

# BRS

(Business Requirement Specification)

**Nordic Balance Settlement**

**Exchange of Master Data**

**Business process:** Nordic Balance Settlement  
**Version:** 1.7.A  
**Status:** For test implementation  
**Date:** April 19<sup>th</sup> 2017

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## 1 Introduction

### 1.1 Background

The Nordic Balance Settlement (NBS) project has completed the design phase and the regulators of Finland, Norway and Sweden has decided to support the implementation of NBS. The company eSett Oy has been established to carry out the Nordic Balance Settlement.

As part of preparation for implementation, eSett asked in spring 2013 the Nordic Ediel Group (NEG) to come up with a detailed Business Requirement Specification (BRS) for the NBS processes. This led to a common NEG/eSett project, which drafted the NBS BRSs, starting summer 2013.

### 1.2 Summary

This document is a Business Requirement Specification (BRS) for the Nordic Balancing System, made by a project group with participants from eSett and NTC (NEG Technical Committee). The project is run as a Nordic project with the Nordic Ediel Group (NEG) as the steering group.

The BRS is detailing the exchange of Master Data needed to perform a Nordic Balance Settlement. The focus of the document is the technical aspects of the document exchanges. The documents have been developed by NEG, since neither ebIX® nor ENTSO-E has specified similar documents. However, the structure of the documents is based on ENTSO-E Implementation Guides, see [1]. In addition, the Harmonised Electricity Market Role Model from ENTSO-E, ebIX® and EFET, see [3], is used for identifying the relevant roles and domains used in the BRS.

There are separate BRSs for data exchanges between eSett and the actors in the Nordic energy market, and between eSett and the Nordic TSOs and Market Operators.

The first part of the document, chapter 2, 3 and 4, describes the business processes relevant for data exchange within the Nordic Balance Settlement (NBS) process area. In chapter 5 the documents that will be exchanged between the Imbalance Settlement Responsible (eSett) and the market actors are described in detail.

### 1.3 Nordic Energy Domain Model

A Nordic Energy market Domain model, giving an overall overview of the structure and processes used in the Nordic Energy market, can be found in [6].

### 1.4 Project organisation

The project is organised as a project group within the Nordic Ediel Group, with the following members at the time of publication:

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## 1.5 Terms and notations used in this BRS

In this BRS the term Generator Group is used instead of the term Regulation Object, which is used in the NBS Handbook [13] and the term Resource object is used instead of the term Production Unit, which is used in the NBS Handbook [13].

Documents are described by a class diagram showing the full set of attributes in the related xml schema. In addition the usage of the document is described by one or more tables detailing the usage of each attribute. Optional attributes from the class diagram, not used in the specific data exchange, are omitted from the table.

## 1.6 References

- [1] ENTSO-E implementation guides, see <https://www.entsoe.eu/publications/electronic-data-interchange-edi-library/work%20products/Pages/default.aspx>, e.g.:
  - ENTSO-E Modelling Methodology (EMM)
  - ENTSO-E UCTE SO-SO Process
  - ENTSO-E Scheduling System, ESS
  - ENTSO-E Settlement Process, ESP
  - ENTSO-E Capacity Allocation and Nomination System, ECAN
  - ENTSO-E Acknowledgement process
- [2] ebIX® Business Requirement Specifications, see <http://www.ebix.org/>
- [3] The Harmonised Role Model, ENTSO-E, ebIX® and EFET, see <http://www.ebix.org/>
- [4] UN/CEFACT Unified Modelling Methodology (UMM), see <http://umm-dev.org/>
- [5] Ediel Implementation guides, see <http://www.ediel.org/>
- [6] Nordic Energy Market Domain Model, see <http://www.ediel.org/>
- [7] BRS for Nordic trading system, will be published at <http://www.ediel.org/>
- [8] BRS for Nordic Scheduling and Ancillary Services process, see <http://www.ediel.org/>
- [9] BRS for Nordic Settlement System, documents between eSett and the actors in the Nordic energy market, see <http://www.ediel.org/>
- [10] BRS for Nordic Settlement System, documents between eSett, TSOs and Market operator, see <http://www.ediel.org/>
- [11] Common Nordic XML rules and recommendations, see <http://www.ediel.org/>
- [12] NBS Design report, see <http://www.nbs.coop/sites/default/files/materials/NBS%20Final%20Design%20report.pdf>
- [13] NBS Handbook, [www.nbs.coop](http://www.nbs.coop)

## 1.7 Change log

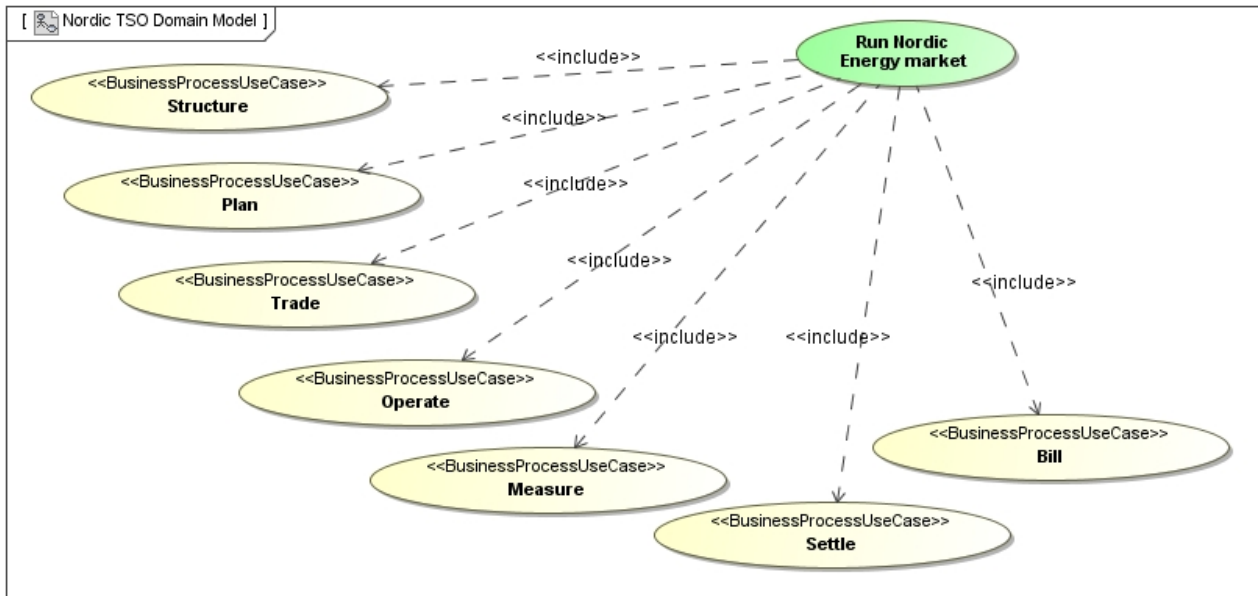
Ver/rel/rev	Changed by	Date	Changes
1.7.A	Ove Nesvik	20170419	<ul style="list-style-type: none"> <li>Updated class diagrams for Party Master Data and Resource Object Master Data</li> <li>Added new element "Status" to Party Master Data and Resource Object Master Data documents</li> <li>Added new element "Reference" to Party Master Data document</li> <li>Rephrased and added Document Type codes for Party Master Data and Resource Object Master Data documents</li> <li>Updated cardinalities for Party Master Data and Resource Object Master Data documents</li> <li>Added textual clarifications, incl. removed Nord Pool logo on the front page</li> <li>Added new Energinet logo</li> </ul>
1.6.B	Ove Nesvik	20170213	Textual corrections: <ul style="list-style-type: none"> <li>Updated logos on the front page</li> <li>Replaced Nord Pool and NPS with Market Operator</li> <li>Updated NTC and NEG member list</li> </ul>
1.6.A	Ove Nesvik	20161206	<ul style="list-style-type: none"> <li>NEG Party Master Data Document:               <ul style="list-style-type: none"> <li>Replaced Document type "<b>Z17</b> Party Relation Master Data Document" with:                   <ul style="list-style-type: none"> <li><b>Z18</b> Party Relation Master Data Document where Validity Start and/or Validity End are within the Validity Time Interval</li> <li><b>Z19</b> Party Relation Master Data Document where relations are valid sometime within the Validity Time Interval</li> </ul> </li> <li>Added a Validity Time Interval in the header section</li> </ul> </li> </ul>
1.5.A	Ove Nesvik	20161027	<ul style="list-style-type: none"> <li>The type for Validity Start and Validity End have been changed from date to "date <b>and time</b>"</li> <li>Addition of Party relation document in the sequence diagram in chapter 2.3</li> <li>Addition of clarifying text</li> </ul>
1.4.A	Ove Nesvik	20160210	<ul style="list-style-type: none"> <li>NEG Resource Object (Production Unit) Master Data Document:               <ul style="list-style-type: none"> <li>Error corrections in class diagram (Production Type)</li> <li>Addition of clarifying text</li> </ul> </li> <li>Textual error corrections</li> <li>NEG Party Master Data Document:               <ul style="list-style-type: none"> <li>Addition of Related Party</li> <li>Addition of Business Type <b>A01</b>, Production</li> <li>Addition of Document Type <b>Z17</b>, Party relation master data document and related codes and new elements</li> <li>Settlement method is made optional</li> </ul> </li> </ul>

1.3.B	Ove Nesvik	20151027	<ul style="list-style-type: none"> <li>Recipient ID and Role is made optional in the Area Specification Document and the Party Master Data Document</li> <li>Rename of Business Type “<b>Z68</b>, Production Units own consumption (Only used in Finland)” to <b>B36</b> in Party Master Data Document</li> </ul>
1.3.A	Ove Nesvik	20150923	<ul style="list-style-type: none"> <li>The MGA type “<b>Z02</b> Only losses” is removed from “NEG Area Specification Document for MBA and MGA Master Data”</li> <li>Addition of clarifying text, such as a description of the Bilateral Trade ID</li> <li>Addition of Production Type in NEG-Resource Object Master Data document</li> <li>Bilateral Trade Master Data Report is renamed to NEG Bilateral Trade Structure Document</li> <li>Addition of Business Type “<b>Z68</b> Production Units own consumption” in the Party master Data document</li> <li>Correction of cardinality for NEG Area Specification Document for MBA-MGA Relations; the cardinality of “Area specification details” is [1..*]</li> </ul>
1.2.A	Ove Nesvik	20150421	<ul style="list-style-type: none"> <li>Addition of MGA Type “<b>Z07</b> Transmission (main/central) grid”</li> </ul>
1.1.A	Ove Nesvik	20150624	<ul style="list-style-type: none"> <li>Addition of MGA Type “<b>Z06</b>, Production”</li> <li>Changed cardinality of the relation between “Resource Object Details” and “Related Area” to [0..*] in the NEG-Resource Object Master Data</li> <li>“<b>A08</b> Balance Responsible Party” is added as sender role and “<b>A05</b> Imbalance settlement responsible” is added as receiver role in NEG Resource Object (Generator Group – Generator Relations) Master Data Document</li> <li>Correction of textual errors, such as Document Type Codes in the Resource Object Master Data document class diagram.</li> <li>Addition of Object Aggregation in Resource Object (Production Unit) Master Data Document</li> <li>Addition of new Asset Type code “<b>Z07</b> Consumption” in Resource Object (Production Unit) Master Data Document</li> <li>Asset Type “<b>B20</b> Other” is renamed” to “Other production”</li> </ul>
1.0.A	Ove Nesvik	20150123	First version for test implementation

## 2 Overview of the Nordic energy market domain

### 2.1 Settlement in the overall context (Domain model)

The *Domain model* describes the main business process areas needed to have a well-functioning energy market. The model is important for having a common and agreed understanding on how the energy market works as a basis for development of common methods for exchange of information.



**Figure 1:** UseCase diagram: ebIX® Energy Market Domain Model

The domain model of the energy market covers all stages from the structuring of the market until the settlement and billing of consumption and transport of energy, with a focus on the exchange of information:

- Exchange of master data including the Change of Supplier processes
- Planning of production, consumption, exchange and transport
- Trade on different markets, including ancillary services, bilateral trade, etc.
- Operation
- Measuring of production, consumption, exchange and transport
- Settlement
- Billing

The Nordic Settlement System process includes parts of the process areas Trade, Plan and Measure.

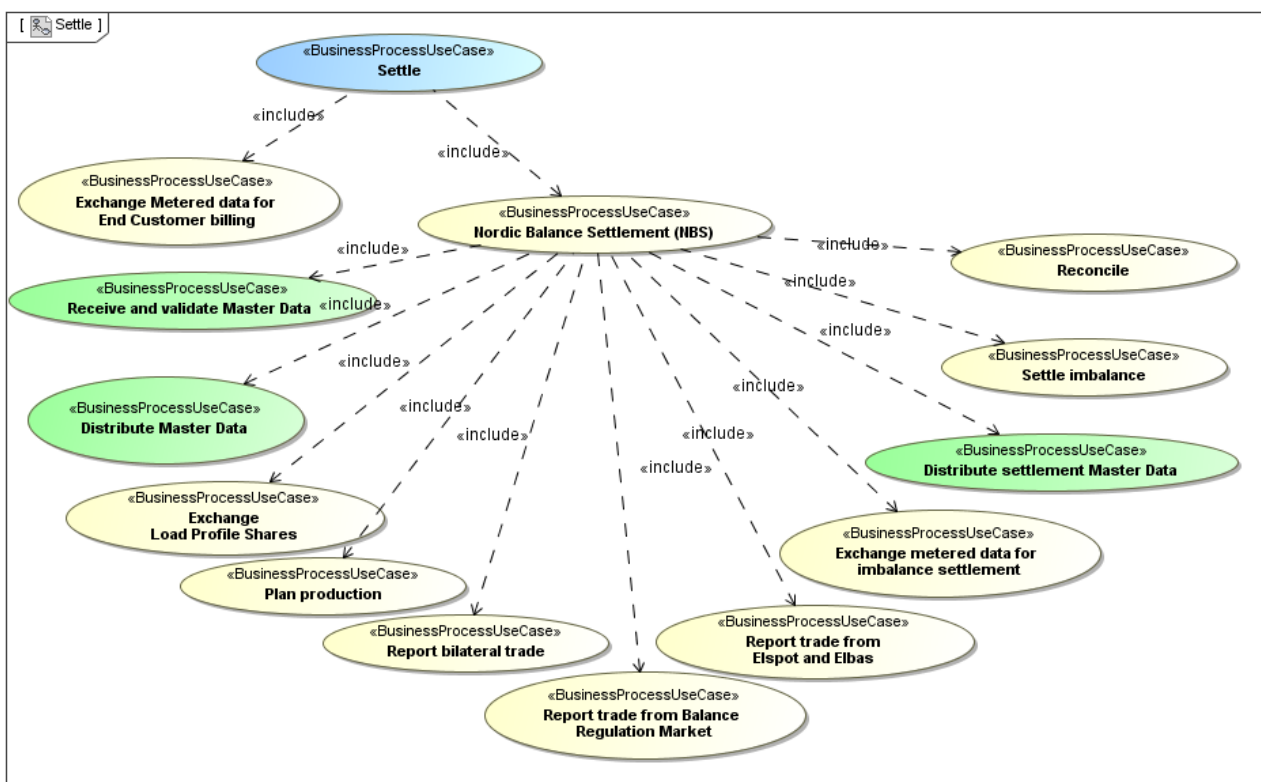
For a more elaborated description of the processes included in the domain model, see [6].

## 2.2 Breakdown of the settlement phase

In the rest of this document, the processes related to the Nordic Balancing System, with a focus on the *Business area (UseCase) Settle*, is further elaborated.

The core imbalance settlement activity takes place once the operational phase is completed. However, there are some preceding processes run before operation, such as exchange of Load profile Shares (LPS) and exchange of traded volumes, both at the power exchange and bilaterally. The imbalance settlement is composed of three basic activities:

- The first activity receives all the schedules agreed and regulation data that has been required for balancing the area.
- The second activity recuperates the measured values of the delivered products, for each continuous metered Metering Point and settles the imbalance in the balance regulation market.
- The final activity reconciles the values for the profile-metered Metering Points, identifies the imbalances and establishes the imbalance settlement amounts, thus requiring pricing information.



**Figure 2:** UseCase diagram: Breakdown of the settlement phase

The settlement phase, outlined in Figure 2, describes the principal UseCases of the Nordic Balance Settlement system.

The roles that take part in the imbalance settlement process are (see also chapter 0):

- *Balance Responsible Party*, who receives the settlement information on both Metering Point- and aggregated level for invoicing of the Balance Suppliers.
- *Balance Supplier*, who receives the settlement information on a Metering Point level for invoicing of the Parties connected to grid (Consumers and Producers).
- *Billing Agent*, who invoices the Balance Responsible Parties.
- *Market Operator*, who supplies the Imbalance Settlement Responsible with the result of the trade on the day-ahead and intraday markets.



- *Imbalance Settlement Responsible*, who establishes the imbalance (quantities and amounts).
- *Metered Data Aggregator*, who provides aggregated metered information. The Metered Data Aggregator may have Local Metered Data Aggregators that provide initial aggregated input for consolidation and validation before being sent to the Imbalance Settlement Responsible.
- *Reconciliation Accountable*, who is paying for the imbalances from the reconciliation process.
- *Reconciliation Responsible*, who is calculating the reconciliation settlement (second settlement).
- *System Operator*, who provides the finalised schedule information and regulation data.
- *Trader*, who buys and sells electricity, either on an electricity exchange or by bilateral contracts. Opposite to a Trade Responsible Party, a trader does not necessarily have to be a Balance Responsible Party. A Trader must however have a contract with a Balance Responsible Party, which provides financial security and identifies balance responsibility with the Imbalance Settlement Responsible of the Market Balance Area, entitling the party to operate in the market.

The basic data that is required for imbalance settlement includes the following:

- Finalised schedules that originate at the last stage of the ENTSO-E Scheduling process and could be day ahead or intraday schedules.
- Aggregated metered values for each Balance Responsible Party and area (Metering Grid Area or Market Balance Area). These consist of values for each schedule interval (60 minutes) for the complete accounting settlement period.
- Regulation data, such as ancillary services. These are established by the System Operator and consist of time series information used in the imbalance settlement.
- Settlement pricing information.

The DSO will send metered data, acting in the role of *Metered Data Responsible* and *Metered Data Aggregator*, to the *Imbalance Settlement Responsible*. The *Imbalance Settlement Responsible* is then in position to conduct the balance settlement.

The *System Operator* sends activated reserves (volume and amounts) to the *Imbalance Settlement Responsible*.

The *Imbalance Settlement Responsible* will conduct a limited QA of received metered data and calculate the imbalance settlement using Nordic harmonised rules. Data will thereafter be made available for the *Balance Responsible Parties*, either through messages or through a web-application, on an aggregated level.

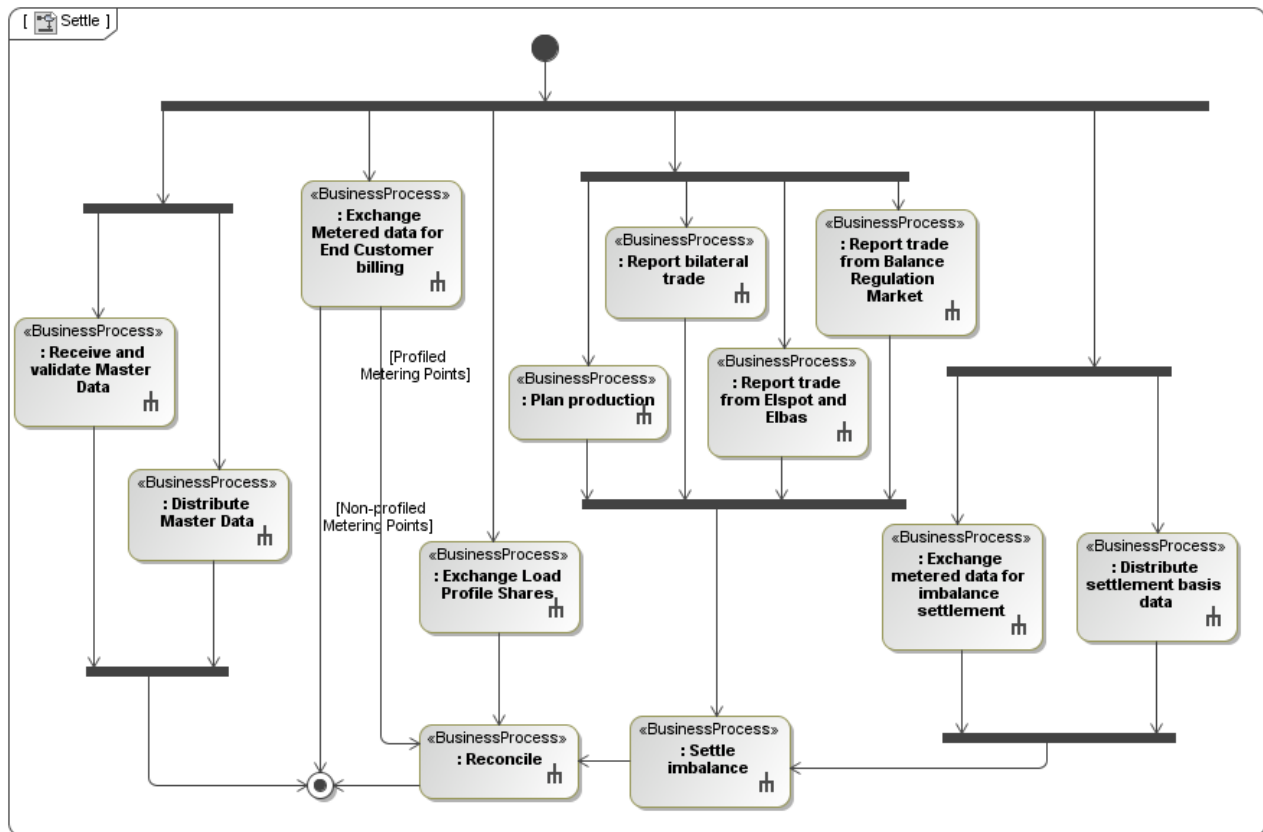
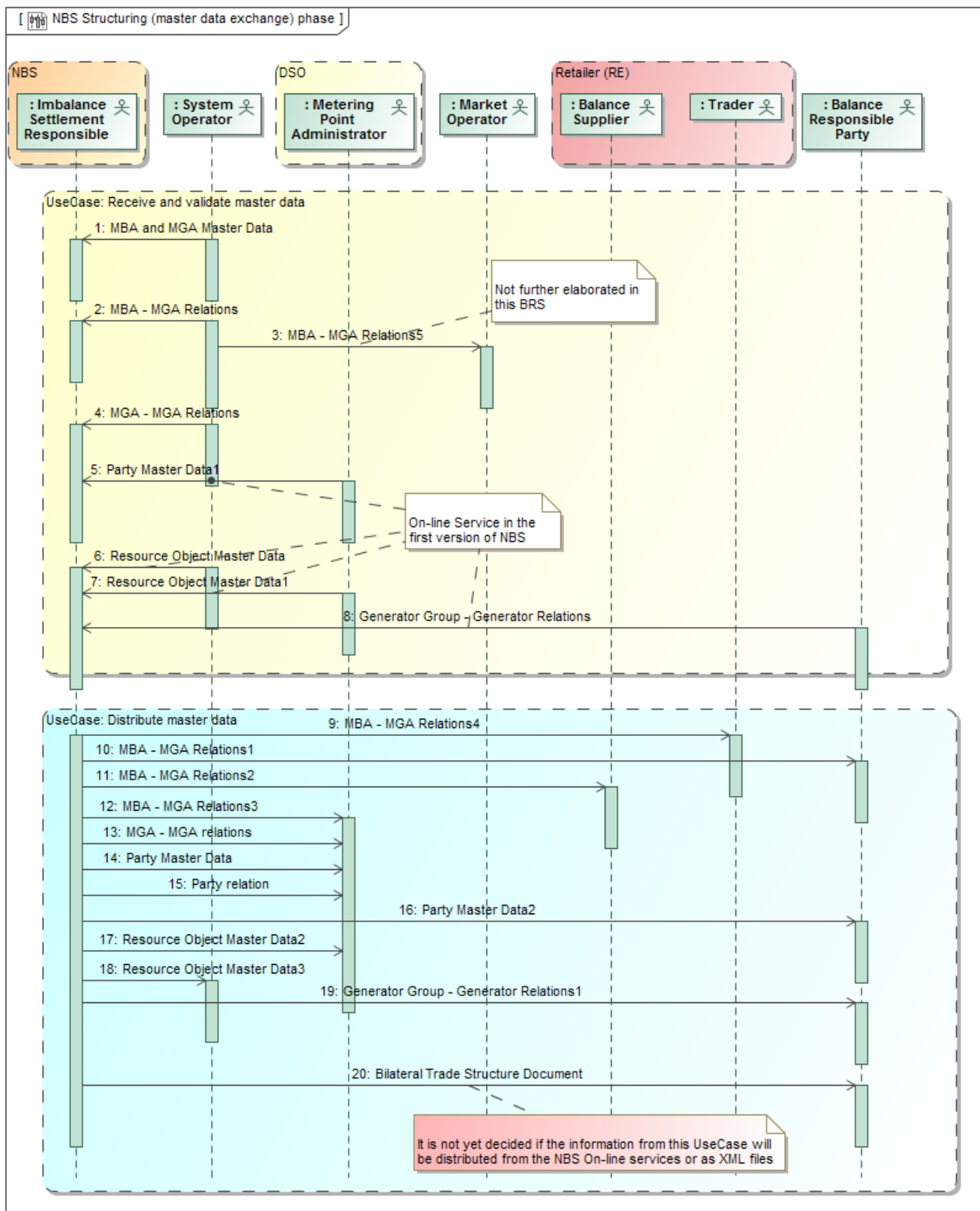


Figure 3 Activity diagram: The Nordic Settlement process

## 2.3 Overview of information exchange for the NBS Master Data exchange phase



**Figure 4** Sequence diagram: The NBS Master Data exchange phase

NBS document	Roles	Documentation
<b>Receive and validate Master Data</b>		
1. MBA and MGA Master Data	SO → eSett	NEG Area Specification Document <b>For details see: 5.1.2</b>
2. MBA - MGA Relations	SO → eSett	NEG Area Specification Document <b>For details see: 5.1.3</b>
3. MBA - MGA Relations	SO → MO	Not further elaborated in this document
4. MGA - MGA Relations	SO → eSett	NEG Area Specification Document <b>For details see: 5.1.4</b>
5. Party Master Data	MPA (DSO) → eSett	NEG Party Master Data Document <b>For details see: 5.2.2</b>
6. Resource Object Master Data	SO → eSett	NEG Resource Object (Production Unit) Master Data Document <b>For details see: 5.3.2</b>
7. Resource Object, Production Unit Master Data	MPA (DSO) → eSett	NEG Resource Object (Production Unit) Master Data Document <b>For details see: 5.3.2</b>
8. Resource Object, Generator Group and Generator Relations Master Data	BRP → eSett	NEG Resource Object (Production Unit) Master Data Document <b>For details see: 5.3.3</b>
<b>Distribute Master Data</b>		
9. MBA - MGA Relations	eSett → Trader	NEG Area Specification Document <b>For details see: 5.1.3</b>
10. MBA - MGA Relations	eSett → BRP	NEG Area Specification Document <b>For details see: 5.1.3</b>
11. MBA - MGA Relations	eSett → BS	NEG Area Specification Document <b>For details see: 5.1.3</b>
12. MBA - MGA Relations	eSett → MPA (DSO)	NEG Area Specification Document <b>For details see: 5.1.3</b>
13. MBA - MGA Relations	eSett → MPA (DSO)	NEG Area Specification Document <b>For details see: 5.1.3</b>
14. Party Master Data	eSett → MPA (DSO)	NEG Party Master Data Document <b>For details see: 5.2.2</b>
15. Party Relation	eSett → MPA (DSO)	NEG Party Master Data Document <b>For details see: 5.2.2</b>
16. Party Master Data	eSett → BRP	NEG Party Master Data Document <b>For details see: 5.2.2</b>

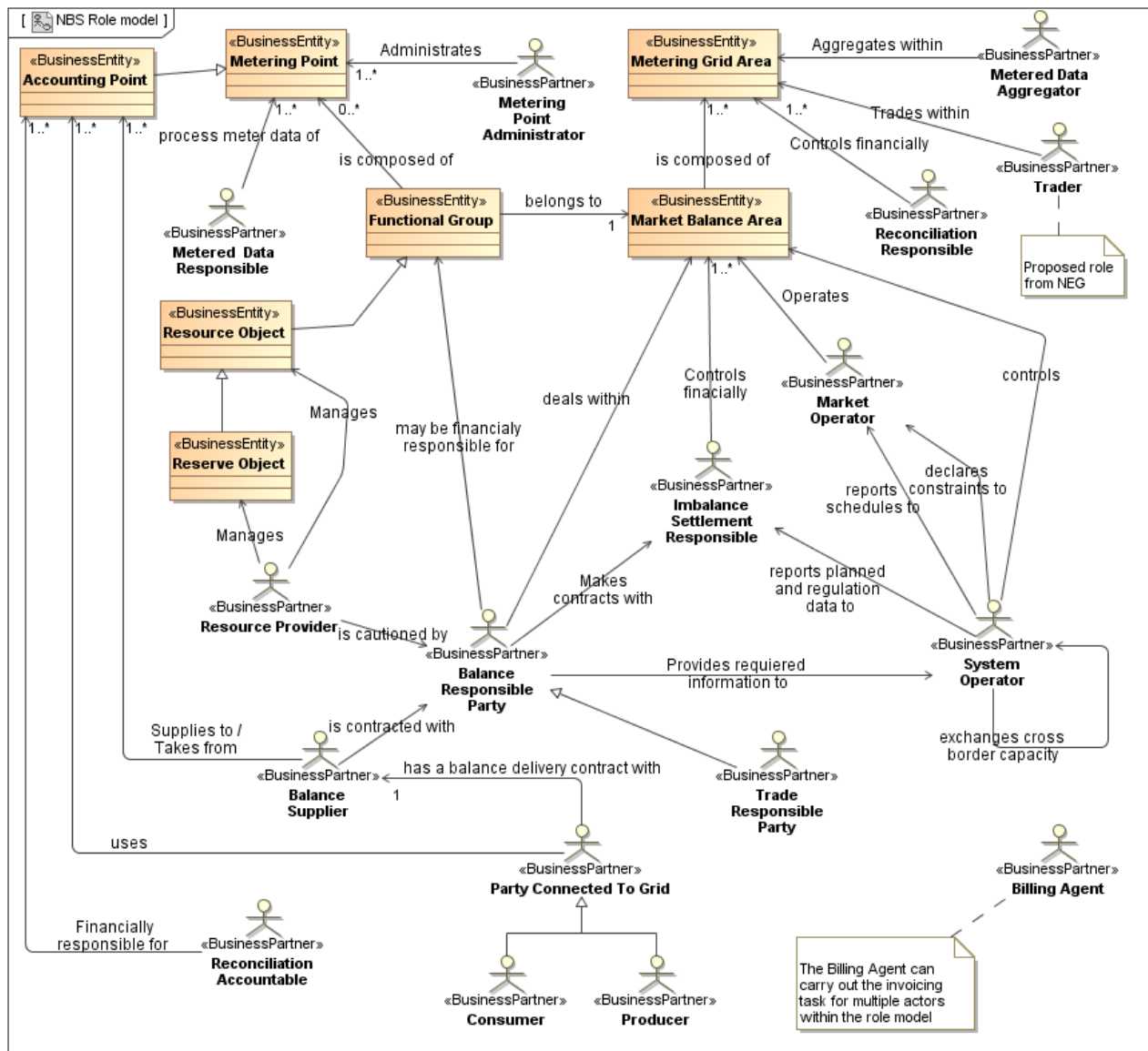
## BRS for NBS Exchange of Master Data

NBS document	Roles	Documentation
17. Resource Object Master Data	eSett → MPA (DSO)	NEG Resource Object (Production Unit) Master Data Document  <b>For details see:</b> 5.3.2
18. Resource Object, Production Unit Master Data	eSett → SO	NEG Resource Object (Production Unit) Master Data Document  <b>For details see:</b> 5.3.2
19. Resource Object, Generator Group and Generator Relations Master Data	eSett → BRP	NEG Resource Object (Production Unit) Master Data Document  <b>For details see:</b> 5.3.3
20. Bilateral Trade Structure Document	eSett → BRP	NEG Bilateral Trade Structure Document  <b>For details see:</b> 5.4.2

**Table 1:** NBS Master Data exchange phase documents

### 3 Harmonised roles used in Nordic settlement system

In **Figure 5** the relevant parts of the ebIX®, EFET and ENTSO-E Harmonised role model are outlined.



**Figure 5:** Outline of the Harmonised role model within the scope of Nordic Balance Settlement system

### 3.1 Definitions (from the ebIX®, EFET and ENTSO-E Harmonised role model):

### 3.1.1 Roles

**Balance Responsible Party:** A party that has a contract proving financial security and identifying balance responsibility with the Imbalance Settlement Responsible of the Market Balance Area entitling the party to operate in the market. This is the only role allowing a party to nominate energy on a wholesale level.

**Additional information:**

The meaning of the word “balance” in this context signifies that the quantity contracted to provide or to consume must be equal to the quantity really provided or consumed.

<b>Balance Supplier:</b>	<p>A party that markets the difference between actual metered energy consumption and the energy bought with firm energy contracts by the Party Connected to the Grid. In addition the Balance Supplier markets any difference with the firm energy contract (of the Party Connected to the Grid) and the metered production.</p> <p><b>Additional information:</b> There is only one Balance Supplier for each Accounting Point.</p>
<b>Billing Agent:</b>	<p>The party responsible for invoicing a concerned party.</p>
<b>Consumer:</b>	<p>A party that consumes electricity.</p> <p><b>Additional information:</b> This is a Type of Party Connected to the Grid.</p>
<b>Imbalance Settlement Responsible:</b>	<p>A party that is responsible for settlement of the difference between the contracted quantities and the realised quantities of energy products for the Balance Responsible Parties in a Market Balance Area.</p> <p><b>Note:</b> The Imbalance Settlement Responsible has not the responsibility to invoice. The Imbalance Settlement Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.</p>
<b>Market Operator:</b>	<p>The unique power exchange of trades for the actual delivery of energy that receives the bids from the Balance Responsible Parties that have a contract to bid. The Market Operator determines the market energy price for the Market Balance Area after applying technical constraints from the System Operator. It may also establish the price for the reconciliation within a Metering Grid Area.</p>
<b>Metered Data Aggregator:</b>	<p>A party responsible for the establishment and qualification of metered data from the Metered Data Responsible. This data is aggregated according to a defined set of market rules.</p>
<b>Metered Data Responsible:</b>	<p>A party responsible for the establishment and validation of metered data based on the collected data received from the Metered Data Collector. The party is responsible</p>
<b>Metering Point Administrator:</b>	<p>A party responsible for registering the parties linked to the metering points in a Metering Grid Area. He is also responsible for maintaining the Metering Point technical specifications. He is responsible for creating and terminating metering points.</p>
<b>Party Connected To Grid:</b>	<p>A party that contracts for the right to consume or produce electricity at an Accounting Point.</p>
<b>Producer:</b>	<p>A party that produces electricity.</p> <p><b>Additional information:</b> This is a type of Party Connected to the Grid.</p>

**Reconciliation Accountable:** A party that is financially accountable for the reconciled volume of energy products for a profiled Accounting Point.

**Reconciliation Responsible:** A party that is responsible for reconciling, within a Metering Grid Area, the volumes used in the imbalance settlement process for profiled Accounting Points and the actual metered quantities.

**Note:**

The Reconciliation Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.

**Resource Provider:** A role that manages a resource object and provides the schedules for it.

**System Operator:** A party that is responsible for a stable power system operation (including the organisation of physical balance) through a transmission grid in a geographical area. The SO will also determine and be responsible for cross border capacity and exchanges. If necessary, he may reduce allocated capacity to ensure operational stability.

Transmission as mentioned above means "the transport of electricity on the extra high or high voltage network with a view to its delivery to final customers or to distributors. Operation of transmission includes as well the tasks of system operation concerning its management of energy flows, reliability of the system and availability of all necessary system services." (The definition is taken from the UCTE Operation handbook Glossary).

**Note:**

Additional obligations may be imposed through local market rules.

**Trade Responsible Party:** A party who can be brought to rights, legally and financially, for any imbalance between energy nominated and consumed for all associated Accounting Points.

**Note:**

A power exchange without any privileged responsibilities acts as a Trade Responsible Party.

**Additional information:**

This is a type of Balance Responsible Party.

**Trader:** A party who buys and sells electricity, either on an electricity exchange or by bilateral contracts. Opposite to a Trade Responsible Party, a trader does not necessarily have to be a Balance Responsible Party. A Trader must however have a contract with a Balance Responsible Party, which provides financial security and identifies balance responsibility with the Imbalance Settlement Responsible of the Market Balance Area, entitling the party to operate in the market.

**Note:** The NordREG role *National Point of Information (NPI)* is represented as the role *Metered Data Aggregator* in the BRS.



### 3.1.2 [Domains](#)

<b>Accounting Point:</b>	<p>An entity under balance responsibility where balance supplier change can take place and for which commercial business processes are defined.</p> <p><b>Additional information:</b> These entities are usually defined in a contract. Typical business processes where this would be used may be “compensation management”, “settlement”, “calculation of energy volumes”, etc</p> <p>This is a type of metering point.</p>
<b>Functional Group:</b>	<p>A collection of Metering Points for consumption and generation within a Market Balance Area.</p>
<b>Market Balance Area:</b>	<p>A geographic area consisting of one or more Metering Grid Areas with common market rules for which the settlement responsible party carries out a balance settlement and which has the same price for imbalance. A Market Balance Area may also be defined due to bottlenecks.</p>
<b>Metering Grid Area:</b>	<p>A Metering Grid Area is a physical area where consumption, production and exchange can be metered. It is delimited by the placement of meters for period measurement for input to, and withdrawal from the area. It can be used to establish the sum of consumption and production with no period measurement and network losses.</p>
<b>Metering Point:</b>	<p>An entity where energy products are measured or computed.</p>
<b>Reserve Object:</b>	<p>resource technically pre-qualified using a uniform set of standards to supply reserve capabilities to a System Operator associated with one or more Metering Points and tele-measuring devices.</p> <p><b>Additional information:</b> This is a type of Resource Object</p>
<b>Resource Object:</b>	<p>A resource that can either produce or consume energy and that is reported in a schedule.</p> <p><b>Additional information:</b> This is a type of Functional Group</p>

## 4 Process areas related to exchange of Master Data within Nordic settlement system

### 4.1 Process area: Receive and validate Master Data

#### 4.1.1 Process area: Receive and validate Master Data from TSOs

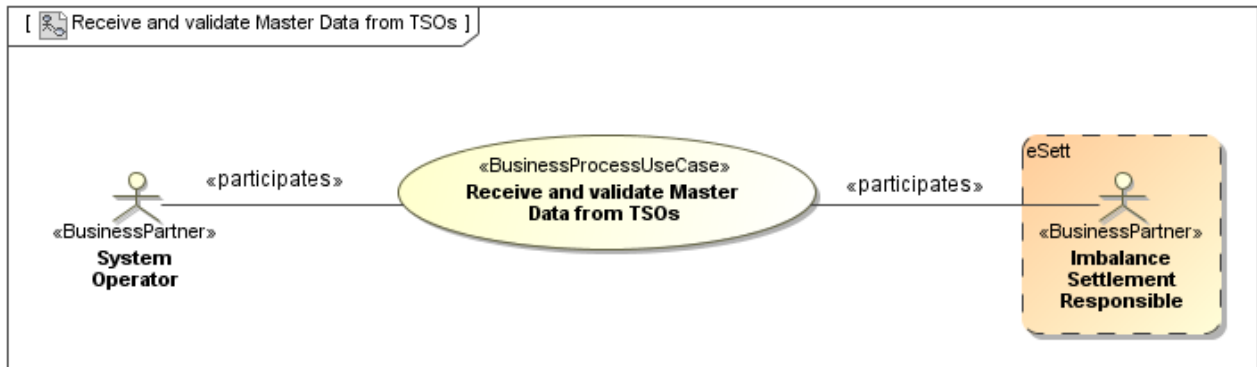


Figure 6: UseCase: Receive and validate Master Data from TSOs

The TSOs, in the role as System Operators, are responsible for maintenance of Master Data for the Market Balance Areas (MBA) and the Metering Grid Areas (MGA), i.e.:

- Master data for the MBAs and MGAs, such as name and identification of the domain (area), and the DSO or TSO that is responsible for the domain
- Which MGAs that belong to a MBA
- Which MGAs a MGA is connected to

In addition, the TSOs are responsible for the Master Data regarding Resource Objects connected to the main grid, such as Generator Groups.

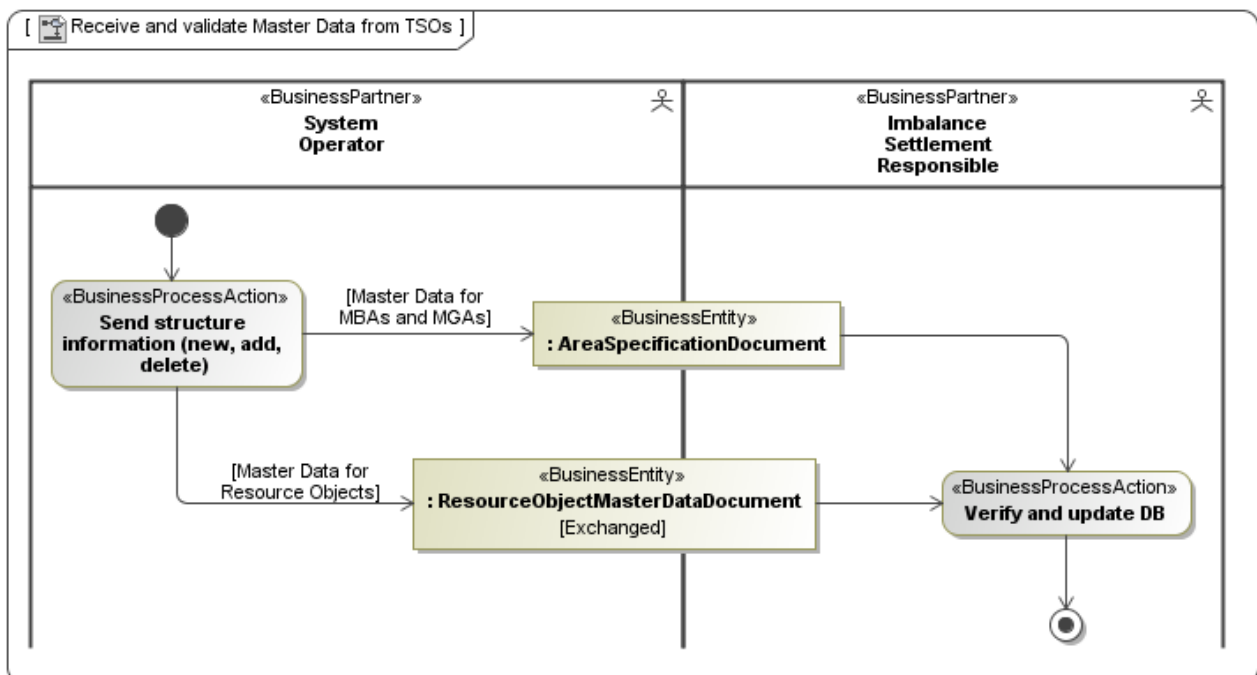


Figure 7: Activity diagram: Receive and validate Master Data from TSOs

4.1.2 Process area: Receive and validate Master Data from DSOs

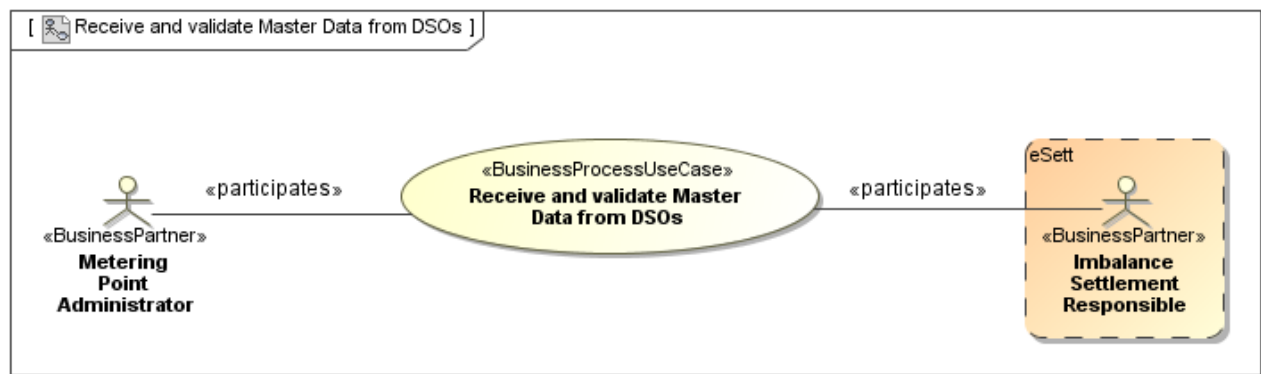


Figure 8: UseCase: Receive and validate Master Data from DSOs

The DSOs, in the role as Metering Point Administrator (MPA), are responsible for maintenance of Master Data for parties, such as Balance Responsible Parties and Balance Suppliers (Retailers). In addition, the DSOs are responsible for the Master Data regarding Resource Objects connected to regional grids and distribution grids, such as production units.

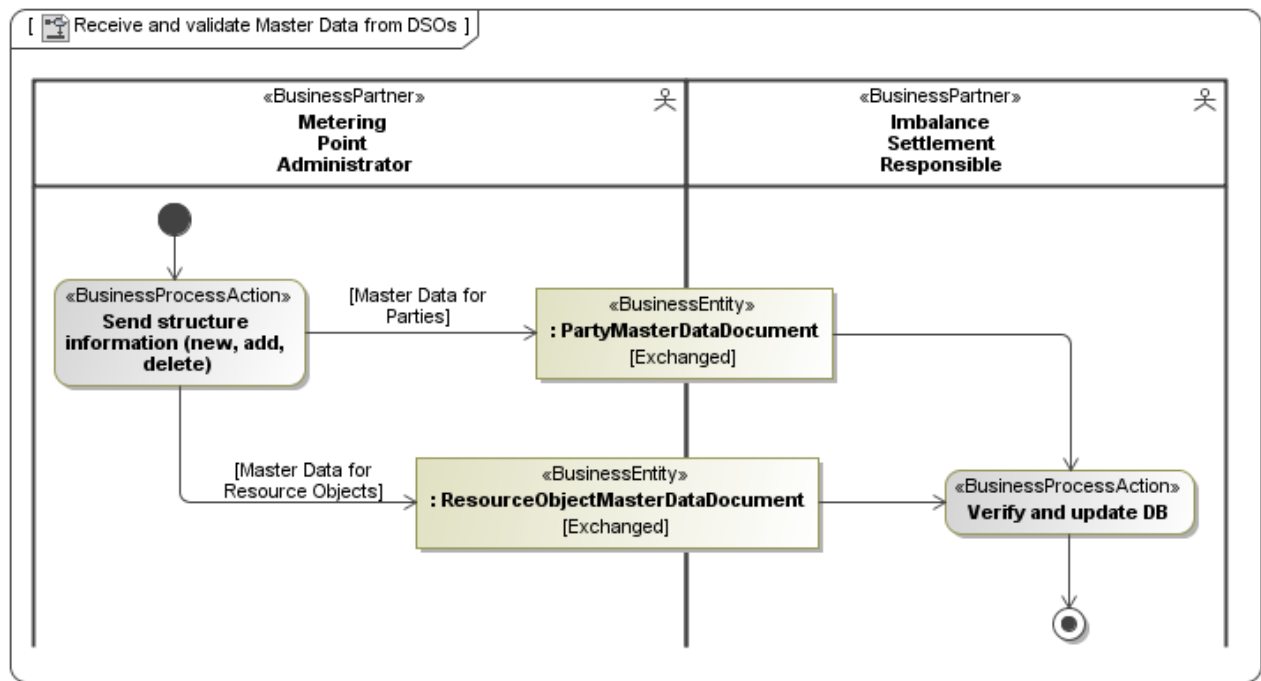


Figure 9: Activity diagram: Receive and validate Master Data from DSOs

4.1.3 Process area: Receive and validate Master Data from BRPs

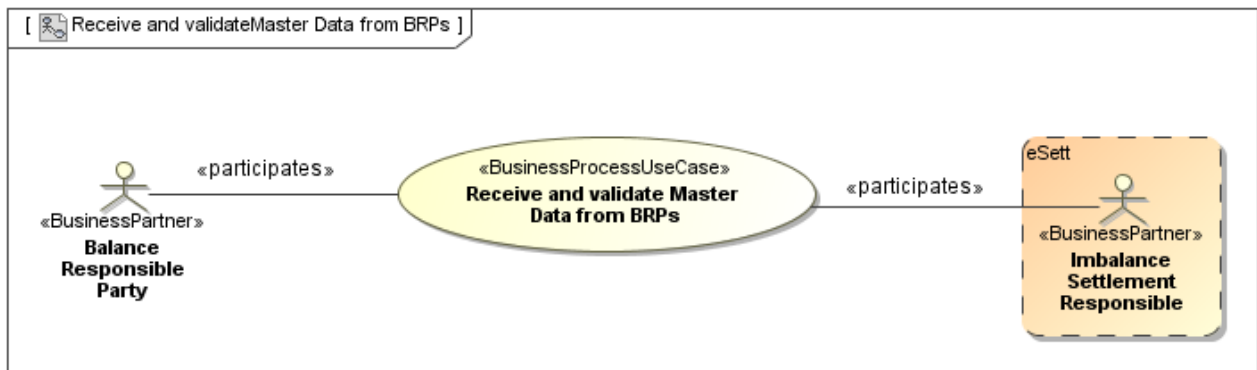


Figure 10: UseCase: Receive and validate Master Data from BRPs

The Balance Responsible Parties (BRPs) are responsible for maintenance of Master Data for Generator Groups and related Generator Relations

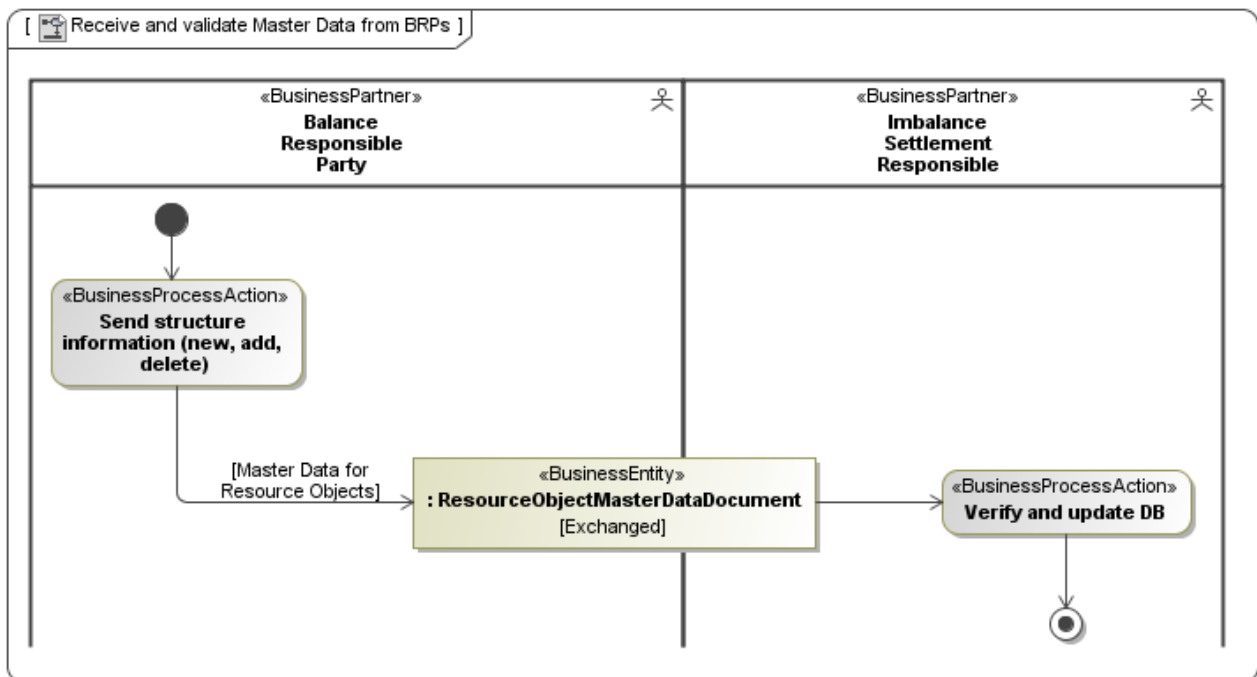


Figure 11: Activity diagram: Receive and validate Master Data from BRPs

4.2 Process area: Distribute Master Data

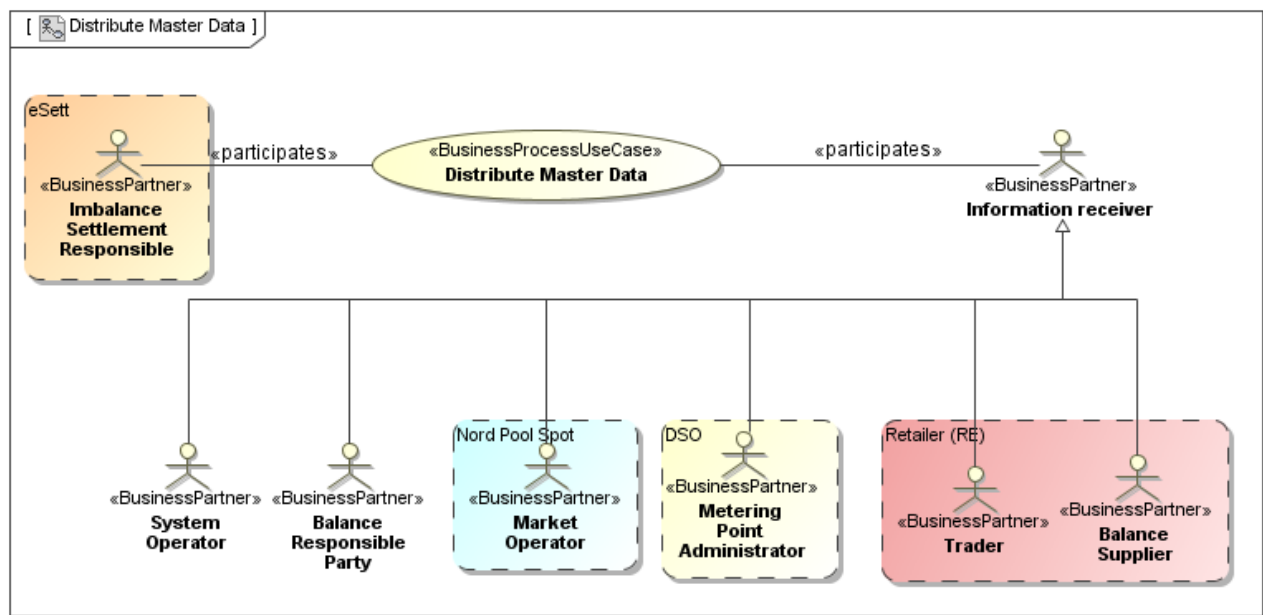


Figure 12: UseCase: Distribute Master Data

eSett will distribute Master Data received from the TSOs and the DSOs to the actors needing them.

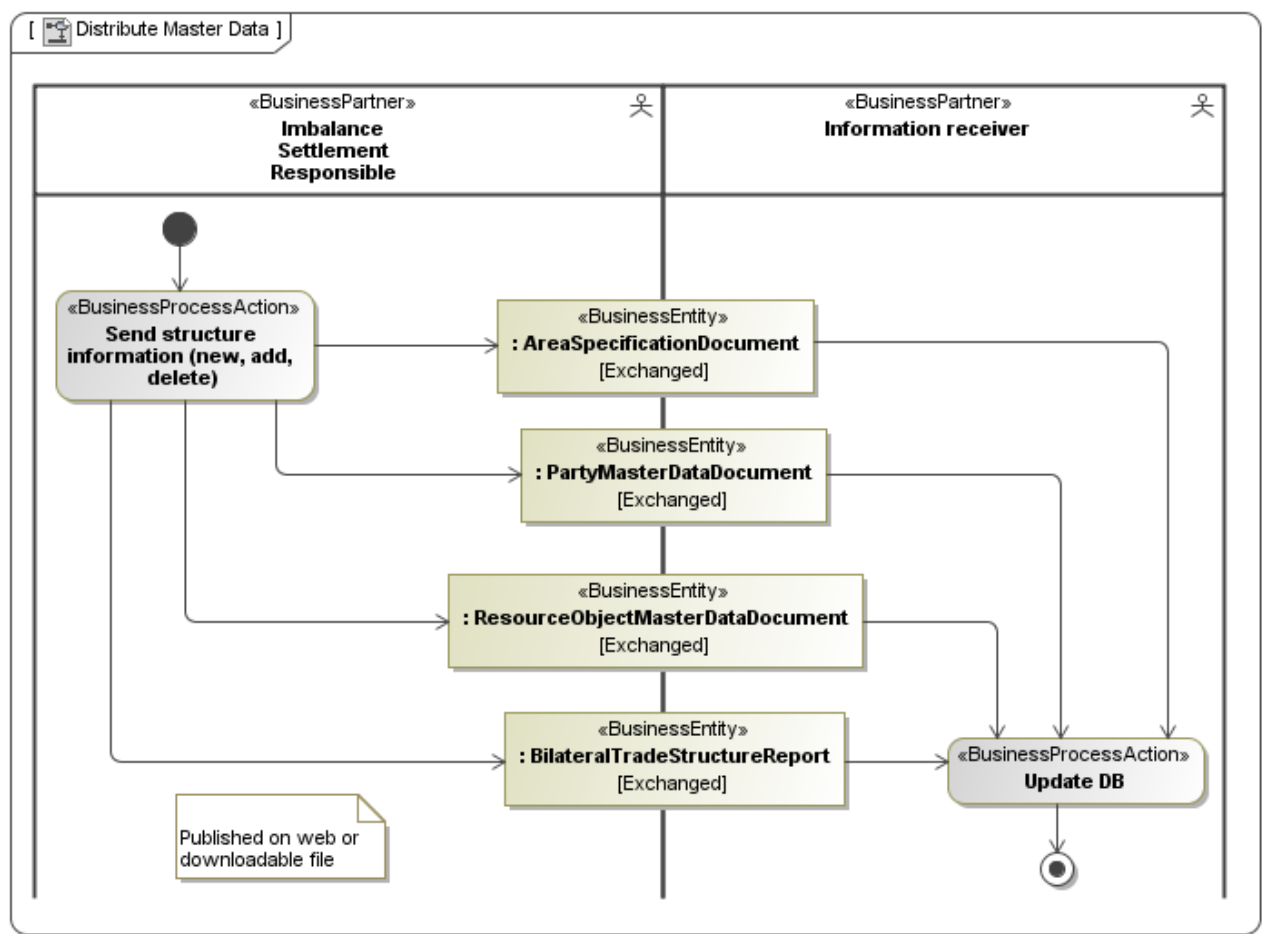


Figure 13: Activity diagram: Distribute Master Data

## 5 Business Data View

This chapter describes class diagrams, showing the content of the business documents defined in the previous defined UML diagrams. The class diagram shows the important information needed to identify the document header, time series and observations to be exchanged, such as:

- The reported object, such as Metering point, Resource object (Generator group or Regulation object), In area and Out area
- The level of aggregation, such as per Balance supplier and Balance responsible party
- The characteristics needed to express the nature of the time series, such as *Business type* and *Product*

Technical elements related to the communication channel (SMTP, WS...) and syntax (EDIFACT, XML....) are skipped.

## 5.1 NEG Area Specification Document

The NEG Area Specification Document is used for sending Master Data for areas, such as Market Balance Areas (MBA) and Metering Grid Areas (MGA).

In relation to NBS, the Area Specification Document is split into three distinct usages of the documents, i.e.:

- i. MBA and MGA Master Data
- ii. MBA-MGA Relations
- iii. MGA-MGA Relations

### 5.1.1 Class diagram: NEG Area Specification Document

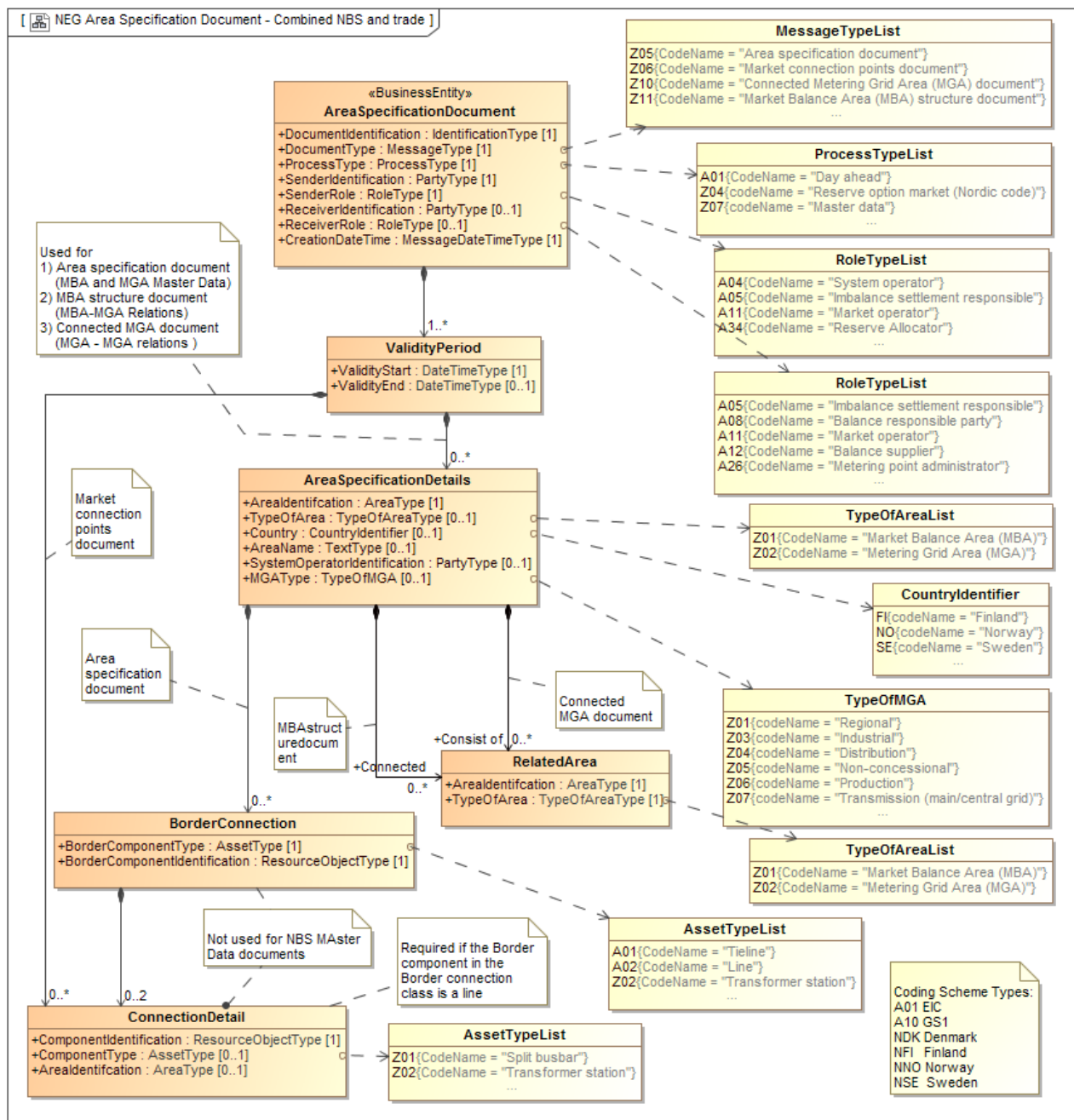


Figure 14: Class diagram: NEG Area Specification Document

## 5.1.2 Attribute usage: NEG Area Specification Document for MBA and MGA Master Data

Attribute	Cardinality	Code and description
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z05</b> Area specification document
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	<b>A04</b> System Operator
Receiver Identification	[0..1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[0..1]	<b>A05</b> Imbalance settlement responsible
Creation Date Time	[1]	Date and time for creation of the document
<b>Validity period</b>	[1..*]	May be repeated for each MBA and/or MGA, but must be repeated if the validity start and end date and time differs between the MBAs and/or MGAs
Validity Start	[1]	Date Time
Validity End	[0..1]	Date Time
<b>Area specification details</b>	[1..*]	
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z01</b> Market Balance Area (MBA) <b>Z02</b> Metering Grid Area (MGA)
Country	[0..1]	<b>FI</b> Finland <b>NO</b> Norway <b>SE</b> Sweden  <b>Note:</b> Only used for MBAs
Area Name	[1]	Name of the MBA or MGA in clear text
System Operator Identification	[1]	The unique identification of the DSO responsible for the MGA or the TSO responsible for the MBA (and codingScheme)
MGA Type	[0..1]	<b>Z01</b> Regional <b>Z03</b> Industrial <b>Z04</b> Distribution <b>Z05</b> Non-concessional <b>Z06</b> Production <b>Z07</b> Transmission (main/central grid)  <b>Note:</b> Shall be used for MGAs – Not used for MBAs
<b>Connected Related Area</b>	[0..*]	<b>Note:</b> May be used for <i>Type of Area</i> = <b>Z02</b> Metering Grid Area (MGA) Not used for <i>Type of Area</i> = <b>Z01</b> Market Balance Area (MBA)
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z01</b> Market Balance Area (MBA)

Table 2: Attribute usage: NEG Area Specification Document for MBA and MGA Master Data

*The NEG Area Specification Document for MBA and MGA Master Data is used in the following exchanges:*

- NBS Master Data exchange phase documents:
  - 1, MBA and MGA Master Data



## 5.1.3 Attribute usage: NEG Area Specification Document for MBA-MGA Relations

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z11</b> Market Balance Area (MBA) Master Data document
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	<b>A04</b> System Operator <b>A05</b> Imbalance Settlement Responsible
Receiver Identification	[0..1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[0..1]	<b>A05</b> Imbalance settlement responsible <b>A08</b> Balance responsible party <b>A11</b> Market operator <b>A12</b> Balance Supplier <b>A26</b> Metering point administrator <b>Z05</b> Trader (non-balance responsible party)
Creation Date Time	[1]	Date and time for creation of the document
<b>Validity period</b>	[1..*]	May be repeated for each MBA, but must be repeated if the validity start and end date time differs between the MBAs
Validity Start	[1]	Date Time
Validity End	[0..1]	Date Time
<b>Area specification details</b>	[1..*]	May be repeated for each MBA with the same validity start and end date
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z01</b> Market Balance Area (MBA)
<b>Consist of Related Area</b>	[1..*]	
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z02</b> Metering Grid Area (MGA)

Table 3: Attribute usage: NEG Area Specification Document for MBA-MGA Relations

*The NEG Area Specification Document for MBA and MGA Relations is used in the following exchanges:*

- NBS Master Data exchange phase documents:
  - 2, MBA - MGA Relations
  - 9, MBA - MGA Relations
  - 10, MBA - MGA Relations
  - 11, MBA - MGA Relations
  - 3, MBA - MGA Relations
  - 12, MBA - MGA Relations
  - 13, MBA - MGA Relations

## 5.1.4 Attribute usage: NEG Area Specification Document for MGA-MGA Relations

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z10</b> Connected Metering Grid Area (MGA) document
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	<b>A04</b> System operator <b>A05</b> Imbalance settlement responsible
Receiver Identification	[0..1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[0..1]	<b>A05</b> Imbalance settlement responsible <b>A26</b> Metering point administrator
Creation Date Time	[1]	Date and time for creation of the document
<b>Validity period</b>	[1..*]	
Validity Start	[1]	Date Time
Validity End	[0..1]	Date Time
<b>Area specification details</b>	[1..*]	
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z02</b> Metering Grid Area (MGA)
<b>Connected Related Area</b>	[1..*]	
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	<b>Z02</b> Metering Grid Area (MGA)

**Table 4:** Attribute usage: NEG Area Specification Document for MGA-MGA Relations

*The NEG Area Specification Document for MGA and MGA Relations is used in the following exchanges:*

- NBS Master Data exchange phase documents:
  - 4, MGA - MGA Relations

## 5.2 NEG Party Master Data Document

The NEG Party Master Data Document is used for sending Master Data for parties, such as Balance Suppliers (Retailers).

### 5.2.1 Class diagram: NEG Party Master Data Document

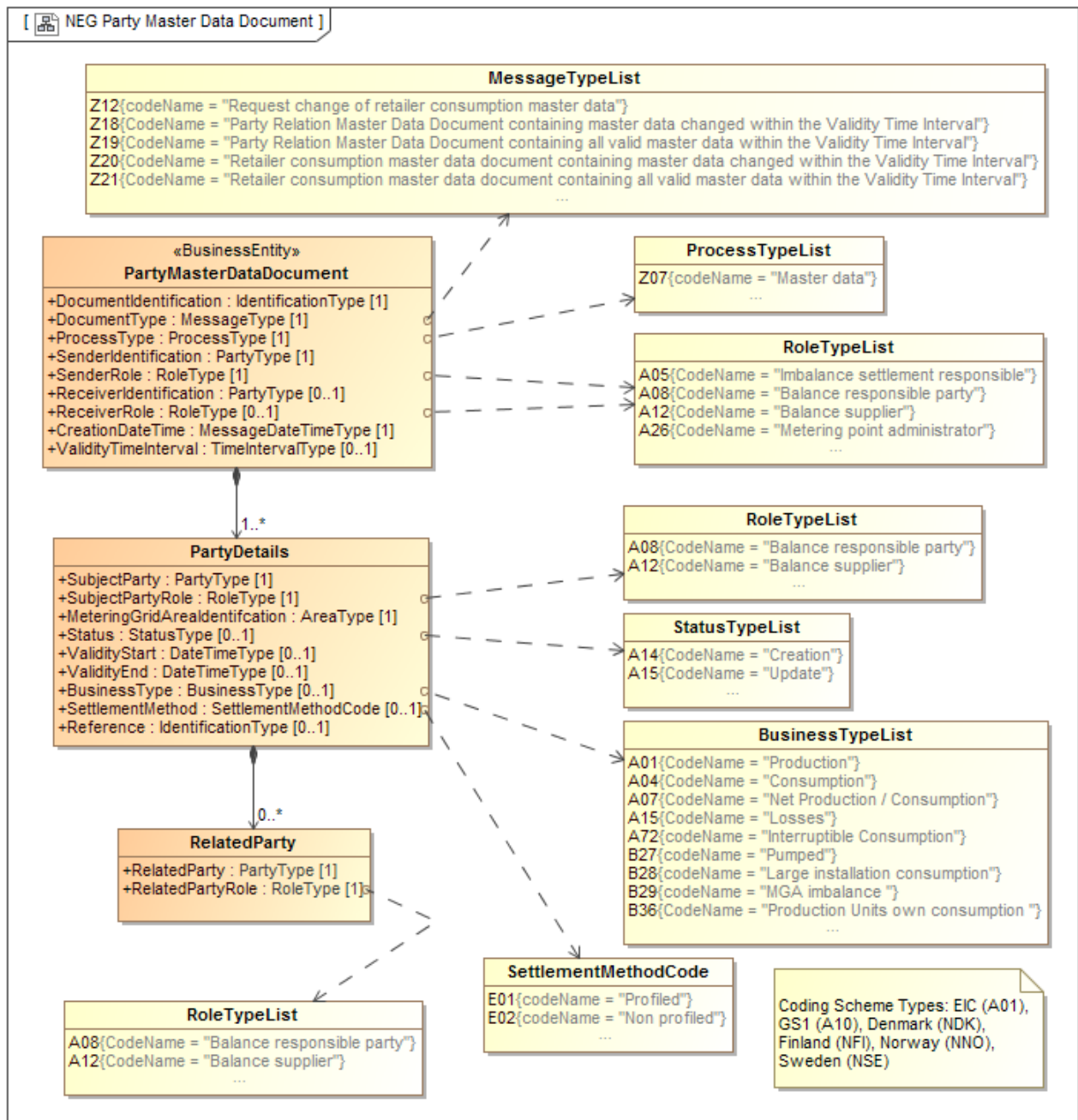


Figure 15: Class diagram: NEG Party Master Data Document

## 5.2.2 Attribute usage: NEG Party Master Data Document

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<p><b>Z12</b> Request change of retailer consumption master data</p> <p><b>Z20</b> Retailer consumption master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)</p> <p><b>Z21</b> Retailer consumption master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)</p> <p><b>Z18</b> Party Relation Master Data Document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)</p> <p><b>Z19</b> Party Relation Master Data Document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> <li><b>Z12</b> is used for requests (create and update) to Imbalance Settlement Responsible</li> <li><b>Z18, Z19, Z20</b> and <b>Z21</b> are used for reporting from Imbalance Settlement Responsible</li> </ul>
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and Coding Scheme)
Sender Role	[1]	<p><b>A05</b> Imbalance settlement responsible</p> <p><b>A26</b> Metering Point Administrator (DSO)</p>
Receiver Identification	[0..1]	<p>Identification of the party who is receiving the master data (and Coding Scheme)</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> <li>Required unless used for “broadcast” (same document to several recipients)</li> </ul>
Receiver Role	[0..1]	<p><b>A05</b> Imbalance Settlement Responsible</p> <p><b>A08</b> Balance Responsible Party</p> <p><b>A12</b> Balance Supplier (Retailer)</p> <p><b>A26</b> Metering Point Administrator (DSO)</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> <li>Required unless used for “broadcast” (same document to several recipients)</li> </ul>
Creation Date Time	[1]	Date and time for creation of the document
Validity Time Interval	[0..1]	The period for which this Party Master Data document details are valid
<b>Party details</b>	[1..*]	<p><i>Business rules for Party Details when sending request for structure change to eSett:</i></p> <ul style="list-style-type: none"> <li>One Party Details represents one request</li> <li>There cannot be more than one Party Details with the same object identification present in one file (multiple requests for more than one Subject Party will be rejected)</li> </ul>
Subject Party	[1]	Unique ID of the Party in question (and Coding Scheme)
Subject Party Role	[1]	<p><b>A08</b> Balance Responsible Party</p> <p><b>A12</b> Balance Supplier (Retailer)</p>
Metering Grid Area Identification	[1]	Unique ID of the MGA (and Coding Scheme)

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
Status	[0..1]	<b>A14</b> Creation <b>A15</b> Update <i>Business rules:</i> <ul style="list-style-type: none"> <li>Only used when requesting a creation or update of an object. Not used for information notifications.</li> </ul>
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present, with one exception; The Validity End can be extended to “unlimited” (i.e. no Validity End) by sending a Party Detail with Status = “<b>A15</b> Update” and no Validity Start or Validity End.</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present, with one exception; The Validity End can be extended to “unlimited” (i.e. no Validity End) by sending a Party Detail with Status = “<b>A15</b> Update” and no Validity Start or Validity End.</li> </ul>
Business Type	[1]	<b>A01</b> Production <b>A04</b> Consumption (general consumption) <b>A07</b> Net production/ consumption (combined pumped storage) <b>A15</b> Losses <b>A72</b> Interruptible Consumption <b>B27</b> Pumped <b>B28</b> Large installation consumption <b>B29</b> MGA imbalance <b>B36</b> Production Units own consumption (Only used in Finland) <i>Business rules:</i> <ul style="list-style-type: none"> <li>See Table 6: Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data</li> </ul>
Settlement Method	[0..1]	<b>E01</b> Profiled <b>E02</b> Non-profiled <i>Business rules:</i> <ul style="list-style-type: none"> <li>See Table 6: Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data</li> </ul>
Reference	[0..1]	Reference to a set of “Party Details” <sup>1</sup>
<i>Related Party</i>	[0..*]	Only used for “Party relation master data document” (Document Type <b>Z18</b> and <b>Z19</b> )
Related Party	[1]	Unique ID of the Party in question (and Coding Scheme)
Related Party Role	[1]	<b>A08</b> Balance Responsible Party <b>A12</b> Balance Supplier (Retailer)

Table 5: Attribute usage: NEG Party Master Data Document

<sup>1</sup> MEC (Market Entity Connection) ID, see eSett handbook. The element is only used if an entity has several MEC IDs and the MEC ID is needed to identify the correct MEC.

## 5.2.3 Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data

Document Type	Business Type	Settlement Method	Sent from	Sent to
<b>Z12</b> Request change of retailer consumption master data	<b>A04</b> Consumption (general consumption)	<b>E02</b> Non-profiled	DSO	eSett
		<b>E01</b> Profiled	DSO <sup>2</sup>	eSett
	<b>A15</b> Losses	<b>E02</b> Non-profiled	DSO	eSett
		<b>E01</b> Profiled	DSO	eSett
	<b>B27</b> Pumped	<b>E02</b> Non-profiled	DSO	eSett
		<b>E01</b> Profiled	DSO	eSett
	<b>A07</b> Net production/consumption	<b>E02</b> Non-profiled	DSO	eSett
	<b>A72</b> Interruptible Consumption	<b>E02</b> Non-profiled	DSO	eSett
	<b>B28</b> Large installation consumption	<b>E02</b> Non-profiled	DSO	eSett
<b>Z20</b> Retailer consumption master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) <b>Z21</b> Retailer consumption master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)	<b>A04</b> Consumption (general consumption)	<b>E02</b> Non-profiled	eSett	DSO
		<b>E01</b> Profiled	eSett	DSO
	<b>A15</b> Losses	<b>E02</b> Non-profiled	eSett	DSO
		<b>E01</b> Profiled	eSett	DSO
	<b>B27</b> Pumped	<b>E02</b> Non-profiled	eSett	DSO
		<b>E01</b> Profiled	eSett	DSO
	<b>A07</b> Net production/consumption	<b>E02</b> Non-profiled	eSett	DSO
	<b>A72</b> Interruptible Consumption	<b>E02</b> Non-profiled	eSett	DSO
	<b>B28</b> Large installation consumption	<b>E02</b> Non-profiled	eSett	DSO
	<b>B29</b> MGA Imbalance	<b>E02</b> Non-profiled	eSett	DSO, BRP
	<b>B36</b> <sup>3</sup> Production Units own consumption	<b>E02</b> Non-profiled	eSett	DSO
		<b>E02</b> Non-profiled	eSett	DSO
<b>Z18</b> Party Relation Master Data Document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) <b>Z19</b> Party Relation Master Data Document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)	<b>A01</b> Production <b>A04</b> Consumption (general consumption)	Not used	eSett	DSO, BRP, BS

<sup>2</sup> In Sweden, the profiled consumption will be sent from Svenska kraftnät<sup>3</sup> Only used in Finland<sup>4</sup> Only used in Finland

**Table 6:** Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data

***The NEG Party Master Data Document is used in the following exchanges:***

- NBS Master Data exchange phase documents:
  - 5, Party Master Data
  - 16, Party Master Data

### 5.3 NEG Resource Object (Production Unit) Master Data Document

The NEG Resource Object (Production Unit) Master Data Document is used for sending Master Data for Resource Objects, such as Generator Groups and Generators.

#### 5.3.1 Class diagram: NEG Resource Object (Production Unit) Master Data Document

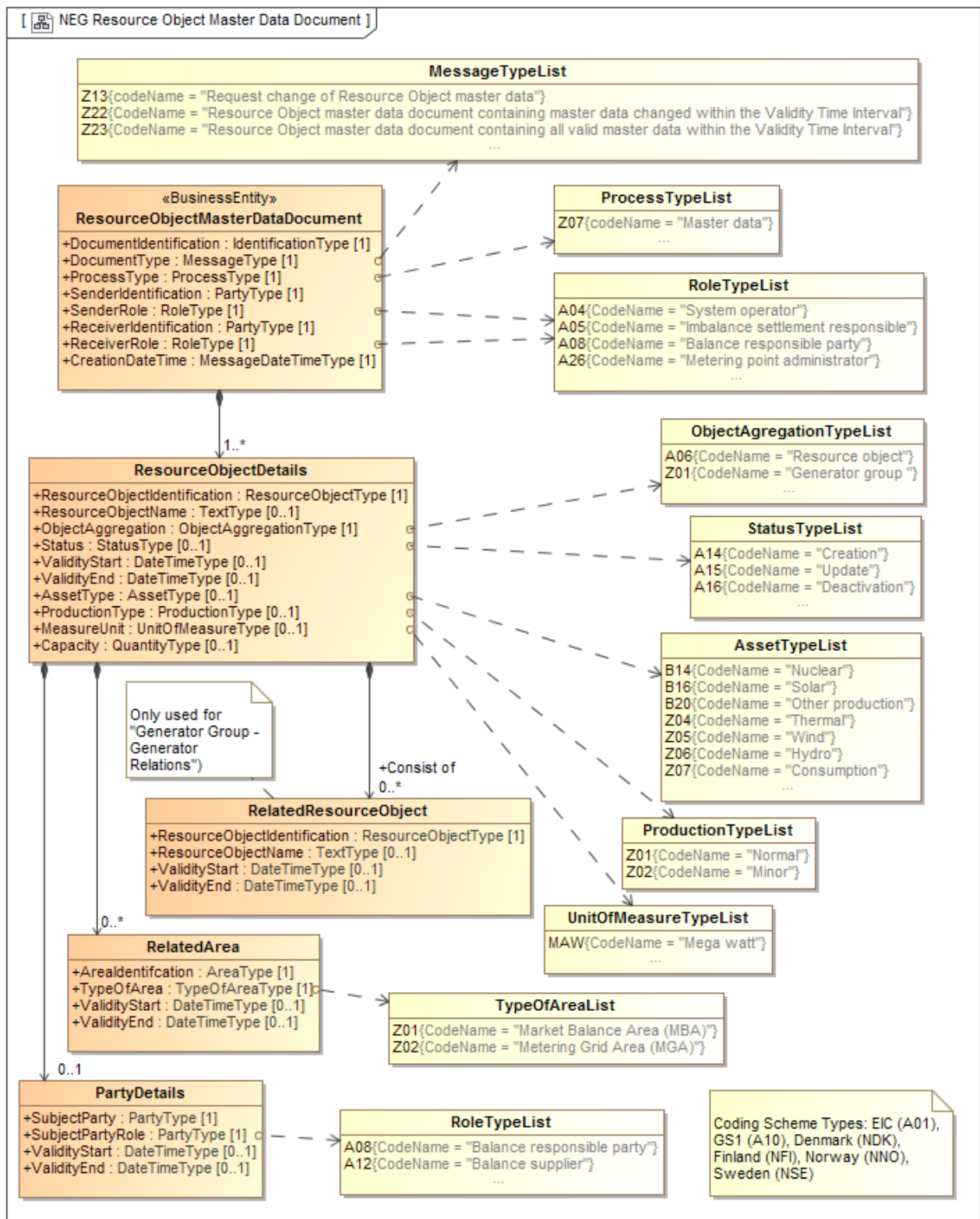


Figure 16: Class diagram: NEG Resource Object (Production Unit) Master Data Document



## 5.3.2 Attribute usage: NEG Resource Object (Production Unit) Master Data Document

Attribute	Cardinality	Code and description
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z13</b> Request change of Resource Object master data <b>Z22</b> Resource Object master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) <b>Z23</b> Resource Object master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) <i>Business rules:</i> <ul style="list-style-type: none"> <li><b>Z13</b> is used for requests (create, update and deactivate) to Imbalance Settlement Responsible</li> <li><b>Z22</b> and <b>Z23</b> are used for reporting from Imbalance Settlement Responsible</li> </ul>
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and Coding Scheme)
Sender Role	[1]	<b>A04</b> System Operator <b>A05</b> Imbalance settlement responsible <b>A26</b> Metering Point Administrator (DSO)
Receiver Identification	[1]	Identification of the party who is receiving the master data (and Coding Scheme)
Receiver Role	[1]	<b>A04</b> System Operator <b>A05</b> Imbalance settlement responsible <b>A26</b> Metering Point Administrator (DSO)
Creation Date Time	[1]	Date and time for creation of the document
<b>Resource Object Details</b>	[1..*]	<i>Business rules for Resource Object Details when sending request for structure change:</i> <ul style="list-style-type: none"> <li>One Resource Object Details represents one request</li> <li>There cannot be more than one Resource Object Details with the same object identification present in one xml file (multiple requests for more than one Production Unit will be rejected)</li> </ul> <i>Business rules for Resource Object Details when distributed from Imbalance Settlement Responsible:</i> <ul style="list-style-type: none"> <li>Resource Object Details will repeat for each change of a time-dependent attribute</li> <li>Resource Object Details contain all attributes</li> </ul>
Resource Object Identification	[1]	Unique ID of the Resource Object in question
Resource Object Name	[0..1]	Name of the Resource Object in clear text  <i>Business rules:</i> <ul style="list-style-type: none"> <li>Resource Object Name and Asset Type for Production Units are not time-dependent, hence Validity Start and Validity End are NOT used when updating these attributes.</li> </ul>
Object Aggregation	[1]	<b>A06</b> Resource object (used for detailed units) <b>Z01</b> Generator group
Status	[0..1]	<b>A14</b> Creation <b>A15</b> Update <b>A16</b> Deactivation <i>Business rules:</i>

Attribute	Cardinality	Code and description
		<ul style="list-style-type: none"> <li>Only used when requesting a change to an object. Not used for information notifications</li> <li>Deactivation is used to remove a linked party (Supplier, Retailer or Balance Responsible Party) from a Resource Object. To reactivate a deactivation, <b>A15</b> Update is used</li> <li>For "<b>A14</b> Creation", all time-dependent attributes have the same validity as the Production Unit</li> <li>An "<b>A14</b> Creation" for a Resource Object already created, will be rejected</li> <li>An "<b>A15</b> Update", for a not existing Resource Object, will be rejected</li> <li>An "<b>A16</b> Deactivation", for an already deactivated Resource Object, will be rejected</li> </ul>
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present, except for Status = "<b>A15</b> Update", for not time-dependent attributes (Resource Object Name and Asset Type)</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present, except for Status "<b>A15</b> Update" for not time-dependent attributes (Resource Object Name and Asset Type)</li> </ul>
Asset Type	[0..1]	<b>B14</b> Nuclear <b>B16</b> Solar <b>B20</b> Other production <b>Z04</b> Thermal <b>Z05</b> Wind <b>Z06</b> Hydro <b>Z07</b> Consumption <i>Business rules:</i> <ul style="list-style-type: none"> <li>Resource Object Name and Asset Type for Production Units are not time dependent, hence Validity Start and Validity End are NOT used when updating these attributes.</li> <li>Not required when updating Resource Objects (Production Units)</li> </ul>
Production Type	[0..1]	<b>Z01</b> Normal <b>Z02</b> Minor <i>Business rules:</i> <ul style="list-style-type: none"> <li>Production Type is only used for creation of Production Units and for structure information sent from Imbalance Settlement Responsible to Market Parties, i.e. the Production Type cannot be changed</li> </ul>
Measure Unit	[0..1]	<b>MAW</b> Megawatt <i>Not used for Generator Groups</i>
Capacity	[0..1]	Capacity of the Resource Object <i>Not used for Generator Groups</i>
<b>Party Details</b>	[0..1]	
Subject Party	[1]	Unique ID of the Retailer or Balance Responsible Party in question (and codingScheme)
Subject Party Role	[1]	<b>A08</b> Balance Responsible Party <b>A12</b> Balance Supplier
Validity Start	[0..1]	Not used

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
Validity End	[0..1]	Not used
<b>Related Area</b>	[0..*]	<i>Business rules:</i> <ul style="list-style-type: none"> <li>• Required for Generators</li> <li>• Required for Generator Groups in Sweden</li> <li>• May be repeated if a Generator or a Generator group covers more than one area</li> <li>• Related Area is only used for creation of Production Units and for structure information sent from Imbalance Settlement Responsible to Market Parties, i.e. the Related Area cannot be changed</li> </ul>
Area Identification	[1]	Unique ID of the MGA or MBA (and Coding Scheme)
Type of Area	[1]	<b>Z01</b> Market Balance Area (MBA) <b>Z02</b> Metering Grid Area (MGA)
Validity Start	[0..1]	Not used
Validity End	[0..1]	Not used

**Table 7:** Attribute usage: NEG Resource Object (Production Unit) Master Data Document

*The NEG Resource Object (Production Unit) Master Data Document is used in the following exchanges:*

- NBS Master Data exchange phase **documents**:
  - 6, Resource Object Master Data
  - 7, Resource Object, Production Unit Master Data
  - 17, Resource Object Master Data
  - 18, Resource Object, Production Unit Master Data

### 5.3.3 Attribute usage: NEG Resource Object (Generator Group – Generator Relations) Master Data Document

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
<b>Header</b>	<b>[1]</b>	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z16</b> Generator Group, Generator Relations document
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	<b>A04</b> System Operator <b>A05</b> Imbalance settlement responsible <b>A08</b> Balance Responsible Party
Receiver Identification	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[1]	<b>A05</b> Imbalance settlement responsible <b>A08</b> Balance Responsible Party
Creation Date Time	[1]	Date and time for creation of the document
<b>Resource Object Details</b>	<b>[1..*]</b>	
Resource Object Identification	[1]	Unique ID of the Resource Object (Generator Group) in question
Resource Object Name	[0..1]	Name of the Resource Object (Generator Group) in clear text
Object Aggregation	[1]	<b>A06</b> Resource object (used for detailed units) <b>Z01</b> Generator group
Validity Start	[0..1]	Date Time <i>Business rules:</i>

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
		<ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
Asset Type	[0..1]	<b>B14</b> Nuclear <b>B16</b> Solar <b>B20</b> Other production <b>Z04</b> Thermal <b>Z05</b> Wind <b>Z06</b> Hydro <b>Z07</b> Consumption
Production Type	[0..1]	<b>Z01</b> Normal <b>Z02</b> Minor
<i>Party Details</i>	[0..1]	
Subject Party	[1]	Unique ID of the Balance Responsible Party in question (and codingScheme)
Subject Party Role	[1]	<b>A08</b> Balance Responsible Party
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
<i>Related Area</i>	[0..*]	<i>Business rules:</i> <ul style="list-style-type: none"> <li>Required for Generators</li> <li>Required for Generator Groups in Sweden</li> <li>May be repeated if a Generator or a Generator group covers more than one area</li> </ul>
Area Identification	[1]	Unique ID of the MGA or MBA (and codingScheme)
Type of Area	[1]	<b>Z01</b> Market Balance Area (MBA) <b>Z02</b> Metering Grid Area (MGA)
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
<i>Related Resource Object</i>	[0..*]	<i>Business rules:</i> <ul style="list-style-type: none"> <li>Only used for “Generator Group – Generator Relations”</li> </ul>
Resource Object Identification	[1]	Unique ID of the Resource Object (Generator) in question
Resource Object Name	[0..1]	Name of the Resource Object (Generator) in clear text
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> <li>At least one of Validity Start or Validity End must be present</li> </ul>

**Table 8:** Attribute usage: NEG Resource Object (Production Unit) Master Data Document

*The NEG Resource Object (Production Unit) Master Data Document is used in the following exchanges:*

## BRS for NBS Exchange of Master Data

- NBS Master Data exchange phase documents:
  - 8, Resource Object, Generator Group and Generator Relations Master Data
  - 19, Resource Object, Generator Group and Generator Relations Master Data

#### 5.4 NEG Bilateral Trade Structure Document

The NEG Bilateral Trade Structure Document is sent from eSett to the relevant BRPs, listing relevant Bilateral Trade IDs. The Bilateral trade ID identify the BRP, the Counterparty, a Validity Period and the MBA where trade can take place.

The NEG Bilateral Trade Structure Document is based on new trades, entered via “eSett on-line services”.

##### 5.4.1 Class diagram: NEG Bilateral Trade Structure Document

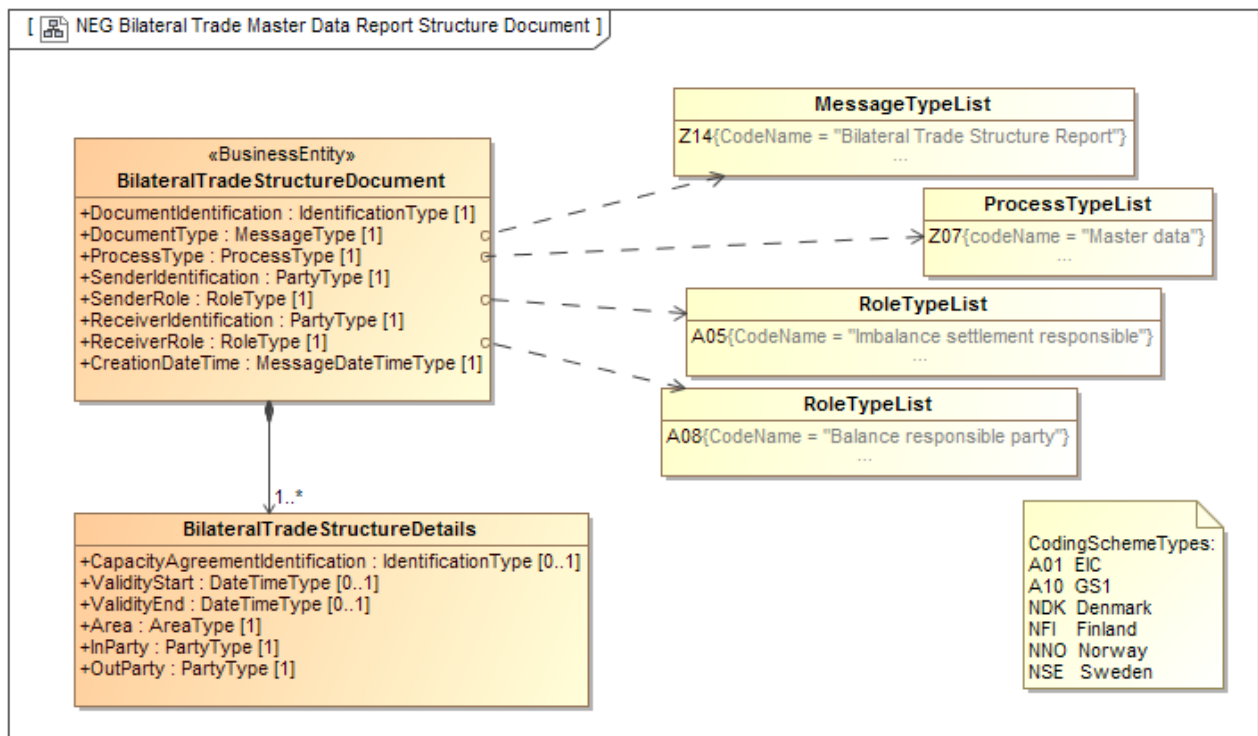


Figure 17: Class diagram: NEG Bilateral Trade Structure Document

## 5.4.2 Attribute usage: NEG Bilateral Trade Structure Document

<i>Attribute</i>	<i>Cardinality</i>	<i>Code and description</i>
<b>Header</b>	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<b>Z14</b> Bilateral Trade Structure Document
Process Type	[1]	<b>Z07</b> Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	<b>A05</b> Imbalance settlement responsible
Receiver Identification	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[1]	<b>A08</b> Balance responsible Party
Creation Date Time	[1]	Date and time for creation of the document
<b>Bilateral Trade Structure details</b>	[1..*]	
Capacity Agreement Identification (Bilateral Trade ID)	[0..1]	<p>A unique ID, only used when reporting trade on a Balance Supplier (Retailer) level, identifying the two involved Balance Suppliers (Retailers) and the related Market Balance Area.</p> <p>The Bilateral Trade ID is metadata for trade on supplier level. The BRP sends bilateral trade with InParty = BRP1 and OutParty = BRP2. If the trade is between two suppliers, then the Bilateral Trade ID is added to the message. The Bilateral Trade ID is generated by eSett when the BRP enters (structures) which trade relations (on a supplier level) he BRP has balance responsibility for. The suppliers can then be identified by the Bilateral Trade ID.</p>
Validity Start	[0..1]	<p>Date Time</p> <p><b>Note:</b> At least one of Validity Start or Validity End must be present</p>
Validity End	[0..1]	<p>Date Time</p> <p><b>Note:</b> At least one of Validity Start or Validity End must be present</p>
Area	[1]	The Market Balance Area where trade can take place.
In Party	[1]	The party being the Balance Responsible Party for the buyer in the bilateral trade.
Out Party	[1]	The party being the Balance Responsible Party for the seller in the bilateral trade.

Table 9: Attribute usage: NEG Bilateral Trade Structure Document

**The NEG Bilateral Trade Structure Document is used in the following exchanges:**

- NBS Master Data exchange phase documents:
  - 20, Bilateral Trade Structure Document