



European Network of
Transmission System Operators
for Electricity

**TOTAL ALLOCATION RESULT
DOCUMENT
UML MODEL AND SCHEMA**

2018-05-08
DOCUMENT APPROVED
VERSION 1.0

2

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48	other classes	15
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Revision History

Version	Release	Date	Comments
0	1	2018-03-12	First drafting of the document.
1	0	2018-05-08	Document approved by MC.

68

69 **1 Objective**

70 The purpose of this document is to provide the contextual and assembly UML models and the
71 schema of the TotalAllocationResult_MarketDocument.

72 The schema of the TotalAllocationResult_MarketDocument could be used in various business
73 processes.

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

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

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

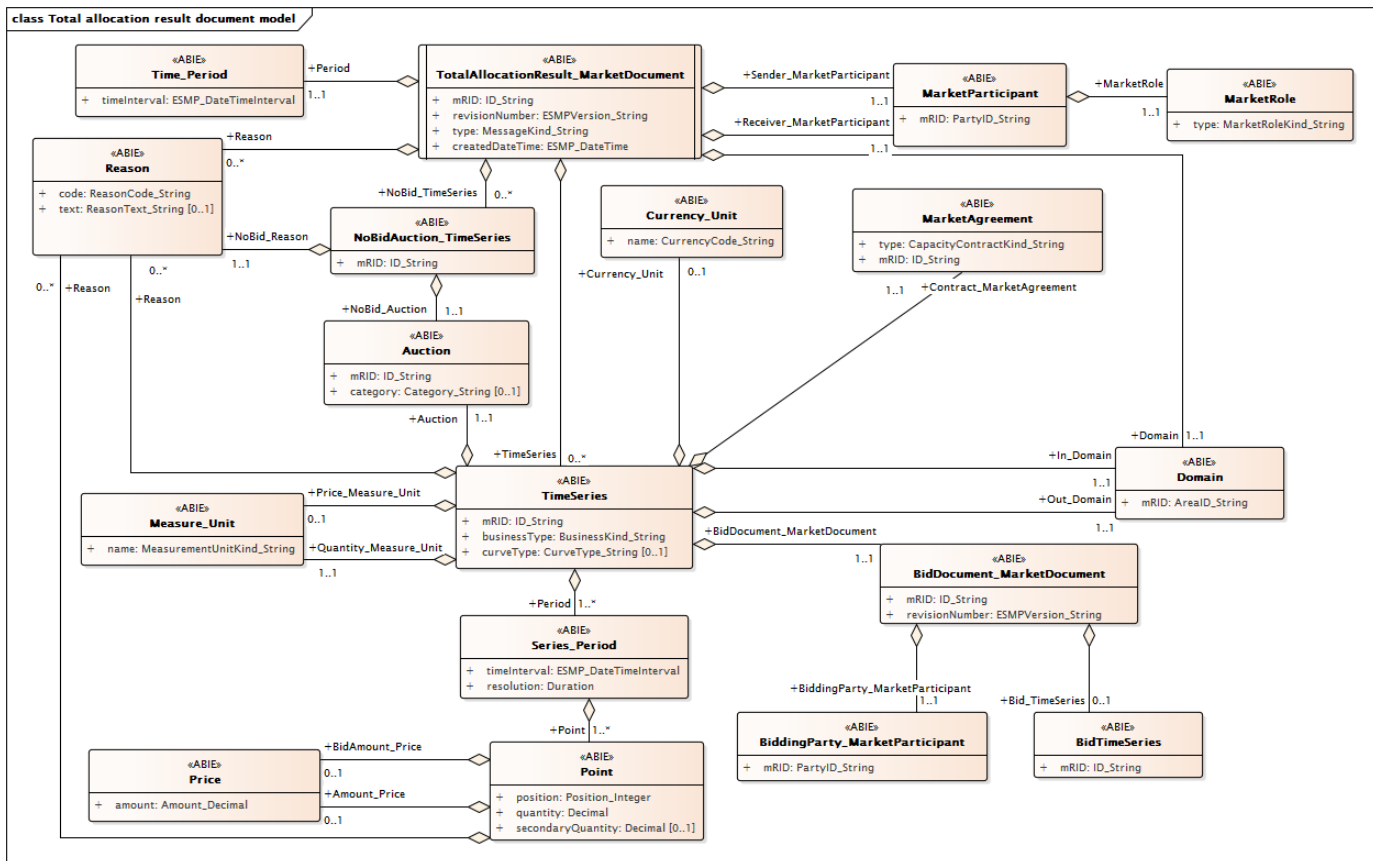
86

87 **2 TotalAllocationResult_MarketDocument**

88 **2.1 Total allocation result contextual model**

89 **2.1.1 Overview of the model**

90 Figure 1 shows the model.



91

92

Figure 1 - Total allocation result contextual model

93

94

95 **2.1.2 IsBasedOn relationships from the European style market profile**

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

98

Table 1 - IsBasedOn dependency

Name	Complete IsBasedOn Path
Auction	TC57CIM::IEC62325::MarketManagement::Auction
BiddingParty_MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
BidDocument_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
BidTimeSeries	TC57CIM::IEC62325::MarketManagement::BidTimeSeries
Currency_Unit	TC57CIM::IEC62325::MarketManagement::Unit
Domain	TC57CIM::IEC62325::MarketManagement::Domain
MarketAgreement	TC57CIM::IEC62325::MarketManagement::MarketAgreement
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
NoBidAuction_TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
Point	TC57CIM::IEC62325::MarketManagement::Point
Price	TC57CIM::IEC62325::MarketManagement::Price
Reason	TC57CIM::IEC62325::MarketManagement::Reason
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries
TotalAllocationResult_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument

99

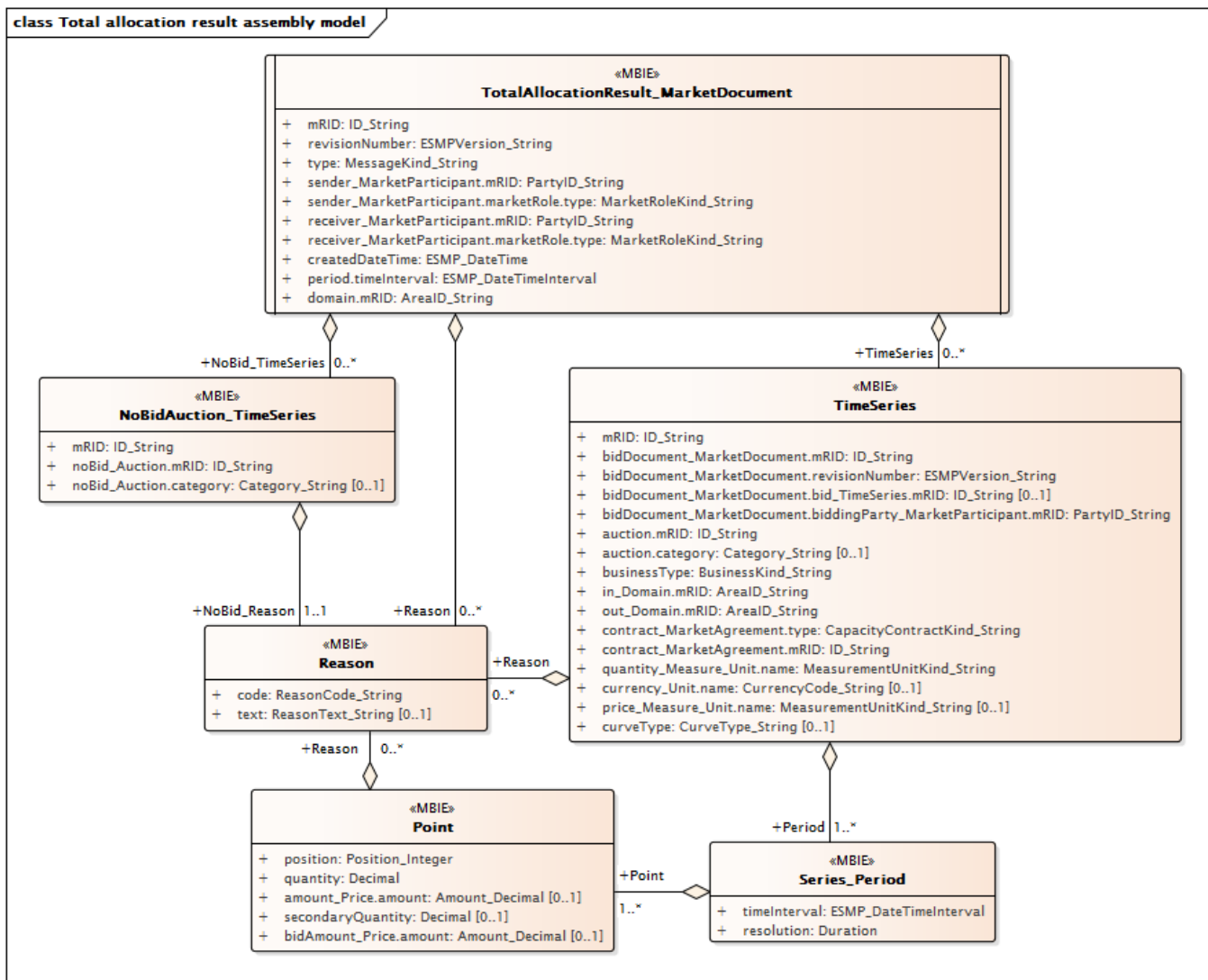
100

101

102 2.2 Total allocation result assembly model

103 2.2.1 Overview of the model

104 Figure 2 shows the model.



105

106 **Figure 2 - Total allocation result assembly model**

107 2.2.2 IsBasedOn relationships from the European style market profile

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

110

Table 2 - IsBasedOn dependency

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

Name	Complete IsBasedOn Path
TotalAllocationResult_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument

- 111
- 112 **2.2.3 Detailed Total allocation result assembly model**
- 113 **2.2.3.1 TotalAllocationResult_MarketDocument root class**
- 114 An electronic document containing the information necessary to satisfy the requirements of a
115 given business process.
- 116 The total allocation result document contains the results of the auction for all the bidding parties
117 with the same granularity information as the allocation result document.
- 118 Table 3 shows all attributes of TotalAllocationResult_MarketDocument.

Table 3 - Attributes of Total allocation result assembly model::TotalAllocationResult_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]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
4	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document owner.
5	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.
6	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document recipient.
7	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
8	[1..1]	period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The beginning and ending date and time of the period covered by the document.
9	[1..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The domain covered within the document, i.e. the border.

- 121
- 122 Table 4 shows all association ends of TotalAllocationResult_MarketDocument with other
123 classes.

124
125

**Table 4 - Association ends of Total allocation result assembly
model::TotalAllocationResult_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
10	[0..*]	TimeSeries TimeSeries	Association Based On: Total allocation result contextual model::TimeSeries.TimeSeries[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]
11	[0..*]	Reason Reason	Association Based On: Total allocation result contextual model::Reason.Reason[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]
12	[0..*]	NoBidAuction_TimeSeries NoBid_TimeSeries	This specific time series is to be used when there is no bid submitted at an auction. In such a case, the time series provides the identification of the cancelled auction. A reason class is to be provided with the value corresponding to the information "no bid". Association Based On: Total allocation result contextual model::NoBidAuction_TimeSeries.NoBid_TimeSeries[0..*] ----- Total allocation result contextual model::TotalAllocationResult_MarketDocument.[]

126

127 **2.2.3.2 NoBidAuction_TimeSeries**

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

129 Table 5 shows all attributes of NoBidAuction_TimeSeries.

130 **Table 5 - Attributes of Total allocation result assembly**
131 **model::NoBidAuction_TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[1..1]	noBid_Auction.mRID ID_String	The unique identification of the auction. --- It provides the auction identification when there is no bid submitted.
2	[0..1]	noBid_Auction.category Category_String	The product category of an auction. --- It provides the auction identification when there is no bid submitted.

132

133 Table 6 shows all association ends of NoBidAuction_TimeSeries with other classes.

134 **Table 6 - Association ends of Total allocation result assembly**
135 **model::NoBidAuction_TimeSeries with other classes**

Order	mult.	Class name / Role	Description
3	[1..1]	Reason NoBid_Reason	Association Based On: Total allocation result contextual model::Reason.NoBid_Reason[1..1] ----- Total allocation result contextual model::NoBidAuction_TimeSeries.[]

136

137 **2.2.3.3 Point**

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

139 Table 7 shows all attributes of Point.

140 **Table 7 - Attributes of Total allocation result 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.
2	[0..1]	amount_Price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- The price expressed for each unit of quantity allocated.
3	[0..1]	secondaryQuantity Decimal	The quantity that was in the original bid document. The secondary quantity identified for a point.
4	[0..1]	bidAmount_Price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- The original price expressed in the original bid or resale for each unit of quantity requested.

141

142 Table 8 shows all association ends of Point with other classes.

143 **Table 8 - Association ends of Total allocation result assembly model::Point with other classes**

144

Order	mult.	Class name / Role	Description
5	[0..*]	Reason Reason	Association Based On: Total allocation result contextual model::Reason.Reason[0..*] ----- Total allocation result contextual model::Point.[]

145

146 **2.2.3.4 Reason**

147 The motivation of an act.

148 Table 9 shows all attributes of Reason.

149 **Table 9 - Attributes of Total allocation result 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.

150

151 **2.2.3.5 Series_Period**

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

153 Table 10 shows all attributes of Series_Period.

154 **Table 10 - Attributes of Total allocation result 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.

155

156 Table 11 shows all association ends of Series_Period with other classes.

157 **Table 11 - Association ends of Total allocation result assembly model::Series_Period**
158 **with other classes**

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	Association Based On: Total allocation result contextual model::Point.Point[1..*] ----- Total allocation result contextual model::Series_Period.[]

159

160 2.2.3.6 TimeSeries

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

162 Table 12 shows all attributes of TimeSeries.

163 **Table 12 - Attributes of Total allocation result 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]	bidDocument_MarketDocument.mRID ID_String	The unique identification of the document being exchanged within a business process flow. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries.
2	[1..1]	bidDocument_MarketDocument.revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries.
3	[0..1]	bidDocument_MarketDocument.bid_TimeSeries.mRID ID_String	A unique identification of the time series. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries. --- The identification of the time series that was used in the original bid or resale. This is the unique number that is assigned by the bidder when he made his original bid or resale.

Order	mult.	Attribute name / Attribute type	Description
4	[1..1]	bidDocument_MarketDocument.biddingParty_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of the document that contains the bids or resales referenced in the BidTimeSeries. --- The identification of the party who bid for the capacity or resold it.
5	[1..1]	auction.mRID ID_String	The unique identification of the auction. --- The identification linking the allocation to a set of specifications created by the auction operator.
6	[0..1]	auction.category Category_String	The product category of an auction. --- The identification linking the allocation to a set of specifications created by the auction operator.
7	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
8	[1..1]	in_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is to be put.
9	[1..1]	out_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is coming from.
10	[1..1]	contract_MarketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract. --- The contract type defines the conditions under which the transmission capacity was allocated and handled, e.g.: daily auction, weekly auction, monthly auction, yearly auction, long term contract, etc. The significance of this type is dependent on the in area and out area specific coded working methods. The transmission capacity allocator responsible for the area in question auctions defines the contract type to be used.

Order	mult.	Attribute name / Attribute type	Description
11	[1..1]	contract_MarketAgreement.mRID ID_String	The unique identification of the agreement. --- The contract type defines the conditions under which the transmission capacity was allocated and handled, e.g.: daily auction, weekly auction, monthly auction, yearly auction, long term contract, etc. The significance of this type is dependent on the in area and out area specific coded working methods. The transmission capacity allocator responsible for the area in question auctions defines the contract type to be used.
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 that is applied to the quantities in which the time series is expressed, e.g. MAW.
13	[0..1]	currency_Unit.name CurrencyCode_String	The identification of the formal code for a currency (ISO 4217). --- The currency in which the monetary amount is expressed.
14	[0..1]	price_Measure_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure in which the price in the time series is expressed
15	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.

164

165 Table 13 shows all association ends of TimeSeries with other classes.

166 **Table 13 - Association ends of Total allocation result assembly model::TimeSeries with**
167 **other classes**

Order	mult.	Class name / Role	Description
16	[1..*]	Series_Period Period	Association Based On: Total allocation result contextual model::Series_Period.Period[1..*] ----- Total allocation result contextual model::TimeSeries.[]
17	[0..*]	Reason Reason	Association Based On: Total allocation result contextual model::Reason.Reason[0..*] ----- Total allocation result contextual model::TimeSeries.[]

168

169 2.2.4 Datatypes

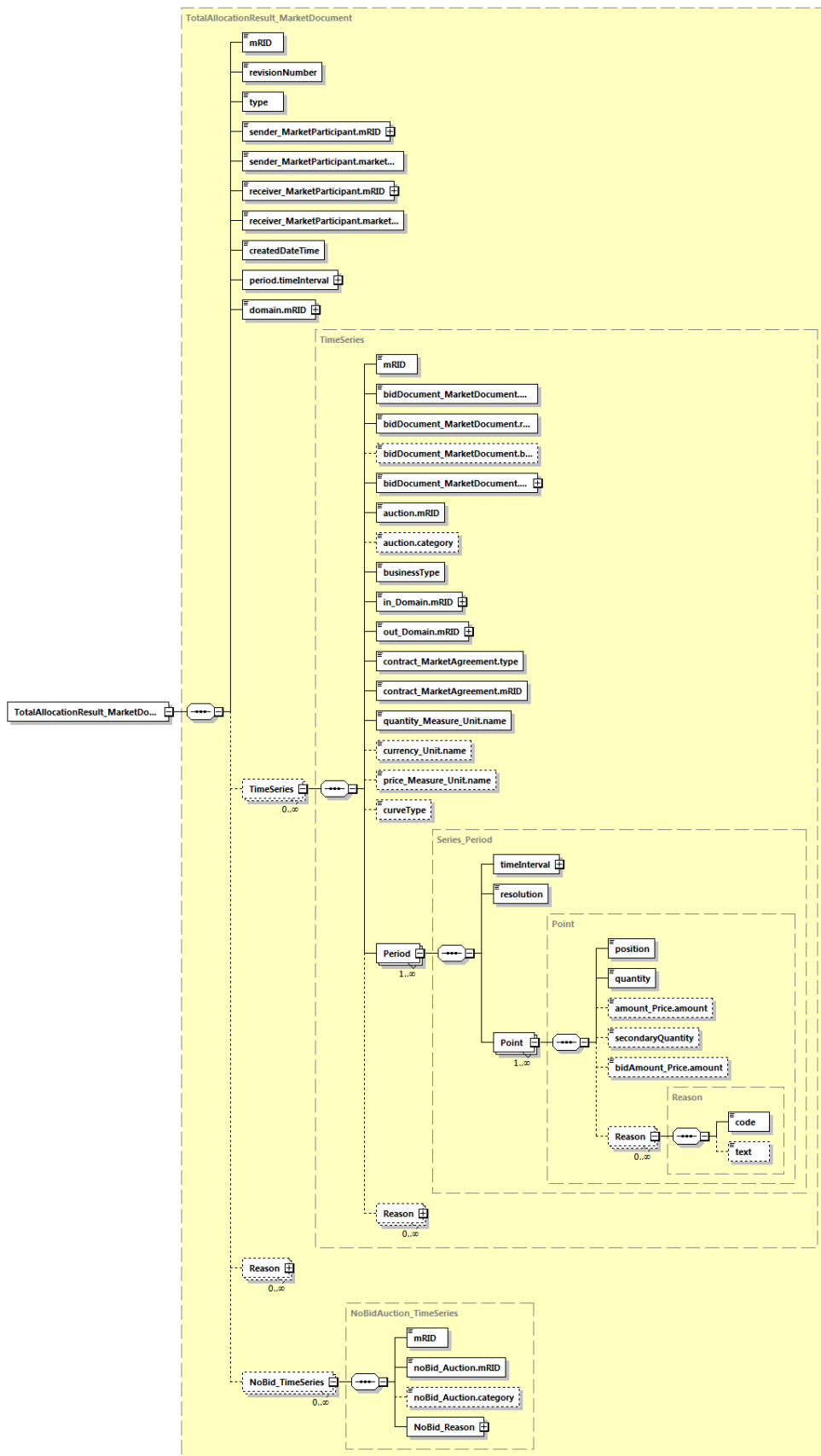
170 The list of datatypes used for the Total allocation result assembly model is as follows:

- 171 • ESMP_DateTimeInterval compound
172 • Amount_Decimal datatype

- 173 • ArealID_String datatype, codelist CodingSchemeTypeList
 - 174 • BusinessKind_String datatype, codelist BusinessTypeList
 - 175 • CapacityContractKind_String datatype, codelist ContractTypeList
 - 176 • Category_String datatype, codelist CategoryTypeList
 - 177 • CurrencyCode_String datatype, codelist CurrencyTypeList
 - 178 • CurveType_String datatype, codelist CurveTypeList
 - 179 • ESMP_DateTime datatype
 - 180 • ESMPVersion_String datatype
 - 181 • ID_String datatype
 - 182 • MarketRoleKind_String datatype, codelist RoleTypeList
 - 183 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
 - 184 • MessageKind_String datatype, codelist MessageTypeList
 - 185 • PartyID_String datatype, codelist CodingSchemeTypeList
 - 186 • Position_Integer datatype
 - 187 • ReasonCode_String datatype, codelist ReasonCodeTypeList
 - 188 • ReasonText_String datatype
 - 189 • YMDHM_DateTime datatype
- 190
- 191

192 **2.2.5 TotalAllocationResult_MarketDocument XML schema structure**

193



194
 195
 196

Figure 3 - TotalAllocationResult_MarketDocument XML schema structure

Generated by XMLSpy www.altova.com

197 2.2.6 TotalAllocationResult_MarketDocument XML schema

198

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

200 urn:iec62325.351:tc57wg16:451-3:totalallocationresultdocument:7:0

```

201 <?xml version="1.0" encoding="utf-8"?>
202 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists" xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
203 xmlns="urn:iec62325.351:tc57wg16:451-3:totalallocationresultdocument:7:0"
204 xmlns:cimp="http://www.iec.ch/cimprofile" xmlns:xs="http://www.w3.org/2001/XMLSchema"
205 targetNamespace="urn:iec62325.351:tc57wg16:451-3:totalallocationresultdocument:7:0"
206 elementFormDefault="qualified" attributeFormDefault="unqualified">
207   <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-entsoe-eu-wgedi-
208 codelists.xsd"/>
209   <xs:element name="TotalAllocationResult_MarketDocument"
210 type="TotalAllocationResult_MarketDocument"/>
211   <xs:simpleType name="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
212 cim16#String">
213     <xs:restriction base="xs:string">
214       <xs:maxLength value="35"/>
215     </xs:restriction>
216   </xs:simpleType>
217   <xs:simpleType name="Category_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
218 schema-cim16#String">
219     <xs:restriction base="ecl:CategoryTypeList"/>
220   </xs:simpleType>
221   <xs:complexType name="NoBidAuction_TimeSeries"
222 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
223     <xs:sequence>
224       <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
225 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
226       <xs:element name="noBid_Auction.mRID" type="ID_String" minOccurs="1"
227 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
228       <xs:element name="noBid_Auction.category" type="Category_String" minOccurs="0"
229 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Auction.category"/>
230       <xs:element name="NoBid_Reason" type="Reason" minOccurs="1" maxOccurs="1"
231 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.NoBid_Reason"/>
232     </xs:sequence>
233   </xs:complexType>
234   <xs:simpleType name="Position_Integer" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
235 schema-cim16#Integer">
236     <xs:restriction base="xs:integer">
237       <xs:maxInclusive value="999999"/>
238       <xs:minInclusive value="1"/>
239     </xs:restriction>
240   </xs:simpleType>
241   <xs:simpleType name="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
242 cim16#Decimal">
243     <xs:restriction base="xs:decimal">
244       <xs:totalDigits value="17"/>
245     </xs:restriction>
246   </xs:simpleType>
247   <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
248 cim16#Point">
249     <xs:sequence>
250       <xs:element name="position" type="Position_Integer" minOccurs="1"
251 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position"/>
252       <xs:element name="quantity" type="xs:decimal" minOccurs="1" maxOccurs="1"
253 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity"/>
254       <xs:element name="amount_Price.amount" type="Amount_Decimal" minOccurs="0"
255 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.amount"/>
256       <xs:element name="secondaryQuantity" type="xs:decimal" minOccurs="0"
257 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
258 cim16#Point.secondaryQuantity"/>
259       <xs:element name="bidAmount_Price.amount" type="Amount_Decimal" minOccurs="0"
260 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Price.amount"/>
261       <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
262 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.Reason"/>
263     </xs:sequence>
264   </xs:complexType>
265   <xs:simpleType name="ReasonCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
266 schema-cim16#String">
267     <xs:restriction base="ecl:ReasonCodeTypeList"/>

```

```

268         </xs:simpleType>
269         <xs:simpleType name="ReasonText_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
schema-cim16#String">
270             <xs:restriction base="xs:string">
271                 <xs:maxLength value="512"/>
272             </xs:restriction>
273         </xs:simpleType>
274         <xs:complexType name="Reason" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
275 cim16#Reason">
276             <xs:sequence>
277                 <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1"
278 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
279                 <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1"
280 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text"/>
281             </xs:sequence>
282         </xs:complexType>
283         <xs:simpleType name="YMDHM_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
284 cim16#DateTime">
285             <xs:restriction base="xs:string">
286                 <xs:pattern value="((([0-9]{4})[\-](\d{2})[\-](\d{1-9})|12[0-
287 9]|3[01])|([0-9]{4})[\-](\d{2})[\-](\d{1-9})|12[0-9]|30))T((\d{1}[0-9]|2[0-3]):[0-5][0-
288 9])Z|((\d{13579}[26][02468][048]|13579[01345789](0)[48]|13579[01345789][2468][048]|02468[0246
289 8][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|0-9][0-9][13579][26])[\-](02)[\-](0[1-
290 9]|1[0-9]|2[0-9])T((\d{1}[0-9]|2[0-3]):[0-5][0-
291 9])Z|((\d{13579}[26][02468][1235679]|13579[01345789](0)[01235679]|13579[01345789][2468][1235679]|02
292 468][048][02468][1235679]|02468[1235679](0)[01235679]|02468[1235679][2468][1235679]|0-9][0-
293 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((\d{1}[0-9]|2[0-3]):[0-5][0-9])Z"/>
294             </xs:restriction>
295         </xs:simpleType>
296         <xs:complexType name="ESMP_DateTimeInterval"
297 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
298             <xs:sequence>
299                 <xs:element name="start" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
300 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.start"/>
301                 <xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"
302 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.end"/>
303             </xs:sequence>
304         </xs:complexType>
305         <xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
306 cim16#Period">
307             <xs:sequence>
308                 <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1"
309 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
310                 <xs:element name="resolution" type="xs:duration" minOccurs="1" maxOccurs="1"
311 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution"/>
312                 <xs:element name="Point" type="Point" minOccurs="1" maxOccurs="unbounded"
313 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point"/>
314             </xs:sequence>
315         </xs:complexType>
316         <xs:simpleType name="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
317 schema-cim16#String">
318             <xs:restriction base="xs:string">
319                 <xs:pattern value="[1-9]([0-9]){0,2}"/>
320             </xs:restriction>
321         </xs:simpleType>
322         <xs:simpleType name="PartyID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
323 schema-cim16#String">
324             <xs:restriction base="xs:string">
325                 <xs:maxLength value="16"/>
326             </xs:restriction>
327         </xs:simpleType>
328         <xs:complexType name="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
329 schema-cim16#String">
330             <xs:simpleContent>
331                 <xs:extension base="PartyID_String-base">
332                     <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
333 use="required"/>
334                 </xs:extension>
335             </xs:simpleContent>
336         </xs:complexType>
337         <xs:simpleType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
338 schema-cim16#String">
339             <xs:restriction base="ecl:BusinessTypeList"/>
340         </xs:simpleType>

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342     <xs:simpleType name="AreaID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
343 schema-cim16#String">
344         <xs:restriction base="xs:string">
345             <xs:maxLength value="18"/>
346         </xs:restriction>
347     </xs:simpleType>
348     <xs:complexType name="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
349 cim16#String">
350         <xs:simpleContent>
351             <xs:extension base="AreaID_String-base">
352                 <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
353 use="required"/>
354             </xs:extension>
355         </xs:simpleContent>
356     </xs:complexType>
357     <xs:simpleType name="CapacityContractKind_String"
358 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
359         <xs:restriction base="ecl:ContractTypeList"/>
360     </xs:simpleType>
361     <xs:simpleType name="MeasurementUnitKind_String"
362 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
363         <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
364     </xs:simpleType>
365     <xs:simpleType name="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
366 schema-cim16#String">
367         <xs:restriction base="ecl:CurrencyTypeList"/>
368     </xs:simpleType>
369     <xs:simpleType name="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
370 schema-cim16#String">
371         <xs:restriction base="ecl:CurveTypeList"/>
372     </xs:simpleType>
373     <xs:complexType name="TimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
374 cim16#TimeSeries">
375         <xs:sequence>
376             <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
377 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
378             <xs:element name="bidDocument_MarketDocument.mRID" type="ID_String"
379 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
380 cim16#IdentifiedObject.mRID"/>
381             <xs:element name="bidDocument_MarketDocument.revisionNumber"
382 type="ESMPVersion_String" minOccurs="1" maxOccurs="1"
383 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.revisionNumber"/>
384             <xs:element name="bidDocument_MarketDocument.bid_TimeSeries.mRID"
385 type="ID_String" minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
386 cim16#IdentifiedObject.mRID"/>
387             <xs:element
388 name="bidDocument_MarketDocument.biddingParty_MarketParticipant.mRID" type="PartyID_String"
389 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
390 cim16#IdentifiedObject.mRID"/>
391             <xs:element name="auction.mRID" type="ID_String" minOccurs="1" maxOccurs="1"
392 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
393             <xs:element name="auction.category" type="Category_String" minOccurs="0"
394 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Auction.category"/>
395             <xs:element name="businessType" type="BusinessKind_String" minOccurs="1"
396 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
397 cim16#TimeSeries.businessType"/>
398             <xs:element name="in_Domain.mRID" type="AreaID_String" minOccurs="1"
399 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
400             <xs:element name="out_Domain.mRID" type="AreaID_String" minOccurs="1"
401 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
402             <xs:element name="contract_MarketAgreement.type"
403 type="CapacityContractKind_String" minOccurs="1" maxOccurs="1"
404 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
405             <xs:element name="contract_MarketAgreement.mRID" type="ID_String"
406 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
407 cim16#IdentifiedObject.mRID"/>
408             <xs:element name="quantity_Measure_Unit.name"
409 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
410 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
411             <xs:element name="currency_Unit.name" type="CurrencyCode_String" minOccurs="0"
412 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
413             <xs:element name="price_Measure_Unit.name" type="MeasurementUnitKind_String"
414 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
415 cim16#Unit.name"/>

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416         <xs:element name="curveType" type="CurveType_String" minOccurs="0"
417 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.curveType"/>
418         <xs:element name="Period" type="Series_Period" minOccurs="1"
419 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
420 cim16#TimeSeries.Period"/>
421         <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
422 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries.Reason"/>
423     </xs:sequence>
424 </xs:complexType>
425 <xs:simpleType name="MessageKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
426 schema-cim16#String">
427     <xs:restriction base="ecl:MessageTypeList"/>
428 </xs:simpleType>
429 <xs:simpleType name="MarketRoleKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
430 schema-cim16#String">
431     <xs:restriction base="ecl:RoleTypeList"/>
432 </xs:simpleType>
433 <xs:simpleType name="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
434 cim16#DateTime">
435     <xs:restriction base="xs:dateTime">
436         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-9]|[12][0-
437 9]|3[01])|([0-9]{4})[\-](0[469]|(11))[\-](0[1-9]|[12][0-9]|30))T((0[1][0-9]|2[0-3]):[0-5][0-9]:[0-
438 5][0-
439 9])Z|(((13579)[26][02468][048]|13579)[01345789](0)[48]|13579)[01345789][2468][048]|02468][048][0246
440 8][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|0[0-9][0-9][13579][26])[\-](02)[\-](0[1-
441 9]|1[0-9]|2[0-9])T((0[1][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
442 9])Z|(((13579)[26][02468][1235679]|13579)[01345789](0)[01235679]|13579)[01345789][2468][1235679]|02
443 468][048][02468][1235679]|02468][1235679](0)[01235679]|02468][1235679][2468][1235679]|0[0-9][0-
444 9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-9]|2[0-8])T((0[1][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z"/>
445     </xs:restriction>
446 </xs:simpleType>
447 <xs:complexType name="TotalAllocationResult_MarketDocument"
448 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
449     <xs:sequence>
450         <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"
451 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
452         <xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1"
453 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
454 cim16#Document.revisionNumber"/>
455         <xs:element name="type" type="MessageKind_String" minOccurs="1" maxOccurs="1"
456 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
457         <xs:element name="sender_MarketParticipant.mRID" type="PartyID_String"
458 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
459 cim16#IdentifiedObject.mRID"/>
460         <xs:element name="sender_MarketParticipant.marketRole.type"
461 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
462 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
463         <xs:element name="receiver_MarketParticipant.mRID" type="PartyID_String"
464 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
465 cim16#IdentifiedObject.mRID"/>
466         <xs:element name="receiver_MarketParticipant.marketRole.type"
467 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
468 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
469         <xs:element name="createdDateTime" type="ESMP_DateTime" minOccurs="1"
470 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
471 cim16#Document.createdDateTime"/>
472         <xs:element name="period.timeInterval" type="ESMP_DateTimeInterval"
473 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
474 cim16#Period.timeInterval"/>
475         <xs:element name="domain.mRID" type="AreaID_String" minOccurs="1"
476 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
477         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="0"
478 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
479 cim16#MarketDocument.TimeSeries"/>
480         <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"
481 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument.Reason"/>
482         <xs:element name="NoBidTimeSeries" type="NoBidAuction_TimeSeries"
483 minOccurs="0" maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
484 cim16#MarketDocument.NoBid_TimeSeries"/>
485     </xs:sequence>
486 </xs:complexType>
487 </xs:schema>

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488