



European Network of
Transmission System Operators
for Electricity

REPORTING STATUS DOCUMENT UML MODEL AND SCHEMA

2017-01-19
VERSION 1.0

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.

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 ReportingStatus_MarketDocument.

68 The schema of the ReportingStatus_MarketDocument could be used in various business
69 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:

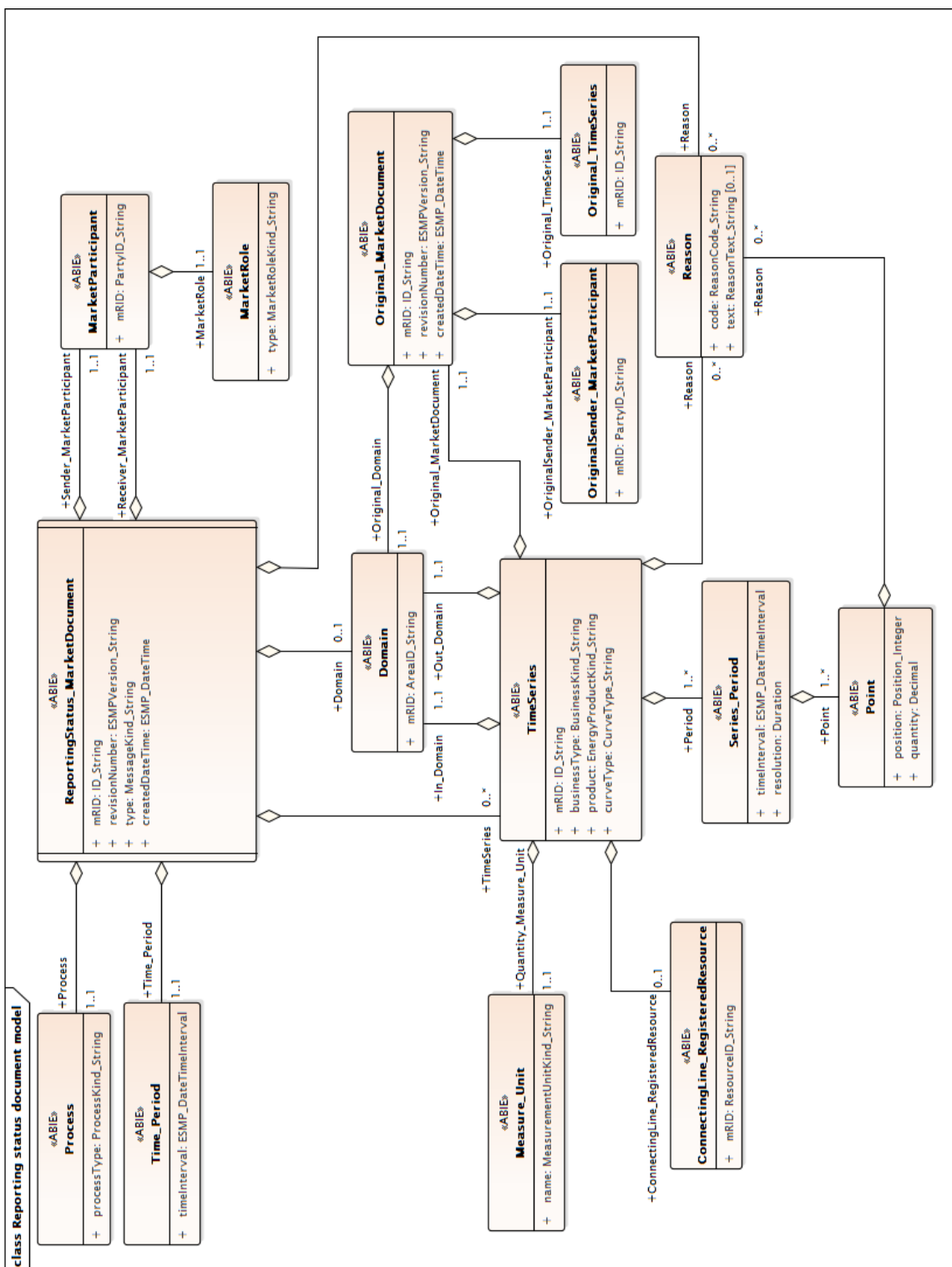
- 74 • Description of the business process;
- 75 • Use case of the business process;
- 76 • Sequence diagrams of the business process;
- 77 • List of the schema (XSD) to be used in the business process and versions of the
78 schema;
- 79 • For each schema, dependency tables providing the necessary information 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 **2 ReportingStatus_MarketDocument**

83 **2.1 Reporting status contextual model**

84 **2.1.1 Overview of the model**

85 Figure 1 shows the model.



86

87

Figure 1 - Reporting status contextual model

88 **2.1.2 IsBasedOn relationships from the European style market profile**

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

91

Table 1 - IsBasedOn dependency

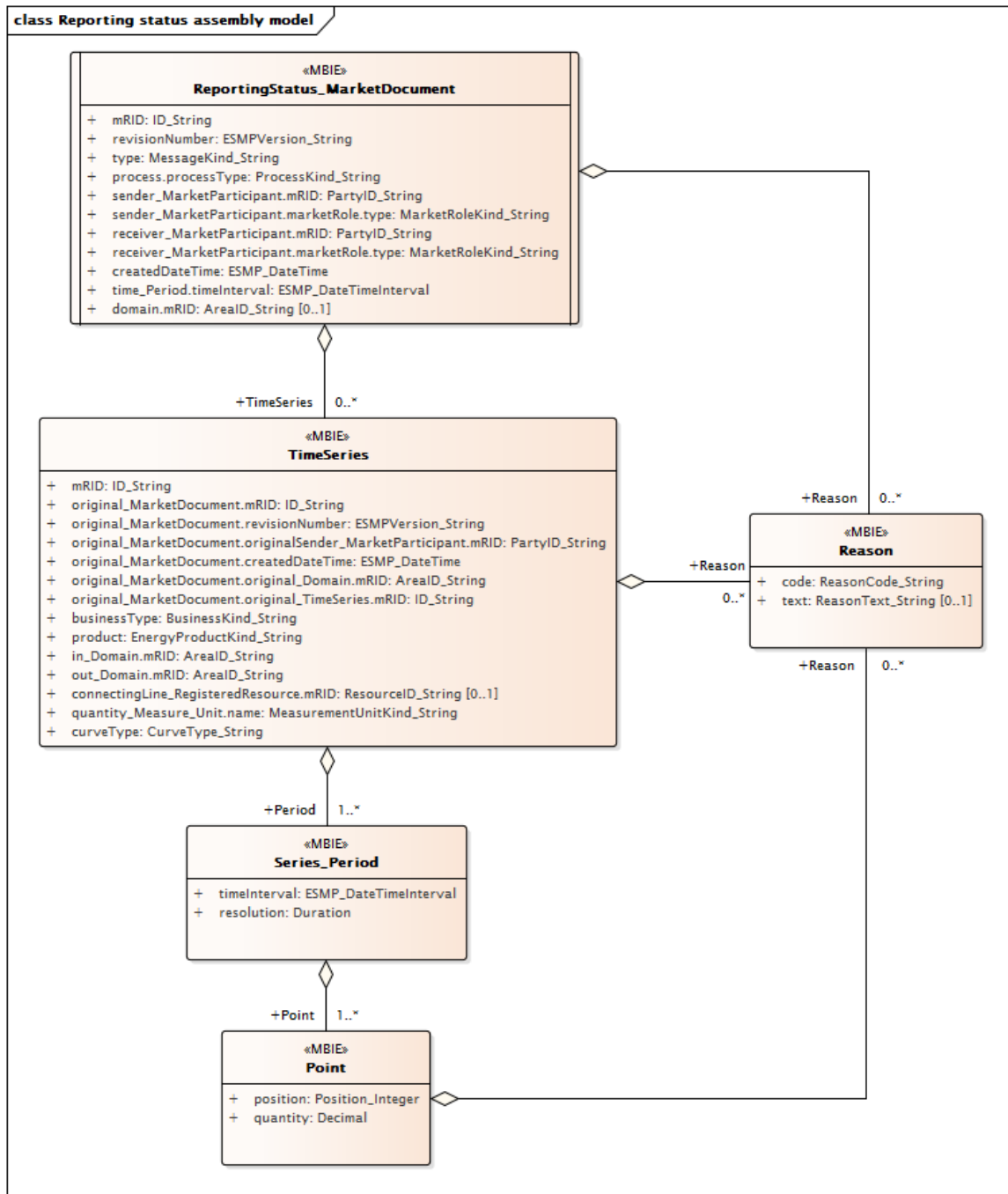
Name	Complete IsBasedOn Path
ConnectingLine_RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Original_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Original_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
OriginalSender_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Point	TC57CIM::IEC62325::MarketManagement::Point
Process	TC57CIM::IEC62325::MarketManagement::Process
Reason	TC57CIM::IEC62325::MarketManagement::Reason
ReportingStatus_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

92

93 **2.2 Reporting status assembly model**

94 **2.2.1 Overview of the model**

95 Figure 2 shows the model.



96

97

Figure 2 - Reporting status assembly model

98 **2.2.2 IsBasedOn relationships from the European style market profile**

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

101

Table 2 - IsBasedOn dependency

Name	Complete IsBasedOn Path
Point	TC57CIM::IEC62325::MarketManagement::Point

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

102

103 **2.2.3 Detailed Reporting status assembly model**

104 **2.2.3.1 ReportingStatus_MarketDocument root class**

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

107 The reporting status market document is to be used to report the status of aggregated netted
108 external market schedules, aggregated netted external TSO schedules and compensation
109 program schedules on a given border.

110 Table 3 shows all attributes of ReportingStatus_MarketDocument.

111 **Table 3 - Attributes of Reporting status assembly**
112 **model::ReportingStatus_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 with in 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 the market participant.
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 the market participant.
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.

Order	mult.	Attribute name / Attribute type	Description
10	[0..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The identification of the domain that is covered in the reporting status market document. Depending on the reporting context it will correspond to one of the following: - a scheduling area; - a scheduling area border; - a control area; - a control area border; - a control block area; - a control block area border; - a synchronous area.

113

114 Table 4 shows all association ends of ReportingStatus_MarketDocument with other classes.

115

116

Table 4 - Association ends of Reporting status assembly model::ReportingStatus_MarketDocument with other classes

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

117

118 2.2.3.2 Point

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

120 Table 5 shows all attributes of Point.

121

Table 5 - Attributes of Reporting status 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.

122

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

124

125

Table 6 - Association ends of Reporting status assembly model::Point with other classes

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

126

127 **2.2.3.3 Reason**

128 The motivation of an act.

129 Table 7 shows all attributes of Reason.

130 **Table 7 - Attributes of Reporting status 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.

131

132 **2.2.3.4 Series_Period**

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

134 Table 8 shows all attributes of Series_Period.

135 **Table 8 - Attributes of Reporting status 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.

136

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

138 **Table 9 - Association ends of Reporting status assembly model::Series_Period with other classes**

139

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 status contextual model::Series_Period.[] ----- Reporting status contextual model::Point.Point[1..*]

140

141 **2.2.3.5 TimeSeries**

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

143 Table 10 shows all attributes of TimeSeries.

144 **Table 10 - Attributes of Reporting status assembly model::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.

Order	mult.	Attribute name / Attribute type	Description
1	[1..1]	original_MarketDocument.mRID ID_String	The unique identification of the document being exchanged within a business process flow. --- The identification of an electronic document that is at the origin of the TimeSeries.
2	[1..1]	original_MarketDocument.revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another. --- The identification of an electronic document that is at the origin of the TimeSeries.
3	[1..1]	original_MarketDocument.originalSender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of an electronic document that is at the origin of the TimeSeries. --- The sender of the original document that is at the origin of the time series.
4	[1..1]	original_MarketDocument.createdDateTime ESMP_DateTime	The date and time of the creation of the document. --- The identification of an electronic document that is at the origin of the TimeSeries.
5	[1..1]	original_MarketDocument.original_Domain.mRID AreaID_String	The unique identification of the domain. --- The identification of an electronic document that is at the origin of the TimeSeries. --- The identification of the domain that was in the original reporting market document header.
6	[1..1]	original_MarketDocument.original_TimeSeries.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. --- The identification of an electronic document that is at the origin of the TimeSeries. --- The identification of the time series that was in the original reporting market document.
7	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
8	[1..1]	product EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.

Order	mult.	Attribute name / Attribute type	Description
9	[1..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being delivered.
10	[1..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the product is being extracted.
11	[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.
12	[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 which is applied to the quantity in the Point class.
13	[1..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

145

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

147 **Table 11 - Association ends of Reporting status assembly model::TimeSeries with other**
148 **classes**

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

149

150 2.2.4 Datatypes

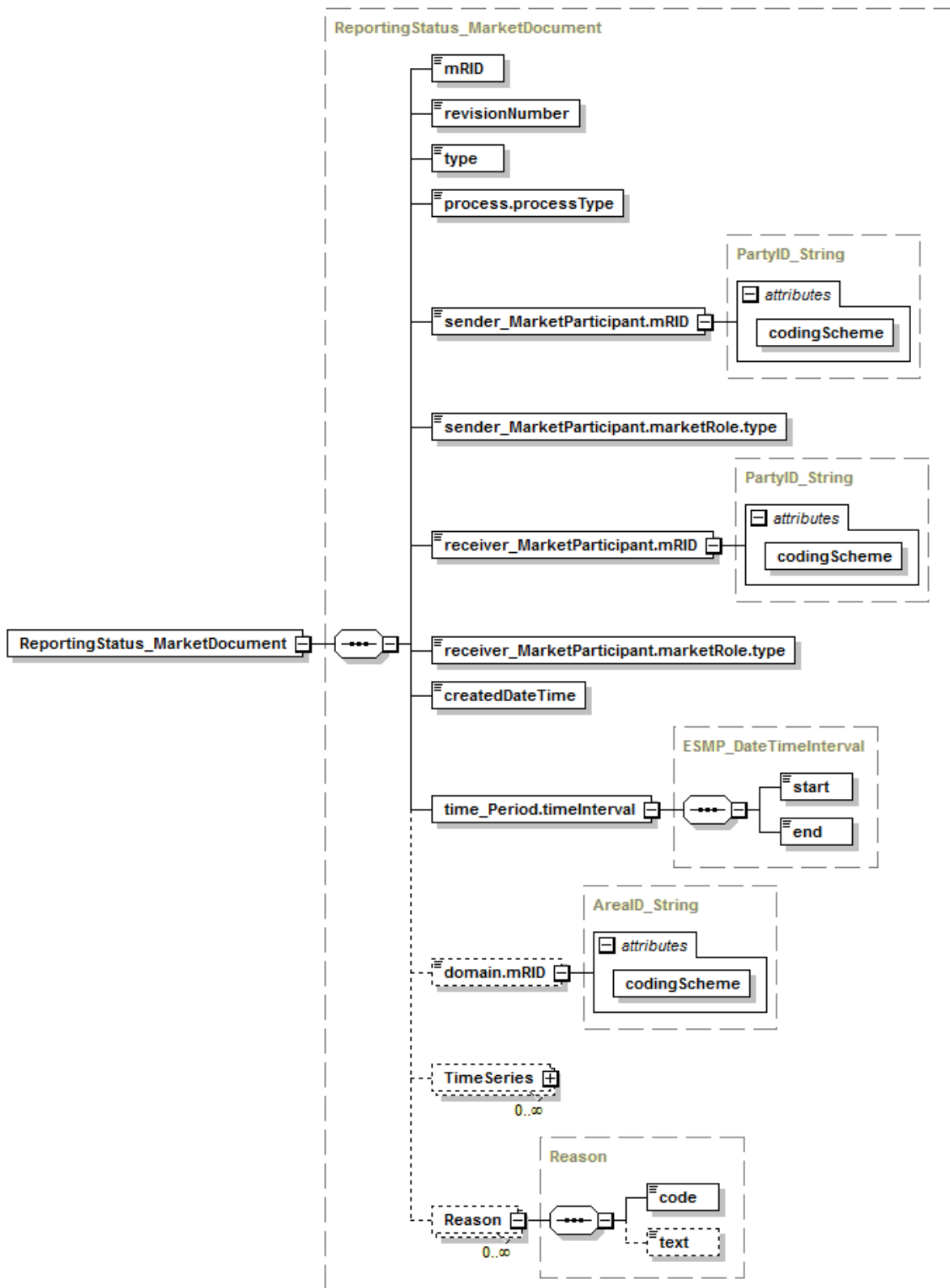
151 The list of datatypes used for the Reporting status assembly model is as follows:

- 152 • ESMP_DateTimeInterval compound
- 153 • AreaID_String datatype, codelist CodingSchemeTypeList
- 154 • BusinessKind_String datatype, codelist BusinessTypeList
- 155 • CurveType_String datatype, codelist CurveTypeList
- 156 • EnergyProductKind_String datatype, codelist EnergyProductTypeList
- 157 • ESMP_DateTime datatype
- 158 • ESMPVersion_String datatype
- 159 • ID_String datatype
- 160 • MarketRoleKind_String datatype, codelist RoleTypeList

- 161 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 162 • MessageKind_String datatype, codelist MessageTypeList
- 163 • PartyID_String datatype, codelist CodingSchemeTypeList
- 164 • Position_Integer datatype
- 165 • ProcessKind_String datatype, codelist ProcessTypeList
- 166 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 167 • ReasonText_String datatype
- 168 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 169 • YMDHM_DateTime datatype

170 **2.2.5 ReportingStatus_MarketDocument XML schema structure**

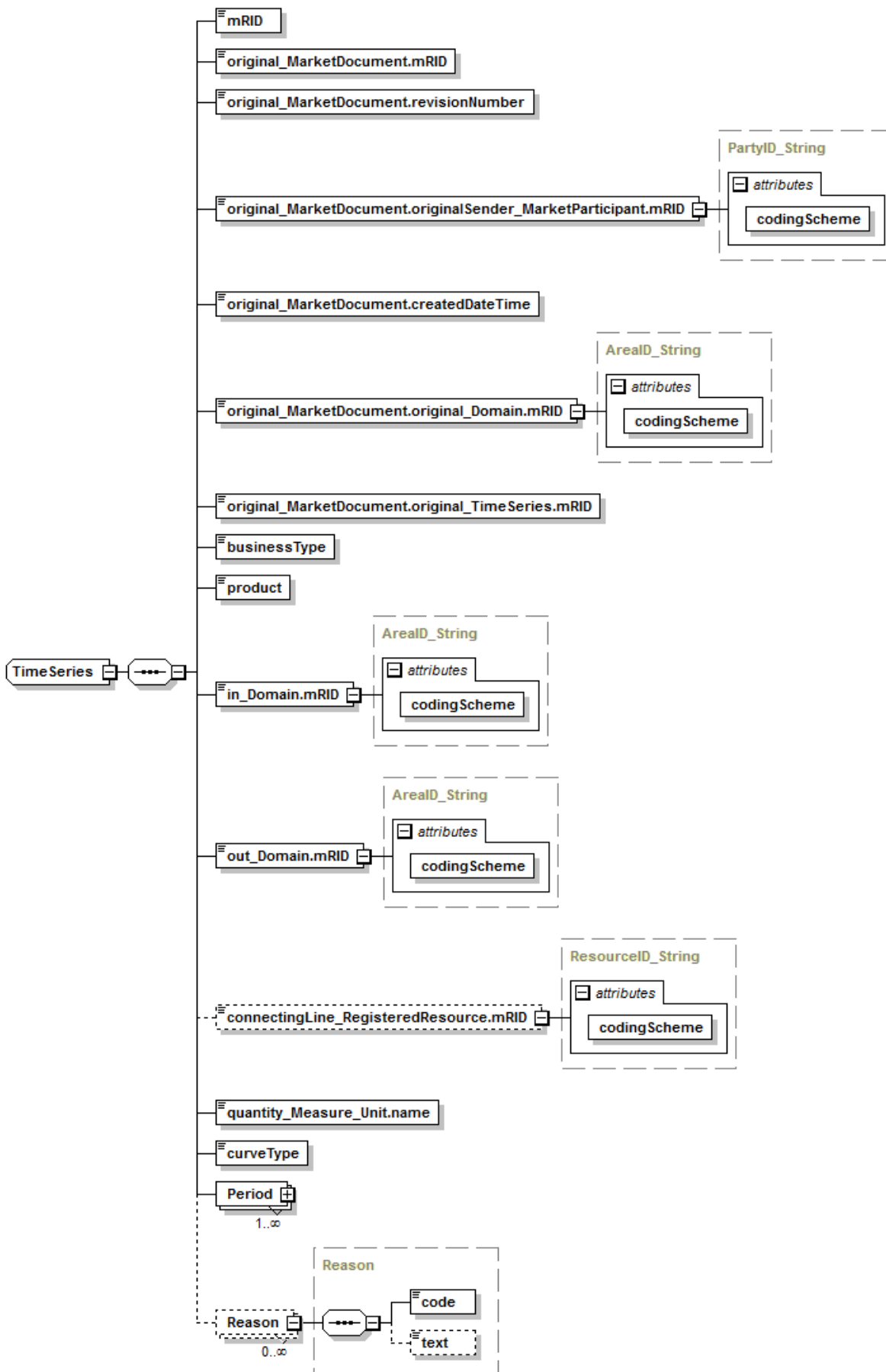
171 Figure 3 to Figure 5 provide the structure of the schema.



172

173

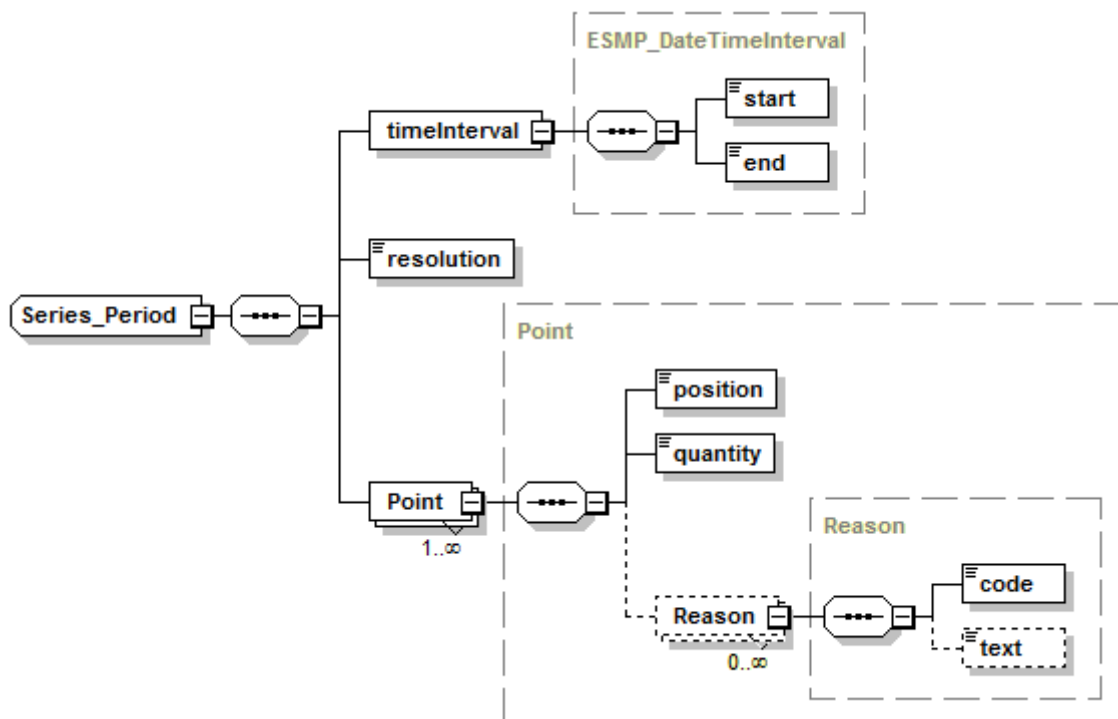
Figure 3 - ReportingStatus_MarketDocument schema structure 1/3



174

175

Figure 4 - ReportingStatus_MarketDocument schema structure 2/3



176

177

Figure 5 - ReportingStatus_MarketDocument schema structure 3/3

178 2.2.6 ReportingStatus_MarketDocument XML schema

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

180 urn:iec62325.351:tc57wg16: 451-n:reportingstatusdocument:2:0

```

181 <?xml version="1.0" encoding="utf-8"?>
182 <xs:schema xmlns:cl="urn:entsoe.eu:wgedi:codelists"
183 xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:iec62325.351:tc57wg16:451-
184 n:reportingstatusdocument:2:0" xmlns:cimp="http://www.iec.ch/cimprofile"
185 attributeFormDefault="unqualified" elementFormDefault="qualified"
186 targetNamespace="urn:iec62325.351:tc57wg16:451-n:reportingstatusdocument:2:0"
187 xmlns:xs="http://www.w3.org/2001/XMLSchema">
188 <xs:import schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"
189 namespace="urn:entsoe.eu:wgedi:codelists" />
190 <xs:element name="ReportingStatus_MarketDocument"
191 type="ReportingStatus_MarketDocument" />
192 <xs:simpleType name="Position_Integer"
193 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
194 <xs:restriction base="xs:integer">
195 <xs:maxInclusive value="999999" />
196 <xs:minInclusive value="1" />
197 </xs:restriction>
198 </xs:simpleType>
199 <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
200 schema-cim16#Point">
201 <xs:sequence>
202 <xs:element minOccurs="1" maxOccurs="1" name="position" type="Position_Integer"
203 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position">
204 </xs:element>
205 <xs:element minOccurs="1" maxOccurs="1" name="quantity" type="xs:decimal"
206 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity">
207 </xs:element>
208 <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
209 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.Reason">
210 </xs:element>
211 </xs:sequence>
212 </xs:complexType>

```

```

213     <xs:simpleType name="ReasonCode_String"
214 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
215     <xs:restriction base="cl:ReasonCodeTypeList" />
216     </xs:simpleType>
217     <xs:simpleType name="ReasonText_String"
218 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
219     <xs:restriction base="xs:string">
220     <xs:maxLength value="512" />
221     </xs:restriction>
222     </xs:simpleType>
223     <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
224 schema-cim16#Reason">
225     <xs:sequence>
226     <xs:element minOccurs="1" maxOccurs="1" name="code" type="ReasonCode_String"
227 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code">
228     </xs:element>
229     <xs:element minOccurs="0" maxOccurs="1" name="text" type="ReasonText_String"
230 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text">
231     </xs:element>
232     </xs:sequence>
233     </xs:complexType>
234     <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
235 schema-cim16#String">
236     <xs:restriction base="xs:string">
237     <xs:maxLength value="35" />
238     </xs:restriction>
239     </xs:simpleType>
240     <xs:simpleType name="ESMPVersion_String"
241 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
242     <xs:restriction base="xs:string">
243     <xs:pattern value="[1-9]([0-9]){0,2}" />
244     </xs:restriction>
245     </xs:simpleType>
246     <xs:simpleType name="MessageKind_String"
247 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
248     <xs:restriction base="cl:MessageTypeList" />
249     </xs:simpleType>
250     <xs:simpleType name="ProcessKind_String"
251 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
252     <xs:restriction base="cl:ProcessTypeList" />
253     </xs:simpleType>
254     <xs:simpleType name="PartyID_String-base"
255 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
256     <xs:restriction base="xs:string">
257     <xs:maxLength value="16" />
258     </xs:restriction>
259     </xs:simpleType>
260     <xs:complexType name="PartyID_String"
261 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
262     <xs:simpleContent>
263     <xs:extension base="PartyID_String-base">
264     <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
265 use="required" />
266     </xs:extension>
267     </xs:simpleContent>
268     </xs:complexType>
269     <xs:simpleType name="MarketRoleKind_String"
270 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
271     <xs:restriction base="cl:RoleTypeList" />
272     </xs:simpleType>
273     <xs:simpleType name="ESMP_DateTime"
274 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
275     <xs:restriction base="xs:dateTime">
276     <xs:pattern value="((([0-9]{4})[-](0[13578]|1[02])[-](0[1-9]|12)[0-
277 9]|3[01])|([0-9]{4})[-]((0[469])|(11))[-](0[1-9]|12)[0-9]|30)T((([01][0-9]|2[0-
278 3]):[0-5][0-9]:[0-5][0-
279 9])Z)|((([13579][26][02468][048]|13579][01345789])(0[48]|13579][01345789][2468][048]
280 |02468][048]|02468][048]|02468][1235679])(0[48]|02468][1235679][2468][048]|0[0-
281 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-
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282 9]:[0-5][0-
283 9)Z)|((( [13579][26][02468][1235679]| [13579][01345789](0)[01235679]| [13579][01345789][
284 2468][1235679]| [02468][048][02468][1235679]| [02468][1235679](0)[01235679]| [02468][123
285 5679][2468][1235679]| [0-9][0-9][13579][01345789]) \- ) (02) \- ) (0[1-9]|1[0-9]|2[0-
286 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"
290 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-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"
296 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
297 <xs:simpleContent>
298 <xs:extension base="AreaID_String-base">
299 <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
300 use="required" />
301 </xs:extension>
302 </xs:simpleContent>
303 </xs:complexType>
304 <xs:simpleType name="YMDHM_DateTime"
305 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
306 <xs:restriction base="xs:string">
307 <xs:pattern value="((( [0-9]{4}) \- ) (0[13578]|1[02]) \- ) (0[1-9]| [12][0-
308 9]|3[01])| ([0-9]{4}) \- ) ((0[469])| (11)) \- ) (0[1-9]| [12][0-9]|30))T(( [01][0-9]|2[0-
309 3]):[0-5][0-
310 9])Z)|((( [13579][26][02468][048]| [13579][01345789](0)[48]| [13579][01345789][2468][048]
311 | [02468][048][02468][048]| [02468][1235679](0)[48]| [02468][1235679][2468][048]| [0-
312 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-
313 9])Z)|((( [13579][26][02468][1235679]| [13579][01345789](0)[01235679]| [13579][01345789][
314 2468][1235679]| [02468][048][02468][1235679]| [02468][1235679](0)[01235679]| [02468][123
315 5679][2468][1235679]| [0-9][0-9][13579][01345789]) \- ) (02) \- ) (0[1-9]|1[0-9]|2[0-
316 8])T(( [01][0-9]|2[0-3]):[0-5][0-9])Z)" />
317 </xs:restriction>
318 </xs:simpleType>
319 <xs:complexType name="ESMP_DateTimeInterval"
320 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
321 <xs:sequence>
322 <xs:element minOccurs="1" maxOccurs="1" name="start" type="YMDHM_DateTime"
323 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
324 cim16#DateTimeInterval.start">
325 </xs:element>
326 <xs:element minOccurs="1" maxOccurs="1" name="end" type="YMDHM_DateTime"
327 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
328 cim16#DateTimeInterval.end">
329 </xs:element>
330 </xs:sequence>
331 </xs:complexType>
332 <xs:complexType name="ReportingStatus_MarketDocument"
333 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
334 <xs:sequence>
335 <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
336 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
337 cim16#IdentifiedObject.mRID">
338 </xs:element>
339 <xs:element minOccurs="1" maxOccurs="1" name="revisionNumber"
340 type="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
341 cim16#Document.revisionNumber">
342 </xs:element>
343 <xs:element minOccurs="1" maxOccurs="1" name="type" type="MessageKind_String"
344 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type">
345 </xs:element>
346 <xs:element minOccurs="1" maxOccurs="1" name="process.processType"
347 type="ProcessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
348 cim16#Process.processType">
349 </xs:element>

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350     <xs:element minOccurs="1" maxOccurs="1" name="sender_MarketParticipant.mRID"
351 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
352 cim16#IdentifiedObject.mRID">
353     </xs:element>
354     <xs:element minOccurs="1" maxOccurs="1"
355 name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
356 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
357     </xs:element>
358     <xs:element minOccurs="1" maxOccurs="1" name="receiver_MarketParticipant.mRID"
359 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
360 cim16#IdentifiedObject.mRID">
361     </xs:element>
362     <xs:element minOccurs="1" maxOccurs="1"
363 name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
364 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
365     </xs:element>
366     <xs:element minOccurs="1" maxOccurs="1" name="createdDateTime"
367 type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
368 cim16#Document.createdDateTime">
369     </xs:element>
370     <xs:element minOccurs="1" maxOccurs="1" name="time_Period.timeInterval"
371 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
372 schema-cim16#Period.timeInterval">
373     </xs:element>
374     <xs:element minOccurs="0" maxOccurs="1" name="domain.mRID" type="AreaID_String"
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
376 cim16#IdentifiedObject.mRID">
377     </xs:element>
378     <xs:element minOccurs="0" maxOccurs="unbounded" name="TimeSeries"
379 type="TimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
380 cim16#MarketDocument.TimeSeries">
381     </xs:element>
382     <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
383 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
384 cim16#MarketDocument.Reason">
385     </xs:element>
386   </xs:sequence>
387 </xs:complexType>
388 <xs:complexType name="Series_Period"
389 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
390   <xs:sequence>
391     <xs:element minOccurs="1" maxOccurs="1" name="timeInterval"
392 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
393 schema-cim16#Period.timeInterval">
394     </xs:element>
395     <xs:element minOccurs="1" maxOccurs="1" name="resolution" type="xs:duration"
396 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution">
397     </xs:element>
398     <xs:element minOccurs="1" maxOccurs="unbounded" name="Point" type="Point"
399 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point">
400     </xs:element>
401   </xs:sequence>
402 </xs:complexType>
403 <xs:simpleType name="BusinessKind_String"
404 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
405   <xs:restriction base="cl:BusinessTypeList" />
406 </xs:simpleType>
407 <xs:simpleType name="EnergyProductKind_String"
408 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
409   <xs:restriction base="cl:EnergyProductTypeList" />
410 </xs:simpleType>
411 <xs:simpleType name="ResourceID_String-base"
412 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
413   <xs:restriction base="xs:string">
414     <xs:maxLength value="60" />
415   </xs:restriction>
416 </xs:simpleType>
417 <xs:complexType name="ResourceID_String"
418 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">

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419     <xs:simpleContent>
420     <xs:extension base="ResourceID_String-base">
421     <xs:attribute name="codingScheme" type="cl:CodingSchemeTypeList"
422 use="required" />
423     </xs:extension>
424     </xs:simpleContent>
425   </xs:complexType>
426   <xs:simpleType name="MeasurementUnitKind_String"
427 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
428     <xs:restriction base="cl:UnitOfMeasureTypeList" />
429   </xs:simpleType>
430   <xs:simpleType name="CurveType_String"
431 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
432     <xs:restriction base="cl:CurveTypeList" />
433   </xs:simpleType>
434   <xs:complexType name="TimeSeries"
435 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
436     <xs:sequence>
437     <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
438 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
439 cim16#IdentifiedObject.mRID">
440     </xs:element>
441     <xs:element minOccurs="1" maxOccurs="1" name="original_MarketDocument.mRID"
442 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
443 cim16#IdentifiedObject.mRID">
444     </xs:element>
445     <xs:element minOccurs="1" maxOccurs="1"
446 name="original_MarketDocument.revisionNumber" type="ESMPVersion_String"
447 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
448 cim16#Document.revisionNumber">
449     </xs:element>
450     <xs:element minOccurs="1" maxOccurs="1"
451 name="original_MarketDocument.originalSender_MarketParticipant.mRID"
452 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
453 cim16#IdentifiedObject.mRID">
454     </xs:element>
455     <xs:element minOccurs="1" maxOccurs="1"
456 name="original_MarketDocument.createdDateTime" type="ESMP_DateTime"
457 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
458 cim16#Document.createdDateTime">
459     </xs:element>
460     <xs:element minOccurs="1" maxOccurs="1"
461 name="original_MarketDocument.original_Domain.mRID" type="AreaID_String"
462 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
463 cim16#IdentifiedObject.mRID">
464     </xs:element>
465     <xs:element minOccurs="1" maxOccurs="1"
466 name="original_MarketDocument.original_TimeSeries.mRID" type="ID_String"
467 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
468 cim16#IdentifiedObject.mRID">
469     </xs:element>
470     <xs:element minOccurs="1" maxOccurs="1" name="businessType"
471 type="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
472 cim16#TimeSeries.businessType">
473     </xs:element>
474     <xs:element minOccurs="1" maxOccurs="1" name="product"
475 type="EnergyProductKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
476 schema-cim16#TimeSeries.product">
477     </xs:element>
478     <xs:element minOccurs="1" maxOccurs="1" name="in_Domain.mRID"
479 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
480 cim16#IdentifiedObject.mRID">
481     </xs:element>
482     <xs:element minOccurs="1" maxOccurs="1" name="out_Domain.mRID"
483 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
484 cim16#IdentifiedObject.mRID">
485     </xs:element>
486     <xs:element minOccurs="0" maxOccurs="1"
487 name="connectingLine_RegisteredResource.mRID" type="ResourceID_String"

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488 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
489 cim16#IdentifiedObject.mRID">
490 </xs:element>
491 <xs:element minOccurs="1" maxOccurs="1" name="quantity_Measure_Unit.name"
492 type="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
493 schema-cim16#Unit.name">
494 </xs:element>
495 <xs:element minOccurs="1" maxOccurs="1" name="curveType"
496 type="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
497 cim16#TimeSeries.curveType">
498 </xs:element>
499 <xs:element minOccurs="1" maxOccurs="unbounded" name="Period"
500 type="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
501 cim16#TimeSeries.Period">
502 </xs:element>
503 <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
504 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.Reason">
505 </xs:element>
506 </xs:sequence>
507 </xs:complexType>
508 </xs:schema>
```