SHORT MEDIUM TERM ADEQUACY RESULTS DOCUMENT
UML MODEL AND SCHEMA

2022-03-15
APPROVED DOCUMENT
VERSION 1.1
Table of Contents

1 Objective ............................................................................................................. 6
2 Short medium term adequacy results model .......................................................... 7
  2.1 Short medium term adequacy results contextual .................................................. 7
  2.1.1 Overview of the model .................................................................................. 7
  2.1.2 IsBasedOn relationships from the European style market profile .................. 8
2.2 Short medium term adequacy results assembly ..................................................... 9
  2.2.1 Overview of the model .................................................................................. 9
  2.2.2 IsBasedOn relationships from the European style market profile .................. 9
  2.2.3 Detailed Short medium term adequacy results assembly ................................. 10
    2.2.3.1 ShortMediumTermAdequacyResults_MarketDocument root class ................. 10
    2.2.3.2 Point ....................................................................................................... 11
    2.2.3.3 Reason .................................................................................................... 12
    2.2.3.4 Series_Period .......................................................................................... 12
    2.2.3.5 TimeSeries .............................................................................................. 13
  2.2.4 Datatypes ....................................................................................................... 16
  2.2.5 ShortMediumTermAdequacyResults_MarketDocument XML schema .......... 17
  2.2.6 Short Medium Term Adequacy Prognosis XML schema ................................. 18

List of figures
Figure 1 - Short medium term adequacy results contextual ...................................... 7
Figure 2 - Short medium term adequacy results assembly ......................................... 9
Figure 3 - ShortMediumTermAdequacyResults_MarketDocument schema structure .... 17

List of tables
Table 1 - IsBasedOn dependency .............................................................................. 8
Table 2 - IsBasedOn dependency .............................................................................. 10
Table 3 - Attributes of Short medium term adequacy results assembly::ShortMediumTermAdequacyResults_MarketDocument ......................................................... 10
Table 4 - Association ends of Short medium term adequacy results assembly::ShortMediumTermAdequacyResults_MarketDocument with other classes .................. 11
Table 5 - Attributes of Short medium term adequacy results assembly::Point .......... 11
Table 6 - Association ends of Short medium term adequacy results assembly::Point with other classes ................................................................. 12
Table 7 - Attributes of Short medium term adequacy results assembly::Reason ........ 12
Table 8 - Attributes of Short medium term adequacy results assembly::Series_Period ... 12
Table 9 - Association ends of Short medium term adequacy results assembly::Series_Period with other classes ................................................................. 13
Table 10 - Attributes of Short medium term adequacy results assembly::TimeSeries .... 13
Table 11 - Association ends of Short medium term adequacy results assembly::TimeSeries with other classes ................................................................. 14
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This document is maintained by the ENTSO-E CIM EG. Comments or remarks are to be provided at cim@entsoe.eu
## Revision History

<table>
<thead>
<tr>
<th>Version</th>
<th>Release</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>2021-04-21</td>
<td>Approved by SOC.</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2022-03-15</td>
<td>Updates in XSD v1.1: mRID of Document, Series and Timeseries (ID_String type) was enlarged from 35 to 60 characters. Approved by MC.</td>
</tr>
</tbody>
</table>
**Objective**

The purpose of this document is to provide the contextual and assembly UML models and the schema of the Short Medium Term Adequacy Results document.

The schema of the Short Medium Term Adequacy Results 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.
Short medium term adequacy results model

2.1 Short medium term adequacy results contextual

2.1.1 Overview of the model

Figure 1 - Short medium term adequacy results contextual shows the model.
2.1.2 IsBasedOn relationships from the European style market profile

Table 1 - IsBasedOn dependency 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>Domain</td>
<td>TC57CIM::IEC62325::MarketManagement::Domain</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>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>Series_Period</td>
<td>TC57CIM::IEC62325::MarketManagement::Period</td>
</tr>
<tr>
<td>ShortMediumTermAdequacyResults_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</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 Short medium term adequacy results assembly

2.2.1 Overview of the model

Figure 2 - Short medium term adequacy results assembly shows the model.
2.2.2 IsBasedOn relationships from the European style market profile

Table 2 - IsBasedOn dependency 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>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>
<tr>
<td>ShortMediumTermAdequacyResults_MarketDocument</td>
<td>TC57CIM::IEC62325::MarketManagement::MarketDocument</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>TC57CIM::IEC62325::MarketManagement::TimeSeries</td>
</tr>
</tbody>
</table>

2.2.3 Detailed Short medium term adequacy results assembly

2.2.3.1 ShortMediumTermAdequacyResults_MarketDocument root class

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

Table 3 - Attributes of Short medium term adequacy results assembly::ShortMediumTermAdequacyResults_MarketDocument shows all attributes of ShortMediumTermAdequacyResults_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 ESMVersion_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 associated with an electronic document header that is valid for the whole document.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</td>
<td>sender_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- The document owner.</td>
</tr>
<tr>
<td>5</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 document owner. --- The role associated with a MarketParticipant.</td>
</tr>
<tr>
<td>6</td>
<td>[1..1]</td>
<td>receiver_MarketParticipant.mRID PartyID_String</td>
<td>The identification of a party in the energy market. --- The document recipient.</td>
</tr>
<tr>
<td>7</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 document recipient. --- The role associated with a MarketParticipant.</td>
</tr>
</tbody>
</table>
### Table 4 - Association ends of Short medium term adequacy results assembly::ShortMediumTermAdequacyResults_MarketDocument with other classes shows all association ends of ShortMediumTermAdequacyResults_MarketDocument 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>[0..*]</td>
<td>TimeSeries</td>
<td>The time series that is associated with an electronic document. Association Based On: Short medium term adequacy results contextual::TimeSeries.TimeSeries[0..*] ------ Short medium term adequacy results contextual::ShortMediumTermAdequacyResults_MarketDocument[]</td>
</tr>
<tr>
<td>11</td>
<td>[0..*]</td>
<td>Reason</td>
<td>The Reason associated with the electronic document header providing different motivations for the creation of the document. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*] ------ Short medium term adequacy results contextual::ShortMediumTermAdequacyResults_MarketDocument[]</td>
</tr>
</tbody>
</table>

### 2.2.3.2 Point

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

### Table 5 - Attributes of Short medium term adequacy results assembly::Point shows all attributes of 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 principal quantity identified for a point.</td>
</tr>
<tr>
<td>2</td>
<td>[0..1]</td>
<td>posFR.Quantity.quantity Decimal</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.</td>
</tr>
<tr>
<td>3</td>
<td>[0..1]</td>
<td>negFR.Quantity.quantity Decimal</td>
<td>The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.</td>
</tr>
</tbody>
</table>
Table 6 - Association ends of Short medium term adequacy results assembly::Point with other classes shows all association ends of Point with other classes.

<table>
<thead>
<tr>
<th>Order</th>
<th>Class name / Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0..* Reason Reason</td>
<td>The Reason information associated with a Point providing motivation information. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*] Short medium term adequacy results contextual::Point.[]</td>
</tr>
</tbody>
</table>

2.2.3.3 Reason

The motivation of an act.

Table 7 - Attributes of Short medium term adequacy results assembly::Reason shows all attributes of Reason.

<table>
<thead>
<tr>
<th>Order</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1] code ReasonCode_String</td>
<td>The motivation of an act in coded form.</td>
</tr>
<tr>
<td>1</td>
<td>[0..1] 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 - Attributes of Short medium term adequacy results assembly::Series_Period shows all attributes of Series_Period.

<table>
<thead>
<tr>
<th>Order</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>[1..1] timeInterval ESMP_DateTimeInterval</td>
<td>The start and end time of the period.</td>
</tr>
<tr>
<td>1</td>
<td>[1..1] 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 - Association ends of Short medium term adequacy results assembly::Series_Period with other classes shows all association ends of Series_Period with other classes.
### Table 9 - Association ends of Short medium term adequacy results assembly::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: Short medium term adequacy results contextual::Point.Points[1..*] ...... Short medium term adequacy results contextual::Series_Period.[]</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 - Attributes of Short medium term adequacy results assembly::TimeSeries shows all attributes of TimeSeries.

### Table 10 - Attributes of Short medium term adequacy results assembly::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. In the ESMP context, the &quot;model authority&quot; 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.</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>
<tr>
<td>3</td>
<td>[1..1]</td>
<td>curveType CurveType_String</td>
<td>The identification of the coded representation of the type of curve being described.</td>
</tr>
<tr>
<td>4</td>
<td>[1..1]</td>
<td>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>
</tbody>
</table>
### Table 11 - Association ends of Short medium term adequacy results assembly::TimeSeries with other classes

<table>
<thead>
<tr>
<th>Order</th>
<th>mult.</th>
<th>Attribute name / Attribute type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>[0..1]</td>
<td>in_Domain.mRID AreaID_String</td>
<td>The unique identification of the domain. 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 domain associated with a TimeSeries.</td>
</tr>
<tr>
<td>7</td>
<td>[0..1]</td>
<td>out_Domain.mRID AreaID_String</td>
<td>The unique identification of the domain. 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 domain associated with a TimeSeries.</td>
</tr>
<tr>
<td>8</td>
<td>[0..1]</td>
<td>connectingLine_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.</td>
</tr>
<tr>
<td>9</td>
<td>[0..1]</td>
<td>mktPSRType.psrType PsrType_String</td>
<td>The coded type of a power system resource. --- The identification of the type of resource associated with a TimeSeries.</td>
</tr>
</tbody>
</table>

---

<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: Short medium term adequacy results contextual::Series_Period.Period[1..*] --- Short medium term adequacy results contextual::TimeSeries.[]</td>
</tr>
<tr>
<td>Order multicast</td>
<td>Class name / Role</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>11 [0..*] Reason Reason</td>
<td>The reason information associated with a TimeSeries providing motivation information. Association Based On: Short medium term adequacy results contextual::Reason.Reason[0..*]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.2.4 Datatypes

The list of datatypes used for the Short medium term adequacy results assembly is as follows:

- 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
- PsrType_String datatype, codelist AssetTypeList
- ReasonCode_String datatype, codelist ReasonCodeTypeList
- ReasonText_String datatype
- ResourceID_String datatype, codelist CodingSchemeTypeList
- YMDHM_DateTime datatype
2.2.5 ShortMediumTermAdequacyResults_MarketDocument XML schema

Figure 3 - ShortMediumTermAdequacyResults_MarketDocument schema structure
2.2.6 Short Medium Term Adequacy Prognosis XML schema

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

```
urn:iec62325.351:tc57wg16:451-n:smtaresultsdocument:1:1
```

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:entsoe="http://iec.ch/TC57/2013/CIM"
xmlns:cimp="http://www.iec.ch/cimprofile"
xmlns:ecl="http://www.iec.ch/TC57/2013/CIM-schema-cim16#Point"
xmlns:n="urn:entsoe.eu:wgedi:codelists"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
targetNamespace="urn:iec62325.351:tc57wg16:451-n:smtaresultsdocument:1:1"
xs:import namespace="urn:entsoe.eu:wgedi:codelists.xsd" schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"/>
<x:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:entsoe="http://iec.ch/TC57/2013/CIM"
xmlns:cimp="http://www.iec.ch/cimprofile"
xmlns:ecl="http://www.iec.ch/TC57/2013/CIM-schema-cim16#Point"
xmlns:n="urn:entsoe.eu:wgedi:codelists"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
targetNamespace="urn:iec62325.351:tc57wg16:451-n:smtaresultsdocument:1:1"
xs:import namespace="urn:entsoe.eu:wgedi:codelists.xsd" schemaLocation="urn-entsoe-eu-wgedi-codelists.xsd"/>
```

```
<x:simpleType name="ShortMediumTermAdequacyResults_MarketDocument">
<x:simpleType name="Point">
<x:restriction base="xs:integer">
<x:maxInclusive value="999999"/>
<x:minInclusive value="1"/>
</x:restriction>
</x:simpleType>
```

```
<x:simpleType name="Position_Integer">
<x:restriction base="xs:integer">
<x:maxInclusive value="999999"/>
<x:minInclusive value="1"/>
</x:restriction>
</x:simpleType>
```

```
<x:simpleType name="Quantity">
<x:restriction base="xs:decimal">
<x:maxInclusive value="999999"/>
<x:minInclusive value="1"/>
</x:restriction>
</x:simpleType>
```

```
<x:simpleType name="Reason">
<x:restriction base="xs:string">
<x:maxLength value="512"/>
</x:restriction>
</x:simpleType>
```

```
<x:simpleType name="ReasonCode">
<x:restriction base="ecl:ReasonCodeTypeList"/>
</x:simpleType>
```

```
<x:simpleType name="ReasonText">
<x:restriction base="xs:string">
</x:restriction>
</x:simpleType>
```

```
<x:simpleType name="ShortMediumTermAdequacyResults">
<x:sequence>
<x:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded">
</x:element>
</x:sequence>
</x:simpleType>
```

```
<x:schema version="1.0" encoding="utf-8">
```

```
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
<x:element name="position" type="Position_Integer">
</x:element>
</sawsdl:modelReference>
```

```
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
<x:element name="quantity" type="xs:decimal">
</x:element>
</sawsdl:modelReference>
```

```
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
<x:element name="Reason" type="xs:string">
</x:element>
</sawsdl:modelReference>
```

```
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
<x:element name="ReasonCode" type="ecl:ReasonCodeTypeList">
</x:element>
</sawsdl:modelReference>
```

```
<sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">
<x:element name="ReasonText" type="xs:string">
</x:element>
</sawsdl:modelReference>
```
ENTSO-E Short Medium Term Adequacy Results
document – UML model and schema
VERSION 1.1

European Network of Transmission System Operators
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<xs:sequence>
  <xs:element name="code" type="ReasonCode_String" minOccurs="1">
    <sawsdl:modelReference name="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.code"/>
  </xs:element>
  <xs:element name="text" type="ReasonText_String" minOccurs="0" maxOccurs="1">
    <sawsdl:modelReference name="http://iec.ch/TC57/2013/CIM-schema-cim16#Reason.text"/>
  </xs:element>
</xs:sequence>

<xs:simpleType name="YMDHM_DateTime">
  <sawsdl:modelReference name="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime"/>
  <xs:restriction base="xs:string">
    <xs:pattern value="((0[1-9]|10-)[0-9]-)3\d{2}T((0[01]|1)\d):(0[0-9]|[01][2-9]):([0-5][0-9])"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="ESMP_DateTimeInterval">
  <sawsdl:modelReference name="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval"/>
  <xs:restriction base="xs:string">
    <xs:pattern value="((0[1-9]|1[0-9]-)3\d{2}T((0[01]|1)\d):(0[0-9]|[01][2-9]):([0-5][0-9])"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Series_Period">
  <sawsdl:modelReference name="http://iec.ch/TC57/2013/CIM-schema-cim16#Period"/>
  <xs:restriction base="xs:string">
    <xs:pattern value="((0[1-9]|10-)[0-9]-)3\d{2}T((0[01]|1)\d):(0[0-9]|[01][2-9]):([0-5][0-9])"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ESMPVersion_String">
  <xs:restriction base="xs:string">
    <xs:pattern value="[1-9][0-9]{4}"/>
  </xs:restriction>
</xs:simpleType>

<sawdl:modelReference>"http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="xs:string">
    <xs:pattern value="[1-9][0-9]{4}"/>
  </xs:restriction>
</sawdl:modelReference>

<sawdl:modelReference>"http://iec.ch/TC57/2013/CIM-schema-cim16#String">
  <xs:restriction base="xs:string">
    <xs:maxlength value="16"/>
  </xs:restriction>
</sawdl:modelReference>

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

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

<sawdl:modelReference>"http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
  <xs:restriction base="xs:dateTime">
    <xs:pattern value="([0-9][0-9]{4})([0-1][0-9]|1[0-2])"/>
  </xs:restriction>
</sawdl:modelReference>
<xs:element name="revisionNumber" type="ESMPVersion_String" minOccurs="1" maxOccurs="1"/>


<xs:element name="MessageKind_String" minOccurs="1"/>


<xs:element name="time_Period.timeInterval" minOccurs="1" maxOccurs="1"/>


<xs:element name="Reason" type="Reason" minOccurs="0" maxOccurs="unbounded"/>

ENTSO-E Short Medium Term Adequacy Results
document – UML model and schema
VERSION 1.1

<xs:simpleType name="AreaID_String-base">
  <xs:restriction base="xs:string"/>
  <xs:maxLength value="18"/>
</xs:simpleType>

<xs:complexType name="AreaID_String">
  <xs:extension base="AreaID_String-base">
    <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
  </xs:extension>
</xs:complexType>

<xs:simpleType name="ResourceID_String-base">
  <xs:restriction base="xs:string"/>
  <xs:maxLength value="60"/>
</xs:simpleType>

<xs:complexType name="ResourceID_String">
  <xs:extension base="ResourceID_String-base">
    <xs:attribute name="codingScheme" type="ecl:CodingSchemeTypeList" use="required"/>
  </xs:extension>
</xs:complexType>

<xs:simpleType name="PsrType_String">
  <xs:restriction base="ecl:AssetTypeList"/>
</xs:simpleType>

<xs:complexType name="TimeSeries">
</xs:complexType>

<xs:sequence>
  <xs:element name="mRID" type="ID_String" minOccurs="1"/>
  <xs:element name="businessType" type="BusinessKind_String" minOccurs="1"/>
  <xs:element name="product" type="EnergyProductKind_String" minOccurs="1"/>
  <xs:element name="curveType" type="CurveType_String" minOccurs="1"/>
  <xs:element name="measurement_Unit.name" type="MeasurementUnitKind_String" minOccurs="1"/>
  <xs:element name="in_Domain.mRID" type="AreaID_String" minOccurs="0"/>
</xs:sequence>
