MERIT ORDER LIST DOCUMENT
UML MODEL AND SCHEMA

2020-06-30
APPROVED DOCUMENT
VERSION 1.2
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Maintenance notice:

This document is maintained by the ENTSO-E CIM EG. Comments or remarks are to be provided at cim@entso.eu
## Revision History

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<th>Version</th>
<th>Release</th>
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<th>Comments</th>
</tr>
</thead>
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<tr>
<td>0</td>
<td>1</td>
<td>2017-01-10</td>
<td>First drafting of the document based on maintenance request from WG EDI</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>2017-02-24</td>
<td>Version to be submitted to Market Committee following WG EDI meeting in</td>
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<td>1</td>
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<td>2019-10-30</td>
<td>This new version has into account the update performed in v7.2 of MOL</td>
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<td>document:</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• New optional paymentTerms Attribute added to Auction class</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Approved by MC</td>
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<td>2020-06-30</td>
<td>This new version has into account the update performed in v7.3 of MOL</td>
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<td></td>
<td></td>
<td></td>
<td>• New optional related_ReserveBidDocument_mRID and related_ReserveBidDocument_revisionNumber attributes added to MeritOrderList_MarketDocument class.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• A Reason Class was added to the MeritOrderList_MarketDocument class</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with cardinality 0..*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Approved by MC.</td>
</tr>
</tbody>
</table>
1 Objective

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

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

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

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

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

2.1 MeritOrderList contextual model

2.1.1 Overview of the model

Figure 1 shows the model.
2.1.2 IsBasedOn relationships from the European style market profile

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Complete IsBasedOn Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auction</td>
<td>TC57CIM::IEC62325::MarketManagement::Auction</td>
</tr>
<tr>
<td>BidTimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::BidTimeSeries</td>
</tr>
<tr>
<td>Currency_Unit</td>
<td>TC57CIM::IEC62325::MarketManagement::Unit</td>
</tr>
<tr>
<td>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</td>
</tr>
<tr>
<td>MarketAgreement</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketAgreement</td>
</tr>
<tr>
<td>MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>MarketObjectStatus</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketObjectStatus</td>
</tr>
<tr>
<td>MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>MarketRole</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketRole</td>
</tr>
<tr>
<td>Measure_Unit</td>
<td>TC57CIM::IEC62325::MarketManagement::Unit</td>
</tr>
<tr>
<td>MeritOrderList_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>Point</td>
<td>TC57CIM::IEC62325::MarketManagement::Point</td>
</tr>
<tr>
<td>Price</td>
<td>TC57CIM::IEC62325::MarketManagement::Price</td>
</tr>
<tr>
<td>Process</td>
<td>TC57CIM::IEC62325::MarketManagement::Process</td>
</tr>
<tr>
<td>Quantity</td>
<td>TC57CIM::IEC62325::MarketManagement::Quantity</td>
</tr>
<tr>
<td>Reason</td>
<td>TC57CIM::IEC62325::MarketManagement::Reason</td>
</tr>
<tr>
<td>RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>ResourceProvider_MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>Series_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
<tr>
<td>Time_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
</tbody>
</table>
2.2 MeritOrderList assembly model

2.2.1 Overview of the model

Figure 2 shows the model.
### 2.2.2 IsBasedOn relationships from the European style market profile

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Complete IsBasedOn Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>BidTimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::BidTimeSeries</td>
</tr>
<tr>
<td>MeritOrderList_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>Point</td>
<td>TC57CIM::IEC62325::MarketManagement::Point</td>
</tr>
<tr>
<td>Reason</td>
<td>TC57CIM::IEC62325::MarketManagement::Reason</td>
</tr>
<tr>
<td>Series_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
</tbody>
</table>

### 2.2.3 Detailed MeritOrderList assembly model

#### 2.2.3.1 MeritOrderList_MarketDocument root class

This document enables to exchange information about the merit order list for balance management process.

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

Table 3 shows all attributes of MeritOrderList_MarketDocument.

<table>
<thead>
<tr>
<th>Order</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>mRID ID_String</td>
<td>The unique identification of the document being exchanged within a business process flow.</td>
</tr>
<tr>
<td>1</td>
<td>revisionNumber ESMPVersion_String</td>
<td>The identification of the version that distinguishes one evolution of a document from another.</td>
</tr>
<tr>
<td>2</td>
<td>type MessageKind_String</td>
<td>The coded type of a document. The document type describes the principal characteristic of the document.</td>
</tr>
<tr>
<td>3</td>
<td>process.processType ProcessKind_String</td>
<td>The identification of the nature of process that the document addresses. --- The process dealt with in the document.</td>
</tr>
<tr>
<td>4</td>
<td>sender_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- Document owner.</td>
</tr>
<tr>
<td>5</td>
<td>sender_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. --- Document owner. --- The role associated with a MarketParticipant.</td>
</tr>
<tr>
<td>6</td>
<td>receiver_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- Document recipient.</td>
</tr>
<tr>
<td>7</td>
<td>receiver_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. --- Document recipient. --- The role associated with a MarketParticipant.</td>
</tr>
</tbody>
</table>
Table 4 shows all association ends of MeritOrderList_MarketDocument with other classes.

**Table 4 - Association ends of MeritOrderList assembly model::MeritOrderList_MarketDocument with other classes**

<table>
<thead>
<tr>
<th>Order-mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 [0..*]</td>
<td>BidTimeSeries.TimeSeries</td>
<td>The time series that is associated with an electronic document.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Association Based On: MeritOrderList contextual model::BidTimeSeries.TimeSeries[0..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>--- MeritOrderList contextual model::MeritOrderList_MarketDocument[]</td>
</tr>
<tr>
<td>14 [0..*]</td>
<td>Reason.Reason</td>
<td>The Reason associated with the electronic document header providing different motivations for the creation of the document.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Association Based On: MeritOrderList contextual model::MeritOrderList_MarketDocument[]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>--- MeritOrderList contextual model::Reason.Reason[0..*]</td>
</tr>
</tbody>
</table>

2.2.3.2 BidTimeSeries

The formal specification of specific characteristics related to a bid.

If there is no BidTimeSeries, this means that there is no bid for the time interval.

Table 5 shows all attributes of BidTimeSeries.
### Table 5 - Attributes of MeritOrderList assembly model::BidTimeSeries

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>marketAgreement.mRID ID_String</td>
<td>The unique identification of the agreement. --- The identification of an agreement associated with a TimeSeries.</td>
</tr>
<tr>
<td>1</td>
<td>[0..1]</td>
<td>marketAgreement.createdDateTime ESPM_DateTime</td>
<td>The date and time of the creation of the agreement. --- The identification of an agreement associated with a TimeSeries.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>priority Integer</td>
<td>The numeric local priority given to a bid. Lower numeric values will have higher priority.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>resourceProvider_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- The identification of the party that supplied the reserve. The identification of a market participant associated with a TimeSeries.</td>
</tr>
<tr>
<td>4</td>
<td>[0..1]</td>
<td>registeredResource.mRID ResourceID_String</td>
<td>The unique identification of a resource. --- This is the resource used to provide the reserve. The identification of a resource associated with a TimeSeries.</td>
</tr>
<tr>
<td>5</td>
<td>[1..1]</td>
<td>acquiring_Domain.mRID AreaID_String</td>
<td>The unique identification of the domain. --- The area where the product is being delivered. The domain associated with a TimeSeries.</td>
</tr>
<tr>
<td>6</td>
<td>[1..1]</td>
<td>connecting_Domain.mRID AreaID_String</td>
<td>The unique identification of the domain. --- The area where the resource is located. The domain associated with a TimeSeries.</td>
</tr>
<tr>
<td>7</td>
<td>[1..1]</td>
<td>auction.mRID ID_String</td>
<td>The unique identification of the auction. --- The auction characteristics that are associated with a TimeSeries.</td>
</tr>
<tr>
<td>8</td>
<td>[0..1]</td>
<td>auction.paymentTerms PaymentTerms_String</td>
<td>The terms which dictate the determination of the bid payment price. --- The auction characteristics that are associated with a TimeSeries.</td>
</tr>
<tr>
<td>9</td>
<td>[1..1]</td>
<td>businessType BusinessKind_String</td>
<td>The identification of the nature of the time series.</td>
</tr>
<tr>
<td>10</td>
<td>[1..1]</td>
<td>bid_Period.timeInterval ESMP_DateTimeInterval</td>
<td>The start and end date and time for a given interval. --- The beginning and ending date and time of the period covered by the tender. The time interval associated with a TimeSeries within an electronic document.</td>
</tr>
<tr>
<td>11</td>
<td>[1..1]</td>
<td>quantity_Measurement_Unit.name MeasurementUnitKind_String</td>
<td>The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.</td>
</tr>
<tr>
<td>12</td>
<td>[0..1]</td>
<td>currency_Unit.name CurrencyCode_String</td>
<td>The identification of the formal code for a currency (ISO 4217). --- The currency associated with a TimeSeries.</td>
</tr>
<tr>
<td>13</td>
<td>[0..1]</td>
<td>price_Measurement_Unit.name MeasurementUnitKind_String</td>
<td>The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- This is the power price in the TimeSeries. The unit of measure associated with the quantities in a TimeSeries.</td>
</tr>
<tr>
<td>14</td>
<td>[0..1]</td>
<td>energyPrice_Measurement_Unit.name MeasurementUnitKind_String</td>
<td>The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- This is the energy price in TimeSeries. The unit of measure associated with the quantities in a TimeSeries.</td>
</tr>
<tr>
<td>15</td>
<td>[1..1]</td>
<td>direction DirectionKind_String</td>
<td>The coded identification of the energy flow. It states how the energy flows from the perspective of the acquiring domain’s system operator.</td>
</tr>
</tbody>
</table>
Table 6 shows all association ends of BidTimeSeries with other classes.

**Table 6 - Association ends of MeritOrderList assembly model::BidTimeSeries with other classes**

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>[1..*]</td>
<td>Series_Period.Period</td>
<td>The time interval and resolution for a period associated with a TimeSeries. Association Based On: MeritOrderList contextual model::Series_Period.Period[1..*] --- MeritOrderList contextual model::BidTimeSeries.[]</td>
</tr>
<tr>
<td>20</td>
<td>[0..*]</td>
<td>Reason.Reason</td>
<td>The reason information associated with a TimeSeries providing motivation information. Association Based On: MeritOrderList contextual model::Reason.Reason[0..*] --- MeritOrderList contextual model::BidTimeSeries.[]</td>
</tr>
</tbody>
</table>

**2.2.3.3 Point**

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

Table 7 shows all attributes of Point.

**Table 7 - Attributes of MeritOrderList assembly model::Point**

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>position.Position_Integer</td>
<td>A sequential value representing the relative position within a given time interval.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>quantity.Decimal</td>
<td>The quantity value. --- The quantity that is tendered for the interval in question. The Quantity information associated with a given Point.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>price.Amount.Decimal</td>
<td>A number of monetary units specified in a unit of currency. --- This is the power price for each unit of quantity.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>energy_Price.Amount.Decimal</td>
<td>A number of monetary units specified in a unit of currency. --- The price of energy that is used.</td>
</tr>
<tr>
<td>4</td>
<td>[0..1]</td>
<td>activated_Quantity.Decimal</td>
<td>The quantity value. --- The quantity that has been activated for the interval in question.</td>
</tr>
</tbody>
</table>

**2.2.3.4 Reason**

The motivation of an act.
Table 8 shows all attributes of Reason.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>code ReasonCode_String</td>
<td>The motivation of an act in coded form.</td>
</tr>
<tr>
<td>1</td>
<td>[0..1]</td>
<td>text ReasonText_String</td>
<td>The textual explanation corresponding to the reason code.</td>
</tr>
</tbody>
</table>

2.2.3.5 Series_Period

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

Table 9 shows all attributes of Series_Period.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1]</td>
<td>timeInterval ESMP_DateTimeInterval</td>
<td>The start and end time of the period.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>resolution Duration</td>
<td>The definition of the number of units of time that compose an individual step within a period.</td>
</tr>
</tbody>
</table>

Table 10 shows all association ends of Series_Period with other classes.

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2     | [1..*]| Point Point       | The Point information associated with a given Series_Period within a TimeSeries. Association Based On: MeritOrderList contextual model::Series_Period[].

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>Row</td>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>134</td>
<td>8</td>
<td></td>
<td>Table 8 shows all attributes of Reason.</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
</tr>
<tr>
<td>136</td>
<td></td>
<td></td>
<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
</tr>
<tr>
<td>137</td>
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<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
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<tr>
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<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
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<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
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<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
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<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
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<tr>
<td>146</td>
<td></td>
<td></td>
<td>Table 8 - Attributes of MeritOrderList assembly model::Reason</td>
</tr>
</tbody>
</table>
2.2.4 Datatypes

The list of datatypes used for the MeritOrderList assembly model is as follows:

- ESMP_DateTimeInterval compound
- Amount_Decimal datatype
- AreaID_String datatype, codelist CodingSchemeTypeList
- BusinessKind_String datatype, codelist BusinessTypeList
- CurrencyCode_String datatype, codelist CurrencyTypeList
- DirectionKind_String datatype, codelist DirectionTypeList
- ESMP_DateTime datatype
- ESMPVersion_String datatype
- ID_String datatype
- MarketRoleKind_String datatype, codelist RoleTypeList
- MeasurementUnitKind_String datatype, codelist UnitOfMeasureTypeList
- MessageKind_String datatype, codelist MessageTypeList
- PartyID_String datatype, codelist CodingSchemeTypeList
- PaymentTerms_String datatype, codelist PaymentTermsTypeList
- Position_Integer datatype
- ProcessKind_String datatype, codelist ProcessTypeList
- ReasonCode_String datatype, codelist ReasonCodeTypeList
- ReasonText_String datatype
- ResourceID_String datatype, codelist CodingSchemeTypeList
- Status_String datatype, codelist StatusTypeList
- YMDHM_DateTime datatype
2.2.5 MeritOrderList_MarketDocument XML schema structure

Figure 3 - MeritOrderList_MarketDocument schema structure
2.2.6 MeritOrderList_MarketDocument XML schema

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

urn:iec62325.351:tc57wg16:451-7:moldocument:7:3

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:ecl="urn:entsoe.eu:wg6di:codelists"
  xmlns="urn:iec62325.351:tc57wg16:451-7:moldocument:7:3"
  xmlns:sawsdl="http://www.w3.org/2001/XMLSchema"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="urn:iec62325.351:tc57wg16:451-7:moldocument:7:3"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="urn:entsoe.eu:wg6di:codelists" schemaLocation="urn-entsoe-eu-wg6di-codelists.xsd"/>
  <xs:simpleType name="ID_String">
    awdsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String"/>
  </xs:simpleType>
  <xs:simpleType name="ESMP_DateTime">
    awdsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime"/>
  </xs:simpleType>

```

which is based on:

```xml
<xs:restriction base="xs:string">
  <xs:pattern value="^[\d]+\s*\d+[\d]*$">
```

Of which the following are used in this schema:

```xml
<xs:restriction base="xs:string">
  <xs:pattern value="^[\d]+\s*\d+[\d]*$">
```

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

urn:iec62325.351:tc57wg16:451-7:moldocument:7:3

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:ecl="urn:entsoe.eu:wg6di:codelists"
  xmlns="urn:iec62325.351:tc57wg16:451-7:moldocument:7:3"
  xmlns:sawsdl="http://www.w3.org/2001/XMLSchema"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="urn:iec62325.351:tc57wg16:451-7:moldocument:7:3"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="urn:entsoe.eu:wg6di:codelists" schemaLocation="urn-entsoe-eu-wg6di-codelists.xsd"/>
  <xs:simpleType name="ID_String">
    awdsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String"/>
  </xs:simpleType>
  <xs:simpleType name="ESMP_DateTime">
    awdsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime"/>
  </xs:simpleType>

```

which is based on:

```xml
<xs:restriction base="xs:string">
  <xs:pattern value="^[\d]+\s*\d+[\d]*$">
```

Of which the following are used in this schema:

```xml
<xs:restriction base="xs:string">
  <xs:pattern value="^[\d]+\s*\d+[\d]*$">
```
<xs:complexType name="ESMP_DateTimeInterval">
<xs:complexContent>
<xs:restriction base="cim16#DateTimeInterval">
<xs:sequence>
<xs:element name="start" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"/>
<xs:element name="end" type="YMDHM_DateTime" minOccurs="1" maxOccurs="1"/>
</xs:sequence>
</xs:restriction>
</xs:complexContent>
</xs:complexType>

<xs:complexType name="BidTimeSeries">
<xs:complexContent>
<xs:restriction base="cim16#BidTimeSeries">
<xs:sequence>
<xs:element name="marketAgreement.mRID" type="ID_String" minOccurs="1" maxOccurs="1"/>
<xs:element name="marketAgreement.createdDateTime" type="ESMP_DateTime" minOccurs="0" maxOccurs="1"/>
<xs:element name="weight" type="number"/>
<xs:element name="partyID_String" type="PartyID_String" minOccurs="0" maxOccurs="1"/>
<xs:element name="resourceProvider_MarketParticipant.mRID" type="ID_String" minOccurs="0" maxOccurs="1"/>
<xs:element name="registeredResource.mRID" type="ResourceID_String" minOccurs="0" maxOccurs="1"/>
<xs:element name="acquiring_Domain.mRID" type="AreaID_String" minOccurs="1" maxOccurs="1"/>
<xs:element name="connecting_Domain.mRID" type="AreaID_String" minOccurs="1" maxOccurs="1"/>
<xs:element name="auction.mRID" type="ID_String" minOccurs="1" maxOccurs="1"/>
<xs:element name="auction.paymentTerms" type="PaymentTerms_String" minOccurs="0" maxOccurs="1"/>
<xs:element name="businessType" type="BusinessKind_String" minOccurs="1" maxOccurs="1"/>
<xs:element name="bid_Period.timeInterval" type="ESMP_DateTimeInterval" minOccurs="0" maxOccurs="1"/>
</xs:sequence>
</xs:restriction>
</xs:complexContent>
</xs:complexType>
<xs:element name="quantity_Measurement_Unit.name"
  type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
<xs:element name="currency_Unit.name"
  type="CurrencyCode_String" minOccurs="0" maxOccurs="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
<xs:element name="price_Measurement_Unit.name"
  type="MeasurementUnitKind_String" minOccurs="0" maxOccurs="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
<xs:element name="energyPrice_Measurement_Unit.name"
  type="MeasurementUnitKind_String" minOccur="0" maxOccur="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
<xs:element name="minimumActivation_Quantity.quantity"
  type="xs:decimal" minOccur="0" maxOccur="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
<xs:element name="stepIncrement_Quantity.quantity"
  type="xs:decimal" minOccur="0" maxOccur="1"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
<xs:element name="marketObjectStatus.status"
  type="Status_String" minOccur="1" maxOccur="1"
<xs:element name="Period" type="Series_Period" minOccur="1"
<xs:element name="Reason" type="Reason" minOccur="0"
</xs:complexType>
</xs:simpleType>
<xs:simpleType name="ESMPVersion_String"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="xs:string">
    <xs:pattern value="[1-9][0-9]*{0,2}"/>
  </xs:restriction>
</xs:simpleType>
</xs:simpleType>
<xs:simpleType name="MessageKind_String"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:MessageTypeList"/>
</xs:simpleType>
</xs:simpleType>
<xs:simpleType name="ProcessKind_String"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:ProcessTypeList"/>
</xs:simpleType>
</xs:simpleType>
<xs:simpleType name="MarketRoleKind_String"
  sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:RoleTypeList"/>
</xs:simpleType>
</xs:simpleType>
<xs:complexType name="MeritOrderList_MarketDocument"
  <xs:sequence>
    <xs:element name="mRID" type="ID_String" minOccur="1"
      maxOccur="1" sawsd1:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="revisionNumber" type="ESMPVersion_String"
minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.revisionNumber"/>
<xs:element name="MessageKind_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.type"/>
<xs:element name="process.processType" type="ProcessKind_String" minOccurs="0" maxOccurs="1"
  sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Process.processType"/>
<xs:element name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
<xs:element name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
<xs:element name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"
<xs:element name="createdDateTime" type="ESMP_DateTime"
  minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.createdDateTime"/>
<xs:element name="period.timeInterval" type="ESMP_DateTimeInterval"
  minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
<xs:element name="domain.mRID" type="AreaID_String"
  minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
<xs:element name="relatedReserveBid_MarketDocument.mRID"
  minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
<xs:element name="relatedReserveBid_MarketDocument.revisionNumber" type="ESMPVersion_String"
  minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.revisionNumber"/>
<xs:element name="TimeSeries" type="BidTimeSeries"
</xs:sequence>
</xs:complexType>
<xs:simpleType name="Position_Integer">
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer"/>
<xs:restriction base="xs:integer">
  <xs:maxInclusive value="999999"/>
  <xs:minInclusive value="1"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="Amount_Decimal">
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Decimal"/>
<xs:restriction base="xs:decimal">
<x:totalDigits value="17"/>
</xs:restriction>
</xs:simpleType>
</xs:complexType>

<sawsdl:modelReference>http://iec.ch/TC57/2013/CIM-schema-cim16#Point</sawsdl:modelReference>

<xs:element name="position" type="Position_Integer">
<xs:complexType>
<xs:sequence>
<xs:element maxOccurs="1" minOccurs="1" name="timeInterval" schema="cim16#Period.
timeInterval"/>
</xs:sequence>
</xs:complexType>
</xs:element>

<xs:element name="quantity.quantity" type="xs:decimal">
<xs:complexType>
<xs:sequence>
<xs:element name="price.amount" type="Amount_Decimal">
<xs:complexType>
<xs:sequence>
<xs:element name="quantity.quantity" type="xs:decimal">
<xs:complexType>
<xs:sequence>
<xs:element name="price.amount" type="Amount_Decimal">
<xs:complexType>
<xs:sequence>
<xs:element name="activatedQuantity.quantity" type="xs:decimal">
<xs:complexType>
<xs:sequence>
<xs:element name="name" type="ReasonCode_String">
<xs:complexType>
<xs:restriction base="ecl:ReasonCodeTypeList"/>
</xs:complexType>
</xs:element>


<xs:element name="maxOccurs" type="xs:integer">
<xs:complexType>
<xs:sequence>
<xs:element maxOccurs="1" minOccurs="1" name="timeInterval" schema="cim16#Period.
timeInterval"/>
</xs:sequence>
</xs:complexType>
</xs:element>

<xs:element name="minOccurs" type="xs:integer">
<xs:complexType>
<xs:sequence>
<xs:element name="timeInterval" type="ESMP_DateTimeInterval">
<xs:complexType>
<xs:sequence>
<xs:element name="resolution" type="xs:duration">
<xs:complexType>
<xs:sequence>
<xs:element maxOccurs="1" minOccurs="1" name="timeInterval" schema="cim16#Period.
timeInterval"/>
</xs:sequence>
</xs:complexType>
</xs:element>

<sawsdl:modelReference>http://iec.ch/TC57/2013/CIM-schema-cim16#Point</sawsdl:modelReference>

</xs:element>
</xs:complexType>
</xs:sequence>
</xs:element>

<sawsdl:modelReference>http://iec.ch/TC57/2013/CIM-schema-cim16#Point</sawsdl:modelReference>
</xs:schema>