



European Network of
Transmission System Operators
for Electricity

RESERVE BID DOCUMENT UML MODEL AND SCHEMA

2024-04-03
AGREED DOCUMENT
VERSION 1.6

2

Table of Contents

3	1. Objective	6
4	2. Reserve bid model.....	7
5	2.1 Reserve bid contextual model	7
6	2.1.1 Overview of the model	7
7	2.1.2 IsBasedOn relationships from the European style market	
8	profile	7
9	2.2 Reserve bid assembly model	9
10	2.2.1 Overview of the model	9
11	2.2.2 IsBasedOn relationships from the European style market	
12	profile	11
13	2.2.3 Detailed Reserve bid assembly model	11
14	2.2.3.1 ReserveBid_MarketDocument root class	11
15	2.2.3.2 Analog	12
16	2.2.3.3 BiddingZone_Domain	12
17	2.2.3.4 BidTimeSeries	13
18	2.2.3.5 Linked_BidTimeSeries	16
19	2.2.3.6 Origin_MarketParticipant.....	17
20	2.2.3.7 Point	17
21	2.2.3.8 Reason	18
22	2.2.3.9 RegisteredResource	18
23	2.2.3.10 Series_Period	19
24	2.2.4 Datatypes	19
25	2.2.5. ReserveBid_MarketDocument XML schema structure	21
26	2.2.6. ReserveBid_MarketDocument XML schema.....	22
27	List of figures	
28	Figure 1 - Reserve bid contextual model	7
29	Figure 2 - Reserve bid assembly model	10
30	Figure 3 - ReserveBid_MarketDocument XML schema structure	21
31	List of tables	
32	Table 1 - IsBasedOn dependency	8
33	Table 2 - IsBasedOn dependency	11
34	Table 3 - Attributes of Reserve bid assembly model::ReserveBid_MarketDocument	11
35	Table 4 - Association ends of Reserve bid assembly	
36	model::ReserveBid_MarketDocument with other classes	12
37	Table 5 - Attributes of Reserve bid assembly model::Analog	12
38	Table 6 - Attributes of Reserve bid assembly model::BiddingZone_Domain.....	13
39	Table 7 - Attributes of Reserve bid assembly model::BidTimeSeries	13
40	Table 8 - Association ends of Reserve bid assembly model::BidTimeSeries with other	
41	classes	15
42	Table 9 - Attributes of Reserve bid assembly model::Linked_BidTimeSeries	17
43	Table 10 - Attributes of Reserve bid assembly model::Origin_MarketParticipant	17

44	Table 11 - Attributes of Reserve bid assembly model::Point	17
45	Table 12 - Attributes of Reserve bid assembly model::Reason	18
46	Table 13 - Attributes of Reserve bid assembly model::RegisteredResource	18
47	Table 14 - Association ends of Reserve bid assembly model::RegisteredResource with	
48	other classes	19
49	Table 15 - Attributes of Reserve bid assembly model::Series_Period	19
50	Table 16 - Association ends of Reserve bid assembly model::Series_Period with other	
51	classes	19
52		

53

Copyright notice:

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

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

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

63 **ENTSO-E DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT**
64 **LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT**
65 **INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR**
66 **FITNESS FOR A PARTICULAR PURPOSE.**

67

Maintenance notice:

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

70

Revision History

Version	Release	Date	Comments
0	0	2016-12-02	First drafting of the document.
1	0	2018-01-10	First drafting of the document. XSD: V7.1: difference with V7.0: Added optional attribute MarketProduct Added optional attribute ValidityPeriod
1	1	2018-03-08	XSD: V7.1 Added two new relations between MarketProduct and BidTimeSeries Version approved by MC
1	2	2020-12-15	XSD: V7.2 Added new class called Linked_BidTimeSeries associated with existing BidTimeSeries with cardinality 0..* New ProcuredFor_MarketParticipant and SharedWith_MarketParticipant attributes are added to BidTimeSeries with cardinality 0..1. Available MBA_Domain changed to AvailableBiddingZone_domain Approved by MC.
1	3	2022-02-01	XSD: 7.3 Quantity_Measure_Unit.name & Price_Measure_Unit.name & EnergyPrice_Measure_Unit.name attributes were renamed to Quantity_Measurement_Unit.name & Price_Measurement_Unit.name & EnergyPrice_Measurement_Unit.name to be compliant with the ESMP. Approved by MC.
1	4	2022-10-18	XSD: 7.4 <ul style="list-style-type: none"> New optional mktPSRType.psrType and inclusiveBidsIdentification attributes added at BidTimeSeries. Agreed by CIM EG.
1	5	2024-01-17	XSD 7.5 New optional quality attribute added at Point class. Agreed by CIM WG.
1	6	2024-04-03	XSD 7.6 <ul style="list-style-type: none"> Added an optional curveType attribute to the BidTimeSeries class. New Analog class associated with RegisteredResource class with cardinality 0..*. Analog class includes measurementType and unitSymbol attribute. New AnalogValue class associated with Analog class with cardinality 1..1. AnalogValue class includes a mandatory value attribute. New original market document class associated to BidTimeSeries with cardinality 0..1. Market document class includes mRID and revisionNumber attributes. Agreed by CIM WG.

71

72 1. Objective

73 The purpose of this document is to provide the contextual and assembly UML models and the
74 schema of the ReserveBid_MarketDocument.

75 The schema of the ReserveBid_MarketDocument could be used in various business processes.

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

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

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

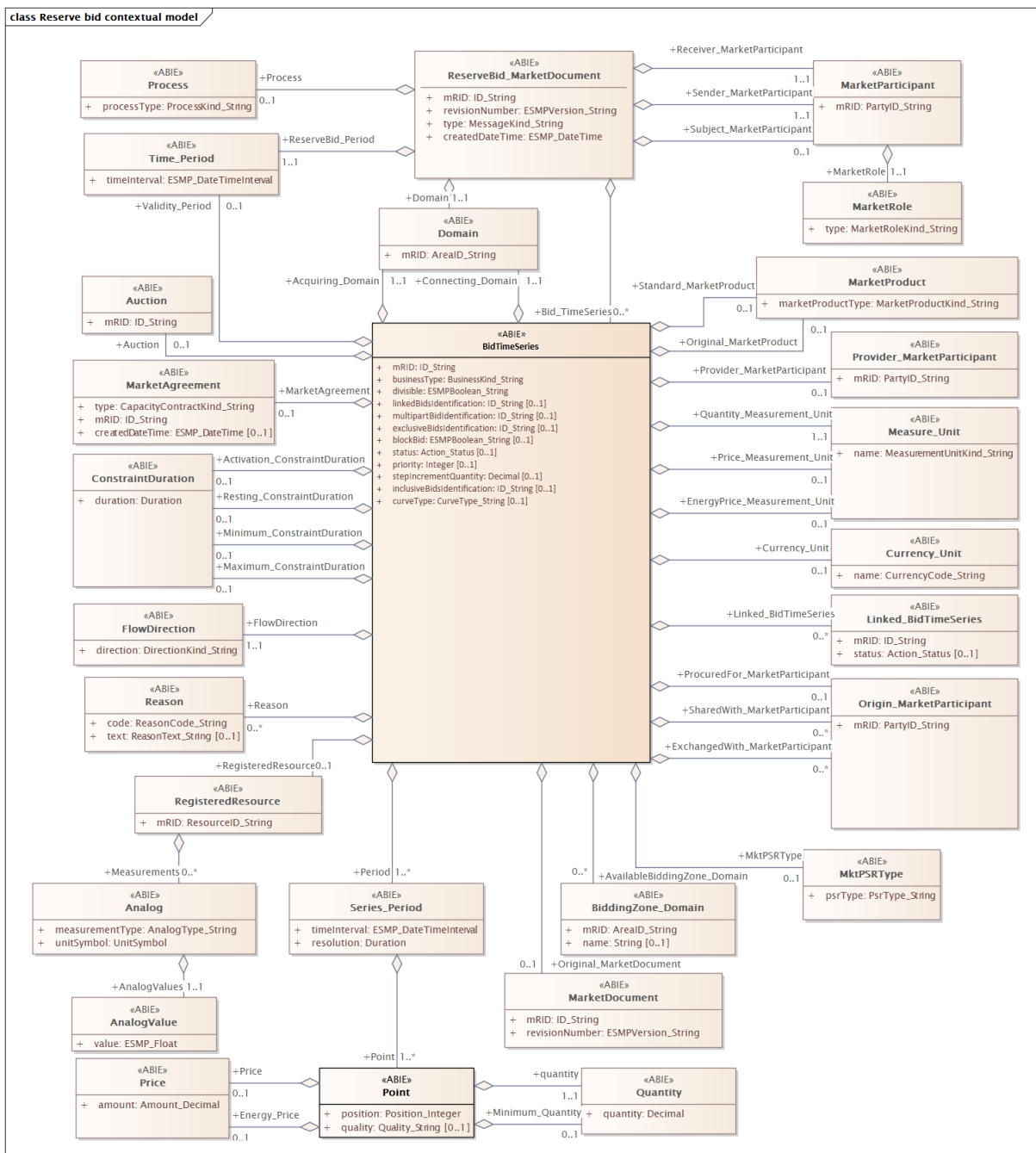
88

89 **2. Reserve bid model**

90 **2.1 Reserve bid contextual model**

91 **2.1.1 Overview of the model**

92 Figure 1 shows the model.



93

94 **Figure 1 - Reserve bid contextual model**

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
Analog	TC57CIM::IEC61970::Base::Meas::Analog
AnalogValue	TC57CIM::IEC61970::Base::Meas::AnalogValue
Auction	TC57CIM::Market::MarketManagement::Auction
BiddingZone_Domain	TC57CIM::Market::MarketManagement::Domain
BidTimeSeries	TC57CIM::Market::MarketManagement::BidTimeSeries
ConstraintDuration	TC57CIM::Market::MarketManagement::ConstraintDuration
Currency_Unit	TC57CIM::Market::MarketManagement::Unit
Domain	TC57CIM::Market::MarketManagement::Domain
FlowDirection	TC57CIM::Market::MarketManagement::FlowDirection
Linked_BidTimeSeries	TC57CIM::Market::MarketManagement::BidTimeSeries
MarketAgreement	TC57CIM::Market::MarketManagement::MarketAgreement
MarketDocument	TC57CIM::Market::MarketManagement::MarketDocument
MarketParticipant	TC57CIM::Market::MarketCommon::MarketParticipant
MarketProduct	TC57CIM::Market::MarketCommon::MarketProduct
MarketRole	TC57CIM::Market::MarketCommon::MarketRole
Measure_Unit	TC57CIM::Market::MarketManagement::Unit
MktPSRType	TC57CIM::Market::MarketManagement::MktPSRType
Origin_MarketParticipant	TC57CIM::Market::MarketCommon::MarketParticipant
Point	TC57CIM::Market::MarketManagement::Point
Price	TC57CIM::Market::MarketManagement::Price
Process	TC57CIM::Market::MarketManagement::Process
Provider_MarketParticipant	TC57CIM::Market::MarketCommon::MarketParticipant
Quantity	TC57CIM::Market::MarketManagement::Quantity
Reason	TC57CIM::Market::MarketManagement::Reason
RegisteredResource	TC57CIM::Market::MarketCommon::RegisteredResource
ReserveBid_MarketDocument	TC57CIM::Market::MarketManagement::MarketDocument
Series_Period	TC57CIM::Market::MarketManagement::Period
Time_Period	TC57CIM::Market::MarketManagement::Period

99

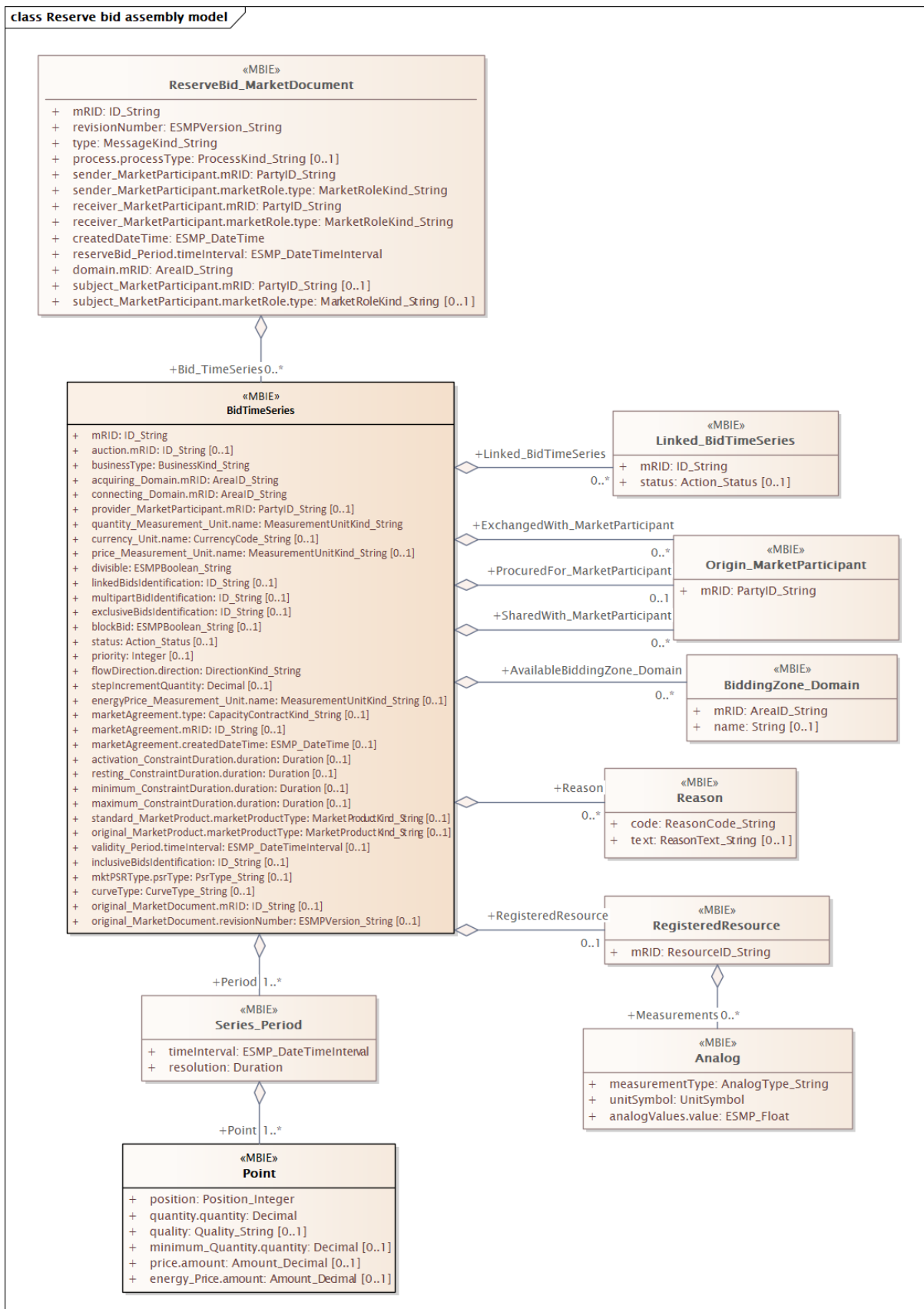
100

101

102 **2.2 Reserve bid assembly model**

103 **2.2.1 Overview of the model**

104 Figure 2 shows the model.



105

106

Figure 2 - Reserve bid 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
Analog	TC57CIM::IEC61970::Base::Meas::Analog
BiddingZone_Domain	TC57CIM::Market::MarketManagement::Domain
BidTimeSeries	TC57CIM::Market::MarketManagement::BidTimeSeries
Linked_BidTimeSeries	TC57CIM::Market::MarketManagement::BidTimeSeries
Origin_MarketParticipant	TC57CIM::Market::MarketCommon::MarketParticipant
Point	TC57CIM::Market::MarketManagement::Point
Reason	TC57CIM::Market::MarketManagement::Reason
RegisteredResource	TC57CIM::Market::MarketCommon::RegisteredResource
ReserveBid_MarketDocument	TC57CIM::Market::MarketManagement::MarketDocument
Series_Period	TC57CIM::Market::MarketManagement::Period

111

112 **2.2.3 Detailed Reserve bid assembly model**

113 **2.2.3.1 ReserveBid_MarketDocument root class**

114 A bid document contains a set of bids (a bid is represented by a time series). There may be
115 several bids submitted by the sender for the same bid period and subject party.

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

118 Table 3 shows all attributes of ReserveBid_MarketDocument.

119 **Table 3 - Attributes of Reserve bid assembly model::ReserveBid_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	[0..1]	process.processType ProcessKind_String	The identification of the nature of process that the document addresses.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document owner.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document owner.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- Document recipient.

Order	mult.	Attribute name / Attribute type	Description
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- Document recipient.
8	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
9	[1..1]	reserveBid_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.
10	[1..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The domain covered within the bid document, i.e. the border for which auction is done.
11	[0..1]	subject_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The party for whom the bid is being submitted.
12	[0..1]	subject_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The party for whom the bid is being submitted.

120

121 Table 4 shows all association ends of ReserveBid_MarketDocument with other classes.

122 **Table 4 - Association ends of Reserve bid assembly**
123 **model::ReserveBid_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
13	[0..*]	BidTimeSeries Bid_TimeSeries	The timeseries contains the bids that are submitted to the auction. Association Based On: Reserve bid contextual model::BidTimeSeries.Bid_TimeSeries[0..*] ----- Reserve bid contextual model::ReserveBid_MarketDocument.[]

124

125 2.2.3.2 Analog

126 Analog represents an analog Measurement.

127 Table 5 shows all attributes of Analog.

128 **Table 5 - Attributes of Reserve bid assembly model::Analog**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	measurementType AnalogType_String	Specifies the type of measurement. For example, this specifies if the measurement represents an indoor temperature, outdoor temperature, bus voltage, line flow, etc.
1	[1..1]	unitSymbol UnitSymbol	The unit of measure of the measured quantity.
2	[1..1]	analogValues.value ESMP_Float	The value to supervise. --- Measurement to which this value is connected.

129

130 2.2.3.3 BiddingZone_Domain

131 A domain covering a number of related objects, such as market balance area, grid area, borders
132 etc.

133 Table 6 shows all attributes of BiddingZone_Domain.

134 **Table 6 - Attributes of Reserve bid assembly model::BiddingZone_Domain**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID AreaID_String	The unique identification of the domain. 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.
1	[0..1]	name String	The name is any free human readable and possibly non unique text naming the object.

135

136 **2.2.3.4 BidTimeSeries**

137 The formal specification of specific characteristics related to a bid.

138 Table 7 shows all attributes of BidTimeSeries.

139 **Table 7 - Attributes of Reserve bid assembly model::BidTimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[0..1]	auction.mRID ID_String	The unique identification of the auction. --- The identification linking the bid to a set of specifications created by the auction operator.
2	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
3	[1..1]	acquiring_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is to be put.
4	[1..1]	connecting_Domain.mRID AreaID_String	The unique identification of the domain. --- The area where the energy is coming from.
5	[0..1]	provider_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The identification of a market participant associated with a TimeSeries, i.e. the provider offering the reserve.
6	[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 in which the quantities in the time series are expressed, e.g. MAW.
7	[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.
8	[0..1]	price_Measurement_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 (MW, MWh, etc.).

Order	mult.	Attribute name / Attribute type	Description
9	[1..1]	divisible ESMPBoolean_String	An indication whether or not each element of the bid may be partially accepted or not.
10	[0..1]	linkedBidsIdentification ID_String	The unique identification used to identify associated bids with each other.
11	[0..1]	multipartBidIdentification ID_String	The unique identification associated with a hierarchy of linked tenders. The identification within the set of linked tenders signifies that all tenders within the set with an inferior offer price must be accepted. This identification is defined by the tenderer and must be unique.
12	[0..1]	exclusiveBidsIdentification ID_String	Unique identification associated with all linked tenders. The identification of a set of tenders that are linked together signifying that only one can be accepted. This identification is defined by the tenderer and must be unique for a given auction. The exclusive bids identification is only provided if a tender is associated with the current tender. Both tenders must be cross linked to be valid.
13	[0..1]	blockBid ESMPBoolean_String	The indication that the values in the period are considered as a whole. They cannot be changed or subdivided.
14	[0..1]	status Action_Status	The information about the status of the bid, such as "shared", "restricted", ...
15	[0..1]	priority Integer	The numeric local priority given to a bid. Lower numeric values will have higher priority.
17	[1..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow.
18	[0..1]	stepIncrementQuantity Decimal	The minimum increment that can be applied for an increase in an activation request.
19	[0..1]	energyPrice_Measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20).
20	[0..1]	marketAgreement.type CapacityContractKind_String	The specification of the kind of the agreement, e.g. long term, daily contract.
21	[0..1]	marketAgreement.mRID ID_String	The unique identification of the agreement.
22	[0..1]	marketAgreement.createdDateTime ESMP_DateTime	The date and time of the creation of the agreement.
23	[0..1]	activation_ConstraintDuration.duration Duration	The duration of the constraint. --- The delay before the regulation becomes effective after the activation.
24	[0..1]	resting_ConstraintDuration.duration Duration	The duration of the constraint. --- The delay to be respected between the end of activation and the start of the next activation.
25	[0..1]	minimum_ConstraintDuration.duration Duration	The duration of the constraint. --- The minimum duration that a regulation has to be up once the bid is activated.
26	[0..1]	maximum_ConstraintDuration.duration Duration	The duration of the constraint. --- The maximum duration that a regulation has to be up once the bid is activated.

Order	mult.	Attribute name / Attribute type	Description
27	[0..1]	standard_MarketProduct.marketProductType MarketProductKind_String	The Type of product on a market view
28	[0..1]	original_MarketProduct.marketProductType MarketProductKind_String	The Type of product on a market view
29	[0..1]	validity_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The period when the Bid can be activated.
30	[0..1]	inclusiveBidsIdentification ID_String	Unique identification associated with all linked bids. The identification of a set of bids that are linked together signifying that these bids must be accepted together. This identification is defined by the tenderer and must be unique for a given auction.
31	[0..1]	mktPSRType.psrType PsrType_String	The coded type of a power system resource. --- The identification of the type of resource associated with a TimeSeries.
32	[0..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.
33	[0..1]	original_MarketDocument.mRID ID_String	The unique identification of the document being exchanged within a business process flow. In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document 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 associated with a TimeSeries.
34	[0..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 associated with a TimeSeries.

140

141 Table 8 shows all association ends of BidTimeSeries with other classes.

142 **Table 8 - Association ends of Reserve bid assembly model::BidTimeSeries with other**
143 **classes**

Order	mult.	Class name / Role	Description
16	[0..1]	RegisteredResource RegisteredResource	The identification of a resource associated with a TimeSeries. Association Based On: Reserve bid contextual model::RegisteredResource.RegisteredResource[0..1] ----- Reserve bid contextual model::BidTimeSeries.[]
35	[1..*]	Series_Period Period	Association Based On: Reserve bid contextual model::Series_Period.Period[1..*] ----- Reserve bid contextual model::BidTimeSeries.[]

Order	mult	Class name / Role	Description
36	[0..*]	BiddingZone_Domain AvailableBiddingZone_Domain	The domain associated with a TimeSeries. Association Based On: Reserve bid contextual model::BidTimeSeries.[] ----- Reserve bid contextual model::BiddingZone_Domain.AvailableBiddingZone_Domain[0..*]
37	[0..*]	Reason Reason	The reason information associated with a TimeSeries providing motivation information. Association Based On: Reserve bid contextual model::Reason.Reason[0..*] ----- Reserve bid contextual model::BidTimeSeries.[]
38	[0..*]	Linked_BidTimeSeries Linked_BidTimeSeries	The Reserve Bid to which the current Reserve Bid is linked Association Based On: Reserve bid contextual model::Linked_BidTimeSeries.Linked_BidTimeSeries[0..*] ----- Reserve bid contextual model::BidTimeSeries.[]
39	[0..1]	Origin_MarketParticipant ProcuredFor_MarketParticipant	The identification of a market participant associated with a TimeSeries. The balancing capacity from which the bid originates has been purchased on behalf of this Market Participant Association Based On: Reserve bid contextual model::Origin_MarketParticipant.ProcuredFor_MarketParticipant[0..1] ----- Reserve bid contextual model::BidTimeSeries.[]
40	[0..*]	Origin_MarketParticipant SharedWith_MarketParticipant	The identification of a market participant associated with a TimeSeries. The balancing capacity from which the bid originates is shared with this market participant Association Based On: Reserve bid contextual model::Origin_MarketParticipant.SharedWith_MarketParticipant[0..*] ----- Reserve bid contextual model::BidTimeSeries.[]
41	[0..*]	Origin_MarketParticipant ExchangedWith_MarketParticipant	The identification of a market participant associated with a TimeSeries. The balancing capacity from which the bid originates is exchanged with this market participant Association Based On: Reserve bid contextual model::Origin_MarketParticipant.ExchangedWith_MarketParticipant[0..*] ----- Reserve bid contextual model::BidTimeSeries.[]

144

145 **2.2.3.5 Linked_BidTimeSeries**

146 The Reserve Bid to which the Reserve Bid is linked.

147 The formal specification of specific characteristics related to a bid.

148 Table 9 shows all attributes of Linked_BidTimeSeries.

149 **Table 9 - Attributes of Reserve bid assembly model::Linked_BidTimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	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.
1	[0..1]	status Action_Status	The information about the status of the bid, such as "shared", "restricted", ...

150

151 **2.2.3.6 Origin_MarketParticipant**

152 The identification of the party participating in energy market business processes.

153 Table 10 shows all attributes of Origin_MarketParticipant.

154 **Table 10 - Attributes of Reserve bid assembly model::Origin_MarketParticipant**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	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.

155

156 **2.2.3.7 Point**

157 The quantity that is bid for the interval in question.

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

159 Table 11 shows all attributes of Point.

160 **Table 11 - Attributes of Reserve bid 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.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- Either the maximum quantity (when there is a minimum quantity) or the quantity that can be activated at a given time position. The Quantity information associated with a given Point.

Order	mult.	Attribute name / Attribute type	Description
2	[0..1]	quality Quality_String	The quality of the information being provided. This quality may be estimated, not available, as provided, etc.
3	[0..1]	minimum_Quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The minimum quantity of energy that can be activated at a given time position. The Quantity information associated with a given Point.
4	[0..1]	price.amount Amount_Decimal	A number of monetary units specified in a unit of currency. --- The price expressed for each unit of quantity. The price amount is mandatory in the case of capacity auctions and shall not be provided in the case of rule based allocations depending on local market rules (for example "first come first serve").
5	[0..1]	energy_Price.amount Amount_Decimal	A number of monetary units specified in a unit of currency.

161

162 2.2.3.8 Reason

163 The motivation of an act.

164 Table 12 shows all attributes of Reason.

165

Table 12 - Attributes of Reserve bid 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.

166

167 2.2.3.9 RegisteredResource

168 A resource that is registered through the market participant registration system. Examples
169 include generating unit, load, and non-physical generator or load.

170 Table 13 shows all attributes of RegisteredResource.

171 **Table 13 - Attributes of Reserve bid assembly model::RegisteredResource**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ResourceID_String	The unique identification of a resource.

172

173 Table 14 shows all association ends of RegisteredResource with other classes.

174 **Table 14 - Association ends of Reserve bid assembly model::RegisteredResource with**
175 **other classes**

Order	mult.	Class name / Role	Description
1	[0..*]	Analog Measurements	The power system resource that contains the measurement. Association Based On: Reserve bid contextual model::Analog.Measurements[0..*] ----- Reserve bid contextual model::RegisteredResource.[]

176

177 **2.2.3.10 Series_Period**

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

179 Table 15 shows all attributes of Series_Period.

180 **Table 15 - Attributes of Reserve bid 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.

181

182 Table 16 shows all association ends of Series_Period with other classes.

183 **Table 16 - Association ends of Reserve bid assembly model::Series_Period with other**
184 **classes**

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

185

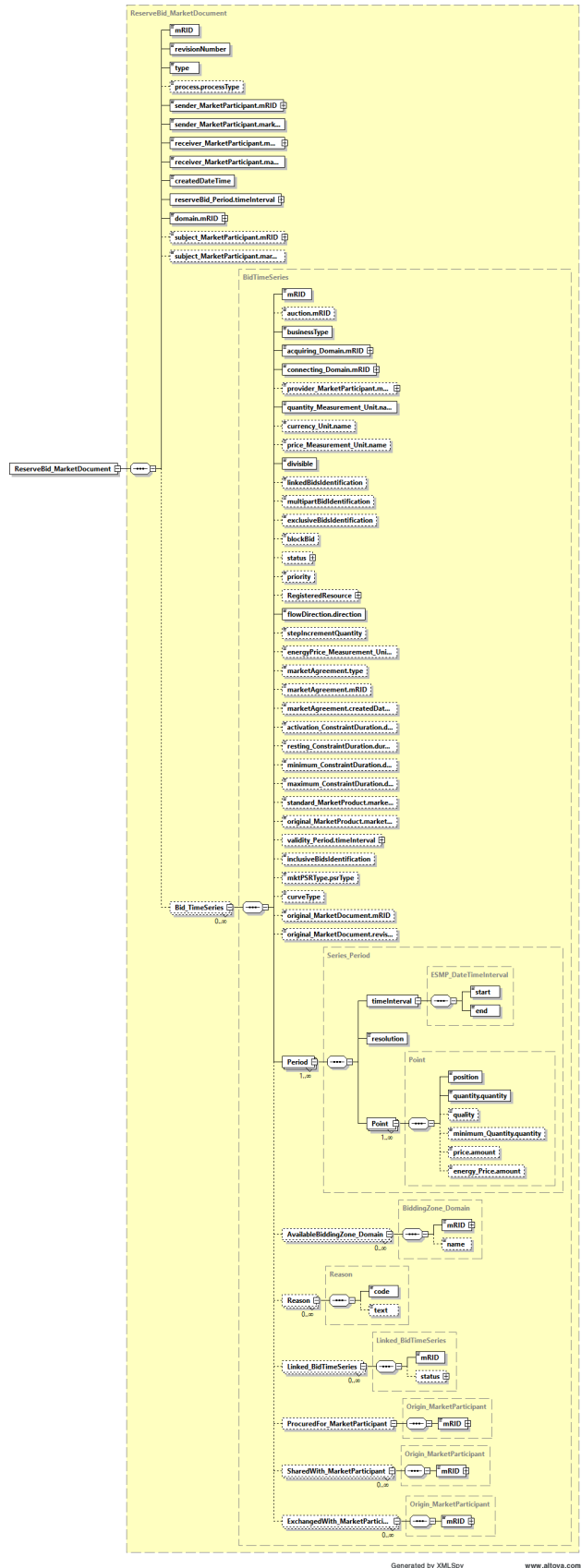
186 **2.2.4 Datatypes**

187 The list of datatypes used for the Reserve bid assembly model is as follows:

- 188
- 189
- 190
- 191
- 192
- 193
- 194
- 195
- 196
- 197
- 198
- 199
- Action_Status compound
 - ESMP_DateTimeInterval compound
 - Amount_Decimal datatype
 - AnalogType_String datatype, codelist AnalogTypeList
 - ArealD_String datatype, codelist CodingSchemeTypeList
 - BusinessKind_String datatype, codelist BusinessTypeList
 - CapacityContractKind_String datatype, codelist ContractTypeList
 - CurrencyCode_String datatype, codelist CurrencyTypeList
 - CurveType_String datatype, codelist CurveTypeList
 - DirectionKind_String datatype, codelist DirectionTypeList
 - ESMP_DateTime datatype
 - ESMP_Float datatype

- 200 • ESMPBoolean_String datatype, codelist IndicatorTypeList
- 201 • ESMPVersion_String datatype
- 202 • ID_String datatype
- 203 • MarketProductKind_String datatype, codelist MarketProductTypeList
- 204 • MarketRoleKind_String datatype, codelist RoleTypeList
- 205 • MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- 206 • MessageKind_String datatype, codelist MessageTypeList
- 207 • PartyID_String datatype, codelist CodingSchemeTypeList
- 208 • Position_Integer datatype
- 209 • ProcessKind_String datatype, codelist ProcessTypeList
- 210 • PsrType_String datatype, codelist AssetTypeList
- 211 • Quality_String datatype, codelist QualityTypeList
- 212 • ReasonCode_String datatype, codelist ReasonCodeTypeList
- 213 • ReasonText_String datatype
- 214 • ResourceID_String datatype, codelist CodingSchemeTypeList
- 215 • Status_String datatype, codelist StatusTypeList
- 216 • UnitSymbol datatype, codelist UnitSymbol
- 217 • YMDHM_DateTime datatype
- 218

219 2.2.5. ReserveBid_MarketDocument XML schema structure



220
 221

Figure 3 - ReserveBid_MarketDocument XML schema structure

2.2.6. ReserveBid_MarketDocument XML schema

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

urn:iec62325.351:tc57wg16:451-7:reservebiddocument:7:6

```

225
226 <?xml version="1.0" encoding="utf-8"?>
227 <xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
228 xmlns="urn:iec62325.351:tc57wg16:451-7:reservebiddocument:7:6"
229 xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
230 xmlns:cimp="http://www.iec.ch/cimprofile" attributeFormDefault="unqualified"
231 elementFormDefault="qualified" targetNamespace="urn:iec62325.351:tc57wg16:451-
232 7:reservebiddocument:7:6" xmlns:xs="http://www.w3.org/2001/XMLSchema">
233   <xs:import schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"
234 namespace="urn:entsoe.eu:wgedi:codelists" />
235   <xs:element name="ReserveBid_MarketDocument" type="ReserveBid_MarketDocument" />
236   <xs:simpleType name="AnalogType_String"
237 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
238     <xs:restriction base="ecl:AnalogTypeList" />
239   </xs:simpleType>
240   <xs:simpleType name="UnitSymbol"
241 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#UnitSymbol">
242     <xs:restriction base="ecl:UnitSymbol" />
243   </xs:simpleType>
244   <xs:simpleType name="ESMP_Float"
245 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Float">
246     <xs:restriction base="xs:float">
247       <xs:pattern value="([0-9]*\.\?[0-9]*)" />
248     </xs:restriction>
249   </xs:simpleType>
250   <xs:complexType name="Analog"
251 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Analog">
252     <xs:sequence>
253       <xs:element minOccurs="1" maxOccurs="1" name="measurementType"
254 type="AnalogType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
255 schema-cim16#Measurement.measurementType">
256         <xs:element>
257           <xs:element minOccurs="1" maxOccurs="1" name="unitSymbol" type="UnitSymbol"
258 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
259 cim16#Measurement.unitSymbol">
260             <xs:element>
261               <xs:element minOccurs="1" maxOccurs="1" name="analogValues.value"
262 type="ESMP_Float" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
263 cim16#AnalogValue.value">
264                 <xs:element>
265                   </xs:sequence>
266                 </xs:complexType>
267               <xs:simpleType name="AreaID_String-base"
268 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
269                 <xs:restriction base="xs:string">
270                   <xs:maxLength value="18" />
271                 </xs:restriction>
272               </xs:simpleType>
273               <xs:complexType name="AreaID_String"
274 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
275                 <xs:simpleContent>
276                   <xs:extension base="AreaID_String-base">

```

```

277         <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
278 use="required" />
279     </xs:extension>
280 </xs:simpleContent>
281 </xs:complexType>
282 <xs:complexType name="BiddingZone_Domain"
283 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Domain">
284     <xs:sequence>
285         <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="AreaID_String"
286 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
287 cim16#IdentifiedObject.mRID">
288             </xs:element>
289             <xs:element minOccurs="0" maxOccurs="1" name="name" type="xs:string"
290 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
291 cim16#IdentifiedObject.name">
292                 </xs:element>
293             </xs:sequence>
294         </xs:complexType>
295         <xs:simpleType name="ID_String"
296 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
297             <xs:restriction base="xs:string">
298                 <xs:maxLength value="60" />
299             </xs:restriction>
300         </xs:simpleType>
301         <xs:simpleType name="BusinessKind_String"
302 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
303             <xs:restriction base="ecl:BusinessTypeList" />
304         </xs:simpleType>
305         <xs:simpleType name="PartyID_String-base"
306 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
307             <xs:restriction base="xs:string">
308                 <xs:maxLength value="16" />
309             </xs:restriction>
310         </xs:simpleType>
311         <xs:complexType name="PartyID_String"
312 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
313             <xs:simpleContent>
314                 <xs:extension base="PartyID_String-base">
315                     <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
316 use="required" />
317                 </xs:extension>
318             </xs:simpleContent>
319         </xs:complexType>
320         <xs:simpleType name="MeasurementUnitKind_String"
321 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
322             <xs:restriction base="ecl:UnitOfMeasureTypeList" />
323         </xs:simpleType>
324         <xs:simpleType name="CurrencyCode_String"
325 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
326             <xs:restriction base="ecl:CurrencyTypeList" />
327         </xs:simpleType>
328         <xs:simpleType name="ESMPBoolean_String"
329 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
330             <xs:restriction base="ecl:IndicatorTypeList" />
331         </xs:simpleType>

```

```

332     <xs:simpleType name="DirectionKind_String"
333 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
334     <xs:restriction base="ecl:DirectionTypeList" />
335     </xs:simpleType>
336     <xs:simpleType name="CapacityContractKind_String"
337 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
338     <xs:restriction base="ecl:ContractTypeList" />
339     </xs:simpleType>
340     <xs:simpleType name="ESMP_DateTime"
341 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
342     <xs:restriction base="xs:dateTime">
343     <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-9]|12)[0-
344 9]|3[01])|([0-9]{4})[\-](0[469]|(11))[\-](0[1-9]|12)[0-9]|30))T((01[0-9]|2[0-
345 3]):[0-5][0-9]:[0-5][0-
346 9])Z)|(((13579)[26][02468][048]|13579[01345789](0)[48]|13579[01345789][2468][0
347 48]|02468[048][02468][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|[
348 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((01[0-9]|2[0-3]):[0-
349 5][0-9]:[0-5][0-
350 9])Z)|(((13579)[26][02468][1235679]|13579[01345789](0)[01235679]|13579[0134578
351 9][2468][1235679]|02468[048][02468][1235679]|02468[1235679](0)[01235679]|0246
352 8[1235679][2468][1235679]|0-9[0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
353 9]|2[0-8])T((01[0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)" />
354     </xs:restriction>
355     </xs:simpleType>
356     <xs:simpleType name="MarketProductKind_String"
357 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
358     <xs:restriction base="ecl:MarketProductTypeList" />
359     </xs:simpleType>
360     <xs:simpleType name="PsrType_String"
361 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
362     <xs:restriction base="ecl:AssetTypeList" />
363     </xs:simpleType>
364     <xs:simpleType name="CurveType_String"
365 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
366     <xs:restriction base="ecl:CurveTypeList" />
367     </xs:simpleType>
368     <xs:simpleType name="ESMPVersion_String"
369 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
370     <xs:restriction base="xs:string">
371     <xs:pattern value="[1-9]([0-9]){0,2}" />
372     </xs:restriction>
373     </xs:simpleType>
374     <xs:simpleType name="Status_String"
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
376     <xs:restriction base="ecl:StatusTypeList" />
377     </xs:simpleType>
378     <xs:complexType name="Action_Status"
379 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status">
380     <xs:sequence>
381     <xs:element minOccurs="1" maxOccurs="1" name="value" type="Status_String"
382 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Status.value">
383     </xs:element>
384     </xs:sequence>
385     </xs:complexType>
386     <xs:simpleType name="YMDHM_DateTime"
387 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">

```



```

388     <xs:restriction base="xs:string">
389         <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-9]|12)[0-
390 9]|3[01])|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|12)[0-9]|30))T((01)[0-9]|2[0-
391 3]):[0-5][0-
392 9])Z)|(((13579)[26][02468][048]|13579)[01345789](0)[48]|13579)[01345789][2468][0
393 48]|02468)[048][02468][048]|02468)[1235679](0)[48]|02468)[1235679][2468][048]|([
394 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((01)[0-9]|2[0-3]):[0-
395 5][0-
396 9])Z)|(((13579)[26][02468][1235679]|13579)[01345789](0)[01235679]|13579)[0134578
397 9][2468][1235679]|02468)[048][02468][1235679]|02468)[1235679](0)[01235679]|0246
398 8)[1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
399 9]|2[0-8])T((01)[0-9]|2[0-3]):[0-5][0-9])Z)" />
400     </xs:restriction>
401 </xs:simpleType>
402 <xs:complexType name="ESMP_DateTimeInterval"
403 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
404     <xs:sequence>
405         <xs:element minOccurs="1" maxOccurs="1" name="start" type="YMDHM_DateTime"
406 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
407 cim16#DateTimeInterval.start">
408             </xs:element>
409             <xs:element minOccurs="1" maxOccurs="1" name="end" type="YMDHM_DateTime"
410 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
411 cim16#DateTimeInterval.end">
412                 </xs:element>
413             </xs:sequence>
414     </xs:complexType>
415 <xs:complexType name="BidTimeSeries"
416 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#BidTimeSeries">
417     <xs:sequence>
418         <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
419 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
420 cim16#IdentifiedObject.mRID">
421             </xs:element>
422             <xs:element minOccurs="0" maxOccurs="1" name="auction.mRID" type="ID_String"
423 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
424 cim16#IdentifiedObject.mRID">
425                 </xs:element>
426                 <xs:element minOccurs="1" maxOccurs="1" name="businessType"
427 type="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
428 schema-cim16#TimeSeries.businessType">
429                     </xs:element>
430                     <xs:element minOccurs="1" maxOccurs="1" name="acquiring_Domain.mRID"
431 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
432 cim16#IdentifiedObject.mRID">
433                         </xs:element>
434                         <xs:element minOccurs="1" maxOccurs="1" name="connecting_Domain.mRID"
435 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
436 cim16#IdentifiedObject.mRID">
437                             </xs:element>
438                             <xs:element minOccurs="0" maxOccurs="1"
439 name="provider_MarketParticipant.mRID" type="PartyID_String"
440 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
441 cim16#IdentifiedObject.mRID">
442                                 </xs:element>

```

```

443     <xs:element minOccurs="1" maxOccurs="1"
444 name="quantity_Measurement_Unit.name" type="MeasurementUnitKind_String"
445 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name">
446     </xs:element>
447     <xs:element minOccurs="0" maxOccurs="1" name="currency_Unit.name"
448 type="CurrencyCode_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
449 schema-cim16#Unit.name">
450     </xs:element>
451     <xs:element minOccurs="0" maxOccurs="1" name="price_Measurement_Unit.name"
452 type="MeasurementUnitKind_String"
453 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name">
454     </xs:element>
455     <xs:element minOccurs="1" maxOccurs="1" name="divisible"
456 type="ESMPBoolean_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
457 schema-cim16#BidTimeSeries.divisible">
458     </xs:element>
459     <xs:element minOccurs="0" maxOccurs="1" name="linkedBidsIdentification"
460 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
461 cim16#BidTimeSeries.linkedBidsIdentification">
462     </xs:element>
463     <xs:element minOccurs="0" maxOccurs="1" name="multipartBidIdentification"
464 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
465 cim16#BidTimeSeries.multipartBidIdentification">
466     </xs:element>
467     <xs:element minOccurs="0" maxOccurs="1" name="exclusiveBidsIdentification"
468 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
469 cim16#BidTimeSeries.exclusiveBidsIdentification">
470     </xs:element>
471     <xs:element minOccurs="0" maxOccurs="1" name="blockBid"
472 type="ESMPBoolean_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
473 schema-cim16#BidTimeSeries.blockBid">
474     </xs:element>
475     <xs:element minOccurs="0" maxOccurs="1" name="status" type="Action_Status"
476 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
477 cim16#BidTimeSeries.status">
478     </xs:element>
479     <xs:element minOccurs="0" maxOccurs="1" name="priority" type="xs:integer"
480 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
481 cim16#BidTimeSeries.priority">
482     </xs:element>
483     <xs:element minOccurs="0" maxOccurs="1" name="RegisteredResource"
484 type="RegisteredResource" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
485 schema-cim16#BidTimeSeries.RegisteredResource">
486     </xs:element>
487     <xs:element minOccurs="1" maxOccurs="1" name="flowDirection.direction"
488 type="DirectionKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
489 schema-cim16#FlowDirection.direction">
490     </xs:element>
491     <xs:element minOccurs="0" maxOccurs="1" name="stepIncrementQuantity"
492 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
493 cim16#BidTimeSeries.stepIncrementQuantity">
494     </xs:element>
495     <xs:element minOccurs="0" maxOccurs="1"
496 name="energyPrice_Measurement_Unit.name" type="MeasurementUnitKind_String"
497 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name">
498     </xs:element>

```

```

499     <xs:element minOccurs="0" maxOccurs="1" name="marketAgreement.type"
500 type="CapacityContractKind_String"
501 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type">
502     </xs:element>
503     <xs:element minOccurs="0" maxOccurs="1" name="marketAgreement.mRID"
504 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
505 cim16#IdentifiedObject.mRID">
506     </xs:element>
507     <xs:element minOccurs="0" maxOccurs="1"
508 name="marketAgreement.createdDateTime" type="ESMP_DateTime"
509 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
510 cim16#Document.createdDateTime">
511     </xs:element>
512     <xs:element minOccurs="0" maxOccurs="1"
513 name="activation_ConstraintDuration.duration" type="xs:duration"
514 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
515 cim16#ConstraintDuration.duration">
516     </xs:element>
517     <xs:element minOccurs="0" maxOccurs="1"
518 name="resting_ConstraintDuration.duration" type="xs:duration"
519 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
520 cim16#ConstraintDuration.duration">
521     </xs:element>
522     <xs:element minOccurs="0" maxOccurs="1"
523 name="minimum_ConstraintDuration.duration" type="xs:duration"
524 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
525 cim16#ConstraintDuration.duration">
526     </xs:element>
527     <xs:element minOccurs="0" maxOccurs="1"
528 name="maximum_ConstraintDuration.duration" type="xs:duration"
529 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
530 cim16#ConstraintDuration.duration">
531     </xs:element>
532     <xs:element minOccurs="0" maxOccurs="1"
533 name="standard_MarketProduct.marketProductType" type="MarketProductKind_String"
534 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
535 cim16#MarketProduct.marketProductType">
536     </xs:element>
537     <xs:element minOccurs="0" maxOccurs="1"
538 name="original_MarketProduct.marketProductType" type="MarketProductKind_String"
539 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
540 cim16#MarketProduct.marketProductType">
541     </xs:element>
542     <xs:element minOccurs="0" maxOccurs="1" name="validity_Period.timeInterval"
543 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
544 schema-cim16#Period.timeInterval">
545     </xs:element>
546     <xs:element minOccurs="0" maxOccurs="1" name="inclusiveBidsIdentification"
547 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
548 cim16#BidTimeSeries.inclusiveBidsIdentification">
549     </xs:element>
550     <xs:element minOccurs="0" maxOccurs="1" name="mktPSRType.psrType"
551 type="PsrType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
552 cim16#MktPSRType.psrType">
553     </xs:element>

```

```

554     <xs:element minOccurs="0" maxOccurs="1" name="curveType"
555 type="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
556 cim16#TimeSeries.curveType">
557     </xs:element>
558     <xs:element minOccurs="0" maxOccurs="1" name="original_MarketDocument.mRID"
559 type="ID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
560 cim16#IdentifiedObject.mRID">
561     </xs:element>
562     <xs:element minOccurs="0" maxOccurs="1"
563 name="original_MarketDocument.revisionNumber" type="ESMPVersion_String"
564 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
565 cim16#Document.revisionNumber">
566     </xs:element>
567     <xs:element minOccurs="1" maxOccurs="unbounded" name="Period"
568 type="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
569 cim16#BidTimeSeries.Period">
570     </xs:element>
571     <xs:element minOccurs="0" maxOccurs="unbounded"
572 name="AvailableBiddingZone_Domain" type="BiddingZone_Domain"
573 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
574 cim16#BidTimeSeries.AvailableBiddingZone_Domain">
575     </xs:element>
576     <xs:element minOccurs="0" maxOccurs="unbounded" name="Reason" type="Reason"
577 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
578 cim16#BidTimeSeries.Reason">
579     </xs:element>
580     <xs:element minOccurs="0" maxOccurs="unbounded" name="Linked_BidTimeSeries"
581 type="Linked_BidTimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
582 schema-cim16#BidTimeSeries.Linked_BidTimeSeries">
583     </xs:element>
584     <xs:element minOccurs="0" maxOccurs="1" name="ProcuredFor_MarketParticipant"
585 type="Origin_MarketParticipant"
586 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
587 cim16#BidTimeSeries.ProcuredFor_MarketParticipant">
588     </xs:element>
589     <xs:element minOccurs="0" maxOccurs="unbounded"
590 name="SharedWith_MarketParticipant" type="Origin_MarketParticipant"
591 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
592 cim16#BidTimeSeries.SharedWith_MarketParticipant">
593     </xs:element>
594     <xs:element minOccurs="0" maxOccurs="unbounded"
595 name="ExchangedWith_MarketParticipant" type="Origin_MarketParticipant"
596 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
597 cim16#BidTimeSeries.ExchangedWith_MarketParticipant">
598     </xs:element>
599     </xs:sequence>
600 </xs:complexType>
601 <xs:complexType name="Linked_BidTimeSeries"
602 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#BidTimeSeries">
603     <xs:sequence>
604         <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
605 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
606 cim16#IdentifiedObject.mRID">
607         </xs:element>

```

```

608     <xs:element minOccurs="0" maxOccurs="1" name="status" type="Action_Status"
609 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
610 cim16#BidTimeSeries.status">
611     </xs:element>
612 </xs:sequence>
613 </xs:complexType>
614 <xs:complexType name="Origin_MarketParticipant"
615 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
616 cim16#MarketParticipant">
617     <xs:sequence>
618     <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="PartyID_String"
619 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
620 cim16#IdentifiedObject.mRID">
621     </xs:element>
622 </xs:sequence>
623 </xs:complexType>
624 <xs:simpleType name="Position_Integer"
625 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">
626     <xs:restriction base="xs:integer">
627     <xs:maxInclusive value="999999" />
628     <xs:minInclusive value="1" />
629 </xs:restriction>
630 </xs:simpleType>
631 <xs:simpleType name="Quality_String"
632 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
633     <xs:restriction base="ecl:QualityTypeList" />
634 </xs:simpleType>
635 <xs:simpleType name="Amount_Decimal"
636 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Decimal">
637     <xs:restriction base="xs:decimal">
638     <xs:totalDigits value="17" />
639 </xs:restriction>
640 </xs:simpleType>
641 <xs:complexType name="Point" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
642 schema-cim16#Point">
643     <xs:sequence>
644     <xs:element minOccurs="1" maxOccurs="1" name="position"
645 type="Position_Integer" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
646 cim16#Point.position">
647     </xs:element>
648     <xs:element minOccurs="1" maxOccurs="1" name="quantity.quantity"
649 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
650 cim16#Quantity.quantity">
651     </xs:element>
652     <xs:element minOccurs="0" maxOccurs="1" name="quality" type="Quality_String"
653 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quality">
654     </xs:element>
655     <xs:element minOccurs="0" maxOccurs="1" name="minimum_Quantity.quantity"
656 type="xs:decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
657 cim16#Quantity.quantity">
658     </xs:element>
659     <xs:element minOccurs="0" maxOccurs="1" name="price.amount"
660 type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
661 cim16#Price.amount">
662     </xs:element>

```

```

663     <xs:element minOccurs="0" maxOccurs="1" name="energy_Price.amount"
664 type="Amount_Decimal" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
665 cim16#Price.amount">
666     </xs:element>
667 </xs:sequence>
668 </xs:complexType>
669 <xs:simpleType name="ReasonCode_String"
670 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
671 <xs:restriction base="ecl:ReasonCodeTypeList" />
672 </xs:simpleType>
673 <xs:simpleType name="ReasonText_String"
674 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
675 <xs:restriction base="xs:string">
676 <xs:maxLength value="512" />
677 </xs:restriction>
678 </xs:simpleType>
679 <xs:complexType name="Reason"
680 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason">
681 <xs:sequence>
682 <xs:element minOccurs="1" maxOccurs="1" name="code" type="ReasonCode_String"
683 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code">
684 </xs:element>
685 <xs:element minOccurs="0" maxOccurs="1" name="text" type="ReasonText_String"
686 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text">
687 </xs:element>
688 </xs:sequence>
689 </xs:complexType>
690 <xs:simpleType name="ResourceID_String-base"
691 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
692 <xs:restriction base="xs:string">
693 <xs:maxLength value="60" />
694 </xs:restriction>
695 </xs:simpleType>
696 <xs:complexType name="ResourceID_String"
697 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
698 <xs:simpleContent>
699 <xs:extension base="ResourceID_String-base">
700 <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList"
701 use="required" />
702 </xs:extension>
703 </xs:simpleContent>
704 </xs:complexType>
705 <xs:complexType name="RegisteredResource"
706 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
707 cim16#RegisteredResource">
708 <xs:sequence>
709 <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ResourceID_String"
710 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
711 cim16#IdentifiedObject.mRID">
712 </xs:element>
713 <xs:element minOccurs="0" maxOccurs="unbounded" name="Measurements"
714 type="Analog" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
715 cim16#RegisteredResource.Measurements">
716 </xs:element>
717 </xs:sequence>
718 </xs:complexType>

```

```

719     <xs:simpleType name="MessageKind_String"
720 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
721     <xs:restriction base="ecl:MessageTypeList" />
722     </xs:simpleType>
723     <xs:simpleType name="ProcessKind_String"
724 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
725     <xs:restriction base="ecl:ProcessTypeList" />
726     </xs:simpleType>
727     <xs:simpleType name="MarketRoleKind_String"
728 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
729     <xs:restriction base="ecl:RoleTypeList" />
730     </xs:simpleType>
731     <xs:complexType name="ReserveBid_MarketDocument"
732 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
733     <xs:sequence>
734     <xs:element minOccurs="1" maxOccurs="1" name="mRID" type="ID_String"
735 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
736 cim16#IdentifiedObject.mRID">
737     </xs:element>
738     <xs:element minOccurs="1" maxOccurs="1" name="revisionNumber"
739 type="ESMPVersion_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
740 schema-cim16#Document.revisionNumber">
741     </xs:element>
742     <xs:element minOccurs="1" maxOccurs="1" name="type"
743 type="MessageKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
744 schema-cim16#Document.type">
745     </xs:element>
746     <xs:element minOccurs="0" maxOccurs="1" name="process.processType"
747 type="ProcessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
748 schema-cim16#Process.processType">
749     </xs:element>
750     <xs:element minOccurs="1" maxOccurs="1" name="sender_MarketParticipant.mRID"
751 type="PartyID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
752 cim16#IdentifiedObject.mRID">
753     </xs:element>
754     <xs:element minOccurs="1" maxOccurs="1"
755 name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
756 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
757     </xs:element>
758     <xs:element minOccurs="1" maxOccurs="1"
759 name="receiver_MarketParticipant.mRID" type="PartyID_String"
760 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
761 cim16#IdentifiedObject.mRID">
762     </xs:element>
763     <xs:element minOccurs="1" maxOccurs="1"
764 name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
765 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
766     </xs:element>
767     <xs:element minOccurs="1" maxOccurs="1" name="createdDateTime"
768 type="ESMP_DateTime" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
769 cim16#Document.createdDateTime">
770     </xs:element>
771     <xs:element minOccurs="1" maxOccurs="1"
772 name="reserveBid_Period.timeInterval" type="ESMP_DateTimeInterval"
773 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
774 cim16#Period.timeInterval">

```

```
775         </xs:element>
776         <xs:element minOccurs="1" maxOccurs="1" name="domain.mRID"
777 type="AreaID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
778 cim16#IdentifiedObject.mRID">
779         </xs:element>
780         <xs:element minOccurs="0" maxOccurs="1"
781 name="subject_MarketParticipant.mRID" type="PartyID_String"
782 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
783 cim16#IdentifiedObject.mRID">
784         </xs:element>
785         <xs:element minOccurs="0" maxOccurs="1"
786 name="subject_MarketParticipant.marketRole.type" type="MarketRoleKind_String"
787 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type">
788         </xs:element>
789         <xs:element minOccurs="0" maxOccurs="unbounded" name="Bid_TimeSeries"
790 type="BidTimeSeries" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
791 cim16#MarketDocument.Bid_TimeSeries">
792         </xs:element>
793     </xs:sequence>
794 </xs:complexType>
795     <xs:complexType name="Series_Period"
796 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
797     <xs:sequence>
798         <xs:element minOccurs="1" maxOccurs="1" name="timeInterval"
799 type="ESMP_DateTimeInterval" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
800 schema-cim16#Period.timeInterval">
801         </xs:element>
802         <xs:element minOccurs="1" maxOccurs="1" name="resolution" type="xs:duration"
803 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
804 cim16#Period.resolution">
805         </xs:element>
806         <xs:element minOccurs="1" maxOccurs="unbounded" name="Point" type="Point"
807 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point">
808         </xs:element>
809     </xs:sequence>
810 </xs:complexType>
811 </xs:schema>
```