OUTAGE CONFIGURATION DOCUMENT
UML MODEL AND SCHEMA

2021-02-17
APPROVED DOCUMENT
VERSION 1.2
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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>
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<tr>
<td>1</td>
<td>0</td>
<td>2020-11-09</td>
<td>First drafting of the document. Changes in version of Network Outage Configuration (Ref/mltopconfigurationdocument) v1.1:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Two new optional Relevant and Interesting status attributes linked to RegisteredResource class with cardinality 0..1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Existing RegisteredResource and Domain classes are linked with cardinality 0..* Name of the association is Associated_Domain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- mRIDs (ID_String) enlarged to 65 chars as compliant with last versions of the ESMP.</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2021-01-22</td>
<td>Changes in version of Network Outage Configuration (Ref/mltopconfigurationdocument) v1.2:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- A new Relevant_MarketParticipant.mRID is linked to Timeseries with cardinality 0..* in Network outage configuration document to export the TSOs who marked an element as relevant.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2021-02-17</td>
<td>The schema document was renamed to Outage configuration document UML model and schema. XSD was renamed to Outage configuration document and version was upgraded to v1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Changes in version of Outage configuration document v1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Market document class was renamed to OutageConfiguration. Before it was called Ref_MarketDocument.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Namespace was changed to urn:iec62325.351:tc57wg16:451:n:outageconfigurationdocument:1:3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Approved by SOC.</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 Outage Configuration document.

The schema of the Outage Configuration document 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 Outage configuration model

2.1 Outage configuration 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>DateAndOrTime</td>
<td>TC57CIM::IEC62325::MarketManagement::DateAndOrTime</td>
</tr>
<tr>
<td>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</td>
</tr>
<tr>
<td>Location</td>
<td>TC57CIM::IEC61968::Common::Location</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>MktPSRType</td>
<td>TC57CIM::IEC62325::MarketManagement::MktPSRType</td>
</tr>
<tr>
<td>Multipod_RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>Other_MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>OutageConfiguration_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>Owner_MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</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>RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>Specific_RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
<tr>
<td>VoltageLevel</td>
<td>TC57CIM::IEC61970::Base::Core::VoltageLevel</td>
</tr>
</tbody>
</table>
2.2 Outage configuration assembly model

2.2.1 Overview of the model

Figure 2 shows the model.

![Diagram of Outage configuration assembly 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>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</td>
</tr>
<tr>
<td>Other_MarketParticipant</td>
<td>TC57CIM::IEC62325::MarketCommon::MarketParticipant</td>
</tr>
<tr>
<td>OutageConfiguration_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>Specific_RegisteredResource</td>
<td>TC57CIM::IEC62325::MarketCommon::RegisteredResource</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
</tbody>
</table>

### 2.2.3 Detailed Outage configuration assembly model

#### 2.2.3.1 OutageConfiguration_MarketDocument root class

An electronic document containing the information necessary to satisfy the requirements of the configuration management process.

The OutageConfiguration_MarketDocument is used to transmit the information necessary to configure the outage planning configuration process.

The OutageConfiguration_MarketDocument is also used to transmit modifications that evolve the initial configuration information over time.

Table 3 shows all attributes of OutageConfiguration_MarketDocument.

#### Table 3 - Attributes of Outage configuration assembly model::OutageConfiguration_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>Unique identification of the configuration document being exchanged within a given business process flow.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</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>2</td>
<td>[1..1]</td>
<td>process.processType ProcessKind_String</td>
<td>The identification of the nature of process that the document addresses.</td>
</tr>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. Document owner.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</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>5</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. Document recipient.</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>6</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.marketRole.type</td>
<td>The identification of the role played by a market player. Document recipient. The role associated with a MarketParticipant.</td>
</tr>
<tr>
<td>7</td>
<td>[1..1]</td>
<td>createdDateTime</td>
<td>The date and time of the creation of the document.</td>
</tr>
</tbody>
</table>

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

**Table 4 - Association ends of Outage configuration assembly model::OutageConfiguration_MarketDocument with other classes**

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
</table>

2.2.3.2 Domain
A domain covering a number of related objects, such as market balance area, grid area, borders etc. Table 5 shows all attributes of Domain.

**Table 5 - Attributes of Outage configuration assembly model::Domain**

<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</td>
<td>The unique identification of the domain.</td>
</tr>
</tbody>
</table>

2.2.3.3 Other_MarketParticipant
The identification of the party that provides the information concerning the resource object defined in the time series. Table 6 shows all attributes of Other_MarketParticipant.

**Table 6 - Attributes of Outage configuration assembly model::Other_MarketParticipant**

<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</td>
<td>The identification of a party in the energy market.</td>
</tr>
</tbody>
</table>

2.2.3.4 RegisteredResource
A resource that is registered through the market participant registration system. Examples include network element, generating unit, load, and non-physical generator or load.
Table 7 shows all attributes of RegisteredResource.

### Table 7 - Attributes of Outage configuration assembly model::RegisteredResource

<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 ResourceID_String</td>
<td>The unique identification of a resource.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1]</td>
<td>name String</td>
<td>The name is any free human readable and possibly non unique text naming the object.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>location.name Characters200_String</td>
<td>The name is any free human readable and possibly non unique text naming the object. The location of the element for the outage. --- Location of this power system resource.</td>
</tr>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>pSRType.psrType PsrType_String</td>
<td>The coded type of a power system resource. --- The identification of the type of resource associated with this RegisteredResource.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</td>
<td>pSRType.powerSystemResources.highVoltageLimit ESMP_Voltage</td>
<td>The bus bar's high voltage limit --- The identification of the type of resource associated with this RegisteredResource. --- The voltage level of the RegisteredResource having the MktPSRType.</td>
</tr>
<tr>
<td>5</td>
<td>[0..1]</td>
<td>pSRType.powerSystemResources.lowVoltageLimit ESMP_Voltage</td>
<td>The bus bar's low voltage limit --- The identification of the type of resource associated with this RegisteredResource. --- The voltage level of the RegisteredResource having the MktPSRType.</td>
</tr>
<tr>
<td>6</td>
<td>[0..1]</td>
<td>interesting_MarketObjectStatus.status Status_String</td>
<td>The coded condition or position of an object with regard to its standing. --- The status of the registered resource, e.g. connected, disconnected, outage, ...</td>
</tr>
<tr>
<td>7</td>
<td>[0..1]</td>
<td>relevant_MarketObjectStatus.status Status_String</td>
<td>The coded condition or position of an object with regard to its standing. --- The status of the registered resource, e.g. connected, disconnected, outage, ...</td>
</tr>
</tbody>
</table>

Table 8 shows all association ends of RegisteredResource with other classes.

### Table 8 - Association ends of Outage configuration assembly model::RegisteredResource 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>8</td>
<td>[0..*]</td>
<td>Domain Associated_Domain</td>
<td>The identification of the domain linked by the registered resource. Association Based On: Outage configuration contextual model::Domain.Associated_Domain[0..*] ..... Outage configuration contextual model::RegisteredResource[,]</td>
</tr>
</tbody>
</table>

2.2.3.5 **Specific RegisteredResource**

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

Table 9 shows all attributes of Specific RegisteredResource.
### Table 9 - Attributes of Outage configuration assembly model::Specific_RegisteredResource

<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 ResourceID_String</td>
<td>The unique identification of a resource.</td>
</tr>
</tbody>
</table>

### 2.2.3.6 TimeSeries

A time series shall exist to describe a specific production unit, generating unit, transmission asset or consumption unit. It conveys the data related to the configuration of the defined information.

Table 10 shows all attributes of TimeSeries.

### Table 10 - Attributes of Outage configuration 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>1</td>
<td>[0..1]</td>
<td>cancelledTS ESPMBoolean_String</td>
<td>An indicator stating that the TimeSeries, identified by the mRID, is withdrawn as well as all the values sent in a previous version of the TimeSeries in a previous document.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>description String</td>
<td>Any other information about the network element defined by the mRID of the RegisteredResource. 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>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>owner_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. The party who provides the information related to the RegisteredResource outage.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</td>
<td>startLifetime_DateAndOrTime.date Date</td>
<td>The date as &quot;YYYY-MM-DD&quot;, which conforms with ISO 8601. The date when the network element was put in service.</td>
</tr>
<tr>
<td>5</td>
<td>[0..1]</td>
<td>endLifetime_DateAndOrTime.date Date</td>
<td>The date as &quot;YYYY-MM-DD&quot;, which conforms with ISO 8601. The date when the network element will be withdrawn of service.</td>
</tr>
<tr>
<td>6</td>
<td>[0..1]</td>
<td>implementation_DateAndOrTime.date Date</td>
<td>The date as &quot;YYYY-MM-DD&quot;, which conforms with ISO 8601. The date of application of the information provided. This identifies the date of the effective implementation of the information provided in the time series. In the case of a creation this signifies that the object will be operational at this date. In the case of modification this signifies that the changes will be operational at this date. In the case of a deactivation this signifies that the deactivation will be effective at this date.</td>
</tr>
<tr>
<td>7</td>
<td>[0..1]</td>
<td>active_Measurement_Unit.name MeasurementUnitKind_String</td>
<td>The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). The unit for active generation or consumption.</td>
</tr>
<tr>
<td>8</td>
<td>[0..1]</td>
<td>installedGeneration.Quantity.quantity Decimal</td>
<td>The quantity value. The association role provides the information about what is expressed. The quantity information associated to a TimeSeries. For a generating unit, the installed generation capacity.</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>9</td>
<td>[0..1]</td>
<td>installedConsumption.Quantity.quantity Decimal</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The quantity information associated to a TimeSeries. For a consumption unit, the installed consumption capacity.</td>
</tr>
<tr>
<td>10</td>
<td>[0..1]</td>
<td>installedReactive.Quantity.quantity Decimal</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The quantity information associated to a TimeSeries. For a unit, the reactive capacity.</td>
</tr>
<tr>
<td>11</td>
<td>[0..1]</td>
<td>reactive_Measurement_Unit.name MeasurementUnitKind_String</td>
<td>The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit for reactive power.</td>
</tr>
<tr>
<td>12</td>
<td>[0..1]</td>
<td>multipod_RegisteredResource.mRID ResourceID_String</td>
<td>The unique identification of a resource. In the ESMP context, the &quot;model authority&quot; is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The identification of a resource associated with a TimeSeries. The network element which is within the multipod.</td>
</tr>
</tbody>
</table>

Table 11 shows all association ends of TimeSeries with other classes.

**Table 11 - Association ends of Outage configuration 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>0</td>
<td>[1..1]</td>
<td>RegisteredResource RegisteredResource</td>
<td>The identification of a resource associated with a TimeSeries. The network element to be configured. Association Based On: Outage configuration contextual model::RegisteredResource.RegisteredResource[1..1] ---- Outage configuration contextual model::TimeSeries.[]</td>
</tr>
<tr>
<td>13</td>
<td>[1..*]</td>
<td>Domain Domain</td>
<td>The domain where the resource object associated with a TimeSeries resides. Association Based On: Outage configuration contextual model::Domain.Domain[1..*] ---- Outage configuration contextual model::TimeSeries.[]</td>
</tr>
<tr>
<td>14</td>
<td>[0..*]</td>
<td>Other_MarketParticipant Coordination_MarketParticipant</td>
<td>The list of parties who are involved in the coordination outage process Association Based On: Outage configuration contextual model::Other_MarketParticipant.Coordination_MarketParticipant[0..*] ---- Outage configuration contextual model::TimeSeries.[]</td>
</tr>
</tbody>
</table>
### Datatypes

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

- **AreaID_String datatype**, codelist CodingSchemeTypeList
- **Characters200_String datatype**
- **ESMP_DateTime datatype**
- **ESMP_Voltage datatype**
- **ESMPBoolean_String datatype**, codelist IndicatorTypeList
- **ID_String datatype**
- **MarketRoleKind_String datatype**, codelist RoleTypeList
- **MeasurementUnitKind_String datatype**, codelist UnitOfMeasureTypeList
- **MessageKind_String datatype**, codelist MessageTypeList
- **PartyID_String datatype**, codelist CodingSchemeTypeList
- **ProcessKind_String datatype**, codelist ProcessTypeList
- **PsrType_String datatype**, codelist AssetTypeList
- **ResourceId_String datatype**, codelist CodingSchemeTypeList
- **Status_String datatype**, codelist StatusTypeList
- **UnitSymbol datatype**, codelist UnitSymbol
2.2.5 Outage Configuration XML schema structure

Figure 3 - OutageConfiguration_MarketDocument XML schema structure
## 2.2.6 Outage Configuration XML schema

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

```xml
c<?xml version="1.0" encoding="utf-8"?>
c<xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"
c xmlns="urn:iec62325.351:tc57wg16:451"
c targetNamespace="urn:iec62325.351:tc57wg16:451-n:outageconfigurationdocument:1:3"
c elementFormDefault="qualified" attributeFormDefault="unqualified">
c  <xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn:entso-eu-wgedi-codelists.xsd"/>
c</xs:schema>
c
<xs:complexType name="OutageConfiguration_MarketDocument">
c  <xs:complexContent>
c    <xs:restriction base="n:outageconfigurationdocument:1:3">
c      <xs:extension base="AreaID_String-base">
c        <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
c    </xs:extension>
c  </xs:complexContent>
c</xs:complexType>
```

```xml
c<xs:complexType name="AreaID_String">
c  <xs:complexContent>
c    <xs:restriction base="cim16#String">
c      <xs:maxLength value="18"/>
c    </xs:restriction>
c  </xs:complexContent>
c</xs:complexType>
```

```xml
c<xs:complexType name="PartyID_String-base">
c  <xs:complexContent>
c    <xs:restriction base="AreaID_String-base">
c      <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
c    </xs:extension>
c  </xs:complexContent>
c</xs:complexType>
```

```xml
c<xs:complexType name="Domain">
c  <xs:complexContent>
c    <xs:restriction base="cim16#String">
c      <xs:maxLength value="16"/>
c    </xs:restriction>
c  </xs:complexContent>
c</xs:complexType>
```

```xml
c<xs:complexType name="mRID" type="AreaID_String" minOccurs="1">
c  <xs:element name="AreaID_String" minOccurs="1" maxOccurs="1">
c    <xs:schemaLocation>
c      <xs:import namespace="urn:iec6235.351:tc57wg16:451-n:outageconfigurationdocument:1:3"
c targetNamespace="urn:iec6235.351:tc57wg16:451-n:outageconfigurationdocument:1:3" elementFormDefault="qualified" attributeFormDefault="unqualified">
c  <xs:import namespace="urn:entso-eu-wgedi-codelists" schemaLocation="urn-entso-eu-wgedi-codelists.xsd"/>
c  <xs:import namespace="urn:iec6235.351:tc57wg16:451-n:outageconfigurationdocument:1:3"
c targetNamespace="urn:iec6235.351:tc57wg16:451-n:outageconfigurationdocument:1:3" elementFormDefault="qualified" attributeFormDefault="unqualified">
c```
<xs:element name="sender_MarketParticipant.mRID" type="PartyID_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
<xs:element name="sender_MarketParticipant.marketRole.type" type="MarketRoleKind_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
<xs:element name="receiver_MarketParticipant.mRID" type="PartyID_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
<xs:element name="receiver_MarketParticipant.marketRole.type" type="MarketRoleKind_String" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>
<xs:element name="ESMP_DateTime" type="ESMP_DateTime" minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Document.createdDateTime"/>
</xs:sequence>
</xs:complexType>
<xs:simpleType name="ResourceID_String-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
<xs:restriction base="xs:string">
<xs:maxLength value="60"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="ResourceID_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
<xs:restriction base="ResourceID_String-base">
<xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
</xs:restriction>
</xs:simpleType>
<xs:complexType name="Characters200_string" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
<xs:restriction base="xs:string">
<xs:maxLength value="200"/>
</xs:restriction>
</xs:complexType>
<xs:complexType name="PsrType_String" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
<xs:restriction base="ecl:AssetTypeList"/>
</xs:simpleType>
<xs:complexType name="ESMP_Voltage-base" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Voltage">
<xs:restriction base="xs:float">
<xs:pattern value="([0-9]*\.[0-9]*)"/>
</xs:restriction>
</xs:complexType>
<xs:simpleType name="ESMP_Voltage" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Voltage">
<xs:simpleContent>
</xs:simpleContent>
<xs:extension base="ESMP_Voltage-base">
  <xs:attribute name="unit" type="ecl:UnitSymbol" use="required" fixed="KVT"/>
</xs:extension>

<xs:simpleType name="Status_String">
  </xs:simpleType>
  <xs:restriction base="ecl:StatusTypeList"/>
</xs:simpleType>
  <xs:complexType name="RegisteredResource">
    <xs:complexContent>
      <xs:restriction base="ecl:RegisteredResource">
        <xs:extension base="cim16#RegisteredResource">
          <xs:sequence>
            <xs:element name="mRID" type="ResourceID_String" minOccurs="1" maxOccurs="1"/>
            <sawsdl:modelReference>http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID</sawsdl:modelReference>
          </xs:sequence>
        </xs:extension>
      </xs:restriction>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="Specific_RegisteredResource">
    <xs:complexContent>
      <xs:restriction base="cim16#RegisteredResource">
        <xs:sequence>
          <xs:element name="mRID" type="ResourceID_String" minOccurs="1" maxOccurs="1"/>
          <sawsdl:modelReference>http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID</sawsdl:modelReference>
        </xs:sequence>
      </xs:restriction>
    </xs:complexContent>
  </xs:complexType>

  <!-- UML model and XML schema used for this document. -->
<xs:complexType>
  <xs:simpleType name="ESMPBoolean_String">
    <xs:restriction base="xs:boolean"/>
  </xs:simpleType>
  <xs:complexType name="TimeSeries">
    <xs:sequence>
      <xs:simpleType name="MeasurementUnitKind_String">
        <xs:restriction base="cim16#Quantity.quantity"/>
      </xs:simpleType>
      <xs:simpleType name="Active_Measurement_Unit.name">
        <xs:restriction base="cim16#Unit.name"/>
      </xs:simpleType>
      <xs:simpleType name="InstalledGeneration_Quantity.quantity">
        <xs:restriction base="cim16#Quantity.quantity"/>
      </xs:simpleType>
      <xs:simpleType name="InstalledConsumption_Quantity.quantity">
        <xs:restriction base="cim16#Quantity.quantity"/>
      </xs:simpleType>
      <xs:simpleType name="InstalledReactive_Quantity.quantity">
        <xs:restriction base="cim16#Quantity.quantity"/>
      </xs:simpleType>
      <xs:simpleType name="MeasurementUnitKind_String">
        <xs:restriction base="cim16#Quantity.quantity"/>
      </xs:simpleType>
    </xs:sequence>
  </xs:complexType>
</xs:complexType>
<xs:sequence>
  <xs:element name="multipod_RegisteredResource.mRID"
    type="ResourceId_String" minOccurs="0" maxOccurs="1"
    cim16#IdentifiedObject.mRID/>
  <xs:element name="Domain" type="Domain" minOccurs="1"
    maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#IdentifiedObject.mRID"/>
  <xs:element name="Coordination_MarketParticipant"
    type="Other_MarketParticipant" minOccurs="0" maxOccurs="unbounded"
    cim16#TimeSeries.Coordination_MarketParticipant"/>
  <xs:element name="Interested_MarketParticipant"
    type="Other_MarketParticipant" minOccurs="0" maxOccurs="unbounded"
    cim16#TimeSeries.Interested_MarketParticipant"/>
  <xs:element name="Relevant_MarketParticipant"
    type="Other_MarketParticipant" minOccurs="0" maxOccurs="unbounded"
    cim16#TimeSeries.Relevant_MarketParticipant"/>
  <xs:element name="Specific_RegisteredResource"
    type="Specific_RegisteredResource" minOccurs="0" maxOccurs="unbounded"
    cim16#TimeSeries.Specific_RegisteredResource"/>
</xs:sequence>