
NI Market Message Implementation Guide - Data Aggregation

<i>Document Information</i>	
Business Area:	NIE Networks
Status:	Baseline
Author/s:	
Version Number:	3.0

NI Market Message Implementation Guide – Data Aggregation

<i>Document Updates</i>			
Name	Date	Reason	Version
NIE ES Project	04/01/2010	Initial Draft	0.1
NIE ES Project	12/01/2010	Updated following Internal QA	0.2
NIE ES Project	14/01/2010	Updates Applied	0.3
P Merkens	24/05/2011	Updated for MCRs 0178, 1024	0.4
P Merkens	07/06/2011	Updated following NIE review ready for SIG workshop	0.91
P Merkens		Updated following SIG Workshop	0.92
J-E Smith		Final Draft Issued for Supplier Review prior to SIG Approval	0.93
A Ferguson	25/08/2011	Baseline Approved	2.1
J-E Smith	20/01/2012	Baseline CDA Board Approved Updated for DR1110/CRID163	2.2
J-E Smith	08/03/2012	Baseline CDA Board Approved Updated for DR1116/CRID166	2.3
J-E Smith	06/06/2012	Baseline CDA Board Approved Updated for DR1118_CRID167	2.3.1
J-E Smith	21/11/2013	Baseline CDA Board Approved	2.4
NIE Networks	31/08/2016	Updated to incorporate change of name from NIE to NIE Networks and align Baseline numbering with NI Retail Market Procedures and Guides	3.0

Table of Contents

1 INTRODUCTION4

1.1 PURPOSE OF THE MESSAGE IMPLEMENTATION GUIDE 4

1.2 VALIDATION 5

1.3 MESSAGE VERSION 6

1.4 NOTES 6

1.5 IMPLEMENTATION OF MARKET CHANGE REQUESTS 6

1.6 OUTSTANDING ISSUES..... 6

2 DATA AGGREGATION MESSAGE GROUP7

2.1 SCOPE AND BUSINESS CONTEXT 7

2.2 MESSAGE USAGE SUMMARY 7

2.3 MESSAGE DIRECTORY – SUPPLIER TO NIE NETWORKS..... 9

 2.3.1 *Message 015: Change of Supplier Unit and/or SSAC Request* 9

2.4 MESSAGE DIRECTORY – NIE NETWORKS TO SUPPLIER, PARTICIPANT GENERATOR..... 14

 2.4.1 *Message 115: Change of SSAC and/or Supplier Unit Confirmation* 14

 2.4.2 *Message 115R: Change of SSAC and/or Supplier Unit Rejection*..... 16

 2.4.3 *Message 591: Aggregated Non-Interval Import Data* 19

 2.4.4 *Message 594: Aggregated Participant Export Data*..... 24

 2.4.5 *Message 595: Aggregated Interval Import Data*..... 27

 2.4.6 *Message 596: SMO Aggregated Data – Supplier Unit*..... 31

 2.4.7 *Message 597: SMO Aggregated Data – Generation Unit*..... 36

 2.4.8 *Message 598: Non-Participant Generator Data* 39

1 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 NIE Networks; and
- The interpretation of messages received from NIE Networks.

The Message Implementation Guides are organised 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
- Unmetered
- Market Gateway Activity

This document is the **Data Aggregation** Market Message Implementation Guide.

The document 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

NI Market Message Implementation Guide – Data Aggregation

- For messages sent by NIE 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 Party Contact Details.

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

1.2 Validation

The document provides notes on how NIE 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 XML 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 by NIE Networks.

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

General market process validations that are not specific to individual market message fields are excluded.

NI Market Message Implementation Guide – Data Aggregation

1.3 Message Version

This Message Guide refers to and is consistent with the Market Messages and Data Codes.

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 015 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 show as a Level 1 segment.
- Message Header is a Level 1 segment is a child of Header Level Information.

1.5 Implementation of Market Change Requests

The changes that have been incorporated into this document as a result of approved Market Change Requests are as follows.

- MCR 0178 – Treatment of excess of generation over demand
- MCR 1024 – Inclusion of daily NQH factor on market message 596 in the field Non Interval Energy Portion
- DR1110/CRID163 – Updates to ES NI Market Message Implementation Guides and Retail Market Procedures
- DR1116/CRID166 – Updates to Enduring Solution NI Market Documentation
- DR1118/CRID167 – Updates to Enduring Solution NI Market Documentation

1.6 Outstanding Issues

None

NI Market Message Implementation Guide – Data Aggregation

2 DATA AGGREGATION MESSAGE GROUP

2.1 Scope and Business Context

The purpose of the Data Aggregation messages is to enable the NIE Networks to provide aggregated consumption data to the Supplier and other parties.

Data Aggregation messages are used in the following business contexts:

- The processing of changes to SSAC and Supplier Unit where message 015 is sent by Suppliers and messages 115 and 115R are received by Suppliers.
- The processing of aggregated data where messages 591, 595, 596 and 598 are received by Suppliers and messages 594 and 597 are received by Participant Generators.

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
015	Change of Supplier Unit and/or SSAC Request	Supplier	NIE Networks	Supplier decides to change the Supplier Unit and/or SSAC for a Meter Point	None
115	Change of Supplier Unit and/or SSAC Confirmation	NIE Networks	Supplier	NIE Networks accepts the Supplier request for a change of Supplier Unit and/or SSAC	015
115R	Change of Supplier Unit and/or SSAC Rejection	NIE Networks	Supplier	NIE Networks rejects the Supplier request for a change of Supplier Unit and/or SSAC	015
591	Aggregated Non-Interval Import Data	NIE Networks	Supplier	NIE Networks performs Data Aggregation for Non-Interval Import Meter Points	None
594	Aggregated Interval Participant Export Data	NIE Networks	Supplier and Participant Generator	NIE Networks performs Data Aggregation for Participant Generator Interval Meter Points	None
595	Aggregated Interval Import Data	NIE Networks	Supplier	NIE Networks performs Data Aggregation for Interval Import Meter Points	None

NI Market Message Implementation Guide – Data Aggregation

Message	Title	Sender	Recipient	Trigger	Predecessor
596	Supplier copy of data sent to SMO	NIE Networks	Supplier	NIE Networks performs Data Aggregation for Non-Interval Import and Interval Meter Points including Import and the netting of Non Participant Generator Export Data registered to the Supplier Unit	None
597	Participant Generator copy of data sent to SMO	NIE Networks	Supplier and Participant Generator	NIE Networks performs Data Aggregation for Participant Generator Export Data	None
598	Supplier Non –Participating Generator Unit Aggregated Data	NIE Networks	Supplier	NIE Networks performs Data Aggregation for Non Participant Generator Export Data that is registered to a Supplier Unit	None

2.3 Message Directory – Supplier to NIE Networks

2.3.1 Message 015: Change of Supplier Unit and/or SSAC Request

Purpose and Description of Message

Message 015 is sent by a Supplier to NIE Networks in order to request a change of SSAC and/or Supplier Unit for a Meter Point to which the Supplier is already registered. This can be a change of Supplier Sub Aggregation Code (SSAC), the Supplier Unit or both.

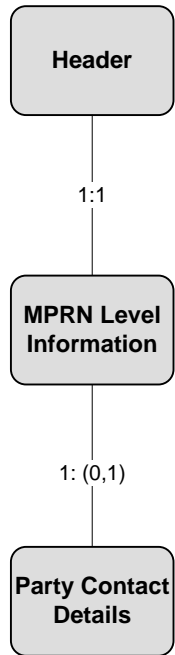
Message 015 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 20 Change of SSAC and/or Supplier Unit	To request a change of SSAC and/or Supplier Unit allocated at a Meter Point.

Message 015 is not required when a Supplier is registering a Meter Point as message 010 will contain the SSAC and Supplier Unit initially required by the Supplier.

Data Hierarchy Diagram

015 Message



NI Market Message Implementation Guide – Data Aggregation

Composition Instructions

Supplier should follow the instructions below in populating the Change of SSAC and/or Supplier Unit Request message.

Segment and Field Level Identifier – 015 Message			Rpt	Optionality	Instructions for Population
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Meter Point Details			1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which a change of SSAC and/or Supplier Unit Id is requested. All elements of the MPRN must be provided
2	FLD	Market Participant Business Reference	1	Mandatory	The Supplier must provide an internal reference number.
2	FLD	Supplier Unit ID	1	Mandatory	The arrangement under which consumption usage will be aggregated for settlement. This should be set to the Supplier Unit against which data is requested to be aggregated in combination with the SSAC and from the Required Date below for the Meter Point identified by the MPRN above. It must be selected from the list of valid Supplier Units that are registered to the Supplier in the Wholesale and Retail Markets. If a change of Supplier Unit is requested to or from a Trading Site Supplier Unit then the details must be consistent with the Wholesale Market Registration details.
2	FLD	SSAC	1	Mandatory	The arrangement under which consumption usage will be aggregated for settlement. This should be set to the SSAC against which data is requested to be aggregated in combination with the Supplier Unit and from the Required Date below for the Meter Point identified by the MPRN above. It must be selected from the list of codes issued by NIE Networks and be an arrangement that is agreed for use by the Supplier. The current valid values are ‘A’ for all suppliers except NIEES who use ‘F’.

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier – 015 Message			Rpt	Optionality	Instructions for Population
2	FLD	Supplier Id	1	Mandatory	The Supplier for which the change of SSAC and/or Supplier Unit is requested. This must be set to the ID of the Supplier that is registered to 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.
2	FLD	Required Date	1	Mandatory	This should be set to the first settlement date from which aggregation using the requested new SSAC and/or Supplier Unit is required to take effect. It must meet the following criteria: <ul style="list-style-type: none"> • The Required Date must be on or after the Required Date of any previous Change of SSAC and/or Supplier Unit request for the MPRN. • Where the Settlement Class is Interval, the Required Date must be at least one calendar month later than the effective date of any previous change of SSAC and /or Supplier Unit for the MPRN. • Where the Settlement Class is Non-Interval, the Required Date must be at least two calendar months later than the effective date of any previous change of SSAC and /or Supplier Unit for the MPRN. • The Required Date must not be retrospective to the date of receipt by NIE Networks. • The Required Date must not be more than 20 days after the date of receipt by NIE Networks.

Validation

NIE Networks will undertake the following validation.

Segment and Field Level Identifier – 015 Message			Validation
1	Message Header		Not validated by NIE Networks.
1	Meter Point Details		
2	FLD	MPRN	NIE Networks will check that the MPRN is registered to the Supplier requesting the change of SSAC and/or Supplier Unit Id.
2	FLD	Market Participant Business Reference	Not validated by NIE Networks.

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier – 015 Message			Validation
2	FLD	Supplier Unit ID	NIE Networks will check that the Supplier Unit ID is valid for use by the Supplier NIE Networks will check if a change of Supplier Unit is requested to or from a Trading Site Supplier Unit and if so then NIE Networks will check that the details are consistent with the Wholesale Market Registration details.
2	FLD	SSAC	NIE Networks will check that the SSAC is an arrangement that is valid for the Supplier Unit. The current valid values are ‘A’ for all suppliers except NIEES who use ‘F’.
2	FLD	Supplier ID	See MPRN validation above
2	SEG	Party Contact Details	Not validated by NIE Networks
2	FLD	Required Date	NIE Networks will check the following and reject any requests that fail: <ul style="list-style-type: none"> • The Required Date must be on or after the Required Date of any previous Change of SSAC and/or Supplier Unit request for the MPRN. • Where the Settlement Class is Interval, the Required Date must be at least one month later than the effective date of any previous change of SSAC and/or Supplier Unit for the MPRN. • Where the Settlement Class is Non-Interval, the Required Date must be at least two months later than the effective date of any previous change of SSAC and/or Supplier Unit for the MPRN. • The Required Date must not be retrospective to the date of receipt by NIE Networks. • The Required Date must not be more than twenty days after the date of receipt by NIE Networks.

NIE Networks will use the data in the message to process the Change of SSAC and/or Supplier Unit request. The validations are described above and in the relevant MPD documentation.

If the request is accepted then the following messages is generated:

- Message 115 is sent to the Supplier to indicate the application of the change of SSAC and/or Supplier Unit for the Meter Point.

If the request is rejected then the following message is returned to the Supplier:

- Message 115R indicates rejection of a Change of SSAC and/or Supplier Unit request.

NI Market Message Implementation Guide – Data Aggregation

2.4 Message Directory – NIE Networks to Supplier, Participant Generator

2.4.1 Message 115: Change of SSAC and/or Supplier Unit Confirmation

Purpose and Description of Message

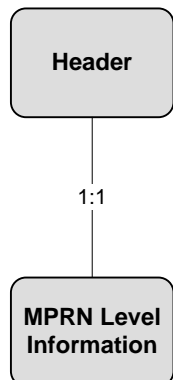
Message 115 is sent by NIE Networks to a Supplier to advise an accepted Change of SSAC and/or Supplier Unit.

Message 115 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 20 Change of SSAC and/or Supplier Unit	To advise that a Change of SSAC and/or Supplier Unit request has been accepted for a Meter Point

Data Hierarchy Diagram

115 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier – 115 Message			Rpt	Optionality	Description and Purpose
1	Message Header		1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1	Meter Point Details		1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which a Change of SSAC and/or Supplier Unit is accepted
2	FLD	Market Participant Reference Number	1	Mandatory	The Market Participant Reference Number provided in the 015 message sent by the Supplier. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Supplier Unit ID	1	Mandatory	The Supplier Unit ID provided in the 015 message sent by the Supplier. It enables the Supplier to confirm the Supplier Unit ID that is associated with this MPRN.
2	FLD	SSAC	1	Mandatory	The SSAC which will be effective at the Meter Point from the Effective From Date below
2	FLD	Effective From Date	1	Mandatory	The date from which the SSAC and/or Supplier Unit change will be effective for the Meter Point. This is the first Settlement Date for which the new SSAC and/or Supplier Unit will be used in Data Aggregation.

2.4.2 Message 115R: Change of SSAC and/or Supplier Unit Rejection

Purpose and Description of Message

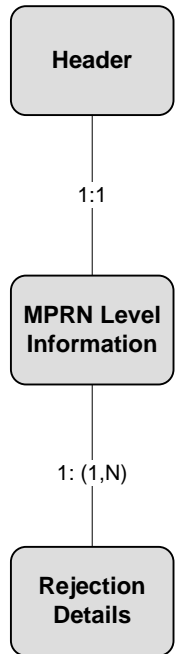
Message 115R is sent by NIE Networks to a Supplier to advise a rejected Change of SSAC and/or Supplier Unit request.

Message 115R is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 20 Change of SSAC and/or Supplier Unit	To advise that a Change of SSAC and/or Supplier Unit request has been rejected for a Meter Point

Data Hierarchy Diagram

115R Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier – 115R Message			Rpt	Optionality	Description and Purpose
1	Message Header		1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1	Meter Point Details		1	Mandatory	
2	FLD	MPRN	1	Mandatory	The unique identifying reference number for the Meter Point for which a Change of SSAC and/or Supplier Unit is rejected
2	FLD	Market Participant Reference Number	1	Mandatory	The Market Participant Reference Number provided in the 015 message sent by the Supplier. It enables the Supplier to uniquely identify the original message to which this is the response.
2	FLD	Supplier Unit ID	1	Mandatory	The Supplier Unit ID provided in the 015 message sent by the Supplier
2	FLD	SSAC	1	Mandatory	The SSAC provided by the Supplier in the 015 message sent by the Supplier
2	FLD	Required Date	1	Mandatory	The Required Date provided by the Supplier
2	SEG	Rejection Details	1..N	Mandatory	This segment provides the details of why the 015 was rejected. One Reject Reason segment will be provided for each rejection reason provided.
3	FLD	Reject Reason	1	Mandatory	<p>A code to identify why data was rejected:</p> <ul style="list-style-type: none"> • IMP – MPRN is not known to NIE Networks • SNR – Supplier is not registered to this Meter Point • SUS – Supplier Unit Invalid for Supplier and/or SSAC is invalid for the Supplier Unit • TIM – Required date fails validation criteria (see Validation section for message 015) • TSR – a requested change which involves a Trading Site Supplier Unit is inconsistent with wholesale market registration details

2.4.3 Message 591: Aggregated Non-Interval Import Data

Purpose and Description of Message

Message 591 is sent by NIE Networks to the Supplier and to advise the total Non-Interval import consumption (i.e. consumption for Meter Points with Non-Interval metering) aggregated in Data Aggregation for a Settlement Date. A separate message is sent for each Settlement date and for each Supplier/Supplier Unit/SSAC combination.

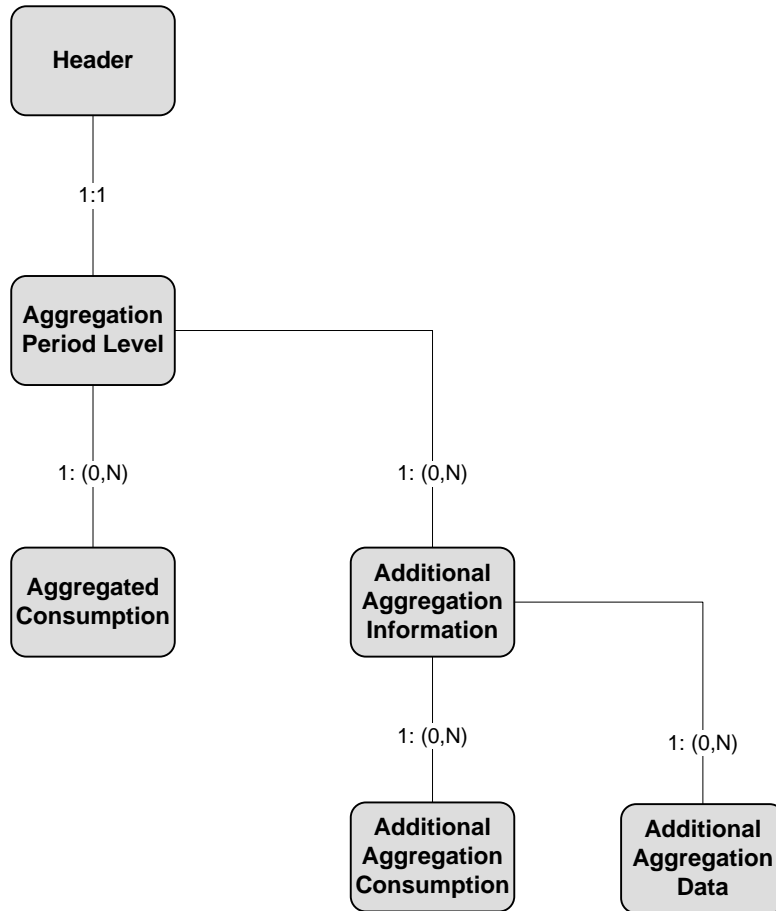
Data is provided per 30-minute Interval in kWh for each Supplier/Supplier Unit/SSAC combination.

Message 591 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	To advise the total Non-Interval consumption aggregated in Data Aggregation for a Settlement Date

Data Hierarchy Diagram

591 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 591 Message				Rpt	Optionality	Description and Purpose
1 Message Header				1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Aggregation Period				1	Mandatory	
2	FLD	Settlement Date		1	Mandatory	The calendar day on which the aggregated consumption is estimated to have occurred.
2	FLD	Settlement Run Indicator		1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation
2	FLD	Supplier Id		1	Mandatory	The Supplier, in combination with the Supplier Unit Id and SSAC below, for which the aggregated consumption has been estimated.
2	FLD	Supplier Unit Id		1	Mandatory	The Supplier Unit ID, in combination with the above Supplier Id and SSAC below, for which the aggregated consumption has been estimated.
2	FLD	SSAC		1	Mandatory	The SSAC, in combination with the Supplier Id and Supplier Unit Id above, for which the aggregated consumption has been estimated.
2	SEG	Aggregated Consumption		1..N	Optional	Data is present for each Interval Period aggregated for the Settlement Date. The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 591 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 591 there will be 46 intervals in total for the short day.
3	FLD	Interval Period Timestamp		1	Mandatory	The start time of the interval period for which aggregated consumption has been estimated.
3	FLD	Settlement Interval		1	Mandatory	The Settlement Interval field in messages 591 contains a sequential counter value starting at one.
3	FLD	Aggregated Consumption		1	Mandatory	The consumption estimated for Supplier/Supplier Unit/SSAC combination within the period expressed in kWh before adjustment for Distribution Losses.
3	FLD	Loss Adjusted Aggregated		1	Mandatory	The consumption estimated for Supplier/Supplier Unit/SSAC combination

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier - 591 Message			Rpt	Optionality	Description and Purpose		
		Consumption			within the period expressed in kWh after adjustment for Distribution Losses.		
2	SEG	Additional Aggregation Information		0..N	Optional	Data is available to Suppliers for each Profile / DLF combination within Supplier / Supplier Unit/SSAC. Invalid Combinations should not be populated in the message, however if there are no MPRNs registered for a valid combination then a count of zero should be populated in the message	
	3	FLD	DLF Code	1	Mandatory	The Distribution Loss Factor Code, in combination with the Load Profile below and the Supplier/Supplier Unit/ SSAC combination above, for which the additional aggregated consumption data has been provided.	
	3	FLD	Load Profile	1	Mandatory	The Standard Load Profile, in combination with the DLF Code and the Supplier/Supplier Unit/SSAC combination above, for which the additional aggregated consumption data has been provided.	
	3	FLD	Count of MPRN	1	Optional	The number of MPRN processed in the aggregation run for this Profile / DLF combination within this Supplier / Supplier Unit/SSAC classification.	
	3	SEG	Additional Aggregation Consumption		0..N	Optional - See Description	Data is present for each Interval for which the additional aggregated data is provided. The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 591 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 591 there will be 46 intervals in total for the short day. If the MPRN Count for the DLF/Profile combination is zero this segment will not be populated
		4	FLD	Interval Period Timestamp	1	Mandatory	The start time of the interval period for which the additional aggregated consumption data has been provided.
		4	FLD	Settlement Interval	1	Mandatory	The Settlement Interval field in messages 591 contains a sequential counter value starting at one.
		4	FLD	Aggregated Consumption	1	Mandatory	The consumption estimated for this Interval for the Supplier/Supplier Unit/SSAC/DLF Code/Load Profile combination within the period expressed in kWh before adjustment for Distribution Losses.
	3	SEG	Additional Aggregation Data		0..N	Optional - See Description	Summary aggregation data is available to Suppliers for each Profile / DLF combination within Supplier /Supplier Unit/ SSAC detailing the total Usage Factor per Time of Use.

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier - 591 Message				Rpt	Optionality	Description and Purpose
						If the MPRN Count for the DLF/Profile combination is zero, this segment will not be populated
	4	FLD	Time of Use	1	Optional	The time slot to which the additional aggregated data refers. Refer to the Data Codes published by NIE Networks for a complete list of codes.
	4	FLD	Total Usage Factor	1	Optional	The total sum of the usage factors processed in the aggregation run for this time of use for the Profile / DLF combination within the Supplier /Supplier Unit/SSAC classification.

2.4.4 Message 594: Aggregated Participant Export Data

Purpose and Description of Message

Message 594 is sent by NIE Networks to the Participant Generator to advise the Interval export at a Participant Generation Unit included in Data Aggregation for a Settlement Date. A separate message is sent for each Participant Generator Unit and Settlement Date.

Data is provided in kWh per 30-minute Interval for each Participant Generator Unit.

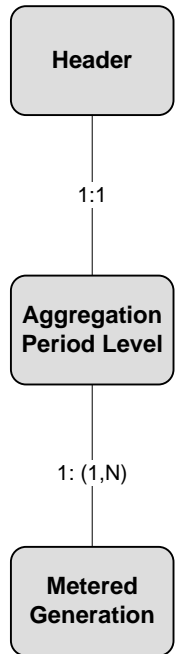
Message 594 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	To advise the Participant Interval export included in Data Aggregation for a Settlement Date

This message can also be sent to a Supplier nominated to receive the message on the Participant Generator's behalf.

Data Hierarchy Diagram

594 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 594 Message				Rpt	Optionality	Description and Purpose
1 Message Header				1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Aggregation Period				1	Mandatory	
2	FLD	Settlement Date		1	Mandatory	The calendar day for which the export value has been calculated.
2	FLD	Settlement Run Indicator		1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation
2	FLD	Generation Unit Id		1	Mandatory	Only one Participant Generation Unit is present in the message and this will contain the Participant Generator Unit ID.
2	SEG	Metered Generation		1..N	Mandatory	Data is present for each Interval Period on the Settlement Date. The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 594 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 594 there will be 46 intervals in total for the short day.
3	FLD	Interval Period Timestamp		1	Mandatory	The start time of the period for which Metered Generation value has been calculated.
3	FLD	Settlement Interval		1	Mandatory	The Settlement Interval field in message 594 contains a sequential counter value starting at one.
3	FLD	Generation Unit Metered Generation		1	Mandatory	The export value calculated for the Generation Unit in the period expressed in kWh before adjustment for Distribution Losses.
3	FLD	Loss Adjusted Generation Unit Metered Generation		1	Mandatory	The export value calculated for the Generation Unit in the period expressed in kWh after adjustment for Distribution Losses.

2.4.5 Message 595: Aggregated Interval Import Data

Purpose and Description of Message

Message 595 is sent by NIE Networks to the Supplier to advise the total Interval consumption (i.e. consumption for Meter Points with Interval metering) aggregated in Data Aggregation for a Settlement Date. A separate message is sent for each Settlement Date and for each Supplier/Supplier Unit/SSAC combination.

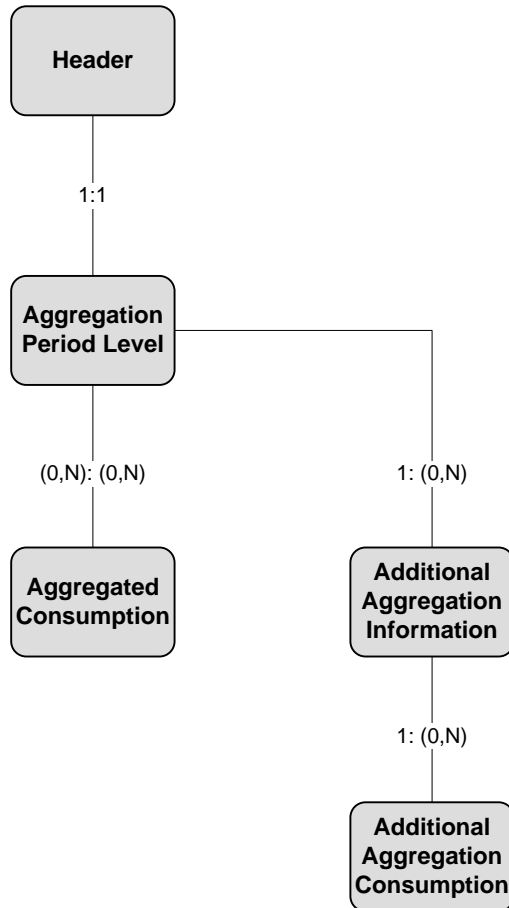
Data is provided in kWh per 30-minute Interval for each Supplier/Supplier Unit/SSAC combination.

Message 595 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	To advise the total Interval Import consumption aggregated in Data Aggregation for a Settlement Date.

Data Hierarchy Diagram

595 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 595 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Aggregation Period			1	Mandatory	
2	FLD	Settlement Date	1	Mandatory	The calendar day for which the aggregated consumption has been calculated.
2	FLD	Settlement Run Indicator	1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation
2	FLD	Supplier Id	1	Mandatory	The Supplier, in combination with the Supplier Unit Id and SSAC below, for which the aggregated consumption has been calculated. Only one Supplier /Supplier Unit/ SSAC combination is present in the message.
2	FLD	Supplier Unit ID	1	Mandatory	The Supplier Unit ID, in combination with the above Supplier Id and SSAC below, for which the aggregated consumption has been calculated.
2	FLD	SSAC	1	Mandatory	The SSAC, in combination with the Supplier Unit Id and Supplier above, for which the aggregated consumption has been calculated.
2	FLD	Percentage of MPRNs Estimated	1	Optional	The Percentage of MPRNs Estimated field will display the percentage of MPRNs per Supplier Id/ Supplier Unit/SSAC combination that are estimated. An MPRN will said to be estimated if 50% or more of the interval values for the settlement date have a status of Estimated.
2	FLD	Percentage of Consumption Actual	1	Mandatory	The total consumption across all actual intervals for that Supplier Id/ Supplier Unit / SSAC on that day will be divided by the total consumption across all intervals (estimated and actual) to give the actual percentage.
2	SEG	Aggregated Consumption	1..N	Optional	Data is present for each Interval Period aggregated for the Settlement Date The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 595 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 595 there will be 46 intervals in total for the short day.
3	FLD	Interval Period Timestamp	1	Mandatory	The start time of the period for which aggregated consumption has been

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier - 595 Message			Rpt	Optionality	Description and Purpose
					calculated.
3	FLD	Settlement Interval	1	Mandatory	The Settlement Interval field in message 595 contains a sequential counter value starting at one.
3	FLD	Aggregated Consumption	1	Mandatory	The consumption calculated for Supplier/Supplier Unit/SSAC combination within the period expressed in kWh before adjustment for Distribution Losses.
3	FLD	Loss Adjusted Aggregated Consumption	1	Mandatory	The consumption calculated for Supplier/Supplier Unit/ SSAC combination within the period expressed in kWh after adjustment for Distribution Losses.
2	SEG	Additional Aggregation Information	0..N	Optional	Data is available to Suppliers for each DLF within Supplier / Supplier Unit/ SSAC.
3	FLD	DLF Code	1	Mandatory	The Distribution Loss Factor Code, in combination with the Supplier/Supplier Unit/SSAC combination above, for which the additional aggregated consumption data has been provided.
3	FLD	Count of MPRNs	1	Mandatory	The number of MPRN processed in the aggregation run for this DLF within the Supplier Id / Supplier Unit / SSAC classification.
3	SEG	Additional Aggregated Consumption	0..N	Optional	Data is present for each Interval aggregated for the Settlement Date. The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 595 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 595 there will be 46 intervals in total for the short day.
4	FLD	Interval Period Timestamp	1	Mandatory	The start time of the period for which the additional aggregated consumption data has been provided.
4	FLD	Settlement Interval	1	Mandatory	The Settlement Interval field in message 595 contains a sequential counter value starting at one.
4	FLD	Aggregated Consumption	1	Mandatory	The consumption calculated for Supplier/Supplier Unit/SSAC/DLF Code combination within the period expressed in kWh before adjustment for Distribution Losses.
4	FLD	Loss Adjusted Aggregated Consumption	1	Mandatory	The consumption calculated for Supplier/Supplier Unit/SSAC/DLF Code combination within the period expressed in kWh after adjustment for Distribution Losses.

2.4.6 Message 596: SMO Aggregated Data – Supplier Unit

Purpose and Description of Message

Message 596 is sent by NIE Networks to the Supplier to advise what has been sent to the SMO from each aggregation run. There is a separate message 596 for each **Supplier Unit** that has been included in each SMO data file and which is registered to the Supplier. The 596 contains Data Aggregation for Non-Interval Import and Interval Meter Points including Import and the netting of Non Participant Generator Export Data registered to the Supplier Unit, for each aggregation run type.

Note:

- Interval period in which aggregated data is provided to SMO is Half-hourly
- All Aggregated data for SMO is provided in **MWh**
- Import data is signed as negative, export is positive.

As such, these requirements result in the following further pre-processing steps for NIE Networks:

- Summate the Loss Adjusted Non-Interval Import and Interval Import Data per 30-minute interval at Supplier Unit level
- Subtract , per 30-minute settlement interval, the non-participant generation data that has been summated per Supplier Unit from the relevant 30-minute settlement interval for the Loss Adjusted Import that has been aggregated per Supplier Unit
- Convert kWh data to MWh by division by 1000, representing MWh to three decimal places
- If the value of the 4th decimal place after division by 1000 is 5 or greater then the 3rd decimal place is rounded up by one.

Reading Data Status

All SEM settlement statements are required to indicate if the settlement data is estimated or not. The Reading Data Status field will either contain an estimated or an actual flag where a code of 0 denotes estimated readings while a code of 1 denotes Actual readings.

The following is the definition of ‘Estimated’:

- For each Supplier Unit aggregation run type there are service level agreements for the different percentages of estimated data. Service level targets for meter readings are to be agreed , and where met the Supplier Units aggregated data are marked with an actual flag (1), otherwise an Estimated flag (0), per half hourly interval
- Interval meter data only (and not Non-Interval data) is considered in arriving at the estimated or actual flag.

NI Market Message Implementation Guide – Data Aggregation

The rules for determining whether an aggregation of meter readings is estimated or actual are based on the concept that there is only one meter reading to be considered per MPRN. This may not be the case where there is Generation on the site, particularly where there is splitting of the generation between several suppliers outside of the market.

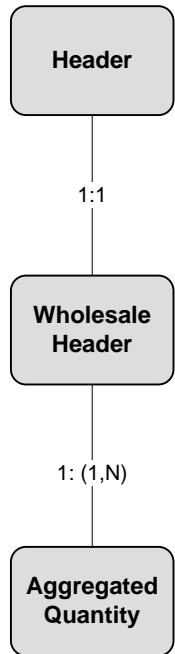
- Therefore, when calculating the value of this flag the actual/estimated value is determined only from import meters

Message 596 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	NIE Networks performs Data Aggregation for Non-Interval Import and Interval Meter Points including Import and the netting of Non Participant Generator Export Data registered to the Supplier Unit

Data Hierarchy Diagram

596 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 596 Message			Rpt	Optionality	Description and Purpose
1 Message Header			1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Wholesale Header			1	Mandatory	
2	FLD	Settlement Run Indicator	1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation
2	FLD	Start Period Time	1	Mandatory	Start of Period (Date and Time) where reported metered values are measured.
2	FLD	End Period Time	1	Mandatory	End of Period (Date and Time) where reported metered values are measured.
2	FLD	Time Created	1	Mandatory	Creation time of the file.
2	FLD	Supplier Unit ID	1	Mandatory	The Supplier Unit ID is an SEM-provided code, created by the SMO and notified to RMO during registration. Supplier Unit is a wholesale SEM-defined market participant. One Supplier may register several Supplier Units.
2	SEG	Aggregated Quantity	N	Mandatory	Data is present for each Interval Period aggregated for the Settlement Date. N will be 46, 48 or 50.
3	FLD	Reading Number	1	Mandatory	For each meter reading, there will be a reading entry (46, 48, or 50 in total depending on short, normal or long day). The Reading num= value will correspond to the relative period in the day.
3	FLD	Interval Start Time	1	Mandatory	Local start time for an individual reading (an hour or half-hour value).
3	FLD	Interval End Time	1	Mandatory	Local end time for an individual reading (a half-hour or hour value, a half hour after the start time).
3	FLD	Measured Quantity	1	Mandatory	The aggregated quantity for this Supplier unit and interval. Units are MWhs. Fractional numbers will be used, e.g. 12.34 or 0.34. Values may be positive or negative. Positive numbers indicate excess of generation over demand. Negative numbers prefaced by minus sign, e.g. -12.34 or -0.34.
3	FLD	Query Flag	1	Mandatory	Set to zero
3	FLD	Reading Data Status	1	Mandatory	This will be set to <ul style="list-style-type: none"> • 0 – Estimated; or • 1 – Actual

NI Market Message Implementation Guide – Data Aggregation

Segment and Field Level Identifier - 596 Message			Rpt	Optionality	Description and Purpose
					See Purpose and Description above for details on how Reading Data Status is set.
3	FLD	Non Interval Energy Portion	1	Optional	A factor representing the gross non-interval consumption divided by the sum of the gross non-interval demand and gross interval demand for this interval and Supplier Unit. This field will not be used until Global Aggregation is implemented in Northern Ireland.

2.4.7 Message 597: SMO Aggregated Data – Generation Unit

Purpose and Description of Message

- Message 597 is sent by NIE Networks to the Participant generator to advise what has been sent to the SMO from each aggregation run. There is a separate message 597 for each **Participant Generator Unit** that has been included in each SMO data file and which is registered to the Participant generator. The 597 contains Data Aggregation of Interval Export for Participant Interval Meter Points for the Settlement Date. Generator data is not signed, Import data is signed as negative.

Note:

- Interval period in which aggregated data is provided to SMO is Half-hourly
- All Aggregated data for SMO is provided in **MWh**
- Generator data is not signed.

As such, these requirements result in the following further pre-processing steps for NIE Networks:

- Convert kWh data to MWh by division by 1000, representing MWh to three decimal places
- If the value of the 4th decimal place after division by 1000 is 5 or greater then the 3rd decimal place is rounded up by one.

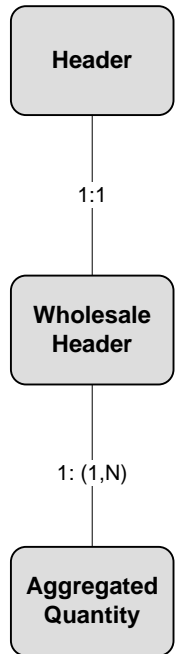
Message 597 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	NIE Networks performs Data Aggregation for Participant Generator Export Data.

This message can also be sent to a Supplier nominated to receive the message on the Participant Generator's behalf.

Data Hierarchy Diagram

597 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 597 Message			Rpt	Optionality	Description and Purpose	
1	Message Header		1	Mandatory	See Common Data Segments for detailed notes on structure and population.	
1	Wholesale Header		1	Mandatory		
2	FLD	Settlement Run Indicator	1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation	
2	FLD	Start Period Time	1	Mandatory	Start of Period (Date and Time) where reported metered values are measured.	
2	FLD	End Period Time	1	Mandatory	End of Period (Date and Time) where reported metered values are measured.	
2	FLD	Time Created	1	Mandatory	Creation time of the file.	
2	FLD	Generation Unit ID	1	Mandatory	Participant Generator Unit ID.	
2	SEG	Aggregated Quantity	N	Mandatory	Data is present for each Interval Period aggregated for the Settlement Date. N will be 46, 48 or 50.	
	3	FLD	Reading Number	1	Mandatory	For each meter reading, there will be a reading entry (46, 48, or 50 in total depending on short, normal or long day). The Reading num= value will correspond to the relative period in the day.
	3	FLD	Interval Start Time	1	Mandatory	Local start time for an individual reading (an hour or half-hour value).
	3	FLD	Interval End Time	1	Mandatory	Local end time for an individual reading (a half-hour or hour value, a half hour after the start time).
	3	FLD	Measured Quantity	1	Mandatory	The aggregated quantity for this Generator unit and interval. Units are MWhs. Fractional numbers will be used, e.g. 12.34 or 0.34.
	3	FLD	Query Flag	1	Mandatory	Set to zero.
	3	FLD	Reading Data Status	1	Mandatory	This will be set to <ul style="list-style-type: none"> • 0 – Estimated; or • 1 - Actual

2.4.8 Message 598: Non-Participant Generator Data

Purpose and Description of Message

Message 598 is sent by NIE Networks to the Supplier to whom the Non-Participant Generator Unit data is registered, to advise of the Interval export at a Non-Participant Generation Unit included in Aggregation for a Settlement Date. A separate message is sent for each Non Participant Generator Unit and Settlement Date.

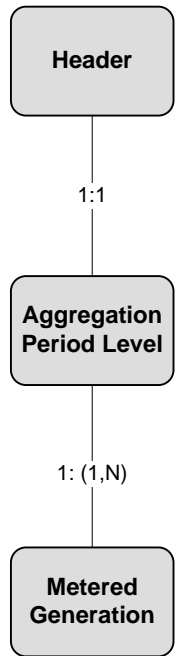
Data is provided in kWh per 30-minute Interval for each Non-Participant Generation Unit.

Message 598 is used in the following Market Process:

Process Number and Title	Use of Message
MP NI 16 Data Aggregation	To advise the Supplier to whom the Non Participant Generator Unit data is registered of the Interval export included in Data Aggregation for a Settlement Date.

Data Hierarchy Diagram

598 Message



NI Market Message Implementation Guide – Data Aggregation

Message Structure and Interpretation

Segment and Field Level Identifier - 598 Message				Rpt	Optionality	Description and Purpose
1 Message Header				1	Mandatory	See Common Data Segments for detailed notes on structure and population.
1 Aggregation Period				1	Mandatory	
2	FLD	Settlement Date		1	Mandatory	The calendar day for which the export value has been calculated.
2	FLD	Settlement Run Indicator		1	Mandatory	The Settlement Run Indicator within each message illustrates which aggregation run the message relates to, as follows 10 = Indicative 20 = Initial 30 = 1st ReAggregation at M+4 40 = 2nd ReAggregation at M+13 50 = Ad Hoc Aggregation
2	FLD	Generation Unit Id		1	Mandatory	Only one Non Participant Generation Unit is present in the message and this will contain the Export Arrangement Reference Number.
2	SEG	Metered Generation		1..N	Mandatory	Data is present for each Interval Period on the Settlement Date. The long day will contain an extra hour's data, provided between 1-2am in the morning, and therefore for messages 598 there will be 50 intervals in total for the long day. The short day will have no data for one hour between 1-2am in the morning and for messages 598 there will be 46 intervals in total for the short day.
3	FLD	Interval Period Timestamp		1	Mandatory	The start time of the period for which Metered Generation has been calculated.
3	FLD	Settlement Interval		1	Mandatory	The Settlement Interval field in message 598 contains a sequential counter value starting at one.
3	FLD	Generation Unit Metered Generation		1	Mandatory	The export value calculated for the Generation Unit in the period expressed in kWh before adjustment for Distribution Losses.
3	FLD	Loss Adjusted Generation Unit Metered Generation		1	Mandatory	The export value calculated for the Generation Unit in the period expressed in kWh after adjustment for Distribution Losses.