European Network of
Transmission System Operators
for Electricity

MERIT ORDER LIST DOCUMENT
UML MODEL AND SCHEMA

2019-10-30
APPROVED DOCUMENT
VERSION 1.1

Table of Contents

List of figures

List of tables

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Copyright notice:

Maintenance notice:

This document is maintained by the ENTSO-E CIM EG. Comments or remarks are to be provided at cim@entsoe.eu

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Revision History

Version	Release	Date	Comments
0	0	2017-01-10	First drafting of the document based on maintenance request from WG EDI
1	0	2017-02-24	Version to be submitted to Market Committee following WG EDI meeting in March 2017.
1	1	2019-10-30	This new version has into account the update performed in v7.2 of MOL document: • New optional paymentTerms Attribute added to Auction class Approved by MC.

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

1 Objective

The purpose of this document is to provide the contextual and assembly UML models and the schema of the MeritOrderList_MarketDocument.

The schema of the MeritOrderList_MarketDocument could be used in various business processes.

It is not the purpose of this document to describe all the use cases, sequence diagrams, business processes, etc. for which this schema is to be used.

This document shall only be referenced in an implementation guide of a specific business process. The content of the business process implementation guide shall be as follows:

- Description of the business process;
- Use case of the business process;
- Sequence diagrams of the business process;
- List of the schema (XSD) to be used in the business process and versions of the schema;
- For each schema, dependency tables providing the necessary information for the generation of the XML instances, i.e. when the optional attributes are to be used, which codes from which ENTSO-E codelist are to be used.

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

2 MeritOrderList_MarketDocument

2.1 MeritOrderList contextual model

2.1.1 Overview of the model

Figure 1 shows the model.

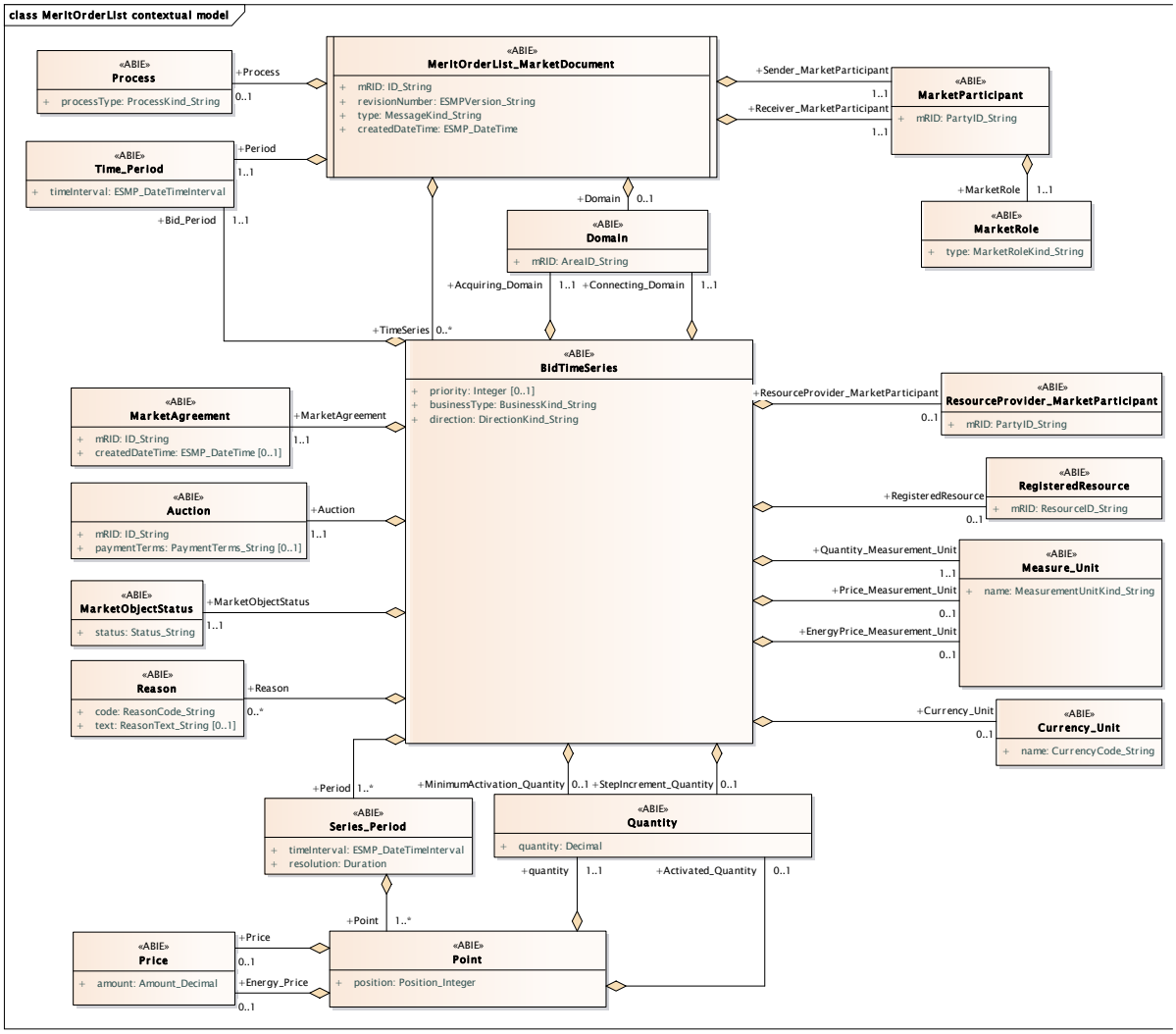

Figure 1 - MeritOrderList contextual model

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

2.1.2 IsBasedOn relationships from the European style market profile

Table 1 shows the traceability dependency of the classes used in this package towards the upper level.

Table 1 - IsBasedOn dependency

Name	Complete IsBasedOn Path
Auction	TC57CIM::IEC62325::MarketManagement::Auction
BidTimeSeries	TC57CIM::IEC62325::MarketManagement::BidTimeSeries
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketObjectStatus	TC57CIM::IEC62325::MarketManagement::MarketObjectStatus
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
MeritOrderList_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Point	TC57CIM::IEC62325::MarketManagement::Point
Price	TC57CIM::IEC62325::MarketManagement::Price
Process	TC57CIM::IEC62325::MarketManagement::Process
Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
Reason	TC57CIM::IEC62325::MarketManagement::Reason
RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
ResourceProvider_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

2.2 MeritOrderList assembly model

2.2.1 Overview of the model

Figure 2 shows the model.

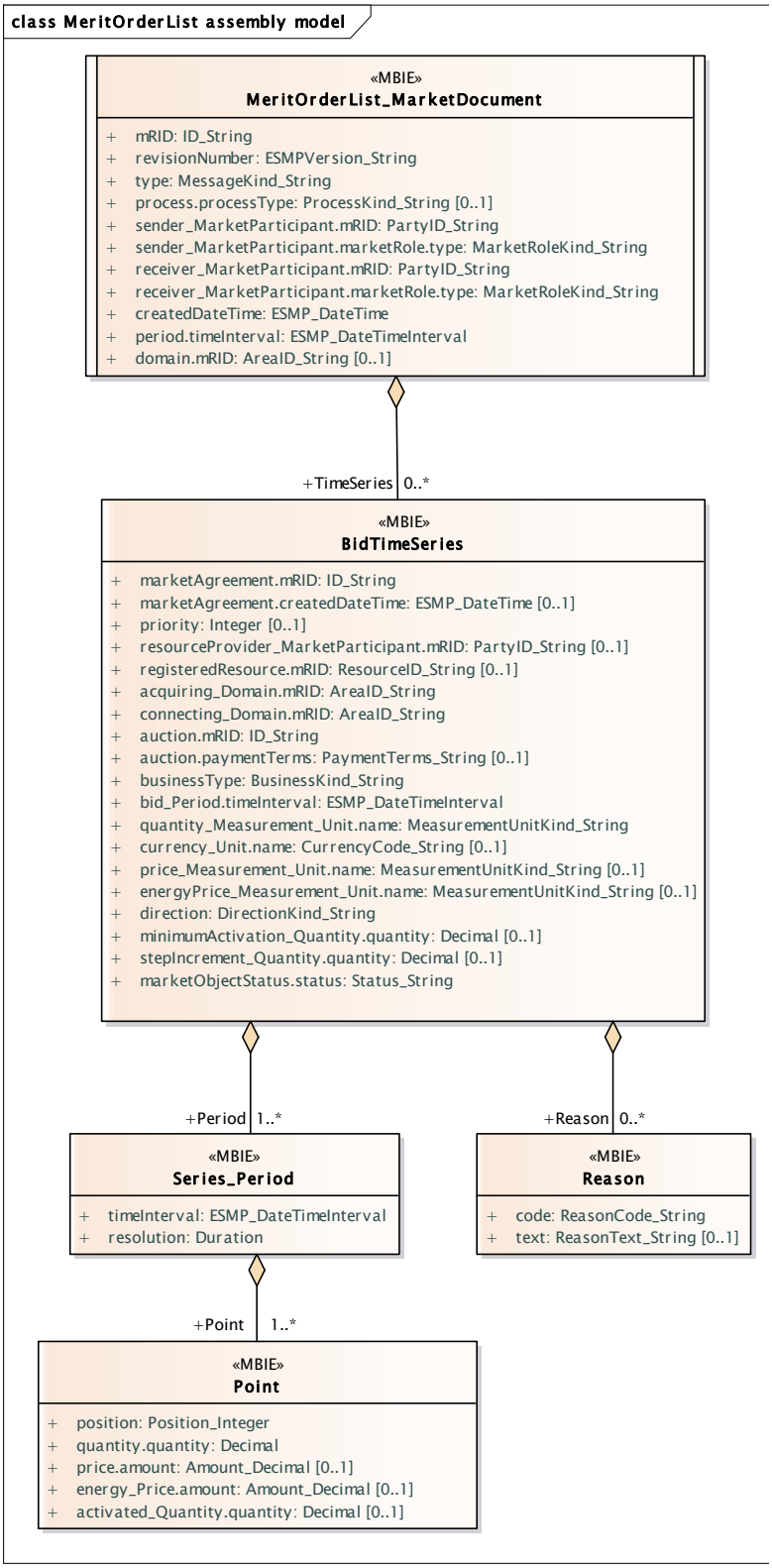

Figure 2 - MeritOrderList assembly model

2.2.2 IsBasedOn relationships from the European style market profile

Table 2 shows the traceability dependency of the classes used in this package towards the upper level.

Table 2 - IsBasedOn dependency

Name	Complete IsBasedOn Path
BidTimeSeries	TC57CIM::IEC62325::MarketManagement::BidTimeSeries
MeritOrderList_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Point	TC57CIM::IEC62325::MarketManagement::Point
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period

2.2.3 Detailed MeritOrderList assembly model

2.2.3.1 MeritOrderList_MarketDocument root class

This document enables to exchange information about the merit order list for balance management process.

An electronic document containing the information necessary to satisfy the requirements of a given business process.

Table 3 shows all attributes of MeritOrderList_MarketDocument.

Table 3 - Attributes of MeritOrderList assembly model::MeritOrderList_MarketDocument

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	The unique identification of the document being exchanged within a business process flow.
1	[1..1]	revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
2	[1..1]	type MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
3	[0..1]	process.processType ProcessKind_String	The identification of the nature of process that the document addresses. --- The process dealt with in the document.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document owner. --- The role associated with a MarketParticipant.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document recipient. --- The role associated with a MarketParticipant.
8	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.

Order	mult.	Attribute name / Attribute type	Description
9	[1..1]	period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- This information provides the start and end date and time of the time interval covered in this document.
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the document.

109

110 Table 4 shows all association ends of MeritOrderList_MarketDocument with other classes.

111 **Table 4 - Association ends of MeritOrderList assembly**
112 **model::MeritOrderList_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
11	[0..*]	BidTimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: MeritOrderList contextual model::BidTimeSeries.TimeSeries[0..*] ----- MeritOrderList contextual model::MeritOrderList_MarketDocument.[]

113

114 **2.2.3.2 BidTimeSeries**

115 The formal specification of specific characteristics related to a bid.

116 If there is no BidTimeSeries, this means that there is no bid for the time interval.

117 Table 5 shows all attributes of BidTimeSeries.

118 **Table 5 - Attributes of MeritOrderList assembly model::BidTimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	marketAgreement.mRID ID_String	The unique identification of the agreement. --- The identification of an agreement associated with a TimeSeries.
1	[0..1]	marketAgreement.createdDateTime ESMP_DateTime	The date and time of the creation of the agreement. --- The identification of an agreement associated with a TimeSeries.
2	[0..1]	priority Integer	The numeric local priority given to a bid. Lower numeric values will have higher priority.
3	[0..1]	resourceProvider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of the party that supplied the reserve. The identification of a market participant associated with a TimeSeries.
4	[0..1]	registeredResource.mRID ResourceID_String	The unique identification of a resource. --- This is the resource used to provide the reserve. The identification of a resource associated with a TimeSeries.
5	[1..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered. The domain associated with a TimeSeries.
6	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the resource is located. The domain associated with a TimeSeries.
7	[1..1]	auction.mRID ID_String	The unique identification of the auction. --- The auction characteristics that are associated with a TimeSeries.

Order	mult.	Attribute name / Attribute type	Description
8	[0..1]	auction.paymentTerms PaymentTerms_String	The terms which dictate the determination of the bid payment price. --- The auction characteristics that are associated with a TimeSeries.
9	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
10	[1..1]	bid_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The beginning and ending date and time of the period covered by the tender. The time interval associated with a TimeSeries within an electronic document.
11	[1..1]	quantity_Measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.
12	[0..1]	currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency associated with a TimeSeries.
13	[0..1]	price_Measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- This is the power price in the TimeSeries. The unit of measure associated with the quantities in a TimeSeries.
14	[0..1]	energyPrice_Measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- This is the energy price in TimeSeries. The unit of measure associated with the quantities in a TimeSeries.
15	[1..1]	direction DirectionKind_String	The coded identification of the energy flow. It states how the energy flows from the perspective of the acquiring domain's system operator.
16	[0..1]	minimumActivation_Quantity.quantity Decimal	The quantity value. --- The minimum quantity of the product that can be activated. The quantity information associated to a TimeSeries.
17	[0..1]	stepIncrement_Quantity.quantity Decimal	The quantity value. --- The minimum step quantity permitted. The quantity information associated to a TimeSeries.
18	[1..1]	marketObjectStatus.status Status_String	The coded condition or position of an object with regard to its standing. --- The status of an object associated with a TimeSeries.

Table 6 shows all association ends of BidTimeSeries with other classes.

Table 6 - Association ends of MeritOrderList assembly model::BidTimeSeries with other classes

Order	mult.	Class name / Role	Description
19	[1..*]	Series_Period Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: MeritOrderList contextual model::Series_Period.Period[1..*] --- MeritOrderList contextual model::BidTimeSeries.[]

Order	mult.	Class name / Role	Description
20	[0..*]	Reason Reason	The reason information associated with a TimeSeries providing motivation information. Association Based On: MeritOrderList contextual model::Reason.Reason[0..*] --- MeritOrderList contextual model::BidTimeSeries.[]

123

124 **2.2.3.3 Point**

125 The identification of the values being addressed within a specific interval of time.

126 Table 7 shows all attributes of Point.

127 **Table 7 - Attributes of MeritOrderList assembly model::Point**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	position Position_Integer	A sequential value representing the relative position within a given time interval.
1	[1..1]	quantity.quantity Decimal	The quantity value. --- The quantity that is tendered for the interval in question. The Quantity information associated with a given Point.
2	[0..1]	price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- This is the power price for each unit of quantity.
3	[0..1]	energy_Price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- The price of energy that is used.
4	[0..1]	activated_Quantity.quantity Decimal	The quantity value. --- The quantity that has been activated for the interval in question.

128

129 **2.2.3.4 Reason**

130 The motivation of an act.

131 Table 8 shows all attributes of Reason.

132 **Table 8 - Attributes of MeritOrderList assembly model::Reason**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	code ReasonCode_String	The motivation of an act in coded form.
1	[0..1]	text ReasonText_String	The textual explanation corresponding to the reason code.

133

134 **2.2.3.5 Series_Period**

135 The identification of the period of time corresponding to a given time interval and resolution.

136 Table 9 shows all attributes of Series_Period.

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Table 9 - Attributes of MeritOrderList assembly model::Series_Period

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	timeInterval ESMP_DateTimeInterval	The start and end time of the period.
1	[1..1]	resolution Duration	The definition of the number of units of time that compose an individual step within a period.

Table 10 shows all association ends of Series_Period with other classes.

Table 10 - Association ends of MeritOrderList assembly model::Series_Period with other classes

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	The Point information associated with a given Series_Period.within a TimeSeries. Association Based On: MeritOrderList contextual model::Series_Period.[] --- MeritOrderList contextual model::Point.Point[1..*]

2.2.4 Datatypes

The list of datatypes used for the MeritOrderList assembly model is as follows:

- ESMP_DateTimeInterval compound
- Amount_Decimal datatype
- AreaID_String datatype, codelist CodingSchemeTypeList
- BusinessKind_String datatype, codelist BusinessTypeList
- CurrencyCode_String datatype, codelist CurrencyTypeList
- DirectionKind_String datatype, codelist DirectionTypeList
- ESMP_DateTime datatype
- ESMPVersion_String datatype
- ID_String datatype
- MarketRoleKind_String datatype, codelist RoleTypeList
- MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- MessageKind_String datatype, codelist MessageTypeList
- PartyID_String datatype, codelist CodingSchemeTypeList
- PaymentTerms_String datatype, codelist PaymentTermsTypeList
- Position_Integer datatype
- ProcessKind_String datatype, codelist ProcessTypeList
- ReasonCode_String datatype, codelist ReasonCodeTypeList
- ReasonText_String datatype
- ResourceID_String datatype, codelist CodingSchemeTypeList
- Status_String datatype, codelist StatusTypeList
- YMDHM_DateTime datatype

ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

2.2.5 MeritOrderList_MarketDocument XML schema structure

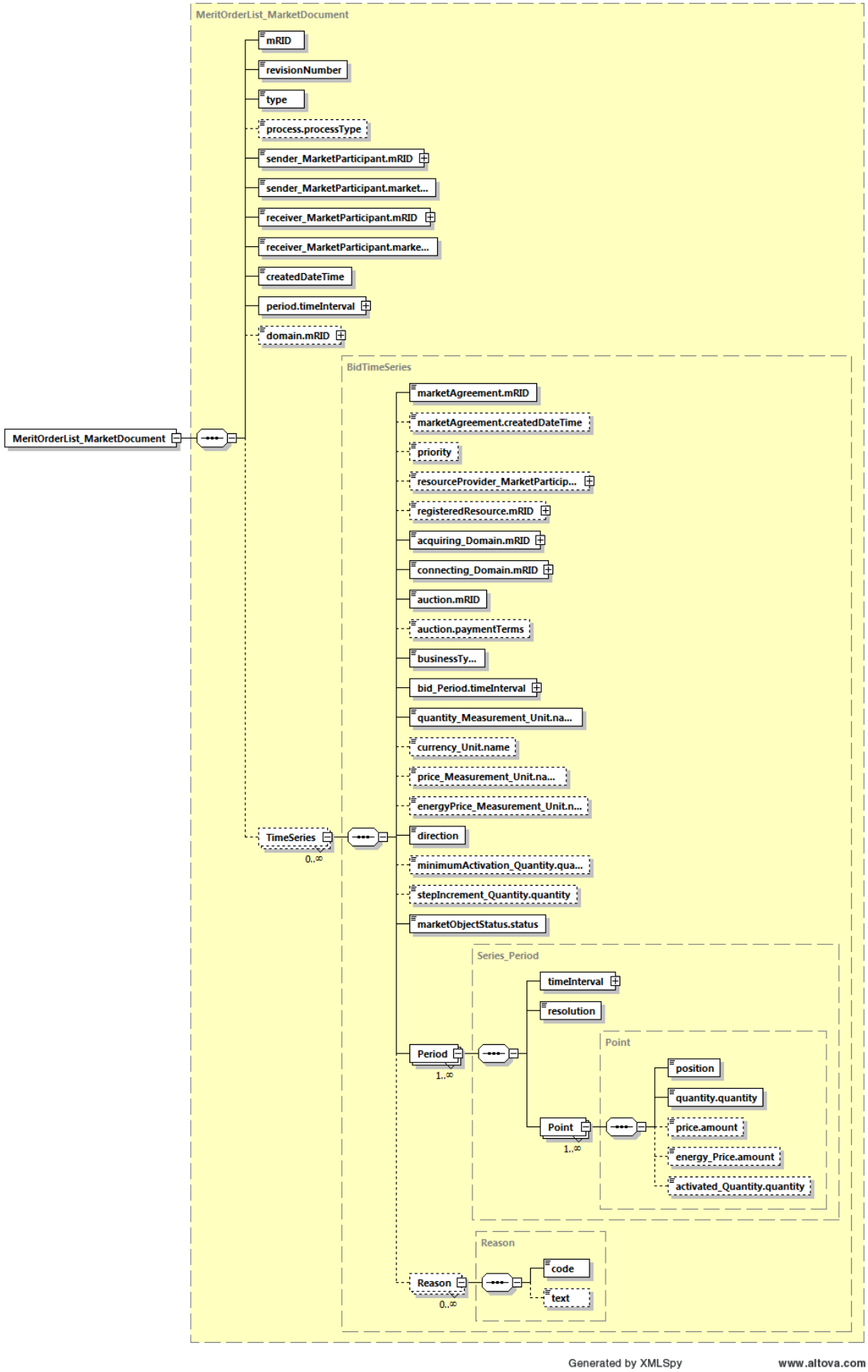

Figure 3 - MeritOrderList_MarketDocument XML schema structure

2.2.6 MeritOrderList_MarketDocument XML schema

The schema to be used to validate XML instances is to be identified by:

urn:iec62325.351:tc57wg16:451-7:moldocument:7:2

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
xmlns="urn:iec62325.351:tc57wg16:451-7:moldocument:7:2"
xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
xmlns:cimp="http://www.iec.ch/cimprofile"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="urn:iec62325.351:tc57wg16:451-7:moldocument:7:2"
elementFormDefault="qualified" attributeFormDefault="unqualified">
	<xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
entsoe-eu-wgedi-codelists.xsd"/>
	<xs:element name="MeritOrderList_MarketDocument"
type="MeritOrderList_MarketDocument"/>
	<xs:simpleType name="ID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
		<xs:restriction base="xs:string">
			<xs:maxLength value="60"/>
		</xs:restriction>
	</xs:simpleType>
	<xs:simpleType name="ESMP_DateTime"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
		<xs:restriction base="xs:dateTime">
			<xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
9]|[12][0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
9]|30))T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
9])Z)|(([13579][26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][0
48]|[02468][048][02468][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[
0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-
5][0-9]:[0-5][0-
9])Z)|(([13579][26][02468][1235679]|[13579][01345789](0)[01235679]|[13579][0134578
9][2468][1235679]|[02468][048][02468][1235679]|[02468][1235679](0)[01235679]|[0246
8][1235679][2468][1235679]|[0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
		</xs:restriction>
	</xs:simpleType>
	<xs:simpleType name="PartyID_String-base"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
		<xs:restriction base="xs:string">
			<xs:maxLength value="16"/>
		</xs:restriction>
	</xs:simpleType>
	<xs:complexType name="PartyID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
		<xs:simpleContent>
			<xs:extension base="PartyID_String-base">
				<xs:attribute name="codingScheme"
type="ecl:CodingSchemeTypeList" use="required"/>
			</xs:extension>
		</xs:simpleContent>
	</xs:complexType>
	<xs:simpleType name="ResourceID_String-base"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
```

```
228                 <xs:restriction base="xs:string">
229                       <xs:maxLength value="60"/>
230                 </xs:restriction>
231           </xs:simpleType>
232           <xs:complexType name="ResourceID_String"
233     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
234                 <xs:simpleContent>
235                       <xs:extension base="ResourceID_String-base">
236                             <xs:attribute name="codingScheme"
237     type="ecl:CodingSchemeTypeList" use="required"/>
238                       </xs:extension>
239                 </xs:simpleContent>
240           </xs:complexType>
241           <xs:simpleType name="AreaID_String-base"
242     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
243                 <xs:restriction base="xs:string">
244                       <xs:maxLength value="18"/>
245                 </xs:restriction>
246           </xs:simpleType>
247           <xs:complexType name="AreaID_String"
248     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
249                 <xs:simpleContent>
250                       <xs:extension base="AreaID_String-base">
251                             <xs:attribute name="codingScheme"
252     type="ecl:CodingSchemeTypeList" use="required"/>
253                       </xs:extension>
254                 </xs:simpleContent>
255           </xs:complexType>
256           <xs:simpleType name="PaymentTerms_String"
257     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
258                 <xs:restriction base="ecl:PaymentTermsTypeList"/>
259           </xs:simpleType>
260           <xs:simpleType name="BusinessKind_String"
261     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
262                 <xs:restriction base="ecl:BusinessTypeList"/>
263           </xs:simpleType>
264           <xs:simpleType name="MeasurementUnitKind_String"
265     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
266                 <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
267           </xs:simpleType>
268           <xs:simpleType name="CurrencyCode_String"
269     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
270                 <xs:restriction base="ecl:CurrencyTypeList"/>
271           </xs:simpleType>
272           <xs:simpleType name="DirectionKind_String"
273     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
274                 <xs:restriction base="ecl:DirectionTypeList"/>
275           </xs:simpleType>
276           <xs:simpleType name="Status_String"
277     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
278                 <xs:restriction base="ecl:StatusTypeList"/>
279           </xs:simpleType>
280           <xs:simpleType name="YMDHM_DateTime"
281     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
282                 <xs:restriction base="xs:string">
283                       <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
284     9]|[12][0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
285     9]|30))T(([01][0-9]|2[0-3]):[0-5][0-
286     9])Z)|(([13579][26][02468][048]|[13579][01345789](0)[48]|[13579][01345789][2468][0
287     48]|[02468][048][02468][048]|[02468][1235679](0)[48]|[02468][1235679][2468][048]|[
```

```
0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-
5][0-
9])Z)|(([13579][26][02468][1235679]|[13579][01345789](0)[01235679]|[13579][0134578
9][2468][1235679]|[02468][048][02468][1235679]|[02468][1235679](0)[01235679]|[0246
8][1235679][2468][1235679]|[0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
                </xs:restriction>
        </xs:simpleType>
        <xs:complexType name="ESMP_DateTimeInterval"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
                <xs:sequence>
                        <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#DateTimeInterval.start"/>
                        <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#DateTimeInterval.end"/>
                </xs:sequence>
        </xs:complexType>
        <xs:complexType name="BidTimeSeries"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#BidTimeSeries">
                <xs:sequence>
                        <xs:element name="marketAgreement.mRID" type="ID_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#IdentifiedObject.mRID"/>
                        <xs:element name="marketAgreement.createdDateTime"
type="ESMP_DateTime" minOccurs="0" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Document.createdDateTime"/>
                        <xs:element name="priority" type="xs:integer" minOccurs="0"
maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#BidTimeSeries.priority"/>
                        <xs:element name="resourceProvider_MarketParticipant.mRID"
type="PartyID_String" minOccurs="0" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID"/>
                        <xs:element name="registeredResource.mRID"
type="ResourceID_String" minOccurs="0" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID"/>
                        <xs:element name="acquiring_Domain.mRID" type="AreaID_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#IdentifiedObject.mRID"/>
                        <xs:element name="connecting_Domain.mRID" type="AreaID_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#IdentifiedObject.mRID"/>
                        <xs:element name="auction.mRID" type="ID_String" minOccurs="1"
maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID"/>
                        <xs:element name="auction.paymentTerms"
type="PaymentTerms_String" minOccurs="0" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Auction.paymentTerms"/>
                        <xs:element name="businessType" type="BusinessKind_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#TimeSeries.businessType"/>
                        <xs:element name="bid_Period.timeInterval"
type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Period.timeInterval"/>
```

```
348                     <xs:element name="quantity_Measurement_Unit.name"
349   type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
350   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
351                     <xs:element name="currency_Unit.name"
352   type="CurrencyCode_String" minOccurs="0" maxOccurs="1"
353   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
354                     <xs:element name="price_Measurement_Unit.name"
355   type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"
356   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
357                     <xs:element name="energyPrice_Measurement_Unit.name"
358   type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"
359   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
360                     <xs:element name="direction" type="DirectionKind_String"
361   minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
362   schema-cim16#BidTimeSeries.direction"/>
363                     <xs:element name="minimumActivation_Quantity.quantity"
364   type="xs:decimal" minOccurs="0" maxOccurs="1"
365   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
366   cim16#Quantity.quantity"/>
367                     <xs:element name="stepIncrement_Quantity.quantity"
368   type="xs:decimal" minOccurs="0" maxOccurs="1"
369   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
370   cim16#Quantity.quantity"/>
371                     <xs:element name="marketObjectStatus.status"
372   type="Status_String" minOccurs="1" maxOccurs="1"
373   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
374   cim16#MarketObjectStatus.status"/>
375                     <xs:element name="Period" type="Series_Period" minOccurs="1"
376   maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
377   cim16#BidTimeSeries.Period"/>
378                     <xs:element name="Reason" type="Reason" minOccurs="0"
379   maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
380   cim16#BidTimeSeries.Reason"/>
381               </xs:sequence>
382         </xs:complexType>
383         <xs:simpleType name="ESMPVersion_String"
384   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
385               <xs:restriction base="xs:string">
386                     <xs:pattern value="[1-9]([0-9]){0,2}"/>
387               </xs:restriction>
388         </xs:simpleType>
389         <xs:simpleType name="MessageKind_String"
390   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
391               <xs:restriction base="ecl:MessageTypeList"/>
392         </xs:simpleType>
393         <xs:simpleType name="ProcessKind_String"
394   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
395               <xs:restriction base="ecl:ProcessTypeList"/>
396         </xs:simpleType>
397         <xs:simpleType name="MarketRoleKind_String"
398   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
399               <xs:restriction base="ecl:RoleTypeList"/>
400         </xs:simpleType>
401         <xs:complexType name="MeritOrderList_MarketDocument"
402   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
403               <xs:sequence>
404                     <xs:element name="mRID" type="ID_String" minOccurs="1"
405   maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
406   cim16#IdentifiedObject.mRID"/>
```

```
                    <xs:element name="revisionNumber" type="ESMPVersion_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Document.revisionNumber"/>
                    <xs:element name="type" type="MessageKind_String" minOccurs="1"
maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Document.type"/>
                    <xs:element name="process.processType"
type="ProcessKind_String" minOccurs="0" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Process.processType"/>
                    <xs:element name="sender_MarketParticipant.mRID"
type="PartyID_String" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID"/>
                    <xs:element name="sender_MarketParticipant.marketRole.type"
type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
                    <xs:element name="receiver_MarketParticipant.mRID"
type="PartyID_String" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID"/>
                    <xs:element name="receiver_MarketParticipant.marketRole.type"
type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
                    <xs:element name="createdDateTime" type="ESMP_DateTime"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Document.createdDateTime"/>
                    <xs:element name="period.timeInterval"
type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Period.timeInterval"/>
                    <xs:element name="domain.mRID" type="AreaID_String"
minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#IdentifiedObject.mRID"/>
                    <xs:element name="TimeSeries" type="BidTimeSeries"
minOccurs="0" maxOccurs="unbounded"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#MarketDocument.TimeSeries"/>
                </xs:sequence>
            </xs:complexType>
            <xs:simpleType name="Position_Integer"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
                <xs:restriction base="xs:integer">
                    <xs:maxInclusive value="999999"/>
                    <xs:minInclusive value="1"/>
                </xs:restriction>
            </xs:simpleType>
            <xs:simpleType name="Amount_Decimal"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Decimal">
                <xs:restriction base="xs:decimal">
                    <xs:totalDigits value="17"/>
                </xs:restriction>
            </xs:simpleType>
            <xs:complexType name="Point"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
                <xs:sequence>
                    <xs:element name="position" type="Position_Integer"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Point.position"/>
```

```
466                     <xs:element name="quantity.quantity" type="xs:decimal"
467   minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
468   schema-cim16#Quantity.quantity"/>
469                     <xs:element name="price.amount" type="Amount_Decimal"
470   minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
471   schema-cim16#Price.amount"/>
472                     <xs:element name="energy_Price.amount" type="Amount_Decimal"
473   minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
474   schema-cim16#Price.amount"/>
475                     <xs:element name="activated_Quantity.quantity"
476   type="xs:decimal" minOccurs="0" maxOccurs="1"
477   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
478   cim16#Quantity.quantity"/>
479               </xs:sequence>
480         </xs:complexType>
481         <xs:simpleType name="ReasonCode_String"
482   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
483               <xs:restriction base="ecl:ReasonCodeTypeList"/>
484         </xs:simpleType>
485         <xs:simpleType name="ReasonText_String"
486   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
487               <xs:restriction base="xs:string">
488                     <xs:maxLength value="512"/>
489               </xs:restriction>
490         </xs:simpleType>
491         <xs:complexType name="Reason"
492   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
493               <xs:sequence>
494                     <xs:element name="code" type="ReasonCode_String" minOccurs="1"
495   maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
496   cim16#Reason.code"/>
497                     <xs:element name="text" type="ReasonText_String" minOccurs="0"
498   maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
499   cim16#Reason.text"/>
500               </xs:sequence>
501         </xs:complexType>
502         <xs:complexType name="Series_Period"
503   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
504               <xs:sequence>
505                     <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
506   minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
507   schema-cim16#Period.timeInterval"/>
508                     <xs:element name="resolution" type="xs:duration" minOccurs="1"
509   maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
510   cim16#Period.resolution"/>
511                     <xs:element name="Point" type="Point" minOccurs="1"
512   maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
513   cim16#Period.Point"/>
514               </xs:sequence>
515         </xs:complexType>
516   </xs:schema>
```


ENTSO-E AISBL • Avenue de Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu