



European Network of
Transmission System Operators
for Electricity

RESOURCE SCHEDULE CONFIRMATION DOCUMENT UML MODEL AND SCHEMA

2022-09-06
AGREED DOCUMENT
VERSION 1.2

2

Table of Contents

3	1.	Objective	6
4	2.	ResourceScheduleConfirmation_MarketDocument.....	7
5	2.1.	Resource schedule confirmation contextual model	7
6	2.1.1.	Overview of the model	7
7	2.1.2.	IsBasedOn relationships from the European style market profile	8
9	2.2.	Resource schedule confirmation assembly model	9
10	2.2.1.	Overview of the model	9
11	2.2.2.	IsBasedOn relationships from the European style market profile	9
12	2.2.3.	Detailed Resource schedule confirmation assembly model	10
13	2.2.3.1.	ResourceScheduleConfirmation_MarketDocument root class	10
14	2.2.3.2.	Original_MarketDocument.....	11
15	2.2.3.3.	PlannedResource_TimeSeries	11
16	2.2.3.4.	Point	13
17	2.2.3.5.	Reason	13
18	2.2.3.6.	Series_Period	14
19	2.2.3.7.	UnavailableReserve_TimeSeries.....	14
20	2.2.4.	Datatypes	17
21	2.2.5.	ResourceScheduleConfirmation_MarketDocument XML schema structure	18
22	2.2.6.	ResourceScheduleConfirmation_MarketDocument XML schema.....	19

List of figures

28	Figure 1 - Resource schedule confirmation contextual model	7
29	Figure 2 - Resource schedule confirmation assembly model	9
30	Figure 3 - ResourceScheduleConfirmation_MarketDocument schema structure	18

List of tables

32	Table 1 - IsBasedOn dependency	8
33	Table 2 - IsBasedOn dependency	9
34	Table 3 - Attributes of Resource schedule confirmation assembly model::ResourceScheduleConfirmation_MarketDocument	10
35	Table 4 - Association ends of Resource schedule confirmation assembly model::ResourceScheduleConfirmation_MarketDocument with other classes	10
36	Table 5 - Attributes of Resource schedule confirmation assembly model::Original_MarketDocument	11
37	Table 6 - Association ends of Resource schedule confirmation assembly model::Original_MarketDocument with other classes	11
38	Table 7 - Attributes of Resource schedule confirmation assembly model::PlannedResource_TimeSeries.....	12
39	Table 8 - Association ends of Resource schedule confirmation assembly model::PlannedResource_TimeSeries with other classes	13

46	Table 9 - Attributes of Resource schedule confirmation assembly model::Point.....	13
47	Table 10 - Association ends of Resource schedule confirmation assembly model::Point	
48	with other classes	13
49	Table 11 - Attributes of Resource schedule confirmation assembly model::Reason.....	14
50	Table 12 - Attributes of Resource schedule confirmation assembly	
51	model::Series_Period.....	14
52	Table 13 - Association ends of Resource schedule confirmation assembly	
53	model::Series_Period with other classes	14
54	Table 14 - Attributes of Resource schedule confirmation assembly	
55	model::UnavailableReserve_TimeSeries	14
56	Table 15 - Association ends of Resource schedule confirmation assembly	
57	model::UnavailableReserve_TimeSeries with other classes	16
58		

59

Copyright notice:

60 **Copyright © ENTSO-E. All Rights Reserved.**

61 This document and its whole translations may be copied and furnished to others, and derivative
62 works that comment on or otherwise explain it or assist in its implementation may be prepared,
63 copied, published and distributed, in whole or in part, without restriction of any kind, provided
64 that the above copyright notice and this paragraph are included on all such copies and
65 derivative works. However, this document itself may not be modified in any way, except for
66 literal and whole translation into languages other than English and under all circumstances, the
67 copyright notice or references to ENTSO-E may not be removed.

68 This document and the information contained herein is provided on an "as is" basis.

69 **ENTSO-E DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT**
70 **LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT**
71 **INFRINGEMENT ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR**
72 **FITNESS FOR A PARTICULAR PURPOSE.**

73

Maintenance notice:

74 **This document is maintained by the ENTSO-E CIM EG. Comments or remarks are to be**
75 **provided at cim@entsoe.eu**

76

Revision History

Version	Release	Date	Comments
0	1	2019-01-14	First draft of the document.
1	0	2019-02-12	Approved by MC.
1	1	2021-09-15	Updates in resource schedule confirmation document XSD v6.1: An optional curveType attribute was added to Timeseries class. Approved by MC.
1	2	2022-09-06	Updates in resource schedule confirmation document XSD v6.2: Optional registeredResource.mRID, substituteResourceProvider_MarketRole.type and substituteRegisteredResource.mRID were added in UnavailableReserve_Timeseries. Agreed by CIM EG

77

78 **1. Objective**

79 The purpose of this document is to provide the contextual and assembly UML models and the
80 schema of the ResourceScheduleConfirmation_MarketDocument.

81 The schema of the ResourceScheduleConfirmation_MarketDocument could be used in various
82 business processes.

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

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

- 87 • Description of the business process;
- 88 • Use case of the business process;
- 89 • Sequence diagrams of the business process;
- 90 • List of the schema (XSD) to be used in the business process and versions of the
91 schema;
- 92 • For each schema, dependency tables providing the necessary information for the
93 generation of the XML instances, i.e. when the optional attributes are to be used, which
94 codes from which ENTSO-E codelist are to be used.

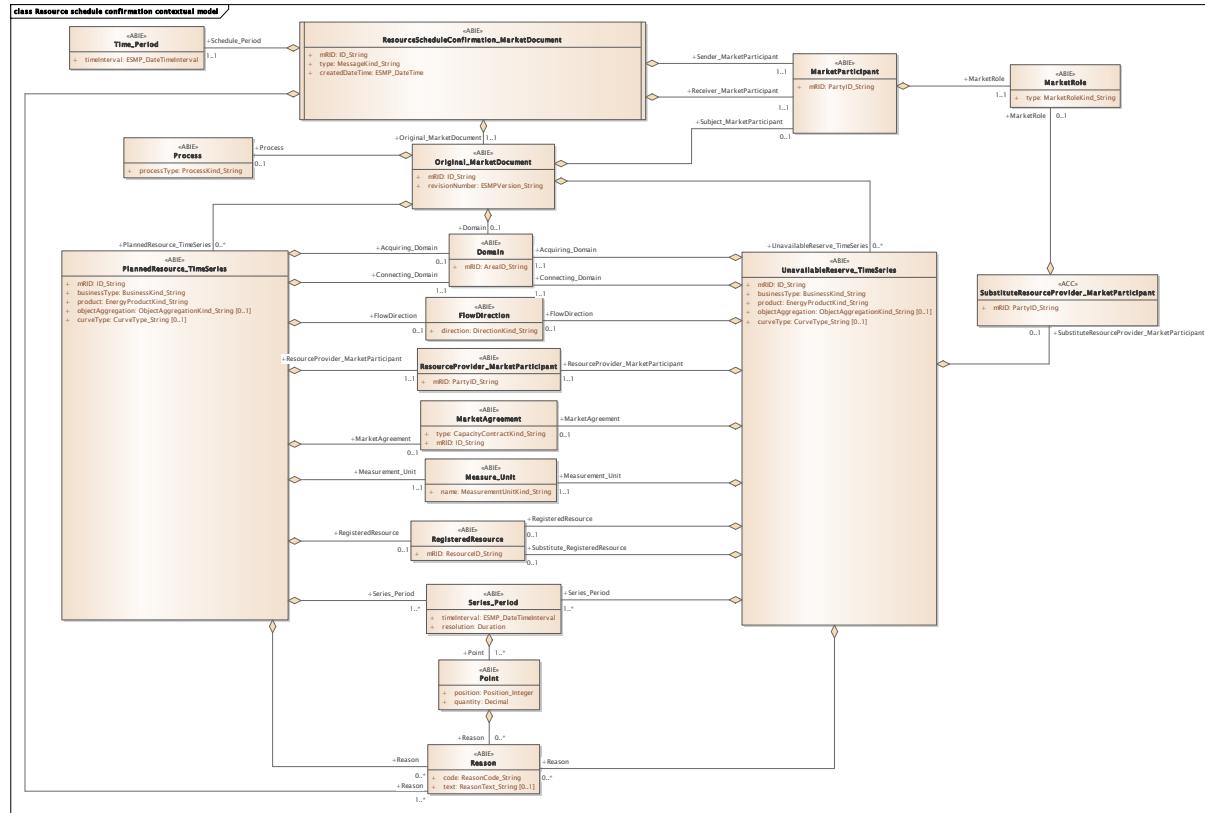
95

96 2. ResourceScheduleConfirmation_MarketDocument

97 2.1. Resource schedule confirmation contextual model

98 2.1.1. Overview of the model

99 Figure 1 shows the model.



100 101 102 **Figure 1 - Resource schedule confirmation contextual model**

103

104 **2.1.2. IsBasedOn relationships from the European style market profile**

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

107 **Table 1 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
Domain	TC57CIM::IEC62325::MarketManagement::Domain
FlowDirection	TC57CIM::IEC62325::MarketManagement::FlowDirection
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Original_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
PlannedResource_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
Point	TC57CIM::IEC62325::MarketManagement::Point
Process	TC57CIM::IEC62325::MarketManagement::Process
Reason	TC57CIM::IEC62325::MarketManagement::Reason
RegisteredResource	TC57CIM::IEC62325::MarketCommon::RegisteredResource
ResourceProvider_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
ResourceScheduleConfirmation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
SubstituteResourceProvider_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
UnavailableReserve_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

108

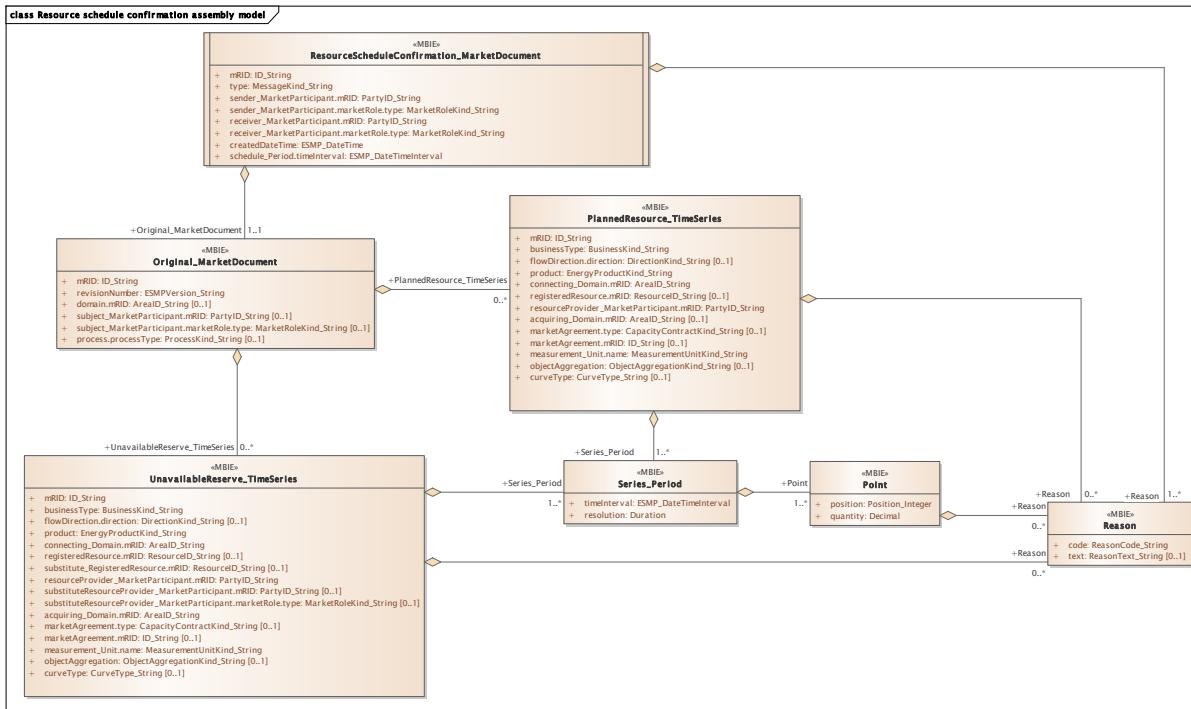
109

110

111 2.2. Resource schedule confirmation assembly model

112 2.2.1. Overview of the model

113 Figure 2 shows the model.



114

115 **Figure 2 - Resource schedule confirmation assembly model**

116 2.2.2. IsBasedOn relationships from the European style market profile

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

119 **Table 2 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
Original_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
PlannedResource_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
Point	TC57CIM::IEC62325::MarketManagement::Point
Reason	TC57CIM::IEC62325::MarketManagement::Reason
ResourceScheduleConfirmation_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
UnavailableReserve_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

120



121 **2.2.3. Detailed Resource schedule confirmation assembly model**
122 **2.2.3.1. ResourceScheduleConfirmation_MarketDocument root class**
123 An electronic document containing the information necessary to satisfy the requirements of a
124 given business process.
125 Table 3 shows all attributes of ResourceScheduleConfirmation_MarketDocument.

Table 3 - Attributes of Resource schedule confirmation assembly model::ResourceScheduleConfirmation_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]	type MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
2	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document owner.
3	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document owner. --- The role associated with a MarketParticipant.
4	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document recipient.
5	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document recipient. --- The role associated with a MarketParticipant.
6	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
7	[1..1]	schedule_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval.

128
129 Table 4 shows all association ends of ResourceScheduleConfirmation_MarketDocument with
130 other classes.

Table 4 - Association ends of Resource schedule confirmation assembly model::ResourceScheduleConfirmation_MarketDocument with other classes

Order	mult.	Class name / Role	Description
8	[1..1]	Original_MarketDocument Original_MarketDocument	Association Based On: Resource schedule confirmation contextual model::Original_MarketDocument.Original_MarketDocument[1..1] ----- Resource schedule confirmation contextual model::ResourceScheduleConfirmation_MarketDocument.[]
9	[1..*]	Reason Reason	Association Based On: Resource schedule confirmation contextual model::Reason.Reason[1..*] ----- Resource schedule confirmation contextual model::ResourceScheduleConfirmation_MarketDocument.[]

133

134 **2.2.3.2. Original_MarketDocument**

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

137 Table 5 shows all attributes of Original_MarketDocument.

138 **Table 5 - Attributes of Resource schedule confirmation assembly
139 model::Original_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	[0..1]	domain.mRID AreaID_String	The unique identification of the domain.
3	[0..1]	subject_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The party that is the subject of the documents time series.
4	[0..1]	subject_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The party that is the subject of the documents time series. --- The role associated with a MarketParticipant.
5	[0..1]	process.processType ProcessKind_String	The identification of the nature of process that the document addresses.

140

141 Table 6 shows all association ends of Original_MarketDocument with other classes.

142 **Table 6 - Association ends of Resource schedule confirmation assembly
143 model::Original_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
6	[0..*]	PlannedResource_TimeSeries PlannedResource_TimeSeries	Association Based On: Resource schedule confirmation contextual model::PlannedResource_TimeSeries.PlannedResource_TimeSeries[0..*] ---- Resource schedule confirmation contextual model::Original_MarketDocument.]
7	[0..*]	UnavailableReserve_TimeSeries UnavailableReserve_TimeSeries	Association Based On: Resource schedule confirmation contextual model::UnavailableReserve_TimeSeries.UnavailableReserve_TimeSeries[0..*] ---- Resource schedule confirmation contextual model::Original_MarketDocument.]

144

145 **2.2.3.3. PlannedResource_TimeSeries**

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

147 Table 7 shows all attributes of PlannedResource_TimeSeries.

148 **Table 7 - Attributes of Resource schedule confirmation assembly**
149 **model::PlannedResource_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	[0..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow. --- The flow direction associated with a TimeSeries.
3	[1..1]	product EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
4	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The domain associated with a TimeSeries.
5	[0..1]	registeredResource.mRID ResourceId_String	The unique identification of a resource. --- The identification of a resource associated with a TimeSeries.
6	[1..1]	resourceProvider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of a market participant associated with a TimeSeries.
7	[0..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The domain associated with a TimeSeries.
8	[0..1]	marketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract. --- The identification of an agreement associated with a TimeSeries.
9	[0..1]	marketAgreement.mRID ID_String	The unique identification of the agreement. --- The identification of an agreement associated with a TimeSeries.
10	[1..1]	measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.
11	[0..1]	objectAggregation ObjectAggregationKind_String	The identification of the domain that is the common denominator used to aggregate a time series.
12	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

150

151 Table 8 shows all association ends of PlannedResource_TimeSeries with other classes.

152 **Table 8 - Association ends of Resource schedule confirmation assembly**
153 **model::PlannedResource_TimeSeries with other classes**

Order	mult.	Class name / Role	Description
13	[1..*]	Series_Period Series_Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Resource schedule confirmation contextual model::PlannedResource_TimeSeries.[] ----- Resource schedule confirmation contextual model::Series_Period.Series_Period[1..*]
14	[0..*]	Reason Reason	Association Based On: Resource schedule confirmation contextual model::Reason.Reason[0..*] ----- Resource schedule confirmation contextual model::PlannedResource_TimeSeries.[]

154

155 **2.2.3.4. Point**

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

157 Table 9 shows all attributes of Point.

158 **Table 9 - Attributes of Resource schedule confirmation 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.

159

160 Table 10 shows all association ends of Point with other classes.

161 **Table 10 - Association ends of Resource schedule confirmation 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: Resource schedule confirmation contextual model::Point.[] ----- Resource schedule confirmation contextual model::Reason.Reason[0..*]

163

164 **2.2.3.5. Reason**

165 The motivation of an act.

166 Table 11 shows all attributes of Reason.

167 **Table 11 - Attributes of Resource schedule confirmation 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.

168

169 **2.2.3.6. Series_Period**

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

171 Table 12 shows all attributes of Series_Period.

172 **Table 12 - Attributes of Resource schedule confirmation 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.

174

175 Table 13 shows all association ends of Series_Period with other classes.

176 **Table 13 - Association ends of Resource schedule confirmation assembly
model::Series_Period with other classes**

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	The Point information associated with a given Series_Period.within a TimeSeries. Association Based On: Resource schedule confirmation contextual model::Series_Period.[] ----- Resource schedule confirmation contextual model::Point.Point[1..*]

178

179 **2.2.3.7. UnavailableReserve_TimeSeries**

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

181 Table 14 shows all attributes of UnavailableReserve_TimeSeries.

182 **Table 14 - Attributes of Resource schedule confirmation assembly
model::UnavailableReserve_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.

Order	mult.	Attribute name / Attribute type	Description
2	[0..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow. --- The flow direction associated with a TimeSeries.
3	[1..1]	product EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
4	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The domain associated with a TimeSeries.
5	[0..1]	registeredResource.mRID ResourceId_String	The unique identification of a resource. --- The identification of a resource associated with a TimeSeries.
6	[0..1]	substitute_RegisteredResource.mRID ResourceId_String	The unique identification of a resource. --- The identification of a resource associated with a TimeSeries.
7	[1..1]	resourceProvider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of a market participant associated with a TimeSeries.
8	[0..1]	substituteServiceProvider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The identification of a market participant associated with a TimeSeries.
9	[0..1]	substituteServiceProvider_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The identification of a market participant associated with a TimeSeries. --- The role associated with a MarketParticipant.
10	[1..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The domain associated with a TimeSeries.

Order	mult.	Attribute name / Attribute type	Description
11	[0..1]	marketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract. --- The identification of an agreement associated with a TimeSeries.
12	[0..1]	marketAgreement.mRID ID_String	The unique identification of the agreement. --- The identification of an agreement associated with a TimeSeries.
13	[1..1]	measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.
14	[0..1]	objectAggregation ObjectAggregationKind_String	The identification of the domain that is the common denominator used to aggregate a time series.
15	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

184

185 Table 15 shows all association ends of UnavailableReserve_TimeSeries with other classes.

186 **Table 15 - Association ends of Resource schedule confirmation assembly**
187 **model::UnavailableReserve_TimeSeries with other classes**

Order	mult.	Class name / Role	Description
16	[1..*]	Series_Period Series_Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Resource schedule confirmation contextual model::UnavailableReserve_TimeSeries.[] ---- Resource schedule confirmation contextual model::Series_Period.Series_Period[1..*]
17	[0..*]	Reason Reason	Association Based On: Resource schedule confirmation contextual model::Reason.Reason[0..*] ---- Resource schedule confirmation contextual model::UnavailableReserve_TimeSeries.[]

188

189

190

191 **2.2.4. Datatypes**

192 The list of datatypes used for the Resource schedule confirmation assembly model is as follows:

- 193 • ESMP_DateTimeInterval compound
- 194 • AreaID_String datatype, codelist CodingSchemeTypeList
- 195 • BusinessKind_String datatype, codelist BusinessTypeList
- 196 • CapacityContractKind_String datatype, codelist ContractTypeList
- 197 • CurveType_String datatype, codelist CurveTypeList
- 198 • DirectionKind_String datatype, codelist DirectionTypeList
- 199 • EnergyProductKind_String datatype, codelist EnergyProductTypeList
- 200 • ESMP_DateTime datatype
- 201 • ESMPVersion_String datatype
- 202 • ID_Integer datatype
- 203 • MarketRoleKind_String datatype, codelist RoleTypeList
- 204 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 205 • MessageKind_String datatype, codelist MessageTypeList
- 206 • ObjectAggregationKind_String datatype, codelist ObjectAggregationTypeList
- 207 • PartyID_String datatype, codelist CodingSchemeTypeList
- 208 • Position_Integer datatype
- 209 • ProcessKind_String datatype, codelist ProcessTypeList
- 210 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 211 • ReasonText_String datatype
- 212 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 213 • YMDHM_DateTime datatype

215 2.2.5. ResourceScheduleConfirmation_MarketDocument XML schema structure

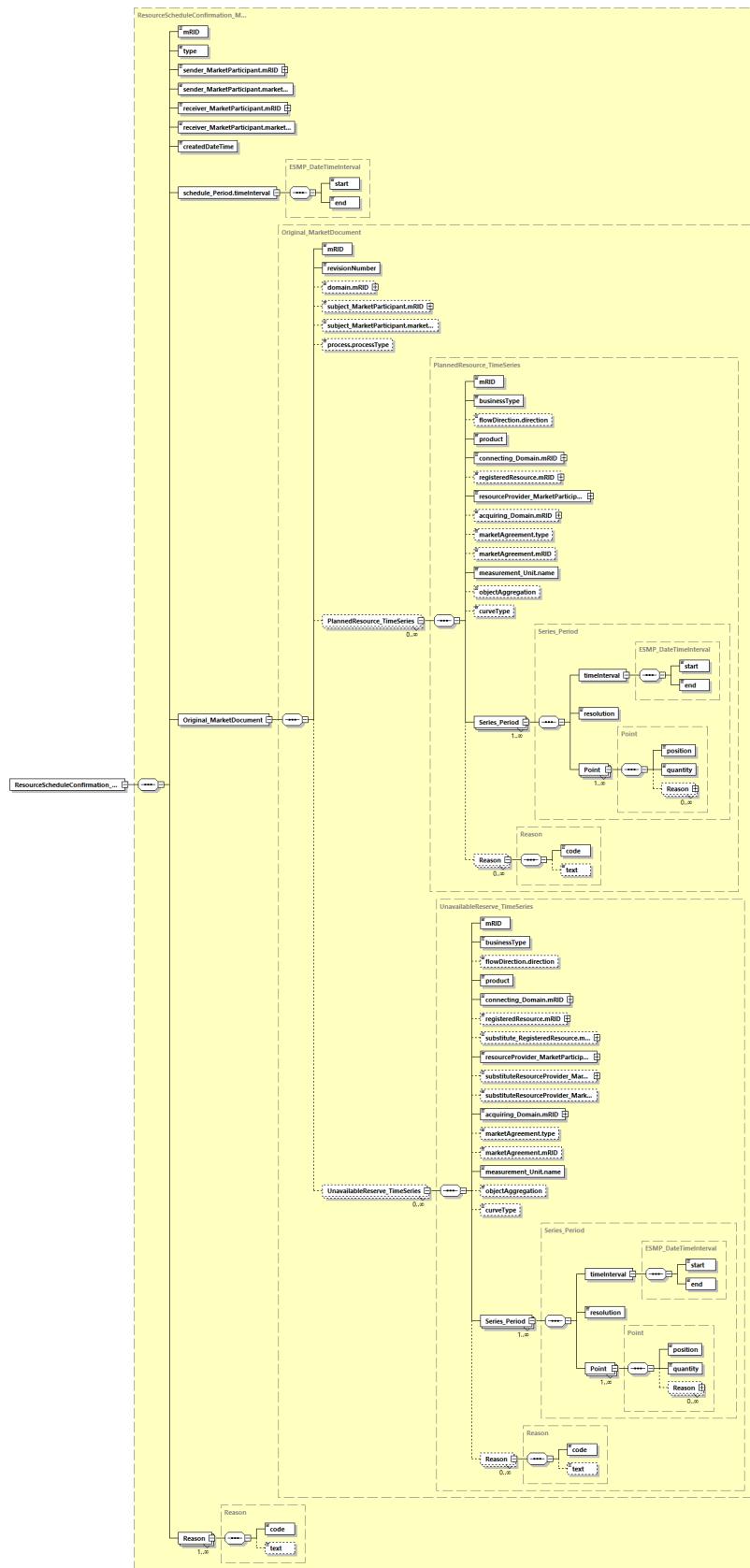


Figure 3 - ResourceScheduleConfirmation_MarketDocument schema structure

218 **2.2.6. ResourceScheduleConfirmation_MarketDocument XML schema**

219

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

221 urn:iec62325.351:tc57wg16:451-7:resourcescheduleconfirmationdocument:6:2

```
222 <?xml version="1.0" encoding="utf-8"?>
223 <xsschema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
224   xmlns="urn:iec62325.351:tc57wg16:451-7:resourcescheduleconfirmationdocument:6:2"
225   xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
226   xmlns:cimp="http://www.iec.ch/cimprofile"
227   xmlns:xs="http://www.w3.org/2001/XMLSchema"
228   targetNamespace="urn:iec62325.351:tc57wg16:451-
229   7:resourcescheduleconfirmationdocument:6:2" elementFormDefault="qualified"
230   attributeFormDefault="unqualified">
231     <xssimport namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
232 entsoe-eu-wgedi-codelists.xsd"/>
233     <xsselement name="ResourceScheduleConfirmation_MarketDocument"
234       type="ResourceScheduleConfirmation_MarketDocument"/>
235     <xssimpleType name="ID_String"
236       sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
237       <xssrestriction base="xs:string">
238         <xssmaxLength value="60"/>
239       </xssrestriction>
240     </xssimpleType>
241     <xssimpleType name="ESMPVersion_String"
242       sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
243       <xssrestriction base="xs:string">
244         <xsspattern value="[1-9]([0-9])\{0,2}\"/>
245       </xssrestriction>
246     </xssimpleType>
247     <xssimpleType name="AreaID_String-base"
248       sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
249       <xssrestriction base="xs:string">
250         <xssmaxLength value="18"/>
251       </xssrestriction>
252     </xssimpleType>
253     <xsscomplexType name="AreaID_String"
254       sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
255       <xsssimpleContent>
256         <xssextension base="AreaID_String-base">
257           <xssattribute name="codingScheme"
258             type="ecl:CodingSchemeTypeList" use="required"/>
259           </xssextension>
260         </xsssimpleContent>
261       </xsscomplexType>
262       <xssimpleType name="PartyID_String-base"
263         sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
264         <xssrestriction base="xs:string">
265           <xssmaxLength value="16"/>
266         </xssrestriction>
267       </xssimpleType>
268       <xsscomplexType name="PartyID_String"
269         sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
270         <xsssimpleContent>
```

```
271             <xs:extension base="PartyID_String-base">
272                 <xs:attribute name="codingScheme"
273 type="ecl:CodingSchemeTypeList" use="required"/>
274             </xs:extension>
275         </xs:simpleContent>
276     </xs:complexType>
277     <xs:simpleType name="MarketRoleKind_String"
278 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
279         <xs:restriction base="ecl:RoleTypeList"/>
280     </xs:simpleType>
281     <xs:simpleType name="ProcessKind_String"
282 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
283         <xs:restriction base="ecl:ProcessTypeList"/>
284     </xs:simpleType>
285     <xs:complexType name="Original_MarketDocument"
286 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
287         <xs:sequence>
288             <xs:element name="mRID" type="ID_String" minOccurs="1"
289 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
290 cim16#IdentifiedObject.mRID"/>
291             <xs:element name="revisionNumber" type="ESMPVersion_String"
292 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
293 schema-cim16#Document.revisionNumber"/>
294             <xs:element name="domain.mRID" type="AreaID_String"
295 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
296 schema-cim16#IdentifiedObject.mRID"/>
297             <xs:element name="subject_MarketParticipant.mRID"
298 type="PartyID_String" minOccurs="0" maxOccurs="1"
299 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
300 cim16#IdentifiedObject.mRID"/>
301             <xs:element name="subject_MarketParticipant.marketRole.type"
302 type="MarketRoleKind_String" minOccurs="0" maxOccurs="1"
303 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
304             <xs:element name="process.processType"
305 type="ProcessKind_String" minOccurs="0" maxOccurs="1"
306 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
307 cim16#Process.processType"/>
308             <xs:element name="PlannedResource_TimeSeries"
309 type="PlannedResource_TimeSeries" minOccurs="0" maxOccurs="unbounded"
310 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
311 cim16#MarketDocument.PlannedResource_TimeSeries"/>
312             <xs:element name="UnavailableReserve_TimeSeries"
313 type="UnavailableReserve_TimeSeries" minOccurs="0" maxOccurs="unbounded"
314 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
315 cim16#MarketDocument.UnavailableReserve_TimeSeries"/>
316         </xs:sequence>
317     </xs:complexType>
318     <xs:simpleType name="BusinessKind_String"
319 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
320         <xs:restriction base="ecl:BusinessTypeList"/>
321     </xs:simpleType>
322     <xs:simpleType name="DirectionKind_String"
323 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
324         <xs:restriction base="ecl:DirectionTypeList"/>
325     </xs:simpleType>
```

```
326      <xs:simpleType name="EnergyProductKind_String"  
327      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
328          <xs:restriction base="ecl:EnergyProductTypeList"/>  
329      </xs:simpleType>  
330      <xs:simpleType name="ResourceID_String-base"  
331      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
332          <xs:restriction base="xs:string">  
333              <xs:maxLength value="60"/>  
334          </xs:restriction>  
335      </xs:simpleType>  
336      <xs:complexType name="ResourceID_String"  
337      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
338          <xs:simpleContent>  
339              <xs:extension base="ResourceID_String-base">  
340                  <xs:attribute name="codingScheme"  
341 type="ecl:CodingSchemeTypeList" use="required"/>  
342          </xs:extension>  
343      </xs:simpleContent>  
344      </xs:complexType>  
345      <xs:simpleType name="CapacityContractKind_String"  
346      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
347          <xs:restriction base="ecl:ContractTypeList"/>  
348      </xs:simpleType>  
349      <xs:simpleType name="MeasurementUnitKind_String"  
350      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
351          <xs:restriction base="ecl:UnitOfMeasureTypeList"/>  
352      </xs:simpleType>  
353      <xs:simpleType name="ObjectAggregationKind_String"  
354      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
355          <xs:restriction base="ecl:ObjectAggregationTypeList"/>  
356      </xs:simpleType>  
357      <xs:simpleType name="CurveType_String"  
358      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
359          <xs:restriction base="ecl:CurveTypeList"/>  
360      </xs:simpleType>  
361      <xs:complexType name="PlannedResource_TimeSeries"  
362      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">  
363          <xs:sequence>  
364              <xs:element name="mRID" type="ID_String" minOccurs="1"  
365 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
366 cim16#IdentifiedObject.mRID"/>  
367                  <xs:element name="businessType" type="BusinessKind_String"  
368 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
369 schema-cim16#TimeSeries.businessType"/>  
370                  <xs:element name="flowDirection.direction"  
371 type="DirectionKind_String" minOccurs="0" maxOccurs="1"  
372 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
373 cim16#FlowDirection.direction"/>  
374                  <xs:element name="product" type="EnergyProductKind_String"  
375 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
376 schema-cim16#TimeSeries.product"/>  
377                  <xs:element name="connecting_Domain.mRID" type="AreaID_String"  
378 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
379 schema-cim16#IdentifiedObject.mRID"/>  
380                  <xs:element name="registeredResource.mRID"  
381 type="ResourceID_String" minOccurs="0" maxOccurs="1"
```

```
382     sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
383         cim16#IdentifiedObject.mRID"/>  
384             <xs:element name="resourceProvider_MarketParticipant.mRID"  
385                 type="PartyID_String" minOccurs="1" maxOccurs="1"  
386             sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
387                 cim16#IdentifiedObject.mRID"/>  
388                 <xs:element name="acquiring_Domain.mRID" type="AreaID_String"  
389                     minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
390                     schema-cim16#IdentifiedObject.mRID"/>  
391                         <xs:element name="marketAgreement.type"  
392                             type="CapacityContractKind_String" minOccurs="0" maxOccurs="1"  
393                         sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>  
394                             <xs:element name="marketAgreement.mRID" type="ID_String"  
395                                 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
396                                 schema-cim16#IdentifiedObject.mRID"/>  
397                                     <xs:element name="measurement_Unit.name"  
398                                         type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"  
399                                         sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>  
400                                             <xs:element name="objectAggregation"  
401                                                 type="ObjectAggregationKind_String" minOccurs="0" maxOccurs="1"  
402                                                 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
403                                                 cim16#TimeSeries.objectAggregation"/>  
404                                                 <xs:element name="curveType" type="CurveType_String"  
405                                                     minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
406                                                     schema-cim16#TimeSeries.curveType"/>  
407                                                     <xs:element name="Series_Period" type="Series_Period"  
408                                                         minOccurs="1" maxOccurs="unbounded"  
409                                                         sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
410                                                         cim16#TimeSeries.Series_Period"/>  
411                                                         <xs:element name="Reason" type="Reason" minOccurs="0"  
412                                                         maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
413                                                         cim16#TimeSeries.Reason"/>  
414                                                 </xs:sequence>  
415                                         </xs:complexType>  
416                                         <xs:simpleType name="Position_Integer"  
417                                             sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">  
418                                                 <xs:restriction base="xs:integer">  
419                                                     <xs:maxInclusive value="999999"/>  
420                                                     <xs:minInclusive value="1"/>  
421                                                 </xs:restriction>  
422                                         </xs:simpleType>  
423                                         <xs:complexType name="Point"  
424                                             sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">  
425                                                 <xs:sequence>  
426                                                     <xs:element name="position" type="Position_Integer"  
427                                                         minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
428                                                         schema-cim16#Point.position"/>  
429                                                     <xs:element name="quantity" type="xs:decimal" minOccurs="1"  
430                                                         maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
431                                                         cim16#Point.quantity"/>  
432                                                         <xs:element name="Reason" type="Reason" minOccurs="0"  
433                                                         maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
434                                                         cim16#Point.Reason"/>  
435                                                 </xs:sequence>  
436                                         </xs:complexType>
```

```
437      <xs:simpleType name="ReasonCode_String"  
438        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
439          <xs:restriction base="ecl:ReasonCodeTypeList"/>  
440      </xs:simpleType>  
441      <xs:simpleType name="ReasonText_String"  
442        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
443          <xs:restriction base="xs:string">  
444            <xs:maxLength value="512"/>  
445          </xs:restriction>  
446      </xs:simpleType>  
447      <xs:complexType name="Reason"  
448        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">  
449          <xs:sequence>  
450            <xs:element name="code" type="ReasonCode_String" minOccurs="1"  
451            maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
452            cim16#Reason.code"/>  
453            <xs:element name="text" type="ReasonText_String" minOccurs="0"  
454            maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
455            cim16#Reason.text"/>  
456          </xs:sequence>  
457      </xs:complexType>  
458      <xs:simpleType name="MessageKind_String"  
459        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
460          <xs:restriction base="ecl:MessageTypeList"/>  
461      </xs:simpleType>  
462      <xs:simpleType name="ESMP_DateTime"  
463        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">  
464          <xs:restriction base="xs:dateTime">  
465            <xs:pattern value="(([0-9]{4})[-](0[13578]|1[02])[-](0[1-  
466            9]|1[2][0-9]|3[01])|([0-9]{4})[-]((0[469])|(11))[-](0[1-9]|1[2][0-  
467            9]|3[0])T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-  
468            9])Z|(([13579][26][02468][048]|[13579][01345789](0)[48]|1[3579][01345789][2468][0  
469            48]|1[2468][048][02468][048]|1[02468][1235679](0)[48]|1[02468][1235679][2468][048]|1[  
470            0-9][0-9][13579][26])[-](02)[-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-  
471            5][0-9]:[0-5][0-  
472            9])Z|(([13579][26][02468][1235679]|1[3579][01345789](0)[01235679]|1[3579][0134578  
473            9][2468][1235679]|1[02468][048][02468][1235679]|1[02468][1235679](0)[01235679]|1[0246  
474            8][1235679][2468][1235679]|1[0-9][0-9][13579][01345789])[-](02)[-](0[1-9]|1[0-  
475            9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z"/>  
476          </xs:restriction>  
477      </xs:simpleType>  
478      <xs:simpleType name="YMDHM_DateTime"  
479        sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">  
480          <xs:restriction base="xs:string">  
481            <xs:pattern value="(([0-9]{4})[-](0[13578]|1[02])[-](0[1-  
482            9]|1[2][0-9]|3[01])|([0-9]{4})[-]((0[469])|(11))[-](0[1-9]|1[2][0-  
483            9]|3[0])T(([01][0-9]|2[0-3]):[0-5][0-  
484            9])Z|(([13579][26][02468][048]|[13579][01345789](0)[48]|1[3579][01345789][2468][0  
485            48]|1[02468][048][02468][048]|1[02468][1235679](0)[48]|1[02468][1235679][2468][048]|1[  
486            0-9][0-9][13579][26])[-](02)[-](0[1-9]|1[0-9]|2[0-9])T(([01][0-9]|2[0-3]):[0-  
487            5][0-  
488            9])Z|(([13579][26][02468][1235679]|1[3579][01345789](0)[01235679]|1[3579][0134578  
489            9][2468][1235679]|1[02468][048][02468][1235679]|1[02468][1235679](0)[01235679]|1[0246  
490            8][1235679][2468][1235679]|1[0-9][0-9][13579][01345789])[-](02)[-](0[1-9]|1[0-  
491            9]|2[0-8])T(([01][0-9]|2[0-3]):[0-5][0-9])Z"/>  
492          </xs:restriction>
```

```
493     </xs:simpleType>
494     <xs:complexType name="ESMP_DateTimeInterval"
495 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
496         <xs:sequence>
497             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
498 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
499 cim16#DateTimeInterval.start"/>
500                 <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
501 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
502 cim16#DateTimeInterval.end"/>
503             </xs:sequence>
504         </xs:complexType>
505         <xs:complexType name="ResourceScheduleConfirmation_MarketDocument"
506 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
507             <xs:sequence>
508                 <xs:element name="mRID" type="ID_String" minOccurs="1"
509 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
510 cim16#IdentifiedObject.mRID"/>
511                     <xs:element name="type" type="MessageKind_String" minOccurs="1"
512 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
513 cim16#Document.type"/>
514                     <xs:element name="sender_MarketParticipant.mRID"
515 type="PartyID_String" minOccurs="1" maxOccurs="1"
516 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
517 cim16#IdentifiedObject.mRID"/>
518                     <xs:element name="sender_MarketParticipant.marketRole.type"
519 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
520 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
521                     <xs:element name="receiver_MarketParticipant.mRID"
522 type="PartyID_String" minOccurs="1" maxOccurs="1"
523 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
524 cim16#IdentifiedObject.mRID"/>
525                     <xs:element name="receiver_MarketParticipant.marketRole.type"
526 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
527 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
528                     <xs:element name="createdDateTime" type="ESMP_DateTime"
529 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
530 schema-cim16#Document.createdDateTime"/>
531                     <xs:element name="schedule_Period.timeInterval"
532 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"
533 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
534 cim16#Period.timeInterval"/>
535                     <xs:element name="Original_MarketDocument"
536 type="Original_MarketDocument" minOccurs="1" maxOccurs="1"
537 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
538 cim16#MarketDocument.Original_MarketDocument"/>
539                     <xs:element name="Reason" type="Reason" minOccurs="1"
540 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
541 cim16#MarketDocument.Reason"/>
542                     </xs:sequence>
543                 </xs:complexType>
544                 <xs:complexType name="Series_Period"
545 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
546                     <xs:sequence>
```

```
547      <xs:element name="timeInterval" type="ESMP_DateTimeInterval"  
548      minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
549      schema-cim16#Period.timeInterval"/>  
550          <xs:element name="resolution" type="xs:duration" minOccurs="1"  
551          maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
552          cim16#Period.resolution"/>  
553              <xs:element name="Point" type="Point" minOccurs="1"  
554              maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
555              cim16#Period.Point"/>  
556          </xs:sequence>  
557      </xs:complexType>  
558      <xs:complexType name="UnavailableReserve_TimeSeries"  
559      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">  
560          <xs:sequence>  
561              <xs:element name="mRID" type="ID_String" minOccurs="1"  
562              maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
563              cim16#IdentifiedObject.mRID"/>  
564                  <xs:element name="businessType" type="BusinessKind_String"  
565                  minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
566                  schema-cim16#TimeSeries.businessType"/>  
567                      <xs:element name="flowDirection.direction"  
568                      type="DirectionKind_String" minOccurs="0" maxOccurs="1"  
569                      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
570                      cim16#FlowDirection.direction"/>  
571                          <xs:element name="product" type="EnergyProductKind_String"  
572                          minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
573                          schema-cim16#TimeSeries.product"/>  
574                              <xs:element name="connecting_Domain.mRID" type="AreaID_String"  
575                              minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
576                              schema-cim16#IdentifiedObject.mRID"/>  
577                                  <xs:element name="registeredResource.mRID"  
578                                  type="ResourceID_String" minOccurs="0" maxOccurs="1"  
579                                  sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
580                                  cim16#IdentifiedObject.mRID"/>  
581                                      <xs:element name="substitute_RegisteredResource.mRID"  
582                                      type="ResourceID_String" minOccurs="0" maxOccurs="1"  
583                                      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
584                                      cim16#IdentifiedObject.mRID"/>  
585                                          <xs:element name="resourceProvider_MarketParticipant.mRID"  
586                                          type="PartyID_String" minOccurs="1" maxOccurs="1"  
587                                          sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
588                                          cim16#IdentifiedObject.mRID"/>  
589                                              <xs:element  
590                                              name="substituteResourceProvider_MarketParticipant.mRID" type="PartyID_String"  
591                                              minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
592                                              schema-cim16#IdentifiedObject.mRID"/>  
593                                              <xs:element  
594                                              name="substituteResourceProvider_MarketParticipant.marketRole.type"  
595                                              type="MarketRoleKind_String" minOccurs="0" maxOccurs="1"  
596                                              sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>  
597                                                  <xs:element name="acquiring_Domain.mRID" type="AreaID_String"  
598                                                  minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
599                                                  schema-cim16#IdentifiedObject.mRID"/>  
600                                              <xs:element name="marketAgreement.type"  
601                                              type="CapacityContractKind_String" minOccurs="0" maxOccurs="1"  
602                                              sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
```

```
603      <xs:element name="marketAgreement.mRID" type="ID_String"
604      minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
605      schema-cim16#IdentifiedObject.mRID"/>
606          <xs:element name="measurement_Unit.name"
607          type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
608          sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
609              <xs:element name="objectAggregation"
610              type="ObjectAggregationKind_String" minOccurs="0" maxOccurs="1"
611              sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
612              cim16#TimeSeries.objectAggregation"/>
613                  <xs:element name="curveType" type="CurveType_String"
614                  minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
615                  schema-cim16#TimeSeries.curveType"/>
616                      <xs:element name="Series_Period" type="Series_Period"
617                      minOccurs="1" maxOccurs="unbounded"
618                      sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
619                      cim16#TimeSeries.Series_Period"/>
620                          <xs:element name="Reason" type="Reason" minOccurs="0"
621                          maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
622                          cim16#TimeSeries.Reason"/>
623                  </xs:sequence>
624          </xs:complexType>
625      </xs:schema>
626
```