Retail Market Procedure NI 16

Data Aggregation

06/11/2015

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Retail Market Procedure NI 16 - Aggregation

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Retail Market Procedure NI 16 - Aggregation

1. Introduction

1.1 Scope

This document is the Retail Market Procedure for Data Aggregation in Northern Ireland.

The Procedure applies to all demand sites registered to Supplier Units and distribution connected sites with participating or non-participating Generators.

- **Aggregation – Main Process**
  - Describes the main process of aggregating

- **kWh Market Messages**
  - Describes the messages used to provide aggregated Non-Interval Import and Export and Interval Import and Export data to Suppliers, Participants and Non-Participant Generators.

1.2 History of Changes

Version	Source of Change	Description of Change
0.1		Initial Draft
0.2	P Merkens	Updated for MCRs 0178, 1013 and 1022
0.91	P Merkens	Updated for CRID 153 following NIE Review and issued for SIG Workshop
0.92	P Merkens	Updated following SIG Workshop
0.93	P Merkens	Ad-hoc settlement run may take place at any time. Removal of TUoS Billing Support Data to SONI
0.94	J-E Smith	Final Draft Issued for Supplier Review prior to SIG Approval
1.0	A Ferguson	Baseline SIG Approval
2.0	J-E Smith	Baseline CDA Board Approved • Updated for DR1110/CRID163
2.1	J-E Smith A Ferguson	Baseline CDA Board Approved • Updated for DR1118/CRID167 Updated to reflect MP NI 39 Glossary of Terms
2.1.1	J-E Smith	Updated for DR1143/CRID184 and UR Approved Change Report
2.1.2	J-E Smith	Updated for CDA Board Comments

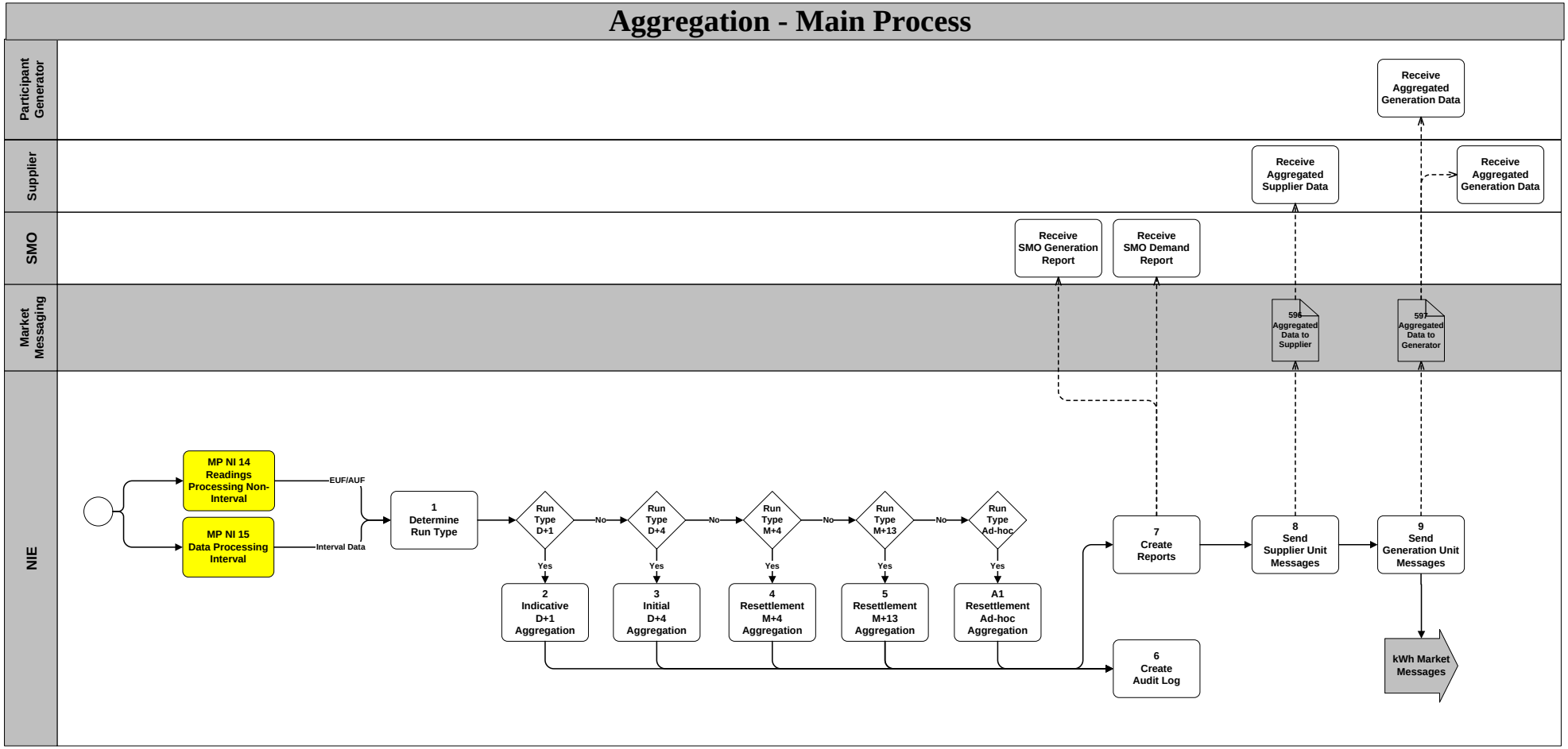
1.3 Document References

Document Reference	Document Name
MP NI 7	Generator Nominations
MP NI 14	Readings Processing Non-Interval
MP NI 15	Data Processing Interval
MG NI 30	Change of Unmetered Inventory
MP NI 39	NI Market Procedures - Glossary of Terms

2. Procedure Description

2.1 Aggregation - Main Process

2.1.1 Process Flow Diagram



2.1.2 Process Description

Step	Role	Action	Interface
1	**NIE**	Aggregation will only include data for Meter Points Registered to Supplier Units and distribution connected sites with participating or non-participating Generators on the Settlement Day for which the aggregation is performed. Aggregation shall take place in respect of each Settlement Day according to a Settlement Calendar that will follow or approximate to the following timeline for each of five aggregation run types: • Indicative aggregation on the week-day following the Settlement Day. Indicative aggregation will be created using estimated data. • Initial aggregation on the fourth week-day following the Settlement Day • Resettlement aggregation on the first week-day following a date no greater than four months after the Settlement Day • Resettlement aggregation on the first week-day following a date no greater than thirteen months after the Settlement Day • An unscheduled resettlement aggregation may also take place in respect of a Settlement Day at any time, on request of the SMO. A week-day is a Monday, Tuesday, Wednesday, Thursday or Friday and includes all public holidays and non-working days. A Settlement Day is defined as a calendar day from mid-night to mid-night in local time and may contain 46, 48 or 50 Trading Periods. A Trading Period is 30 minutes.	
2 - 5, A1	**NIE**	The following rules apply for each of the aggregation run types. Data will be aggregated for each Trading Period within a Settlement Day against each Supplier Unit or trading site Supplier Unit associated to a Supplier, or Generator Unit associated to a Generator. The data used for a Meter Point within an aggregation run shall be the latest version of the following data that is recorded as being effective at the Meter Point on the Settlement Day: • Supplier Unit or trading site Supplier Unit and/or Generator Unit registered to the Meter Point on the	

Step	Role	Action	Interface
		Settlement Day • Non-Interval AUF (Actual Usage Factor) - refer to MP NI 14 Readings Processing Non-Interval for details of AUF calculation • Non-Interval EUF (Estimated Usage Factor) where an AUF is unavailable - refer to MP NI 14 Readings Processing Non-Interval for details of EUF calculation and allocation • Derived Profile coefficients applicable on the Settlement Day for each register Timeslot for which an EUF or AUF is expected • Derived Profile coefficients applicable on the Settlement Day for an unmetered Meter Point for which an AUF is active (refer to MP NI 30 Change of Unmetered Inventory) • Half Hourly interval data - refer to MP NI 15 Data Processing Interval for details of Half Hourly Data Collection and Processing • Meter Point Connection Voltage, used to determine the Distribution Loss Adjustment Factor (DLAF) Each aggregation, whether indicative, initial or resettlement will be a complete aggregation of all data relating to the Supplier Units or trading site Supplier Units and/or Generator Units included in the aggregation run. For each Trading Period within the Settlement Day a 'measured quantity' will be determined for each Supplier Unit or trading site Supplier Unit and /or Generator Unit as the sum of the following quantities for every Meter Point Registered to the Supplier Unit or trading site Supplier Unit and/or Generator Unit on the Settlement Day: • For Interval metered generator, the actual or estimated Interval export for the Trading Period • For Interval metered import, the actual or estimated Interval import for the Trading Period • For each register Timeslot at a Non-Interval metered site where an AUF is effective on the Settlement Day, the proportion of the AUF attributable to the Trading Period • For each register Timeslot at a Non-Interval metered site where no AUF is effective on the Settlement Day, the proportion of an EUF attributable to the Trading Period • For each unmetered Meter Point where an AUF is effective on the Settlement Day, the proportion of the AUF attributable to the Trading Period DLAFs will be applied, according to the Connection Voltage, to bring all aggregated quantities to a consistent commercial boundary[1]. Where import or export has been metered by SONI, NIE will bring data to the commercial boundary. NIE will retain the data used in an aggregation run for a period of seven years after the Settlement Day.	

[1] The commercial boundary is generally the boundary between the distribution and transmission networks

Step	Role	Action	Interface
		Refer to sections 2.1.3, 2.1.4, 2.1.5 and 2.1.6 for further detail on Interval, Non-Interval metered, unmetered and generation aggregation respectively.	
6	**NIE**	**Input Audit Trail** For each aggregation run, NIE will maintain a record according to Supplier or Generator Unit of: • Meter Point(s) included • For each Interval Meter Point: o DLAF o Import and export values used in each period o Creation Date/Timestamp (this is the time the data is output from aggregation and not the timestamp which appears on the market messages 341 and 342) • For each Non-Interval Meter Point: o DLAF o Load Profile o For each register Timeslot: ▪ AUF used, if any ▪ EUF used in the absence of an AUF • For each Unmetered Meter Point o Connection Voltage o Load Profile o Annualised expected daily consumption On request, NIE will make the input audit trail available to the SMO, to the Supplier associated with the Supplier Unit or to the Generator or Intermediary associated with the Generator Unit.	Audit Trail to SMO, Supplier, Generator or Intermediary
7	**NIE**	Data will be provided to the Single Market Operator as described in the SEM-MDP Meter Data Format documentation in accordance with the timeline given in the SEM-MDP Interface Description. Data for each aggregation run type will be provided in a separate file. The file will contain data for multiple Supplier Units and	SEM-MDP File to SMO

Step	Role	Action	Interface
		trading site Supplier Units. There will be netting of non-participant export within the values in this file. Refer to section 2.1.7 for details of Reading Status within this file.	
8	**NIE**	NIE will send an SMO Aggregated Data – Supplier Unit message to Suppliers to advise what has been sent to the SMO in a SEM-MDP File from each aggregation run. There is a separate message for each Supplier Unit that has been included in each SEM-MDP File and which is Registered to the Supplier. The message 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 Indicative D+1, Initial D+4, Re-aggregation M+4, Re-aggregation M+13, Ad-Hoc. Import data is signed as negative. There will be netting of non-participant export within the values in this message. Refer to section 2.1.7 for details of Reading Status within this message.	596 to Supplier
9	**NIE**	NIE will send an SMO Aggregated Data – Generation Unit message to the Participant Generator to advise what has been sent to the SMO in a SEM-MDP File from each aggregation run. There is a separate message for each Participant Generator Unit that has been included in each SEM-MDP File and which is Registered to the Participant Generator. The SMO Aggregated Data – Generation Unit message contains Data Aggregation of Interval Export for Participant Interval Meter Points for the Settlement Date. Generator data is not signed. The message can be sent to a Supplier nominated to receive the message on the Participant Generator's behalf. Refer to section 2.1.7 for details of Reading Status within this message.	597 to Participant Generator / Supplier

2.1.3 Interval Metered Sites

For periods within a Settlement Day when the meter was de-energised or not-connected, a zero value will be aggregated and this will be regarded as actual data.

Missing Data for Interval Metered Sites

Where the Data Processor is unable to provide actual or estimated data for a Trading Period when a meter was connected and energised, the Data Aggregator will use an estimate.

Where Half Hourly Interval data is missing for any Settlement Day, it shall be estimated by using quantities for the same Meter Point on the same day of the week in the previous week.

Where the current day is a working day but the same day of the week in the previous week is not a working day with the same energisation status then the search will extend to through each previous week in turn until a working day with the same energisation status is found.

Where the current day is not a working day then the search will obtain data from the Sunday prior to the current non-working day having the same energisation status.

Where data is not available as provided for above then a default value will be used for each Trading Period for which Half Hourly interval data is missing.

2.1.4 Non Interval Credit Metered Sites

Where an AUF is available for a register Timeslot then this will be converted to a quantity applicable to the Trading Period by multiplying the AUF by the Derived Profile coefficient for the Trading Period, Profile and register Timeslot.

Where an AUF is not available for a register Timeslot but an EUF is available then a quantity applicable to the Trading Period will be calculated by multiplying the EUF by the Derived Profile coefficient for the Trading Period, Profile and register Timeslot.

Missing Data for Non-Interval Metered Sites

Zero values will be used for a Meter Point in aggregation wherever:

- Profile coefficients are missing for a Profile Class or for a Derived Profile for a Timeslot
- Neither an EUF nor an AUF is available for a Non-Interval site

NIE will investigate each instance of missing data and seek to correct the data in time for the next aggregation run for the affected Settlement Day.

2.1.5 Unmetered Sites

The AUF for will be converted to a quantity applicable to the Trading Period by multiplying the AUF by the Derived Profile coefficient for the Trading Period and Profile.

Missing Data for Unmetered Sites

Zero values will be used for a Meter Point in aggregation wherever:

- Profile coefficients are missing for a Profile Class
- An AUF is not available for an unmetered site

NIE will investigate each instance of missing data and seek to correct the data in time for the next aggregation run for the affected Settlement Day.

2.1.6 Generators

Non-Participating Generators

Export is registered to a Supplier Unit according to MP NI 7 Generator Nominations. Export may be registered to a different Supplier Unit than that Registered for import.

Where import and export are Registered against the same Supplier Unit then import and export will be aggregated together into the same total.

Participating Generators

Export is registered to a Generator Unit in accordance with MP NI 7 Generator Nominations.

Micro Generation

On an annual basis NIE will allocate the derived Half Hourly data to the Supplier's virtual MPRN and will process through M13 settlement.

NIE will calculate an annual export value using the following forumula: 45% of the declared net capacity x Profile on hours x assumed Load Factor (10%). NIE will apply this value to a Micro Generation profile to calculate annual Half-Hourly data for processing through Wholesale Settlement. Processing through settlement will only be performed on M+13 runs.

2.1.7 Reading Status

For an indicative aggregation run, the Reading Status for a Supplier or Generator Unit and Trading Period or for a trading site Supplier Unit and Trading Period will be set as 'estimated' if data for more than 10% of energised Interval Meter Points is estimated either by the Data Collector or the Data Processor.

For an initial aggregation run, the Reading Status for a Supplier or Generator Unit and Trading Period or for a trading site Supplier or Generator Unit and Trading Period will be set as 'estimated' if data for more than 5% of energised Interval Meter Points is estimated either by the Data Collector or the Data Processor.

For a resettlement aggregation run between four months and thirteen months after the Settlement Day the Reading Status for a Supplier Unit and Trading Period or for a trading site Supplier Unit and Trading Period will be set as 'estimated' if

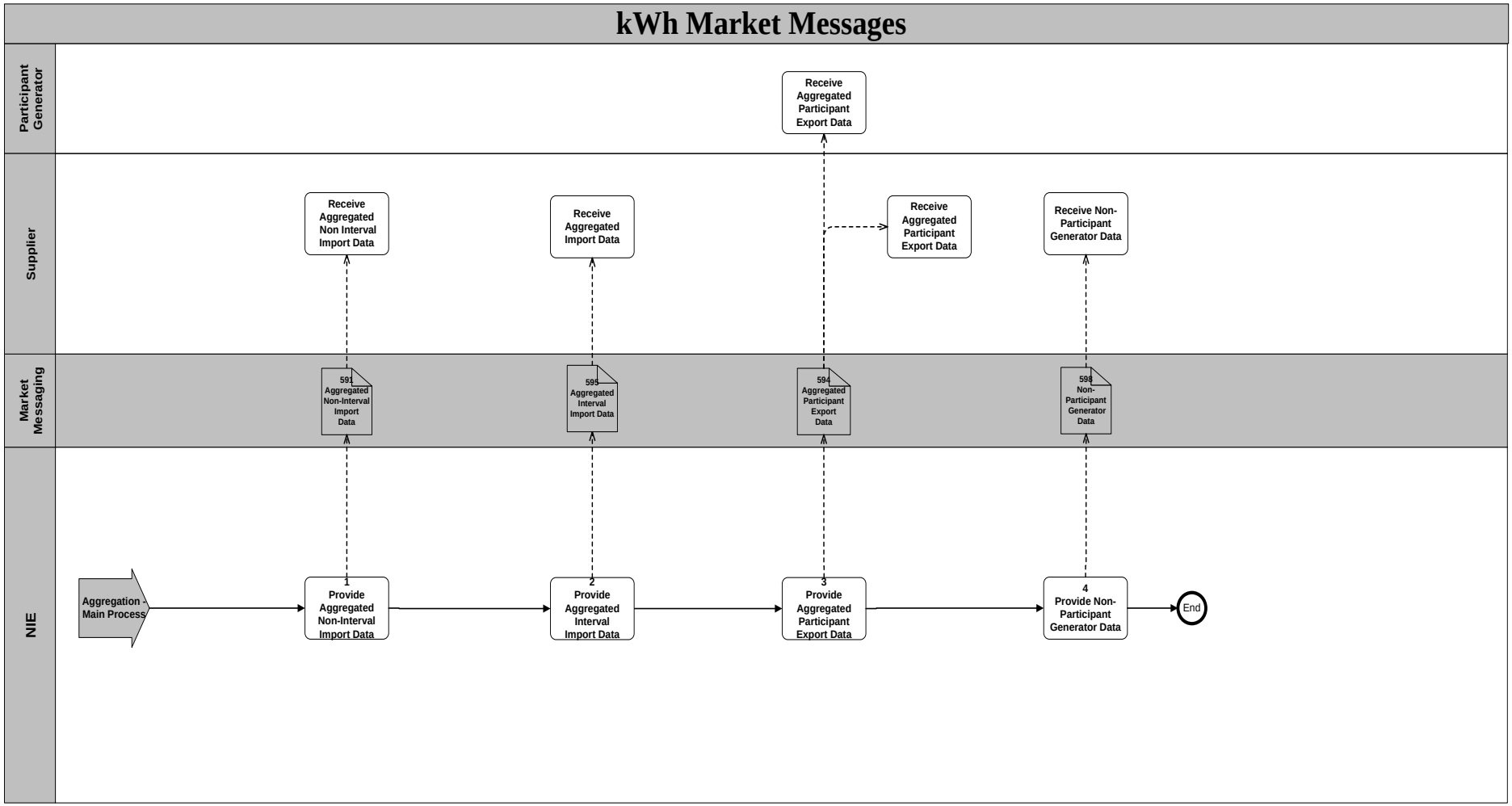
- data for more than 1% of energised Interval Meter Points is estimated either by the Data Collector or the Data Processor

For a resettlement aggregation run thirteen months or more after the Settlement Day the Reading Status for a Supplier or Generator Unit and Trading Period or for a trading site Supplier Unit and Trading Period will be set as 'estimated' if

- data for more than 0.5% of energised Interval Meter Points is estimated either by the Data Collector or the Data Processor

2.2 kWh Market Messages

2.2.1 Process Flow Diagram



2.2.2 Process Description

Step	Role	Action	Interface
1	**NIE**	NIE will send an Aggregated Non-Interval Import Data message to the Supplier to advise the total gross 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 Supplier/Supplier Unit/SSAC combination. Data is provided per 30-minute Interval for each Supplier/Supplier Unit/SSAC combination.	591 to Supplier
2	**NIE**	NIE will send an Aggregated Interval Import Data message to the Supplier to advise the total Interval metered 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 Supplier/Supplier Unit/SSAC combination. There will be *no* netting of Non-Participant export from the values in this message. Data is provided per 30-minute Interval for each Supplier/Supplier Unit/SSAC combination.	595 to Supplier
3	**NIE**	NIE will send an Aggregated Participant Export Data message 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 per 30-minute Interval for each Participant Generator Unit. This message can be sent to a Supplier nominated to receive the message on the Participant Generator's behalf.	594 to Participant Generator / Supplier

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Step	Role	Action	Interface
4	**NIE**	NIE will send a Non-Participant Generator Data message to the Supplier to whom the Non-Participant Generator Unit data is Registered to advise 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 per 30-minute Interval for each Non-Participant Generation Unit.	598 to Supplier