Exchange and Bilateral Trade reporting

Order and values in two-sided reports

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1 Terms and definitions

Term	Definition
MGA Exchange	Energy exchange between two Metering Grid Area reported by Distribution System Operators.
Bilateral Trade	Bilaterally agreed trade between two Balance Responsible Parties.
Confirmation report	Carries Matched values and Delta as response to reported hourly values. There are intermediate reports and final reports.
MGCO	Abbreviation for MGA Exchange Confirmation Report.
BITI	Abbreviation for Bilateral Trade report from customer to NBS Solution.
BICO	Abbreviation for Bilateral Trade Confirmation Report.

2 MGA Exchange

When reporting MGA Exchange, flow of energy is marked in the message submitted. In message, OutArea and InArea where exchange takes place have to be mentioned.

- OutArea: Marks Area from which Energy flows out, thus export occurs at this area.
- InArea: Marks Area to which Energy flows in, thus import occurs at this area.

This sets direction of exchange. Example: When reporter (DSO) fills in OutArea as MGA1 and InArea MGA2, and sets values of Exchange as 1MWh, NBS solution interprets this information as export from MGA1 to MGA2, thus Energy with total of 1MWh was transferred to MGA2.

Message delivered to NBS will declare this exchange in same way for both DSOs, and it would look like this:

- OutArea: MGA1
- InArea: MGA2
- Quantity: 1

Results of such report delivered from both parties will be Matched Quantity 1, thus both Parties accepted export from MGA1 to MGA2.

It is also possible to use negative sign to mark the direction of the exchange. This is described in more detail in Handbook, Chapter 5.4.2.2. In short, direction of Exchange can be marked with usage of OutArea and InArea values, or if preferred, direction can be changes by using negative value. Thus if reporting MGA1 as OutArea, but using negative values, system interprets such exchange as Import to OutArea.

View in Online Service

Data presentation in Online Service view is always adjusted according the domestic area of DSO which views data.

DSO sees whether energy was imported to its area or exported out from its area. When import occurs, positive values are shown under “Own Quantity” and when export occurs,

negative values are shown in “Own Quantity”. If counter party of DSO reports its data in accordance, values shown in “Counter Quantity” will be exactly the same, but with inverted sign.

Date	Hour	Own Quantity [MWh]	Own Quality	Counter Quantity [MWh]	Counter Quality	Matched Quantity	Matched Value Status
Load previous day							
21.03.2017	00:00-01:00	1,000000	Metered	-1,00000	Metered	1,000000	Final

Figure 1. DSO view on Area, where Import was done. Counterparty’s values shown as negatives, as Counterparty’s Area exported.

2.1 Confirmation report

There are two reports related to MGA Exchange:

- Intermediate report: Generated instantly after MGA Exchange is received by eSett’s system and contains Matched values and Delta values as valid in point of generation. Report is recalculated and resent after every submission of MGA exchange by DSO. Scope of returned data depends on MGA Exchange on which it is based on contained.
- Final report: Generated 13 days after delivery date of MGA Exchange and contains all MGA Exchanges of receiver that were done on delivery day (thus period of 24 hours).

Data representation in Confirmation report is based on how DSO decides to report data. By default, the direction of Exchange is represented by the order of In and OutArea in the message. Thus, values reported are always positive and OutArea is energy exporter.

Delta values mark the absolute difference between values reported by DSO1 and DSO2 for particular hour. In case one DSO does not report, zero is used and Delta for this DSO is absolute of value reported by counter DSO.

See example of how it looks when DSO1 and DSO2 report their data in same way and they decide both to use Area order to mark direction of exchange:

DSO1	DSO2
MGA Exchange	
OutArea: MGA1 InArea: MGA2 Quantity: 1	OutArea: MGA1 InArea: MGA2 Quantity: 1
MGA Confirmation Report	
OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 0	OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 0

Following example of how it looks when DSO1 and DSO2 report same data as in previous example, also in same way and they decide both to use negative sign order to mark direction of exchange:

DSO1	DSO2
MGA Exchange	
OutArea: MGA2 InArea: MGA1 Quantity: -1	OutArea: MGA2 InArea: MGA1 Quantity: -1
MGA Confirmation Report	
OutArea: MGA2 InArea: MGA1 Matched Quantity: -1 Delta: 0	OutArea: MGA2 InArea: MGA1 Matched Quantity: -1 Delta: 0

Following example of how it looks when DSO1 and DSO2 report same data as in previous example, but one decides to use order of areas and second negative values:

DSO1	DSO2
MGA Exchange	

OutArea: MGA1 InArea: MGA2 Quantity: 1	OutArea: MGA2 InArea: MGA1 Quantity: -1
MGA Confirmation Report	
OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 0	OutArea: MGA2 InArea: MGA1 Matched Quantity: -1 Delta: 0

Please note that Matched quantity states export MGA1 to MGA2 in both cases, but because each party decided different way to state this, each receives confirmation report that marks this thing in way DSO reported.

In case DSO passively receives Confirmation report, because no MGA Exchange was sent before on particular Time Period, direction of exchange is always expressed by order of In/OutAreas and values are positive.

In case DSO receives Confirmation report, but part of the data that Counterparty reported were reported by DSO itself in reverse direction (negative values), this part of Confirmation report will carry data in this reverse direction, but remaining part will be stated in new time serie using positive values and order of areas in primary direction. See following example, where export from MGA1 to MGA2 takes place and Confirmation report is triggered by report of DSO2:

DSO1	DSO2
MGA Exchange	
Day 1 OutArea: MGA2 InArea: MGA1 Quantity: -1	Day 1 OutArea: MGA1 InArea: MGA2 Quantity: 1
Day 2 OutArea: MGA1 InArea: MGA2 Quantity: Not reported	Day 2 OutArea: MGA1 InArea: MGA2 Quantity: 1
MGA Confirmation Report	

Day 1 OutArea: MGA2 InArea: MGA1 Matched Quantity: -1 Delta: 0	Day 1 OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 0
Day 2 OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 1	Day 2 OutArea: MGA1 InArea: MGA2 Matched Quantity: 1 Delta: 1

3 Bilateral Trade

When reporting Bilaterla Trade, trading flows of energy is marked in the message submitted. In message, OutParty and InParty where exchange takes place have to be mentioned.

- OutParty: Seller who sells the energy to the other party.
- InParty: Buyer who buys the energy from the other party.

Please note that trade takes place on one MBA only, thus Area is always same for In and OutArea elements in the message.

This sets direction of trade. Example: When reporter fills in OutParty as BRP1 and InParty BRP2, and sets values of Trade as 1MWh, NBS solution interprets this information as sale from BRP1 to BRP2, thus Energy with total of 1MWh was transferred will be bought by BRP2.

Message delivered to NBS will declare this exchange in same way for both BRPs, and it would look like this:

- OutParty: BRP1
- InParty: BRP2
- Quantity: 1

Results of such report delivered from both parties will be Matched Quantity 1, thus both Parties accepted sale from BRP1 to BRP2.

It is also possible to use negative sign to mark the direction of the trade. This is described in more detail in Handbook, Chapter 5.4.1.3. In short, direction of Exchange can be marked with usage of InParty and OutParty values, or if preferred, direction can be changes by using negative value. Thus if reporting BRP1 as OutParty, but using negative values, system interprets such exchange as sale to OutArea.

View in Online Service

Data presentation in Online Service view is always adjusted according the BRP which views data.

BRP sees whether energy was bought by it or sold. When buying occurs, positive values are shown under “Own Quantity” and when sale occurs, negative values are shown in “Own Quantity”. If counter party of BRP reports its data in accordance, values shown in “Counter Quantity” will be exactly the same, but with inverted sign.

Date	Hour	Own Quantity [MWh]	Counter Quantity [MWh]	Matched Quantity	Matched Quantity Status
Load previous day					
04.04.2017	00:00-01:00	760,000000	-760,000000	760,000000	Final

Figure 2. BRP view on Trade, where buying was done. Counterparty’s values shown as negatives, as Counterparty sold energy.

3.1 Confirmation report

There are two reports related to Bilateral Trade:

- Intermediate report: Generated instantly after Bilateral Trade is received by eSett’s system and contains Matched values and Delta values as valid in point of generation. Report is recalculated and resent after every submission of Bilateral Trade by BRP. Scope of returned data depends on Bilateral Trade on which it is based.
- Final report: Generated after gate closure takes place on delivery day. Report contains whole delivery day (or more if it includes non-business days).

Data representation in Confirmation report is based on how BRP decides to report data. By default, the direction of Trade is represented by the order of In and OutParty in the message. Thus, values reported are always positive and OutParty is energy seller.

See example of how it looks when BRP1 and BRP2 report their data in same way and they decide both to use Party order to mark direction of trade:

BRP1	BRP2
Bilateral Trade	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP1 InParty: BRP2 Quantity: 1
Bilateral Trade Confirmation	
A08 Matched	

OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP1 InParty: BRP2 Quantity: 1
Z64 Delta	
OutParty: BRP1 InParty: BRP2 Quantity: 0	OutParty: BRP1 InParty: BRP2 Quantity: 0

Following is example when report of same data is done, but each party uses different approach of stating the direction:

BRP1	BRP2
Bilateral Trade	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: -1
Bilateral Trade Confirmation	
A08 Matched	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: -1
Z64 Delta	
OutParty: BRP1 InParty: BRP2 Quantity: 0	OutParty: BRP2 InParty: BRP1 Quantity: 0

Following is an example, when report of same data is done for one day, but each party uses different approach of stating the direction. Second day is example where only one party sends data as demonstration of direction handling for party that did not reported yet:

BRP1	BRP2
Bilateral Trade	
Day 1	

OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: -1
Day 2	
OutParty: BRP1 *InParty: BRP2* *Quantity: Not reported*	OutParty: BRP2 InParty: BRP1 Quantity: -1
Bilateral Trade Confirmation	
Day 1	
A08 Matched	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: -1
Z64 Delta	
OutParty: BRP1 InParty: BRP2 Quantity: 0	OutParty: BRP2 InParty: BRP1 Quantity: 0
Day 2	
A08 Matched	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: -1
Z64 Delta	
OutParty: BRP1 InParty: BRP2 Quantity: 1	OutParty: BRP2 InParty: BRP1 Quantity: 1