

BRS

(Business Requirement Specification)

Nordic Balance Settlement (NBS)

Exchange of master data

Business process: Nordic Balance Settlement
Version: 2.3.A
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1 Introduction

1.1 Background

A common Nordic Balance Settlement (NBS) system between Denmark, Finland, Norway and Sweden started up May 1st, 2017. The NBS system is run by eSett Oy.

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 NMEG (Nordic Market Expert 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 NMEG, since neither ebIX® nor ENTSO-E has specified similar documents.

The structure of most 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. However, there is strategic decision from the Nordic TSOs to migrate to CIM XML schemas, hence the latest updated documents, i.e. Trade Structure Documents, are based on IEC/CIM.

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 [5].

1.4 Project organisation

The project is organised as a project group within the Nordic Market Expert Group.

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 [9] and the term Resource is used instead of the term Production Unit, which is used in the NBS Handbook [9].

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/>, e.g.: 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 [UN/CEFACT Modelling Methodology \(UMM\)](http://www.un.org/cefact/uddi/uddi-ummlib.htm)
- [5] Nordic Energy Market Domain Model, see <http://www.ediel.org/>
- [6] BRS for Nordic Settlement System, documents between eSett and the actors in the Nordic energy market, see <http://www.ediel.org/>
- [7] BRS for Nordic Settlement System, documents between eSett, TSOs and Market operator, see <http://www.ediel.org/>
- [8] Common Nordic XML rules and recommendations, see <http://www.ediel.org/>
- [9] Nordic Imbalance Settlement (NBS) Handbook, see <https://www.esett.com/handbook/>

1.7 Change log

Ver/rel/rev	Changed by	Date	Changes
2.3.A	Ove Nesvik	20231208	<ul style="list-style-type: none"> Addition of Asset Type codes to Ediel (NEG) Resource (Production Unit and Generator Group Relations) Master Data Document: <ul style="list-style-type: none"> A05 Load (replaces Z07) B18 Wind offshore B19 Wind onshore (replaces Z05) B25 Energy storage B31 Hydro unspecified (replaces Z06) B37 Thermal unspecified (replaces Z04) Addition of an Asset Type attribute and Asset Type code to the NEG Party Master Data Document: <ul style="list-style-type: none"> B25 Energy storage
2.2.B	Ove Nesvik	20230814	<ul style="list-style-type: none"> Correction of spelling errors.
2.2.A	Ove Nesvik	20230626	<ul style="list-style-type: none"> Update of roles and domains to be in line with the ebIX® EFET and ENTSO-E Harmonised European Market Role Model (HEMRM) version 2022-01, including replace of Balance Responsible Party with Balancing Service Provider. Replaced Market Balance Area with Bidding Zone Replace Resource Object to Resource, where not part of an xml schema. Removed NEG Area Specification Document from the sequence diagram in chapter 2.3 since the document currently not is used. Aligned the actual senders/receivers with sequence diagrams and sender/receiver in document headings. Corrected the usage of BRP and BSP in various processes.
2.1.A	Ove Nesvik	20210608	<ul style="list-style-type: none"> Addition of Contract Type "A06 Long term contract" to Ediel Request PX Trade Structure Document
2.0.A	Ove Nesvik	20210415	<ul style="list-style-type: none"> Addition of BSP as receiver in NEG Area Specification Document for MBA-MGA Relations
1.9.B	Ove Nesvik	20200420	<ul style="list-style-type: none"> Added Settlement Method "E15 Non-profiled with special rules (Flex settled)" to NEG Party Master Data Document.
1.9.A	Ove Nesvik	20191003	<ul style="list-style-type: none"> The Note regarding the Country attribute in NEG Area Specification Document for MBA and MGA Master Data is changed to "Must be used for MBAs"; "DK Denmark" is added as Country Code.
1.8.A	Ove Nesvik	20180606	<ul style="list-style-type: none"> Recast of the Trade Structure Documents (previously NEG Bilateral Trade Structure Document). The latest description is based on CIM. Update of the Ediel Resource Object (Production Unit) Master Data Document, among others: <ul style="list-style-type: none"> Removal of Related Object element from chapter 5.3.3. The cardinality of "Party details" is changed to 0..*, also in chapter 5.3.3.
1.7.B	Ove Nesvik	20170510	<ul style="list-style-type: none"> Added version numbers to class diagrams and headings

1.7.A	Ove Nesvik	20170419	<ul style="list-style-type: none"> • Updated class diagrams for Party Master Data and Resource Object Master Data • Added new element “Status” to Party Master Data and Resource Object Master Data documents • Added new element “Reference” to Party Master Data document • Rephrased and added Document Type codes for Party Master Data and Resource Object Master Data documents • Updated cardinalities for Party Master Data and Resource Object Master Data documents • Added textual clarifications, incl. removed Nord Pool logo on the front page • Added new Energinet logo
1.6.B	Ove Nesvik	20170213	<p>Textual corrections:</p> <ul style="list-style-type: none"> • Updated logos on the front page • Replaced Nord Pool and NPS with Market Operator • Updated NTC and NEG member list
1.6.A	Ove Nesvik	20161206	<ul style="list-style-type: none"> • NEG Party Master Data Document: <ul style="list-style-type: none"> ○ Replaced Document type “Z17 Party Relation Master Data Document” with: <ul style="list-style-type: none"> Z18 Party Relation Master Data Document where Validity Start and/or Validity End are within the Validity Time Interval Z19 Party Relation Master Data Document where relations are valid sometime within the Validity Time Interval ○ Added a Validity Time Interval in the header section
1.5.A	Ove Nesvik	20161027	<ul style="list-style-type: none"> • The type for Validity Start and Validity End have been changed from date to “date and time” • Addition of Party relation document in the sequence diagram in chapter 2.3 • Addition of clarifying text
1.4.A	Ove Nesvik	20160210	<ul style="list-style-type: none"> • NEG Resource Object (Production Unit) Master Data Document: <ul style="list-style-type: none"> ○ Error corrections in class diagram (Production Type) ○ Addition of clarifying text • Textual error corrections • NEG Party Master Data Document: <ul style="list-style-type: none"> ○ Addition of Related Party ○ Addition of Business Type A01, Production ○ Addition of Document Type Z17, Party relation master data document and related codes and new elements ○ Settlement method is made optional
1.3.B	Ove Nesvik	20151027	<ul style="list-style-type: none"> • Recipient ID and Role is made optional in the Area Specification Document and the Party Master Data Document • Rename of Business Type “Z68, Production Units own consumption (Only used in Finland)” to B36 in Party Master Data Document

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

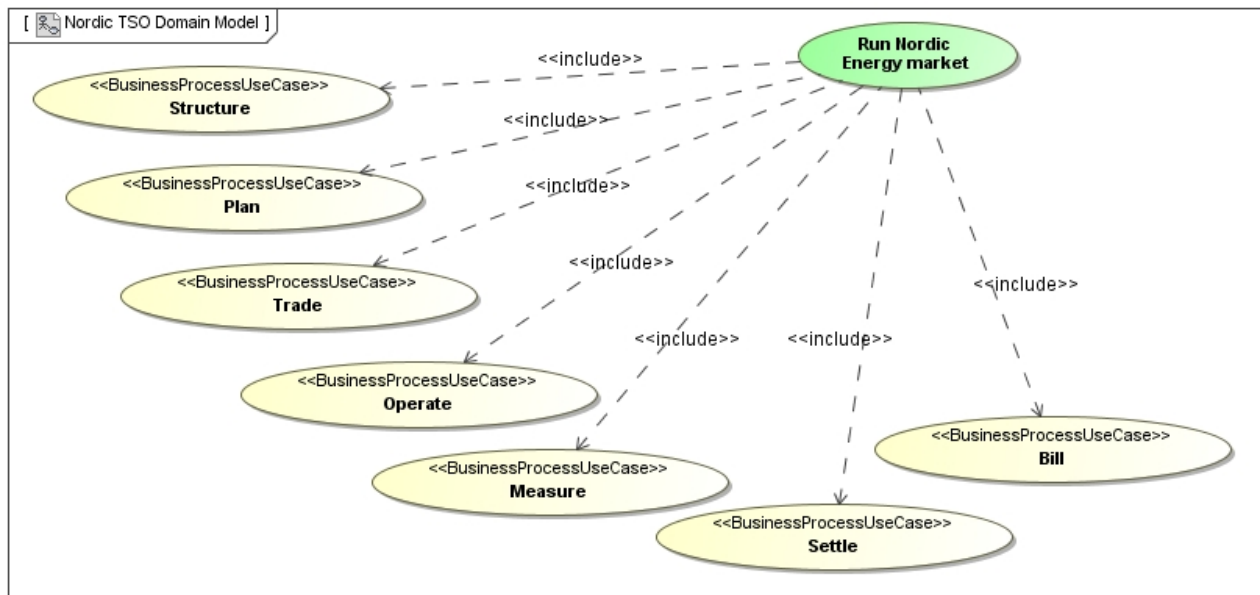


Figure 1: UseCase diagram: ebIX® Energy Market Domain Model

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 [5].

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.

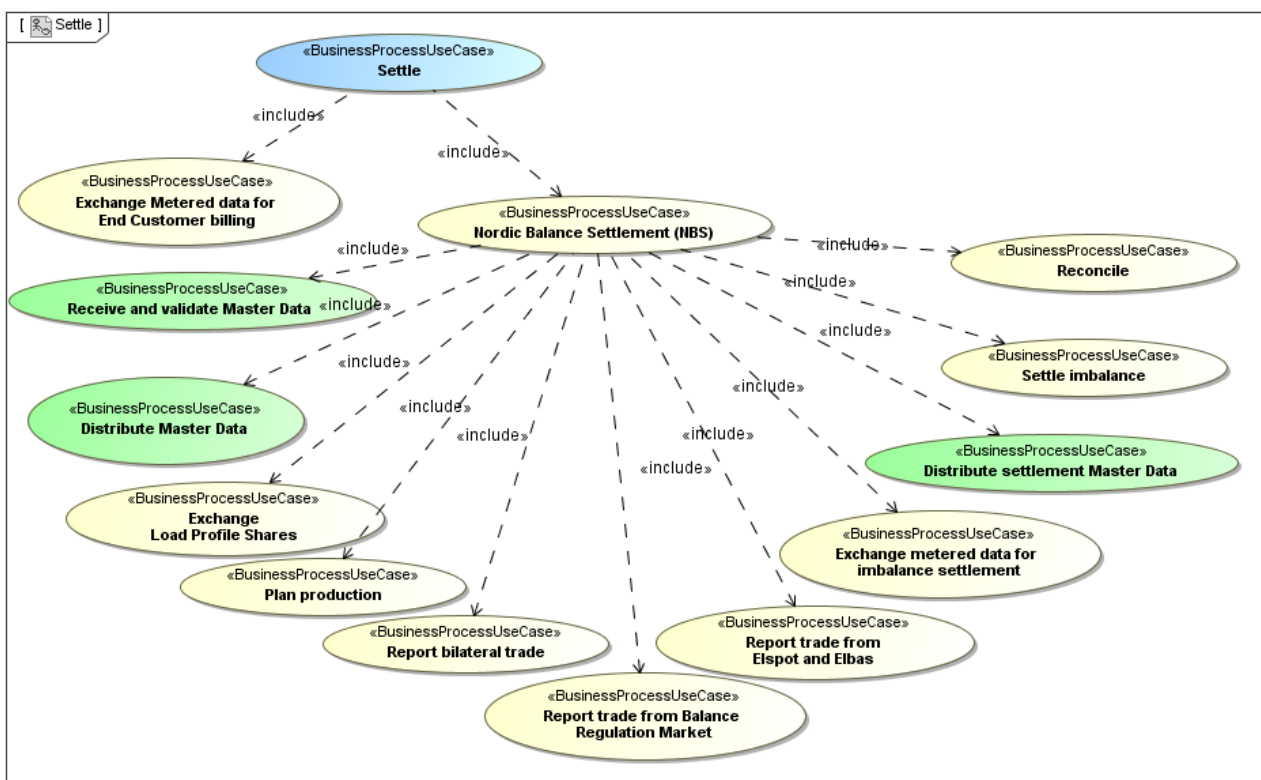


Figure 2: UseCase diagram: Breakdown of the settlement phase

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 3):

- Balance Responsible Party, who receives the settlement information on both Metering Point- and aggregated level for invoicing of the Energy Suppliers.
- Energy 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).

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- 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.
- Energy Trader, who buys and sells electricity, either on an electricity exchange or by bilateral contracts. Opposite to a Balance Responsible Party, an Energy Trader does not necessarily have to be a Balance Responsible Party. An Energy 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 Bidding Zone, 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 Bidding Zone). 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.

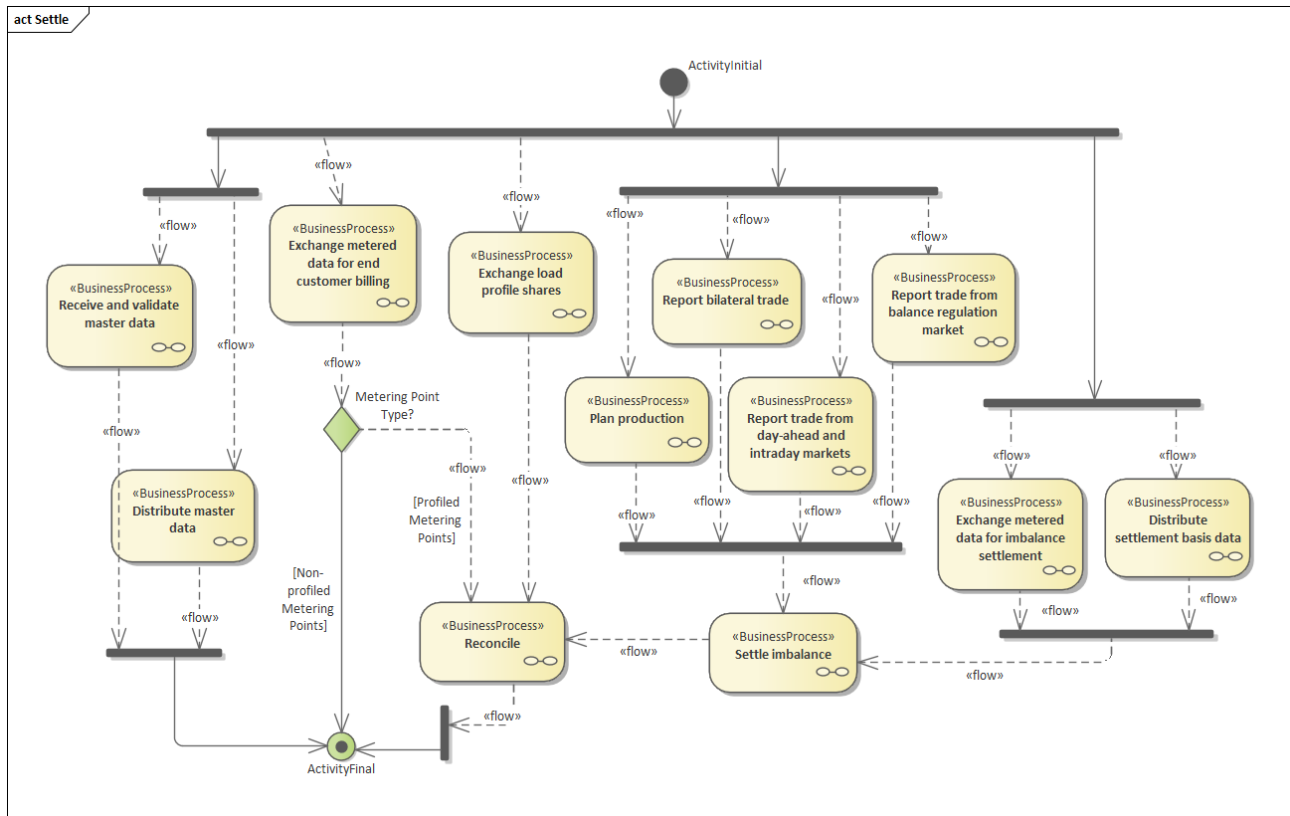


Figure 3 Activity diagram: The Nordic Settlement process

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

2.3.1 NBS Master Data exchange phase - Receive and validate master data

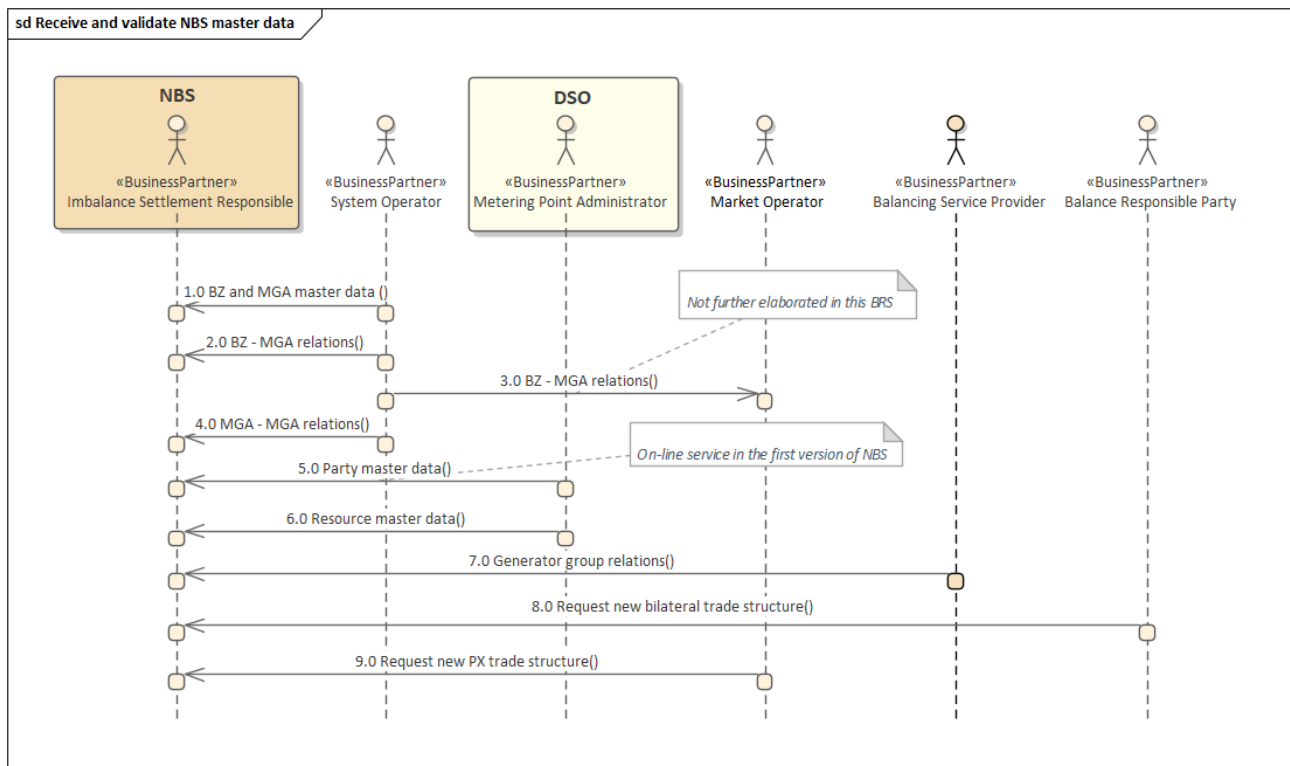


Figure 4 Sequence diagram: NBS Master Data exchange phase - Receive and validate master data¹

¹ In an interim period, the Balancing Service Provider may be replaced by the Balance Responsible Party.

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NBS document	Roles	Documentation
Receive and validate Master Data		
1. BZ and MGA Master Data	SO → eSett	NEG Area Specification Document For details see: 5.1.2
2. BZ - MGA Relations	SO → eSett	NEG Area Specification Document For details see: 5.1.3
3. BZ - MGA Relations	SO → MO	NEG Area Specification Document For details see: 5.1.3
4. MGA - MGA Relations	SO → eSett	NEG Area Specification Document For details see: 5.1.4
5. Party Master Data	MPA (DSO) → eSett	NEG Party Master Data Document For details see: 5.2.2
6. Resource, Production Unit Master Data	MPA (DSO) → eSett	Ediel (NEG) Resource (Production Unit) Master Data Document For details see: 5.3.2
7. Generator group relation	BSP → eSett	Attribute usage: Ediel (NEG) Resource Object (Generator Group Relations) Master Data Document For details see: 5.3.3
8. Request new Bilateral Trade Structure	BRP → eSett	Ediel Request Trade Structure Document For details see: 5.4.3
9. Request new PX Trade Structure	MO → eSett	Ediel Request Trade Structure Document For details see: 5.4.4

Table 1: NBS Master Data exchange phase documents

2.3.2 NBS Master Data exchange phase – Distribute master data

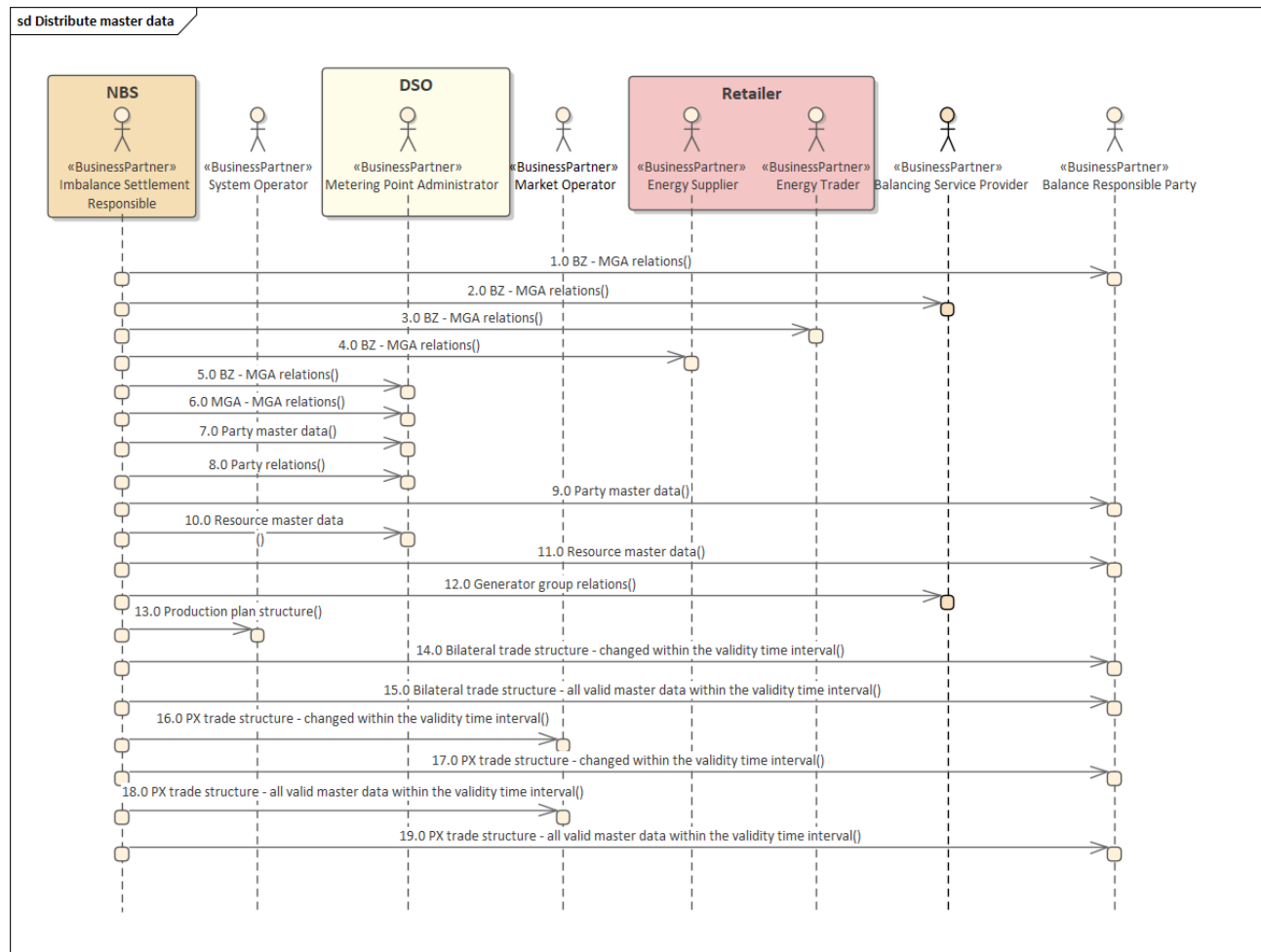


Figure 5 Sequence diagram: NBS Master Data exchange phase - Distribute master data²

² In an interim period, the Balancing Service Provider may be replaced by the Balance Responsible Party.

NBS document	Roles	Documentation
Distribute Master Data		
1. BZ - MGA Relations	eSett → BRP	NEG Area Specification Document For details see: 5.1.3
2. BZ - MGA Relations	eSett → BSP	NEG Area Specification Document For details see: 5.1.3
3. BZ - MGA Relations	eSett → Energy Trader	NEG Area Specification Document For details see: 5.1.3
4. BZ - MGA Relations	eSett → Energy Supplier	NEG Area Specification Document For details see: 5.1.3
5. BZ- MGA Relations	eSett → MPA (DSO)	NEG Area Specification Document For details see: 5.1.3
6. MGA - MGA Relations	eSett → MPA (DSO)	NEG Area Specification Document For details see: 5.1.4
7. Party Master Data	eSett → MPA (DSO)	NEG Party Master Data Document For details see: 5.2.2
8. Party Relation	eSett → MPA (DSO)	NEG Party Master Data Document For details see: 5.2.2
9. Party Master Data	eSett → BRP	NEG Party Master Data Document For details see: 5.2.2
10. Resource Master Data	eSett → MPA (DSO)	Ediel (NEG) Resource (Production Unit) Master Data Document For details see: 5.3.2
11. Resource Master Data	eSett → BRP	Ediel (NEG) Resource (Production Unit) Master Data Document For details see: 5.3.2
12. Resource, Generator Group and Relations Master Data	eSett → BSP	Ediel (NEG) Resource (Production Unit) Master Data Document For details see: 5.3.3
13. Resource, Production Plan Structure Master Data	eSett → SO	Ediel (NEG) Resource (Production Unit) Master Data Document For details see: 5.3.3
14. Bilateral Trade Structure - changed within the Validity Time Interval	eSett → BRP	Ediel Notify Trade Structure Document For details see: 5.5.3
15. Bilateral Trade Structure - all valid master data within the Validity Time Interval	eSett → BRP	Ediel Notify Trade Structure Document For details see: 5.5.3
16. PX Trade Structure - changed within the Validity Time Interval	eSett → MO	Ediel Notify Trade Structure Document For details see: 5.5.4

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NBS document	Roles	Documentation
17. PX Trade Structure - changed within the Validity Time Interval	eSett → BRP	Ediel Notify Trade Structure Document For details see: 5.5.4
18. PX Trade Structure - all valid master data within the Validity Time Interval	eSett → MO	Ediel Notify Trade Structure Document For details see: 5.5.4
19. PX Trade Structure - all valid master data within the Validity Time Interval	eSett → BRP	Ediel Notify Trade Structure Document For details see: 5.5.4

Table 2: NBS Master Data exchange phase documents

3 Harmonised roles used in Nordic settlement system

In **Figure 6** the relevant parts of the ebIX®, EFET and ENTSO-E Harmonised role model are outlined.

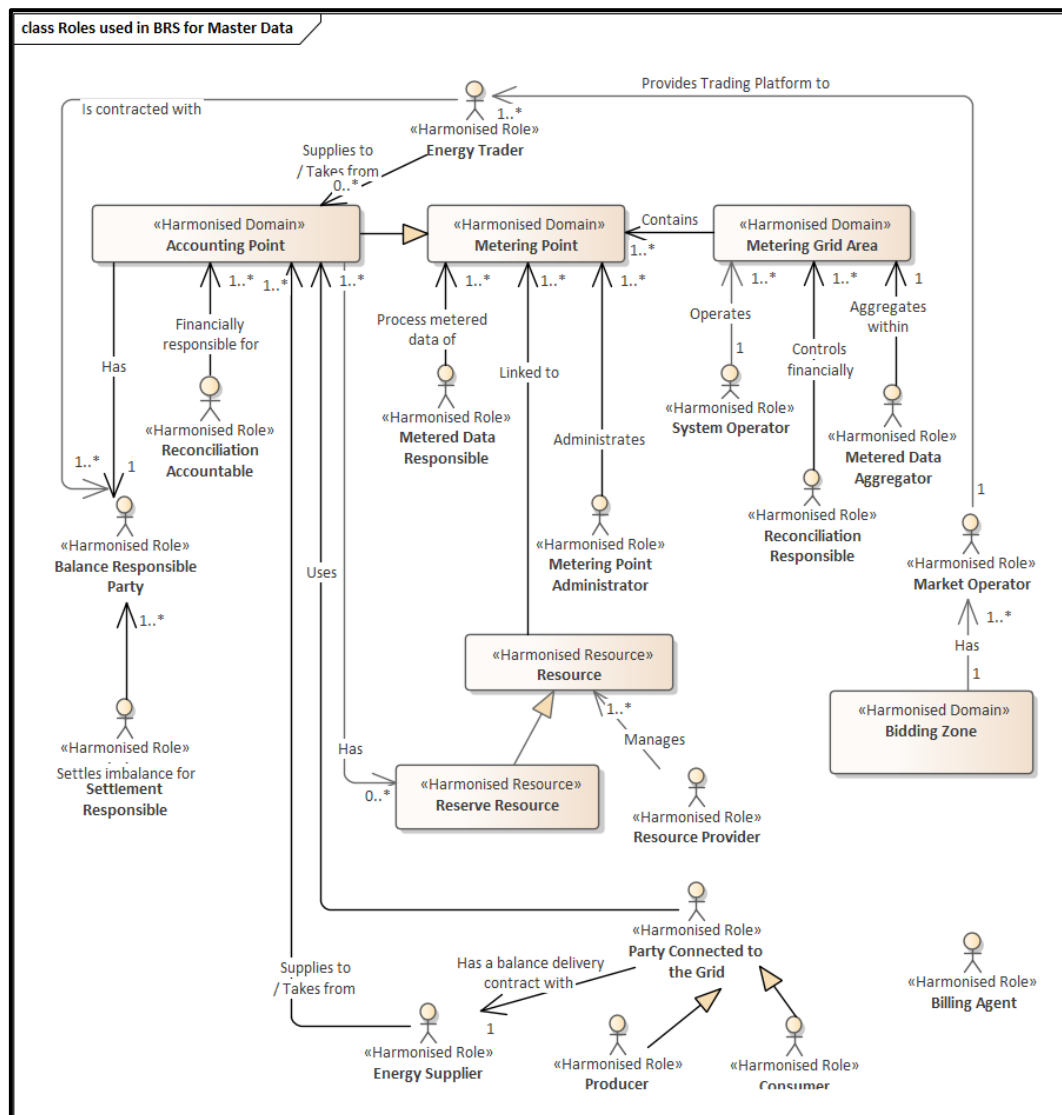


Figure 6: Outline of the Harmonised role model within the scope of Nordic Balance Settlement system

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

3.1.1 Roles

Balance Responsible Party:

A Balance Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically injected to or withdrawn from the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.

Note:

Based on [Electricity Balancing - Art.2 Definitions](#).

Additional information:

Responsibility for imbalances (Balance responsibility) requires a contract proving financial security with the Imbalance Settlement Responsible of the Scheduling Area entitling the party to operate in the market.

Energy Supplier:

An Energy Supplier supplies electricity to or takes electricity from a Party Connected to the Grid at an Accounting Point.

Additional information:

An Accounting Point can only have one Energy Supplier.

When additional suppliers are needed, the Energy Supplier delivers/takes the difference between established (e.g. measured or calculated) production/consumption and the (accumulated) contracts with other suppliers.

Billing Agent:

The party responsible for invoicing a concerned party.

Consumer:

A party that consumes electricity.

Additional information:

This is a Type of Party Connected to the Grid.

Imbalance Settlement Responsible:

A party that is responsible for settlement of the difference between the contracted quantities with physical delivery and the established quantities of energy products for the Balance Responsible Parties in a Scheduling Area.

Note:

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

Market Operator:

A party that provides a service whereby the offers to sell electricity are matched with bids to buy electricity.

Additional information:

- 1) The definition above is based on [Regulation on the internal market for electricity \(EU\) 2019/943](#):
- 2) A more detailed description:

A party that provides a service of collecting offers to sell and bids to buy electricity, and matching these offers and bids in order to determine a market price at the clearing point. This activity can be conducted in the forward, days-ahead and/or intraday timeframes, and can be combined with transmission capacity allocation in the context of market coupling.

This is usually an energy/power exchange or platform.

Metered Data Aggregator:

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.

Metered Data Responsible:

A party responsible for the establishment and validation of measured data based on the collected data received from the Metered Data Collector. The party is responsible for the history of metered data for a Metering Point.

Metering Point Administrator: A party responsible for administrating and making available the Metering Point characteristics, including registering the parties linked to the Metering Point.

Party Connected to Grid: A party that contracts for the right to take out or feed in energy at an Accounting Point. **Producer:** A party that generates electricity.

Additional information:

This is a type of Party Connected to the Grid.

The definition is based on [Directive \(EU\) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU, Article 2 \(Definitions\).](#)

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 and provides production/consumption schedules for it, if required.

System Operator: A party responsible for operating, ensuring the maintenance of and, if necessary, developing the system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution or transmission of electricity.

Additional information:

The definition is based on [DIRECTIVE 2009/72/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Article 2 \(Definitions\).](#)

Energy Trader: A party that is selling or buying energy.

3.1.2 Domains

Accounting Point: A domain under balance responsibility where Energy Supplier change can take place and for which commercial business processes are defined.

Additional information:

This is a type of Metering Point.

Metering Grid Area: A Metering Grid Area is a physical area where consumption, production and exchange can be measured. It is delimited by the placement of meters for continuous measurement for input to, and withdrawal from the area.

Additional information:

It can be used to establish volumes that cannot be measured such as network losses.

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Metering Point:	An entity where energy products are measured or computed.
Reserve Resource:	<p>A resource technically pre-qualified using a uniform set of standards to supply reserve capabilities to a System Operator and is associated with one or more tele-measuring devices.</p> <p>Additional information: This is a type of Resource.</p>
Resource:	<p>A market representation of an asset or a group of assets related to the energy industry.</p> <p>Additional information: A Resource represents for example grid assets, consumption assets or production assets, such as generating units, consumption units, energy storage units or virtual power plants.</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

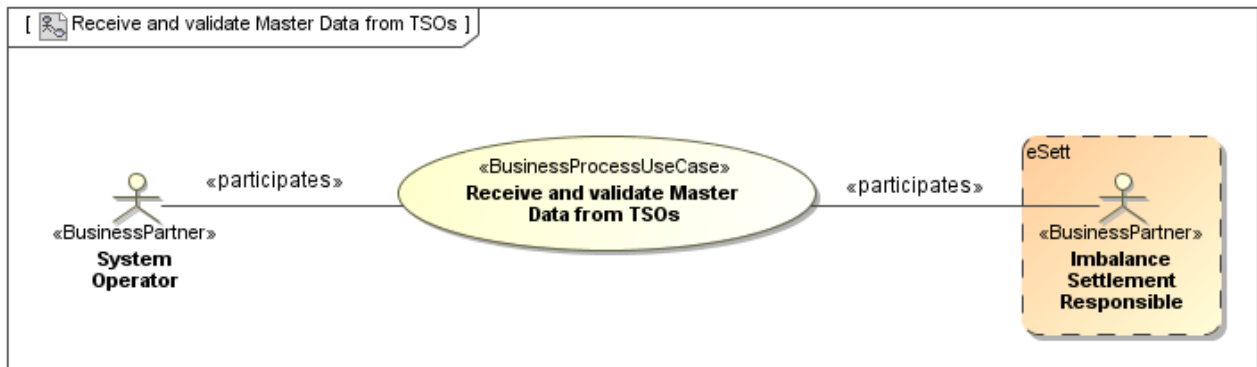


Figure 7: UseCase: Receive and validate Master Data from TSOs

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

- Master data for the BZ 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 BZ
- Which MGAs an MGA is connected to

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

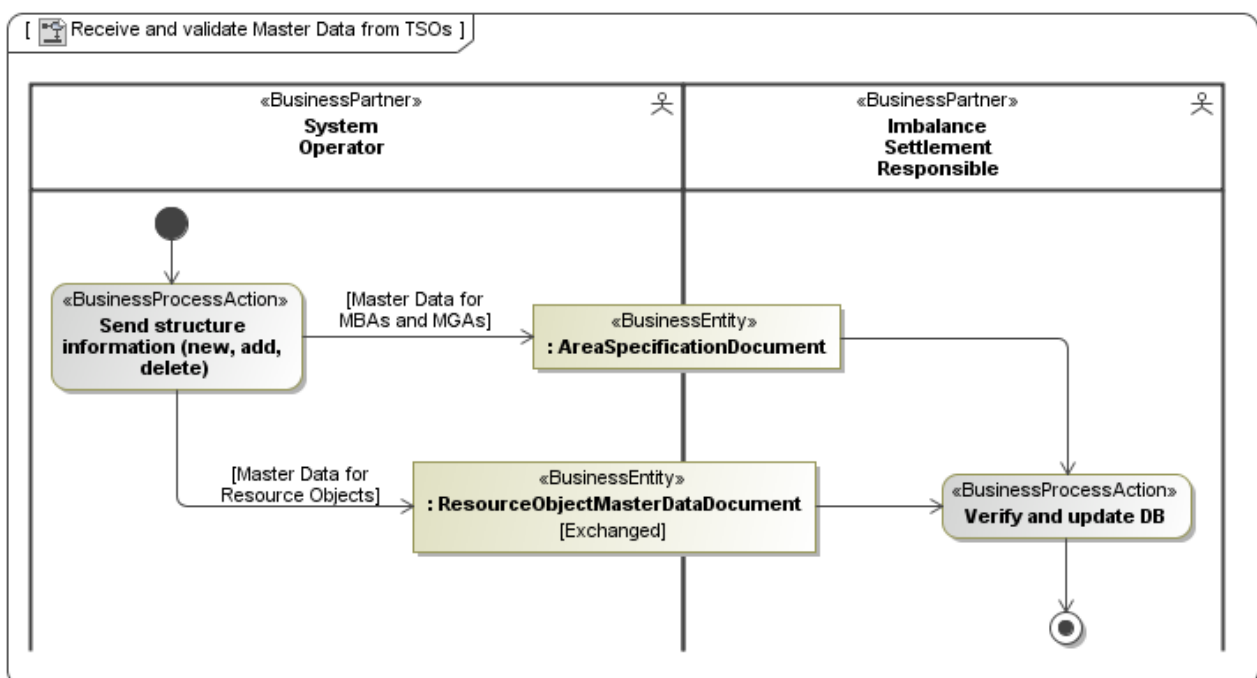


Figure 8: Activity diagram: Receive and validate Master Data from TSOs

4.1.2 Process area: Receive and validate Master Data from DSOs

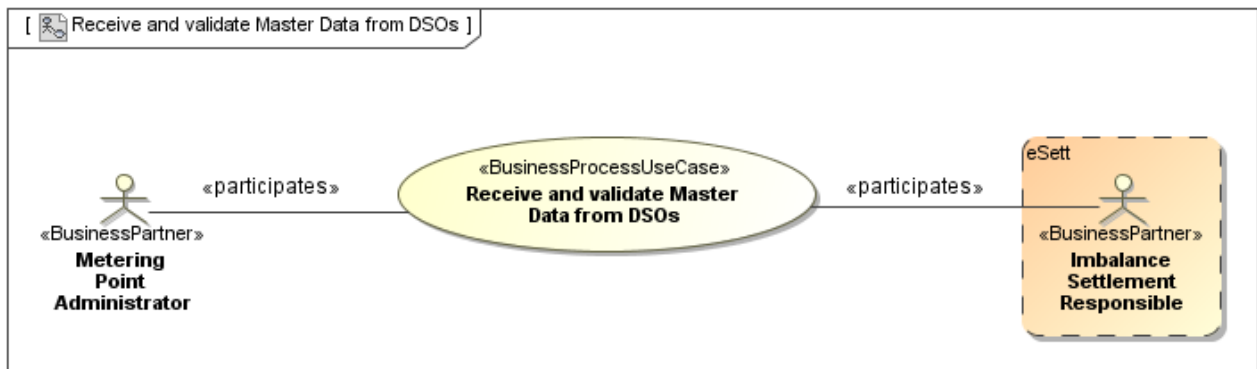


Figure 9: UseCase: Receive and validate Master Data from DSOs

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 Energy Suppliers (Retailers). In addition, the DSOs are responsible for the Master Data regarding Resources connected to regional grids and distribution grids, such as production units.

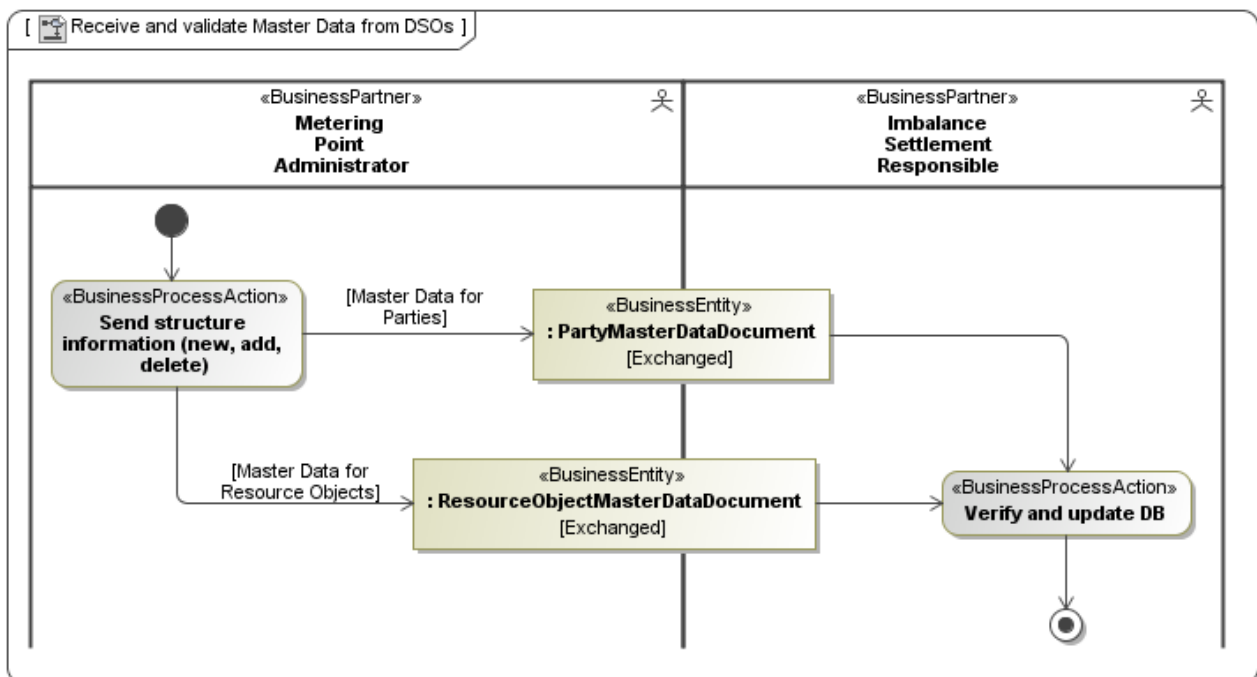


Figure 10: Activity diagram: Receive and validate Master Data from DSOs

4.1.3 Process area: Receive and validate Master Data from BRPs

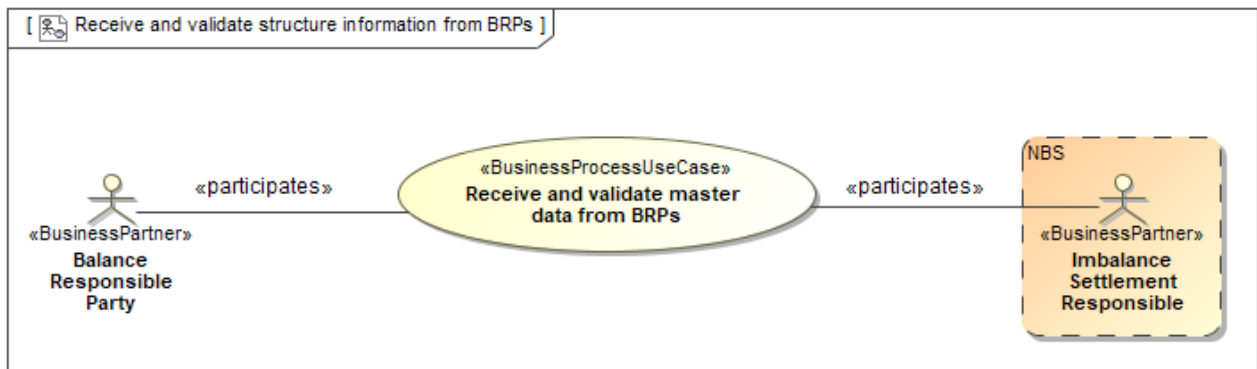


Figure 11: UseCase: Receive and validate Master Data from BRPs

The Balance Responsible Parties (BRPs) are responsible for maintenance of Master Data for Generator Groups and related Generator Relations. In addition, the BRPs may request new Bilateral Trade Structures, i.e. a combination of two BRPs and related Energy Traders (Retailers).

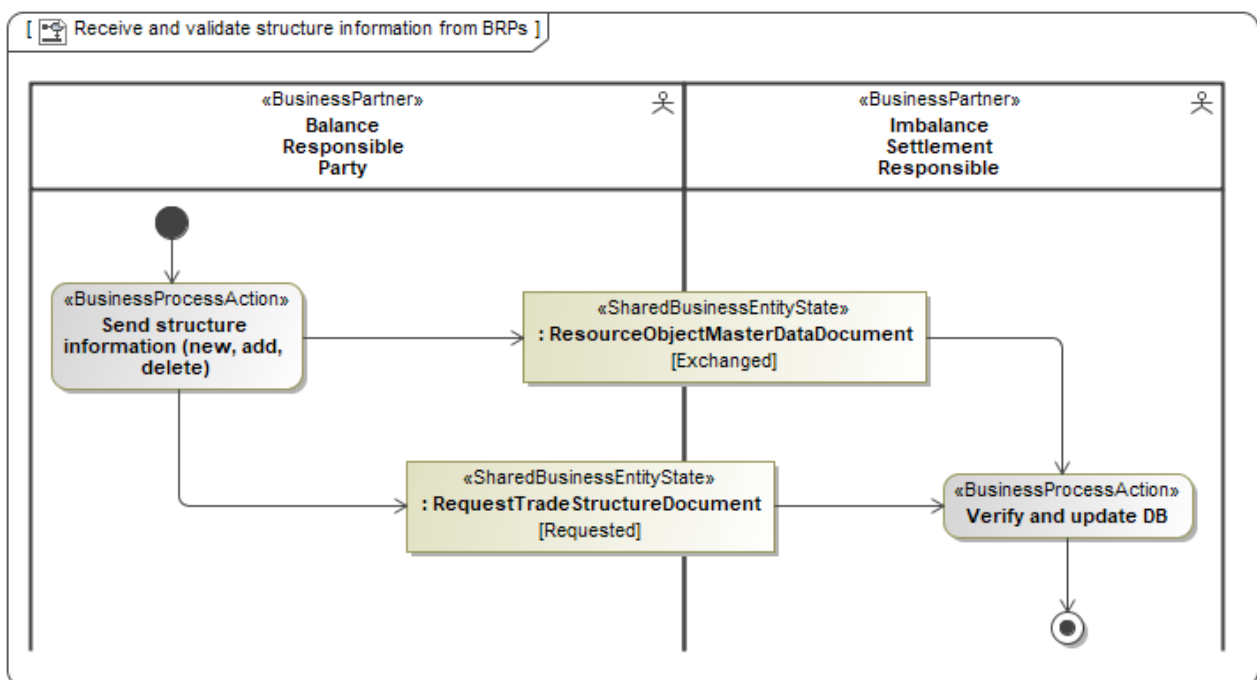


Figure 12: Activity diagram: Receive and validate Master Data from BRPs

4.1.4 Process area: Receive and validate Master Data from Market Operators

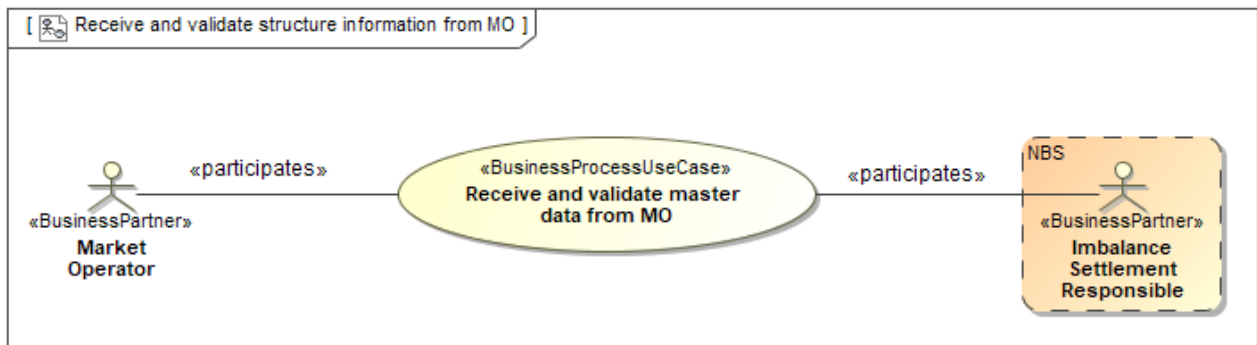


Figure 13: UseCase: Receive and validate Master Data from Market Operators

The Market Operators (NEMO) may request new Trade Structures, i.e. a BRP and the related Energy Trader (Retailer).

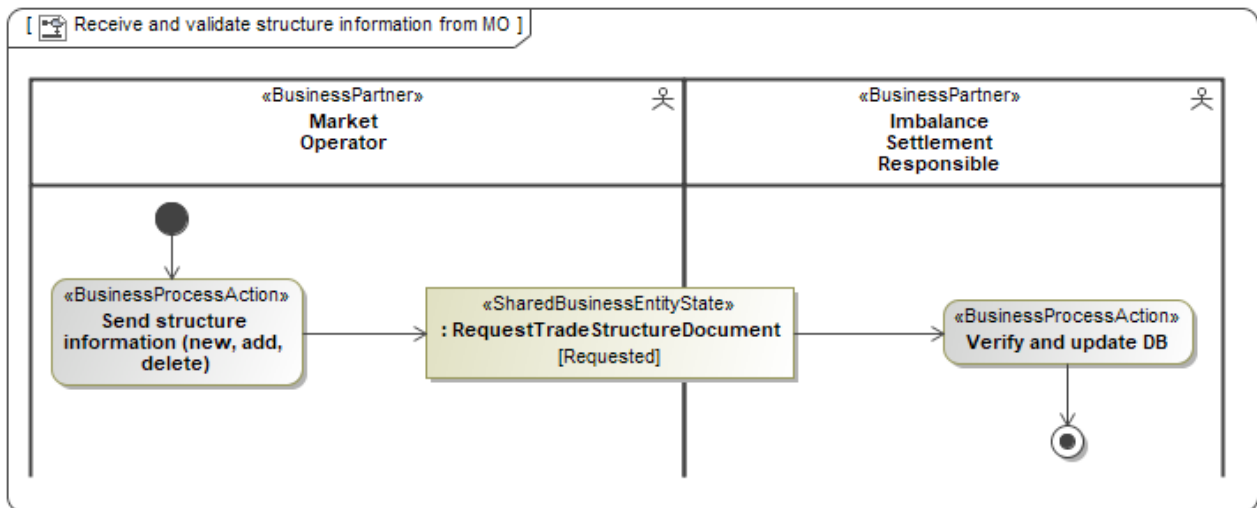


Figure 14: Activity diagram: Receive and validate Master Data from Market Operator

4.2 Process area: Distribute Master Data

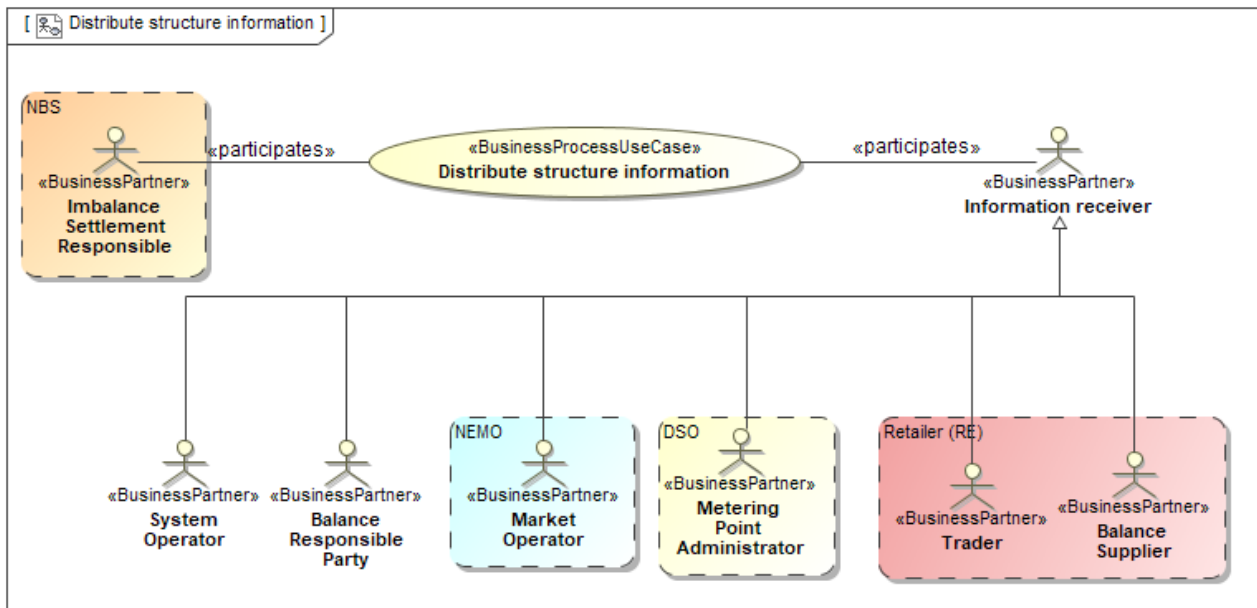


Figure 15: UseCase: Distribute Master Data

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

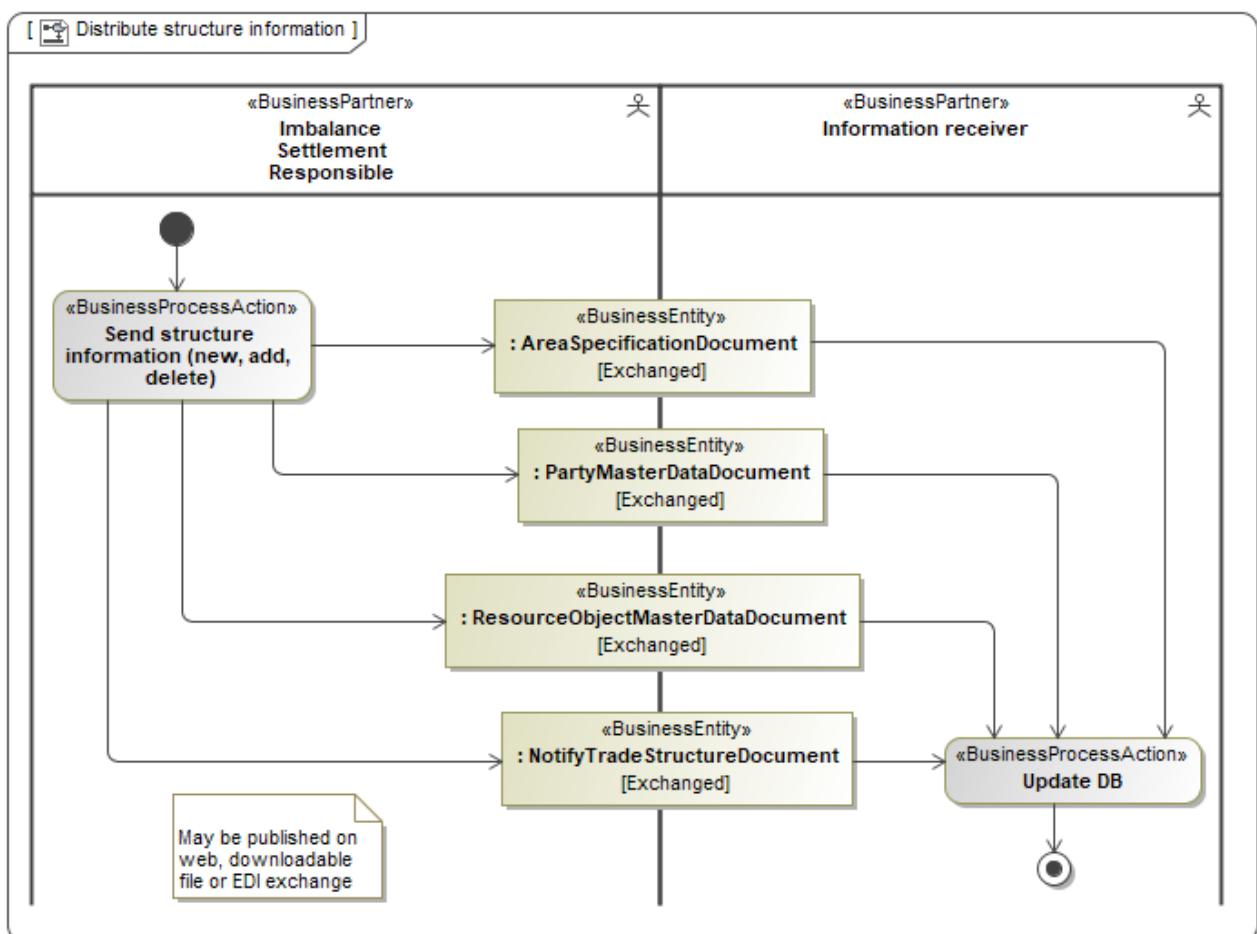


Figure 16: Activity diagram: Distribute Master Data

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 (Generator Group or Regulation Object), In Area and Out Area.
- The level of aggregation, such as per Energy 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 Bidding Zones (BZ) 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. BZ and MGA Master Data
- ii. BZ - MGA Relations
- iii. MGA - MGA Relations

5.1.1 Class diagram: NEG Area Specification Document version 1.0

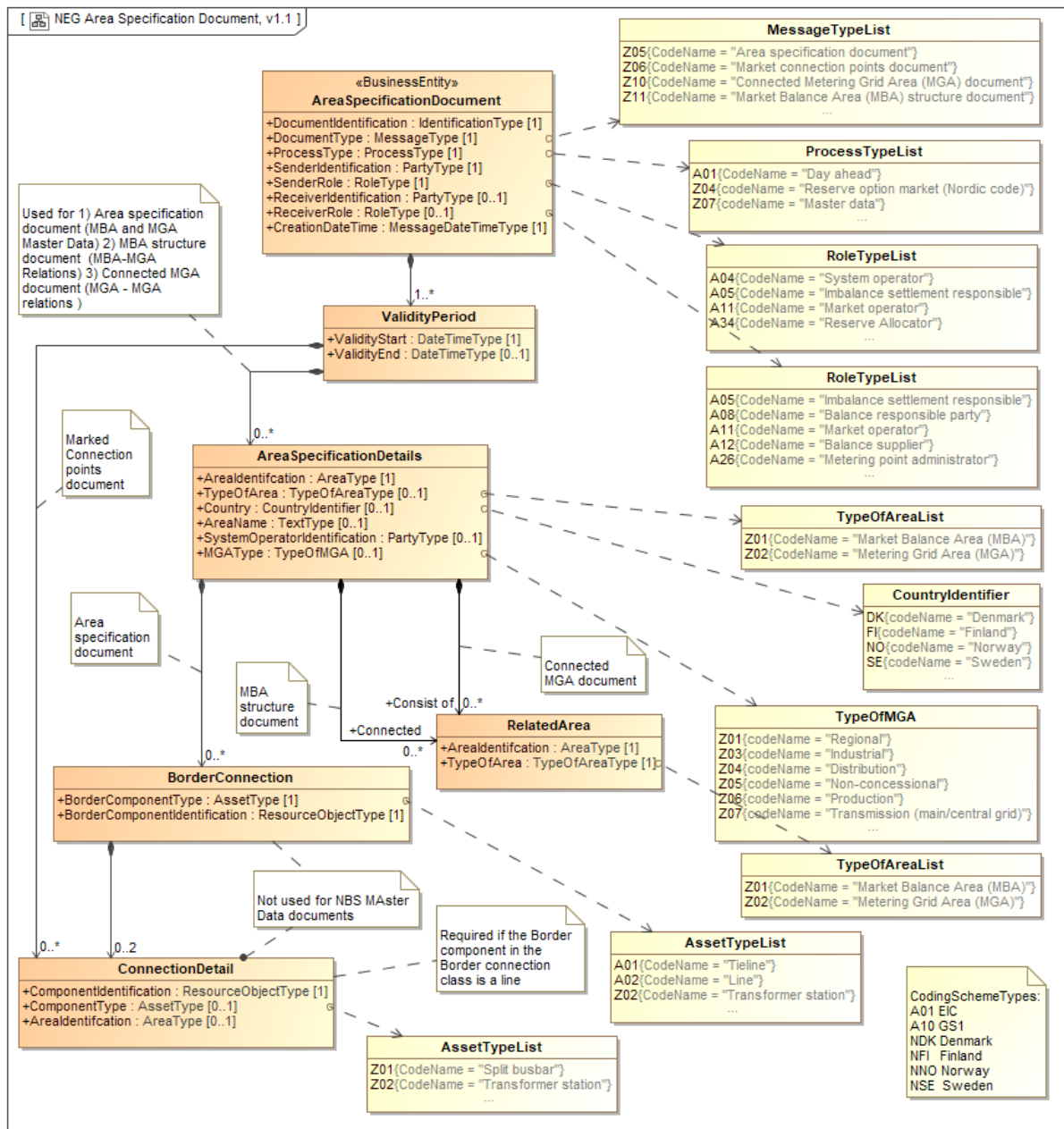


Figure 17: Class diagram: NEG Area Specification Document version 1.0

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

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

- NBS Master Data exchange phase - Receive and validate master data:
 - 1, BZ and MGA Master Data

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

Table 3: Attribute usage: NEG Area Specification Document for BZ and MGA Master Data

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

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

- NBS Master Data exchange phase - Receive and validate master data:
 - 2, BZ - MGA Relations
 - 3, BZ - MGA Relations
- NBS Master Data exchange phase – Distribute master data
 - 2, BZ - MGA Relations
 - 3, BZ - MGA Relations
 - 4, BZ - MGA Relations
 - 5, BZ - MGA Relations

Attribute	Cl.	Code and description
Header	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	Z11 Bidding Zone (BZ) Master Data document
Process Type	[1]	Z07 Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	A04 System Operator A05 Imbalance Settlement Responsible
Receiver Identification	[0..1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[0..1]	A05 Imbalance settlement responsible A08 Balance responsible party (BRP) A12 Energy Supplier A26 Metering point administrator A46 Balancing Service Provider (BSP) A47 Energy Trader (non-balance responsible party)
Creation Date Time	[1]	Date and time for creation of the document
Validity period	[1..*]	May be repeated for each BZ, but must be repeated if the validity start and end date time differs between the BZs
Validity Start	[1]	Date Time
Validity End	[0..1]	Date Time
Area specification details	[1..*]	May be repeated for each BZ with the same validity start and end date
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	Z01 Bidding Zone (BZ)
Consist of Related Area	[1..*]	
Area Identification	[1]	Unique ID of the area (and codingScheme)
Type of Area	[1]	Z02 Metering Grid Area (MGA)

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

5.1.4 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 - Receive and validate master data:
 - 4, MGA - MGA Relations
- NBS Master Data exchange phase – Distribute master data
 - 6, MGA - MGA Relations

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

Table 5: Attribute usage: NEG Area Specification Document for 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 Energy Suppliers (Retailers).

5.2.1 Class diagram: NEG Party Master Data Document version 1.3

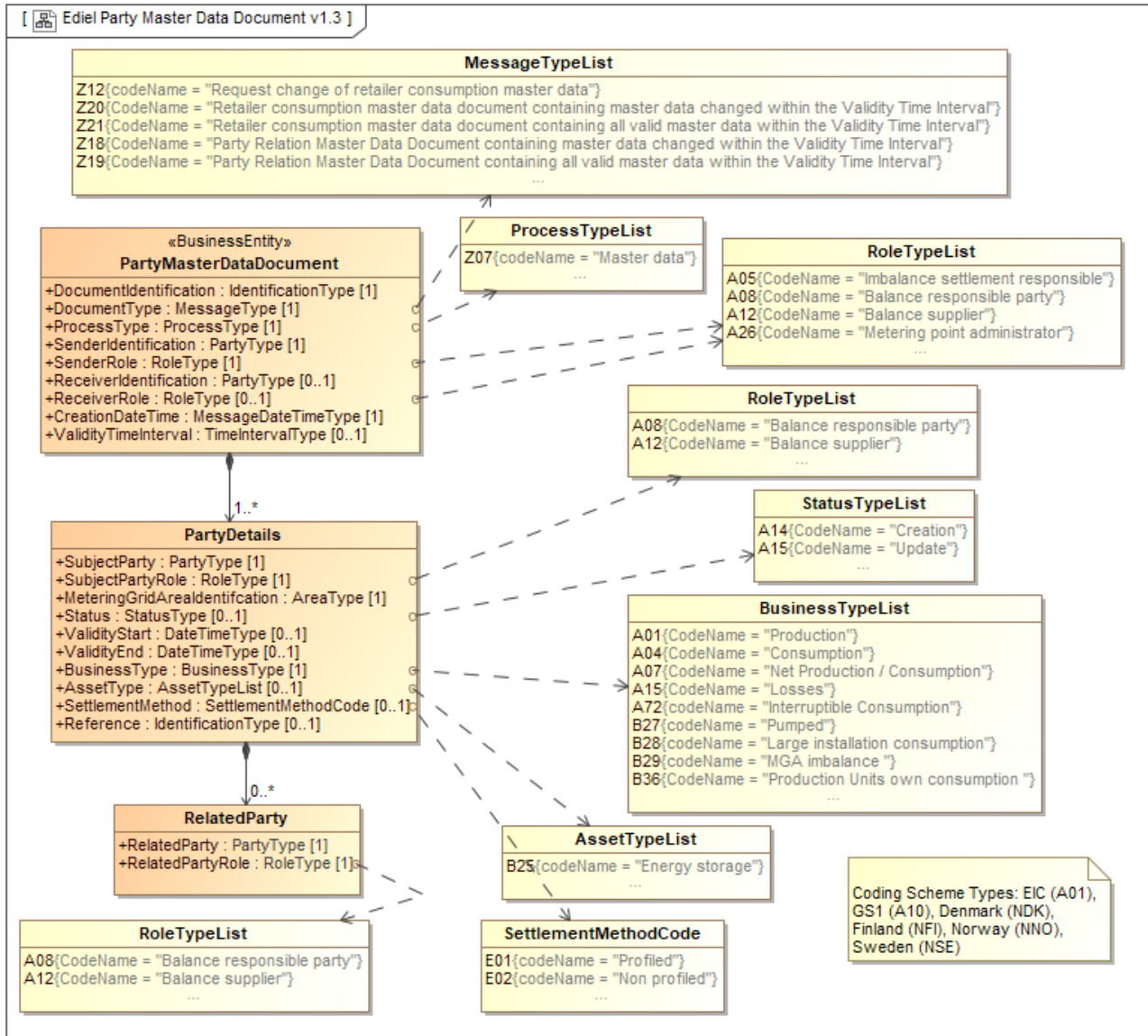


Figure 18: Class diagram: NEG Party Master Data Document version 1.0

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

- NBS Master Data exchange phase - Receive and validate master data:
 - 5, Party Master Data
- NBS Master Data exchange phase – Distribute master data
 - 7, Party Master Data
 - 8, Party Relation
 - 9, Party Master Data

5.2.2 Attribute usage: NEG Party Master Data Document

Attribute	Cl.	Code and description
Header	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	<p>Z12 Request change of retailer consumption master data</p> <p>Z20 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>Z21 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>Z18 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>Z19 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"> Z12 is used for requests (create and update) to Imbalance Settlement Responsible. Z18, Z19, Z20 and Z21 are used for reporting from Imbalance Settlement Responsible.
Process Type	[1]	Z07 Master data
Sender Identification	[1]	Identification of the party who is sending the document (and Coding Scheme).
Sender Role	[1]	<p>A05 Imbalance settlement responsible</p> <p>A26 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"> Required unless used for “broadcast” (same document to several recipients).
Receiver Role	[0..1]	<p>A05 Imbalance Settlement Responsible</p> <p>A08 Balance Responsible Party</p> <p>A26 Metering Point Administrator (DSO)</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> Required unless used for “broadcast” (same document to several recipients)
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.
Party details	[1..*]	<p>Business rules for Party Details when sending request for structure change to eSett:</p> <ul style="list-style-type: none"> One Party Details represents one request 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)
Subject Party	[1]	Unique ID of the Party in question (and Coding Scheme).
Subject Party Role	[1]	<p>A08 Balance Responsible Party</p> <p>A12 Energy Supplier (Retailer)</p>
Metering Grid Area Id.	[1]	Unique ID of the MGA (and Coding Scheme)

Attribute	Cl.	Code and description
Status	[0..1]	A14 Creation A15 Update <i>Business rules:</i> <ul style="list-style-type: none"> Only used when requesting a creation or update of an object. Not used for information notifications.
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> 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 = “A15 Update” and no Validity Start or Validity End.
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none"> 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 = “A15 Update” and no Validity Start or Validity End.
Business Type	[1]	A01 Production A04 Consumption (general consumption) A07 Net production/ consumption (combined pumped storage) A15 Losses A72 Interruptible Consumption B27 Pumped B28 Large installation consumption B29 MGA imbalance B36 Production Units own consumption (Only used in Finland) <i>Business rules:</i> <ul style="list-style-type: none"> See Table 7: Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data
Asset Type	[0..1]	B25 Energy storage <i>Business rules:</i> <ul style="list-style-type: none"> Only to be used together with Business type A04.
Settlement Method	[0..1]	E01 Profiled E02 Non-profiled E15 Non-profiled with special rules (Flex settled) <i>Business rules:</i> <ul style="list-style-type: none"> See Table 7: Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data
Reference	[0..1]	Reference to a set of “Party Details” ³
Related Party	[0..*]	Only used for “Party relation master data document” (Document Type Z18 and Z19).
Related Party	[1]	Unique ID of the Party in question (and Coding Scheme).
Related Party Role	[1]	A08 Balance Responsible Party A12 Energy Supplier (Retailer)

Table 6: Attribute usage: NEG Party Master Data Document

³ MEC (Market Entity Connection) ID, see eSett handbook [9]. 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 ⁴	Sent to
Z12 Request change of retailer consumption master data	A04 Consumption (general consumption)	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
		E15 Non-profiled with special rules (Flex settled)	DSO	eSett
	A15 Losses	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
		E15 Non-profiled with special rules (Flex settled)	DSO	eSett
	B27 Pumped	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
	A07 Net production/consumption	E02 Non-profiled	DSO	eSett
	A72 Interruptible Consumption	E02 Non-profiled	DSO	eSett
	B28 Large installation consumption	E02 Non-profiled	DSO	eSett
	B29 MGA Imbalance	E02 Non-profiled	DSO	eSett
	B36⁵ Production Units own consumption	E02 Non-profiled	DSO	eSett
Z20 Retailer consumption master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) Z21 Retailer consumption master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)	A04 Consumption (general consumption)	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
		E15 Non-profiled with special rules (Flex settled)	DSO	eSett
	A15 Losses	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
		E15 Non-profiled with special rules (Flex settled)	DSO	eSett
	B27 Pumped	E01 Profiled	DSO	eSett
		E02 Non-profiled	DSO	eSett
	A07 Net production/consumption	E02 Non-profiled	eSett	DSO
	A72 Interruptible Consumption	E02 Non-profiled	eSett	DSO
	B28 Large installation consumption	E02 Non-profiled	eSett	DSO
	B29 MGA Imbalance	E02 Non-profiled	eSett	DSO, BRP
	B36⁶ Production Units own consumption	E02 Non-profiled	eSett	DSO

⁴ In Sweden, the profiled consumption will be sent from Svenska kraftnät⁵ Only used in Finland⁶ Only used in Finland

BRS for NBS exchange of master data

Document Type	Business Type	Settlement Method	Sent from ⁴	Sent to
Z18 Party Relation Master Data Document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)	A01 Production A04 Consumption (general consumption)	Not used	eSett	DSO, BRP, BS
Z19 Party Relation Master Data Document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive)				

Table 7: Dependency table for NEG Party Master Data Document as Retailer Consumption Master Data

5.3 Ediel (NEG) Resource (Production Unit) Master Data Document

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

5.3.1 Class diagram: Ediel (NEG) Resource (Production Unit) Master Data Document version 1.1

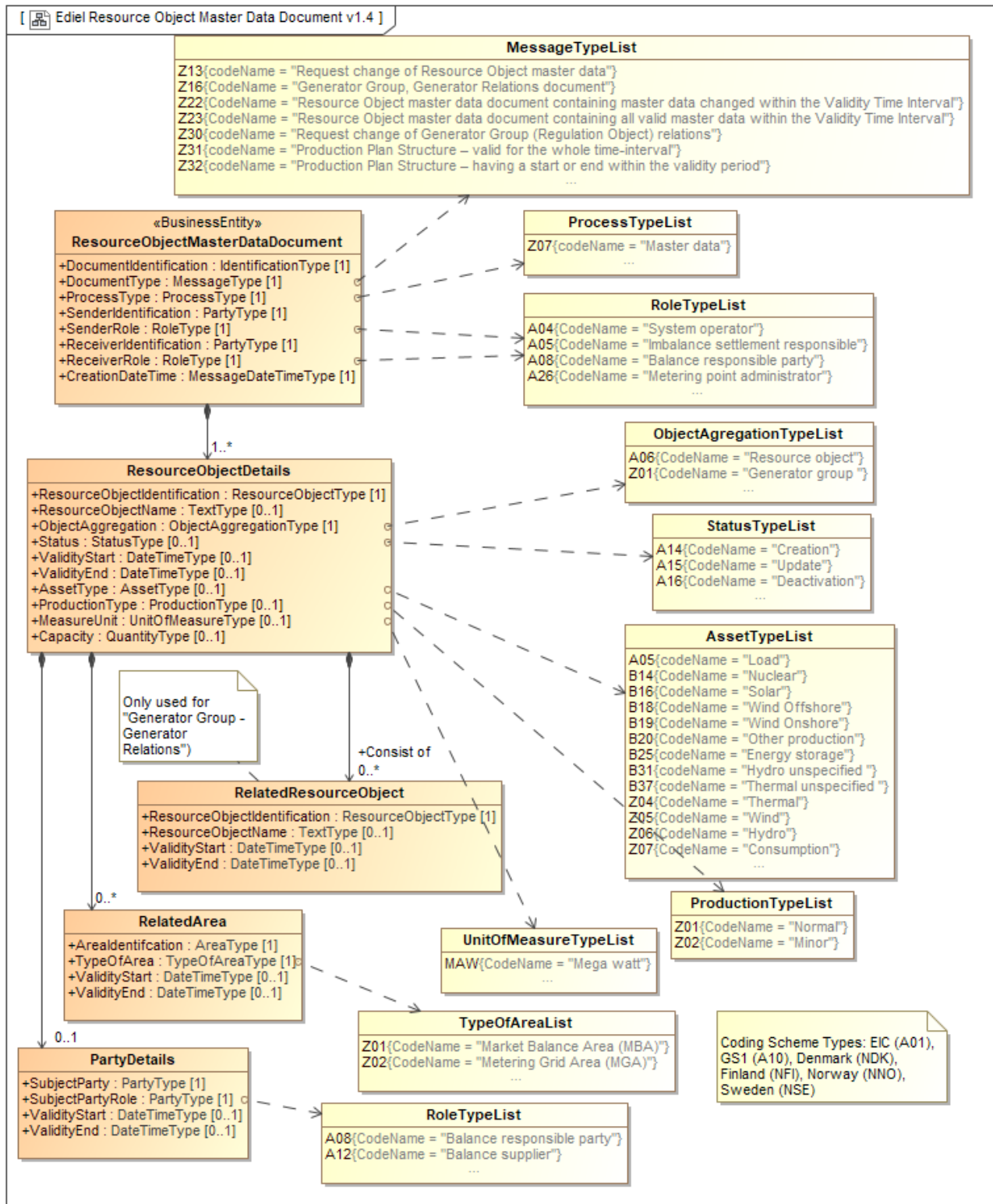


Figure 19: Class diagram: Ediel (NEG) Resource (Production Unit) Master Data Document version 1.1

5.3.2 [Attribute usage: Ediel \(NEG\) Resource \(Production Unit\) Master Data Document](#)

- Used by DSO for managing all Production Unit (PU) attributes except connecting Regulation Object (Generator Group):
 - Inbound Production Unit Data-flow (only changes);
 - Outbound Production Unit Data-flow (All, Delta).
- Used by BRP for managing connections between Production Unit and Regulation Object (Generator Group):
 - Inbound Production Unit - Regulation Object Relation Data-flow (only changes);
 - Outbound Production Unit - Regulation Object Relation Data-flow (All, Delta).

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

- NBS Master Data exchange phase - Receive and validate master data:
 - 6, Resource, Production Unit Master Data
- NBS Master Data exchange phase – Distribute master data:
 - 10, Resource Master Data
 - 11, Resource Master Data

Attribute	Cl.	Code and description
Header	[1]	
Document Identification	[1]	Unique identification of the document
Document Type	[1]	Z13 Request change of Resource master data Z22 Resource master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) Z23 Resource master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) Z30 Request change of Generator Group (Regulation Object) relations <i>Business rules:</i> <ul style="list-style-type: none"> • Z13 is used for requests (create, update and deactivate) to Imbalance Settlement Responsible • Z22 and Z23 are used for reporting from Imbalance Settlement Responsible • Z30 is included in arrow 7 in the sequence diagram in chapter 2.3.1.
Process Type	[1]	Z07 Master data
Sender Identification	[1]	Identification of the party who is sending the document (and Coding Scheme)
Sender Role	[1]	A05 Imbalance settlement responsible A26 Metering Point Administrator (DSO)
Receiver Identification	[1]	Identification of the party who is receiving the master data (and Coding Scheme)
Receiver Role	[1]	A05 Imbalance settlement responsible A08 Balance responsible party (BRP) A26 Metering Point Administrator (DSO)
Creation Date Time	[1]	Date and time for creation of the document
Resource Object Details	[1..*]	<i>Business rules for Resource Details when sending request for structure change:</i> <ul style="list-style-type: none"> • One Resource Details represents one request

Attribute	Cl.	Code and description
		<ul style="list-style-type: none"> There cannot be more than one Resource Details with the same object identification present in one xml file (multiple requests for more than one Production Unit will be rejected) <p><i>Business rules for Resource Details when distributed from Imbalance Settlement Responsible:</i></p> <ul style="list-style-type: none"> Resource Details will repeat for each change of a time-dependent attribute Resource Details contain all attributes
Resource Object Identification	[1]	Unique ID of the Resource in question
Resource Object Name	[0..1]	<p>Name of the Resource in clear text</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> Resource Name and Asset Type for Production Units are not time-dependent, hence Validity Start and Validity End are NOT used when updating these attributes.
Object Aggregation	[1]	<p>A06 Resource (used for detailed units)</p> <p>Z01 Generator group</p>
Status	[0..1]	<p>A14 Creation</p> <p>A15 Update</p> <p>A16 Deactivation</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> Only used when requesting a change to an object. Not used for information notifications Deactivation is used to remove a linked party (Supplier, Retailer or Balance Responsible Party) from a Resource. To reactivate a deactivation, A15 Update is used For “A14 Creation”, all time-dependent attributes have the same validity as the Production Unit An “A14 Creation” for a Resource already created, will be rejected An “A15 Update”, for a not existing Resource, will be rejected An “A16 Deactivation”, for an already deactivated Resource, will be rejected
Validity Start	[0..1]	<p>Date Time</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> At least one of Validity Start or Validity End must be present, except for Status = “A15 Update”, for not time-dependent attributes (Resource Name and Asset Type)
Validity End	[0..1]	<p>Date Time</p> <p><i>Business rules:</i></p> <ul style="list-style-type: none"> At least one of Validity Start or Validity End must be present, except for Status “A15 Update” for not time-dependent attributes (Resource Name and Asset Type)
Asset Type ⁷	[0..1]	<p>A05 Load (replaces Z07)</p> <p>B14 Nuclear</p> <p>B16 Solar</p> <p>B18 Wind offshore</p> <p>B19 Wind onshore (replaces Z05)</p> <p>B20 Other production</p> <p>B25 Energy storage</p>

⁷ The “Znn codes” will be valid one year after eSett have announcement its removal, approximately until the end of 2024. In the transition period eSett will continue using “Znn codes”.

Attribute	Cl.	Code and description
		B31 Hydro unspecified (replaces Z06) B37 Thermal unspecified (replaces Z04) Z04 Thermal Z05 Wind Z06 Hydro Z07 Consumption <i>Business rules:</i> <ul style="list-style-type: none"> Resource Name and Asset Type for Production Units are not time dependent, hence Validity Start and Validity End are NOT used when updating these attributes. Not required when updating Resource (Production Units)
Production Type	[0..1]	Z01 Normal Z02 Minor <i>Business rules:</i> <ul style="list-style-type: none"> 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
Measure Unit	[0..1]	MAW Megawatt <i>Not used for Generator Groups</i>
Capacity	[0..1]	Capacity of the Resource <i>Not used for Generator Groups</i>
Party Details	[0..1]	
Subject Party	[1]	Unique ID of the Retailer or Balance Responsible Party in question (and codingScheme)
Subject Party Role	[1]	A08 Balance Responsible Party A12 Energy Supplier
Related Area	[0..*]	<i>Business rules:</i> <ul style="list-style-type: none"> Required for Generators Required for Generator Groups in Sweden May be repeated if a Generator or a Generator group covers more than one area 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
Area Identification	[1]	Unique ID of the MGA or BZ (and Coding Scheme)
Type of Area	[1]	Z01 Bidding Zone (BZ) Z02 Metering Grid Area (MGA)
Related Resource Object	[0..*]	<i>Business rules:</i> <ul style="list-style-type: none"> Only used for "Generator Group – Generator Relations", i.e. Document Type Z30
Resource Object Identification	[1]	Unique ID of the Resource (Generator) in question

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

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

Used by TSO for managing Regulation Object (Generator Group) Structure - Name, type, code, BRP and Location (Bidding Zone), not connection to production unit (generator relations, which is managed by BRP only):

- Inbound Regulation Object Dataflow.

Note:

It is under discussion if the inbound (to eSett) Regulation Object Dataflow should contain the full set of Resources or only those that have been created, updated, or deactivated. If the latter option is chosen, a Status element (**A14** Creation, **A15** Update, **A16** Deactivation) will be added.

- Outbound Regulation Object Dataflow (All, Delta).
- Outbound Production Plan Structure (All, Delta).

The Ediel (NEG) Resource Object (Generator Group Relations) Master Data Document is used in the following exchanges:

- NBS Master Data exchange phase - Receive and validate master data:
 - 8, Party Relation
- NBS Master Data exchange phase – Distribute master data:
 - 12, Resource, Generator Group and Relations Master Data
 - 13, Resource, Production Plan Structure Master Data

Attribute	Cl.	Code and description
Header	[1]	Resource Object (Generator Group Relations) Master Data Document
Document Identification	[1]	Unique identification of the document
Document Type	[1]	Z16 Generator Group Relations document Z22 Resource master data document containing master data changed within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) Z23 Resource master data document containing all valid master data within the Validity Time Interval (Start date/time inclusive and End date/time exclusive) Z31 Production Plan Structure – valid for the whole time-interval Z32 Production Plan Structure – having a start or end within the validity period <i>Business rules:</i> <ul style="list-style-type: none"> • Z16 is only used for updates of BRP and/or Bidding Zone. • Z22 and Z23 contains a list of all “MACs” identifying production plans and are only sent to the System Operators. The documents are without the Generator Group and Generator relations.
Process Type	[1]	Z07 Master data
Sender Identification	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	[1]	A05 Imbalance settlement responsible A08 Balance Responsible Party
Receiver Identification	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	[1]	A05 Imbalance settlement responsible A08 Balance Responsible Party
Creation Date Time	[1]	Date and time for creation of the document
Details	[1..*]	

Attribute	Cl.	Code and description
Resource Object Identification	[1]	Unique ID of the Resource (Generator Group) in question
Resource Object Name	[0..1]	Name of the Resource (Generator Group) in clear text
Object Aggregation	[1]	A06 Resource object (used for detailed units) Z01 Generator group
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none">At least one of Validity Start or Validity End must be present
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none">At least one of Validity Start or Validity End must be present
Asset Type	[0..1]	A05 Load (replaces Z07) B14 Nuclear B16 Solar B18 Wind offshore B19 Wind onshore (replaces Z05) B20 Other production B25 Energy storage B31 Hydro unspecified (replaces Z06) B37 Thermal unspecified (replaces Z04) Z04 Thermal Z05 Wind Z06 Hydro Z07 Consumption
Production Type	[0..1]	Z01 Normal Z02 Minor
Party Details	[0..*]	
Subject Party	[1]	Unique ID of the Balance Responsible Party in question (and codingScheme)
Subject Party Role	[1]	A08 Balance Responsible Party
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none">At least one of Validity Start or Validity End must be present
Validity End	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none">At least one of Validity Start or Validity End must be present
Related Area	[0..*]	Business rules: <ul style="list-style-type: none">Required for GeneratorsRequired for Generator Groups in SwedenMay be repeated if a Generator or a Generator group covers more than one area
Area Identification	[1]	Unique ID of the MGA or BZ (and codingScheme)
Type of Area	[1]	Z01 Bidding Zone (BZ) Z02 Metering Grid Area (MGA)
Validity Start	[0..1]	Date Time <i>Business rules:</i> <ul style="list-style-type: none">At least one of Validity Start or Validity End must be present
Validity End	[0..1]	Date Time <i>Business rules:</i>

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Attribute	Cl.	Code and description
		<ul style="list-style-type: none">At least one of Validity Start or Validity End must be present

Table 9: Attribute usage: Ediel (NEG) Resource Object (Generator Group Relations) Master Data Document

5.4 Ediel Request Trade Structure Document

The Ediel Request Trade Structure Document is sent from a Balance Responsible Party (BRP) or a Nominated Electricity Market Operator (NEMO) to the Imbalance Settlement Responsible (ISR), requesting new trade structures, either for bilateral trade or for PX (Power Exchange) trade.

5.4.1 Class diagram: Ediel Request Trade Structure Document version 1.0

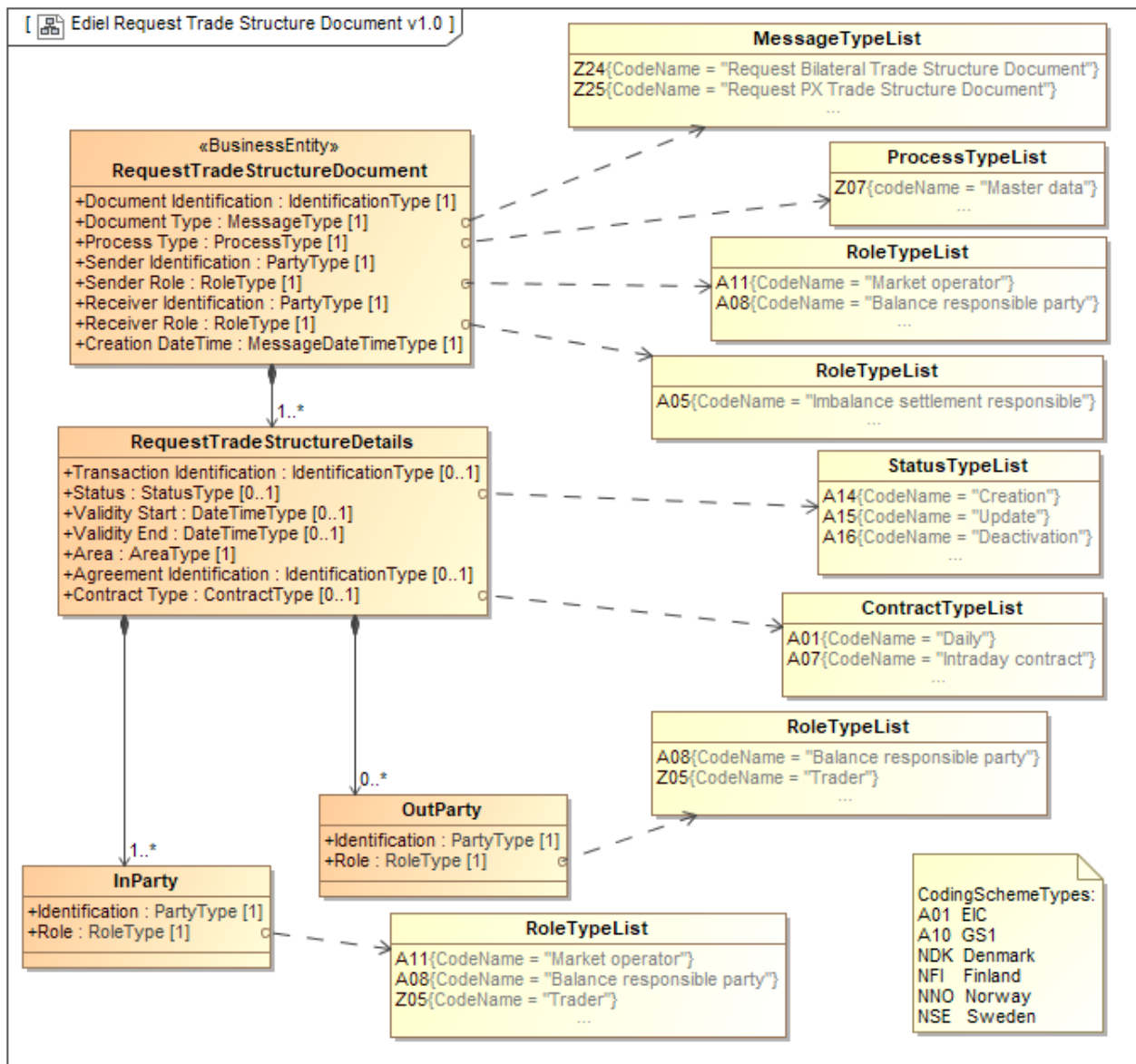


Figure 20: Class diagram: Ediel Request Trade Structure Document version 1.0

5.4.2 CIM assembly model class diagram: Ediel Request Trade Structure Document

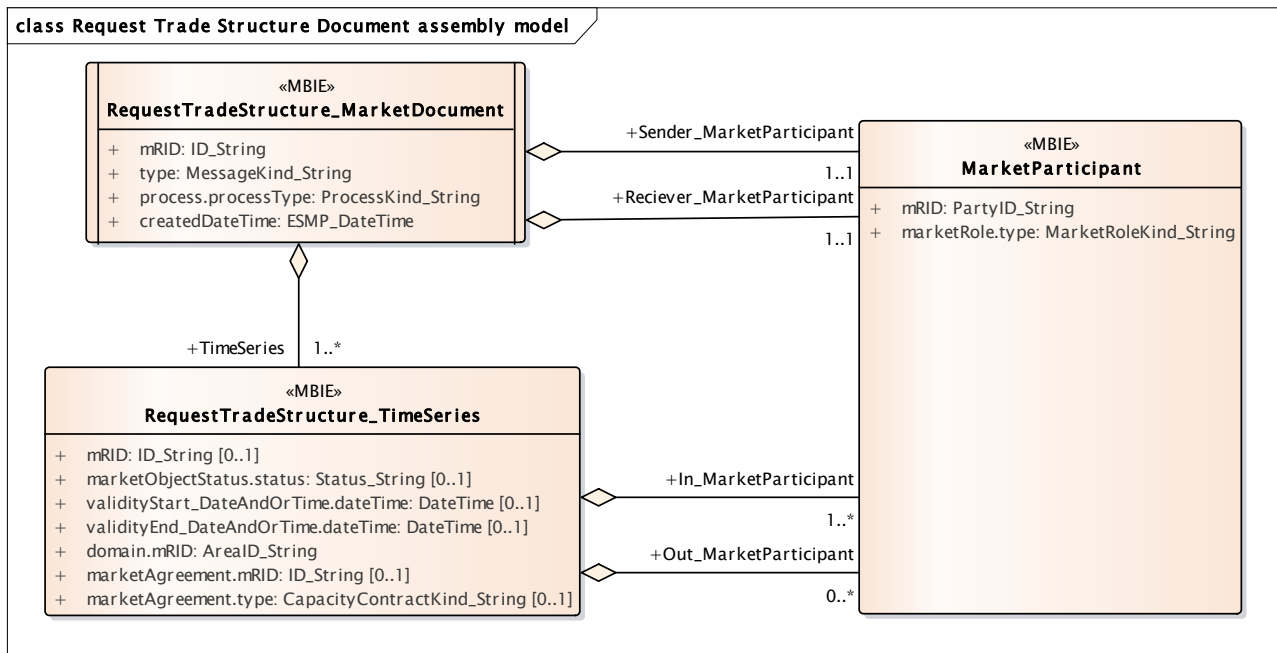


Figure 21: CIM assembly model class diagram: Ediel Request Trade Structure Document

5.4.3 Attribute usage: Ediel Request Bilateral Trade Structure Document

The Ediel Request Bilateral Trade Structure Document is used in the following exchanges:

- NBS Master Data exchange phase - Receive and validate master data:
 - 8, Request new Bilateral Trade Structure

Attribute	Attribute from CIM	CI	Code and description
Header	RequestTradeStructure_MarketDocument	[1]	
Document Identification	mRID	[1]	Unique identification of the document
Document Type	type	[1]	Z24 Request Bilateral Trade Structure Document
Process Type	Process.processType	[1]	Z07 Master data
Sender Identification	Sender_MarketParticipant.mRID	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	Sender_MarketParticipant.marketRole.type	[1]	A08 Balance Responsible Party
Receiver Identification	Reciever_MarketParticipant.mRID	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	Reciever_MarketParticipant.marketRole.type	[1]	A05 Imbalance Settlement Responsible
Creation Date Time	createdDateTime	[1]	Date and time for creation of the document
Details	RequestTradeStructure_TimeSeries	[1..*]	
Transaction Identification	mRID	[1]	Unique ID of this transaction.
Status	MarketObjectStatus.status	[0..1]	A14 Creation A15 Update A16 Deactivation (delete)
Validity Start	validityStart_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present

Attribute	Attribute from CIM	CI	Code and description
Validity End	validityEnd_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Area	domain.mRID	[1]	The Bidding Zone (BZ) where trade can take place.
Agreement Identification	marketAgreement.mRID	[0..1]	The Agreement ID is only used when updating an existing Bilateral Trade Structure with an existing Agreement ID.
In Party	In_MarketParticipant	[1..2]	The party being the buyer in the bilateral trade Note: The BRP is required for Bilateral Trade Structure, while the Energy Trader is optional.
Identification	mRid	[1]	The identification of the In Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A47 Energy Trader
Out Party	Out_MarketParticipant	[1..2]	The party being the seller in the bilateral trade Note: The BRP is required for Bilateral Trade Structure, while the Energy Trader is optional.
Identification	mRid	[1]	The identification of the Out Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A47 Energy Trader

Table 10: Attribute usage: Ediel Request Bilateral Trade Structure Document

5.4.4 [Attribute usage: Ediel Request PX Trade Structure Document](#)

The Ediel Request PX Trade Structure Document is used in the following exchanges:

- NBS Master Data exchange phase - Receive and validate master data:
 - 9, Request new PX Trade Structure

Attribute	Attribute from CIM	Cl.	Code and description
Header	RequestTradeStructure_MarketDocument	[1]	
Document Identification	mRID	[1]	Unique identification of the document
Document Type	type	[1]	Z25 Request PX Trade Structure Document
Process Type	Process.processType	[1]	Z07 Master data
Sender Identification	Sender_MarketParticipant.mRID	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	Sender_MarketParticipant.marketRole.type	[1]	A08 Balance Responsible Party A11 Market operator
Receiver Identification	Receiver_MarketParticipant.mRID	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	Receiver_MarketParticipant.marketRole.type	[1]	A05 Imbalance Settlement Responsible
Creation Date Time	createdDateTime	[1]	Date and time for creation of the document
Details	RequestTradeStructure_TimeSeries	[1..*]	
Transaction Identification	mRID	[1]	Unique ID of the transaction
Status	MarketObjectStatus.status	[0..1]	A14 Creation A15 Update
Validity Start	validityStart_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Validity End	validityEnd_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Area	domain.mRID	[1]	The Bidding Zone (BZ) where trade can take place (and codingScheme).
Agreement Identification	marketAgreement.mRID	[0..1]	MEC ID of the PX trade structure In case of multiple occurrence of MEC IDs with the same attributes but with different validity start or end, the MEC ID may be sent to be able identify the trade uniquely for the validity date change.
Contract type	marketAgreement.type	[1]	Power Exchange market, i.e.: A01 Daily (Day Ahead) A06 Long term contract A07 Intraday contract

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Attribute	Attribute from CIM	Cl.	Code and description
In Party	In_MarketParticipant	[2..3]	The BRP and MO are required for PX Trade Structure. The Energy Trader is optional.
Identification	mRid	[1]	The identification of the In Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A11 Market operator A47 Energy Trader

Table 11: Attribute usage: Ediel Request PX Trade Structure Document

5.5 Ediel Notify Trade Structure Document

The Ediel Notify Trade Structure Document is sent from the Imbalance Settlement Responsible (ISR) to a Balance Responsible Party (BRP) or a Nominated Electricity Market Operator (NEMO), listing one or more trade structures, either for bilateral trade or for PX (Power Exchange) trade.

5.5.1 Class diagram: Ediel Notify Trade Structure Document version 1.0

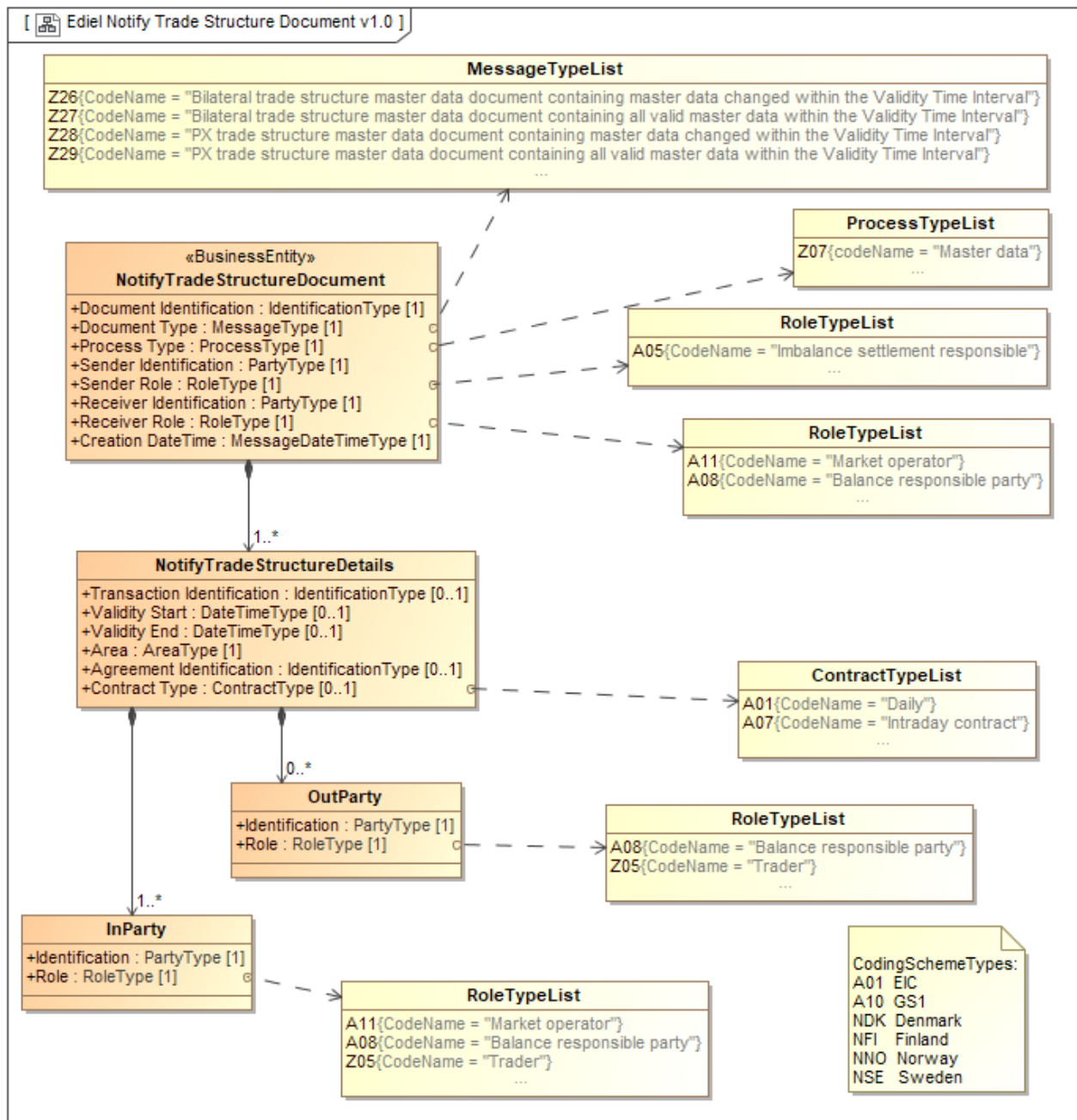


Figure 22: Class diagram: Ediel Notify Trade Structure Document version 1.0

5.5.2 CIM assembly model class diagram: Ediel Notify Trade Structure Document

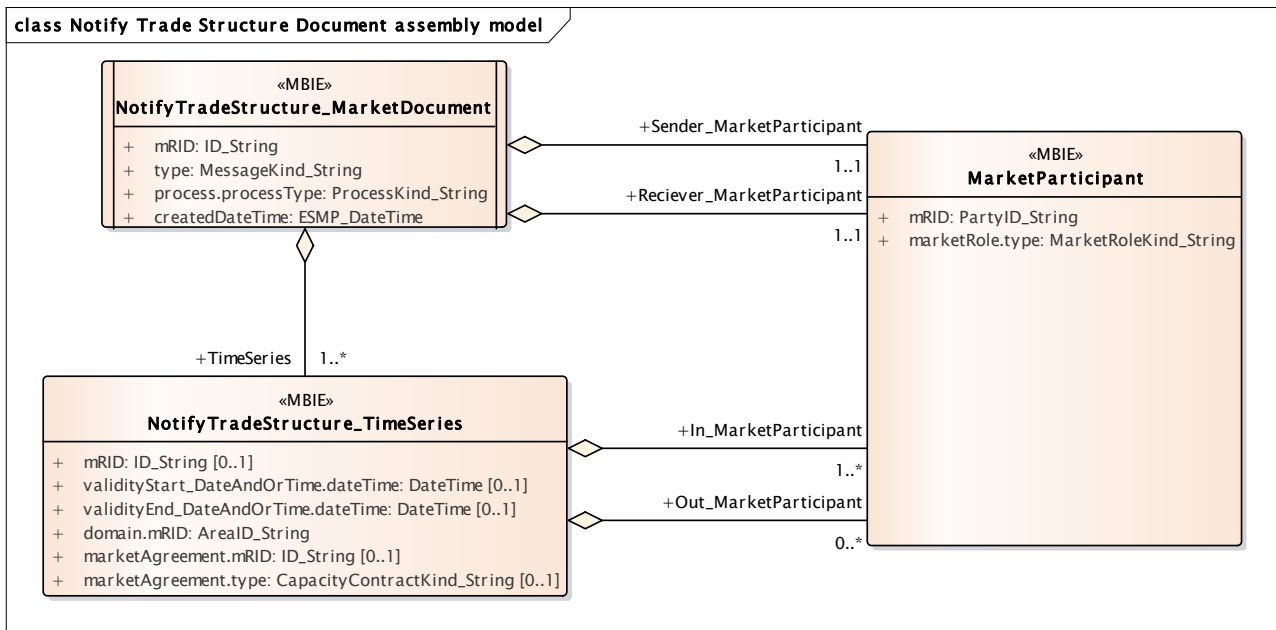


Figure 23: CIM assembly model class diagram: Ediel Notify Trade Structure Document

5.5.3 Attribute usage: Ediel Notify Bilateral Trade Structure Document

The Ediel Notify Bilateral Trade Structure Document is used in the following exchanges:

- NBS Master Data exchange phase – Distribute master data:
 - 14, Bilateral Trade Structure - changed within the Validity Time Interval
 - 15, Bilateral Trade Structure - all valid master data within the Validity Time Interval

Attribute	Attribute from CIM	Cl.	Code and description
Header	NotifyTradeStructure_MarketDocument	[1]	
Document Identification	mRID	[1]	Unique identification of the document
Document Type	type	[1]	Z26 Bilateral trade structure master data document containing master data changed within the Validity Time Interval Z27 Bilateral trade structure master data document containing all valid master data within the Validity Time Interval
Process Type	Process.processType	[1]	Z07 Master data
Sender Identification	Sender_MarketParticipant.mRID	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	Sender_MarketParticipant.marketRole.type	[1]	A05 Imbalance Settlement Responsible
Receiver Identification	Reciever_MarketParticipant.mRID	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	Reciever_MarketParticipant.marketRole.type	[1]	A08 Balance Responsible Party

Attribute	Attribute from CIM	Cl.	Code and description
Creation Date Time	createdDateTime	[1]	Date and time for creation of the document
Details	NotifyTradeStructure_TimeSeries	[1..*]	
Transaction Identification	mRID	[1]	Unique ID of the transaction
Validity Start	validityStart_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Validity End	validityEnd_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Area	domain.mRID	[1]	The Bidding Zone (BZ) where trade can take place (and codingScheme).
Agreement Identification	marketAgreement.mRID	[1]	The unique ID of this bilateral trade structure
In Party	In_MarketParticipant	[1..2]	The party being the buyer in the bilateral trade Note: The BRP is required for Bilateral Trade Structure, while the Energy Trader is optional.
Identification	mRid	[1]	The identification of the In Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A47 Energy Trader
Out Party	Out_MarketParticipant	[1..2]	The party being the seller in the bilateral trade Note: The BRP is required for Bilateral Trade Structure, while the Energy Trader is optional.
Identification	mRid	[1]	The identification of the Out Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A47 Energy Trader

Table 12: Attribute usage: Ediel Notify Bilateral Trade Structure Document

5.5.4 [Attribute usage: Ediel Notify PX Trade Structure Document](#)

The Ediel Notify PX Trade Structure Document is used in the following exchanges:

- NBS Master Data exchange phase – Distribute master data:
 - 16, PX Trade Structure - changed within the Validity Time Interval
 - 17, PX Trade Structure - changed within the Validity Time Interval
 - 18, PX Trade Structure - all valid master data within the Validity Time Interval
 - 19, PX Trade Structure - all valid master data within the Validity Time Interval

Attribute	Attribute from CIM	Cl.	Code and description
Header	NotifyTradeStructure_MarketDocument	[1]	
Document Identification	mRID	[1]	Unique identification of the document
Document Type	type	[1]	Z28 PX trade structure master data document containing master data changed within the Validity Time Interval Z29 PX trade structure master data document containing all valid master data within the Validity Time Interval
Process Type	Process.processType	[1]	Z07 Master data
Sender Identification	Sender_MarketParticipant.mRID	[1]	Identification of the party who is sending the document (and codingScheme)
Sender Role	Sender_MarketParticipant.marketRole.type	[1]	A05 Imbalance Settlement Responsible
Receiver Identification	Receiver_MarketParticipant.mRID	[1]	Identification of the party who is receiving the master data (and codingScheme)
Receiver Role	Receiver_MarketParticipant.marketRole.type	[1]	A08 Balance Responsible Party A11 Market operator
Creation Date Time	createdDateTime	[1]	Date and time for creation of the document
Details	NotifyTradeStructure_TimeSeries	[1..*]	
Transaction Identification	mRID	[1]	Unique ID of the transaction
Validity Start	validityStart_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Validity End	validityEnd_DateAndOrTime.dateTime	[0..1]	Date Time Note: At least one of Validity Start or Validity End must be present
Area	domain.mRID	[1]	The Bidding Zone (BZ) where trade can take place (and codingScheme).
Contract type	marketAgreement.type	[1]	A01 Daily (Day Ahead) A07 Intraday contract
In Party	In_MarketParticipant	[2..3]	The BRP and MO are required for PX Trade Structure. The Energy Trader is optional.
Identification	mRid	[1]	The identification of the In Party (and codingScheme).
Role	marketRole.type	[1]	The role of the in party, i.e. A08 Balance Responsible Party A11 Market operator A47 Energy Trader

Table 13: Attribute usage: Ediel Notify PX Trade Structure Document