



European Network of  
Transmission System Operators  
for Electricity

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# MERIT ORDER LIST DOCUMENT UML MODEL AND SCHEMA

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2017-02-24  
VERSION 1.0

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43		other classes .....	13
44			

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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.

63

## 64 **1 Objective**

65 The purpose of this document is to provide the contextual and assembly UML models and the  
66 schema of the MeritOrderList\_MarketDocument.

67 The schema of the MeritOrderList\_MarketDocument could be used in various business  
68 processes related to the balancing market.

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

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

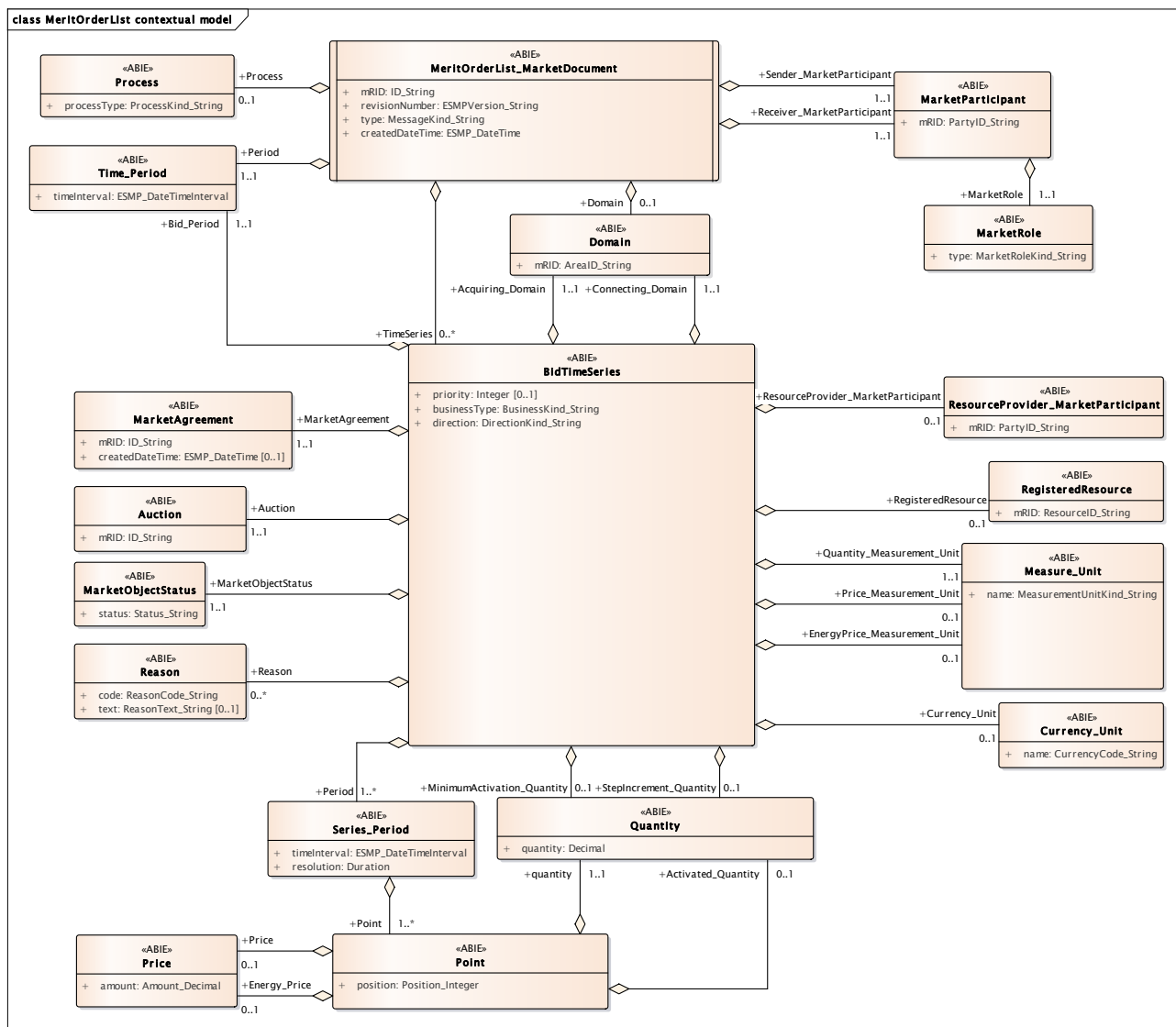
- 73 • Description of the business process;
- 74 • Use case of the business process;
- 75 • Sequence diagrams of the business process;
- 76 • List of the schema (XSD) to be used in the business process and versions of the  
77 schema;
- 78 • For each schema, dependency tables providing the necessary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

81 **2 MeritOrderList\_MarketDocument**

82 **2.1 MeritOrderList contextual model**

83 **2.1.1 Overview of the model**

84 Figure 1 shows the model.



85

86

**Figure 1 - MeritOrderList contextual model**

87 **2.1.2 IsBasedOn relationships from the European style market profile**

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

90

**Table 1 - IsBasedOn dependency**

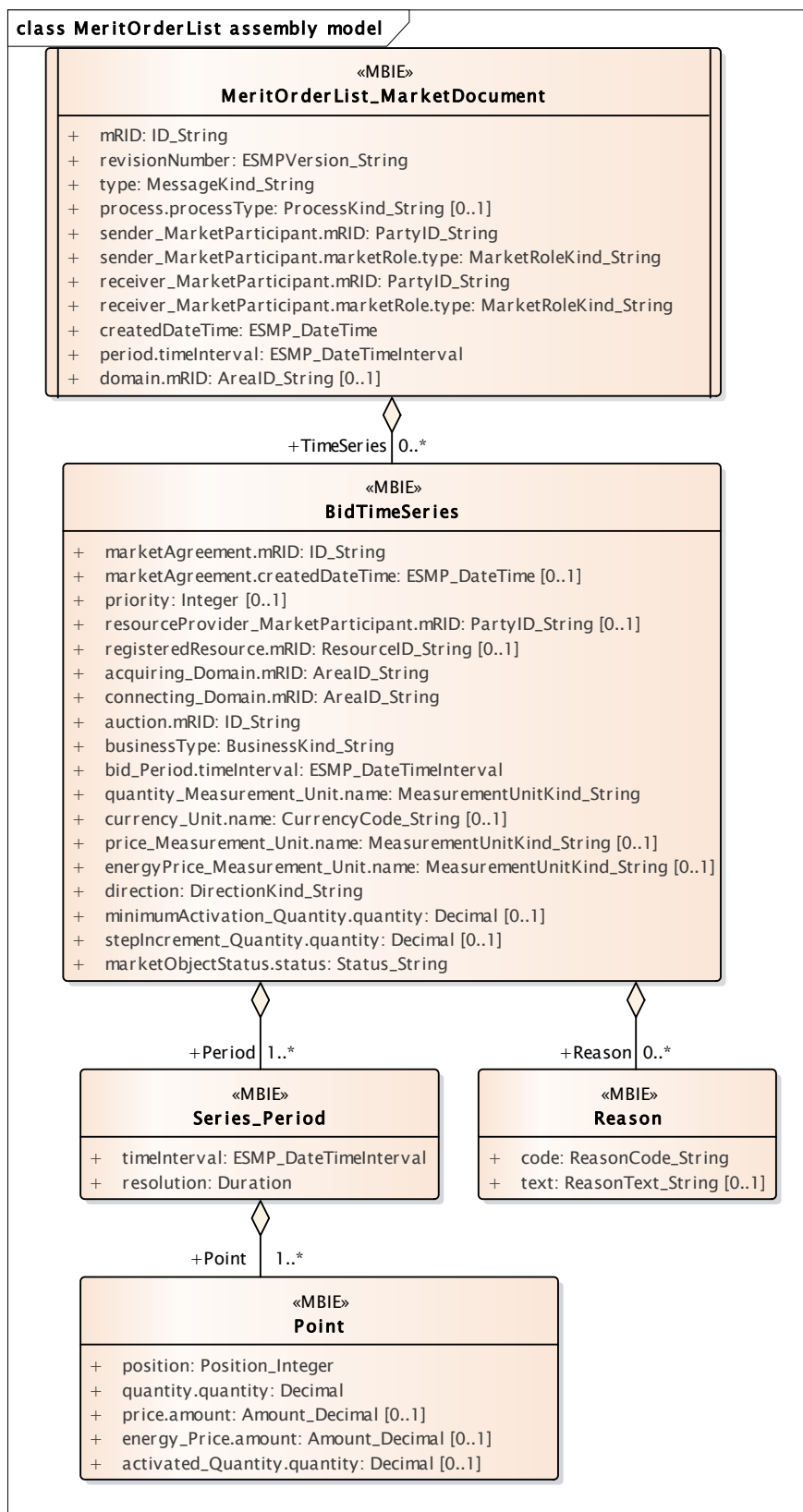
Name	Complete IsBasedOn Path
Auction	TC57CIM::IEC62325::MarketManagement::Auction
BidTimeSeries	TC57CIM::IEC62325::MarketManagement::BidTimeSeries
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement

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

92 **2.2 MeritOrderList assembly model**

93 **2.2.1 Overview of the model**

94 Figure 2 shows the model.



95  
96

**Figure 2 - MeritOrderList assembly model**



97 **2.2.2 IsBasedOn relationships from the European style market profile**

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

100 **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

101

102 **2.2.3 Detailed MeritOrderList assembly model**

103 **2.2.3.1 MeritOrderList\_MarketDocument root class**

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

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

108 Table 3 shows all attributes of MeritOrderList\_MarketDocument.

109 **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.

120

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

122 **Table 6 - Association ends of MeritOrderList assembly model::BidTimeSeries with other**  
123 **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.[]

124

### 125 2.2.3.3 Point

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

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.

139

140 Table 10 shows all association ends of Series\_Period with other classes.

141 **Table 10 - Association ends of MeritOrderList assembly model::Series\_Period with**  
142 **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..*]

143

#### 144 **2.2.4 Datatypes**

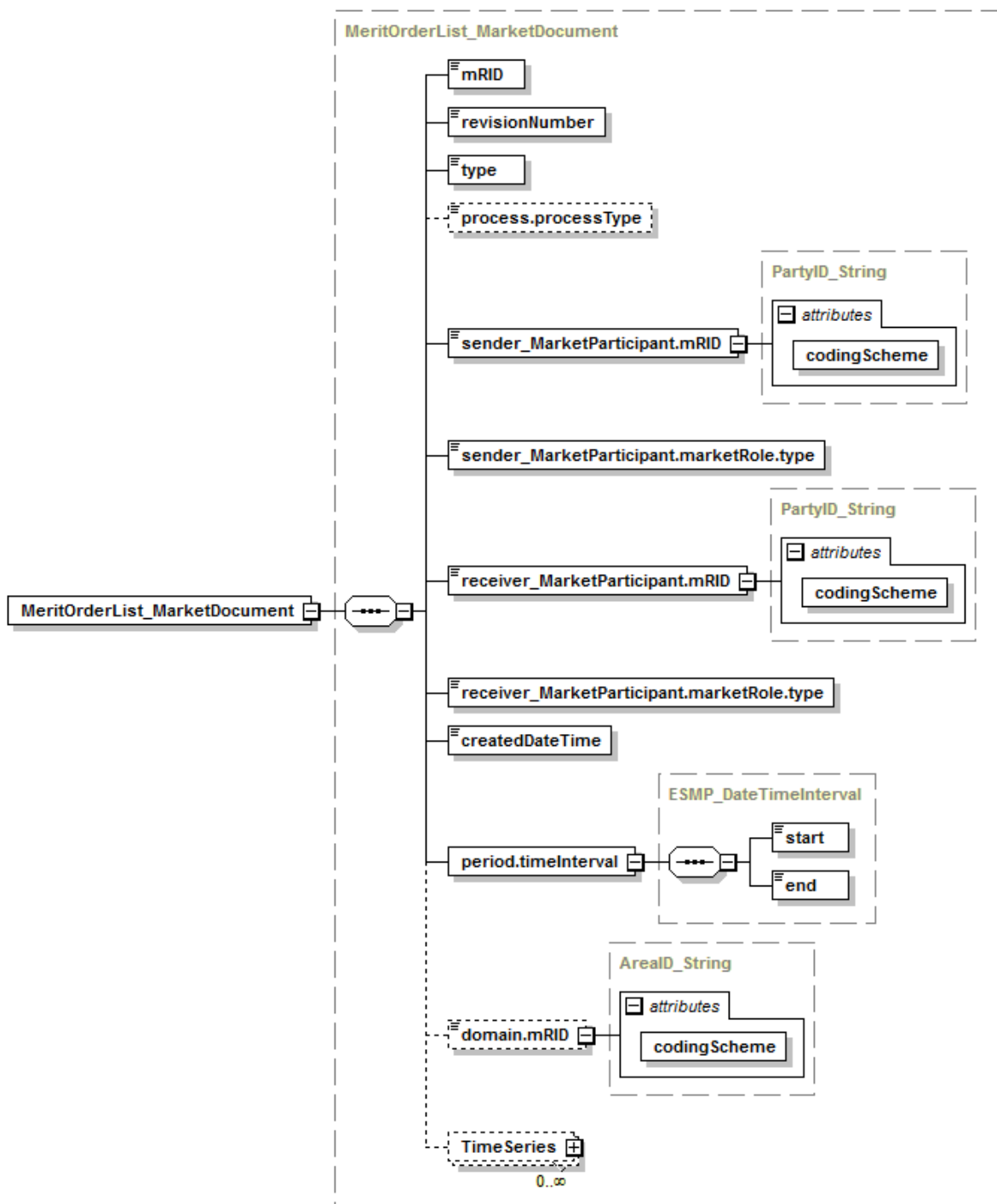
145 The list of datatypes used for the MeritOrderList assembly model is as follows:

- 146 • ESMP\_DateTimeInterval compound
- 147 • Amount\_Decimal datatype
- 148 • AreaID\_String datatype, codelist CodingSchemeTypeList
- 149 • BusinessKind\_String datatype, codelist BusinessTypeList
- 150 • CurrencyCode\_String datatype, codelist CurrencyTypeList
- 151 • DirectionKind\_String datatype, codelist DirectionTypeList
- 152 • ESMP\_DateTime datatype
- 153 • ESMPVersion\_String datatype
- 154 • ID\_String datatype
- 155 • MarketRoleKind\_String datatype, codelist RoleTypeList
- 156 • MeasurementUnitKind\_String datatype, codelist UnitOfMeasureTypeList
- 157 • MessageKind\_String datatype, codelist MessageTypeList
- 158 • PartyID\_String datatype, codelist CodingSchemeTypeList
- 159 • Position\_Integer datatype
- 160 • ProcessKind\_String datatype, codelist ProcessTypeList
- 161 • ReasonCode\_String datatype, codelist ReasonCodeTypeList
- 162 • ReasonText\_String datatype
- 163 • ResourceID\_String datatype, codelist CodingSchemeTypeList
- 164 • Status\_String datatype, codelist StatusTypeList
- 165 • YMDHM\_DateTime datatype

166 **2.3 MeritOrderList\_MarketDocument XML schema**

167 **2.3.1 MeritOrderList\_MarketDocument XML schema structure**

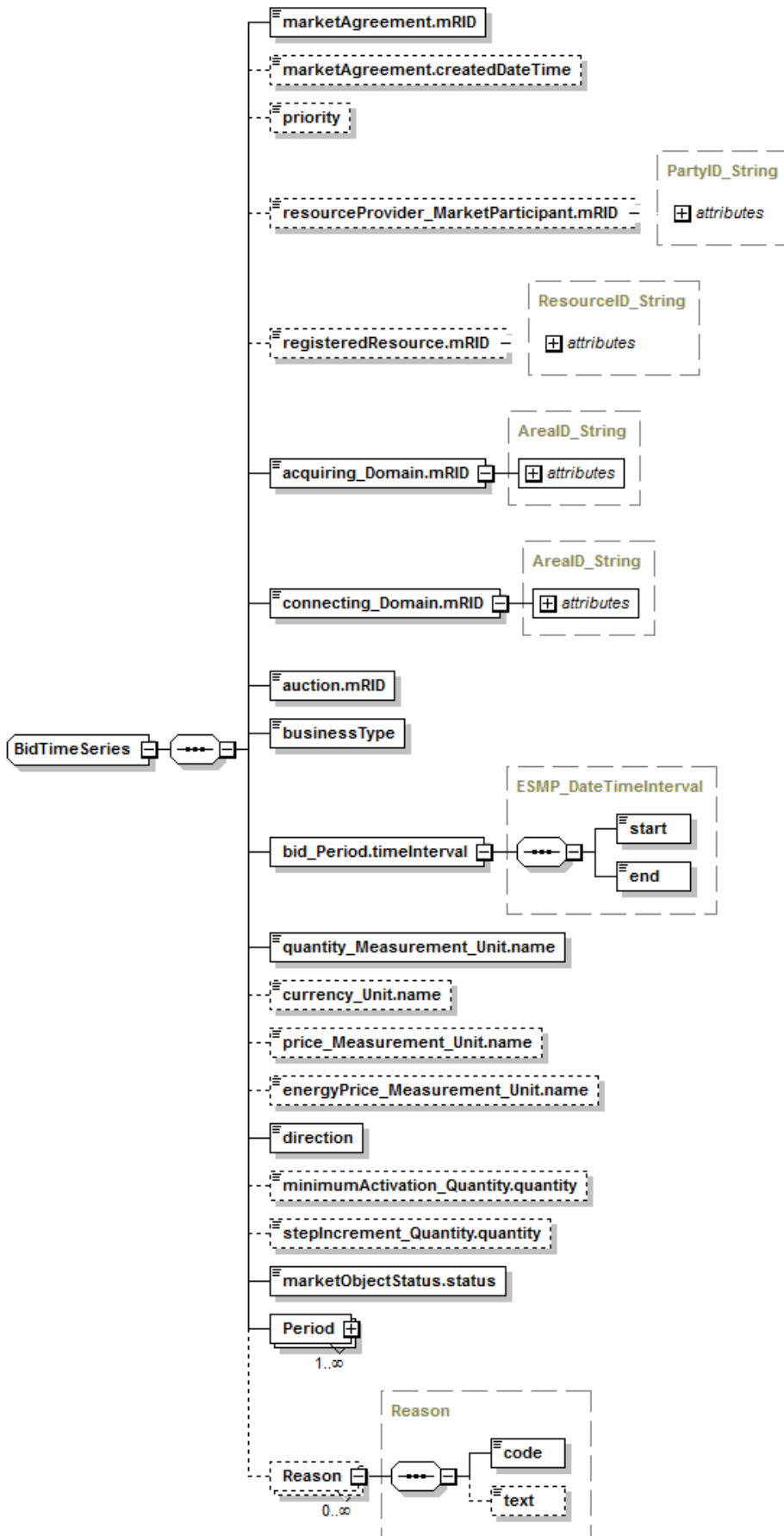
168 Figure 3 to Figure 5 provide the structure of the schema.



169

170

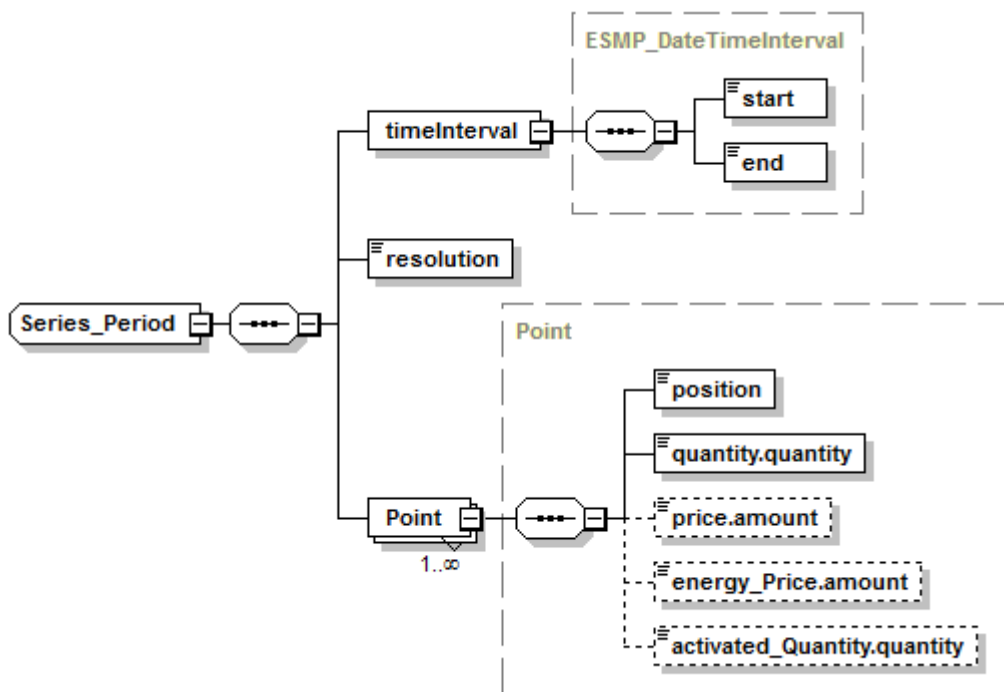
**Figure 3 - MeritOrderList\_MarketDocument schema structure 1/3**



171

172

Figure 4 - MeritOrderList\_MarketDocument schema structure 2/3



173

174

**Figure 5 - MeritOrderList\_MarketDocument schema structure 3/3**

### 175 2.3.2 MeritOrderList\_MarketDocument XML schema

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

177 `urn:iec62325.351:tc57wg16:451-7:moldocument:7:1`

```

178 <?xml version="1.0" encoding="utf-8"?>
179 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
180 xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:iec62325.351:tc57wg16:451-
181 7:moldocument:7:1" xmlns:cimp="http://www.iec.ch/cimprofile"
182 attributeFormDefault="unqualified" elementFormDefault="qualified"
183 targetNamespace="urn:iec62325.351:tc57wg16:451-7:moldocument:7:1"
184 xmlns:xs="http://www.w3.org/2001/XMLSchema">
185   <xs:import schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"
186 namespace="urn:entsoe.eu:wgedi:codelists" />
187   <xs:element name="MeritOrderList_MarketDocument"
188 type="MeritOrderList_MarketDocument" />
189   <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
190 schema-cim16#String">
191     <xs:restriction base="xs:string">
192       <xs:maxLength value="35" />
193     </xs:restriction>
194   </xs:simpleType>
195   <xs:simpleType name="ESMP_DateTime"
196 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
197     <xs:restriction base="xs:dateTime">
198       <xs:pattern value="((([0-9]{4}) [\-] (0[13578]|1[02]) [\-] (0[1-9]|12)[0-
199 9]|3[01])|([0-9]{4}) [\-] ((0[469])|(11)) [\-] (0[1-9]|12)[0-9]|30))T((([01][0-9]|2[0-
200 3]):[0-5][0-9]:[0-5][0-
201 9])Z)|(((13579)[26][02468][048]|13579)[01345789](0)[48]|13579)[01345789][2468][048]
202 |02468][048][02468][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|0[0-
203 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-
204 9]:[0-5][0-
205 9])Z)|(((13579)[26][02468][1235679]|13579)[01345789](0)[01235679]|13579)[01345789][
206 2468][1235679]|02468][048][02468][1235679]|02468][1235679](0)[01235679]|02468][123
207 5679][2468][1235679]|0[0-9][0-9][13579][01345789])[\-] (02) [\-] (0[1-9]|1[0-9]|2[0-
208 8])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)" />
209     </xs:restriction>
210   </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">

```

```
279         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-9]|12)[0-
280 9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-9]|30))T((01)[0-9]|2[0-
281 3]):[0-5][0-
282 9])Z)|(((13579)[26][02468][048]|13579][01345789](0)[48]|13579][01345789][2468][048]
283 |[02468][048][02468][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|0-
284 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-
285 9])Z)|(((13579)[26][02468][1235679]|13579][01345789](0)[01235679]|13579][01345789][
286 2468][1235679]|02468][048][02468][1235679]|02468][1235679](0)[01235679]|02468][123
287 5679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-
288 8])T((01)[0-9]|2[0-3]):[0-5][0-9])Z)" />
289     </xs:restriction>
290 </xs:simpleType>
291 <xs:complexType name="ESMP_DateTimeInterval"
292 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
293     <xs:sequence>
294         <xs:element minOccurs="1" maxOccurs="1" name="start" type="YMDHM_DateTime"
295 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
296 cim16#DateTimeInterval.start">
297         </xs:element>
298         <xs:element minOccurs="1" maxOccurs="1" name="end" type="YMDHM_DateTime"
299 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
300 cim16#DateTimeInterval.end">
301         </xs:element>
302     </xs:sequence>
303 </xs:complexType>
304 <xs:complexType name="BidTimeSeries"
305 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#BidTimeSeries">
306     <xs:sequence>
307         <xs:element minOccurs="1" maxOccurs="1" name="marketAgreement.mRID"
308 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
309 cim16#IdentifiedObject.mRID">
310         </xs:element>
311         <xs:element minOccurs="0" maxOccurs="1" name="marketAgreement.createdDateTime"
312 type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
313 cim16#Document.createdDateTime">
314         </xs:element>
315         <xs:element minOccurs="0" maxOccurs="1" name="priority" type="xs:integer"
316 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
317 cim16#BidTimeSeries.priority">
318         </xs:element>
319         <xs:element minOccurs="0" maxOccurs="1"
320 name="resourceProvider_MarketParticipant.mRID" type="PartyID_String"
321 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
322 cim16#IdentifiedObject.mRID">
323         </xs:element>
324         <xs:element minOccurs="0" maxOccurs="1" name="registeredResource.mRID"
325 type="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
326 cim16#IdentifiedObject.mRID">
327         </xs:element>
328         <xs:element minOccurs="1" maxOccurs="1" name="acquiring_Domain.mRID"
329 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
330 cim16#IdentifiedObject.mRID">
331         </xs:element>
332         <xs:element minOccurs="1" maxOccurs="1" name="connecting_Domain.mRID"
333 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
334 cim16#IdentifiedObject.mRID">
335         </xs:element>
336         <xs:element minOccurs="1" maxOccurs="1" name="auction.mRID" type="ID_String"
337 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
338 cim16#IdentifiedObject.mRID">
339         </xs:element>
340         <xs:element minOccurs="1" maxOccurs="1" name="businessType"
341 type="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
342 cim16#TimeSeries.businessType">
343         </xs:element>
344         <xs:element minOccurs="1" maxOccurs="1" name="bid_Period.timeInterval"
345 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
346 schema-cim16#Period.timeInterval">
347         </xs:element>
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348     <xs:element minOccurs="1" maxOccurs="1" name="quantity_Measurement_Unit.name"
349 type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
350 schema-cim16#Unit.name">
351     </xs:element>
352     <xs:element minOccurs="0" maxOccurs="1" name="currency_Unit.name"
353 type="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
354 cim16#Unit.name">
355     </xs:element>
356     <xs:element minOccurs="0" maxOccurs="1" name="price_Measurement_Unit.name"
357 type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
358 schema-cim16#Unit.name">
359     </xs:element>
360     <xs:element minOccurs="0" maxOccurs="1"
361 name="energyPrice_Measurement_Unit.name" type="MeasurementUnitKind_String"
362 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name">
363     </xs:element>
364     <xs:element minOccurs="1" maxOccurs="1" name="direction"
365 type="DirectionKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
366 schema-cim16#BidTimeSeries.direction">
367     </xs:element>
368     <xs:element minOccurs="0" maxOccurs="1"
369 name="minimumActivation_Quantity.quantity" type="xs:decimal"
370 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity">
371     </xs:element>
372     <xs:element minOccurs="0" maxOccurs="1" name="stepIncrement_Quantity.quantity"
373 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
374 cim16#Quantity.quantity">
375     </xs:element>
376     <xs:element minOccurs="1" maxOccurs="1" name="marketObjectStatus.status"
377 type="Status_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
378 cim16#MarketObjectStatus.status">
379     </xs:element>
380     <xs:element minOccurs="1" maxOccurs="unbounded" name="Period"
381 type="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
382 cim16#BidTimeSeries.Period">
383     </xs:element>
384     <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
385 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
386 cim16#BidTimeSeries.Reason">
387     </xs:element>
388 </xs:sequence>
389 </xs:complexType>
390 <xs:simpleType name="ESMPVersion_String"
391 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
392 <xs:restriction base="xs:string">
393 <xs:pattern value="[1-9]([0-9]){0,2}" />
394 </xs:restriction>
395 </xs:simpleType>
396 <xs:simpleType name="MessageKind_String"
397 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
398 <xs:restriction base="ecl:MessageTypeList" />
399 </xs:simpleType>
400 <xs:simpleType name="ProcessKind_String"
401 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
402 <xs:restriction base="ecl:ProcessTypeList" />
403 </xs:simpleType>
404 <xs:simpleType name="MarketRoleKind_String"
405 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
406 <xs:restriction base="ecl:RoleTypeList" />
407 </xs:simpleType>
408 <xs:complexType name="MeritOrderList_MarketDocument"
409 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
410 <xs:sequence>
411 <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
412 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
413 cim16#IdentifiedObject.mRID">
414 </xs:element>
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415         <xs:element minOccurs="1" maxOccurs="1" name="revisionNumber"
416 type="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
417 cim16#Document.revisionNumber">
418     </xs:element>
419     <xs:element minOccurs="1" maxOccurs="1" name="type" type="MessageKind_String"
420 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type">
421     </xs:element>
422     <xs:element minOccurs="0" maxOccurs="1" name="process.processType"
423 type="ProcessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
424 cim16#Process.processType">
425     </xs:element>
426     <xs:element minOccurs="1" maxOccurs="1" name="sender_MarketParticipant.mRID"
427 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
428 cim16#IdentifiedObject.mRID">
429     </xs:element>
430     <xs:element minOccurs="1" maxOccurs="1"
431 name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
432 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
433     </xs:element>
434     <xs:element minOccurs="1" maxOccurs="1" name="receiver_MarketParticipant.mRID"
435 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
436 cim16#IdentifiedObject.mRID">
437     </xs:element>
438     <xs:element minOccurs="1" maxOccurs="1"
439 name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
440 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
441     </xs:element>
442     <xs:element minOccurs="1" maxOccurs="1" name="createdDateTime"
443 type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
444 cim16#Document.createdDateTime">
445     </xs:element>
446     <xs:element minOccurs="1" maxOccurs="1" name="period.timeInterval"
447 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
448 schema-cim16#Period.timeInterval">
449     </xs:element>
450     <xs:element minOccurs="0" maxOccurs="1" name="domain.mRID" type="AreaID_String"
451 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
452 cim16#IdentifiedObject.mRID">
453     </xs:element>
454     <xs:element minOccurs="0" maxOccurs="unbounded" name="TimeSeries"
455 type="BidTimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
456 cim16#MarketDocument.TimeSeries">
457     </xs:element>
458     </xs:sequence>
459 </xs:complexType>
460 <xs:simpleType name="Position_Integer"
461 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
462     <xs:restriction base="xs:integer">
463         <xs:maxInclusive value="999999" />
464         <xs:minInclusive value="1" />
465     </xs:restriction>
466 </xs:simpleType>
467 <xs:simpleType name="Amount_Decimal"
468 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Decimal">
469     <xs:restriction base="xs:decimal">
470         <xs:totalDigits value="17" />
471     </xs:restriction>
472 </xs:simpleType>
473 <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
474 schema-cim16#Point">
475     <xs:sequence>
476         <xs:element minOccurs="1" maxOccurs="1" name="position" type="Position_Integer"
477 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position">
478         </xs:element>
479         <xs:element minOccurs="1" maxOccurs="1" name="quantity.quantity"
480 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
481 cim16#Quantity.quantity">
482         </xs:element>
```

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483     <xs:element minOccurs="0" maxOccurs="1" name="price.amount"
484 type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
485 cim16#Price.amount">
486     </xs:element>
487     <xs:element minOccurs="0" maxOccurs="1" name="energy_Price.amount"
488 type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
489 cim16#Price.amount">
490     </xs:element>
491     <xs:element minOccurs="0" maxOccurs="1" name="activated_Quantity.quantity"
492 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
493 cim16#Quantity.quantity">
494     </xs:element>
495 </xs:sequence>
496 </xs:complexType>
497 <xs:simpleType name="ReasonCode_String"
498 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
499     <xs:restriction base="ecl:ReasonCodeTypeList" />
500 </xs:simpleType>
501 <xs:simpleType name="ReasonText_String"
502 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
503     <xs:restriction base="xs:string">
504         <xs:maxLength value="512" />
505     </xs:restriction>
506 </xs:simpleType>
507 <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
508 schema-cim16#Reason">
509     <xs:sequence>
510         <xs:element minOccurs="1" maxOccurs="1" name="code" type="ReasonCode_String"
511 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code">
512         </xs:element>
513         <xs:element minOccurs="0" maxOccurs="1" name="text" type="ReasonText_String"
514 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text">
515         </xs:element>
516     </xs:sequence>
517 </xs:complexType>
518 <xs:complexType name="Series_Period"
519 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
520     <xs:sequence>
521         <xs:element minOccurs="1" maxOccurs="1" name="timeInterval"
522 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
523 schema-cim16#Period.timeInterval">
524         </xs:element>
525         <xs:element minOccurs="1" maxOccurs="1" name="resolution" type="xs:duration"
526 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution">
527         </xs:element>
528         <xs:element minOccurs="1" maxOccurs="unbounded" name="Point" type="Point"
529 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point">
530         </xs:element>
531     </xs:sequence>
532 </xs:complexType>
533 </xs:schema>
```