REPORTING INFORMATION DOCUMENT
UML MODEL AND SCHEMA

2022-11-29
AGREED DOCUMENT
VERSION 1.3
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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

<table>
<thead>
<tr>
<th>Version</th>
<th>Release</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>2017-01-19</td>
<td>First drafting of the document.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>2017-01-30</td>
<td>Version to be submitted to Market Committee following WG EDI meeting in March 2017.</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2018-11-08</td>
<td>XSD version 2.1: Order of the series_period class attributes now is in line with current EDI practice. Approved by MC.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2022-03-15</td>
<td>Updates in XSD v2.2: mRID of Document, Series and Timeseries (ID_String type) was enlarged from 35 to 60 characters. Approved by MC.</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>2022-11-29</td>
<td>Updates in XSD v2.3: Added an optional energyMarket.timeframe attribute at RIMD_MarketDocument and Timeseries. Agreed by CIM EG.</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 ReportingInformation_MarketDocument.

The schema of the ReportingInformation_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. ReportingInformation_MarketDocument

2.1. Reporting information 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>ConnectingLine_RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>Dataset_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</td>
</tr>
<tr>
<td>EnergyMarket</td>
<td>TC57CIM::IEC62325::MarketCommon::EnergyMarket</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>Point</td>
<td>TC57CIM::IEC62325::MarketManagement::Point</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>Referenced_DateAndOrTime</td>
<td>TC57CIM::IEC62325::MarketManagement::DateAndOrTime</td>
</tr>
<tr>
<td>ReportingInformation_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</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>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
</tbody>
</table>
2.2. Reporting information 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 2 - IsBasedOn dependency

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

2.2.3. Detailed Reporting information assembly model

2.2.3.1. ReportingInformation_MarketDocument root class

This document provides either:

- all the information relating to a status request made by an interested party concerning aggregated netted external schedules, aggregated netted external market schedules, aggregated netted external TSO schedules, compensation program schedules, netted area position schedules and netted area AC position schedules.
- the net position for an area (scheduling area, bidding zone, NEMO trading hub, control area, ...).

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

Table 3 shows all attributes of ReportingInformation_MarketDocument.

Table 3 - Attributes of Reporting information assembly model::ReportingInformation_MarketDocument

<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>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>[1..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>3</td>
<td>[1..1]</td>
<td>process.processType ProcessKind_String</td>
<td>The identification of the nature of process that the document addresses. The Process dealt within the document.</td>
</tr>
<tr>
<td>4</td>
<td>[0..1]</td>
<td>process.energyMarket.timeframe Timeframe_String</td>
<td>A specified period of time in which something occurs or is planned to take place. The timeframe the document is addressed to.</td>
</tr>
<tr>
<td>5</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. The sender of the document.</td>
</tr>
<tr>
<td>6</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. The role associated with a MarketParticipant.</td>
</tr>
<tr>
<td>Order</td>
<td>Mult.</td>
<td>Attribute name / Attribute type</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>---------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>7</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- The recipient of the document.</td>
</tr>
<tr>
<td>8</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.marketRole.type MarketRoleKind_String</td>
<td>The identification of the role played by a market player. --- The recipient of the document. --- The role associated with a MarketParticipant.</td>
</tr>
<tr>
<td>9</td>
<td>[1..1]</td>
<td>createdDateTime ESMP_DateTime</td>
<td>The date and time of the creation of the document.</td>
</tr>
<tr>
<td>10</td>
<td>[1..1]</td>
<td>time_Period.timeInterval ESMP_DateTimeInterval</td>
<td>The start and end date and time for a given interval. --- This information provides the start and end date and time of the period covered by the document.</td>
</tr>
<tr>
<td>11</td>
<td>[0..1]</td>
<td>domain.mRID AreaID_String</td>
<td>The unique identification of the domain. --- The identification of the domain that is covered in the reporting information market document.</td>
</tr>
<tr>
<td>12</td>
<td>[0..1]</td>
<td>dataset_MarketDocument.mRID ID_String</td>
<td>The identification of an individually predefined dataset in a database system (e.g. Verification Platform). --- The identification of information in the reporting information market document that is related to a predefined dataset. In the CGMA process, the identification of the received document containing errors. Both the mRID and the revisionNumber of the received document are provided.</td>
</tr>
<tr>
<td>13</td>
<td>[0..1]</td>
<td>dataset_MarketDocument.revisionNumber ESMPVersion_String</td>
<td>The identification of the version that distinguishes one evolution of a document from another. --- The identification of information in the reporting information market document that is related to a predefined dataset. In the CGMA process, the identification of the received document containing errors. Both the mRID and the revisionNumber of the received document are provided.</td>
</tr>
<tr>
<td>14</td>
<td>[0..1]</td>
<td>docStatus Action_Status</td>
<td>The identification of the condition or position of the document with regard to its standing. A document may be intermediate or final.</td>
</tr>
<tr>
<td>15</td>
<td>[0..1]</td>
<td>referenced_DateAndOrTime.date Date</td>
<td>The date as &quot;YYYY-MM-DD&quot;, which conforms with ISO 8601. --- The reference date and time for which the reporting information market document information is to be provided.</td>
</tr>
<tr>
<td>16</td>
<td>[0..1]</td>
<td>referenced_DateAndOrTime.time Time</td>
<td>The time as &quot;hh:mm:ss.sssZ&quot;, which conforms with ISO 8601. --- The reference date and time for which the reporting information market document information is to be provided.</td>
</tr>
<tr>
<td>19</td>
<td>[0..1]</td>
<td>description String</td>
<td>The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.</td>
</tr>
</tbody>
</table>

Table 4 shows all association ends of ReportingInformation_MarketDocument with other classes.

**Table 4 - Association ends of Reporting information assembly**

<table>
<thead>
<tr>
<th>Order</th>
<th>Mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>[0..*]</td>
<td>TimeSeries TimeSeries</td>
<td>The time series that is associated with an electronic document. Association Based On: Reporting information contextual model::ReportingInformation_MarketDocument[]. --- Reporting information contextual model::TimeSeries.TimeSeries[0..*]</td>
</tr>
</tbody>
</table>
### 2.2.3.2. **Point**

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

Table 5 shows all attributes of Point.

**Table 5 - Attributes of Reporting information 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</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</td>
<td>The principal quantity identified for a point. The quantity of the product scheduled for the position within the time interval.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>posFR_Quantity.quantity</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The positive feasibility range to be used for the alignment process of the net position provided in the quantity attribute of the class Point. The Quantity information associated with a given Point.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>negFR_Quantity.quantity</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The negative feasibility range to be used for the alignment process of the net position provided in the quantity attribute of the class Point. This value shall be either zero or a negative value. The Quantity information associated with a given Point.</td>
</tr>
</tbody>
</table>

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

**Table 6 - Association ends of Reporting information assembly model::Point 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>4</td>
<td>[0..*]</td>
<td>Reason</td>
<td>The Reason information associated with a Point providing motivation information. Association Based On: Reporting information contextual model::Point.[] Reporting information contextual model::Reason.Reason[0..*]</td>
</tr>
</tbody>
</table>

### 2.2.3.3. **Reason**

The motivation of an act.

Table 7 shows all attributes of Reason.
Table 7 - Attributes of Reporting information assembly model::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>

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

Table 8 shows all attributes of Series_Period.

Table 8 - Attributes of Reporting information assembly model::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 9 shows all association ends of Series_Period with other classes.

Table 9 - Association ends of Reporting information assembly model::Series_Period 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>2</td>
<td>[1..*]</td>
<td>Point Point</td>
<td>The Point information associated with a given Series_Period within a TimeSeries. Association Based On: Reporting information contextual model::Series_Period.[] Reporting information contextual model::Point.Point[1..*]</td>
</tr>
</tbody>
</table>

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

In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

Table 10 shows all attributes of TimeSeries.

Table 10 - Attributes of Reporting information assembly model::TimeSeries

<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>mRID ID_String</td>
<td>A unique identification of the time series.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>businessType BusinessKind_String</td>
<td>The identification of the nature of the time series.</td>
</tr>
<tr>
<td>2</td>
<td>[1..1]</td>
<td>product EnergyProductKind_String</td>
<td>The identification of the nature of an energy product such as power, energy, reactive power, etc.</td>
</tr>
</tbody>
</table>
Table 11 shows all association ends of TimeSeries with other classes.

### Table 11 - Association ends of Reporting information assembly model::TimeSeries 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>10</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: Reporting information contextual model::TimeSeries.[] Reporting information contextual model::Series_Period_Period[1..*]</td>
</tr>
<tr>
<td>11</td>
<td>[0..*]</td>
<td>Reason.Reason</td>
<td>The reason information associated with a TimeSeries providing motivation information. Association Based On: Reporting information contextual model::TimeSeries.[] Reporting information contextual model::Reason.Reason[0..*]</td>
</tr>
</tbody>
</table>

### 2.2.4. Datatypes

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

- Action_Status compound
- ESMP_DateTimeInterval compound
- AreaID_String datatype, codelist CodingSchemeTypeList
- BusinessKind_String datatype, codelist BusinessTypeList
- CurveType_String datatype, codelist CurveTypeList
- EnergyProductKind_String datatype, codelist EnergyProductTypeList
- 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
• 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
• Timeframe_String datatype, codelist TimeframeTypeList
• YMDHM_DateTime datatype
2.2.5. ReportingInformation_MarketDocument XML schema structure

Figure 3 – ReportingInformation_MarketDocument schema structure
2.2.6. ReportingInformation_MarketDocument XML schema

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

urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:3

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:ecle="urn:entsoe.eu:wgedi:codelists"
xmlns="urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:3"
xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
xmlns:cimp="http://www.iec.ch/cimprofile"
xmlns:xm"http://www.w3.org/2001/XMLSchema"
targetNamespace="urn:iec62325.351:tc57wg16:451-n:reportinginformationdocument:2:3"
elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-
entsoe-eu-wgedi-codelists.xsd"/>
  <xs:element name="ReportingInformation_MarketDocument" type="ReportingInformation_MarketDocument"/>
  <xs:simpleType name="Position_Integer">
    <xs:restriction base="xs:integer">
      <xs:maxInclusive value="999999"/>
      <xs:minInclusive value="1"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="Point">
    <xs:sequence>
      <xs:element name="position" type="Position_Integer" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.position"/>
      <xs:element name="quantity" type="xs:decimal" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.quantity"/>
      <xs:element name="posFR_Quantity.quantity" type="xs:decimal" minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
      <xs:element name="negFR_Quantity.quantity" type="xs:decimal" minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity.quantity"/>
      <xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point.Reason"/>
    </xs:sequence>
  </xs:simpleType>
  <xs:simpleType name="ReasonCode_String">
    <xs:restriction base="ecl:ReasonCodeTypeList"/>
  </xs:simpleType>
  <xs:simpleType name="ReasonText_String">
    <xs:restriction base="xs:string">
      <xs:maxlength value="512"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="Reason">
    <xs:complexType name="Reason">
      <xs:sequence>
        <xs:element name="code" type="ReasonCode_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```
<xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1"/>
</xs:sequence>
</xs:complexType>
</sawsdl:modelReference>
<xs:simpleType name="ID_String"/>
<sawsdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ID_String"/>

<xs:complexType name="ESMPVersion_String"/>
<sawsdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ESMPVersion_String"/>
</sawsdl:modelReference>

<xs:simpleType name="MessageKind_String"/>
</sawsdl:modelReference>

<xs:simpleType name="ProcessKind_String"/>
</sawsdl:modelReference>

<xs:simpleType name="Timeframe_String"/>
<sawsdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#Timeframe_String"/>
</sawsdl:modelReference>

<xs:simpleType name="PartyID_String"/>
</sawsdl:modelReference>

<xs:simpleType name="CompanyID_String"/>
</sawsdl:modelReference>

<xs:complexType name="MarketRoleKind_String"/>
</sawsdl:modelReference>

<xs:complexType name="ESMP_DateTime"/>
<sawsdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ESMP_DateTime"/>
</sawsdl:modelReference>
<xs:simpleType name="AreaID_String">
  <xs:restriction base="xs:string">
    <xs:maxLength value="18"/>
  </xs:restriction>
</xs:simpleType>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="xs:string"/>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.name>
  <xs:restriction base="xs:dateTime">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.start>
  <xs:restriction base="xs:dateTime">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval.end>
  <xs:restriction base="xs:dateTime">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#Status.value>
  <xs:restriction base="xs:string">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#status" type="status_string" maxOccurs="1" name="Status_String">
  <xs:restriction base="ecl:StatusList"/>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#YMDHM_DateTime">
  <xs:restriction base="xs:string">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ESMP_DateTimeInterval.name">
  <xs:restriction base="xs:string">
    <xs:maxLength value="18"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ESMP_DateTimeInterval.start">
  <xs:restriction base="YMDHM_DateTimeInterval.start"/>  
</sawdl:modelReference>

<sawdl:modelReference http://iec.ch/TC57/2013/CIM-schema-cim16#ESMP_DateTimeInterval.end">
  <xs:restriction base="YMDHM_DateTimeInterval.end"/>  
</sawdl:modelReference>

  <xs:restriction base="ecl:MarketDocument"/>  
</sawdl:modelReference>
<xs:sequence>
  <xs:element name="mRID" type="ID_String" minOccurs="1" maxOccurs="1"/>
  <xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1" maxOccurs="1"/>
  <xs:element name="createdDateTime" type="ESMP_DateTime" minOccurs="1" maxOccurs="1"/>
  <xs:element name="time_Period.timeInterval" type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"/>
  <xs:element name="domain.mRID" type="AreaID_String" minOccurs="0" maxOccurs="1"/>
  <xs:element name="dataset_MarketDocument.mRID" type="ID_String" minOccurs="0" maxOccurs="1"/>
  <xs:element name="ESMPVersion_String" minOccurs="0" maxOccurs="1"/>
  <xs:element name="target_dateAndOrTime" type="xs:date" minOccurs="0" maxOccurs="1"/>
  <xs:element name="target_timeAndOrDateTime" type="xs:time" minOccurs="0" maxOccurs="1"/>
</xs:sequence>


<xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.description"/>

</xs:complexType>
<xs:complexType name="Series_Period" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
  <xs:sequence>
    <xs:element name="timeInterval" type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.timeInterval"/>
    <xs:element name="resolution" type="xs:duration" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.resolution"/>
    <xs:element name="Point" type="Point" minOccurs="1" maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period.Point"/>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="BusinessKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:BusinessTypeList"/>
</xs:complexType>

<xs:complexType name="EnergyProductKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:EnergyProductTypeList"/>
</xs:complexType>

<xs:complexType name="ResourceID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction bases="xs:string">
    <xs:maxlength value="60"/>
  </xs:restriction>
</xs:complexType>

<xs:complexType name="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:extension base="ResourceID_String-base">
    <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
  </xs:extension>
</xs:complexType>

<xs:complexType name="MeasurementUnitKind_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:UnitOfMeasureTypeList"/>
</xs:complexType>

<xs:complexType name="CurveType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="ecl:CurveTypeList"/>
</xs:complexType>

  <xs:sequence>
<xs:element name="mRID" type="ID_String" minOccurs="1">
    <xs:element name="businessType" type="BusinessKind_String" maxOccurs="1">
        <xs:element name="product" type="EnergyProductKind_String" maxOccurs="1">
            <xs:element name="reason" type="Reason" maxOccurs="1">
                <xs:element name="status" type="Status_String" maxOccurs="1">
                    <xs:element name="businessType" type="BusinessKind_String" maxOccurs="1">
                        <xs:element name="measurement_Unit" name="measurement_UnitKind_String" minOccurs="1" maxOccurs="1">
                            <xs:element name="curveType" type="CurveType_String" minOccurs="1" maxOccurs="1"/>
                            <xs:element name="marketObjectStatus" type="MarketObjectStatus" status="status"/>
                            <xs:element name="energyMarket" type="EnergyMarket" timeframe="timeframe"/>
                        </xs:element>
                    </xs:element>
                </xs:element>
            </xs:element>
        </xs:element>
    </xs:element>
</xs:element>