



European Network of
Transmission System Operators
for Electricity

RIGHTS DOCUMENT UML MODEL AND SCHEMA

2017-01-19
VERSION 1.0

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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.

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 Rights_MarketDocument.

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

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

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

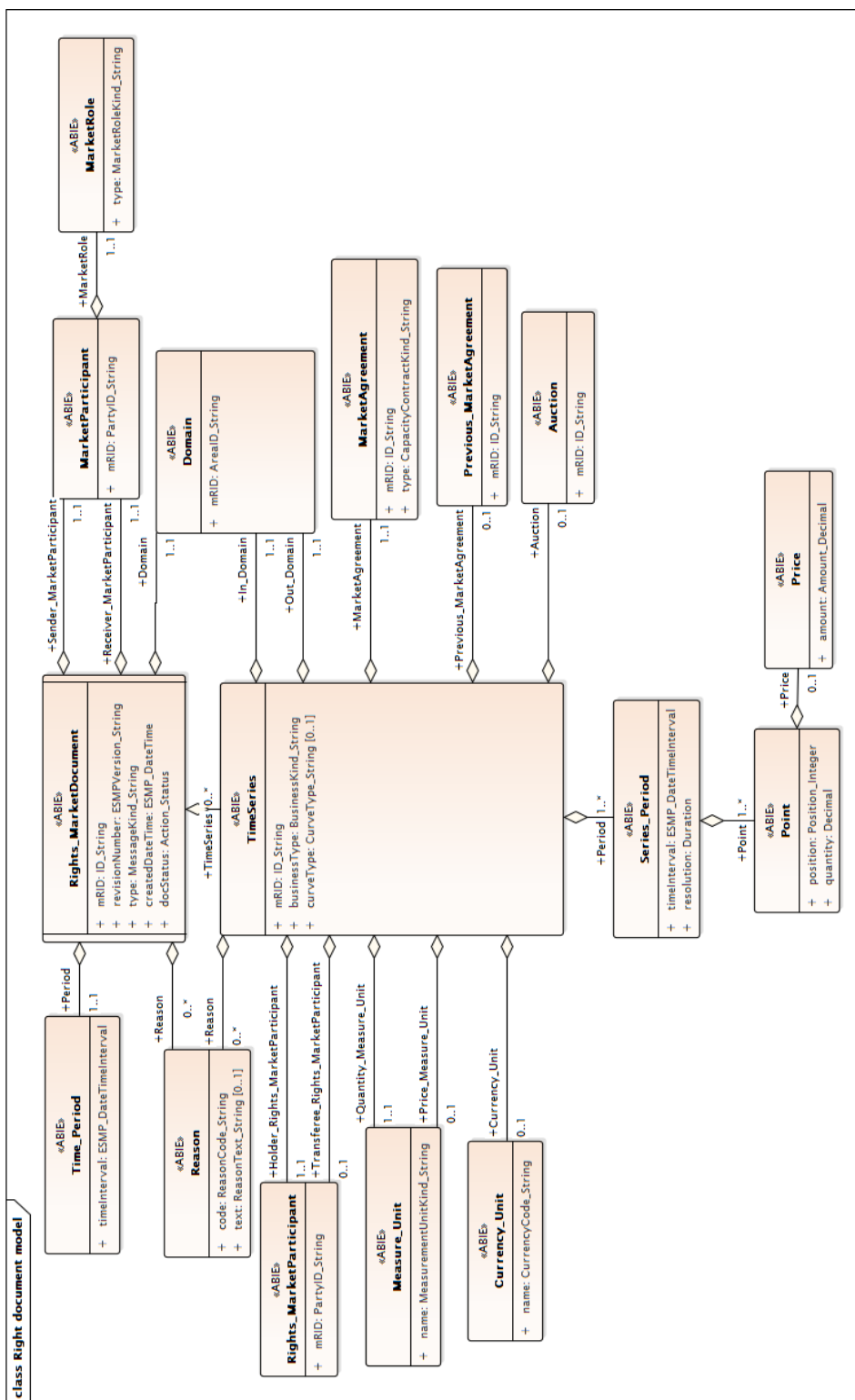
- 69 • Description of the business process;
- 70 • Use case of the business process;
- 71 • Sequence diagrams of the business process;
- 72 • List of the schema (XSD) to be used in the business process and versions of the
73 schema;
- 74 • For each schema, dependency tables providing the necessary information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

77 **2 Rights_MarketDocument**

78 **2.1 Rights contextual model**

79 **2.1.1 Overview of the model**

80 Figure 1 shows the model.



81

82

Figure 1 - Rights contextual model

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**

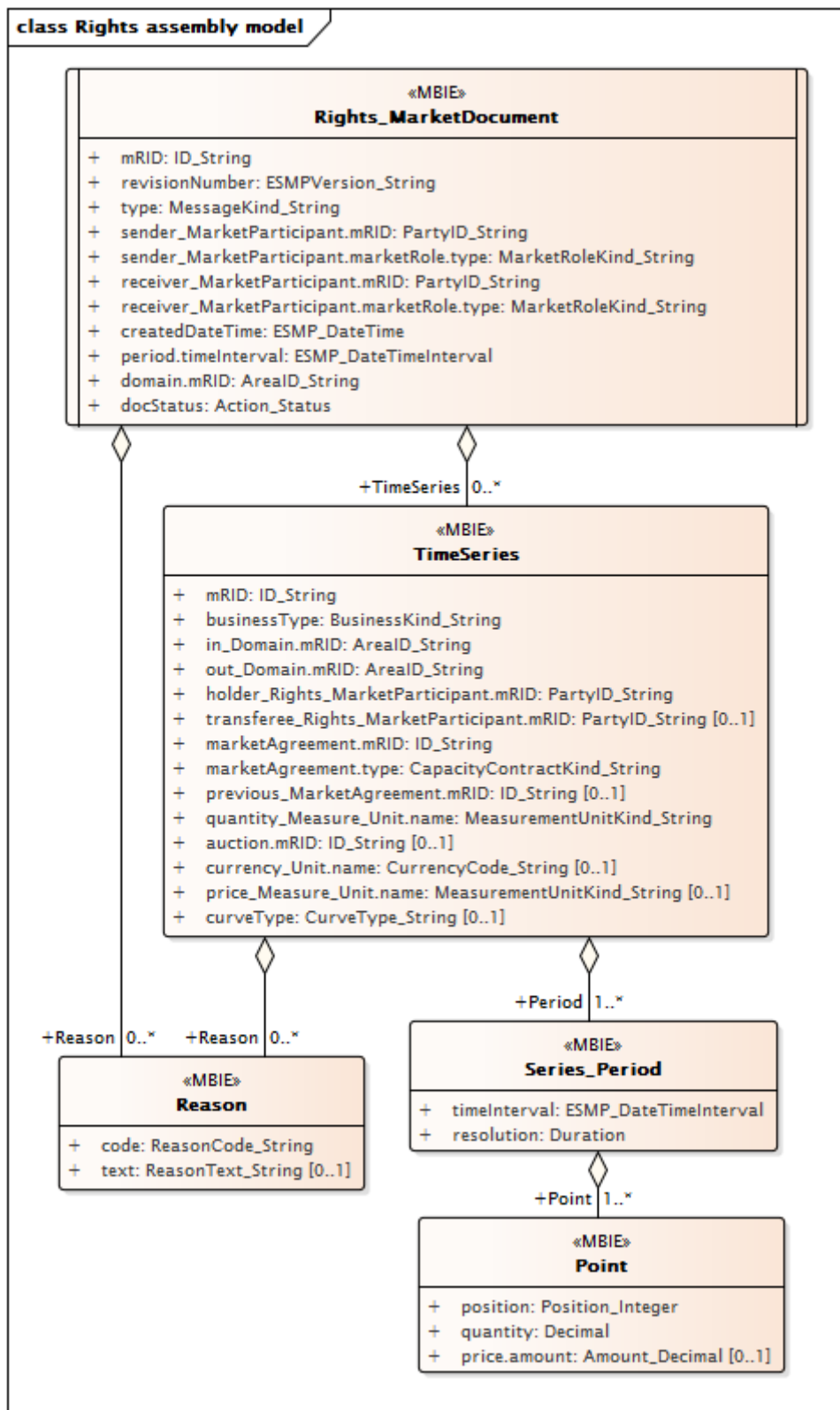
Name	Complete IsBasedOn Path
Auction	TC57CIM::IEC62325::MarketManagement::Auction
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
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 **2.2 Rights assembly model**

89 **2.2.1 Overview of the model**

90 Figure 2 shows the model.



91

92

Figure 2 - Rights assembly model

93 **2.2.2 IsBasedOn relationships from the European style market profile**

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

96 **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

97

98 **2.2.3 Detailed Rights assembly model**

99 **2.2.3.1 Rights_MarketDocument root class**

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

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

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

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

108 Table 3 shows all attributes of Rights_MarketDocument.

109 **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.
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.

Order	mult.	Attribute name / Attribute type	Description
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.

110

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

112 **Table 4 - Association ends of Rights assembly model::Rights_MarketDocument with**
113 **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.[]

114

115 2.2.3.2 Point

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

117 Table 5 shows all attributes of Point.

118 **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.

119

120 2.2.3.3 Reason

121 The motivation of an act.

122 Table 6 shows all attributes of Reason.

123

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.

124

125 2.2.3.4 Series_Period

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

127 Table 7 shows all attributes of Series_Period.

128

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.

129

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

131 **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.[]

132

133 2.2.3.5 TimeSeries

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

135 Table 9 shows all attributes of TimeSeries.

136

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_Measure_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_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 (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.

137

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

139 **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.[]

140

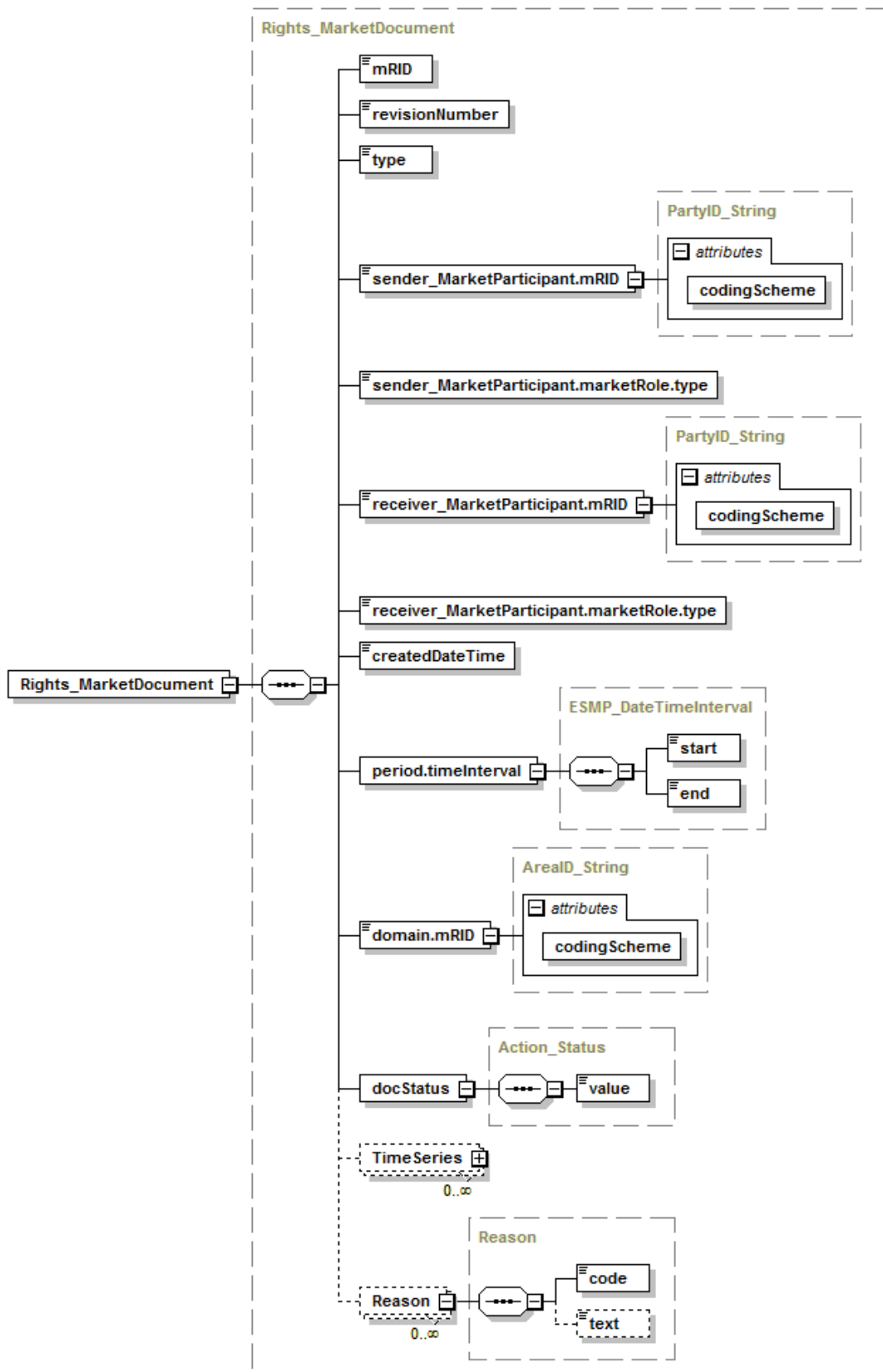
141 **2.2.4 Datatypes**

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

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

163 **2.2.5 Rights_MarketDocument XML schema structure**

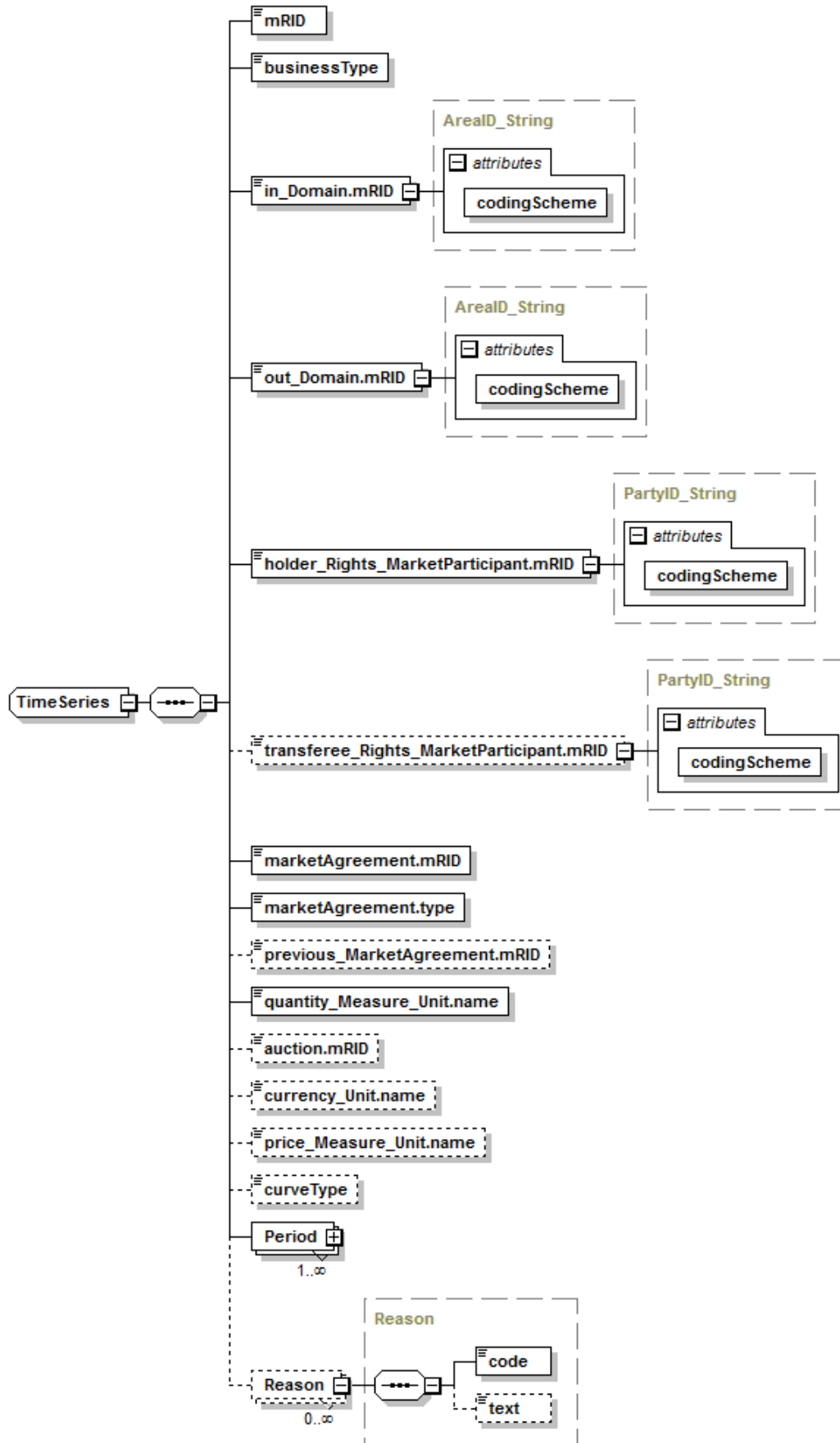
164 Figure 3 to Figure 5 provide the structure of the schema.



165

166

Figure 3 - Rights_MarketDocument schema structure 1/3



167

168

Figure 4 - Rights_MarketDocument schema structure 2/3

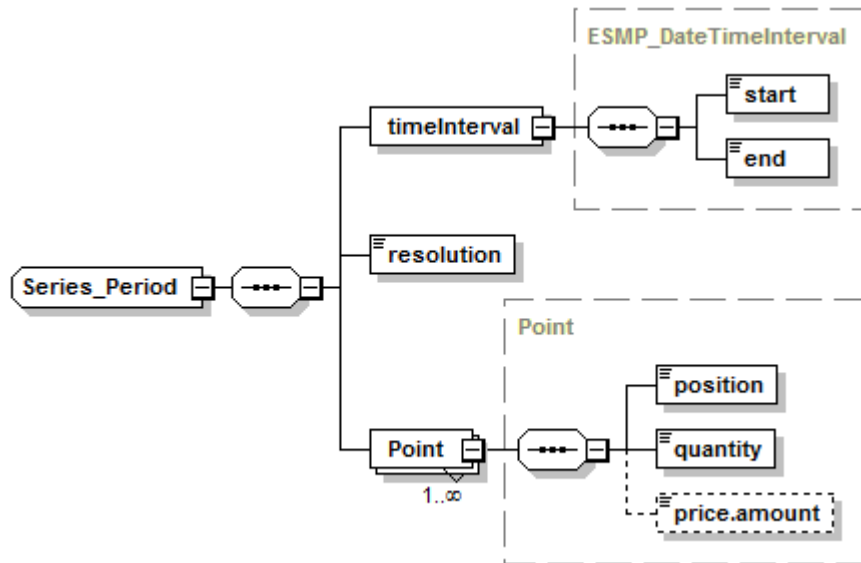


Figure 5 - Rights_MarketDocument schema structure 3/3

2.2.6 Rights_MarketDocument XML schema

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

urn:iec62325.351:tc57wg16:451-3:rightsdocument:7:0

```

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

```



```

212     <xs:simpleType name="ReasonCode_String"
213 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
214     <xs:restriction base="cl:ReasonCodeTypeList" />
215     </xs:simpleType>
216     <xs:simpleType name="ReasonText_String"
217 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
218     <xs:restriction base="xs:string">
219     <xs:maxLength value="512" />
220     </xs:restriction>
221     </xs:simpleType>
222     <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
223 schema-cim16#Reason">
224     <xs:sequence>
225     <xs:element minOccurs="1" maxOccurs="1" name="code" type="ReasonCode_String"
226 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code">
227     </xs:element>
228     <xs:element minOccurs="0" maxOccurs="1" name="text" type="ReasonText_String"
229 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text">
230     </xs:element>
231     </xs:sequence>
232     </xs:complexType>
233     <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
234 schema-cim16#String">
235     <xs:restriction base="xs:string">
236     <xs:maxLength value="35" />
237     </xs:restriction>
238     </xs:simpleType>
239     <xs:simpleType name="ESMPVersion_String"
240 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
241     <xs:restriction base="xs:string">
242     <xs:pattern value="[1-9]([0-9]){0,2}" />
243     </xs:restriction>
244     </xs:simpleType>
245     <xs:simpleType name="MessageKind_String"
246 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
247     <xs:restriction base="cl:MessageTypeList" />
248     </xs:simpleType>
249     <xs:simpleType name="PartyID_String-base"
250 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
251     <xs:restriction base="xs:string">
252     <xs:maxLength value="16" />
253     </xs:restriction>
254     </xs:simpleType>
255     <xs:complexType name="PartyID_String"
256 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
257     <xs:simpleContent>
258     <xs:extension base="PartyID_String-base">
259     <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
260 use="required" />
261     </xs:extension>
262     </xs:simpleContent>
263     </xs:complexType>
264     <xs:simpleType name="MarketRoleKind_String"
265 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
266     <xs:restriction base="cl:RoleTypeList" />
267     </xs:simpleType>
268     <xs:simpleType name="ESMP_DateTime"
269 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
270     <xs:restriction base="xs:dateTime">
271     <xs:pattern value="((( [0-9]{4} ) [ - ] ( 0 [13578] | 1 [02] ) [ - ] ( 0 [1-9] | [12] [0-
272 9] | 3 [01] ) ) | ( [0-9]{4} ) [ - ] ( ( 0 [469] ) | ( 11 ) ) [ - ] ( 0 [1-9] | [12] [0-9] | 30 ) ) T ( ( [01] [0-9] | 2 [0-
273 3] ) : [0-5] [0-9] : [0-5] [0-
274 9] ) Z ) | ( ( [13579] [26] [02468] [048] | [13579] [01345789] ( 0 ) [48] | [13579] [01345789] [2468] [048]
275 | [02468] [048] [02468] [048] | [02468] [1235679] ( 0 ) [48] | [02468] [1235679] [2468] [048] | [0-
276 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-
277 9] : [0-5] [0-
278 9] ) Z ) | ( ( [13579] [26] [02468] [1235679] | [13579] [01345789] ( 0 ) [01235679] | [13579] [01345789] [
279 2468] [1235679] | [02468] [048] [02468] [1235679] | [02468] [1235679] ( 0 ) [01235679] | [02468] [123

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280 5679] [2468] [1235679] | [0-9] [0-9] [13579] [01345789]) [\ -] (02) [\ -] (0 [1-9] | 1 [0-9] | 2 [0-
281 8]) T (( [01] [0-9] | 2 [0-3]) : [0-5] [0-9] : [0-5] [0-9]) Z) " />
282 </xs:restriction>
283 </xs:simpleType>
284 <xs:simpleType name="AreaID_String-base"
285 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
286 <xs:restriction base="xs:string">
287 <xs:maxLength value="18" />
288 </xs:restriction>
289 </xs:simpleType>
290 <xs:complexType name="AreaID_String"
291 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
292 <xs:simpleContent>
293 <xs:extension base="AreaID_String-base">
294 <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
295 use="required" />
296 </xs:extension>
297 </xs:simpleContent>
298 </xs:complexType>
299 <xs:simpleType name="Status_String"
300 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
301 <xs:restriction base="cl:StatusTypeList" />
302 </xs:simpleType>
303 <xs:complexType name="Action_Status"
304 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status">
305 <xs:sequence>
306 <xs:element minOccurs="1" maxOccurs="1" name="value" type="Status_String"
307 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status.value">
308 </xs:element>
309 </xs:sequence>
310 </xs:complexType>
311 <xs:simpleType name="YMDHM_DateTime"
312 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
313 <xs:restriction base="xs:string">
314 <xs:pattern value="((( [0-9] {4}) [\ -] (0 [13578] | 1 [02]) [\ -] (0 [1-9] | [12] [0-
315 9] | 3 [01]) | ([0-9] {4}) [\ -] (( [0469] | (11)) [\ -] (0 [1-9] | [12] [0-9] | 30)) T (( [01] [0-9] | 2 [0-
316 3]) : [0-5] [0-
317 9]) Z) | (( [13579] [26] [02468] [048] | [13579] [01345789] (0) [48] | [13579] [01345789] [2468] [048]
318 | [02468] [048] [02468] [048] | [02468] [1235679] (0) [48] | [02468] [1235679] [2468] [048] | [0-
319 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-
320 9]) Z) | (( [13579] [26] [02468] [1235679] | [13579] [01345789] (0) [01235679] | [13579] [01345789] [
321 2468] [1235679] | [02468] [048] [02468] [1235679] | [02468] [1235679] (0) [01235679] | [02468] [123
322 5679] [2468] [1235679] | [0-9] [0-9] [13579] [01345789]) [\ -] (02) [\ -] (0 [1-9] | 1 [0-9] | 2 [0-
323 8]) T (( [01] [0-9] | 2 [0-3]) : [0-5] [0-9]) Z) " />
324 </xs:restriction>
325 </xs:simpleType>
326 <xs:complexType name="ESMP_DateTimeInterval"
327 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
328 <xs:sequence>
329 <xs:element minOccurs="1" maxOccurs="1" name="start" type="YMDHM_DateTime"
330 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
331 cim16#DateTimeInterval.start">
332 </xs:element>
333 <xs:element minOccurs="1" maxOccurs="1" name="end" type="YMDHM_DateTime"
334 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
335 cim16#DateTimeInterval.end">
336 </xs:element>
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 minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
343 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
344 cim16#IdentifiedObject.mRID">
345 </xs:element>
346 <xs:element minOccurs="1" maxOccurs="1" name="revisionNumber"
347 type="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
348 cim16#Document.revisionNumber">

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

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417     <xs:simpleType name="MeasurementUnitKind_String"
418 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
419     <xs:restriction base="cl:UnitOfMeasureTypeList" />
420     </xs:simpleType>
421     <xs:simpleType name="CurrencyCode_String"
422 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
423     <xs:restriction base="cl:CurrencyTypeList" />
424     </xs:simpleType>
425     <xs:simpleType name="CurveType_String"
426 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
427     <xs:restriction base="cl:CurveTypeList" />
428     </xs:simpleType>
429     <xs:complexType name="TimeSeries"
430 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
431     <xs:sequence>
432     <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
433 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
434 cim16#IdentifiedObject.mRID">
435     </xs:element>
436     <xs:element minOccurs="1" maxOccurs="1" name="businessType"
437 type="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
438 cim16#TimeSeries.businessType">
439     </xs:element>
440     <xs:element minOccurs="1" maxOccurs="1" name="in_Domain.mRID"
441 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
442 cim16#IdentifiedObject.mRID">
443     </xs:element>
444     <xs:element minOccurs="1" maxOccurs="1" name="out_Domain.mRID"
445 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
446 cim16#IdentifiedObject.mRID">
447     </xs:element>
448     <xs:element minOccurs="1" maxOccurs="1"
449 name="holder_Rights_MarketParticipant.mRID" type="PartyID_String"
450 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
451 cim16#IdentifiedObject.mRID">
452     </xs:element>
453     <xs:element minOccurs="0" maxOccurs="1"
454 name="transferee_Rights_MarketParticipant.mRID" type="PartyID_String"
455 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
456 cim16#IdentifiedObject.mRID">
457     </xs:element>
458     <xs:element minOccurs="1" maxOccurs="1" name="marketAgreement.mRID"
459 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
460 cim16#IdentifiedObject.mRID">
461     </xs:element>
462     <xs:element minOccurs="1" maxOccurs="1" name="marketAgreement.type"
463 type="CapacityContractKind_String"
464 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type">
465     </xs:element>
466     <xs:element minOccurs="0" maxOccurs="1" name="previous_MarketAgreement.mRID"
467 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
468 cim16#IdentifiedObject.mRID">
469     </xs:element>
470     <xs:element minOccurs="1" maxOccurs="1" name="quantity_Measure_Unit.name"
471 type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
472 schema-cim16#Unit.name">
473     </xs:element>
474     <xs:element minOccurs="0" maxOccurs="1" name="auction.mRID" type="ID_String"
475 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
476 cim16#IdentifiedObject.mRID">
477     </xs:element>
478     <xs:element minOccurs="0" maxOccurs="1" name="currency_Unit.name"
479 type="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
480 cim16#Unit.name">
481     </xs:element>
482     <xs:element minOccurs="0" maxOccurs="1" name="price_Measure_Unit.name"
483 type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
484 schema-cim16#Unit.name">
485     </xs:element>

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486         <xs:element minOccurs="0" maxOccurs="1" name="curveType"  
487 type="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
488 cim16#TimeSeries.curveType">  
489         </xs:element>  
490         <xs:element minOccurs="1" maxOccurs="unbounded" name="Period"  
491 type="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
492 cim16#TimeSeries.Period">  
493         </xs:element>  
494         <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"  
495 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.Reason">  
496         </xs:element>  
497     </xs:sequence>  
498 </xs:complexType>  
499 </xs:schema>
```