



European Network of
Transmission System Operators
for Electricity

**SHORT MEDIUM TERM ADEQUACY
RESULTS DOCUMENT
UML MODEL AND SCHEMA**

2021-04-21
APPROVED DOCUMENT
VERSION 1.0

2

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Revision History

Version	Release	Date	Comments
1	0	2021-04-21	Approved by SOC.

64

65 **1 Objective**

66 The purpose of this document is to provide the contextual and assembly UML models and the
67 schema of the Short Medium Term Adequacy Results document.

68 The schema of the Short Medium Term Adequacy Results document could be used in various
69 business processes.

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

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

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

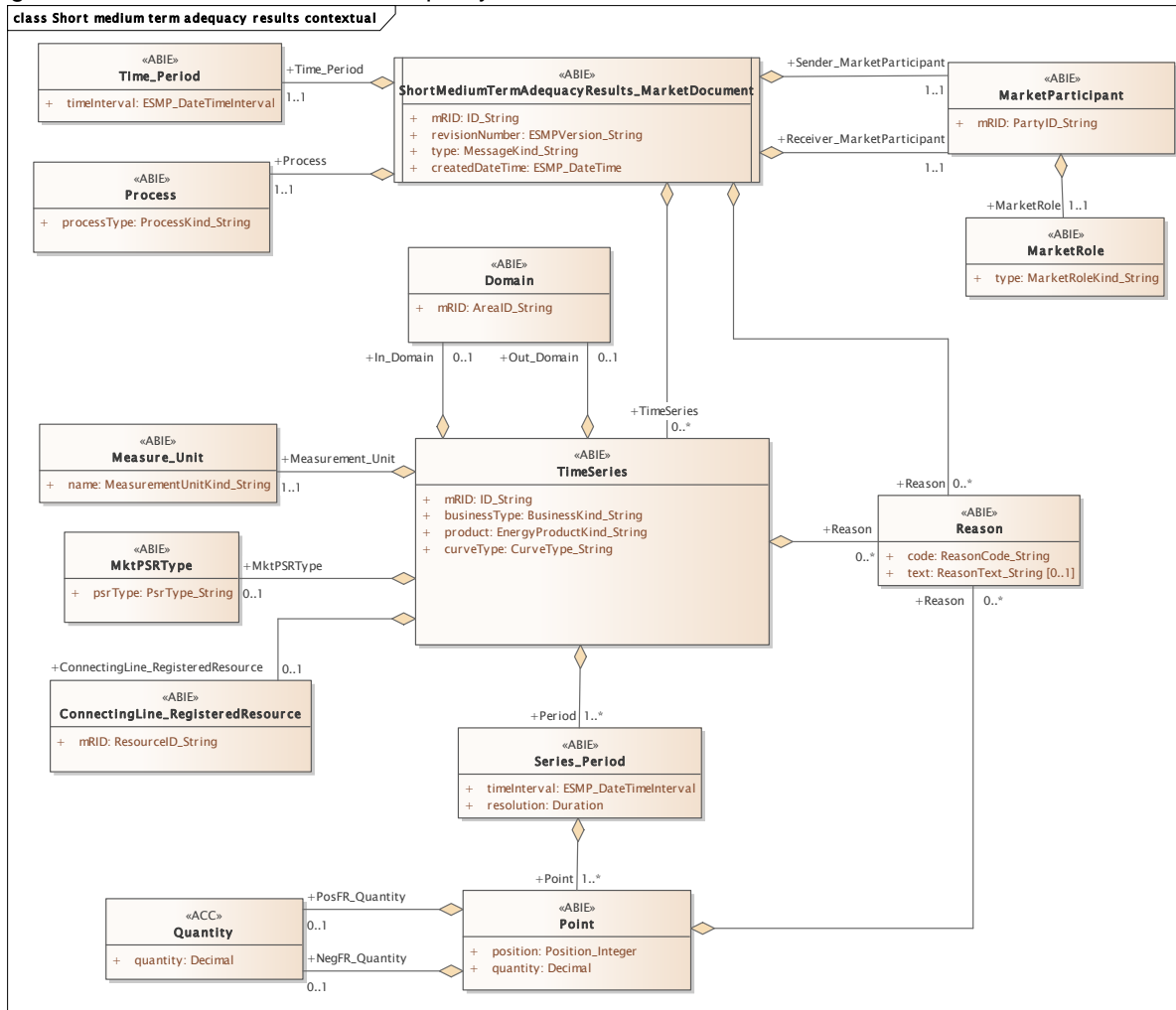
82

83 **2 Short medium term adequacy results model**

84 **2.1 Short medium term adequacy results contextual**

85 **2.1.1 Overview of the model**

86 Figure 1 - Short medium term adequacy results contextual shows the model.



87

88

Figure 1 - Short medium term adequacy results contextual

89

90

91 **2.1.2 IsBasedOn relationships from the European style market profile**

92 Table 1 - IsBasedOn dependency shows the traceability dependency of the classes used in this
93 package towards the upper level.

94

Table 1 - IsBasedOn dependency

Name	Complete IsBasedOn Path
ConnectingLine_RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
MktPSRType	TC57CIM::IEC62325::MarketManagement::MktPSRType
Point	TC57CIM::IEC62325::MarketManagement::Point
Process	TC57CIM::IEC62325::MarketManagement::Process
Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
ShortMediumTermAdequacyResults_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

95

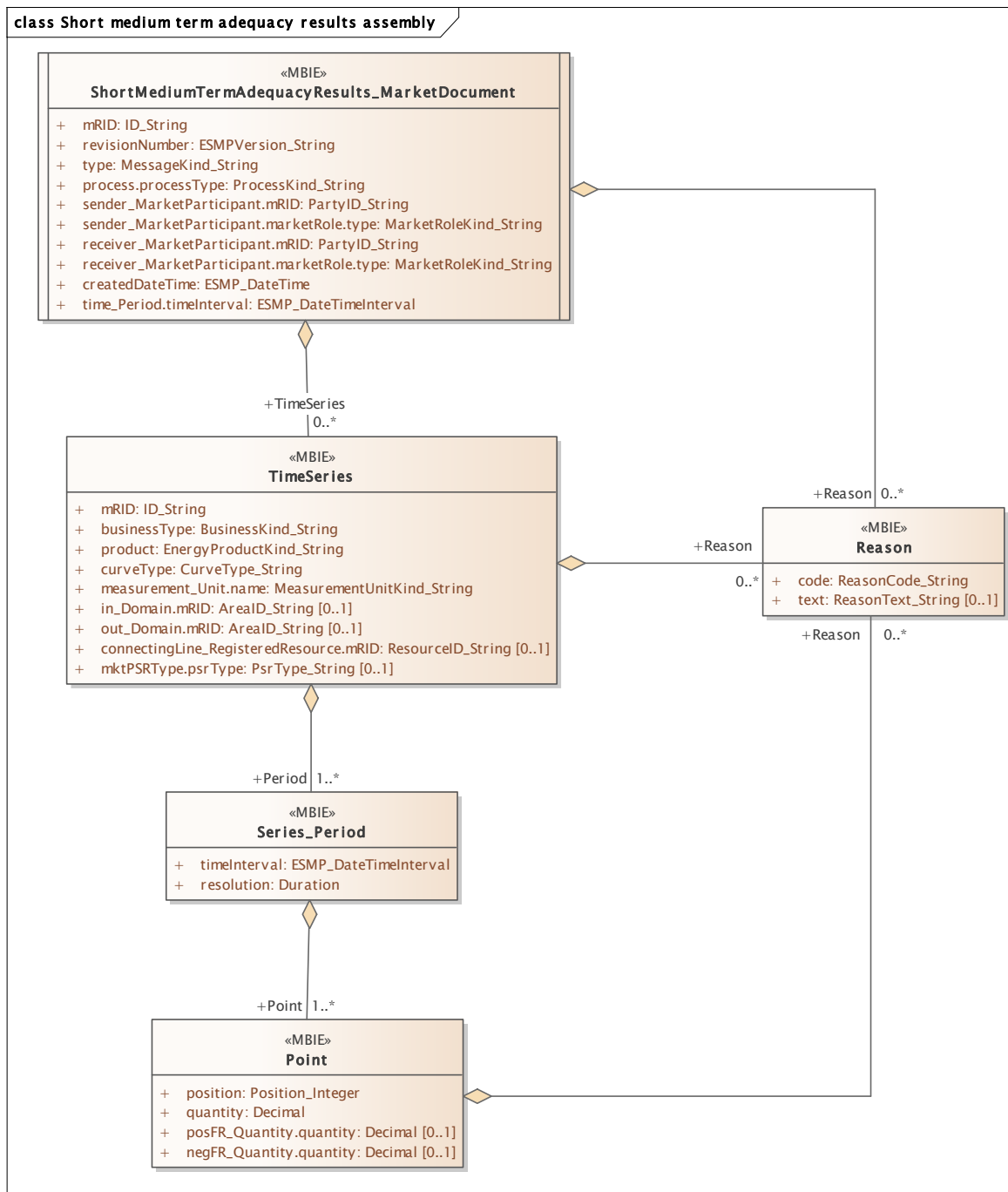
96

97

98 **2.2 Short medium term adequacy results assembly**

99 **2.2.1 Overview of the model**

100 Figure 2 - Short medium term adequacy results assembly shows the model.



101

102

Figure 2 - Short medium term adequacy results assembly

103

104

105 **2.2.2 IsBasedOn relationships from the European style market profile**

106 Table 2 - IsBasedOn dependency shows the traceability dependency of the classes used in this
107 package towards the upper level.

108 **Table 2 - IsBasedOn dependency**

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

109

110 **2.2.3 Detailed Short medium term adequacy results assembly**

111 **2.2.3.1 ShortMediumTermAdequacyResults_MarketDocument root class**

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

114 Table 3 - Attributes of Short medium term adequacy results
115 assembly::ShortMediumTermAdequacyResults_MarketDocument shows all attributes of
116 ShortMediumTermAdequacyResults_MarketDocument.

117 **Table 3 - Attributes of Short medium term adequacy results
118 assembly::ShortMediumTermAdequacyResults_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]	process.processType ProcessKind_String	The identification of the nature of process that the document addresses. --- The Process associated with an electronic document header that is valid for the whole document.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document owner.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document owner. --- The role associated with a MarketParticipant.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document recipient.
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document recipient. --- The role associated with a MarketParticipant.

Order	mult.	Attribute name / Attribute type	Description
8	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
9	[1..1]	time_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The time interval that is associated with an electronic document and which is valid for the whole document.

119

120 Table 4 - Association ends of Short medium term adequacy results
121 assembly::ShortMediumTermAdequacyResults_MarketDocument with other classes shows all
122 association ends of ShortMediumTermAdequacyResults_MarketDocument with other classes.

123 **Table 4 - Association ends of Short medium term adequacy results**
124 **assembly::ShortMediumTermAdequacyResults_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
10	[0..*]	TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: Short medium term adequacy results contextual::TimeSeries.TimeSeries[0..*] ----- Short medium term adequacy results contextual::ShortMediumTermAdequacyResults_MarketDocument.[]
11	[0..*]	Reason Reason	The Reason associated with the electronic document header providing different motivations for the creation of the document. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*] ----- Short medium term adequacy results contextual::ShortMediumTermAdequacyResults_MarketDocument.[]

125

126 2.2.3.2 Point

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

128 Table 5 - Attributes of Short medium term adequacy results assembly::Point shows all attributes
129 of Point.

130 **Table 5 - Attributes of Short medium term adequacy results assembly::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	The principal quantity identified for a point.
2	[0..1]	posFR_Quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.
3	[0..1]	negFR_Quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.

131

132 Table 6 - Association ends of Short medium term adequacy results assembly::Point with other
133 classes shows all association ends of Point with other classes.

134 **Table 6 - Association ends of Short medium term adequacy results assembly::Point**
135 **with other classes**

Order	mult.	Class name / Role	Description
4	[0..*]	Reason Reason	The Reason information associated with a Point providing motivation information. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*] ----- Short medium term adequacy results contextual::Point.[]

136

137 2.2.3.3 Reason

138 The motivation of an act.

139 Table 7 - Attributes of Short medium term adequacy results assembly::Reason shows all
140 attributes of Reason.

141 **Table 7 - Attributes of Short medium term adequacy results assembly::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.

142

143 2.2.3.4 Series_Period

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

145 Table 8 - Attributes of Short medium term adequacy results assembly::Series_Period shows all
146 attributes of Series_Period.

147 **Table 8 - Attributes of Short medium term adequacy results assembly::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.

148

149 Table 9 - Association ends of Short medium term adequacy results assembly::Series_Period
150 with other classes shows all association ends of Series_Period with other classes.

151
152

Table 9 - Association ends of Short medium term adequacy results assembly::Series_Period with other classes

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	The Point information associated with a given Series_Period.within a TimeSeries. Association Based On: Short medium term adequacy results contextual::Point.Point[1..*] ----- Short medium term adequacy results contextual::Series_Period.[]

153

154 **2.2.3.5 TimeSeries**

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

156 In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-
157 ordered information.

158 Table 10 - Attributes of Short medium term adequacy results assembly::TimeSeries shows all
159 attributes of TimeSeries.

160 **Table 10 - Attributes of Short medium term adequacy results assembly::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series. In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides a unique identification in the context of a business exchange such as time series identification, bid identification, ... Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
1	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
2	[1..1]	product EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
3	[1..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.
4	[1..1]	measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.

Order	mult.	Attribute name / Attribute type	Description
6	[0..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The domain associated with a TimeSeries.
7	[0..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The domain associated with a TimeSeries.
8	[0..1]	connectingLine_RegisteredResource.mRID ResourceID_String	The unique identification of a resource. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The identification of a resource associated with a TimeSeries.
9	[0..1]	mktPSRType.psrType PsrType_String	The coded type of a power system resource. --- The identification of the type of resource associated with a TimeSeries.

161

162 Table 11 - Association ends of Short medium term adequacy results assembly::TimeSeries with
163 other classes shows all association ends of TimeSeries with other classes.

164 **Table 11 - Association ends of Short medium term adequacy results**
165 **assembly::TimeSeries with other classes**

Order	mult.	Class name / Role	Description
10	[1..*]	Series_Period Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Short medium term adequacy results contextual::Series_Period.Period[1..*] ----- Short medium term adequacy results contextual::TimeSeries.[]

Order	mult.	Class name / Role	Description
11	[0..*]	Reason Reason	The reason information associated with a TimeSeries providing motivation information. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*] ----- Short medium term adequacy results contextual::TimeSeries.[]

166

167

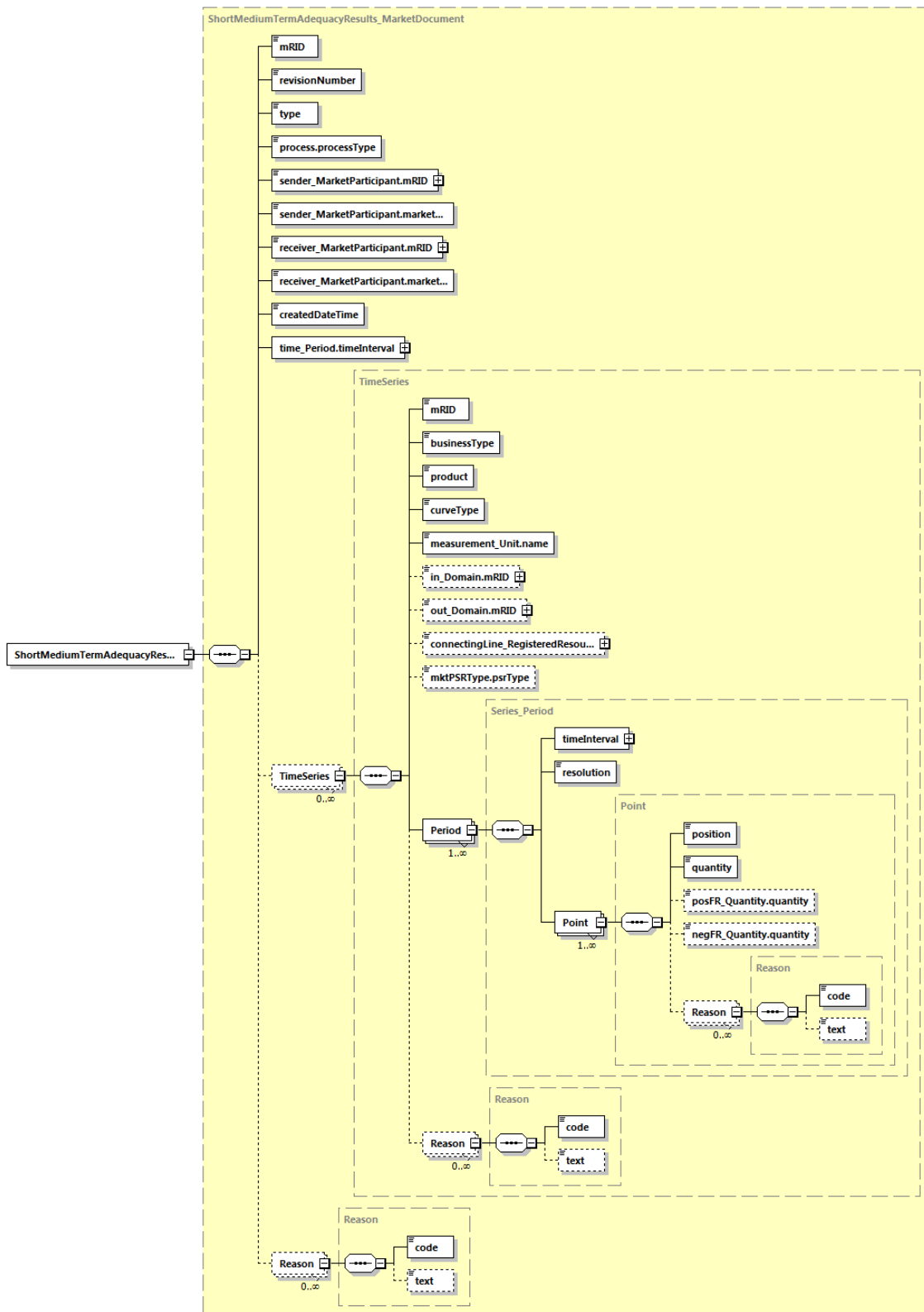
168

169 **2.2.4 Datatypes**

170 The list of datatypes used for the Short medium term adequacy results assembly is as follows:

- 171 • ESMP_DateTimeInterval compound
 - 172 • AreaID_String datatype, codelist CodingSchemeTypeList
 - 173 • BusinessKind_String datatype, codelist BusinessTypeList
 - 174 • CurveType_String datatype, codelist CurveTypeList
 - 175 • EnergyProductKind_String datatype, codelist EnergyProductTypeList
 - 176 • ESMP_DateTime datatype
 - 177 • ESMPVersion_String datatype
 - 178 • ID_String datatype
 - 179 • MarketRoleKind_String datatype, codelist RoleTypeList
 - 180 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
 - 181 • MessageKind_String datatype, codelist MessageTypeList
 - 182 • PartyID_String datatype, codelist CodingSchemeTypeList
 - 183 • Position_Integer datatype
 - 184 • ProcessKind_String datatype, codelist ProcessTypeList
 - 185 • PsrType_String datatype, codelist AssetTypeList
 - 186 • ReasonCode_String datatype, codelist ReasonCodeTypeList
 - 187 • ReasonText_String datatype
 - 188 • ResourceID_String datatype, codelist CodingSchemeTypeList
 - 189 • YMDHM_DateTime datatype
- 190

191 2.2.5 ShortMediumTermAdequacyResults_MarketDocument XML schema



192

Generated by XMLSpy

www.altova.com

193

Figure 3 - ShortMediumTermAdequacyResults_MarketDocument schema structure

194 2.2.6 Short Medium Term Adequacy Prognosis XML schema

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

196 urn:iec62325.351:tc57wg16:451-n:smtareultsdocument:1:0

```
197
198 <?xml version="1.0" encoding="utf-8"?>
199 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
200 xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:iec62325.351:tc57wg16:451-
201 n:smtareultsdocument:1:0" xmlns:cimp="http://www.iec.ch/cimprofile"
202 xmlns:xs="http://www.w3.org/2001/XMLSchema"
203 targetNamespace="urn:iec62325.351:tc57wg16:451-n:smtareultsdocument:1:0"
204 elementFormDefault="qualified" attributeFormDefault="unqualified">
205   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
206 entsoe-eu-wgedi-codelists.xsd"/>
207   <xs:element name="ShortMediumTermAdequacyResults_MarketDocument"
208 type="ShortMediumTermAdequacyResults_MarketDocument"/>
209   <xs:simpleType name="Position_Integer"
210 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
211     <xs:restriction base="xs:integer">
212       <xs:maxInclusive value="999999"/>
213       <xs:minInclusive value="1"/>
214     </xs:restriction>
215   </xs:simpleType>
216   <xs:complexType name="Point"
217 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
218     <xs:sequence>
219       <xs:element name="position" type="Position_Integer"
220 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
221 schema-cim16#Point.position"/>
222       <xs:element name="quantity" type="xs:decimal" minOccurs="1"
223 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
224 cim16#Point.quantity"/>
225       <xs:element name="posFR_Quantity.quantity" type="xs:decimal"
226 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
227 schema-cim16#Quantity.quantity"/>
228       <xs:element name="negFR_Quantity.quantity" type="xs:decimal"
229 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
230 schema-cim16#Quantity.quantity"/>
231       <xs:element name="Reason" type="Reason" minOccurs="0"
232 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
233 cim16#Point.Reason"/>
234     </xs:sequence>
235   </xs:complexType>
236   <xs:simpleType name="ReasonCode_String"
237 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
238     <xs:restriction base="ecl:ReasonCodeTypeList"/>
239   </xs:simpleType>
240   <xs:simpleType name="ReasonText_String"
241 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
242     <xs:restriction base="xs:string">
243       <xs:maxLength value="512"/>
244     </xs:restriction>
245   </xs:simpleType>
246   <xs:complexType name="Reason"
247 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
248     <xs:sequence>
```

```
249         <xs:element name="code" type="ReasonCode_String" minOccurs="1"
250 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
251 cim16#Reason.code"/>
252         <xs:element name="text" type="ReasonText_String" minOccurs="0"
253 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
254 cim16#Reason.text"/>
255     </xs:sequence>
256 </xs:complexType>
257 <xs:simpleType name="YMDHM_DateTime"
258 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
259     <xs:restriction base="xs:string">
260         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
261 9]|[12][0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
262 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-
263 9])Z)|((([13579][26][02468][048]|([13579][01345789](0)[48]|([13579][01345789][2468][0
264 48]|([02468][048][02468][048]|([02468][1235679](0)[48]|([02468][1235679][2468][048]|([
265 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
266 5][0-
267 9])Z)|((([13579][26][02468][1235679]|([13579][01345789](0)[01235679]|([13579][0134578
268 9][2468][1235679]|([02468][048][02468][1235679]|([02468][1235679](0)[01235679]|([0246
269 8][1235679][2468][1235679]|([0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
270 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
271     </xs:restriction>
272 </xs:simpleType>
273 <xs:complexType name="ESMP_DateTimeInterval"
274 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
275     <xs:sequence>
276         <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
277 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
278 cim16#DateTimeInterval.start"/>
279         <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
280 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
281 cim16#DateTimeInterval.end"/>
282     </xs:sequence>
283 </xs:complexType>
284 <xs:complexType name="Series_Period"
285 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
286     <xs:sequence>
287         <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
288 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
289 schema-cim16#Period.timeInterval"/>
290         <xs:element name="resolution" type="xs:duration" minOccurs="1"
291 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
292 cim16#Period.resolution"/>
293         <xs:element name="Point" type="Point" minOccurs="1"
294 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
295 cim16#Period.Point"/>
296     </xs:sequence>
297 </xs:complexType>
298 <xs:simpleType name="ID_String"
299 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
300     <xs:restriction base="xs:string">
301         <xs:maxLength value="35"/>
302     </xs:restriction>
303 </xs:simpleType>
```

```
304     <xs:simpleType name="ESMPVersion_String"
305 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
306     <xs:restriction base="xs:string">
307         <xs:pattern value="[1-9]([0-9]){0,2}"/>
308     </xs:restriction>
309 </xs:simpleType>
310 <xs:simpleType name="MessageKind_String"
311 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
312     <xs:restriction base="ecl:MessageTypeList"/>
313 </xs:simpleType>
314 <xs:simpleType name="ProcessKind_String"
315 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
316     <xs:restriction base="ecl:ProcessTypeList"/>
317 </xs:simpleType>
318 <xs:simpleType name="PartyID_String-base"
319 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
320     <xs:restriction base="xs:string">
321         <xs:maxLength value="16"/>
322     </xs:restriction>
323 </xs:simpleType>
324 <xs:complexType name="PartyID_String"
325 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
326     <xs:simpleContent>
327         <xs:extension base="PartyID_String-base">
328             <xs:attribute name="codingScheme"
329 type="ecl:CodingSchemeTypeList" use="required"/>
330         </xs:extension>
331     </xs:simpleContent>
332 </xs:complexType>
333 <xs:simpleType name="MarketRoleKind_String"
334 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
335     <xs:restriction base="ecl:RoleTypeList"/>
336 </xs:simpleType>
337 <xs:simpleType name="ESMP_DateTime"
338 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
339     <xs:restriction base="xs:dateTime">
340         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
341 9]|12)[0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-
342 9]|30))T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
343 9])Z|((([13579][26][02468][048]|13579][01345789](0)[48]|13579][01345789][2468][0
344 48]|02468][048][02468][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|
345 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-
346 5][0-9]:[0-5][0-
347 9])Z|((([13579][26][02468][1235679]|13579][01345789](0)[01235679]|13579][0134578
348 9][2468][1235679]|02468][048][02468][1235679]|02468][1235679](0)[01235679]|0246
349 8][1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
350 9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z"/>
351     </xs:restriction>
352 </xs:simpleType>
353 <xs:complexType name="ShortMediumTermAdequacyResults_MarketDocument"
354 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
355     <xs:sequence>
356         <xs:element name="mRID" type="ID_String" minOccurs="1"
357 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
358 cim16#IdentifiedObject.mRID"/>
```

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359         <xs:element name="revisionNumber" type="ESMPVersion_String"
360 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
361 schema-cim16#Document.revisionNumber"/>
362         <xs:element name="type" type="MessageKind_String" minOccurs="1"
363 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
364 cim16#Document.type"/>
365         <xs:element name="process.processType"
366 type="ProcessKind_String" minOccurs="1" maxOccurs="1"
367 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
368 cim16#Process.processType"/>
369         <xs:element name="sender_MarketParticipant.mRID"
370 type="PartyID_String" minOccurs="1" maxOccurs="1"
371 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
372 cim16#IdentifiedObject.mRID"/>
373         <xs:element name="sender_MarketParticipant.marketRole.type"
374 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
376         <xs:element name="receiver_MarketParticipant.mRID"
377 type="PartyID_String" minOccurs="1" maxOccurs="1"
378 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
379 cim16#IdentifiedObject.mRID"/>
380         <xs:element name="receiver_MarketParticipant.marketRole.type"
381 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
382 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
383         <xs:element name="createdDateTime" type="ESMP_DateTime"
384 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
385 schema-cim16#Document.createdDateTime"/>
386         <xs:element name="time_Period.timeInterval"
387 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
388 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
389 cim16#Period.timeInterval"/>
390         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
391 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
392 cim16#MarketDocument.TimeSeries"/>
393         <xs:element name="Reason" type="Reason" minOccurs="0"
394 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
395 cim16#MarketDocument.Reason"/>
396     </xs:sequence>
397 </xs:complexType>
398 <xs:simpleType name="BusinessKind_String"
399 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
400     <xs:restriction base="ecl:BusinessTypeList"/>
401 </xs:simpleType>
402 <xs:simpleType name="EnergyProductKind_String"
403 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
404     <xs:restriction base="ecl:EnergyProductTypeList"/>
405 </xs:simpleType>
406 <xs:simpleType name="CurveType_String"
407 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
408     <xs:restriction base="ecl:CurveTypeList"/>
409 </xs:simpleType>
410 <xs:simpleType name="MeasurementUnitKind_String"
411 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
412     <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
413 </xs:simpleType>
```

```
414     <xs:simpleType name="AreaID_String-base"
415 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
416         <xs:restriction base="xs:string">
417             <xs:maxLength value="18"/>
418         </xs:restriction>
419     </xs:simpleType>
420     <xs:complexType name="AreaID_String"
421 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
422         <xs:simpleContent>
423             <xs:extension base="AreaID_String-base">
424                 <xs:attribute name="codingScheme"
425 type="ecl:CodingSchemeTypeList" use="required"/>
426             </xs:extension>
427         </xs:simpleContent>
428     </xs:complexType>
429     <xs:simpleType name="ResourceID_String-base"
430 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
431         <xs:restriction base="xs:string">
432             <xs:maxLength value="60"/>
433         </xs:restriction>
434     </xs:simpleType>
435     <xs:complexType name="ResourceID_String"
436 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
437         <xs:simpleContent>
438             <xs:extension base="ResourceID_String-base">
439                 <xs:attribute name="codingScheme"
440 type="ecl:CodingSchemeTypeList" use="required"/>
441             </xs:extension>
442         </xs:simpleContent>
443     </xs:complexType>
444     <xs:simpleType name="PsrType_String"
445 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
446         <xs:restriction base="ecl:AssetTypeList"/>
447     </xs:simpleType>
448     <xs:complexType name="TimeSeries"
449 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
450         <xs:sequence>
451             <xs:element name="mRID" type="ID_String" minOccurs="1"
452 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
453 cim16#IdentifiedObject.mRID"/>
454             <xs:element name="businessType" type="BusinessKind_String"
455 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
456 schema-cim16#TimeSeries.businessType"/>
457             <xs:element name="product" type="EnergyProductKind_String"
458 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
459 schema-cim16#TimeSeries.product"/>
460             <xs:element name="curveType" type="CurveType_String"
461 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
462 schema-cim16#TimeSeries.curveType"/>
463             <xs:element name="measurement_Unit.name"
464 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
465 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
466             <xs:element name="in_Domain.mRID" type="AreaID_String"
467 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
468 schema-cim16#IdentifiedObject.mRID"/>
```



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469         <xs:element name="out_Domain.mRID" type="AreaID_String"
470 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
471 schema-cim16#IdentifiedObject.mRID"/>
472         <xs:element name="connectingLine_RegisteredResource.mRID"
473 type="ResourceID_String" minOccurs="0" maxOccurs="1"
474 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
475 cim16#IdentifiedObject.mRID"/>
476         <xs:element name="mktPSRType.psrType" type="PsrType_String"
477 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
478 schema-cim16#MktPSRType.psrType"/>
479         <xs:element name="Period" type="Series_Period" minOccurs="1"
480 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
481 cim16#TimeSeries.Period"/>
482         <xs:element name="Reason" type="Reason" minOccurs="0"
483 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
484 cim16#TimeSeries.Reason"/>
485     </xs:sequence>
486 </xs:complexType>
487 </xs:schema>
488
```