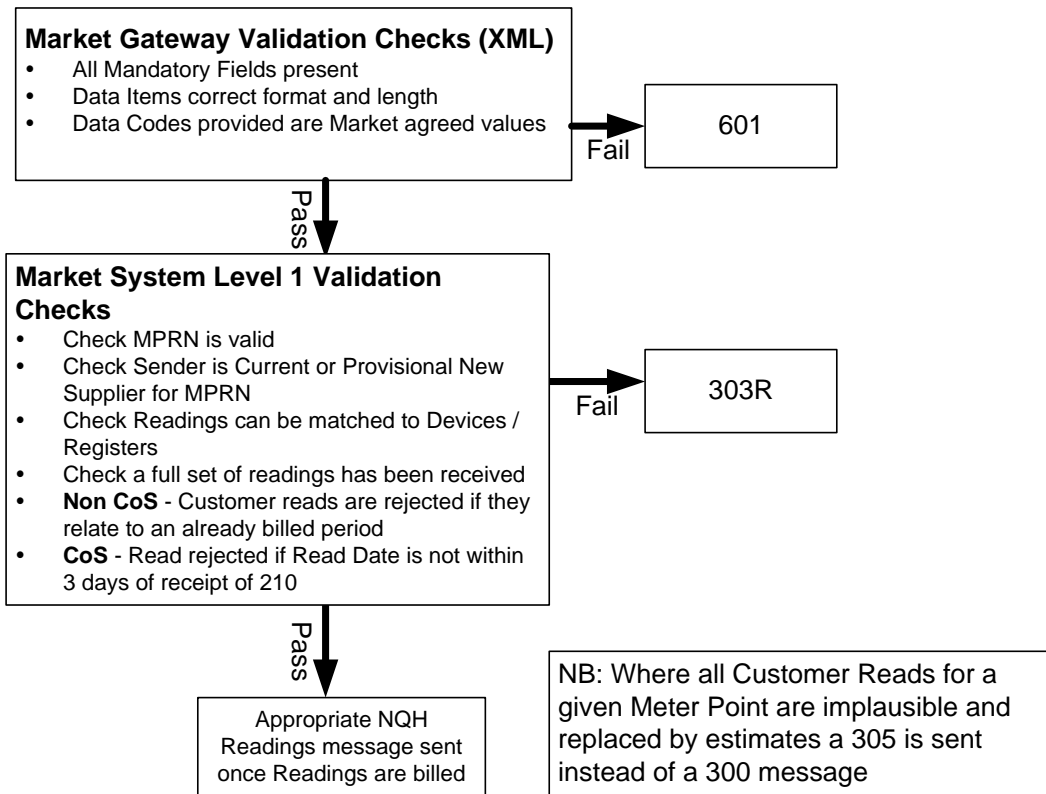
Scenarios	Read Reason	Read Type	Read Status	Comments
		EF - Estimate (Implausible / No read available)	RENS	Where a complete set of estimates are provided
		E - Estimate (No access)	RENS	Where a complete set of estimates are provided

2.8 Appendix 1C - Message 305 Combinations

Scenarios	Read Reason	Read Type	Comments
Block Estimate	01 - Scheduled	EP - Estimate (Block Planned)	
		EU - Estimate (Block Unplanned)	
Scheduled Reading - no valid register reads	01 - Scheduled	E - Estimate (No Access)	
		EF - Estimate (Implausible / No read available)	Where a set of register readings are obtained but are all implausible
Out of Cycle read	14 - Estimate	EF - Estimate (Implausible / No read available)	Where reads on a 210 are all implausible and replaced by a complete set of estimates

3 APPENDIX 2

3.1 Appendix 2A – Supplier Provided Reading validation sequence diagram



3.2 Appendix 2B – Proposed Replacement Reading validation sequence diagram

