



European Network of
Transmission System Operators
for Electricity

**REPORTING INFORMATION
DOCUMENT
UML MODEL AND SCHEMA**

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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	2018-11-08	XSD version 2.1: Order of the series_period class attributes now is in line with current EDI practice. Approved by MC.

62

63 1 Objective

64 The purpose of this document is to provide the contextual and assembly UML models and the
65 schema of the ReportingInformation_MarketDocument.

66 The schema of the ReportingInformation_MarketDocument could be used in various business
67 processes.

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

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

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

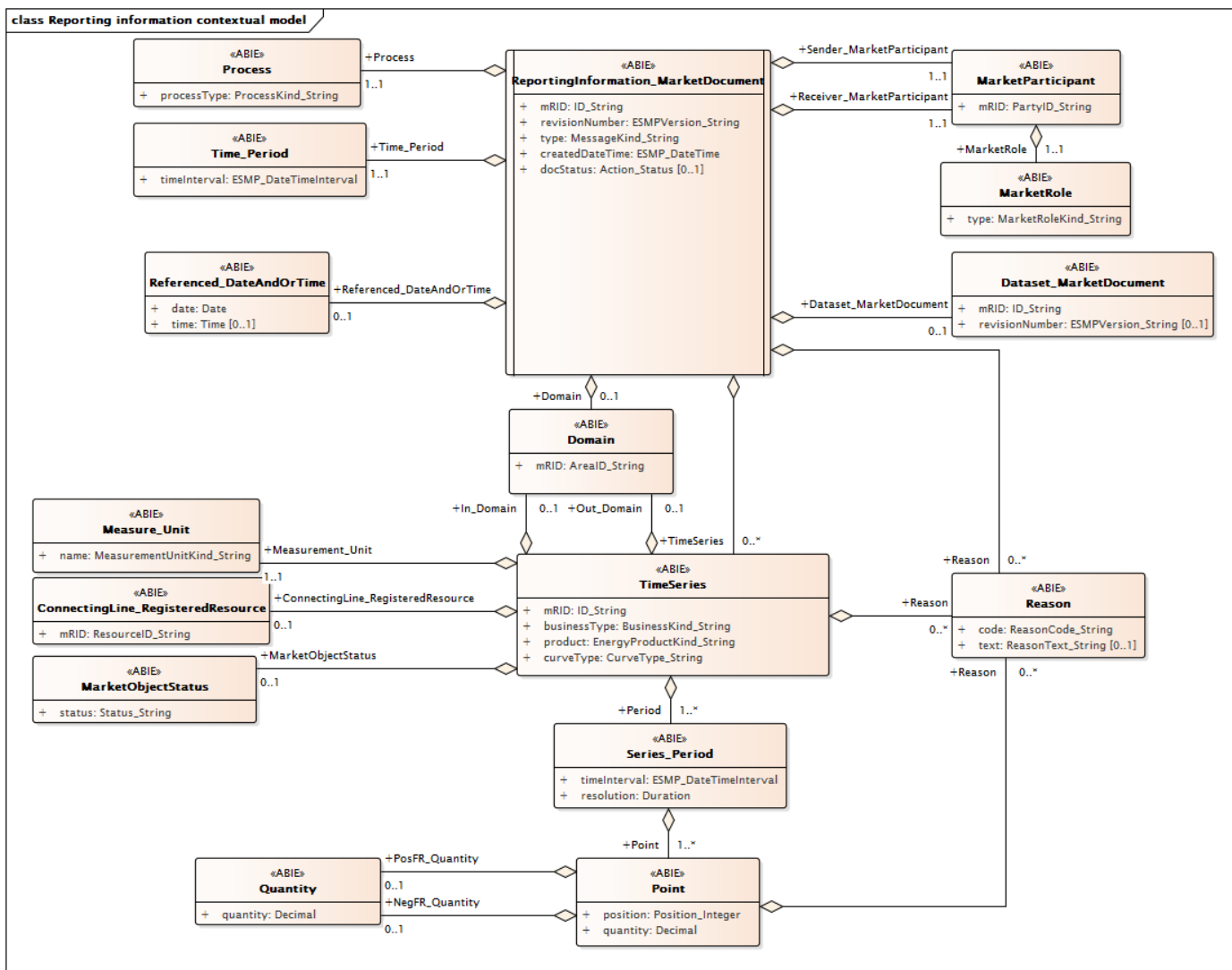
80

81 **2 ReportingInformation_MarketDocument**

82 **2.1 Reporting information contextual model**

83 **2.1.1 Overview of the model**

84 Figure 1 shows the model.



85

86

Figure 1 - Reporting information contextual model

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

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

90

Table 1 - IsBasedOn dependency

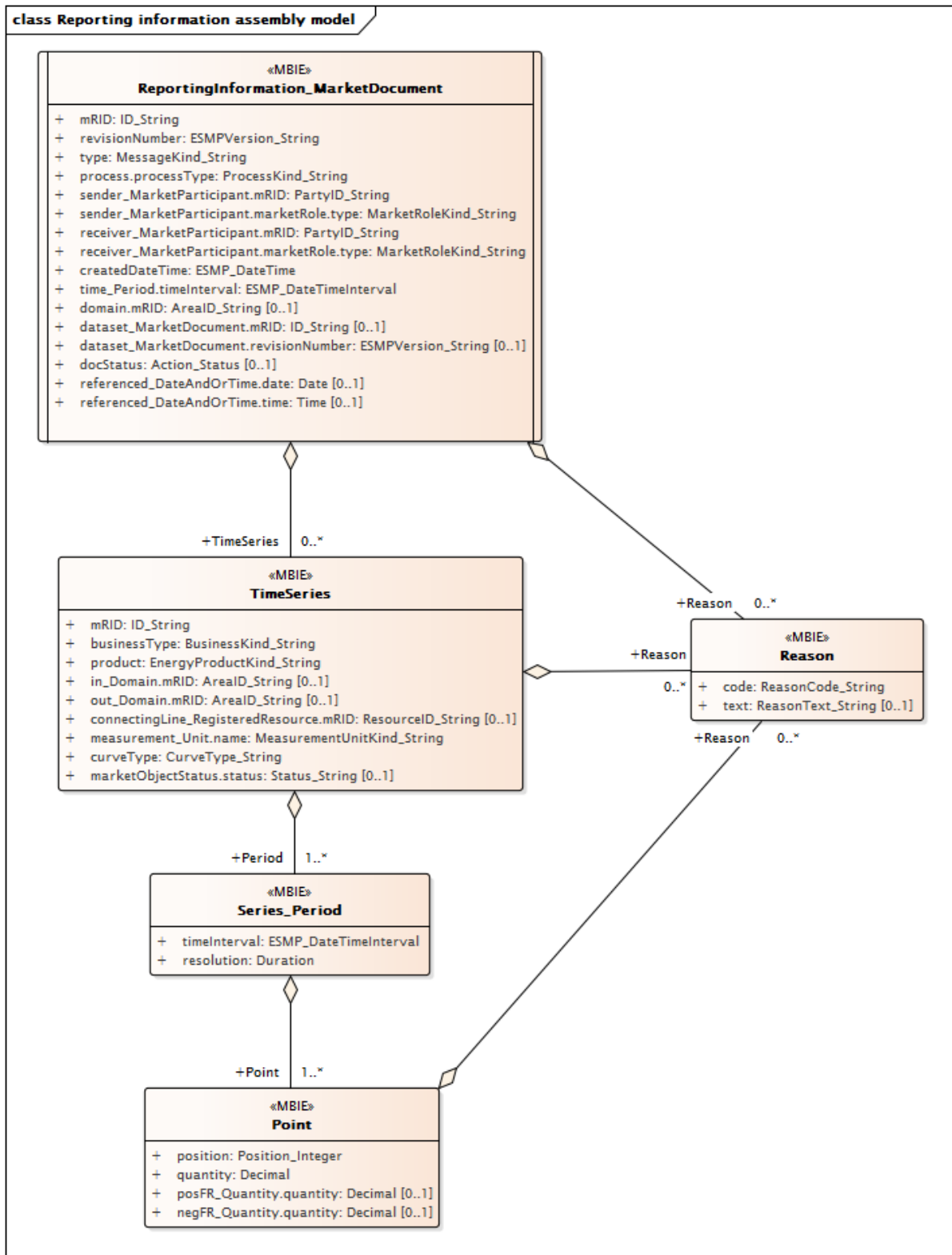
Name	Complete IsBasedOn Path
ConnectingLine_RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
Dataset_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketObjectStatus	TC57CIM::IEC62325::MarketManagement::MarketObjectStatus
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Point	TC57CIM::IEC62325::MarketManagement::Point
Process	TC57CIM::IEC62325::MarketManagement::Process
Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Referenced_DateAndOrTime	TC57CIM::IEC62325::MarketManagement::DateAndOrTime
ReportingInformation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

91

92 2.2 Reporting information assembly model

93 2.2.1 Overview of the model

94 Figure 2 shows the model.



95

96

Figure 2 - Reporting information assembly model

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

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

100 **Table 2 - IsBasedOn dependency**

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

101

102 **2.2.3 Detailed Reporting information assembly model**

103 **2.2.3.1 ReportingInformation_MarketDocument root class**

104 This document provides either:

- 105 • all the information relating to a status request made by an interested party concerning
106 aggregated netted external schedules, aggregated netted external market schedules,
107 aggregated netted external TSO schedules, compensation program schedules, netted area
108 position schedules and netted area AC position schedules.
- 109 • the net position for an area (scheduling area, bidding zone, NEMO trading hub, control
110 area, ...).

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

113 Table 3 shows all attributes of ReportingInformation_MarketDocument.

114 **Table 3 - Attributes of Reporting information assembly
115 model::ReportingInformation_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 dealt within the document.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The sender of the document.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The sender of the document. --- The role associated with a MarketParticipant.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The recipient of the document.
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The recipient of the document. --- 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. --- This information provides the start and end date and time of the period covered by the document.
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the reporting information market document.
11	[0..1]	dataset_MarketDocument.mRID ID_String	The identification of an individually predefined dataset in a data base system (e. g. Verification Platform). --- The identification of information in the reporting information market document that is related to a predefined dataset. In the CGMA process, the identification of the received document containing errors. Both the mRID and the revisionNumber of the received document are provided.
12	[0..1]	dataset_MarketDocument.revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another. --- The identification of information in the reporting information market document that is related to a predefined dataset. In the CGMA process, the identification of the received document containing errors. Both the mRID and the revisionNumber of the received document are provided.
13	[0..1]	docStatus Action_Status	The identification of the condition or position of the document with regard to its standing. A document may be intermediate or final.
14	[0..1]	referenced_DateAndOrTime.date Date	The date as "YYYY-MM-DD", which conforms with ISO 8601. --- The reference date and time for which the reporting information market document information is to be provided.
15	[0..1]	referenced_DateAndOrTime.time Time	The time as "hh:mm:ss.sssZ", which conforms with ISO 8601. --- The reference date and time for which the reporting information market document information is to be provided.

116

117 Table 4 shows all association ends of ReportingInformation_MarketDocument with other
118 classes.

119

Table 4 - Association ends of Reporting information assembly model::ReportingInformation_MarketDocument with other classes

120

Order	mult.	Class name / Role	Description
16	[0..*]	TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: Reporting information contextual model::ReportingInformation_MarketDocument.[] ----- Reporting information contextual model::TimeSeries.TimeSeries[0..*]
17	[0..*]	Reason Reason	The Reason associated with the electronic document header providing different motivations for the creation of the document. Association Based On: Reporting information contextual model::ReportingInformation_MarketDocument.[] ----- Reporting information contextual model::Reason.Reason[0..*]

121

122 **2.2.3.2 Point**

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

124 Table 5 shows all attributes of Point.

125 **Table 5 - Attributes of Reporting information 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	The principal quantity identified for a point. The quantity of the product scheduled for the position within the time interval.
2	[0..1]	posFR_Quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The positive feasibility range to be used for the alignment process of the net position provided in the quantity attribute of the class Point. 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 negative feasibility range to be used for the alignment process of the net position provided in the quantity attribute of the class Point. This value shall be either zero or a negative value. The Quantity information associated with a given Point.

126

127 Table 6 shows all association ends of Point with other classes.

128 **Table 6 - Association ends of Reporting information assembly model::Point with other classes**

129

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

130

131 **2.2.3.3 Reason**

132 The motivation of an act.

133 Table 7 shows all attributes of Reason.

134 **Table 7 - Attributes of Reporting information 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.

135

136 **2.2.3.4 Series_Period**

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

138 Table 8 shows all attributes of Series_Period.

139 **Table 8 - Attributes of Reporting information 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.

140

141 Table 9 shows all association ends of Series_Period with other classes.

142 **Table 9 - Association ends of Reporting information assembly model::Series_Period**
143 **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: Reporting information contextual model::Series_Period.[] ----- Reporting information contextual model::Point.Point[1..*]

144

145 2.2.3.5 TimeSeries

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

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

149 Table 10 shows all attributes of TimeSeries.

150 **Table 10 - Attributes of Reporting information 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]	product EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
3	[0..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered.
4	[0..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being extracted.
5	[0..1]	connectingLine_RegisteredResource.mRID ResourceID_String	The unique identification of a resource. --- The identification of the DC link(s) or controllable AC link(s) between areas.
6	[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 quantity in the Point class or in the Quantity class.
7	[1..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

Order	mult.	Attribute name / Attribute type	Description
8	[0..1]	marketObjectStatus.status Status_String	The coded condition or position of an object with regard to its standing. --- The status of an object associated with a TimeSeries. For CGMA process, it provides the status of the timeseries, e.g. input timeseries, output timeseries, substituted timeseries.

151

152 Table 11 shows all association ends of TimeSeries with other classes.

153 **Table 11 - Association ends of Reporting information assembly model::TimeSeries with**
154 **other classes**

Order	mult.	Class name / Role	Description
9	[1..*]	Series_Period Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Reporting information contextual model::TimeSeries.[] ----- Reporting information contextual model::Series_Period.Period[1..*]
10	[0..*]	Reason Reason	The reason information associated with a TimeSeries providing motivation information. Association Based On: Reporting information contextual model::TimeSeries.[] ----- Reporting information contextual model::Reason.Reason[0..*]

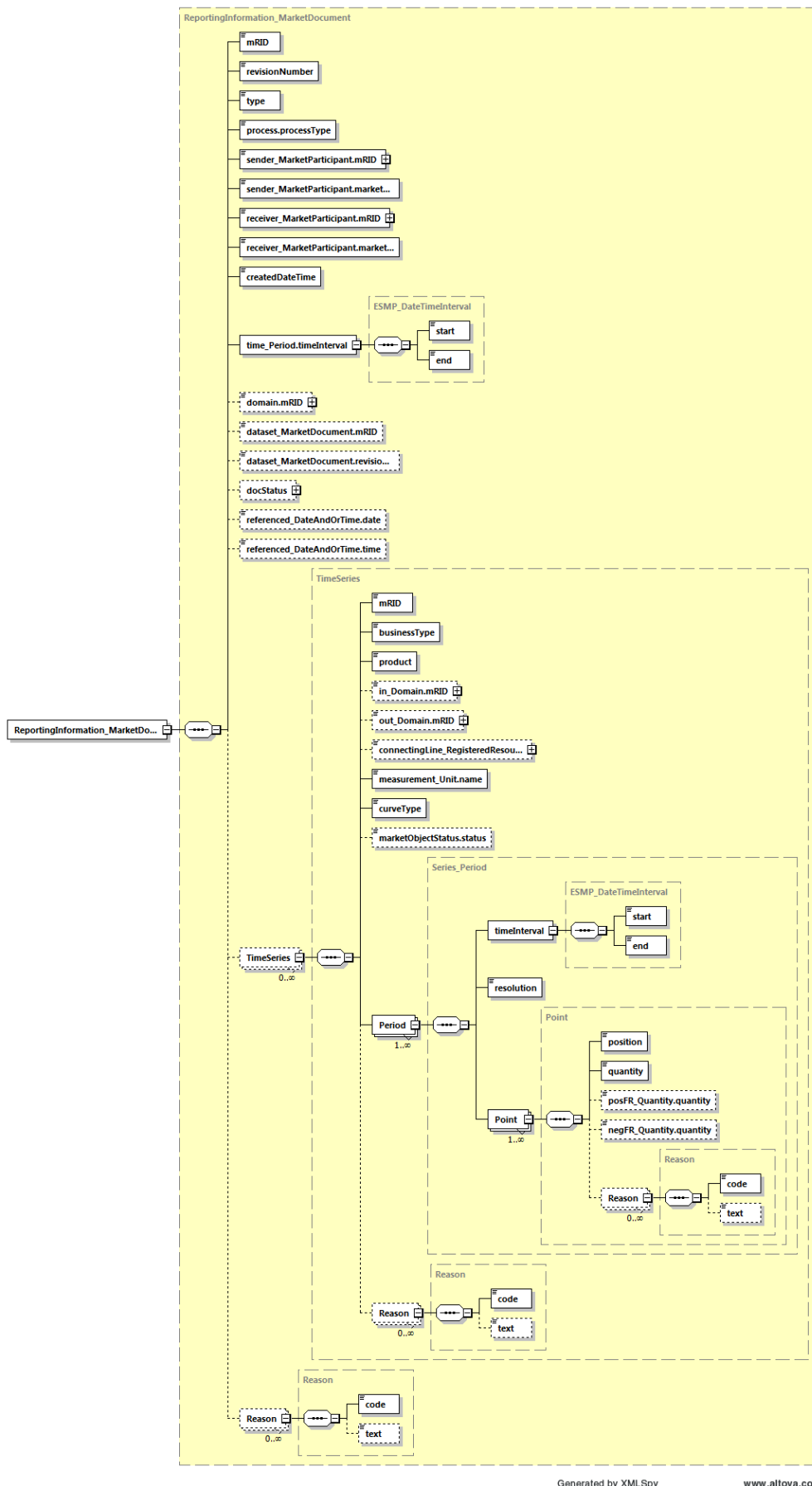
155

156 2.2.4 Datatypes

157 The list of datatypes used for the Reporting information assembly model is as follows:

- 158 • Action_Status compound
- 159 • ESMP_DateTimeInterval compound
- 160 • AreaID_String datatype, codelist CodingSchemeTypeList
- 161 • BusinessKind_String datatype, codelist BusinessTypeList
- 162 • CurveType_String datatype, codelist CurveTypeList
- 163 • EnergyProductKind_String datatype, codelist EnergyProductTypeList
- 164 • ESMP_DateTime datatype
- 165 • ESMPVersion_String datatype
- 166 • ID_String datatype
- 167 • MarketRoleKind_String datatype, codelist RoleTypeList
- 168 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 169 • MessageKind_String datatype, codelist MessageTypeList
- 170 • PartyID_String datatype, codelist CodingSchemeTypeList
- 171 • Position_Integer datatype
- 172 • ProcessKind_String datatype, codelist ProcessTypeList
- 173 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 174 • ReasonText_String datatype
- 175 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 176 • Status_String datatype, codelist StatusTypeList
- 177 • YMDHM_DateTime datatype
- 178

179 2.2.5 ReportingInformation_MarketDocument XML schema structure



180

181

Figure 3 – ReportingInformation_MarketDocument schema structure
 – Page 14 of 18 –

182 2.2.6 ReportingInformation_MarketDocument XML schema

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

184 urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:1

```

185 <?xml version="1.0" encoding="utf-8"?>
186 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists" xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
187 xmlns="urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:1"
188 xmlns:cimp="http://www.iec.ch/cimprofile" xmlns:xs="http://www.w3.org/2001/XMLSchema"
189 targetNamespace="urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:1"
190 elementFormDefault="qualified" attributeFormDefault="unqualified">
191 <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-entsoe-eu-wgedi-
192 codelists.xsd"/>
193 <xs:element name="ReportingInformation_MarketDocument"
194 type="ReportingInformation_MarketDocument"/>
195 <xs:simpleType name="Position_Integer" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
196 schema-cim16#Integer">
197 <xs:restriction base="xs:integer">
198 <xs:maxInclusive value="999999"/>
199 <xs:minInclusive value="1"/>
200 </xs:restriction>
201 </xs:simpleType>
202 <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
203 cim16#Point">
204 <xs:sequence>
205 <xs:element name="position" type="Position_Integer" minOccurs="1"
206 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position"/>
207 <xs:element name="quantity" type="xs:decimal" minOccurs="1" maxOccurs="1"
208 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity"/>
209 <xs:element name="posFR_Quantity.quantity" type="xs:decimal" minOccurs="0"
210 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
211 <xs:element name="negFR_Quantity.quantity" type="xs:decimal" minOccurs="0"
212 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
213 <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
214 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.Reason"/>
215 </xs:sequence>
216 </xs:complexType>
217 <xs:simpleType name="ReasonCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
218 schema-cim16#String">
219 <xs:restriction base="ecl:ReasonCodeTypeList"/>
220 </xs:simpleType>
221 <xs:simpleType name="ReasonText_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
222 schema-cim16#String">
223 <xs:restriction base="xs:string">
224 <xs:maxLength value="512"/>
225 </xs:restriction>
226 </xs:simpleType>
227 <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
228 cim16#Reason">
229 <xs:sequence>
230 <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1"
231 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
232 <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1"
233 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text"/>
234 </xs:sequence>
235 </xs:complexType>
236 <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
237 cim16#String">
238 <xs:restriction base="xs:string">
239 <xs:maxLength value="35"/>
240 </xs:restriction>
241 </xs:simpleType>
242 <xs:simpleType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
243 schema-cim16#String">
244 <xs:restriction base="xs:string">
245 <xs:pattern value="[1-9]([0-9]){0,2}"/>
246 </xs:restriction>
247 </xs:simpleType>
248 <xs:simpleType name="MessageKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
249 schema-cim16#String">
250 <xs:restriction base="ecl:MessageTypeList"/>
251 </xs:simpleType>
252 <xs:simpleType name="ProcessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
253 schema-cim16#String">

```

```

254         <xs:restriction base="ecl:ProcessTypeList"/>
255     </xs:simpleType>
256     <xs:simpleType name="PartyID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
257 schema-cim16#String">
258         <xs:restriction base="xs:string">
259             <xs:maxLength value="16"/>
260         </xs:restriction>
261     </xs:simpleType>
262     <xs:complexType name="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
263 schema-cim16#String">
264         <xs:simpleContent>
265             <xs:extension base="PartyID_String-base">
266                 <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
267 use="required"/>
268             </xs:extension>
269         </xs:simpleContent>
270     </xs:complexType>
271     <xs:simpleType name="MarketRoleKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
272 schema-cim16#String">
273         <xs:restriction base="ecl:RoleTypeList"/>
274     </xs:simpleType>
275     <xs:simpleType name="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
276 cim16#DateTime">
277         <xs:restriction base="xs:dateTime">
278             <xs:pattern value="(((0-9){4}[\-](0[13578]|1[02]))[\-](0[1-9]|[12][0-
279 9]|3[01])|((0-9){4}[\-](0[469]|(11))[\-](0[1-9]|[12][0-9]|30))T((01[0-9]|2[0-3]):[0-5][0-9]:[0-
280 5][0-
281 9])Z|(((13579)[26][02468][048]|13579)[01345789](0)[48]|13579)[01345789][2468][048]|02468[048][0246
282 8][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|0-9[0-9][13579][26])[\-](02)[\-](0[1-
283 9]|1[0-9]|2[0-9])T((01[0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
284 9])Z|(((13579)[26][02468][1235679]|13579)[01345789](0)[01235679]|13579)[01345789][2468][1235679]|02
285 468][048][02468][1235679]|02468[1235679](0)[01235679]|02468[1235679][2468][1235679]|0-9[0-
286 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((01[0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z"/>
287         </xs:restriction>
288     </xs:simpleType>
289     <xs:simpleType name="AreaID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
290 schema-cim16#String">
291         <xs:restriction base="xs:string">
292             <xs:maxLength value="18"/>
293         </xs:restriction>
294     </xs:simpleType>
295     <xs:complexType name="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
296 cim16#String">
297         <xs:simpleContent>
298             <xs:extension base="AreaID_String-base">
299                 <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
300 use="required"/>
301             </xs:extension>
302         </xs:simpleContent>
303     </xs:complexType>
304     <xs:simpleType name="Status_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
305 cim16#String">
306         <xs:restriction base="ecl:StatusTypeList"/>
307     </xs:simpleType>
308     <xs:complexType name="Action_Status" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
309 cim16#Status">
310         <xs:sequence>
311             <xs:element name="value" type="Status_String" minOccurs="1" maxOccurs="1"
312 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status.value"/>
313         </xs:sequence>
314     </xs:complexType>
315     <xs:simpleType name="YMDHM_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
316 cim16#DateTime">
317         <xs:restriction base="xs:string">
318             <xs:pattern value="(((0-9){4}[\-](0[13578]|1[02]))[\-](0[1-9]|[12][0-
319 9]|3[01])|((0-9){4}[\-](0[469]|(11))[\-](0[1-9]|[12][0-9]|30))T((01[0-9]|2[0-3]):[0-5][0-
320 9])Z|(((13579)[26][02468][048]|13579)[01345789](0)[48]|13579)[01345789][2468][048]|02468[048][0246
321 8][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|0-9[0-9][13579][26])[\-](02)[\-](0[1-
322 9]|1[0-9]|2[0-9])T((01[0-9]|2[0-3]):[0-5][0-
323 9])Z|(((13579)[26][02468][1235679]|13579)[01345789](0)[01235679]|13579)[01345789][2468][1235679]|02
324 468][048][02468][1235679]|02468[1235679](0)[01235679]|02468[1235679][2468][1235679]|0-9[0-
325 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((01[0-9]|2[0-3]):[0-5][0-9])Z"/>
326         </xs:restriction>
327     </xs:simpleType>

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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" maxOccurs="1"
332 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.start"/>
333         <xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
334 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.end"/>
335     </xs:sequence>
336 </xs:complexType>
337 <xs:complexType name="ReportingInformation_MarketDocument"
338 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
339     <xs:sequence>
340         <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
341 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
342         <xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1"
343 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
344 cim16#Document.revisionNumber"/>
345         <xs:element name="type" type="MessageKind_String" minOccurs="1" maxOccurs="1"
346 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
347         <xs:element name="process.processType" type="ProcessKind_String" minOccurs="1"
348 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Process.processType"/>
349         <xs:element name="sender_MarketParticipant.mRID" type="PartyID_String"
350 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
351 cim16#IdentifiedObject.mRID"/>
352         <xs:element name="sender_MarketParticipant.marketRole.type"
353 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
354 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
355         <xs:element name="receiver_MarketParticipant.mRID" type="PartyID_String"
356 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
357 cim16#IdentifiedObject.mRID"/>
358         <xs:element name="receiver_MarketParticipant.marketRole.type"
359 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
360 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
361         <xs:element name="createdDateTime" type="ESMP_DateTime" minOccurs="1"
362 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
363 cim16#Document.createdDateTime"/>
364         <xs:element name="time_Period.timeInterval" type="ESMP_DateTimeInterval"
365 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
366 cim16#Period.timeInterval"/>
367         <xs:element name="domain.mRID" type="AreaID_String" minOccurs="0"
368 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
369         <xs:element name="dataset_MarketDocument.mRID" type="ID_String" minOccurs="0"
370 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
371         <xs:element name="dataset_MarketDocument.revisionNumber"
372 type="ESMPVersion_String" minOccurs="0" maxOccurs="1"
373 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.revisionNumber"/>
374         <xs:element name="docStatus" type="Action_Status" minOccurs="0" maxOccurs="1"
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.docStatus"/>
376         <xs:element name="referenced_DateAndOrTime.date" type="xs:date" minOccurs="0"
377 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateAndOrTime.date"/>
378         <xs:element name="referenced_DateAndOrTime.time" type="xs:time" minOccurs="0"
379 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateAndOrTime.time"/>
380         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
381 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
382 cim16#MarketDocument.TimeSeries"/>
383         <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
384 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument.Reason"/>
385     </xs:sequence>
386 </xs:complexType>
387 <xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
388 cim16#Period">
389     <xs:sequence>
390         <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1"
391 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
392         <xs:element name="resolution" type="xs:duration" minOccurs="1" maxOccurs="1"
393 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution"/>
394         <xs:element name="Point" type="Point" minOccurs="1" maxOccurs="unbounded"
395 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point"/>
396     </xs:sequence>
397 </xs:complexType>
398 <xs:simpleType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
399 schema-cim16#String">
400     <xs:restriction base="ecl:BusinessTypeList"/>
401 </xs:simpleType>

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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="ResourceID_String-base"
407 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
408             <xs:restriction base="xs:string">
409                 <xs:maxLength value="60"/>
410             </xs:restriction>
411         </xs:simpleType>
412         <xs:complexType name="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
413 schema-cim16#String">
414             <xs:simpleContent>
415                 <xs:extension base="ResourceID_String-base">
416                     <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
417 use="required"/>
418                 </xs:extension>
419             </xs:simpleContent>
420         </xs:complexType>
421         <xs:simpleType name="MeasurementUnitKind_String"
422 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
423             <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
424         </xs:simpleType>
425         <xs:simpleType name="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
426 schema-cim16#String">
427             <xs:restriction base="ecl:CurveTypeList"/>
428         </xs:simpleType>
429         <xs:complexType name="TimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
430 cim16#TimeSeries">
431             <xs:sequence>
432                 <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
433 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
434                 <xs:element name="businessType" type="BusinessKind_String" minOccurs="1"
435 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
436 cim16#TimeSeries.businessType"/>
437                 <xs:element name="product" type="EnergyProductKind_String" minOccurs="1"
438 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.product"/>
439                 <xs:element name="in_Domain.mRID" type="AreaID_String" minOccurs="0"
440 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
441                 <xs:element name="out_Domain.mRID" type="AreaID_String" minOccurs="0"
442 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
443                 <xs:element name="connectingLine_RegisteredResource.mRID"
444 type="ResourceID_String" minOccurs="0" maxOccurs="1"
445 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
446                 <xs:element name="measurement_Unit.name" type="MeasurementUnitKind_String"
447 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
448 cim16#Unit.name"/>
449                 <xs:element name="curveType" type="CurveType_String" minOccurs="1"
450 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.curveType"/>
451                 <xs:element name="marketObjectStatus.status" type="Status_String"
452 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
453 cim16#MarketObjectStatus.status"/>
454                 <xs:element name="Period" type="Series_Period" minOccurs="1"
455 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
456 cim16#TimeSeries.Period"/>
457                 <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
458 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.Reason"/>
459             </xs:sequence>
460         </xs:complexType>
461 </xs:schema>
462

```