

System Operation

Model Documentation



The European message format for the gas market

Version 6.1

Document Version: 8

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1 Model Detail

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2 Document Schema Overview

The table below contains an overview of the different message types described in this document, and the corresponding current schema version for each type.

Message Type	Message Name	Schema Version
LIMITS	Storage, LNG & Network Limits	2
INVENT	Storage Inventory Position	1
STOREQ	Storage Action Request	1
STOCON	Storage Action Confirmation	1
FLOWRQ	Gas Flow Requirements	1

3 Document usage decision tables

The following decision table provides a summary of the message requirements depending on the type of message.

3.1 Limits Document

Limits Document	ALU
identification	Mandatory.
version	Mandatory.
documentCode	ALU = Storage, LNG & Network limits
creationDateTime	Mandatory.
validityPeriod	Mandatory.
contract_Reference.identification	May be used.
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
issuer_MarketParticipant.marketRole.roleCode	ZSO = System Operator ZUO = LNG System Operator ZUS = Storage System Operator
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
recipient_MarketParticipant.marketRole.roleCode	ZSH = Balance Responsible Party
measureUnit.unitOfMeasureCode	KW1 = Kilowatt-hour per hour (kWh/h) KW2 = Kilowatt-hour per day (kWh/d) KWH = Kilowatt-hour (kWh)
connectionPoint.identification	Mandatory; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO (System Operator).
Account.internalAccount	May be used; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)
Account.internalAccountTso	Used if the account identification is ambiguous; codingScheme = 305 (EIC Party X code).
Timeseries.businessCode	Mandatory. Z44 = Upper Limit

Limits Document	ALU
	Z45 = Lower Limit
Availability.availabilityCode	Mandatory Z05 = Interruptible Limit Z06 = Firm Limit
Period.timeInterval	Mandatory
Quantity.quantityCode	Mandatory. ZXY = Contractual (or Nominal) injection limit ZXZ = Contractual (or Nominal) withdrawal / Sendout limit ZYA = Storage inventory level limit ZYG = Operational injection limit ZYE = Operational withdrawal/ Sendout limit ZYH = Daily (Factor-Curve depending) injection limit ZYL = Daily (Factor-Curve depending) withdrawal limit ZYJ = Prorated/projected/Guaranteed Operational injection limit ZYK = Prorated/ projected/Guaranteed Operational withdrawal limit ZYL = Virtualised injection limit ZYM = Virtualised withdrawal limit ZYN = Forecasted injection limit
Quantity.amount	Mandatory
AccountDirection.accountDirectionCode	Optional. Must be used only if quantityCode is ZYA (Storage inventory level limit). ZPD = Debit Quantity (Negative Inventory Level Limit) ZPE= Credit Quantity (Positive Inventory Level Limit)
Status.statusCode	04G = Provisional value 05G = Definitive value

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3.2 Inventory Position Document

Inventory Position Document	ALV
identification	Mandatory.
version	Mandatory.
documentCode	ALV = Inventory Position Document
creationDateTime	Mandatory.
ValidityPeriod	Mandatory.
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
issuer_MarketParticipant.marketRole.roleCode	ZSO = System Operator ZUS = Storage System Operator ZUO = LNG System Operator
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
recipient_MarketParticipant.marketRole.roleCode	ZSH = Balance Responsible Party
Contract_Reference.identification	May be used.
ConnectionPoint.identification	Mandatory; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO (System Operator)
Account.internalAccount	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)
Timeseries.businessCode	ZXK = Storage Level (closing position) Z47 = Overrun Z48 = Shortfall Z49 = Fuel gas
Timeseries.measureUnit.unitOfMeasure	KWH = Kilowatt-hour (kWh)

Inventory Position Document	ALV
	MTQ = Cubic meter (M3)
Period.timeStamp	Mandatory
Quantity.Amount	Mandatory
AccountDirection. accountDirectionCode	Mandatory For businessCode ZXK (Storage Level) the following rule applies: ZPD = Debit Quantity (for negative Inventory Level) ZPE = Credit Quantity (for positive Inventory Level) For businessCode = Z47 (Overrun) ZPE = Credit Quantity should always be used. For businessCode = Z48 (Shortfall), ZPD = Debit Quantity should always be used For businessCode = Z49 (Fuel Gas) the following rules applies: ZPD = Debit Quantity should normally be used, and ZPE = Credit Quantity could be used in special situations in adherence to local market rules.
Period.status.statusCode	Mandatory 03G = Estimated (Projected) value 04G = Allocated (Provisional) value 05G = Allocated (Definitive) value

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3.3 Storage Action Request Document

Storage Action Request Document	ALW	ALX	ALY
identification	Mandatory.		
version	Mandatory.		
documentCode	ALW = Transfer between 2 Balance Responsible Parties (BRPs) in the same storage, same System Storage Operator (SSO)	ALX = Transfer inside 1 Balance Responsible Party (BRP) in different accounts, same System Storage Operator (SSO)	ALY = Transfer between 2 Balance Responsible Parties (BRPs) with 2 System Storage Operators (SSOs) (REGENT)
creationDateTime	Mandatory		
ValidityPeriod	Mandatory		
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)		
issuer_MarketParticipant.marketRole.roleCode	ZSH = Balance Responsible Party.		
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)		
recipient_MarketParticipant.marketRole.roleCode	ZSO = System Operator ZUS = Storage System Operator ZUO = LNG System Operator		
ConnectionPoint.identification	Mandatory; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO (System Operator)		
ConnectionPoint.from_Account.identification	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)		
ConnectionPoint.from_Account.accountCode	ZOE = Balance Responsible Party Account ZOF = System Operator Account		

Storage Action Request Document	ALW	ALX	ALY
ConnectionPoint.to_Account.identification	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)		
ConnectionPoint.to_Account.accountCode	ZOE = Balance Responsible Party Account ZOF = System Operator Account		
Product_Reference.identification	May be used		
Transaction.identification	May be used		
Transaction.transactionCode	Mandatory ZTG = Transfer of gas stock ZTH = Transfer of injection capacity ZTI = Transfer of withdrawal capacity ZTJ = Transfer of inventory capacity ZTK = Transfer of bundled products		
Transaction.measureUnit.unitOfMeasureCode	KW1 = Kilowatt-hour per hour (kWh/h) KW2 = Kilowatt-hour per day (kWh/d) KWH = Kilowatt hour per cubic meter (kWh/m ³) EA = Each (used for bundled products requests)		
Period.timeInterval	Mandatory		
Period.quantity.amount	Mandatory		

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3.4 Storage Action Confirmation Document

Storage Action Confirmation Document	ALZ
identification	Mandatory.
version	Mandatory.
documentCode	ALZ = Storage Action Confirmation Document
creationDateTime	Mandatory.
ValidityPeriod	Mandatory.
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
issuer_MarketParticipant.marketRole.roleCode	ZSO = System Operator ZUS = Storage System Operator ZUO = LNG System Operator
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
recipient_MarketParticipant.marketRole.roleCode	ZSH = Balance Responsible Party.
ConnectionPoint.identification	Mandatory; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO (System Operator)
ConnectionPoint.from_Account.identification	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)
ConnectionPoint.from_Account.accountCode	ZOE = Balance Responsible Party Account ZOF = System Operator Account
ConnectionPoint.to_Account.identification	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)
ConnectionPoint.to_Account.accountCode	ZOE = Balance Responsible Party Account ZOF = System Operator Account
Product_Reference.identification	May be used
Transaction.identification	May be used
Transaction.transactionCode	Mandatory

Storage Action Confirmation Document	ALZ
	ZTG = Transfer of gas stock ZTH = Transfer of injection capacity ZTI = Transfer of withdrawal capacity ZTJ = Transfer of inventory capacity ZTK = Transfer of bundled products
Transaction.measureUnit.unitOfMeasureCode	KW1 = Kilowatt-hour per hour (kWh/h) KW2 = Kilowatt-hour per day (kWh/d) KWH = Kilowatt hour per cubic meter (kWh/m ³) EA = Each (used for bundled product requests)
Period.timeInterval	Mandatory
Period.confirmed_Quantity.amount	Mandatory
Period.confirmed_Quantity.reason.reasonCode	Mandatory. Refer to Edig@s ReasonCodeTypeCodeList for the list of valid codes).
Period.confirmed_Quantity.reason.text	May be used

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145 3.5 Gas Flow Requirements Document

146 The following decision table provides a summary of the message requirements depending on the type of message:

Gas Flow Requirements Document	System Operator Request to Nominate	Flow Commitment	SO to SO Gas Flow
identification	Mandatory		
version	Mandatory		
documentCode	AQG = System Operator Request to Nominate	ARG = Flow Commitment	ASG = SO to SO gas flow
creationDateTime	Mandatory		
validityPeriod	Mandatory		
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC X code)		
issuer_MarketParticipant.marketRole.code	ZSO = System Operator ZUO = LNG System Operator ZUS = Storage System Operator	ZSO = System Operator ZUW = Transmission System Operator	ZSO = System Operator ZUW = Transmission System Operator ZUO = LNG System Operator ZUS = Storage System Operator
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC X code)		
recipient_MarketParticipant.marketRole.code	ZSH = Balance Responsible Party	ZSH = Balance Responsible Party	ZSO = System Operator ZUW = Transmission System Operator ZUO = LNG System Operator

Gas Flow Requirements Document	System Operator Request to Nominate	Flow Commitment	SO to SO Gas Flow
			ZUS = Storage System Operator
ConnectionPoint.identification	Mandatory; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO (System Operator)		
ConnectionPoint.measureUnit.unitOfMeasureCode	KW1 = Kilowatt hour per hour (kWh/h)	KW1 = Kilowatt hour per hour (kWh/h)	KW1 = Kilowatt hour per hour (kWh/h) MQH = Cubic meter per hour (m ³ /h)
ConnectionPoint.account.identification	Not used	Mandatory; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)	Used if necessary; codingScheme = 305 (EIC Account Y code) or ZSO (System Operator)
ConnectionPoint.account.accountTso.identification	Not used	Used if the account identification is ambiguous; codingScheme = 305 (EIC Party X code).	Used if the account identification is ambiguous; codingScheme = 305 (EIC Party X code).
Period.timeInterval	Mandatory		
Quantity.direction.gasDirectionCode	Z02 = Input quantity Z03 = Output quantity		
Quantity.amount	Mandatory.		
Quantity.quantityCode	Used if necessary ZYF = Minimum	Used if necessary ZYG = Calculated	Used if necessary ZYG = Calculated

4 System Operation

4.1 Business Process

4.1.1 Storage, LNG & Network Limits

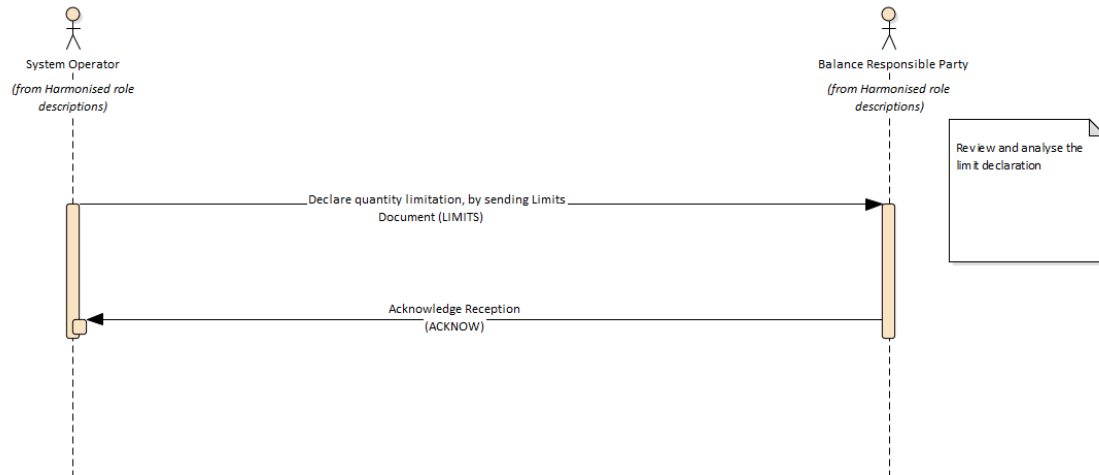
The System Operator provides the Balance Responsible Party with limits corresponding to rights and capacities for the current and coming period. The limits may be daily or hourly, and correspond either to injection, withdrawal, or volume (the inventory level).

The limits can provide the following data for injection and withdrawal:

- Nominal injection (ZXY) and withdrawal (ZXZ) maximum capacities. The maximum quantity of gas that the customer can inject or withdrawal equal to units subscribed under the Contract
- Daily injection (ZYH) and withdrawal (ZYL) maximum limits. The quantity of gas that can be injected/withdrawn due to injection/withdrawal factors. It is determined each day by multiplying the Nominal Injection/Withdrawal capacity by the Injection/Withdrawal development factor for the Day in question (This capacity uses the projected inventory level)
- Daily injection (ZYD) and withdrawal (ZYE) minimum and maximum Operational limits. Daily Injection/Withdrawal limits (per hour/day) (Firm / Interruptible) are Daily limits eventually reduced by a reduction rate and then eventually advised to respect the storage level limits. In case of current storage above the storage limits there will be a minimum advised Injection to respect the minimum Storage level, and minimum advised withdrawal to respect the maximum storage level. This value is contextual.
- Guaranteed Operational injection (ZYJ) and withdrawal (ZYK) minimum and maximum limit. This is an updated Daily operational limit which takes into account the within-day fixed volume. Sum of schedule injection/withdrawal quantities on past hours within day (Already fixed volume in daily managed regimes / storages for past hours for injection/withdrawal) and daily injection/withdrawal limit for remaining hours. This is a daily capacity. These data for each hour are already fixed volume for the past hour, or daily operational limit for future hours.
- Forecasted injection limit (ZYN). The maximum quantity of gas that a customer is allowed to inject into the network. This limit may depend on factors such as the network configuration, gas quality, consumption levels of other customers in the same area. A typical use case is biogas injection, where the gas must be consumed locally and is not permitted to be transported to an Interconnection Point, or where sufficient blending must be ensured.
- Virtualised withdrawal (ZYM) and injection (ZYL) limits. The maximum quantity of gas that a Balance Responsible Party (BRP) can withdraw from or inject into a storage facility by receiving gas from or transferring gas to the storage facility's balancing account at a Virtual Trading Point. This may differ from the physical limits, as virtual withdrawal or injection can be permitted by netting off against injections/withdrawals by other BRPs.

The limits provide the following data for volume:

- Daily maximum and minimum (ZYA) storage level expressed in kWh. This is contractual data, defining the minimum and maximum quantity of gas that the Balance Responsible Party must retain in the storage facility on a given day. If a negative inventory level is allowed, the lower limit (Z45) should be reported as a debit quantity.

Figure: 1 Storage, LNG and Network Limits

4.1.2 Storage Inventory Positions

The system operator informs the Balance Responsible Party on the inventory position at a given time. The inventory provided could be the following 4 different scenarios

- Projected inventory level. An estimated quantity of gas in the storage facility for one day (at the end of day) for each Balance Responsible Party and product. The quantity is calculated based on the previous day's stock and the daily injection and withdrawal schedules and is used within day and for future gas days for limits and capacity calculations. For inventory levels, a positive inventory should be reported as a credit quantity, and a negative level should be reported as a debit quantity.
- Real time inventory level: A provisional quantity of gas in the storage facility at one time of the day corresponding to within day confirmation deadlines. The data provided has the status "Provisional". The timeStamp indicates the specific time corresponding to the quantity in storage. For inventory levels, a positive inventory should be reported as a credit quantity, and a negative level should be reported as a debit quantity.
- Allocated inventory level. The allocated quantity of gas in the storage facility deemed to contain for one day (end of day) under the contract. The data provided could have 2 statuses - provisional (day after) or definitive (e.g., month after). For inventory levels, a positive inventory should be reported as a credit quantity, and a negative level should be reported as a debit quantity.
- Allocated storage overrun or shortfall. The quantity of gas that exceed the minimum and maximum storage level limits for one day. This quantity can be purchased by the Storage System Operator from the Balance Responsible Party on a given day to cover a maximum stock overrun or sold by the Storage System Operator to the Balance Responsible Party on a given day to cover shortfall (minimum stock overrun). The data provided could have different statuses - e.g. provisional (day after) or definitive (e.g., month after). Shortfall should be reported as a debit quantity, and overrun should be reported as a credit quantity.
- Fuel gas. The quantity of gas should be reported as a debit quantity to describe fuel gas subtracted from a recipient account to cover System Operator usage of gas for specific operation of the system, i.e. injection processes or regasification processes. The quantity of gas should be reported as a credit quantity to describe a process when System Operator returns in part or fully previously subtracted amount or for any other reason returns amount of gas to recipient account.

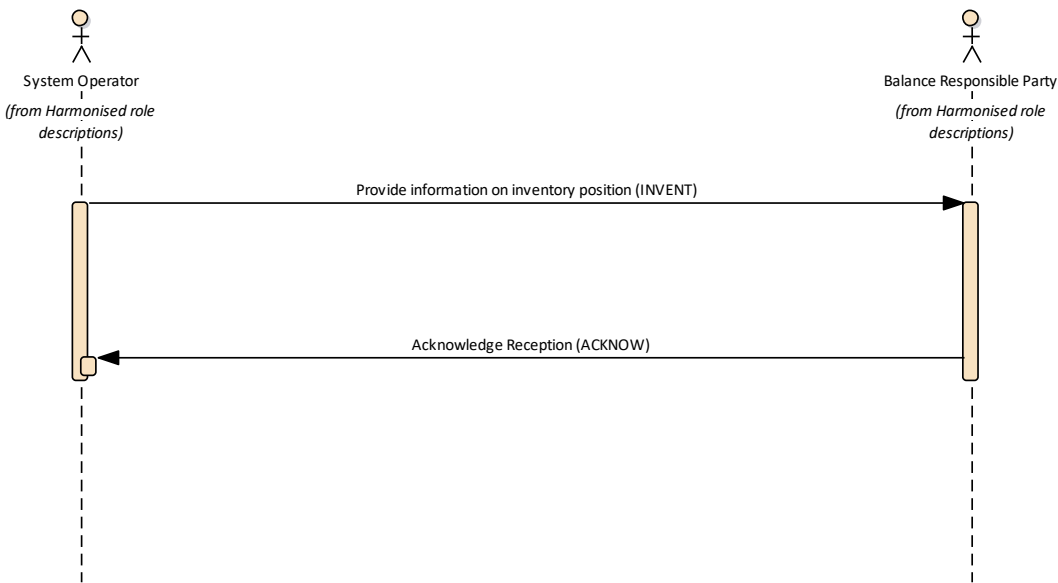


Figure: 2 Storage Inventory Position Sequence

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4.1.3 Storage Transactions

Balance Responsible Parties can request to a Storage System Operator a transfer or receipt of stock or ownership in a storage facility. The requests can be of 3 different types:

1. Transfer of gas stock from one Balance Responsible Party to another Balance Responsible Party in the same storage/facility/product combination
2. Transfer of gas stock for one Balance Responsible Party between different accounts/storage points/facility products within the same storage
3. Transfer of gas stock between 2 Balance Responsible Parties involving several Storage System Operators within the same storage facility (REGENT)

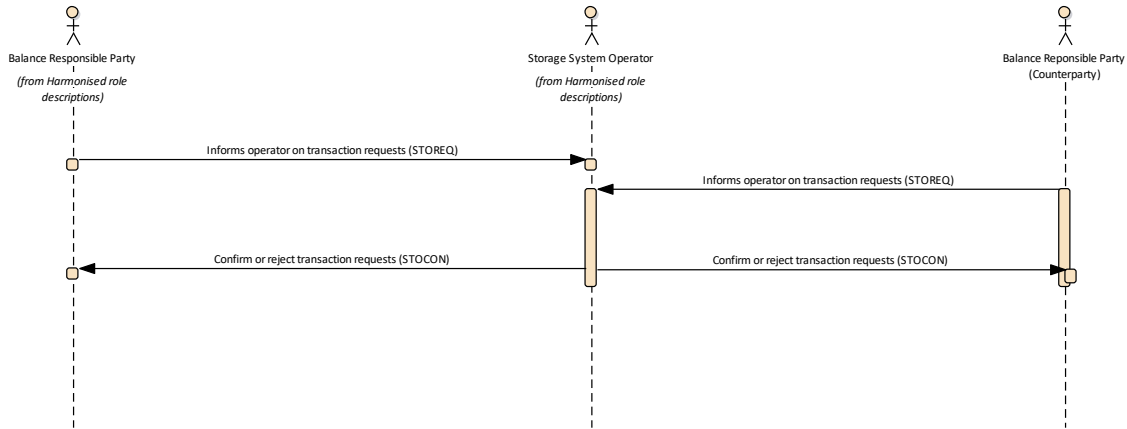


Figure: 3 Storage Transactions

4.1.4 Gas Flow Requirements

A Gas Flow Requirements document is used in three contexts:

1. To enable a System Operator to inform a Balance Responsible Party of a quantity of gas that is to be injected into a market area.
2. To enable a Transmission System Operator to inform a Balance Responsible Party of the quantity of gas that has been committed for injection or for extraction.
3. To enable a Transmission System Operator to inform a neighbouring Transmission System Operator of a quantity of gas that is to be injected or extracted.

4.1.4.1 Use Case

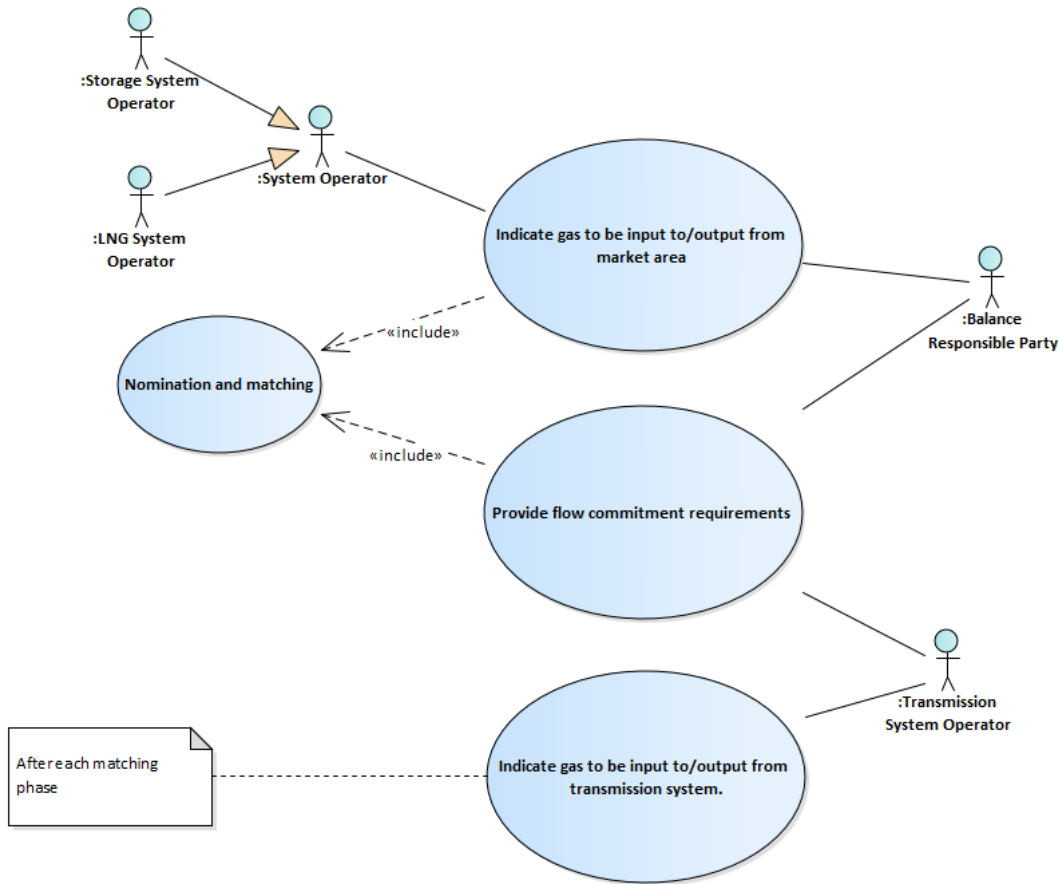


Figure: 4 Gas Flow Requirements Use Case

4.1.4.2 Sequence

4.1.4.2.1 System Operator request to nominate

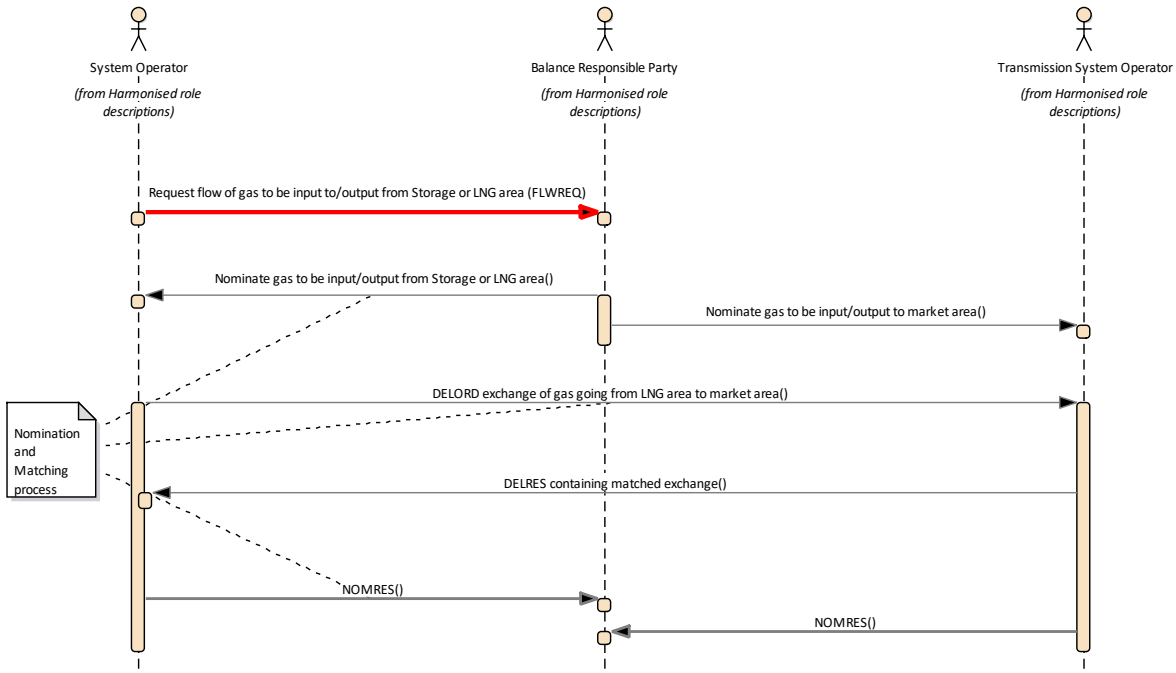


Figure: 5 **System Operator request to nominate**

A System Operator informs a Balance Responsible Party of the minimum amount of gas to be nominated to a market area.

During the nomination process (only shown here for understanding, please see the separate documents in the Nomination and Matching business process for further details) the Balance Responsible Party nominates the quantity to be input/output from the Storage or LNG area. The Balance Responsible Party also nominates the quantity of gas that will be input/output to the Transmission System Operator market area.

The System Operator and Transmission System Operator exchange DELORD/DELRES messages to confirm the nominations.

4.1.4.2.2 Flow commitment sequence

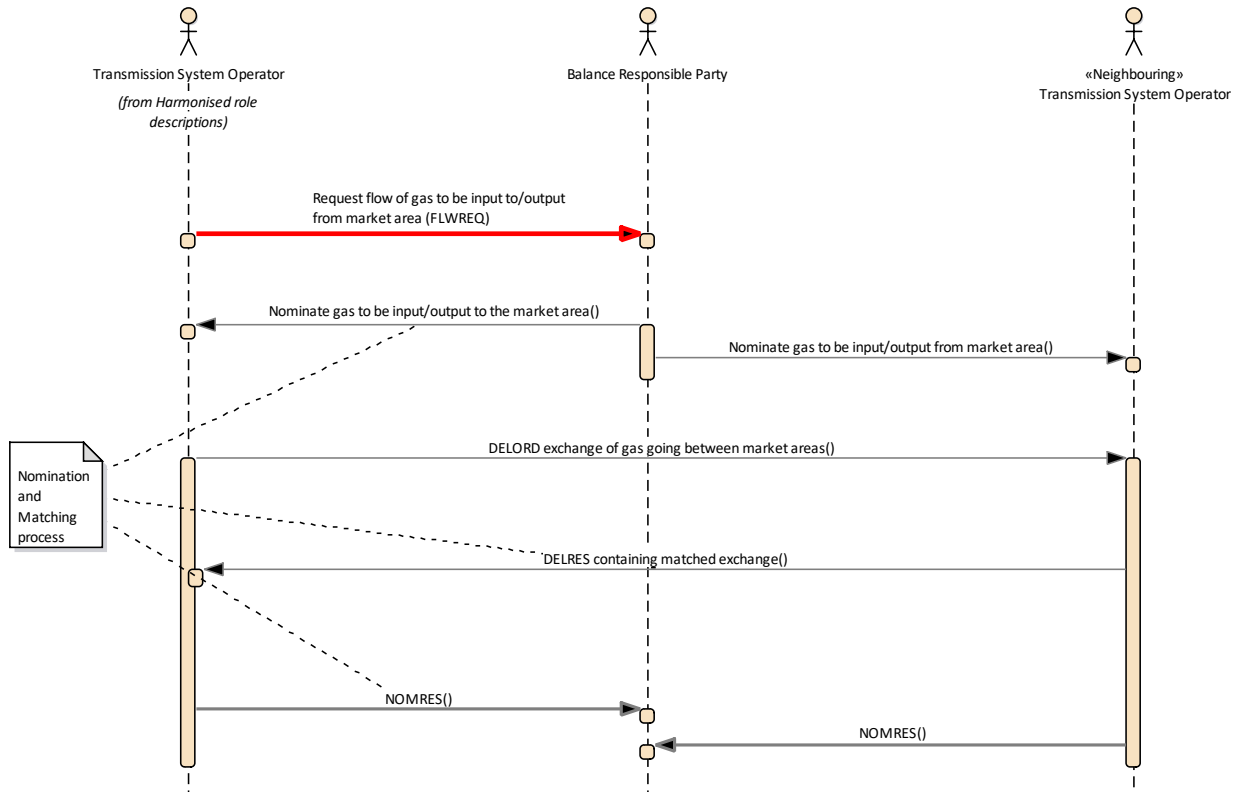


Figure: 6 Flow commitment sequence

A Transmission System Operator informs a Balance Responsible Party of gas that has been committed to be input/output to the market area.

During the nomination process (only shown here for understanding, please see the separate documents in the Nomination and Matching business process for further details) the Balance Responsible Party nominates the quantity of gas to be input to the Transmission System Operator market area. The Balance Responsible Party also nominates the quantity of gas that will be output from a neighbouring Transmission System Operator market area. Both Transmission System Operators exchange DELORD/DELRES messages to confirm the nominations.

4.1.4.2.3 TSO to TSO gas flow

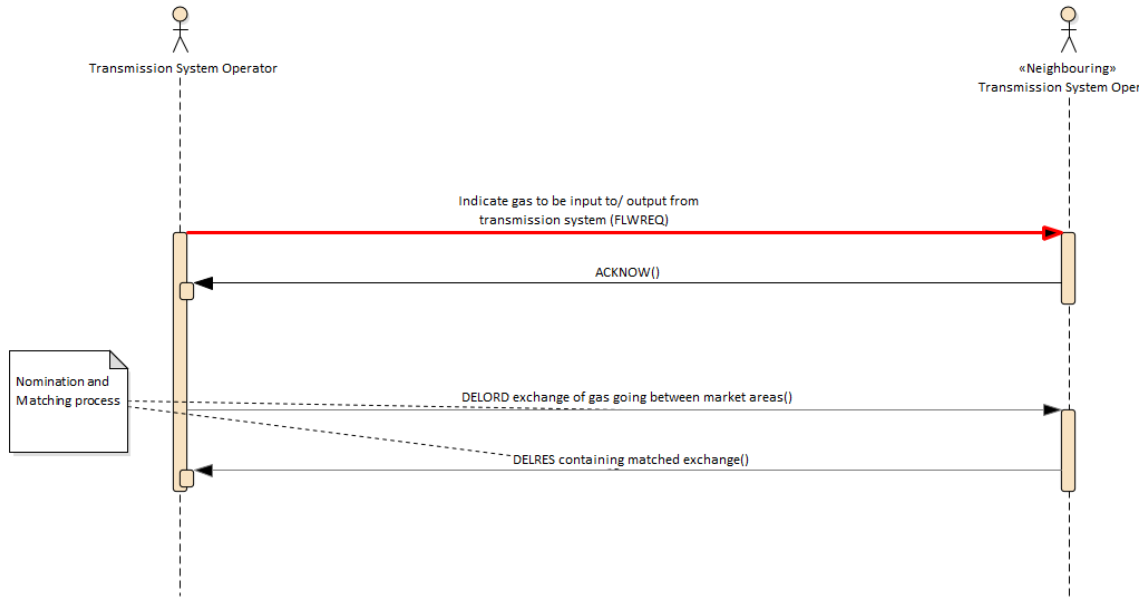


Figure: 7 TSO to TSO gas flow

A TSO informs a neighbouring TSO of the quantity per hour that is scheduled for flow. This message is sent initially after the first nomination cycle and after any updates of the scheduled flow (please see the separate documents in the Nomination and Matching business process for further details). The reply to this message is an ACKNOW confirming or rejecting the planned schedule.

4.2 Limits Document (LIMITS)

4.2.1 Limits Document Contextual Model

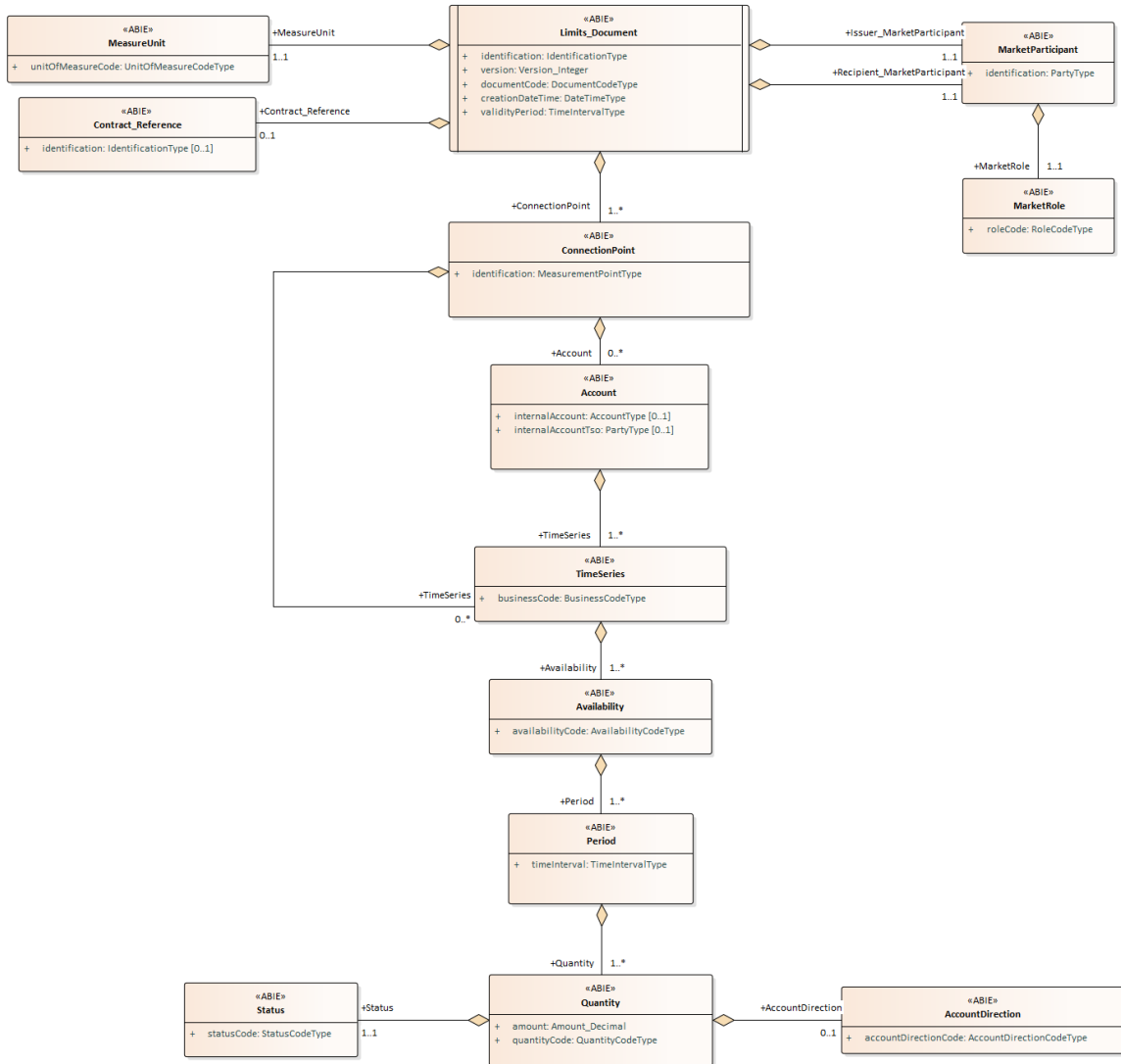


Figure: 8 Limits Document Contextual Model

4.2.2 Limits Document Assembly Model

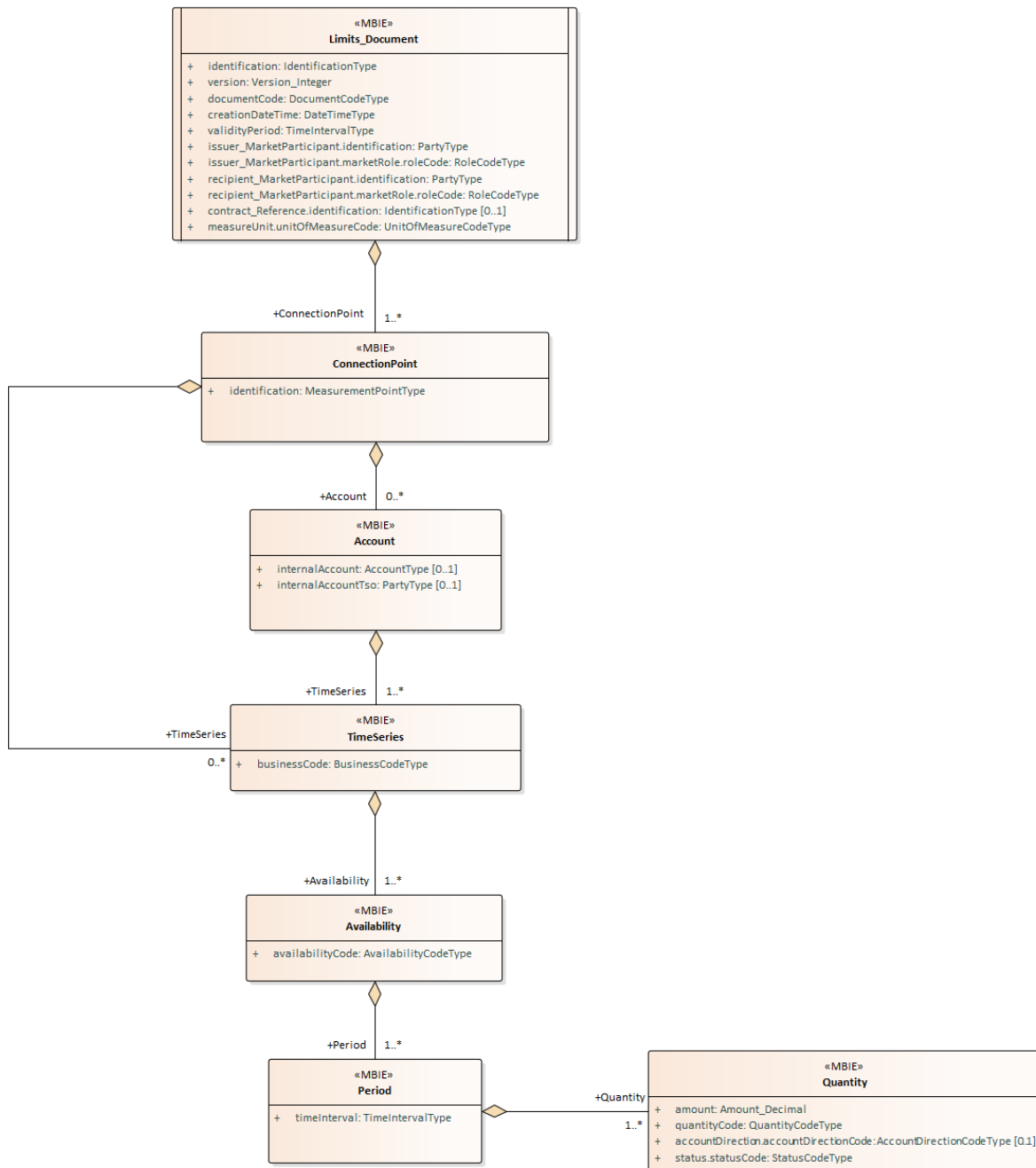


Figure: 9 **Limits Document Assembly Model**

4.2.2.1 Limits_Document

This class provides the basic information needed to describe most electronic documents.

4.2.2.1.1 Attributes

Attribute	Description	Multiplicity
identification	A unique identification of a document that is assigned by the issuer. This identifies the document being reported.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	
documentCode	Coded representation of the type of the electronic document. (Refer to the Edig@s DocumentCodeTypeCodeList for the list of valid codes).	
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
validityPeriod	The start and end date and time expressed in UTC of the period of validity covered in the document.	
issuer_MarketParticipant.identification	The identification of the party participating in the market.	
issuer_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
recipient_MarketParticipant.identification	The identification of the party participating in the market.	
recipient_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
contract_Reference.identification	The coded identification of a reference.	[0..1]
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 20 common codes. (Refer to the Edig@s UnitOfMeasureCodeTypeCodeList for the list of valid codes).	

4.2.2.2 ConnectionPoint

An interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnections between adjacent entry-exit-systems within the same Member States.

4.2.2.2.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a connection point.	

4.2.2.3 Account

An account used in a transaction.

4.2.2.3.1 Attributes

Attribute	Description	Multiplicity
internalAccount	The identification of an account for a local SO.	[0..1]

Attribute	Description	Multiplicity
internalAccountTso	The identification of the SO that has assigned the internal account.	[0..1]

4.2.2.4 TimeSeries

A set of time-ordered quantities being exchanged in relation to a product.

4.2.2.4.1 Attributes

Attribute	Description	Multiplicity
businessCode	The business type of a time series. (Refer to the Edig@s BusinessCodeTypeCodeList for the list of valid codes).	

4.2.2.5 Availability

The identification of the nature of the availability of a product.

4.2.2.5.1 Attributes

Attribute	Description	Multiplicity
availabilityCode	A code identifying the nature of the availability of a product (interruptible, firm, etc). (Refer to the Edig@s AvailabilityCodeTypeCodeList for the list of valid codes).	

4.2.2.6 Period

The period that the dependent information is for.

4.2.2.6.1 Attributes

Attribute	Description	Multiplicity
timeInterval	The start and end date and time for the period. The time is expressed in UTC.	

4.2.2.7 Quantity

The quantity of an object.

4.2.2.7.1 Attributes

Attribute	Description	Multiplicity
amount	The amount of a quantity.	
quantityCode	A code defining the type of a quantity. (Refer to the Edig@s QuantityCodeTypeCodeList for the list of valid codes).	
accountDirection.accountDirectionCode	A code indicating whether a value is a debit or a credit. (Refer to the Edig@s AccountDirectionCodeTypeCodeList for the list of valid codes).	[0..1]
status.statusCode	A code providing the status of an object. (Refer to the Edig@s StatusCodeTypeCodeList for the list of valid codes).	

4.3 Inventory Position Document (INVENT)

4.3.1 Inventory Position Document Contextual Model

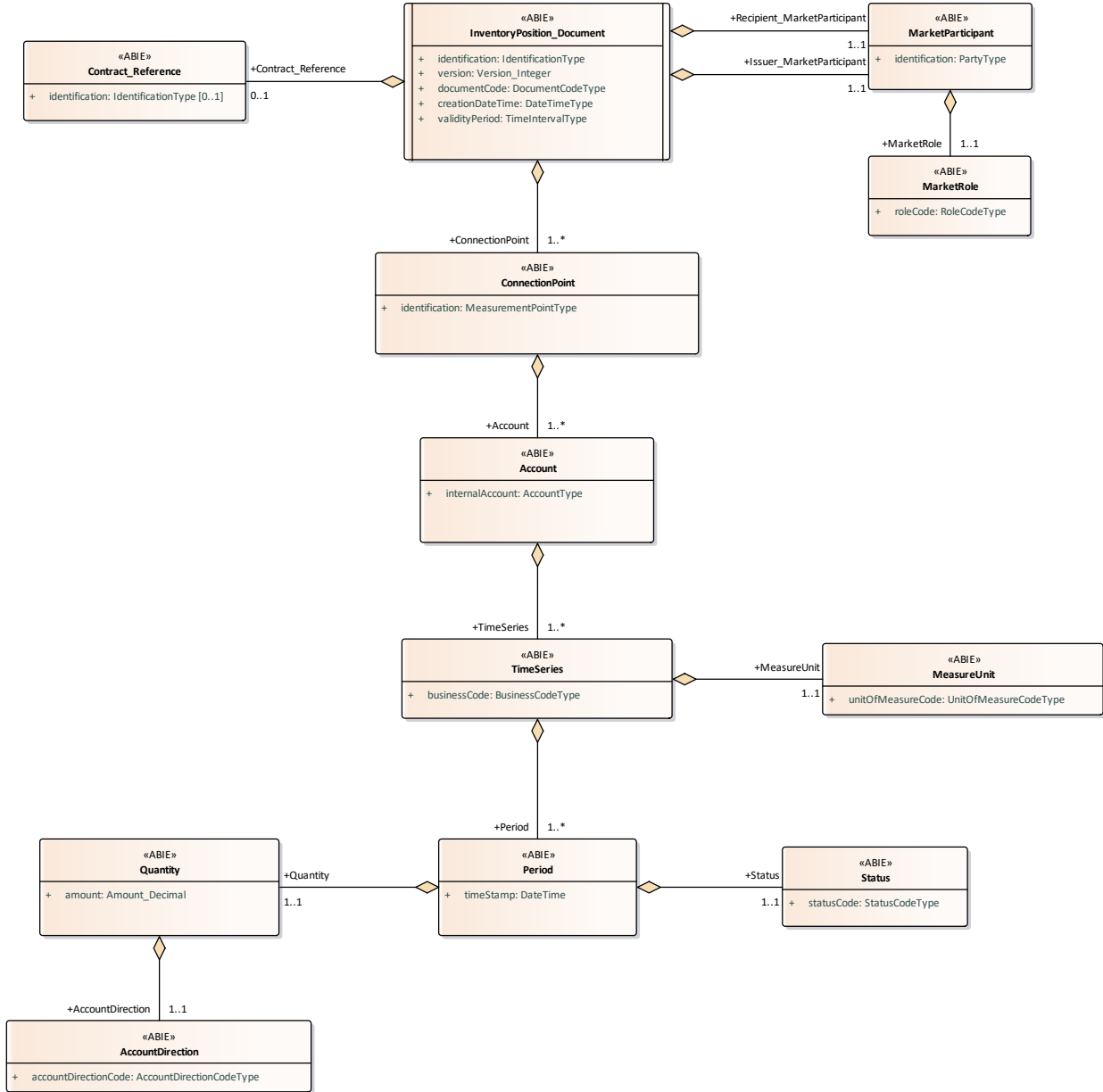


Figure: 10 Inventory Position Document Contextual Model

4.3.2 Inventory Position Document Assembly Model

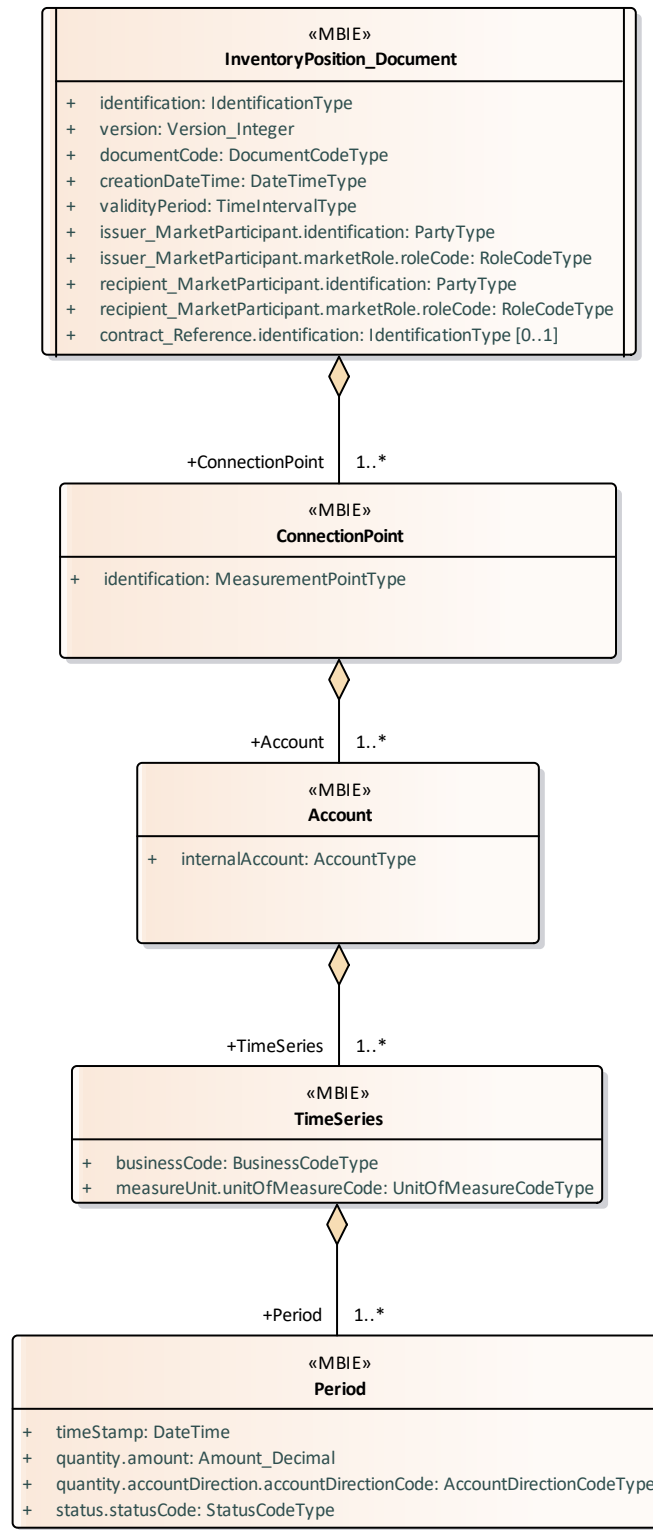


Figure: 11 **Inventory Position Document Assembly Model**

4.3.2.1 InventoryPosition_Document

This class provides the basic information needed to describe most electronic documents.

4.3.2.1.1 Attributes

Attribute	Description	Multiplicity
identification	A unique identification of a document that is assigned by the issuer. This identifies the document being reported.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	
documentCode	Coded representation of the type of the electronic document. (Refer to the Edig@s DocumentCodeTypeCodeList for the list of valid codes).	
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
validityPeriod	The start and end date and time expressed in UTC of the period of validity covered in the document.	
issuer_MarketParticipant.identification	The identification of the party participating in the market.	
issuer_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
recipient_MarketParticipant.identification	The identification of the party participating in the market.	
recipient_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
contract_Reference.identification	The coded identification of a reference.	[0..1]

4.3.2.2 ConnectionPoint

An interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnections between adjacent entry-exit-systems within the same Member States.

4.3.2.2.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a connection point.	

4.3.2.3 Account

An account used in a transaction.

4.3.2.3.1 Attributes

Attribute	Description	Multiplicity
internalAccount	The identification of an account for a local SO.	

4.3.2.4 TimeSeries

A set of time-ordered quantities being exchanged in relation to a product.

4.3.2.4.1 Attributes

Attribute	Description	Multiplicity
businessCode	The business type of a time series. (Refer to the Edig@s BusinessCodeTypeCodeList for the list of valid codes).	
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 20 common codes. (Refer to the Edig@s UnitOfMeasureCodeTypeCodeList for the list of valid codes).	

4.3.2.5 Period

The period that the dependent information is for.

4.3.2.5.1 Attributes

Attribute	Description	Multiplicity
quantity.accountDirection.accountDirectionCode	A code indicating whether a value is a debit or a credit. (Refer to the Edig@s AccountDirectionCodeTypeCodeList for the list of valid codes).	
quantity.amount	The amount of a quantity.	
status.statusCode	A code providing the status of an object. (Refer to the Edig@s StatusCodeTypeCodeList for the list of valid codes).	
timeStamp	The date and time for the period. The time is expressed in UTC.	

4.4 Storage Action Request Document (STOREQ)

4.4.1 Storage Action Request Document Contextual Model

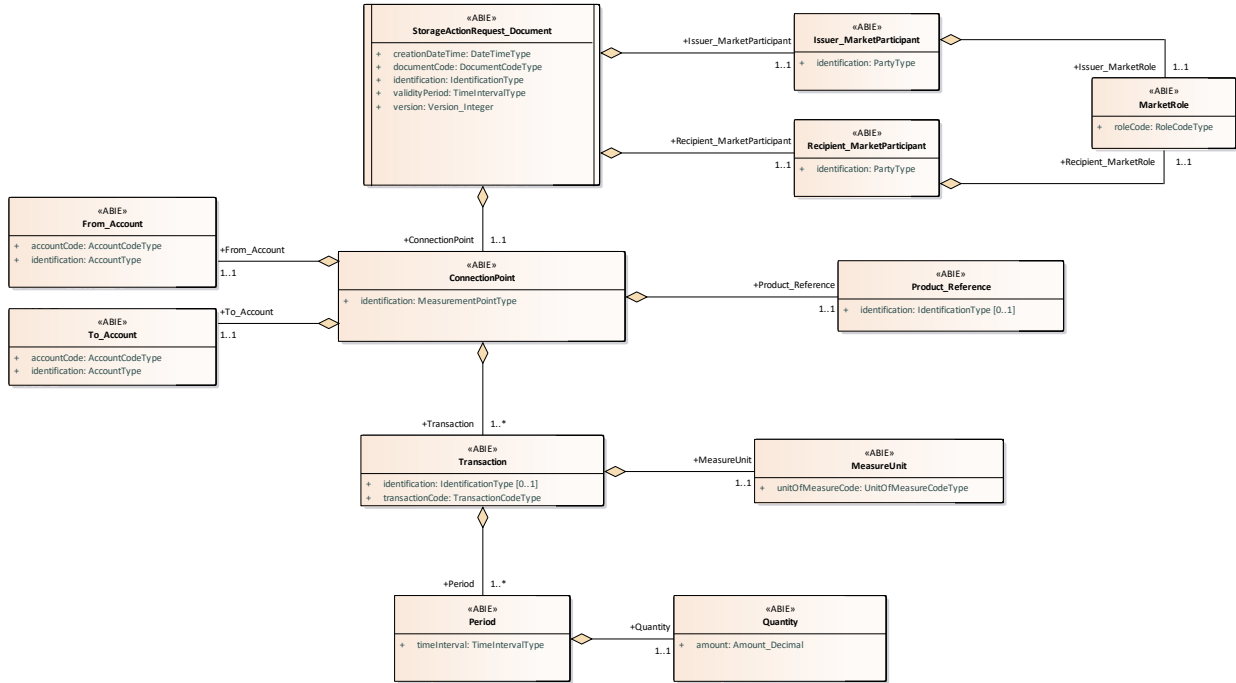


Figure: 12 Storage Action Request Document Contextual Model

4.4.2 Storage Action Request Document Assembly Model

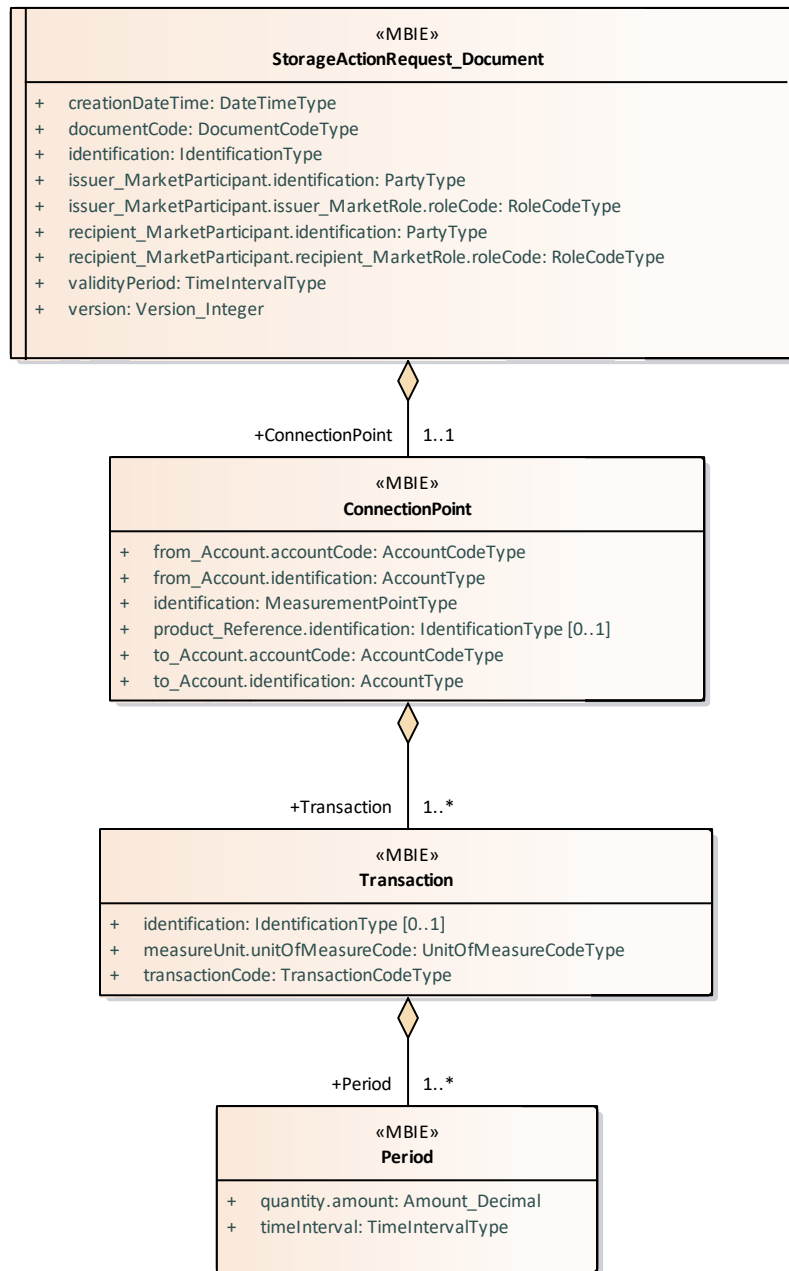


Figure: 13 Storage Action Request Document Assembly Model

4.4.2.1 StorageActionRequest_Document

This class provides the basic information needed to describe most electronic documents.

4.4.2.1.1 Attributes

Attribute	Description	Multiplicity
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
documentCode	Coded representation of the type of the electronic document. (Refer to the Edig@s DocumentCodeTypeCodeList for the list of valid codes).	
identification	A unique identification of a document that is assigned by the issuer. This identifies the document being reported.	
issuer_MarketParticipant.identification	The identification of the party participating in the market.	
issuer_MarketParticipant.issuer_MarketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
recipient_MarketParticipant.identification	The identification of the party participating in the market.	
recipient_MarketParticipant.recipient_MarketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
validityPeriod	The start and end date and time expressed in UTC of the period of validity covered in the document.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	

4.4.2.2 ConnectionPoint

An interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnections between adjacent entry-exit-systems within the same Member States.

4.4.2.2.1 Attributes

Attribute	Description	Multiplicity
from_Account.accountCode	The identification of an account type. (Refer to the Edig@s AccountCodeTypeCodeList for the list of valid codes).	
from_Account.identification	The identification of an account.	
identification	The identification of a connection point.	
product Reference.identification	The coded identification of a reference.	[0..1]
to_Account.accountCode	The identification of an account type. (Refer to the Edig@s AccountCodeTypeCodeList for the list of valid codes).	
to_Account.identification	The identification of an account.	

4.4.2.3 Transaction

The identification of a given transaction within the scope of the process.

4.4.2.3.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a transaction.	[0..1]
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 20 common codes. (Refer to the Edig@s UnitOfMeasureCodeTypeCodeList for the list of valid codes).	
transactionCode	A code identifying a specific type of transaction. (Refer to the Edig@s TransactionCodeTypeCodeList for the list of valid codes).	

4.4.2.4 Period

The period that the dependent information is for.

4.4.2.4.1 Attributes

Attribute	Description	Multiplicity
quantity.amount	The amount of a quantity.	
timeInterval	The start and end date and time for the period. The time is expressed in UTC.	

4.5 Storage Action Confirmation Document (STOCON)

4.5.1 Storage Action Confirmation Document Contextual Model

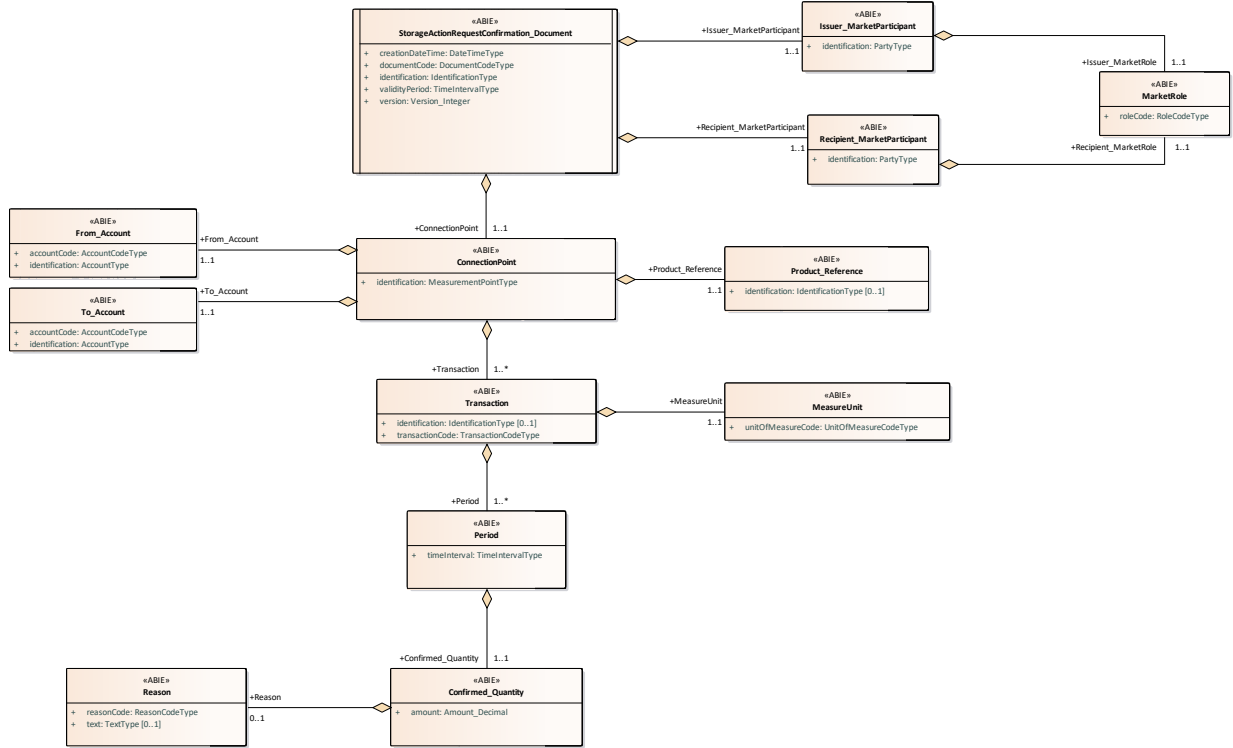


Figure: 14 Storage Action Confirmation Document Contextual Model

4.5.2 Storage Action Confirmation Document Assembly Model

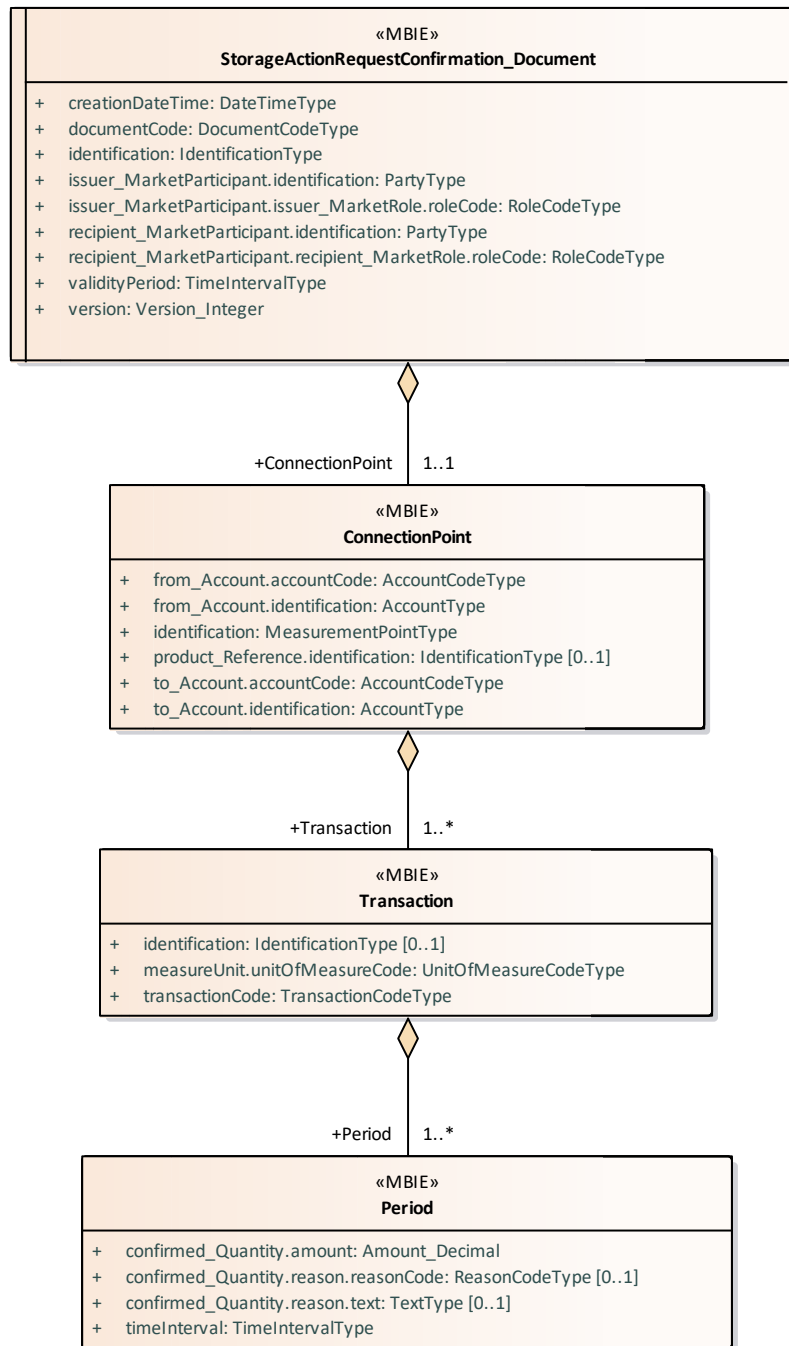


Figure: 15 **Storage Action Confirmation Document Assembly Model**

4.5.2.1 StorageActionRequestConfirmation_Document

This class provides the basic information needed to describe most electronic documents.

4.5.2.1.1 Attributes

Attribute	Description	Multiplicity
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
documentCode	Coded representation of the type of the electronic document. (Refer to the Edig@s DocumentCodeTypeCodeList for the list of valid codes).	
identification	A unique identification of a document that is assigned by the issuer. This identifies the document being reported.	
issuer_MarketParticipant.identification	The identification of the party participating in the market.	
issuer_MarketParticipant.issuer_MarketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
recipient_MarketParticipant.identification	The identification of the party participating in the market.	
recipient_MarketParticipant.recipient_MarketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes)	
validityPeriod	The start and end date and time expressed in UTC of the period of validity covered in the document.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	

4.5.2.2 ConnectionPoint

An interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnections between adjacent entry-exit-systems within the same Member States.

4.5.2.2.1 Attributes

Attribute	Description	Multiplicity
from_Account.accountCode	The identification of an account type. (Refer to the Edig@s AccountCodeTypeCodeList for the list of valid codes).	
from_Account.identification	The identification of an account.	
identification	The identification of a connection point.	
product Reference.identification	The coded identification of a reference.	[0..1]
to_Account.accountCode	The identification of an account type. (Refer to the Edig@s AccountCodeTypeCodeList for the list of valid codes).	
to_Account.identification	The identification of an account.	

4.5.2.3 Transaction

The identification of a given transaction within the scope of the process.

4.5.2.3.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a transaction.	[0..1]
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 20 common codes. (Refer to the Edig@s UnitOfMeasureCodeTypeCodeList for the list of valid codes).	
transactionCode	A code identifying a specific type of transaction. (Refer to the Edig@s TransactionCodeTypeCodeList for the list of valid codes).	

4.5.2.4 Period

The period that the dependent information is for.

4.5.2.4.1 Attributes

Attribute	Description	Multiplicity
confirmed Quantity.amount	The amount of a quantity.	
confirmed_Quantity.reason.reasonCode	The motivation of an act in coded form. (Refer to the Edig@s ReasonCodeTypeCodeList for the list of valid codes).	[0..1]
confirmed Quantity.reason.text	The textual explanation corresponding to the reason code.	[0..1]
timeInterval	The start and end date and time for the period. The time is expressed in UTC.	

4.6 Gas Flow Requirements Document (FLOWRQ)

4.6.1 Gas Flow Requirements Document Contextual Model

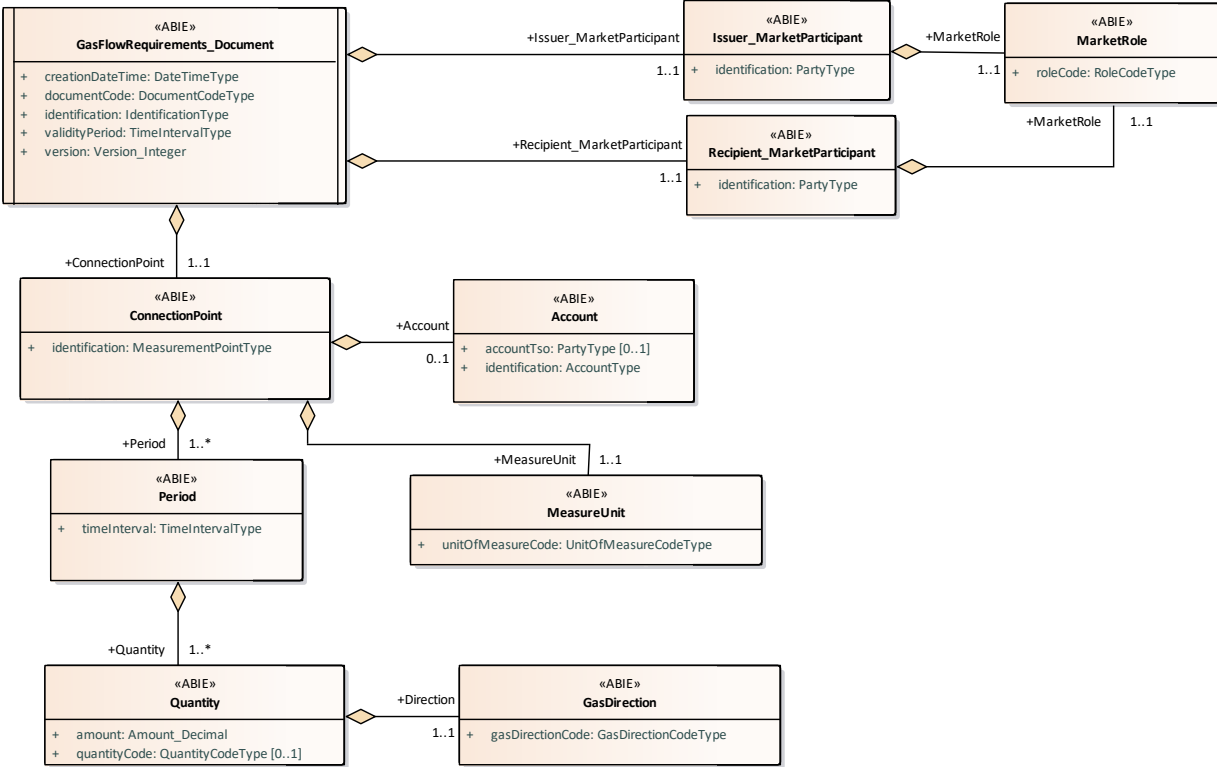


Figure: 16 Gas Flow Requirements Document Contextual Model

4.6.2 Gas Flow Requirements Document Assembly Model

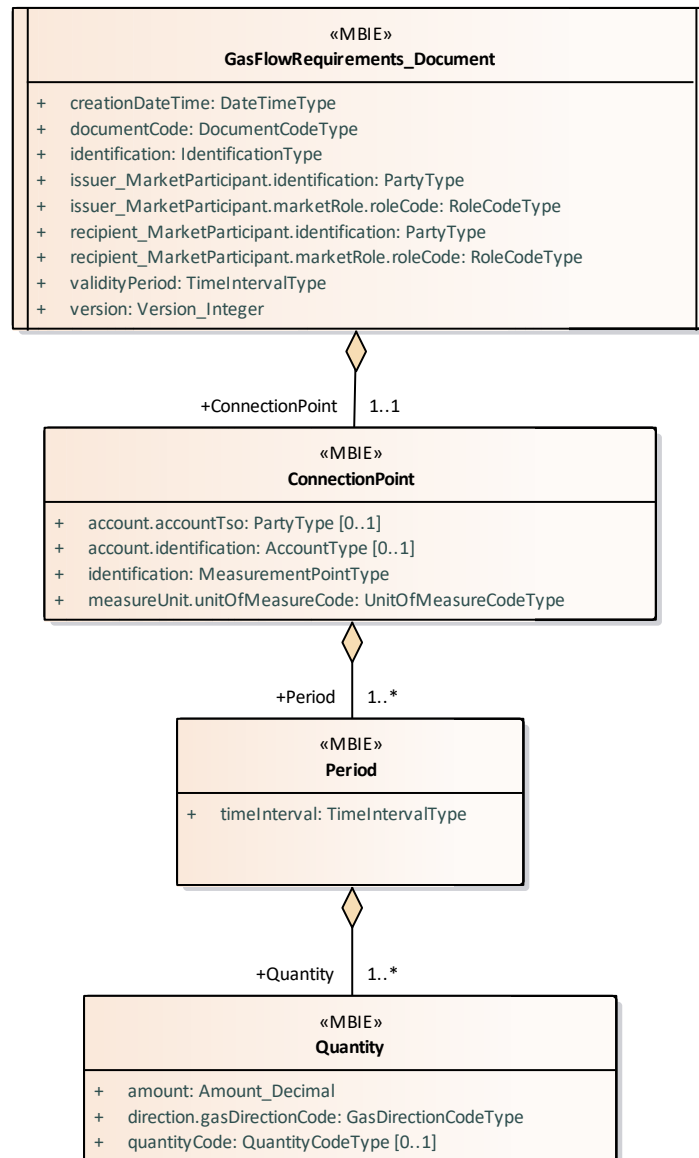


Figure: 17 Gas Flow Requirements Document Assembly Model

4.6.2.1 GasFlowRequirements_Document

This class provides the basic information needed to describe most electronic documents.

4.6.2.1.1 Attributes

Attribute	Description	Multiplicity
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
documentCode	Coded representation of the type of the electronic document.	
identification	A unique identification of a document that is assigned by the issuer.	
issuer_MarketParticipant.identification	The identification of the party participating in the market. --- The Issuer of the electronic document.	
issuer_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. --- The Issuer of the electronic document. --- The role of the Issuer.	
recipient_MarketParticipant.identification	The identification of the party participating in the market. --- The Recipient of the electronic document.	
recipient_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. --- The Recipient of the electronic document. --- The role of the Recipient.	
validityPeriod	The start and end date and time of the period of validity covered in the document.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	

4.6.2.2 ConnectionPoint

A cross-border interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnection between adjacent entry-exit-systems within the same Member States, in so far as these points are subject to booking procedures by Network Users. It may be used on the internal market.

4.6.2.2.1 Attributes

Attribute	Description	Multiplicity
account.accountTso	The identification of the TSO responsible for an account identification. --- The account that may be used in the transaction.	[0..1]
account.identification	The identification of an account. --- The account that may be used in the transaction.	[0..1]
identification	The identification of a connection point.	
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 19 common codes.	

4.6.2.3 Period

The period that the dependent information is for.

4.6.2.3.1 Attributes

Attribute	Description	Multiplicity
timeInterval	The start and end date and time for the period. The time is expressed in UTC.	

4.6.2.4 Quantity

The quantity of an object.

4.6.2.4.1 Attributes

Attribute	Description	Multiplicity
amount	The amount of a quantity.	
direction.gasDirectionCode	A code identifying the direction of a gas flow. --- The direction of a quantity.	
quantityCode	A code defining the type of a quantity.	[0..1]

5 Document Change Log

5.1 Version

5.1.1 Attributes

Attribute	Description	Multiplicity
Version 1 2022-02-03	Release 6.1	
Version 2 2022-03-22	Corrected document code types for the new System Operation documents.	
Version 3 2022-10-22	- Correction of TransactionTypeCodes, ZTG-ZTK. - Included a real time inventory level example under Storage Inventory Positions	
Version 4 2023-07-15	-Updated decision table for INVENT message and the usage of credit and debit. -Updated business process description for INVENT message with more information about credit and debit and added use case for Fuel gas. -Updated business process description for FLOWRQ message and the TSO to TSO flow. -Removed reference to codelist where the accepted codes already are listed in the decision tables	
Version 5 2024-09-16	Added contractReference as new optional attribute for INVENT message	
Version 6 2024-10-29	Corrected sequence diagrams for FLOWRQ message. Changes in LIMITS business process section to support network limits. Added new quantity codes for LIMITS message (ZYL, ZYM and ZYN). Minor updates to the decision tables.	
Version 7 2025-12-01	Updated the description of the different limit quantity types in section 3.1.1. Corrections in decision table for coding scheme attributes Added unit MTQ (cubic meter) in INVENT message Added ZUO and ZUS as issuer and receiver for FLOWRQ message.	
Version 8 2026-04-23	Updated LIMITS message to have optional connection between ConnectionPoint and TimeSeries class in cases where Account is not used. Updated accountDirection to optional, only to be used in for Storage Inventory Limits. Added new section for document schema overview	