



European Network of
Transmission System Operators
for Electricity

RIGHTS DOCUMENT UML MODEL AND SCHEMA

2022-02-01
APPROVED DOCUMENT
VERSION 1.1

2

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Revision History

Version	Release	Date	Comments
0	0	2017-01-19	First drafting of the document.
1	0	2017-01-30	Version to be submitted to Market Committee following WG EDI meeting in March 2017.
1	1	2022-02-01	<p>Updates in rights document XSD v7.1</p> <ul style="list-style-type: none"> Quantity_Measure_Unit.name & Price_Measure_Unit.name attributes were renamed to Quantity_Measurement_Unit.name & Price_Measurement_Unit.name to be compliant with the ESMP. mRID of Document, Series and Timeseries (ID_String type) was enlarged from 35 to 60 characters. <p>Approved by MC.</p>

58

59 **Objective**

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

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

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

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

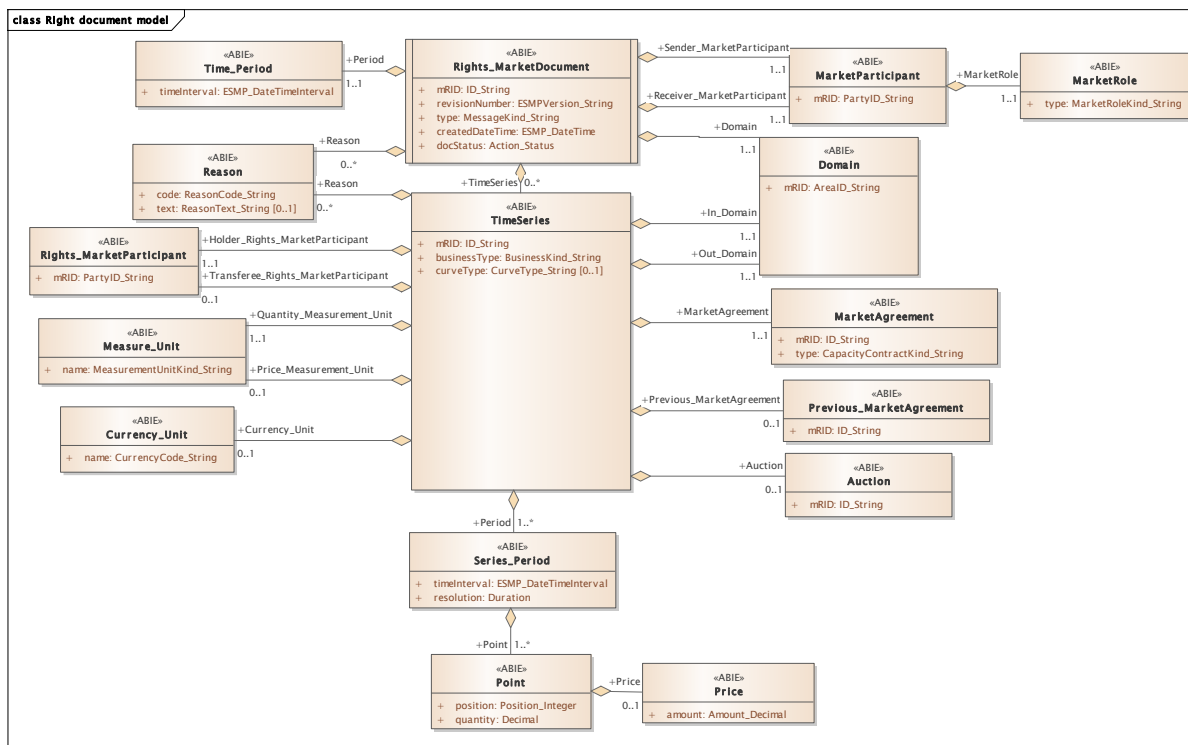
- 67 • Description of the business process;
- 68 • Use case of the business process;
- 69 • Sequence diagrams of the business process;
- 70 • List of the schema (XSD) to be used in the business process and versions of the
71 schema;
- 72 • For each schema, dependency tables providing the necessary information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

75 **Rights_MarketDocument**

76 **2.1 Rights contextual model**

77 **2.1.1 Overview of the model**

78 Figure 1 shows the model.



79

80

81

Figure 1 - Rights contextual model

82

83 **2.1.2 IsBasedOn relationships from the European style market profile**

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

86

Table 1 - IsBasedOn dependency

Name	Complete IsBasedOn Path
Auction	TC57CIM::IEC62325::MarketManagement::Auction
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
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
Previous_MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
Price	TC57CIM::IEC62325::MarketManagement::Price
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Rights_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Rights_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

87

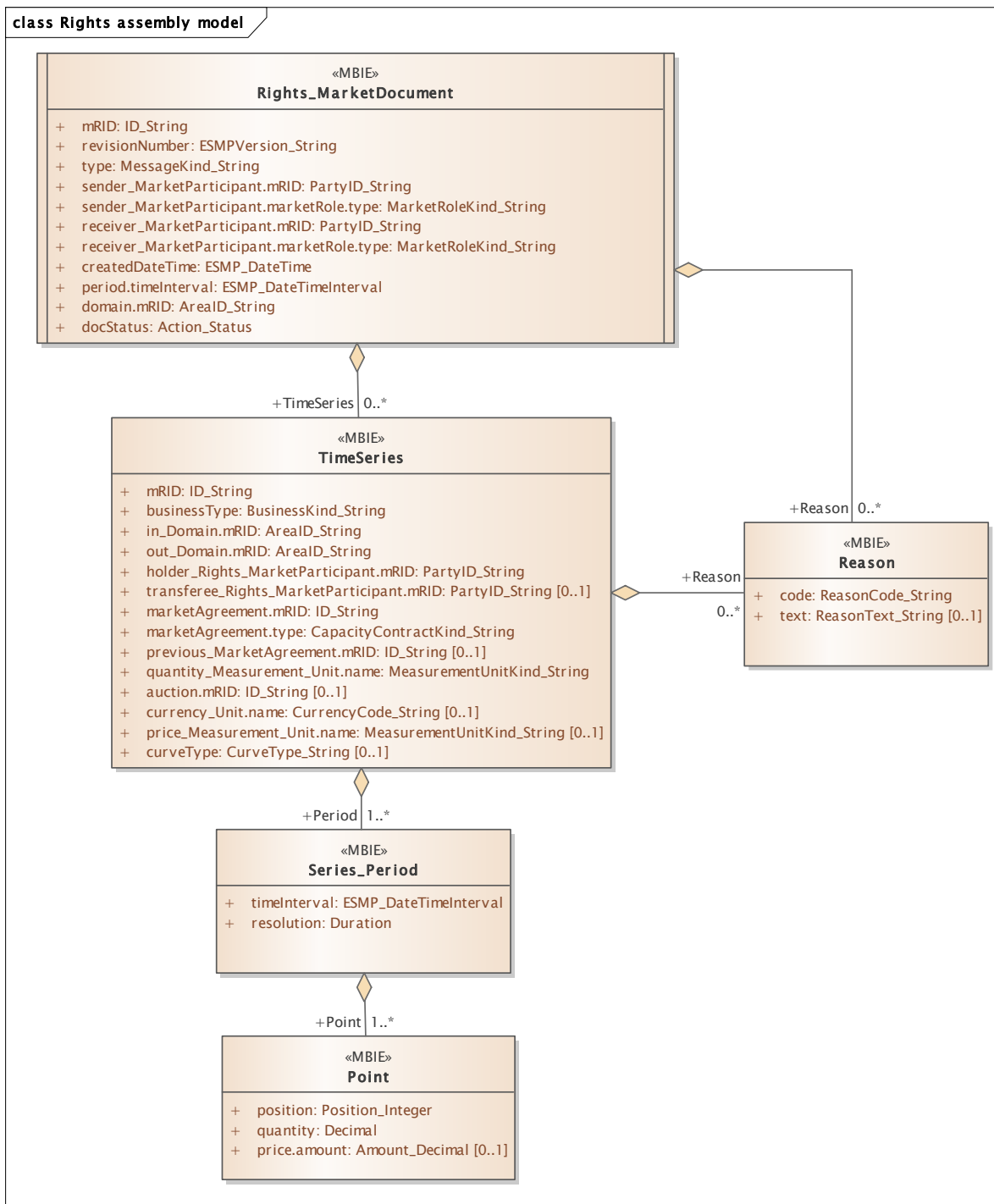
88

89

90 **2.2 Rights assembly model**

91 **2.2.1 Overview of the model**

92 Figure 2 shows the model.



93

94

Figure 2 - Rights assembly model

95

96

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
Point	TC57CIM::IEC62325::MarketManagement::Point
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Rights_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

101

102 **2.2.3 Detailed Rights assembly model**

103 **2.2.3.1 Rights_MarketDocument root class**

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

106 The rights document may be sent by a capacity trader to inform the auction office of a transfer
107 of rights.

108 It may also be sent by the auction office to inform the nomination validator of the parties who
109 have transmission rights for a given period.

110 The nomination validator may also use this document to inform an interconnection trade
111 responsible of the rights he may use for nomination.

112 Table 3 shows all attributes of Rights_MarketDocument.

113

Table 3 - Attributes of Rights assembly model::Rights_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.

Order	mult.	Attribute name / Attribute type	Description
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 covered by the document.
9	[1..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The domain covered within the rights document.
10	[1..1]	docStatus Action_Status	The identification of the condition or position of the document with regard to its standing.

114

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

116 **Table 4 - Association ends of Rights assembly model::Rights_MarketDocument with**
117 **other classes**

Order	mult.	Class name / Role	Description
11	[0..*]	TimeSeries TimeSeries	Association Based On: Rights contextual model::TimeSeries.TimeSeries[0..*] ----- Rights contextual model::Rights_MarketDocument.[]
12	[0..*]	Reason Reason	Association Based On: Rights contextual model::Reason.Reason[0..*] ----- Rights contextual model::Rights_MarketDocument.[]

118

119 2.2.3.2 Point

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

121 Table 5 shows all attributes of Point.

122 **Table 5 - Attributes of Rights 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 that has been assigned to the nomination party for the interval in question and that is expressed in the measurement unit. The principal quantity identified for a point.
2	[0..1]	price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- The price expressed for each unit of quantity as the minimum selling price. The price indicated in a resale document equal to or above which the quantity may be sold. 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. The price amount is mandatory in the case of the resale of capacity for a minimum price depending on local market rules.

123

124 2.2.3.3 Reason

125 The motivation of an act.

126 Table 6 shows all attributes of Reason.

127

Table 6 - Attributes of Rights 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.

128

129 2.2.3.4 Series_Period

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

131 Table 7 shows all attributes of Series_Period.

132

Table 7 - Attributes of Rights 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.

133

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

135 **Table 8 - Association ends of Rights assembly model::Series_Period with other classes**

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

136

137 2.2.3.5 TimeSeries

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

139 Table 9 shows all attributes of TimeSeries.

140

Table 9 - Attributes of Rights assembly model::TimeSeries

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
2	[1..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is to be put.
3	[1..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is coming from.

Order	mult.	Attribute name / Attribute type	Description
4	[1..1]	holder_Rights_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Identification of the party who is owner of, or has the right to use, the transmission rights in question. Whenever rights are transferred, the rights holder is the transferor of the rights.
5	[0..1]	transferee_Rights_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Identification of the party to whom the rights are being transferred or the Interconnection Trade Responsible designated by the transferor (as designated in the RightsHolder attribute) to use the rights. In certain cases the transferee party also acts as Interconnection Trade Responsible.
6	[1..1]	marketAgreement.mRID ID_String	The unique identification of the agreement.
7	[1..1]	marketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract.
8	[0..1]	previous_MarketAgreement.mRID ID_String	The unique identification of the agreement. --- The identification of a previous contract used to identify the transfer rights.
9	[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 that is applied to the quantities in which the time series is expressed, e.g. MAW.
10	[0..1]	auction.mRID ID_String	The unique identification of the auction. --- The identification linking the capacity rights to a set of specifications created by the transmission capacity allocator. A unique identification of the set of specifications that clearly defines the auction to which the capacity rights submitted by the capacity trader are to be re-auctioned.
11	[0..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.
12	[0..1]	price_Measurement_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 (MW per unit, MWh per unit, etc.).
13	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

141

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

143 **Table 10 - Association ends of Rights assembly model::TimeSeries with other classes**

Order	mult.	Class name / Role	Description
14	[1..*]	Series_Period Period	Association Based On: Rights contextual model::Series_Period.Period[1..*] ----- Rights contextual model::TimeSeries.[]
15	[0..*]	Reason Reason	Association Based On: Rights contextual model::Reason.Reason[0..*] ----- Rights contextual model::TimeSeries.[]

144

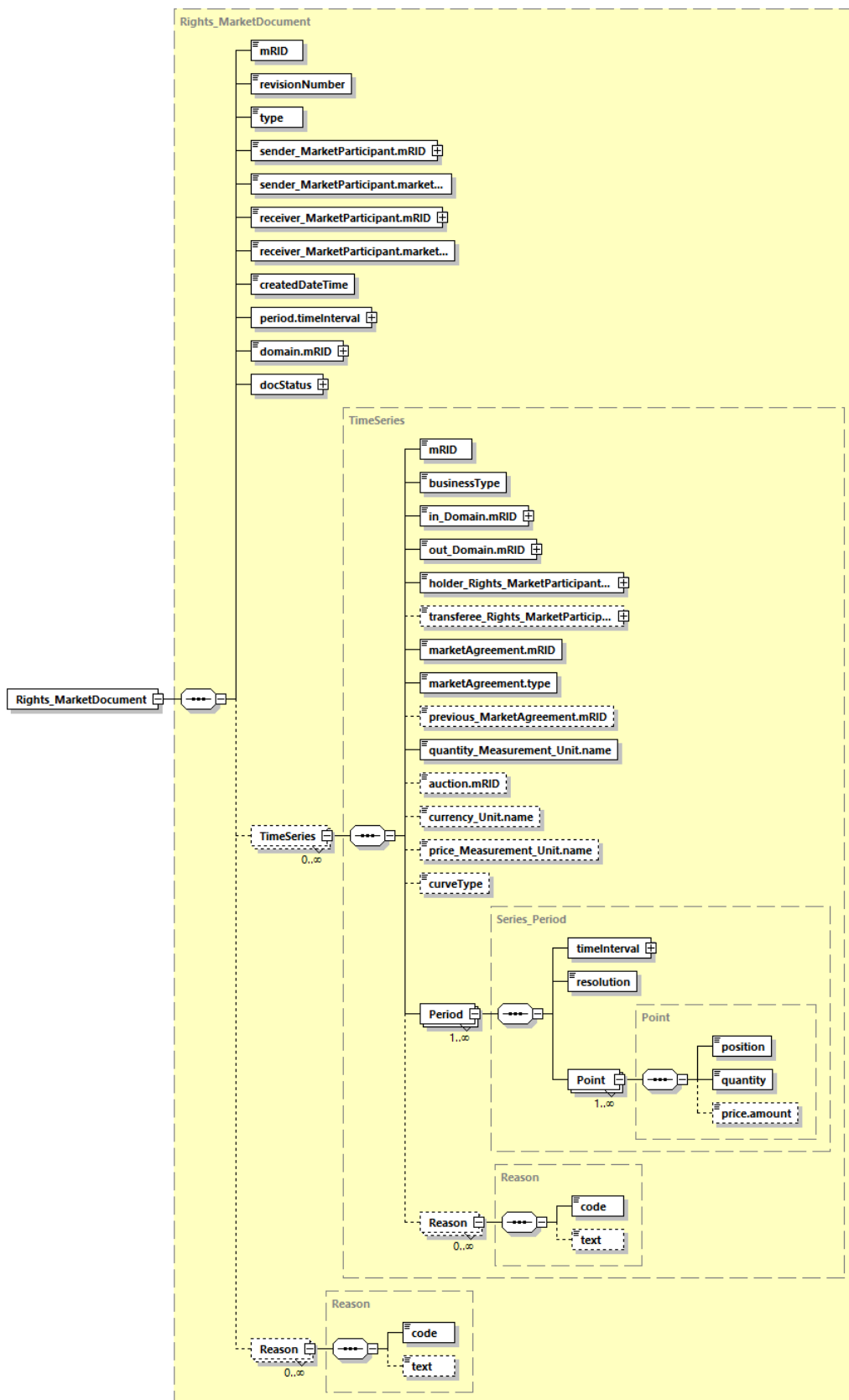
145 **2.2.4 Datatypes**

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

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

167 **2.2.5 Rights_MarketDocument XML schema structure**

168 Figure 3 provides the structure of the schema.



169

170

Figure 3 - Rights_MarketDocument schema structure

171

172 2.2.6 Rights_MarketDocument XML schema

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

174 urn:iec62325.351:tc57wg16:451-3:rightsdocument:7:1

```

175 <?xml version="1.0" encoding="utf-8"?>
176 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
177 xmlns="urn:iec62325.351:tc57wg16:451-3:rightsdocument:7:1"
178 xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
179 xmlns:cimp="http://www.iec.ch/cimprofile"
180 xmlns:xs="http://www.w3.org/2001/XMLSchema"
181 targetNamespace="urn:iec62325.351:tc57wg16:451-3:rightsdocument:7:1"
182 elementFormDefault="qualified" attributeFormDefault="unqualified">
183   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
184 entsoe-eu-wgedi-codelists.xsd"/>
185   <xs:element name="Rights_MarketDocument" type="Rights_MarketDocument"/>
186   <xs:simpleType name="Position_Integer"
187 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
188     <xs:restriction base="xs:integer">
189       <xs:maxInclusive value="999999"/>
190       <xs:minInclusive value="1"/>
191     </xs:restriction>
192   </xs:simpleType>
193   <xs:simpleType name="Amount_Decimal"
194 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Decimal">
195     <xs:restriction base="xs:decimal">
196       <xs:totalDigits value="17"/>
197     </xs:restriction>
198   </xs:simpleType>
199   <xs:complexType name="Point"
200 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
201     <xs:sequence>
202       <xs:element name="position" type="Position_Integer"
203 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
204 schema-cim16#Point.position"/>
205       <xs:element name="quantity" type="xs:decimal" minOccurs="1"
206 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
207 cim16#Point.quantity"/>
208       <xs:element name="price.amount" type="Amount_Decimal"
209 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
210 schema-cim16#Price.amount"/>
211     </xs:sequence>
212   </xs:complexType>
213   <xs:simpleType name="ReasonCode_String"
214 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
215     <xs:restriction base="ecl:ReasonCodeTypeList"/>
216   </xs:simpleType>
217   <xs:simpleType name="ReasonText_String"
218 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
219     <xs:restriction base="xs:string">
220       <xs:maxLength value="512"/>
221     </xs:restriction>
222   </xs:simpleType>
223   <xs:complexType name="Reason"
224 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
225     <xs:sequence>

```

```

226         <xs:element name="code" type="ReasonCode_String" minOccurs="1"
227 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
228 cim16#Reason.code"/>
229         <xs:element name="text" type="ReasonText_String" minOccurs="0"
230 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
231 cim16#Reason.text"/>
232     </xs:sequence>
233 </xs:complexType>
234 <xs:simpleType name="ID_String"
235 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
236     <xs:restriction base="xs:string">
237         <xs:maxLength value="60"/>
238     </xs:restriction>
239 </xs:simpleType>
240 <xs:simpleType name="ESMPVersion_String"
241 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
242     <xs:restriction base="xs:string">
243         <xs:pattern value="[1-9]([0-9]){0,2}"/>
244     </xs:restriction>
245 </xs:simpleType>
246 <xs:simpleType name="MessageKind_String"
247 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
248     <xs:restriction base="ecl:MessageTypeList"/>
249 </xs:simpleType>
250 <xs:simpleType name="PartyID_String-base"
251 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
252     <xs:restriction base="xs:string">
253         <xs:maxLength value="16"/>
254     </xs:restriction>
255 </xs:simpleType>
256 <xs:complexType name="PartyID_String"
257 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
258     <xs:simpleContent>
259         <xs:extension base="PartyID_String-base">
260             <xs:attribute name="codingScheme"
261 type="ecl:CodingSchemeTypeList" use="required"/>
262         </xs:extension>
263     </xs:simpleContent>
264 </xs:complexType>
265 <xs:simpleType name="MarketRoleKind_String"
266 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
267     <xs:restriction base="ecl:RoleTypeList"/>
268 </xs:simpleType>
269 <xs:simpleType name="ESMP_DateTime"
270 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
271     <xs:restriction base="xs:dateTime">
272         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
273 9]|[12][0-9]|3[01]))|((0[0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-
274 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
275 9])Z)|(((13579)[26][02468][048]|13579[01345789](0)[48]|13579[01345789][2468][0
276 48]|02468[048][02468][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|
277 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
278 5][0-9]:[0-5][0-
279 9])Z)|(((13579)[26][02468][1235679]|13579[01345789](0)[01235679]|13579[0134578
280 9][2468][1235679]|02468[048][02468][1235679]|02468[1235679](0)[01235679]|0246
281 8[1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
282 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
283     </xs:restriction>
284 </xs:simpleType>

```



```

285     <xs:simpleType name="AreaID_String-base"
286 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
287     <xs:restriction base="xs:string">
288         <xs:maxLength value="18"/>
289     </xs:restriction>
290 </xs:simpleType>
291 <xs:complexType name="AreaID_String"
292 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
293     <xs:simpleContent>
294         <xs:extension base="AreaID_String-base">
295             <xs:attribute name="codingScheme"
296 type="ecl:CodingSchemeTypeList" use="required"/>
297         </xs:extension>
298     </xs:simpleContent>
299 </xs:complexType>
300 <xs:simpleType name="Status_String"
301 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
302     <xs:restriction base="ecl:StatusTypeList"/>
303 </xs:simpleType>
304 <xs:complexType name="Action_Status"
305 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status">
306     <xs:sequence>
307         <xs:element name="value" type="Status_String" minOccurs="1"
308 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
309 cim16#Status.value"/>
310     </xs:sequence>
311 </xs:complexType>
312 <xs:simpleType name="YMDHM_DateTime"
313 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
314     <xs:restriction base="xs:string">
315         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
316 9]|12)[0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-
317 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-
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320 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
321 5][0-
322 9])Z)|(((13579)[26][02468][1235679]|13579[01345789](0)[01235679]|13579[0134578
323 9][2468][1235679]|02468[048][02468][1235679]|02468[1235679](0)[01235679]|0246
324 8[1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
325 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
326     </xs:restriction>
327 </xs:simpleType>
328 <xs:complexType name="ESMP_DateTimeInterval"
329 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
330     <xs:sequence>
331         <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
332 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
333 cim16#DateTimeInterval.start"/>
334         <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
335 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
336 cim16#DateTimeInterval.end"/>
337     </xs:sequence>
338 </xs:complexType>
339 <xs:complexType name="Rights_MarketDocument"
340 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
341     <xs:sequence>
342         <xs:element name="mRID" type="ID_String" minOccurs="1"
343 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
344 cim16#IdentifiedObject.mRID"/>

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345         <xs:element name="revisionNumber" type="ESMPVersion_String"
346 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
347 schema-cim16#Document.revisionNumber"/>
348         <xs:element name="type" type="MessageKind_String" minOccurs="1"
349 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
350 cim16#Document.type"/>
351         <xs:element name="sender_MarketParticipant.mRID"
352 type="PartyID_String" minOccurs="1" maxOccurs="1"
353 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
354 cim16#IdentifiedObject.mRID"/>
355         <xs:element name="sender_MarketParticipant.marketRole.type"
356 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
357 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
358         <xs:element name="receiver_MarketParticipant.mRID"
359 type="PartyID_String" minOccurs="1" maxOccurs="1"
360 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
361 cim16#IdentifiedObject.mRID"/>
362         <xs:element name="receiver_MarketParticipant.marketRole.type"
363 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
364 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
365         <xs:element name="createdDateTime" type="ESMP_DateTime"
366 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
367 schema-cim16#Document.createdDateTime"/>
368         <xs:element name="period.timeInterval"
369 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
370 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
371 cim16#Period.timeInterval"/>
372         <xs:element name="domain.mRID" type="AreaID_String"
373 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
374 schema-cim16#IdentifiedObject.mRID"/>
375         <xs:element name="docStatus" type="Action_Status" minOccurs="1"
376 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
377 cim16#Document.docStatus"/>
378         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
379 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
380 cim16#MarketDocument.TimeSeries"/>
381         <xs:element name="Reason" type="Reason" minOccurs="0"
382 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
383 cim16#MarketDocument.Reason"/>
384     </xs:sequence>
385 </xs:complexType>
386 <xs:complexType name="Series_Period"
387 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
388     <xs:sequence>
389         <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
390 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
391 schema-cim16#Period.timeInterval"/>
392         <xs:element name="resolution" type="xs:duration" minOccurs="1"
393 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
394 cim16#Period.resolution"/>
395         <xs:element name="Point" type="Point" minOccurs="1"
396 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
397 cim16#Period.Point"/>
398     </xs:sequence>
399 </xs:complexType>
400 <xs:simpleType name="BusinessKind_String"
401 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
402     <xs:restriction base="ecl:BusinessTypeList"/>
403 </xs:simpleType>

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404     <xs:simpleType name="CapacityContractKind_String"
405 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
406     <xs:restriction base="ecl:ContractTypeList"/>
407     </xs:simpleType>
408     <xs:simpleType name="MeasurementUnitKind_String"
409 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
410     <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
411     </xs:simpleType>
412     <xs:simpleType name="CurrencyCode_String"
413 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
414     <xs:restriction base="ecl:CurrencyTypeList"/>
415     </xs:simpleType>
416     <xs:simpleType name="CurveType_String"
417 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
418     <xs:restriction base="ecl:CurveTypeList"/>
419     </xs:simpleType>
420     <xs:complexType name="TimeSeries"
421 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
422     <xs:sequence>
423         <xs:element name="mRID" type="ID_String" minOccurs="1"
424 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
425 cim16#IdentifiedObject.mRID"/>
426         <xs:element name="businessType" type="BusinessKind_String"
427 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
428 schema-cim16#TimeSeries.businessType"/>
429         <xs:element name="in_Domain.mRID" type="AreaID_String"
430 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
431 schema-cim16#IdentifiedObject.mRID"/>
432         <xs:element name="out_Domain.mRID" type="AreaID_String"
433 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
434 schema-cim16#IdentifiedObject.mRID"/>
435         <xs:element name="holder_Rights_MarketParticipant.mRID"
436 type="PartyID_String" minOccurs="1" maxOccurs="1"
437 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
438 cim16#IdentifiedObject.mRID"/>
439         <xs:element name="transferee_Rights_MarketParticipant.mRID"
440 type="PartyID_String" minOccurs="0" maxOccurs="1"
441 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
442 cim16#IdentifiedObject.mRID"/>
443         <xs:element name="marketAgreement.mRID" type="ID_String"
444 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
445 schema-cim16#IdentifiedObject.mRID"/>
446         <xs:element name="marketAgreement.type"
447 type="CapacityContractKind_String" minOccurs="1" maxOccurs="1"
448 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
449         <xs:element name="previous_MarketAgreement.mRID"
450 type="ID_String" minOccurs="0" maxOccurs="1"
451 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
452 cim16#IdentifiedObject.mRID"/>
453         <xs:element name="quantity_Measurement_Unit.name"
454 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
455 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
456         <xs:element name="auction.mRID" type="ID_String" minOccurs="0"
457 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
458 cim16#IdentifiedObject.mRID"/>
459         <xs:element name="currency_Unit.name"
460 type="CurrencyCode_String" minOccurs="0" maxOccurs="1"
461 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>

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462         <xs:element name="price_Measurement_Unit.name"
463 type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"
464 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
465         <xs:element name="curveType" type="CurveType_String"
466 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
467 schema-cim16#TimeSeries.curveType"/>
468         <xs:element name="Period" type="Series_Period" minOccurs="1"
469 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
470 cim16#TimeSeries.Period"/>
471         <xs:element name="Reason" type="Reason" minOccurs="0"
472 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
473 cim16#TimeSeries.Reason"/>
474     </xs:sequence>
475 </xs:complexType>
476 </xs:schema>
477
```