



European Network of
Transmission System Operators
for Electricity

REPORTING STATUS DOCUMENT UML MODEL AND SCHEMA

2022-02-01
APPROVED DOCUMENT
VERSION 1.1

2

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Revision History

Version	Release	Date	Comments
0	0	2017-01-19	First drafting of the document.
1	0	2017-01-30	Version to be submitted to Market Committee following WG EDI meeting in March 2017.
1	1	2022-02-01	<p>Updates in reporting status document XSD v2.1:</p> <ul style="list-style-type: none"> Quantity_Measure_Unit.name attribute was renamed to Quantity_Measurement_Unit.name to be compliant with the ESMP. mRID of Document, Series and Timeseries (ID_String type) was enlarged from 35 to 60 characters. <p>Approved by MC.</p>

62

63 **Objective**

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

66 The schema of the ReportingStatus_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.

87

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

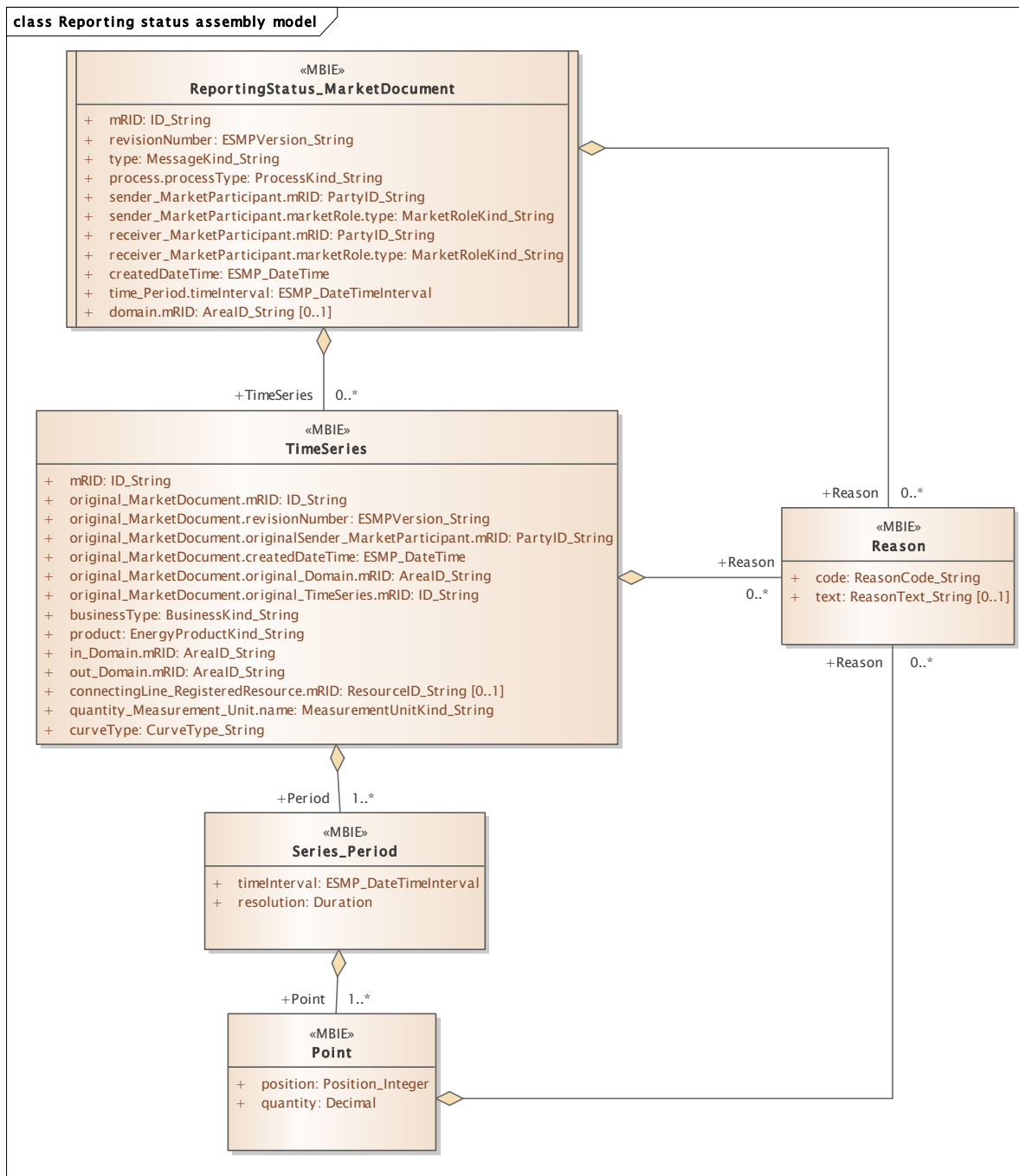
93

94

95 **2.2 Reporting status assembly model**

96 **2.2.1 Overview of the model**

97 Figure 2 shows the model.



98

99

Figure 2 - Reporting status assembly model

100

101
102 **2.2.2 IsBasedOn relationships from the European style market profile**
103 Table 2 shows the traceability dependency of the classes used in this package towards the
104 upper level.

105 **Table 2 - IsBasedOn dependency**

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

106
107 **2.2.3 Detailed Reporting status assembly model**
108 **2.2.3.1 ReportingStatus_MarketDocument root class**
109 An electronic document containing the information necessary to satisfy the requirements of a
110 given business process.
111 The reporting status market document is to be used to report the status of aggregated netted
112 external market schedules, aggregated netted external TSO schedules and compensation
113 program schedules on a given border.
114 Table 3 shows all attributes of ReportingStatus_MarketDocument.

115 **Table 3 - Attributes of Reporting status assembly model::ReportingStatus_MarketDocument**
116

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.

Order	mult.	Attribute name / Attribute type	Description
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 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.

117

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

119

120

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..*]

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 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.

126

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

128 **Table 6 - Association ends of Reporting status assembly model::Point with other**
129 **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..*]

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 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.

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 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.

140

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

142 **Table 9 - Association ends of Reporting status assembly model::Series_Period with**
143 **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 status contextual model::Series_Period.[] ----- Reporting status 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 Table 10 shows all attributes of TimeSeries.

148 **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.
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.

Order	mult.	Attribute name / Attribute type	Description
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.
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_Measurement_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.

149

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

151 **Table 11 - Association ends of Reporting status assembly model::TimeSeries with other**
152 **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.[]

153

154

155

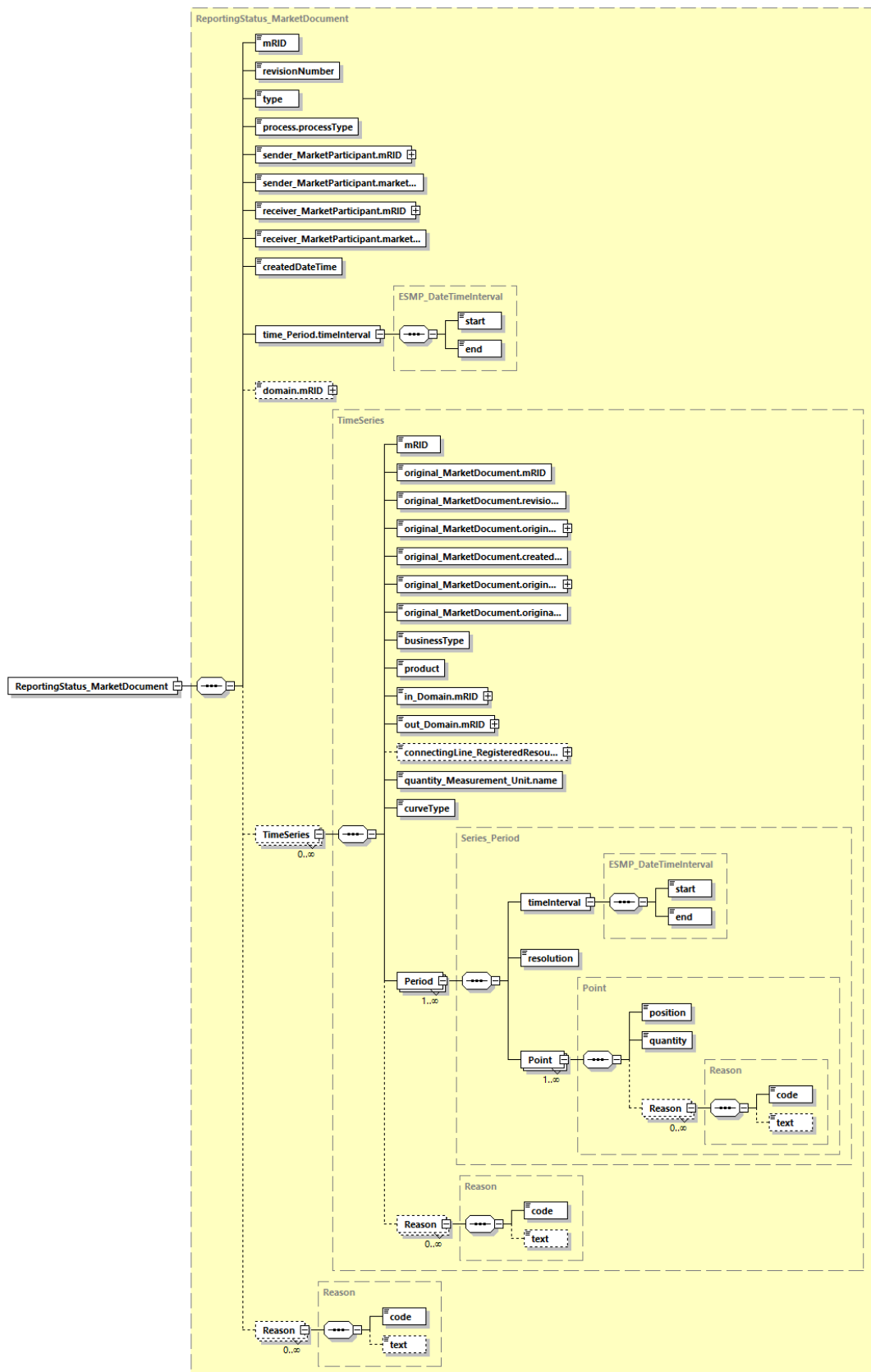
156 **2.2.4 Datatypes**

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

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

176 **2.2.5 ReportingStatus_MarketDocument XML schema structure**

177 Figure 3 provides the structure of the schema.



178

179

Figure 3 - ReportingStatus_MarketDocument schema structure

180

181 2.2.6 ReportingStatus_MarketDocument XML schema

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

183 urn:iec62325.351:tc57wg16:451-n:reportingstatusdocument:2:1

```
184 <?xml version="1.0" encoding="utf-8"?>
185 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
186 xmlns="urn:iec62325.351:tc57wg16:451-n:reportingstatusdocument:2:1"
187 xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
188 xmlns:cimp="http://www.iec.ch/cimprofile"
189 xmlns:xs="http://www.w3.org/2001/XMLSchema"
190 targetNamespace="urn:iec62325.351:tc57wg16:451-n:reportingstatusdocument:2:1"
191 elementFormDefault="qualified" attributeFormDefault="unqualified">
192   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
193 entsoe-eu-wgedi-codelists.xsd"/>
194   <xs:element name="ReportingStatus_MarketDocument"
195 type="ReportingStatus_MarketDocument"/>
196   <xs:simpleType name="Position_Integer"
197 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
198     <xs:restriction base="xs:integer">
199       <xs:maxInclusive value="999999"/>
200       <xs:minInclusive value="1"/>
201     </xs:restriction>
202   </xs:simpleType>
203   <xs:complexType name="Point"
204 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
205     <xs:sequence>
206       <xs:element name="position" type="Position_Integer"
207 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
208 schema-cim16#Point.position"/>
209       <xs:element name="quantity" type="xs:decimal" minOccurs="1"
210 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
211 cim16#Point.quantity"/>
212       <xs:element name="Reason" type="Reason" minOccurs="0"
213 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
214 cim16#Point.Reason"/>
215     </xs:sequence>
216   </xs:complexType>
217   <xs:simpleType name="ReasonCode_String"
218 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
219     <xs:restriction base="ecl:ReasonCodeTypeList"/>
220   </xs:simpleType>
221   <xs:simpleType name="ReasonText_String"
222 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-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"
228 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
229     <xs:sequence>
230       <xs:element name="code" type="ReasonCode_String" minOccurs="1"
231 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
232 cim16#Reason.code"/>
233       <xs:element name="text" type="ReasonText_String" minOccurs="0"
234 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
235 cim16#Reason.text"/>
236     </xs:sequence>
```



```

237     </xs:complexType>
238     <xs:simpleType name="ID_String"
239     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
240         <xs:restriction base="xs:string">
241             <xs:maxLength value="60"/>
242         </xs:restriction>
243     </xs:simpleType>
244     <xs:simpleType name="ESMPVersion_String"
245     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
246         <xs:restriction base="xs:string">
247             <xs:pattern value="[1-9]([0-9]){0,2}"/>
248         </xs:restriction>
249     </xs:simpleType>
250     <xs:simpleType name="MessageKind_String"
251     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
252         <xs:restriction base="ecl:MessageTypeList"/>
253     </xs:simpleType>
254     <xs:simpleType name="ProcessKind_String"
255     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
256         <xs:restriction base="ecl:ProcessTypeList"/>
257     </xs:simpleType>
258     <xs:simpleType name="PartyID_String-base"
259     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
260         <xs:restriction base="xs:string">
261             <xs:maxLength value="16"/>
262         </xs:restriction>
263     </xs:simpleType>
264     <xs:complexType name="PartyID_String"
265     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
266         <xs:simpleContent>
267             <xs:extension base="PartyID_String-base">
268                 <xs:attribute name="codingScheme"
269                 type="ecl:CodingSchemeTypeList" use="required"/>
270             </xs:extension>
271         </xs:simpleContent>
272     </xs:complexType>
273     <xs:simpleType name="MarketRoleKind_String"
274     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
275         <xs:restriction base="ecl:RoleTypeList"/>
276     </xs:simpleType>
277     <xs:simpleType name="ESMP_DateTime"
278     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
279         <xs:restriction base="xs:dateTime">
280             <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
281 9]|12)[0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-
282 9]|30)T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
283 9])Z)|(((13579)[26][02468][048]|13579[01345789](0)[48]|13579[01345789][2468][0
284 48]|02468[048][02468][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|
285 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
286 5][0-9]:[0-5][0-
287 9])Z)|(((13579)[26][02468][1235679]|13579[01345789](0)[01235679]|13579[0134578
288 9][2468][1235679]|02468[048][02468][1235679]|02468[1235679](0)[01235679]|0246
289 8[1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
290 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
291         </xs:restriction>
292     </xs:simpleType>
293     <xs:simpleType name="AreaID_String-base"
294     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
295         <xs:restriction base="xs:string">
296             <xs:maxLength value="18"/>

```

```

297         </xs:restriction>
298     </xs:simpleType>
299     <xs:complexType name="AreaID_String"
300 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
301         <xs:simpleContent>
302             <xs:extension base="AreaID_String-base">
303                 <xs:attribute name="codingScheme"
304 type="ecl:CodingSchemeTypeList" use="required"/>
305             </xs:extension>
306         </xs:simpleContent>
307     </xs:complexType>
308     <xs:simpleType name="YMDHM_DateTime"
309 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
310         <xs:restriction base="xs:string">
311             <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
312 9]|[12][0-9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|[12][0-
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316 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-
317 5][0-
318 9])Z)|((([13579][26][02468][1235679]|([13579][01345789](0)[01235679]|([13579][0134578
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320 8][1235679][2468][1235679]|([0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
321 9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
322         </xs:restriction>
323     </xs:simpleType>
324     <xs:complexType name="ESMP_DateTimeInterval"
325 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
326         <xs:sequence>
327             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
328 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
329 cim16#DateTimeInterval.start"/>
330             <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
331 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
332 cim16#DateTimeInterval.end"/>
333         </xs:sequence>
334     </xs:complexType>
335     <xs:complexType name="ReportingStatus_MarketDocument"
336 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
337         <xs:sequence>
338             <xs:element name="mRID" type="ID_String" minOccurs="1"
339 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
340 cim16#IdentifiedObject.mRID"/>
341             <xs:element name="revisionNumber" type="ESMPVersion_String"
342 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
343 schema-cim16#Document.revisionNumber"/>
344             <xs:element name="type" type="MessageKind_String" minOccurs="1"
345 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
346 cim16#Document.type"/>
347             <xs:element name="process.processType"
348 type="ProcessKind_String" minOccurs="1" maxOccurs="1"
349 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
350 cim16#Process.processType"/>
351             <xs:element name="sender_MarketParticipant.mRID"
352 type="PartyID_String" minOccurs="1" maxOccurs="1"
353 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
354 cim16#IdentifiedObject.mRID"/>

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355         <xs:element name="sender_MarketParticipant.marketRole.type"  
356 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"  
357 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>  
358         <xs:element name="receiver_MarketParticipant.mRID"  
359 type="PartyID_String" minOccurs="1" maxOccurs="1"  
360 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
361 cim16#IdentifiedObject.mRID"/>  
362         <xs:element name="receiver_MarketParticipant.marketRole.type"  
363 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"  
364 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>  
365         <xs:element name="createdDateTime" type="ESMP_DateTime"  
366 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
367 schema-cim16#Document.createdDateTime"/>  
368         <xs:element name="time_Period.timeInterval"  
369 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"  
370 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
371 cim16#Period.timeInterval"/>  
372         <xs:element name="domain.mRID" type="AreaID_String"  
373 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
374 schema-cim16#IdentifiedObject.mRID"/>  
375         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"  
376 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
377 cim16#MarketDocument.TimeSeries"/>  
378         <xs:element name="Reason" type="Reason" minOccurs="0"  
379 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
380 cim16#MarketDocument.Reason"/>  
381     </xs:sequence>  
382 </xs:complexType>  
383 <xs:complexType name="Series_Period"  
384 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">  
385     <xs:sequence>  
386         <xs:element name="timeInterval" type="ESMP_DateTimeInterval"  
387 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
388 schema-cim16#Period.timeInterval"/>  
389         <xs:element name="resolution" type="xs:duration" minOccurs="1"  
390 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
391 cim16#Period.resolution"/>  
392         <xs:element name="Point" type="Point" minOccurs="1"  
393 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
394 cim16#Period.Point"/>  
395     </xs:sequence>  
396 </xs:complexType>  
397 <xs:simpleType name="BusinessKind_String"  
398 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
399     <xs:restriction base="ecl:BusinessTypeList"/>  
400 </xs:simpleType>  
401 <xs:simpleType name="EnergyProductKind_String"  
402 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
403     <xs:restriction base="ecl:EnergyProductTypeList"/>  
404 </xs:simpleType>  
405 <xs:simpleType name="ResourceID_String-base"  
406 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
407     <xs:restriction base="xs:string">  
408         <xs:maxLength value="60"/>  
409     </xs:restriction>  
410 </xs:simpleType>  
411 <xs:complexType name="ResourceID_String"  
412 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
413     <xs:simpleContent>  
414         <xs:extension base="ResourceID_String-base">
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415         <xs:attribute name="codingScheme"
416 type="ecl:CodingSchemeTypeList" use="required"/>
417     </xs:extension>
418 </xs:simpleContent>
419 </xs:complexType>
420 <xs:simpleType name="MeasurementUnitKind_String"
421 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
422     <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
423 </xs:simpleType>
424 <xs:simpleType name="CurveType_String"
425 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
426     <xs:restriction base="ecl:CurveTypeList"/>
427 </xs:simpleType>
428 <xs:complexType name="TimeSeries"
429 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
430     <xs:sequence>
431         <xs:element name="mRID" type="ID_String" minOccurs="1"
432 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
433 cim16#IdentifiedObject.mRID"/>
434         <xs:element name="original_MarketDocument.mRID"
435 type="ID_String" minOccurs="1" maxOccurs="1"
436 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
437 cim16#IdentifiedObject.mRID"/>
438         <xs:element name="original_MarketDocument.revisionNumber"
439 type="ESMPVersion_String" minOccurs="1" maxOccurs="1"
440 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
441 cim16#Document.revisionNumber"/>
442         <xs:element
443 name="original_MarketDocument.originalSender_MarketParticipant.mRID"
444 type="PartyID_String" minOccurs="1" maxOccurs="1"
445 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
446 cim16#IdentifiedObject.mRID"/>
447         <xs:element name="original_MarketDocument.createdDateTime"
448 type="ESMP_DateTime" minOccurs="1" maxOccurs="1"
449 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
450 cim16#Document.createdDateTime"/>
451         <xs:element name="original_MarketDocument.original_Domain.mRID"
452 type="AreaID_String" minOccurs="1" maxOccurs="1"
453 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
454 cim16#IdentifiedObject.mRID"/>
455         <xs:element
456 name="original_MarketDocument.original_TimeSeries.mRID" type="ID_String"
457 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
458 schema-cim16#IdentifiedObject.mRID"/>
459         <xs:element name="businessType" type="BusinessKind_String"
460 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
461 schema-cim16#TimeSeries.businessType"/>
462         <xs:element name="product" type="EnergyProductKind_String"
463 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
464 schema-cim16#TimeSeries.product"/>
465         <xs:element name="in_Domain.mRID" type="AreaID_String"
466 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
467 schema-cim16#IdentifiedObject.mRID"/>
468         <xs:element name="out_Domain.mRID" type="AreaID_String"
469 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
470 schema-cim16#IdentifiedObject.mRID"/>
471         <xs:element name="connectingLine_RegisteredResource.mRID"
472 type="ResourceID_String" minOccurs="0" maxOccurs="1"
473 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
474 cim16#IdentifiedObject.mRID"/>

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475         <xs:element name="quantity_Measurement_Unit.name"  
476 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"  
477 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>  
478         <xs:element name="curveType" type="CurveType_String"  
479 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
480 schema-cim16#TimeSeries.curveType"/>  
481         <xs:element name="Period" type="Series_Period" minOccurs="1"  
482 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
483 cim16#TimeSeries.Period"/>  
484         <xs:element name="Reason" type="Reason" minOccurs="0"  
485 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
486 cim16#TimeSeries.Reason"/>  
487     </xs:sequence>  
488 </xs:complexType>  
489 </xs:schema>  
490
```