



European Network of
Transmission System Operators
for Electricity

**IMPLICIT AUCTION RESULT
DOCUMENT
UML MODEL AND SCHEMA**

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VERSION 1.0

2

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Revision History

Version	Release	Date	Comments
0	1	2018-03-12	First drafting of the document.
1	0	2018-05-08	Document approved by MC

60

61 **1 Objective**

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

64 The schema of the ImplicitAuctionResult_MarketDocument could be used in various business
65 processes.

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

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

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

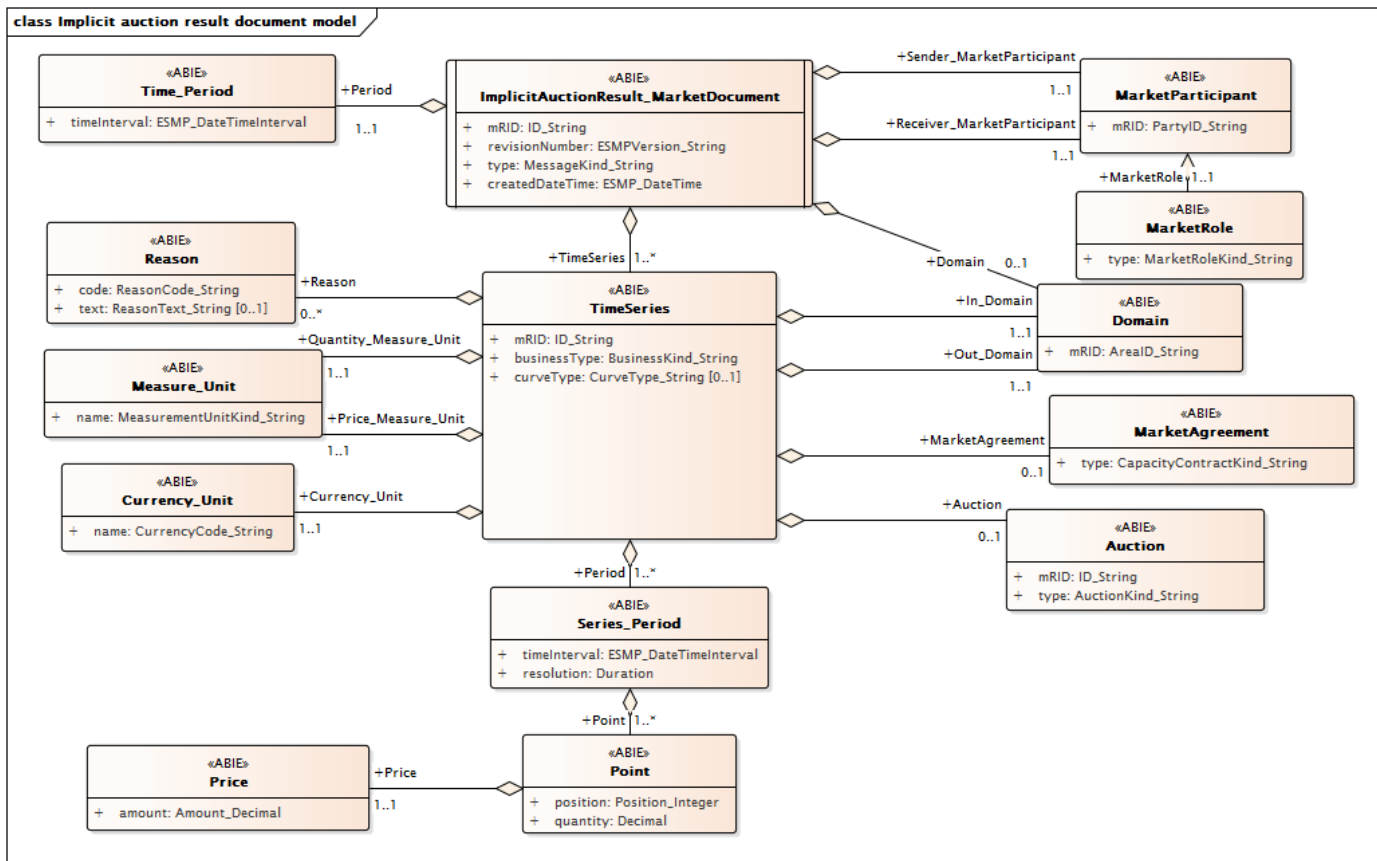
78

79 **2 ImplicitAuctionResult_MarketDocument**

80 **2.1 Implicit auction result contextual model**

81 **2.1.1 Overview of the model**

82 Figure 1 shows the model.



83

84

Figure 1 - Implicit auction result contextual model

85

86

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
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
ImplicitAuctionResult_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Point	TC57CIM::IEC62325::MarketManagement::Point
Price	TC57CIM::IEC62325::MarketManagement::Price
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

91

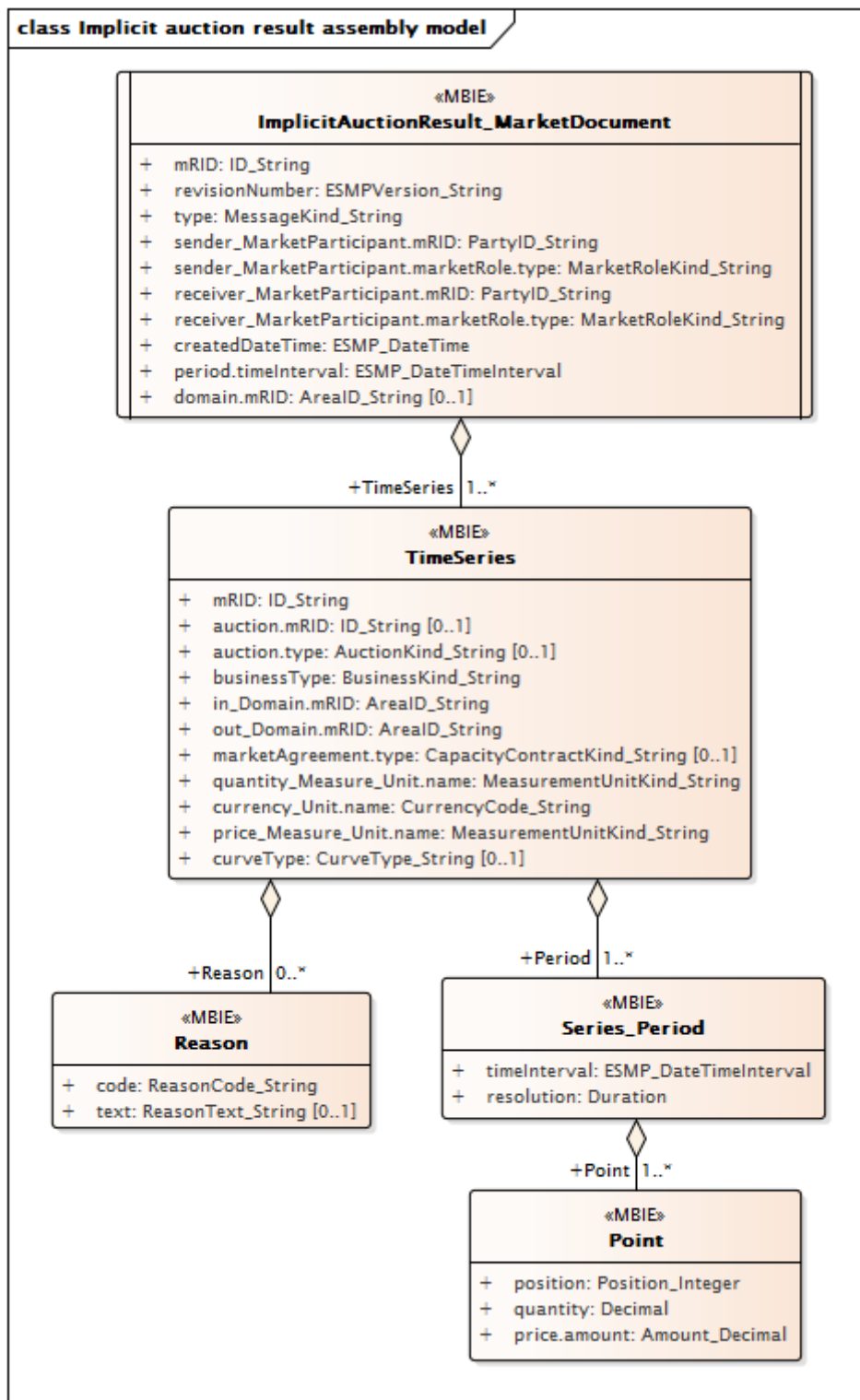
92

93

94 2.2 Implicit auction result assembly model

95 2.2.1 Overview of the model

96 Figure 2 shows the model.



97

98

Figure 2 - Implicit auction result assembly model

99 **2.2.2 IsBasedOn relationships from the European style market profile**

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

102 **Table 2 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
ImplicitAuctionResult_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Point	TC57CIM::IEC62325::MarketManagement::Point
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

103

104 **2.2.3 Detailed Implicit auction result assembly model**

105 **2.2.3.1 ImplicitAuctionResult_MarketDocument root class**

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

108 An implicit auction result document is issued by the market operator at the end of a specific
109 auctioning cycle or by the System Operator once the NTC values have been agreed. It could
110 be yearly, monthly or daily auctions in addition to intraday auctions.

111 Table 3 shows all attributes of ImplicitAuctionResult_MarketDocument.

112 **Table 3 - Attributes of Implicit auction result assembly
113 model::ImplicitAuctionResult_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	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
4	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document owner.
5	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.
6	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document recipient.
7	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
8	[1..1]	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 that the implicit auction result document is covering.
9	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The domain covered within the implicit auction result document.

114

115 Table 4 shows all association ends of ImplicitAuctionResult_MarketDocument with other
116 classes.

117 **Table 4 - Association ends of Implicit auction result assembly**
118 **model::ImplicitAuctionResult_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
10	[1..*]	TimeSeries TimeSeries	Association Based On: Implicit auction result contextual model::TimeSeries.TimeSeries[1..*] ----- Implicit auction result contextual model::ImplicitAuctionResult_MarketDocument.[]

119

120 2.2.3.2 Point

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

122 Table 5 shows all attributes of Point.

123 **Table 5 - Attributes of Implicit auction result 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 Decimal	This information defines the quantity auctioned for the interval in question and that is expressed in the measurement unit quantity. The principal quantity identified for a point.
2	[1..1]	price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- This information defines the price expressed in the unit of measurement of price per unit of quantity in compliance with the pricing scheme based on local market rules. For market prices the price provided is always the InArea price A price may be negative in cases where it is providing the difference between in and out area market prices. Price differential calculated with the following formula: InArea - OutArea.

124

125 2.2.3.3 Reason

126 The motivation of an act.

127 Table 6 shows all attributes of Reason.

128 **Table 6 - Attributes of Implicit auction result 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.

129

130 2.2.3.4 Series_Period

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

132 Table 7 shows all attributes of Series_Period.

133 **Table 7 - Attributes of Implicit auction result 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.

134

135 Table 8 shows all association ends of Series_Period with other classes.

136 **Table 8 - Association ends of Implicit auction result assembly model::Series_Period**
137 **with other classes**

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	Association Based On: Implicit auction result contextual model::Point.Point[1..*] ----- Implicit auction result contextual model::Series_Period.[]

138

139 2.2.3.5 TimeSeries

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

141 Table 9 shows all attributes of TimeSeries.

142 **Table 9 - Attributes of Implicit auction result assembly model::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[0..1]	auction.mRID ID_String	The unique identification of the auction. --- A unique identification of the set of specifications that clearly defines the allocation process to which the time series is addressed.
2	[0..1]	auction.type AuctionKind_String	The kind of the auction (e.g. implicit, explicit, ...). --- A unique identification of the set of specifications that clearly defines the allocation process to which the time series is addressed.
3	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
4	[1..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is to be put.
5	[1..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is coming from.
6	[0..1]	marketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract. --- The contract type defines the conditions under which the capacity was allocated and handled, e.g.: daily auction, weekly auction, monthly auction, yearly auction, Long term contract, etc. The significance of this type is dependent on the in area and out area specific coded working methods.
7	[1..1]	quantity_Measure_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure in which the quantities in the time series are expressed, e.g. MAW.

Order	mult.	Attribute name / Attribute type	Description
8	[1..1]	currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency in which the monetary amount is expressed.
9	[1..1]	price_Measure_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure in which the price in the time series is expressed per unit of currency (MW per unit, MWh per unit, etc.).
10	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

143

144 Table 10 shows all association ends of TimeSeries with other classes.

145 **Table 10 - Association ends of Implicit auction result assembly model::TimeSeries with**
146 **other classes**

Order	mult.	Class name / Role	Description
11	[1..*]	Series_Period Period	Association Based On: Implicit auction result contextual model::Series_Period.Period[1..*] ----- Implicit auction result contextual model::TimeSeries.[]
12	[0..*]	Reason Reason	Association Based On: Implicit auction result contextual model::Reason.Reason[0..*] ----- Implicit auction result contextual model::TimeSeries.[]

147

148 2.2.4 Datatypes

149 The list of datatypes used for the Implicit auction result assembly model is as follows:

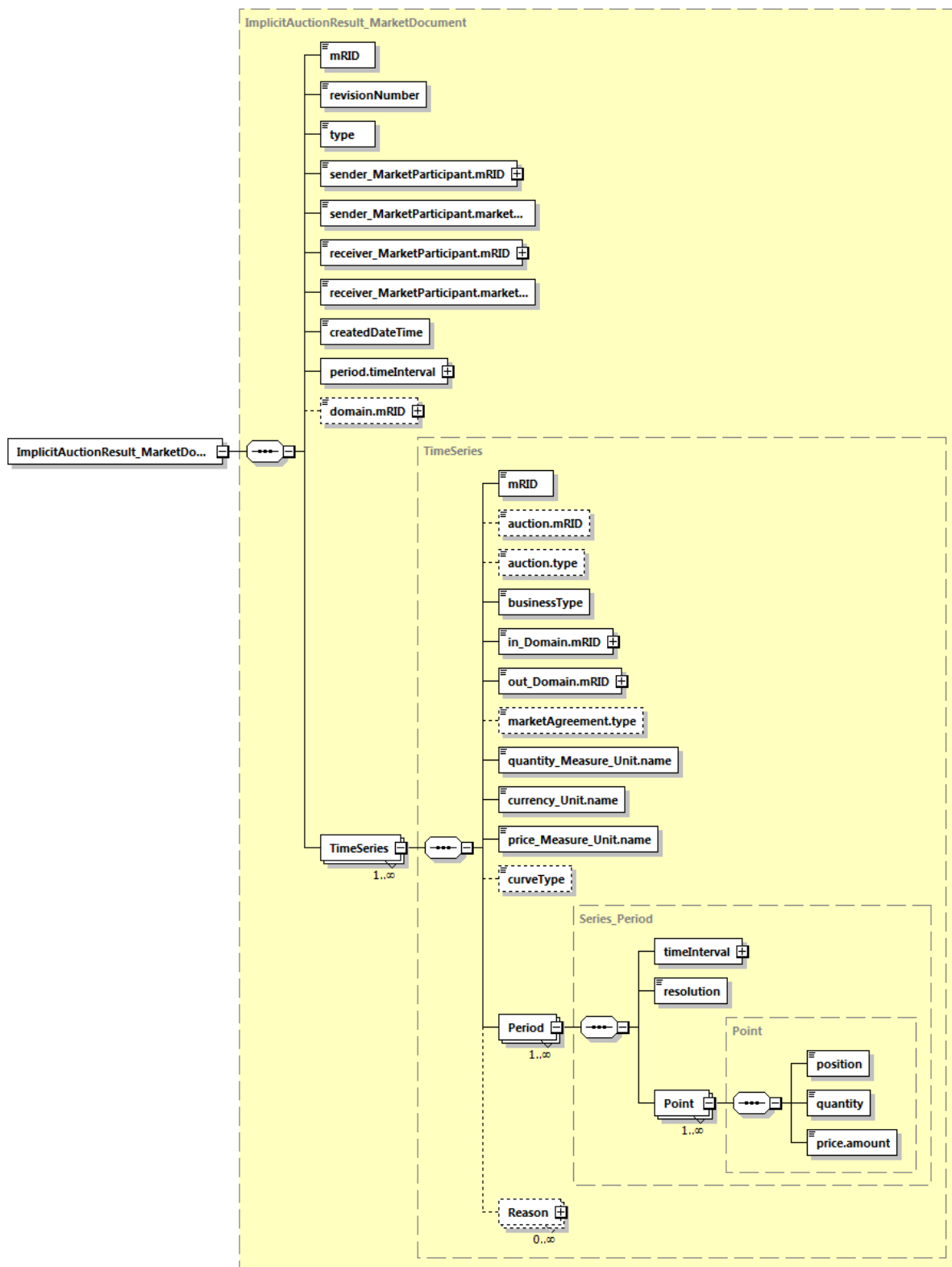
- 150 • ESMP_DateTimeInterval compound
- 151 • Amount_Decimal datatype
- 152 • AreaID_String datatype, codelist CodingSchemeTypeList
- 153 • AuctionKind_String datatype, codelist AuctionTypeList
- 154 • BusinessKind_String datatype, codelist BusinessTypeList
- 155 • CapacityContractKind_String datatype, codelist ContractTypeList
- 156 • CurrencyCode_String datatype, codelist CurrencyTypeList
- 157 • CurveType_String datatype, codelist CurveTypeList
- 158 • ESMP_DateTime datatype
- 159 • ESMPVersion_String datatype
- 160 • ID_String datatype
- 161 • MarketRoleKind_String datatype, codelist RoleTypeList
- 162 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 163 • MessageKind_String datatype, codelist MessageTypeList
- 164 • PartyID_String datatype, codelist CodingSchemeTypeList
- 165 • Position_Integer datatype
- 166 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 167 • ReasonText_String datatype
- 168 • YMDHM_DateTime datatype

169

170

171 2.2.5 ImplicitAuctionResult_MarketDocument XML schema structure

172



173
174

Figure 3 - ImplicitAuctionResult_MarketDocument XML schema structure

Generated by XMLSpy

www.altova.com

175 **2.2.6 ImplicitAuctionResult_MarketDocument XML schema**

176

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

178 urn:iec62325.351:tc57wg16:451-3:implicitauctiondocument:7:0

```

179 <?xml version="1.0" encoding="utf-8"?>
180 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists" xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
181 xmlns="urn:iec62325.351:tc57wg16:451-3:implicitauctiondocument:7:0"
182 xmlns:cimp="http://www.iec.ch/cimprofile" xmlns:xs="http://www.w3.org/2001/XMLSchema"
183 targetNamespace="urn:iec62325.351:tc57wg16:451-3:implicitauctiondocument:7:0"
184 elementFormDefault="qualified" attributeFormDefault="unqualified">
185   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-entsoe-eu-wgedi-
186 codelists.xsd"/>
187   <xs:element name="ImplicitAuctionResult_MarketDocument"
188 type="ImplicitAuctionResult_MarketDocument"/>
189   <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
190 cim16#String">
191     <xs:restriction base="xs:string">
192       <xs:maxLength value="35"/>
193     </xs:restriction>
194   </xs:simpleType>
195   <xs:simpleType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
196 schema-cim16#String">
197     <xs:restriction base="xs:string">
198       <xs:pattern value="[1-9]([0-9]){0,2}"/>
199     </xs:restriction>
200   </xs:simpleType>
201   <xs:simpleType name="MessageKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
202 schema-cim16#String">
203     <xs:restriction base="ecl:MessageTypeList"/>
204   </xs:simpleType>
205   <xs:simpleType name="PartyID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
206 schema-cim16#String">
207     <xs:restriction base="xs:string">
208       <xs:maxLength value="16"/>
209     </xs:restriction>
210   </xs:simpleType>
211   <xs:complexType name="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
212 schema-cim16#String">
213     <xs:simpleContent>
214       <xs:extension base="PartyID_String-base">
215         <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
216 use="required"/>
217       </xs:extension>
218     </xs:simpleContent>
219   </xs:complexType>
220   <xs:simpleType name="MarketRoleKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
221 schema-cim16#String">
222     <xs:restriction base="ecl:RoleTypeList"/>
223   </xs:simpleType>
224   <xs:simpleType name="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
225 cim16#DateTime">
226     <xs:restriction base="xs:dateTime">
227       <xs:pattern value="((([0-9]{4})[-](0[13578]|1[02])[-](0[1-9]|[12][0-
228 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-
229 5][0-
230 9])Z)|((([13579][26][02468][048]|13579][01345789])(0)[48]|13579][01345789][2468][048]|02468][048][0246
231 8][048]|02468][1235679])(0)[48]|02468][1235679][2468][048]|0[0-9][0-9][13579][26])[-](02)[-](0[1-
232 9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
233 9])Z)|((([13579][26][02468][1235679]|13579][01345789])(0)[01235679]|13579][01345789][2468][1235679]|02
234 468][048][02468][1235679]|02468][1235679])(0)[01235679]|02468][1235679][2468][1235679]|0[0-9][0-
235 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)"/>
236     </xs:restriction>
237   </xs:simpleType>
238   <xs:simpleType name="AreaID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
239 schema-cim16#String">
240     <xs:restriction base="xs:string">
241       <xs:maxLength value="18"/>
242     </xs:restriction>
243   </xs:simpleType>
244   <xs:complexType name="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
245 cim16#String">

```

```

246         <xs:simpleContent>
247             <xs:extension base="AreaID_String-base">
248                 <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
249 use="required"/>
250             </xs:extension>
251         </xs:simpleContent>
252     </xs:complexType>
253     <xs:simpleType name="YMDHM_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
254 cim16#DateTime">
255         <xs:restriction base="xs:string">
256             <xs:pattern value="((([0-9]{4})[\-]([013578]|1[02]))[\-]([01-9]|[12][0-
257 9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-]([01-9]|[12][0-9]|30))T(([01][0-9]|2[0-3]):[0-5][0-
258 9])Z)|((([13579][26][02468][048]|13579][01345789](0)[48]|13579][01345789][2468][048]|02468][048][0246
259 8][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|0-9][0-9][13579][26])[\-](02)[\-]([01-
260 9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-5][0-
261 9])Z)|((([13579][26][02468][1235679]|13579][01345789](0)[01235679]|13579][01345789][2468][1235679]|02
262 468][048][02468][1235679]|02468][1235679](0)[01235679]|02468][1235679][2468][1235679])|[0-9][0-
263 9][13579][01345789])[\-](02)[\-]([01-9]|1[0-9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
264         </xs:restriction>
265     </xs:simpleType>
266     <xs:complexType name="ESMP_DateTimeInterval"
267 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
268         <xs:sequence>
269             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
270 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.start"/>
271             <xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
272 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.end"/>
273         </xs:sequence>
274     </xs:complexType>
275     <xs:complexType name="ImplicitAuctionResult_MarketDocument"
276 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
277         <xs:sequence>
278             <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
279 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
280             <xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1"
281 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
282 cim16#Document.revisionNumber"/>
283             <xs:element name="type" type="MessageKind_String" minOccurs="1" maxOccurs="1"
284 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
285             <xs:element name="sender_MarketParticipant.mRID" type="PartyID_String"
286 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
287 cim16#IdentifiedObject.mRID"/>
288             <xs:element name="sender_MarketParticipant.marketRole.type"
289 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
290 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
291             <xs:element name="receiver_MarketParticipant.mRID" type="PartyID_String"
292 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
293 cim16#IdentifiedObject.mRID"/>
294             <xs:element name="receiver_MarketParticipant.marketRole.type"
295 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
296 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
297             <xs:element name="createdDateTime" type="ESMP_DateTime" minOccurs="1"
298 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
299 cim16#Document.createdDateTime"/>
300             <xs:element name="period.timeInterval" type="ESMP_DateTimeInterval"
301 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
302 cim16#Period.timeInterval"/>
303             <xs:element name="domain.mRID" type="AreaID_String" minOccurs="0"
304 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
305             <xs:element name="TimeSeries" type="TimeSeries" minOccurs="1"
306 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
307 cim16#MarketDocument.TimeSeries"/>
308         </xs:sequence>
309     </xs:complexType>
310     <xs:simpleType name="Position_Integer" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
311 schema-cim16#Integer">
312         <xs:restriction base="xs:integer">
313             <xs:maxInclusive value="999999"/>
314             <xs:minInclusive value="1"/>
315         </xs:restriction>
316     </xs:simpleType>
317     <xs:simpleType name="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
318 cim16#Decimal">
319         <xs:restriction base="xs:decimal">
320             <xs:totalDigits value="17"/>

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321         </xs:restriction>
322     </xs:simpleType>
323     <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
324 cim16#Point">
325         <xs:sequence>
326             <xs:element name="position" type="Position_Integer" minOccurs="1"
327 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position"/>
328             <xs:element name="quantity" type="xs:decimal" minOccurs="1" maxOccurs="1"
329 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity"/>
330             <xs:element name="price.amount" type="Amount_Decimal" minOccurs="1"
331 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.amount"/>
332         </xs:sequence>
333     </xs:complexType>
334     <xs:simpleType name="ReasonCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
335 schema-cim16#String">
336         <xs:restriction base="ecl:ReasonCodeTypeList"/>
337     </xs:simpleType>
338     <xs:simpleType name="ReasonText_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
339 schema-cim16#String">
340         <xs:restriction base="xs:string">
341             <xs:maxLength value="512"/>
342         </xs:restriction>
343     </xs:simpleType>
344     <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
345 cim16#Reason">
346         <xs:sequence>
347             <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1"
348 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
349             <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1"
350 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text"/>
351         </xs:sequence>
352     </xs:complexType>
353     <xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
354 cim16#Period">
355         <xs:sequence>
356             <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1"
357 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
358             <xs:element name="resolution" type="xs:duration" minOccurs="1" maxOccurs="1"
359 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution"/>
360             <xs:element name="Point" type="Point" minOccurs="1" maxOccurs="unbounded"
361 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point"/>
362         </xs:sequence>
363     </xs:complexType>
364     <xs:simpleType name="AuctionKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
365 schema-cim16#String">
366         <xs:restriction base="ecl:AuctionTypeList"/>
367     </xs:simpleType>
368     <xs:simpleType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
369 schema-cim16#String">
370         <xs:restriction base="ecl:BusinessTypeList"/>
371     </xs:simpleType>
372     <xs:simpleType name="CapacityContractKind_String"
373 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
374         <xs:restriction base="ecl:ContractTypeList"/>
375     </xs:simpleType>
376     <xs:simpleType name="MeasurementUnitKind_String"
377 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
378         <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
379     </xs:simpleType>
380     <xs:simpleType name="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
381 schema-cim16#String">
382         <xs:restriction base="ecl:CurrencyTypeList"/>
383     </xs:simpleType>
384     <xs:simpleType name="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
385 schema-cim16#String">
386         <xs:restriction base="ecl:CurveTypeList"/>
387     </xs:simpleType>
388     <xs:complexType name="TimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
389 cim16#TimeSeries">
390         <xs:sequence>
391             <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
392 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
393             <xs:element name="auction.mRID" type="ID_String" minOccurs="0" maxOccurs="1"
394 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>

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395         <xs:element name="auction.type" type="AuctionKind_String" minOccurs="0"
396 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Auction.type"/>
397         <xs:element name="businessType" type="BusinessKind_String" minOccurs="1"
398 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
399 cim16#TimeSeries.businessType"/>
400         <xs:element name="in_Domain.mRID" type="AreaID_String" minOccurs="1"
401 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
402         <xs:element name="out_Domain.mRID" type="AreaID_String" minOccurs="1"
403 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
404         <xs:element name="marketAgreement.type" type="CapacityContractKind_String"
405 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
406 cim16#Document.type"/>
407         <xs:element name="quantity_Measure_Unit.name"
408 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
409 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
410         <xs:element name="currency_Unit.name" type="CurrencyCode_String" minOccurs="1"
411 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
412         <xs:element name="price_Measure_Unit.name" type="MeasurementUnitKind_String"
413 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
414 cim16#Unit.name"/>
415         <xs:element name="curveType" type="CurveType_String" minOccurs="0"
416 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.curveType"/>
417         <xs:element name="Period" type="Series_Period" minOccurs="1"
418 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
419 cim16#TimeSeries.Period"/>
420         <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
421 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.Reason"/>
422     </xs:sequence>
423 </xs:complexType>
424 </xs:schema>
425

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