European Network of
Transmission System Operators
for Electricity

MERIT ORDER LIST DOCUMENT UML MODEL AND SCHEMA

2017-02-24
VERSION 1.0

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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.

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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 related to the balancing market.

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.

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2 MeritOrderList_MarketDocument

2.1 MeritOrderList contextual model

2.1.1 Overview of the model

Figure 1 shows the model.

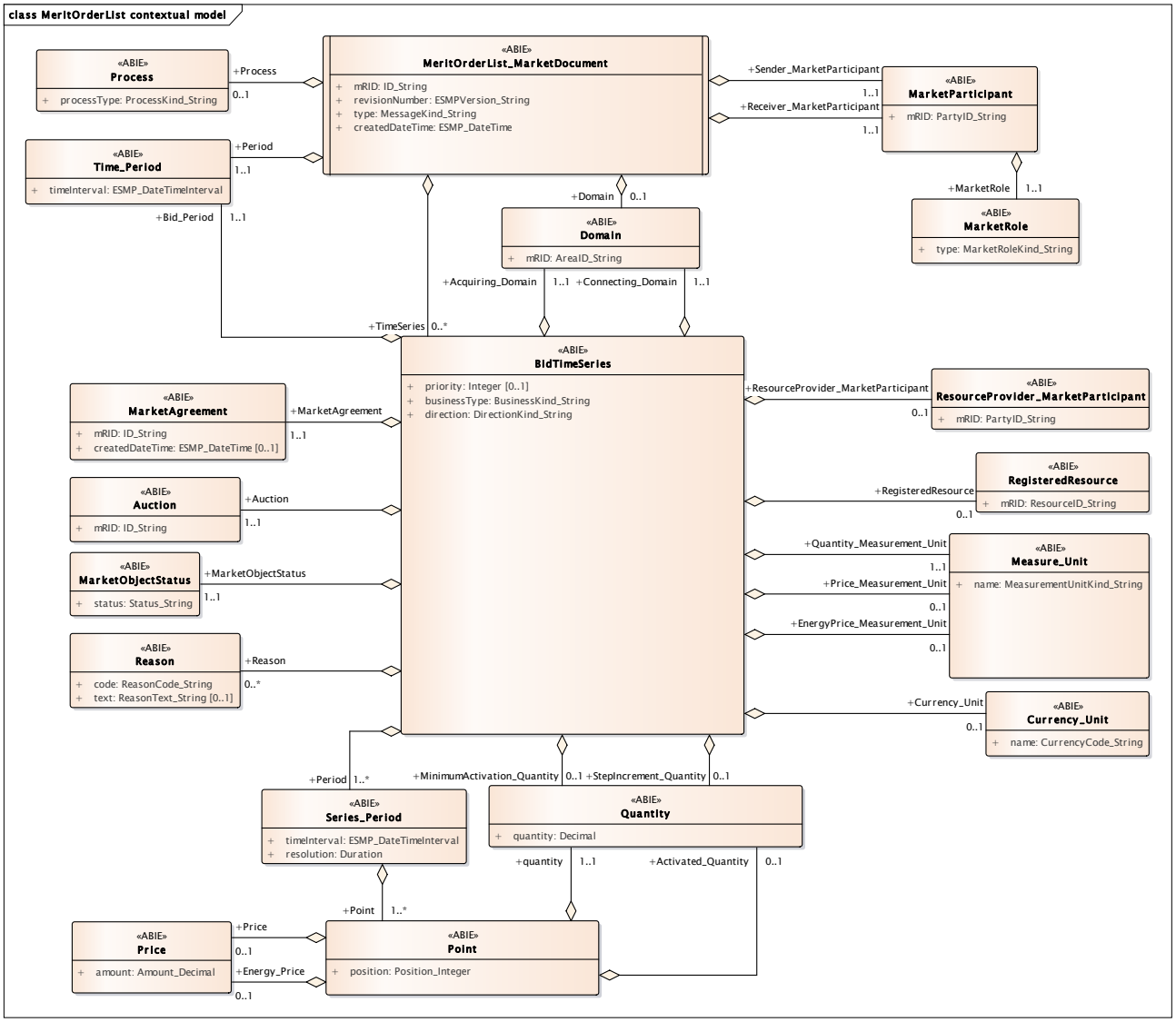

Figure 1 - MeritOrderList contextual model

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

Name	Complete IsBasedOn Path
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

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2.2 MeritOrderList assembly model

2.2.1 Overview of the model

Figure 2 shows the model.

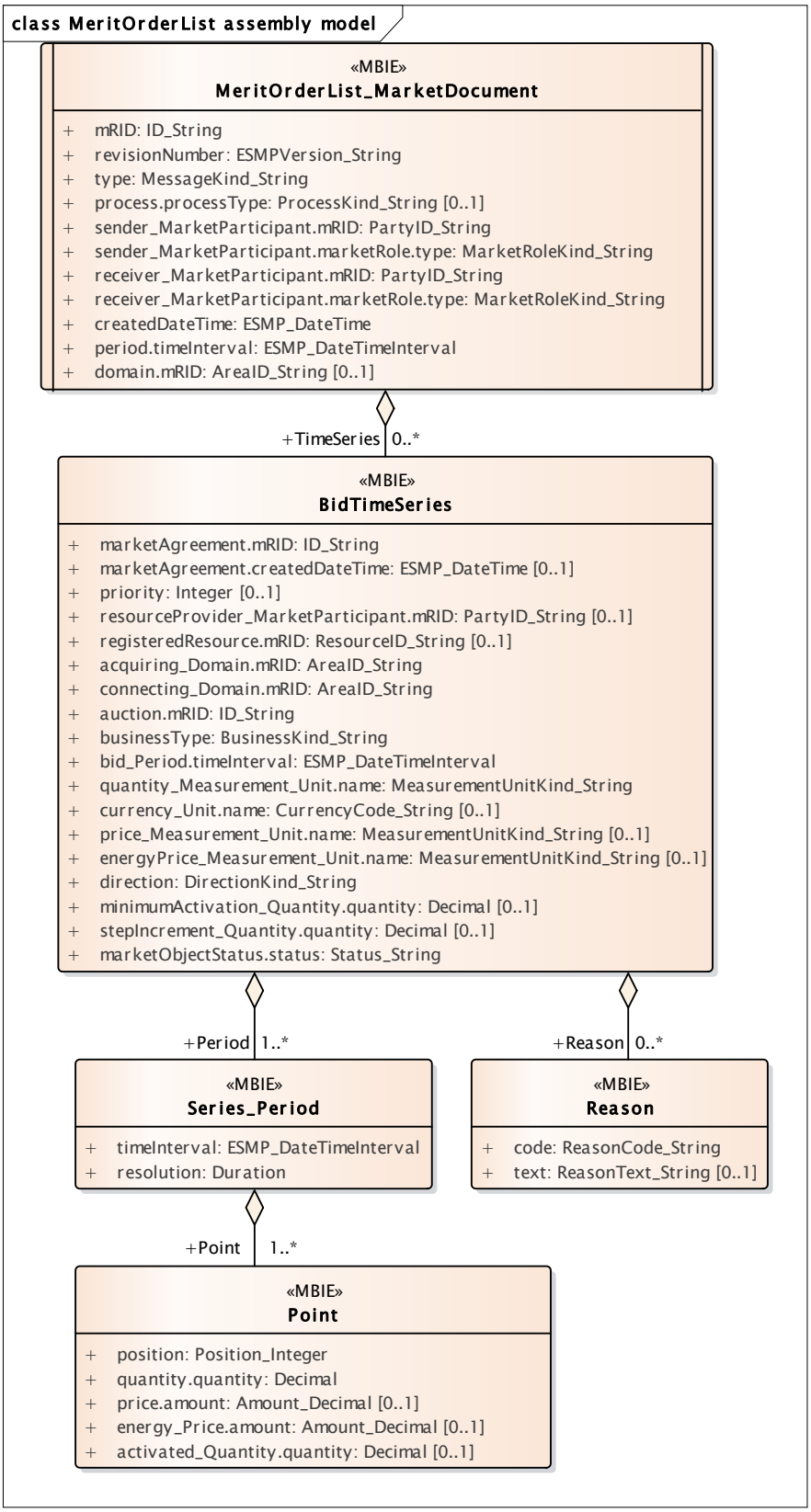

Figure 2 - MeritOrderList assembly model

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.
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.

Order	mult.	Attribute name / Attribute type	Description
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the document.

110

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

112 **Table 4 - Association ends of MeritOrderList assembly**
113 **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.[]

114

115 **2.2.3.2 BidTimeSeries**

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

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

118 Table 5 shows all attributes of BidTimeSeries.

119 **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.
8	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.

Order	mult.	Attribute name / Attribute type	Description
9	[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.
10	[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.
11	[0..1]	currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency associated with a TimeSeries.
12	[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.
13	[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.
14	[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.
15	[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.
16	[0..1]	stepIncrement_Quantity.quantity Decimal	The quantity value. --- The minimum step quantity permitted. The quantity information associated to a TimeSeries.
17	[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
18	[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.[]
19	[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.[]

2.2.3.3 Point

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

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127 Table 7 shows all attributes of Point.

128 **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.

129

130 #### 2.2.3.4 Reason

131 The motivation of an act.

132 Table 8 shows all attributes of Reason.

133 **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.

134

135 #### 2.2.3.5 Series_Period

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

137 Table 9 shows all attributes of Series_Period.

138 **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.

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

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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
- 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

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2.3 MeritOrderList_MarketDocument XML schema

2.3.1 MeritOrderList_MarketDocument XML schema structure

Figure 3 to Figure 5 provide the structure of the schema.

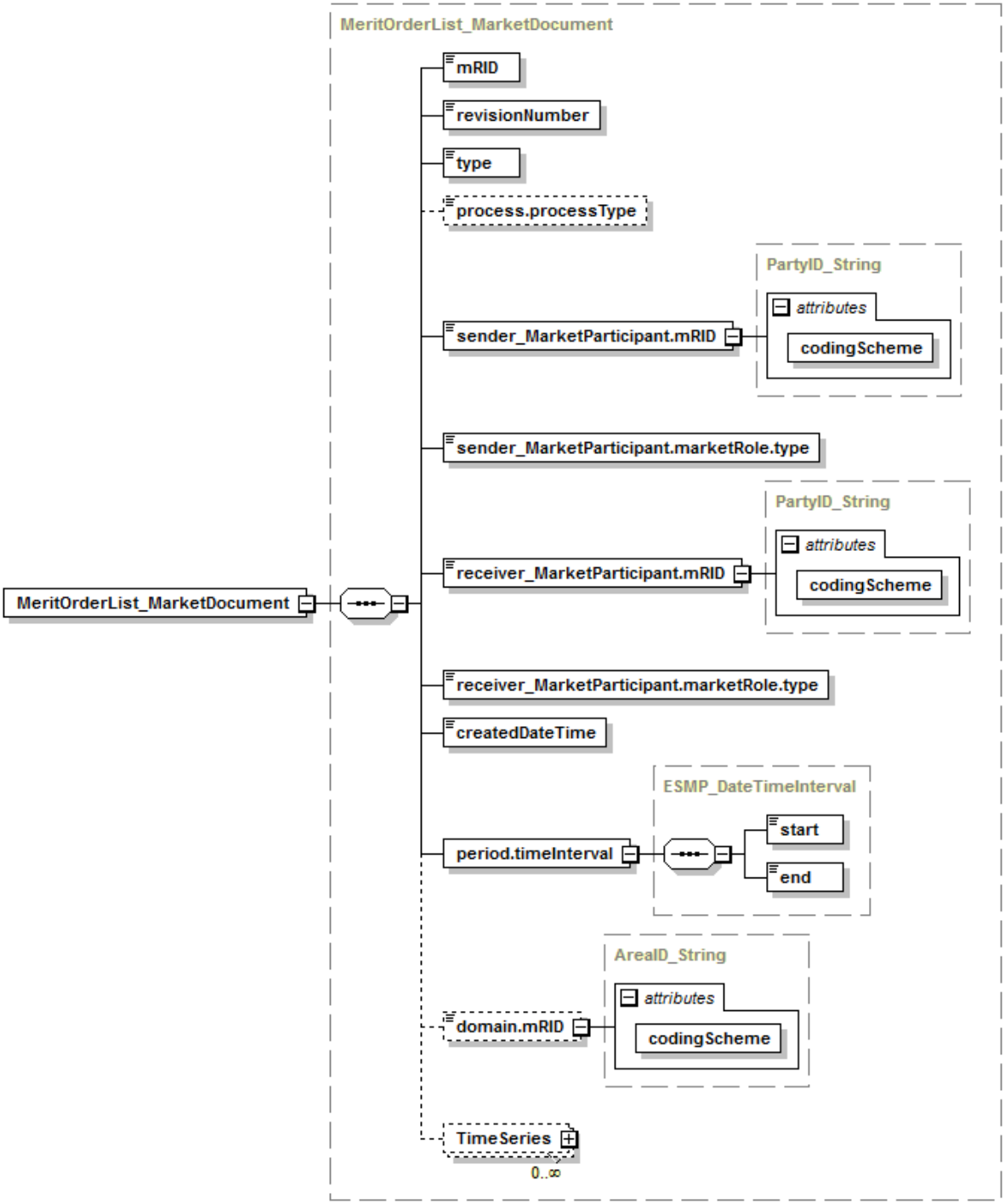

Figure 3 - MeritOrderList_MarketDocument schema structure 1/3

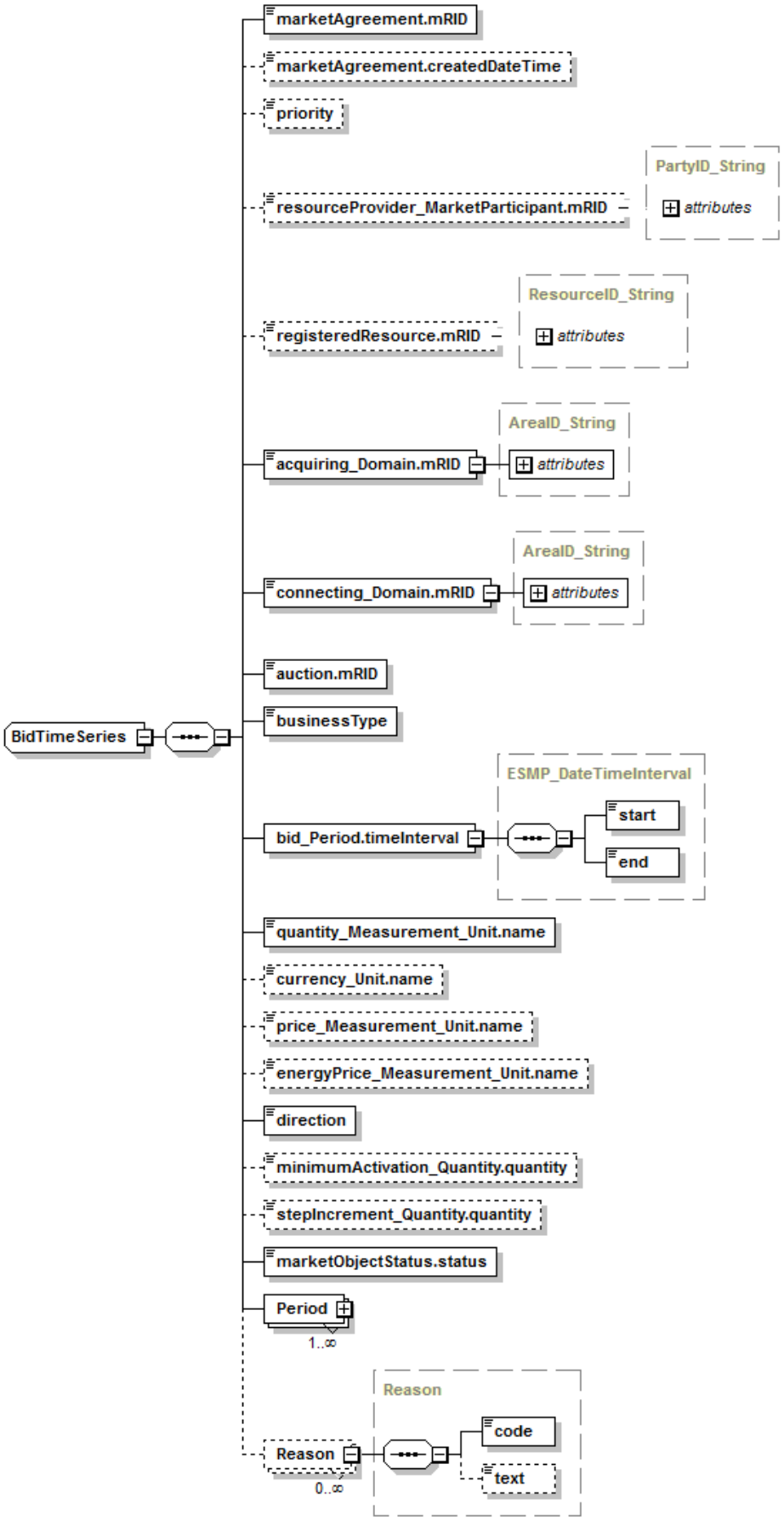

Figure 4 - MeritOrderList_MarketDocument schema structure 2/3

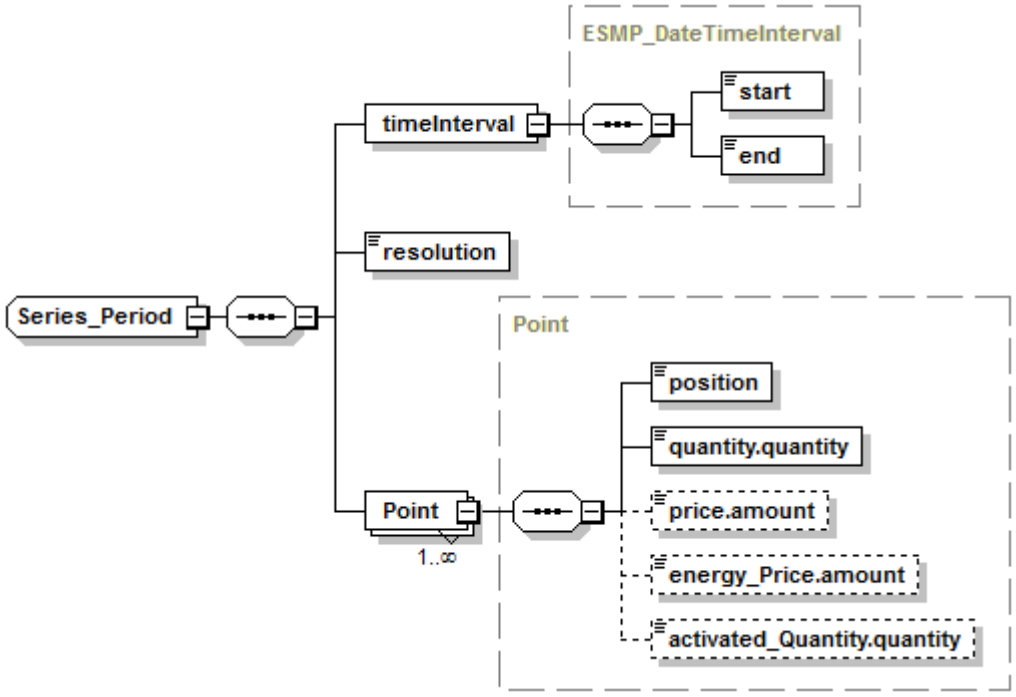

Figure 5 - MeritOrderList_MarketDocument schema structure 3/3

2.3.2 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:7:1

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:iec62325.351:tc57wg16:451-
7:moldocument:7:1" xmlns:cimp="http://www.iec.ch/cimprofile"
attributeFormDefault="unqualified" elementFormDefault="qualified"
targetNamespace="urn:iec62325.351:tc57wg16:451-7:moldocument:7:1"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"
namespace="urn:entsoe.eu:wgedi:codelists" />
  <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="35" />
    </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-
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8])T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)" />
    </xs:restriction>
  </xs:simpleType>
```

```
211     <xs:simpleType name="PartyID_String-base"
212   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
213       <xs:restriction base="xs:string">
214         <xs:maxLength value="16" />
215       </xs:restriction>
216     </xs:simpleType>
217     <xs:complexType name="PartyID_String"
218   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
219       <xs:simpleContent>
220         <xs:extension base="PartyID_String-base">
221           <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
222   use="required" />
223         </xs:extension>
224       </xs:simpleContent>
225     </xs:complexType>
226     <xs:simpleType name="ResourceID_String-base"
227   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" type="ecl:CodingSchemeTypeList"
237   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" type="ecl:CodingSchemeTypeList"
252   use="required" />
253         </xs:extension>
254       </xs:simpleContent>
255     </xs:complexType>
256     <xs:simpleType name="BusinessKind_String"
257   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
258       <xs:restriction base="ecl:BusinessTypeList" />
259     </xs:simpleType>
260     <xs:simpleType name="MeasurementUnitKind_String"
261   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
262       <xs:restriction base="ecl:UnitOfMeasureTypeList" />
263     </xs:simpleType>
264     <xs:simpleType name="CurrencyCode_String"
265   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
266       <xs:restriction base="ecl:CurrencyTypeList" />
267     </xs:simpleType>
268     <xs:simpleType name="DirectionKind_String"
269   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
270       <xs:restriction base="ecl:DirectionTypeList" />
271     </xs:simpleType>
272     <xs:simpleType name="Status_String"
273   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
274       <xs:restriction base="ecl:StatusTypeList" />
275     </xs:simpleType>
276     <xs:simpleType name="YMDHM_DateTime"
277   sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
278       <xs:restriction base="xs:string">
```

```
      <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-
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    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="ESMP_DateTimeInterval"
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    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="start" type="YMDHM_DateTime"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#DateTimeInterval.start">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="end" type="YMDHM_DateTime"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#DateTimeInterval.end">
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="BidTimeSeries"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#BidTimeSeries">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="marketAgreement.mRID"
type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="marketAgreement.createdDateTime"
type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Document.createdDateTime">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="priority" type="xs:integer"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#BidTimeSeries.priority">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1"
name="resourceProvider_MarketParticipant.mRID" type="PartyID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="registeredResource.mRID"
type="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="acquiring_Domain.mRID"
type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="connecting_Domain.mRID"
type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="auction.mRID" type="ID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="businessType"
type="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#TimeSeries.businessType">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="bid_Period.timeInterval"
type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Period.timeInterval">
      </xs:element>
```

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      <xs:element minOccurs="1" maxOccurs="1" name="quantity_Measurement_Unit.name"
type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Unit.name">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="currency_Unit.name"
type="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Unit.name">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="price_Measurement_Unit.name"
type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Unit.name">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1"
name="energyPrice_Measurement_Unit.name" type="MeasurementUnitKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="direction"
type="DirectionKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#BidTimeSeries.direction">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1"
name="minimumActivation_Quantity.quantity" type="xs:decimal"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="stepIncrement_Quantity.quantity"
type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Quantity.quantity">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="marketObjectStatus.status"
type="Status_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#MarketObjectStatus.status">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="unbounded" name="Period"
type="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#BidTimeSeries.Period">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#BidTimeSeries.Reason">
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="ESMPVersion_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="xs:string">
      <xs:pattern value="[1-9]([0-9]){0,2}" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="MessageKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="ecl:MessageTypeList" />
  </xs:simpleType>
  <xs:simpleType name="ProcessKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="ecl:ProcessTypeList" />
  </xs:simpleType>
  <xs:simpleType name="MarketRoleKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="ecl:RoleTypeList" />
  </xs:simpleType>
  <xs:complexType name="MeritOrderList_MarketDocument"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
```


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      <xs:element minOccurs="1" maxOccurs="1" name="revisionNumber"
type="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Document.revisionNumber">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="type" type="MessageKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="process.processType"
type="ProcessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Process.processType">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="sender_MarketParticipant.mRID"
type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1"
name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="receiver_MarketParticipant.mRID"
type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1"
name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="createdDateTime"
type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Document.createdDateTime">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="period.timeInterval"
type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Period.timeInterval">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="domain.mRID" type="AreaID_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#IdentifiedObject.mRID">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="TimeSeries"
type="BidTimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#MarketDocument.TimeSeries">
      </xs:element>
    </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 minOccurs="1" maxOccurs="1" name="position" type="Position_Integer"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="quantity.quantity"
type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Quantity.quantity">
      </xs:element>
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      <xs:element minOccurs="0" maxOccurs="1" name="price.amount"
type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Price.amount">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="energy_Price.amount"
type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Price.amount">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="activated_Quantity.quantity"
type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
cim16#Quantity.quantity">
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="ReasonCode_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="ecl:ReasonCodeTypeList" />
  </xs:simpleType>
  <xs:simpleType name="ReasonText_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
    <xs:restriction base="xs:string">
      <xs:maxLength value="512" />
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Reason">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="code" type="ReasonCode_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code">
      </xs:element>
      <xs:element minOccurs="0" maxOccurs="1" name="text" type="ReasonText_String"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text">
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="Series_Period"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="timeInterval"
type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#Period.timeInterval">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="1" name="resolution" type="xs:duration"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution">
      </xs:element>
      <xs:element minOccurs="1" maxOccurs="unbounded" name="Point" type="Point"
sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point">
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```


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