

Technical specification of external interfaces  
V2.6

# CLEARING AGENT INFORMATION SYSTEM XMtrade®/ISZO V2.21



*Grafické informačné systémy*

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# TABLE OF CONTENT

|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>INTRODUCTION.....</b>   | <b>6</b>  |
| 1.1      | <i>Characteristics of the document .....</i>   | 6         |
| 1.1.1    | Purpose of the document.....   | 6         |
| 1.1.2    | Specification of the document.....   | 6         |
| <b>2</b> | <b>OVERVIEW OF EXTERNAL INTERFACES .....</b>   | <b>7</b>  |
| 2.1      | <i>Overview of data flows.....</i>   | 8         |
| 2.1.1    | Overview of data flows within the process of day-ahead registration of diagrams..... | 8         |
| 2.1.2    | Overview of data flows within the process of intraday registration of diagrams ..... | 8         |
| 2.1.3    | Overview of data flows within the process of imbalance settlement .....              | 9         |
| <b>3</b> | <b>COMMUNICATION SPECIFICATION .....</b>   | <b>10</b> |
| 3.1      | <i>Web services.....</i>   | 10        |
| 3.1.1    | Communication scenarios .....  | 10        |
| 3.1.2    | SubjectOfSettlementScheduling .....  | 12        |
| 3.1.3    | BusinessPlatformScheduling .....   | 15        |
| 3.1.4    | CrossBorderScheduling .....  | 17        |
| 3.1.5    | FinancialGuarantee .....   | 19        |
| 3.1.6    | ProvidedRegulationElectricity .....  | 20        |
| 3.1.7    | StatusRequest service .....  | 23        |
| 3.1.8    | Common data structures .....   | 25        |
| 3.2      | <i>Communication security.....</i>   | 25        |
| 3.2.1    | Electronic signature .....   | 25        |
| 3.2.2    | Example of SOAP message .....  | 26        |
| 3.2.3    | Authentication and authorization of web service call.....                            | 28        |
| 3.3      | <i>Description of web services .....</i>   | 28        |
| 3.3.1    | Production environment.....  | 28        |
| 3.3.2    | Testing environment .....  | 29        |
| 3.4      | <i>Web service client.....</i>   | 29        |
| 3.4.1    | Utilization of services from .NET environment.....                                   | 29        |
| <b>4</b> | <b>SPECIFICATION OF DATA STRUCTURES.....</b>   | <b>31</b> |
| 4.1      | <i>Input of day-ahead diagrams (RD-01) .....</i>                                     | 32        |
| 4.1.1    | Processing level.....  | 32        |
| 4.1.2    | Data flow .....  | 32        |
| 4.1.3    | Data structures.....   | 33        |
| 4.2      | <i>Input of partial diagrams (RD-02).....</i>  | 42        |
| 4.2.1    | Processing level.....  | 42        |
| 4.2.2    | Data flow .....  | 42        |
| 4.2.3    | Data structures.....   | 43        |
| 4.3      | <i>Input of cross-border diagrams (RD-03) .....</i>                                  | 52        |
| 4.3.1    | Processing level.....  | 52        |
| 4.3.2    | Data flow .....  | 52        |
| 4.3.3    | Data structures.....   | 53        |
| 4.4      | <i>Check of cross-border diagrams (RD-04).....</i>                                   | 62        |
| 4.4.1    | Processing level.....  | 62        |
| 4.4.2    | Data flow .....  | 63        |
| 4.4.3    | Data structures.....   | 63        |
| 4.5      | <i>Input of RE evaluation (VO-02).....</i>   | 65        |
| 4.5.1    | Processing level.....  | 65        |
| 4.5.2    | Data flow .....  | 65        |
| 4.5.3    | Data structures.....   | 66        |

|          |  |            |
|----------|--|------------|
| 4.6      | Retrieval of status information (SR-01)..... | 85         |
| 4.6.1    | Data flow .....                              | 85         |
| 4.6.2    | Data structures.....                         | 85         |
| <b>5</b> | <b>List of Figures.....</b>                  | <b>113</b> |

## History of changes

| Date       | Version | Description  | Author                                      |
|------------|---------|--|---|
| 11/30/2008 | 1.0     | Document processing  | Libor Láznička, Miroslav Galajda            |
| 12/15/2008 | 1.1     | Specification of web service placement and their WSDL documents  | Miroslav Galajda                            |
| 1/23/2009  | 1.2     | <ul style="list-style-type: none"> <li>Extension of SOAP headers with <i>WS-Addressing</i> support of August 2004 version.</li> <li>Refinement of communication scenarios for <a href="#">RD-01</a> and <a href="#">RD-02</a> web services and structures and their responses (Asynclntificator added).</li> <li>Extension of request structure of <a href="#">SR-01</a> service with additional parameter of asynchronous request identification (Asynclntificator)</li> <li>Format of <i>MessageIdentification</i> identification of schedule message of trading platforms set as required, chapter <a href="#">RD-02-01</a>.</li> </ul> | Libor Láznička, Miroslav Galajda            |
| 1/29/2009  | 1.3     | <ul style="list-style-type: none"> <li>Specification of web service addresses through secured https protocol, chapter <a href="#">Description of web services</a>.</li> </ul>  | Miroslav Galajda                            |
| 3/2/2009   | 1.4     | <ul style="list-style-type: none"> <li>Correction of „typos“ of date format specification in elements of <i>DocumentDateTime</i> and <i>MessageDateTime</i> structures.<br/>Change<br/>From: YYYY-MMDDTHH:MM:SSZ<br/>To: YYYY-MM-DDTHH:MM:SSZ</li> <li>Extension of SOAP headers with <i>WS-Addressing</i> support of August 2004 version.</li> </ul>  | Miroslav Galajda                            |
| 7/15/2010  | 1.5     | <ul style="list-style-type: none"> <li>Renaming of ETSO to ENTSO-E.</li> <li>Redirection of links from <a href="http://www.etsa-net.org">http://www.etsa-net.org</a> pages to <a href="http://www.entsoe.eu">http://www.entsoe.eu</a> pages.</li> <li>Addition of structure specification for VO-02 Input of RE evaluation.</li> <li>Removal of specification for unused <i>BO-01</i> data flow.</li> <li>Modification of requests for input of cross-border diagrams within <i>RD-01</i> and <i>RD-03</i> data flows.</li> </ul>  | Libor Láznička, Miroslav Galajda            |
| 9/6/2010   | 1.6     | <ul style="list-style-type: none"> <li>Extension of data structures for <i>VO-01</i> data flow, Input of measured details.</li> <li>Change of EIC OKTE.</li> <li>Addition of data flows for <i>SR-01</i> for retrieval of details from clearing of imbalances and regulating electricity.</li> </ul>   | Libor Láznička                              |
| 12/15/2010 | 1.7     | <ul style="list-style-type: none"> <li>Addition of data flows for <i>SR-01</i> for retrieval of details on discrepancies of day-ahead diagrams and their acceptance from the side of clearing agent.</li> </ul>  | Libor Láznička                              |
| 7/8/2011   | 1.8     | <ul style="list-style-type: none"> <li>Addition of meaning of <i>Settlement Amount</i> element in <i>SR-01-03</i> and <i>SR-01-04</i> messages.</li> </ul>   | Anton Weissensteiner                        |
| 2/28/2013  | 1.9     | <ul style="list-style-type: none"> <li>Addition of Business Types in <i>SR-01-03</i> and <i>SR-01-04</i> messages.</li> <li>Addition of <i>AnalyticalAccounts</i> web service.</li> </ul>  | Miroslava Šurinová,<br>Anton Weissensteiner |
| 7/9/2013   | 1.10    | <ul style="list-style-type: none"> <li>Addition of option to report negative losses into <i>AnalyticalAccounts</i> web service.</li> </ul>   | Anton Weissensteiner                        |

| Date       | Version | Description  | Author                                      |
|------------|---------|--|---|
| 11/20/2013 | 2.0     | <ul style="list-style-type: none"> <li>• Addition of Business Types into SR-01-03 and SR-01-04 data flows.</li> <li>• Addition of RE evaluation for the entire system in SR-01-04 data flow.</li> <li>• Addition of SR-01-07 data flow for retrieval of details from imbalance clearing.</li> <li>• Cancellation of BS-01 data flow for administration of balance groups in ISZO.</li> </ul> | Miroslava Šurinová,<br>Anton Weissensteiner |
| 4/24/2014  | 2.1     | <ul style="list-style-type: none"> <li>• Addition of Business Type into SR-01-03 data flow.</li> </ul>   | Miroslava Šurinová,<br>Anton Weissensteiner |
| 7/28/2014  | 2.2     | <ul style="list-style-type: none"> <li>• Modification of maximal permitted interval for retrieval of details from clearing of imbalances and regulating electricity in SR-01 data flow.</li> </ul>   | Miroslava Šurinová,<br>Anton Weissensteiner |
| 12/3/2014  | 2.3     | <ul style="list-style-type: none"> <li>• Change the hyperlinks to a new web address <a href="http://iszo.okte.sk">http://iszo.okte.sk</a>, <a href="http://test-iszo.okte.sk">http://test-iszo.okte.sk</a>.</li> <li>• Cancellation of VO-01 data - Input of measured details.</li> </ul>  | Svetlana Pražienková                        |
| 10/3/2018  | 2.4     | <ul style="list-style-type: none"> <li>• Sign convention according to Commission Regulation (EU) 2017/2195 (EBGL) in the information system of imbalance settlement.</li> </ul>  | Miroslava Šurinová,<br>Anton Weissensteiner |
| 10/21/2020 | 2.5     | <ul style="list-style-type: none"> <li>• Addition of new type of regulated electricity supplied through an aggregator. Enabling of optional indication of marginal price values in the data stream VO-02 Entering the RE evaluation.</li> </ul>  | Anton Weissensteiner                        |
| 11/9/2022  | 2.6     | <ul style="list-style-type: none"> <li>• Termination of submission of source data for analytical accounts</li> </ul>   | Anton Weissensteiner                        |

# 1 INTRODUCTION

## 1.1 Characteristics of the document

### 1.1.1 Purpose of the document

The purpose of this document is to provide all necessary technical information for implementation of automated data exchange between an external system and the imbalance clearing information system XMtrade®/ISZO. This document contains specification of means of communication as well as data structures that are used for data exchange.

### 1.1.2 Specification of the document

The document is intended for system implementers who are preparing integration with the imbalance clearing information system XMtrade®/ISZO.

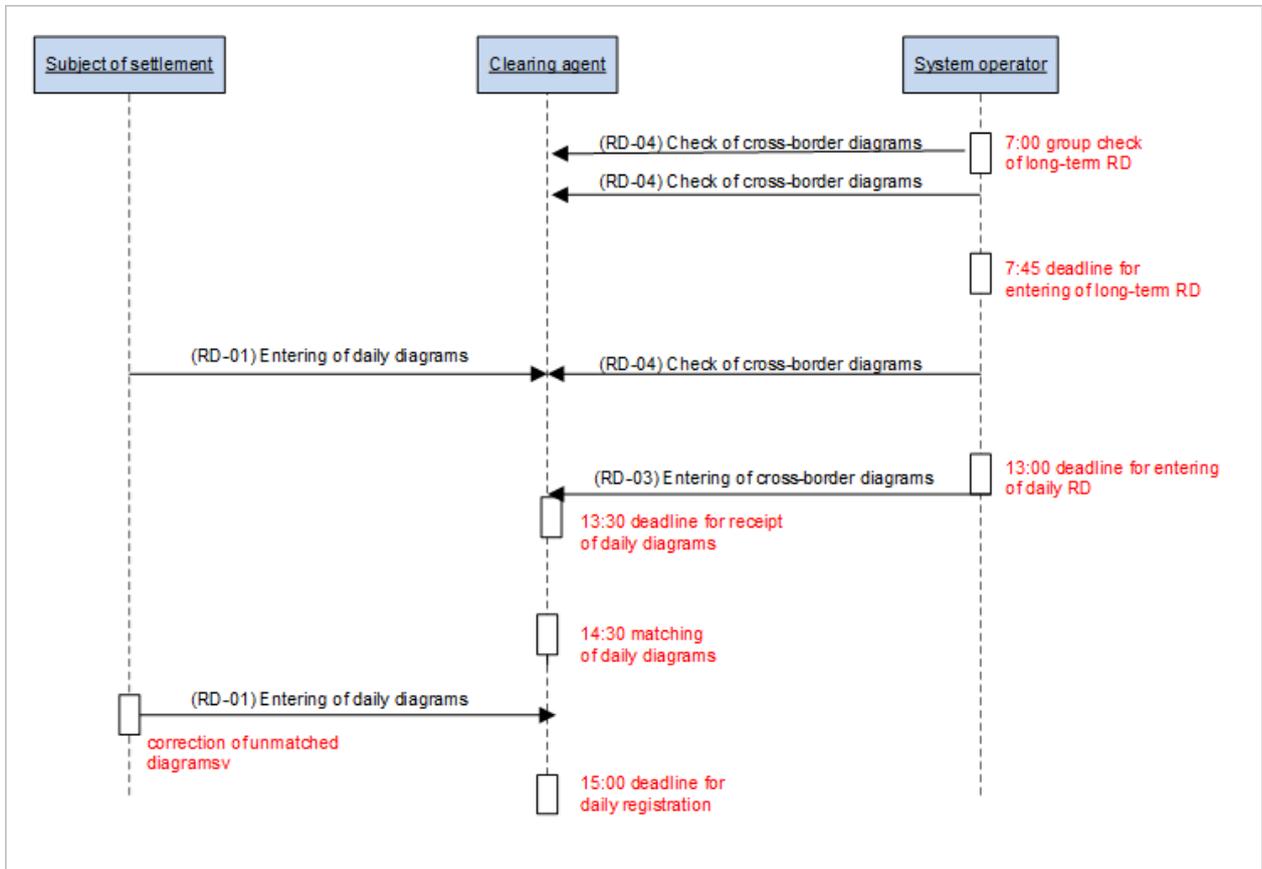
## 2 OVERVIEW OF EXTERNAL INTERFACES

The imbalance clearing information system XMtrade®/ISZO provides an automated interface for data exchange within processes of daily and intraday registration of day-ahead diagrams and submission of details for the purpose of imbalance clearing ~~and submission of source data for analytical accounts.~~

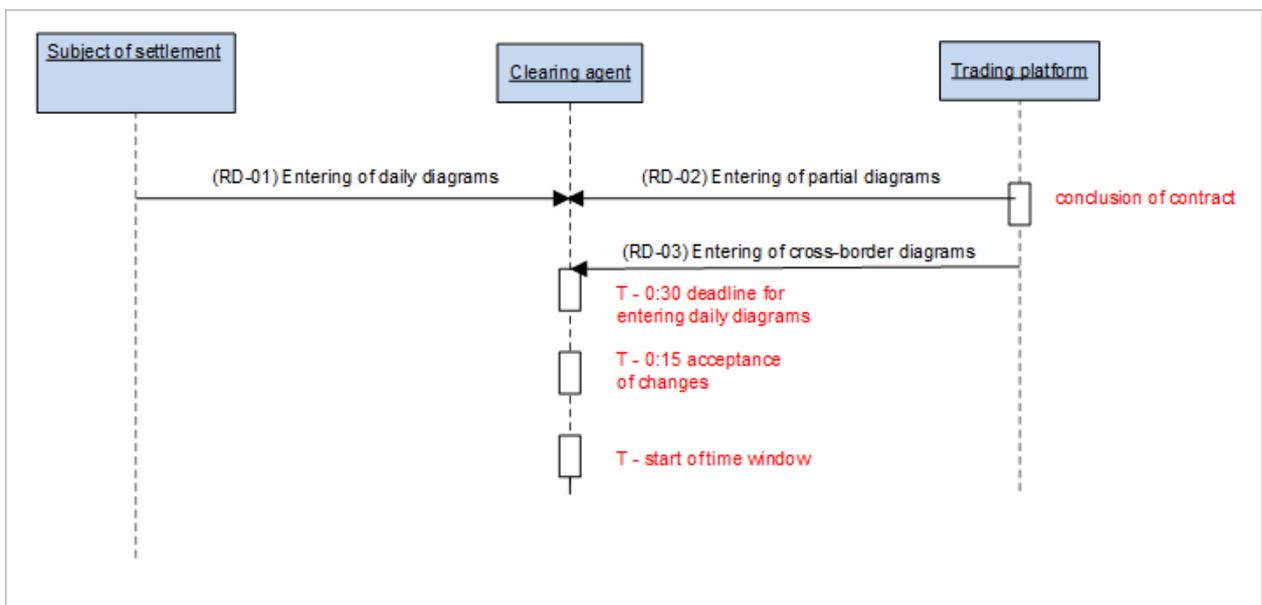
| ID               | Name   | Description  |
|------------------|--|--|
| RD-01            | Input of day-ahead diagrams                                  | - allows subjects of settlement an automated interface for input of day-ahead diagrams.  |
| RD-02            | Input of partial diagrams                                    | - allows operators of trading platforms an automated interface for input of partial day-ahead diagrams.  |
| RD-03            | Input of cross-border diagrams                               | - allows operator of transmission system an automated interface for input of implementation diagrams of cross-border exchange.                             |
| RD-04            | Check of cross-border diagrams                               | - allows operator of transmission system an automated interface for check of implementation diagrams of cross-border exchange against financial guarantee. |
| VO-02            | Input of RE evaluation                                       | - allows operator of transmission system an automated interface for input of evaluations of acquired regulating electricity.                               |
| <del>VO-03</del> | <del>Submission of source data for analytical accounts</del> | <del>- allows system operators an automated interface for submission of source data relating to analytical accounts.</del>                                 |
| SR-01            | Retrieval of status information                              | - allows market participants an automated interface for retrieval of status on processing of asynchronous operation /process.                              |

## 2.1 Overview of data flows

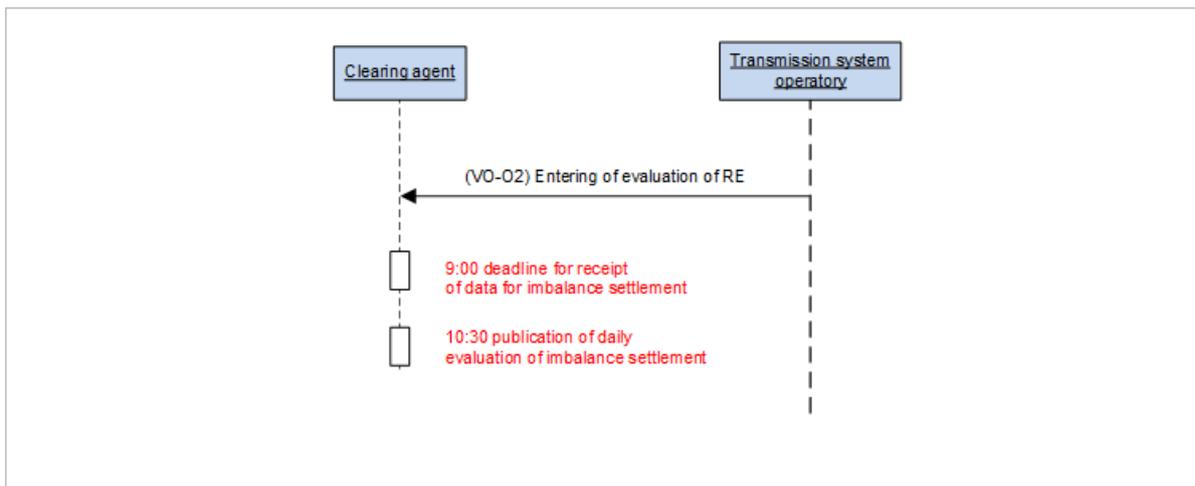
### 2.1.1 Overview of data flows within the process of day-ahead registration of diagrams



### 2.1.2 Overview of data flows within the process of intraday registration of diagrams



### 2.1.3 Overview of data flows within the process of imbalance settlement



## 3 COMMUNICATION SPECIFICATION

### 3.1 Web services

The imbalance clearing information system XMtrade®/ISZO covers external interfaces by the following set of web services/web methods.

| ID                               | Name of web service           | Name of web method | Description  |
|----------------------------------|-------------------------------|--------------------|--|
| <a href="#">RD-01</a>            | SubjectOfSettlementScheduling | Schedule           | - allows subjects of settlement an automated interface for input of day-ahead diagrams.  |
| <a href="#">RD-02</a>            | BusinessPlatformScheduling    | Schedule           | - allows operators of trading platforms an automated interface for input of partial day-ahead diagrams.  |
| <a href="#">RD-03</a>            | CrossBorderScheduling         | Schedule           | - allows operator of transmission system an automated interface for input of implementation diagrams of cross-border exchange.                             |
| <a href="#">RD-04</a>            | FinancialGuarantee            | Control            | - allows operator of transmission system an automated interface for check of implementation diagrams of cross-border exchange against financial guarantee. |
| <a href="#">VO-02</a>            | ProvidedRegulationElectricity | Upload             | - allows operator of transmission system an automated interface for input of evaluations of acquired regulating electricity.                               |
| <del><a href="#">VO-03</a></del> | <del>AnalyticalAccounts</del> | <del>Upload</del>  | <del>- allows system operators an automated interface for submission of source data relating to analytical accounts.</del>                                 |
| <a href="#">SR-01</a>            | StatusRequest                 | GetStatus          | - allows market participants an automated interface for retrieval of status on processing of asynchronous operation/process.                               |

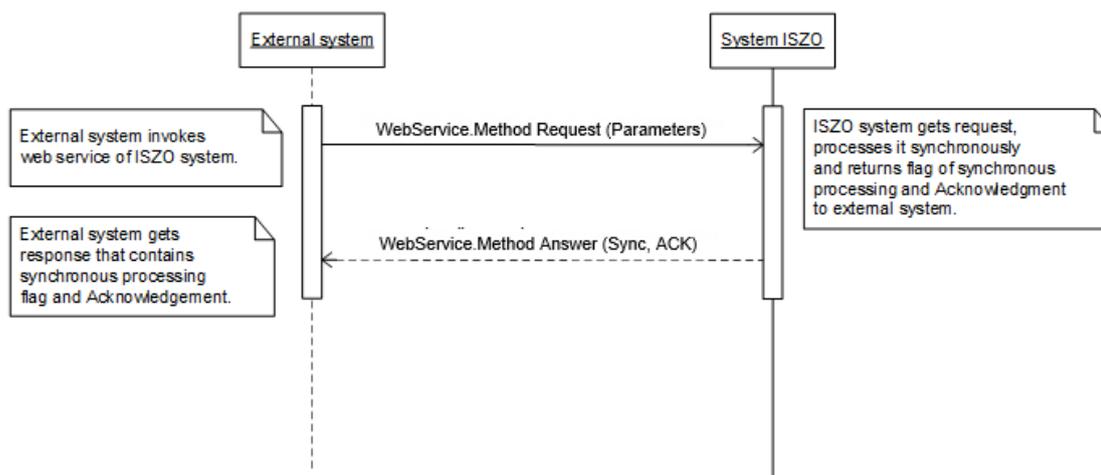
Specified web services communicate in synchronous mode. However, certain types of interfaces allow to process the request in the background. In such case general common *StatusRequest* web service serves for asynchronous retrieval of result according to *ENTSO-E Status Request* standard ([SR-01](#)).

Communication via web services is a form of precisely defined SOAP messages that are in principle divided into two parts: header and body, whereas message body contains trading data on specific request/result of the web method.

#### 3.1.1 Communication scenarios

##### ***Synchronous communication***

Synchronous communication of the majority of the ISZO system web services can be in general depicted as follows:

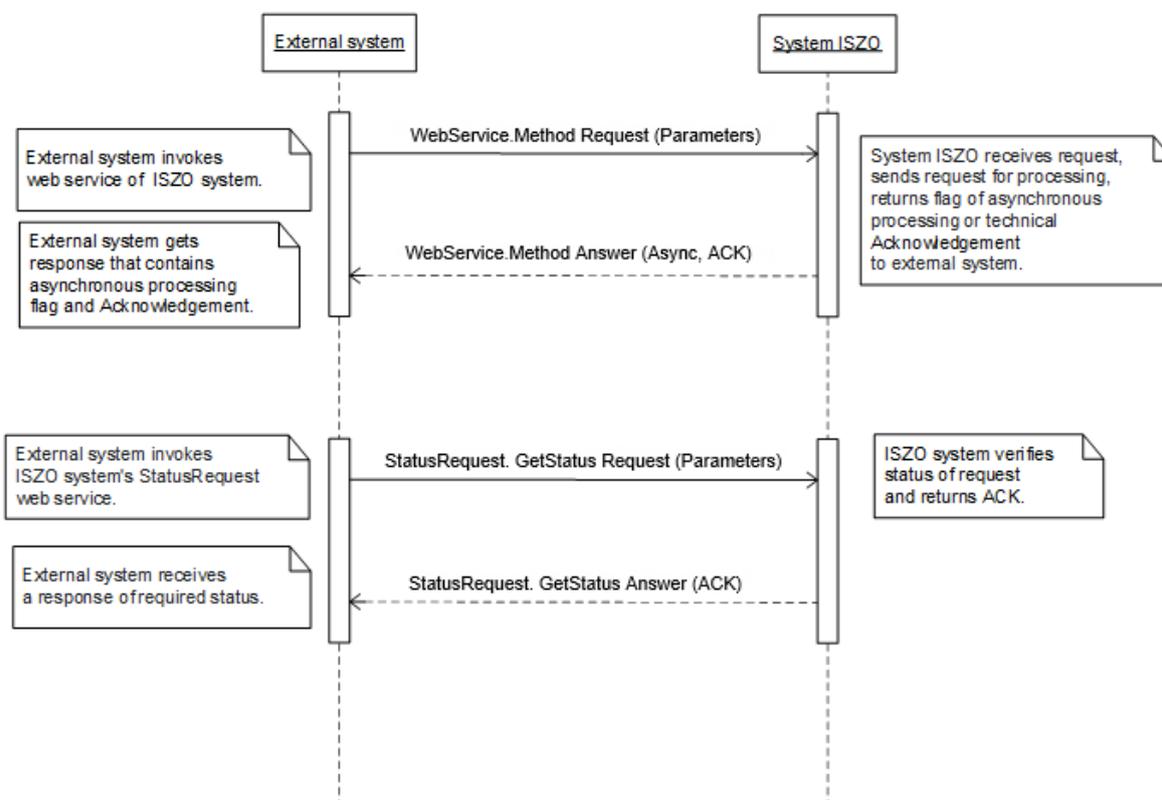


Synchronous call of web method processes the request and returns the corresponding response.

### Asynchronous communication

At asynchronous activity of the web service, the request is registered in the system and an indicator on asynchronous request handling is synchronously returned, or eventually technical acknowledgement is returned. Subsequently, an external system retrieves information on the status of request processing via *StatusRequest* web service according to *ENTSO-E StatusRequest* standard by a synchronous call.

Simplified schema of asynchronous communication:



### SOAP

The structure of SOAP messages is implemented in the SOAP 1.2 version according to recommendations of W3C consortium (<http://www.w3.org/TR/soap12>) and uses the following extensions:

- WS-Security (<http://www.oasis-open.org/specs/index.php#wssv1.0>),

- WS-Addressing (<http://www.w3.org/Submission/2004/SUBM-ws-addressing-20040810>).

In order to shorten the notation of individual SOAP messages, the following namespace aliases are used:

| Alias | Namespace   |
|-------|---|
| s     | <a href="http://www.w3.org/2003/05/soap-envelope">http://www.w3.org/2003/05/soap-envelope</a> |
| o     | http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd             |
| a     | http://schemas.xmlsoap.org/ws/2004/08/addressing  |

Web services are implemented in namespace of the following format:

- <http://sfera.sk/ws/xmtrade/iszo/NameOfService/services/Version>.
- For simplicity, the shortcut for prefix of this namespace will be used in the following chapters as follows: http://iszo = http://sfera.sk/ws/xmtrade/iszo/.
- SOAP messages of system web services contain two distinctive parts: header and body, whereas all messages of the ISZO system are encoded in UTF-8.

In addition to controlling data of the protocol, header contains details for authentication and authorization of the calling system (name, password, digital signature if applicable).

```
<s:Header>
  <!-- WS-Addressing -->
  <!-- WS-Security -->
</s:Header>
```

„WS-Security " contains security tokens necessary for authentication of source system and verification of message integrity. It relates to tokens of electronic signature and name and password of a user.

„WS-Addressing " contains details required for secured addressing of SOAP message.

Detailed header structure is to be found in [example](#).

Message body contains class element of the message of specific request. Body structure of messages can be in general defined as follows:

Request:

```
<s:Body>
  <MethodNameRequest xmlns="http://sfera.sk/ws/xmtrade/iszo/NameOfService/services/Version">
    <!-- message document -->
  </MethodNameRequest>
</s:Body>
```

Response:

```
<s:Body>
  <MethodNameResponse xmlns="http://sfera.sk/ws/xmtrade/iszo/NameOfService/services/Version">
    <MethodNameResult>
      <!-- message document -->
    </MethodNameResult>
  </MethodNameResponse>
</s:Body>
```

### SOAP Fault

SOAP *Fault* element serves for generic transfer of error information, which are transferred within SOAP message in `<s:Fault>` element, in accordance with SOAP 1.2 specification (<http://www.w3.org/TR/soap12-part1/#soapfault>). It mainly relates to handling of system errors and exceptions during communication etc. However, defining custom types of Fault messages could be advantageously used to catch general application errors.

### 3.1.2 SubjectOfSettlementScheduling

*SubjectOfSettlementScheduling* web service ([RD-01](#)) allows subjects of settlement an automated interface for input of day-ahead diagrams.

The service implements the following methods:

*Schedule* – method for input of day-ahead diagram

### SOAP Schedule

*Schedule* method of *SubjectOfSettlementScheduling* service operates in synchronous and asynchronous mode, whereas mode, in which the result is processed, is returned in response in *ProcessedAs* member (Synchronous/Asynchronous).

Corresponding Acknowledgement is returned in synchronous mode.

In case of asynchronous mode, only processing type or technical acknowledgement, if appropriate, is returned as a result. [RequestStatus](#) web service implementing *ENTSO-E Status Request* standard can be used for status of asynchronously processed request.

#### Description of request structure

| ScheduleRequest | Description                         |
|-----------------|-------------------------------------|
| SheduleDocument | Document <a href="#">RD-01-01</a> . |

#### Description of response structure

| ScheduleResponse | Description  |
|------------------|--|
| ScheduleResult   | Common return structure of result for input of diagrams, see <a href="#">AcknowledgementResult</a> . |

#### Example of SOAP messages

Request:

```
POST /SOSSchedules.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/SubjectOfSettlementScheduling/services/2008/11/01">
      <ScheduleDocument
xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/essv3r1/2008/11/01">
        <!-- ESS Diagram Document -->
      </ScheduleDocument>
    </ScheduleRequest>
  </s:Body>
</s:Envelope>
```

**Response:**

```

HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

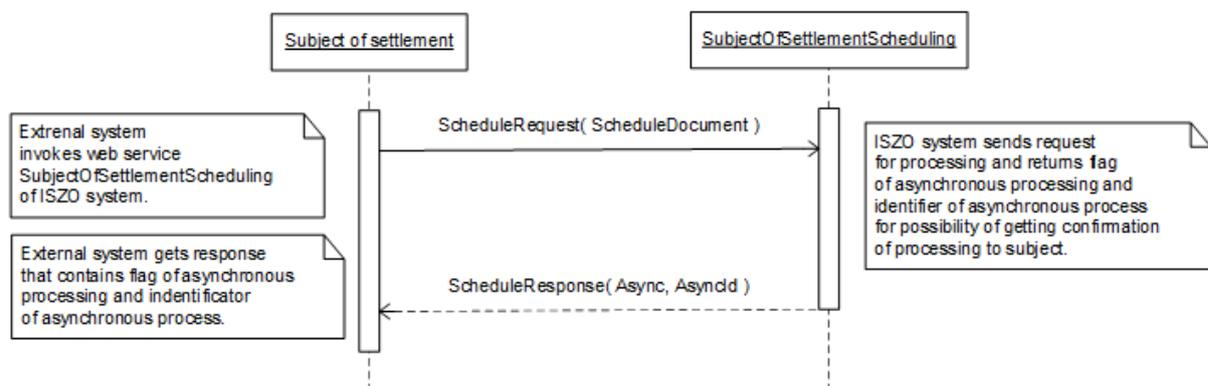
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleResponse
xmlns="http://sfera.sk/ws/xmtrade/iszo/SubjectOfSettlementScheduling/services/2008/11/01">
      <ScheduleResult xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/2008/11/01">
        <ProcessedAs>Asynchronous</ProcessedAs>
        <AsyncIdentifier>0680cc43-b545-413a-8bf7-4b0ed6700f48</AsyncIdentifier>
      </ScheduleResult>
    </ScheduleResponse>
  </s:Body>
</s:Envelope>

```

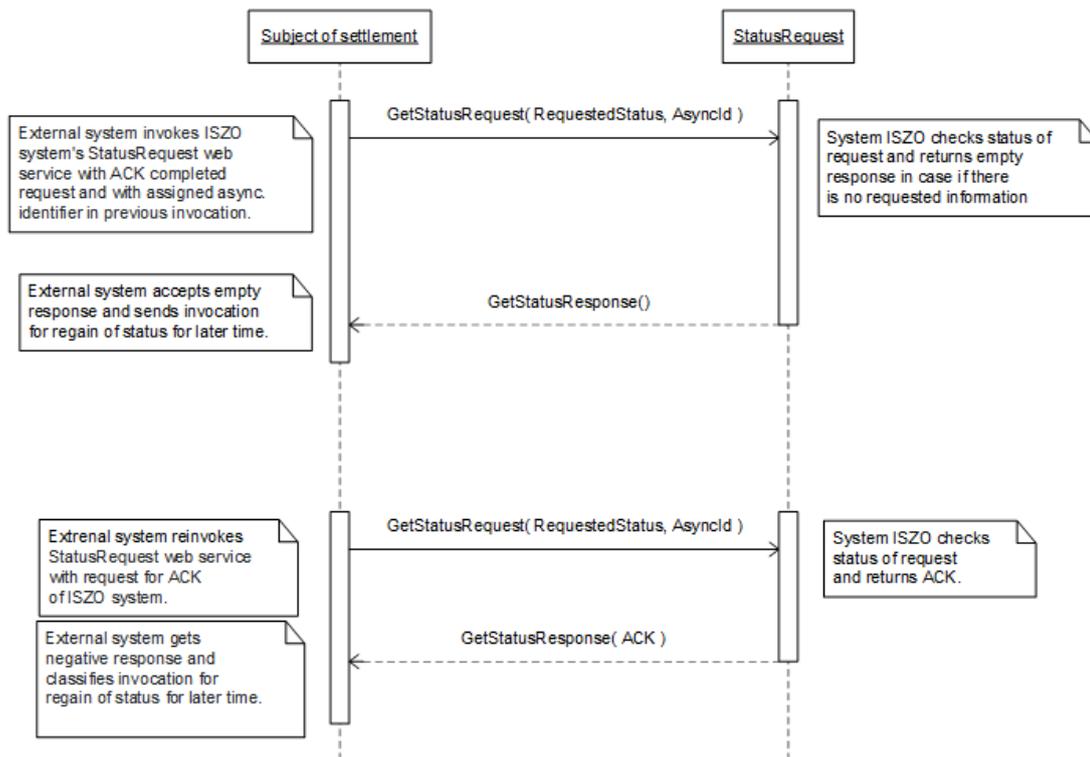
**Communication scenarios****Schedule**

Process of day-ahead diagram input operates in two phases.

In the first phase, input itself is carried out by sending of *ScheduleRequest* request with day-ahead diagram. The response is represented by indication of asynchronous processing and assigned identification to be used later for retrieval of request processing status.



In the second phase, the subject retrieves ACK (acknowledgement) on the principle of repeated calling in regular intervals (polling) of *StatusRequest* service. If *AsyncId* parameter is not entered, ACK is retrieved to the latest processed request.



### 3.1.3 BusinessPlatformScheduling

*BusinessPlatformScheduling* web service ([RD-02](#)) allows operators of trading platforms an automated interface for input of partial day-ahead diagrams.

The service implements the following methods:

*Schedule* – method for input of partial day-ahead diagrams.

#### SOAP Schedule

*Schedule* method of *BusinessPlatformScheduling* service operates in synchronous and asynchronous mode, whereas mode, in which the result is processed, is returned in response in *ProcessedAs* member (Synchronous/Asynchronous).

Corresponding Acknowledgement is returned in synchronous mode.

In case of asynchronous mode, only processing type or technical acknowledgement, if appropriate, is returned as a result. [RequestStatus](#) web service implementing *ENTSO-E Status Request* standard can be used for status of asynchronously processed request.

*Description request structure*

| ScheduleRequest | Description                         |
|-----------------|-------------------------------------|
| SheduleDocument | Document <a href="#">RD-02-01</a> . |

*Description of response structure*

| ScheduleResponse | Description  |
|------------------|--|
| ScheduleResult   | Common return structure of result for input of diagrams, see <a href="#">AcknowledgementResult</a> . |

## Example of SOAP messages

### Request:

```

POST /BusinessPlatformScheduling.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/BusinessPlatformScheduling/services/2008/11/01">
      <ScheduleDocument
xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/essv3r1/2008/11/01">
        <!-- ESS Diagram Document -->
      </ScheduleDocument>
    </ScheduleRequest>
  </s:Body>
</s:Envelope>

```

### Response:

```

HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleResponse
xmlns="http://sfera.sk/ws/xmtrade/iszo/BusinessPlatformScheduling/services/2008/11/01">
      <ScheduleResult xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/2008/11/01">
        <ProcessedAs>Asynchronous</ProcessedAs>
        <AsyncIdentifier>0680cc43-b545-413a-8bf7-4b0ed6700f48</AsyncIdentifier>
      </ScheduleResult>
    </ScheduleResponse>
  </s:Body>
</s:Envelope>

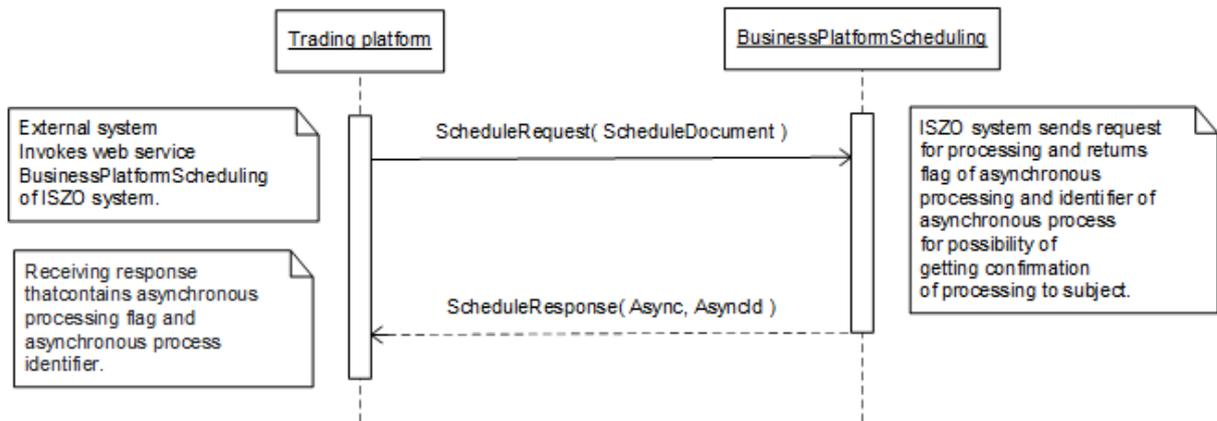
```

## Communication scenarios

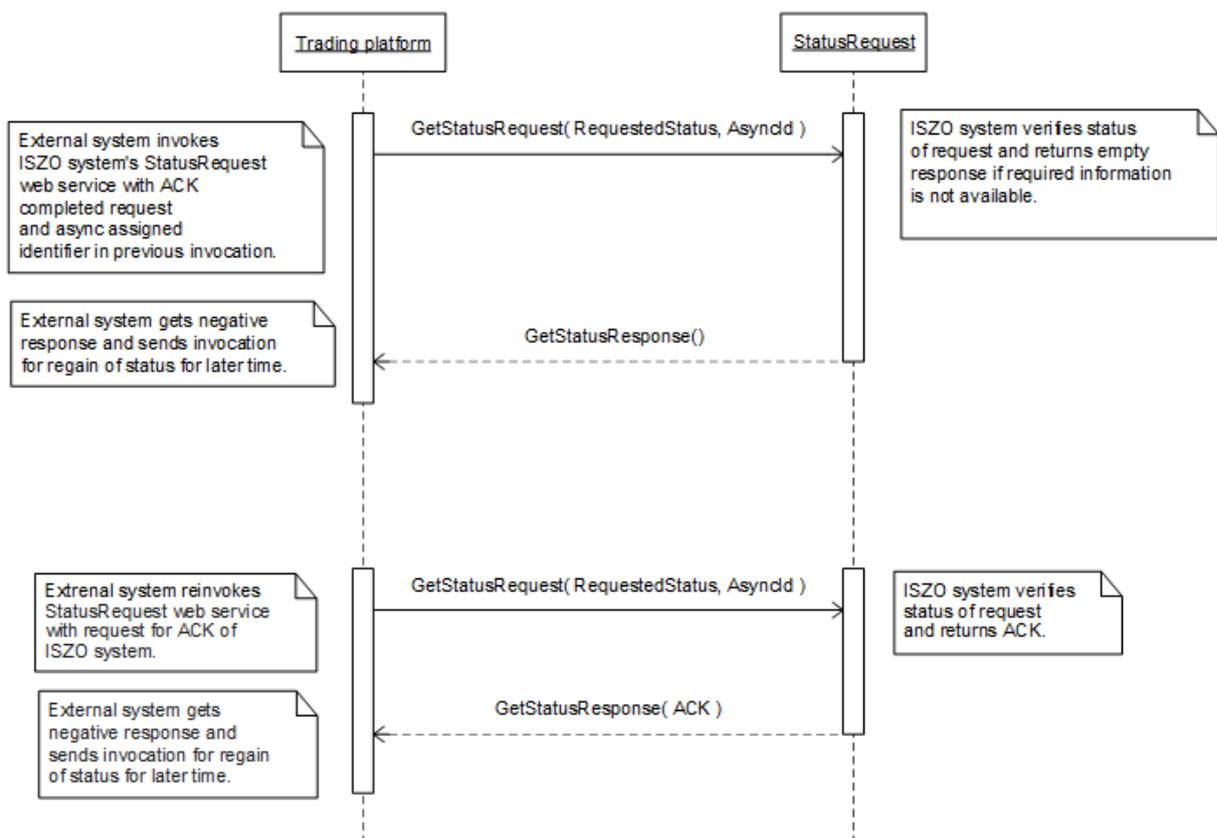
### Schedule

Process of day-ahead diagram input operates in two phases.

In the first phase, input itself is carried out by sending of *ScheduleRequest* request with partial day-ahead diagram. The response is represented by indication of asynchronous processing and assigned identification to be used later for retrieval of request processing status.



In the second phase, the subject retrieves ACK (acknowledgement) on the principle of repeated calling in regular intervals (polling) of *StatusRequest* service. *AsyncId* parameter is a key to ACK of a specific request and is required in this case.



### 3.1.4 CrossBorderScheduling

*CrossBorderScheduling* web service ([RD-03](#)) allows operator of transmission system an automated interface for input of implementation diagrams of cross-border exchange.

The service implements the following methods:

*Schedule* – method for input of implementation diagrams of cross-border exchange.

## SOAP Schedule

*Schedule* method of *CrossBorderScheduling* service operates in synchronous and asynchronous mode, whereas mode, in which the result was processed, is returned in response in *ProcessedAs* member (Synchronous/Asynchronous). Corresponding Acknowledgement is returned in synchronous mode.

In case of asynchronous mode, only processing type or technical acknowledgement, if appropriate, is returned. [RequestStatus](#) web service implementing *ENTSO-E Status Request* standard can be used for status of asynchronously processed request.

### Description of request structure

| ScheduleRequest | Description                         |
|-----------------|-------------------------------------|
| SheduleDocument | Document <a href="#">RD-02-01</a> . |

### Description of response structure

| ScheduleResponse | Description  |
|------------------|--|
| ScheduleResult   | Common return structure of result for input of diagrams, see <a href="#">AcknowledgementResult</a> . |

### Example of SOAP messages

#### Request:

```
POST /CrossBorderScheduling.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type: application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/CrossBorderScheduling/services/2008/11/01">
      <ScheduleDocument
xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/essv3r1/2008/11/01">
        <!-- ESS Diagram Document -->
      </ScheduleDocument>
    </ScheduleRequest>
  </s:Body>
</s:Envelope>
```

**Response:**

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ScheduleResponse
xmlns="http://sfera.sk/ws/xmtrade/iszo/CrossBorderScheduling/services/2008/11/01">
      <ScheduleResult xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/2008/11/01">
        <ProcessedAs>Asynchronous</ProcessedAs>
        <AsyncIdentifier>0680cc43-b545-413a-8bf7-4b0ed6700f48</AsyncIdentifier>
      </ScheduleResult>
    </ScheduleResponse>
  </s:Body>
</s:Envelope>
```

### 3.1.5 FinancialGuarantee

*FinancialGuarantee* web service ([RD-04](#)) allows operator of transmission system an automated interface for check of implementation diagrams of cross-border exchange against financial guarantee.

The service implements the following methods:

*Control* – method for check of implementation diagrams of cross-border exchange against financial guarantee.

#### **SOAP Control**

*Control* method of *FinancialGuarantee* service operates exclusively in synchronous mode, i.e. the request is processed immediately and its result is returned to the caller.

#### *Description of request structure*

Detailed description of elements of *ControlRequest* structure in [RD-04-01](#).

#### *Description of response structure*

Detailed description of elements of *ControlResponse* structure in [RD-04-02](#).

## Example of SOAP messages

### Request:

```
POST /FinancialGuarantee.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ControlRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/FinancialGuarantee/services/2008/11/01">
      <!-- details of the check -->
    </ControlRequest>
  </s:Body>
</s:Envelope>
```

### Response:

```
HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <ControlResponse
xmlns="http://sfera.sk/ws/xmtrade/iszo/FinancialGuarantee/services/2008/11/01">
      <!-- result of the check -->
    </ControlResponse>
  </s:Body>
</s:Envelope>
```

## 3.1.6 ProvidedRegulationElectricity

*ProvidedRegulationElectricity* web service ([VO-02](#)) allows operator of transmission system an automated interface for input of evaluations of acquired regulating electricity.

The service implements the following methods:

*Upload* – method for input of evaluations of acquired regulating electricity.

### SOAP Upload

*Upload* method of *ProvidedRegulationElectricity* service operates in synchronous mode, i.e. the request is processed immediately and its result is returned to the caller.

Synchronous mode is returned in *ProcessedAs* member of the response, whereas *Acknowledgement* member informs on success of processing.

*Description of request structure*

| UploadRequest  | Description                         |
|----------------|-------------------------------------|
| UploadDocument | Document <a href="#">VO-02-01</a> . |

*Description of response structure*

| UploadResponse | Description  |
|----------------|--|
| UploadResult   | Common return structure of result for input of diagrams, see <a href="#">AcknowledgementResult</a> . |

*Example of SOAP messages***Request:**

```

POST /MeasuredValues.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <UploadRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/documentprocessing/reception/services/2008/11/01">
      <UploadDocument>
        <?xml version="1.0" encoding="utf-8"?>
        <TimeSeriesDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
          <!-- Time Series Document -->
          </TimeSeriesDocument>
        </UploadDocument>
      </UploadRequest>
    </s:Body>
  </s:Envelope>

```

**Response:**

```

HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <UploadResponse
      xmlns="http://sfera.sk/ws/xmtrade/iszo/ProvidedRegulatioElectricity/services/2009/02/01">
      <UploadResult xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/2008/11/01">
        <ProcessedAs>Synchronous</ProcessedAs>
        <Acknowledgement DtdVersion="5" DtdRelease="0">
          <!-- description of processing success -->
        </Acknowledgement>
        <AsyncIdentificator xsi:nil="true"/>
      </UploadResult>
    </UploadResponse>
  </s:Body>
</s:Envelope>

```

**3.1.7 AnalyticalAccounts**

~~AnalyticalAccounts web service (VO-03) allows system operators an automated interface for input of source data relating to analytical accounts.~~

The service implements the following methods:

~~Upload — method for input of source data relating to analytical accounts.~~

**SOAP Upload**

~~Upload method of AnalyticalAccounts service operates in synchronous mode, i.e. the request is processed immediately and its result is returned to the caller.~~

~~Synchronous mode is returned in ProcessedAs member of the response, whereas Acknowledgement member informs on success of processing.~~

*Description of request structure*

| UploadRequest  | Description                   |
|----------------|-------------------------------|
| UploadDocument | Document <del>VO-03-01.</del> |

*Description of response structure*

| UploadResponse | Description  |
|----------------|--|
| UploadResult   | Common return structure of result for input of diagrams, see <del>AcknowledgementResult.</del> |

### Example of SOAP messages

#### Request:

```

POST /MeasuredValues.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <UploadRequest
xmlns="http://sfera.sk/ws/xmtrade/iszo/AnalyticalAccounts/services/2013/03/01">
      <UploadDocument xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/espv1r1/2008/11/01">
        <!-- EAR Diagram Document -->
      </UploadDocument>
    </UploadRequest>
  </s:Body>
</s:Envelope>

```

#### Response:

```

HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <UploadResponse
xmlns="http://sfera.sk/ws/xmtrade/iszo/AnalyticalAccounts/services/2013/03/01">
      <UploadResult xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/2008/11/01">
        <ProcessedAs>Synchronous</ProcessedAs>
        <Acknowledgement DtdVersion="5" DtdRelease="0">
          <!-- description of processing success -->
        </Acknowledgement>
        <AsyncIdentifier xsi:nil="true"/>
      </UploadResult>
    </UploadResponse>
  </s:Body>
</s:Envelope>

```

### 3.1.83.1.7 StatusRequest service

*StatusRequest* service ([SR-01](#)) according to *ENTSO-E Status Request* standard serves for retrieval of processing status of asynchronous operation/process. Status of asynchronously processed request can be retrieved following this mechanism.

The service implements the following methods:

*GetStatus* –method for retrieval of asynchronous process status.

#### SOAP GetStatus

*GetStatus* method of *StatusRequest* service operates exclusively in synchronous mode, i.e. the request is processed immediately and its result is returned to the caller.

*Description of request structure*

| GetStatusRequest | Description                             |
|------------------|---|
| RequestedStatus  | ESR document <a href="#">SR-01-01</a> . |

*Description of response structure*

| GetStatusResponse                     | Description   |
|---------------------------------------|---|
| Acknowledgement                       | Acknowledgement report <a href="#">SR-01-02</a> .   |
| DeviationEnergyAccountReports [0..2]  | Report on imbalance clearing <a href="#">SR-01-03</a> .<br>(Response contains two structures – details on imbalance of system and details on imbalance of subject of settlement)  |
| RegulationEnergyAccountReports [0..2] | Report on clearing of regulating electricity <a href="#">SR-01-04</a> .<br>(Response contains two structures – details on acquired regulating electricity for the entire system and details on supplied regulating electricity of respective RE supplier) |
| AnomalyReport                         | Anomaly report <a href="#">SR-01-05</a> .   |
| ConfirmationReport                    | Confirmation report <a href="#">SR-01-06</a> .  |
| DifferencesEnergyAccountReport        | Report on clearing of differences <a href="#">SR-01-07</a> .  |

*Example of SOAP messages*

## Request:

```
POST /StatusRequest.WCF.Host/ServiceReference.svc HTTP/1.1
Content-Type:application/soap+xml; charset=utf-8
Host: ...
Content-Length: ...
Expect: 100-continue
Connection: Keep-Alive

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <GetStatusRequest xmlns="http://sfera.sk/ws/xmtrade/iszo/common/services/2008/11/01">
      <RequestedStatus xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/esrvlrl/2008/11/01">
        <!-- ESR document -->
      </RequestedStatus>
      <AsyncIdentifier>0680cc43-b545-413a-8bf7-4b0ed6700f48</AsyncIdentifier>
    </GetStatusRequest>
  </s:Body>
</s:Envelope>
```

## Response:

```

HTTP/1.1 200 OK
Server: ASP.NET Development Server/9.0.0.0
Date: Sun, 30 Nov 2008 16:58:25 GMT
X-AspNet-Version: 2.0.50727
Cache-Control: private
Content-Type: application/soap+xml; charset=utf-8
Content-Length: ...
Connection: Close

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <!-- WS-Addressing -->
    <!-- WS-Security -->
  </s:Header>
  <s:Body u:Id="_1">
    <GetStatusResponse xmlns="http://sfera.sk/ws/xmtrade/iszo/common/services/2008/11/01">
      <Acknowledgement
xmlns="http://sfera.sk/ws/xmtrade/iszo/common/types/ackv5r0/2008/11/01">
        <!-- Acknowledgement document -->
      </Acknowledgement>
    </GetStatusResponse>
  </s:Body>
</s:Envelope>

```

### 3.1.93.1.8 Common data structures

#### AcknowledgementResult

| Member name     | Values   | Description  |
|-----------------|--|--|
| ProcessedAs     | Synchronous<br>Asynchronous  | Mode, in which the request was processed.  |
| Acknowledgement | See <a href="#">RD-01-02</a> , <a href="#">RD-02-02</a> , <a href="#">RD-03-02</a> , <a href="#">VO-02-02</a> , <a href="#">VO-03-02</a> . | Acknowledgement document   |
| AsyncIdentifier | GUID, e.g.:<br>0680cc43-b545-413a-8bf7-4b0ed6700f48  | Unique identification of GUID type assigned by the ISZO system for asynchronous retrieval of processing status of the request.<br>Identification is generated exclusively in case that ProcessedAs = Asynchronous. |

## 3.2 Communication security

Web services are available exclusively through secured https protocol that allows encryption of transmitted messages. Therefore, messages at SOAP protocol level are no longer encrypted.

Web service interfaces are secured in accordance with *WS-Security* standard (WSS) version 1.0, pursuant to which the following techniques of security are designed:

- Electronic signature of sent SOAP requests and responses,
- Transmission of authentication details within the SOAP request (username/password, certificate).

### 3.2.1 Electronic signature

Electronic signature support of SOAP messages is secured within implementation of *WS-Security* standard, version 1.0.

([http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=wss](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss)).

Signature is stored within the header of SOAP message, i.e. separately from the message body transmitting details.

WSS standard implements the signature on the basis *xmldsig* standard

(<http://www.w3.org/TR/xmldsig-core>).

Requested are the following signed elements:

- message body (s:Body),
- token username/password of a user (o:UsernameToken),
- timestamp (u:Timestamp),
- specification of the method name of web service (a:Action),
- sender specification (a:ReplyTo),
- message identification (a:MessageID),
- specification of service target address (a:To).

### 3.2.2 Example of SOAP message

The following example demonstrates message structure consisting of elements of SOAP message itself (envelope), header (header), header elements of address and security specification and message body.

Beginning

```
<s:Envelope
  xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://schemas.xmlsoap.org/ws/2004/08/addressing"
  xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
<s:Header>
```

WS-Addressing

```
<a:Action s:mustUnderstand="1" u:Id="id-17567474" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd">http://sfera.sk/ws/xmtrade/isot/interfaces/NameOfService/services/2009/04/01/NameOfSer-
viceContract/MethodName</a:Action>
<a:ReplyTo s:mustUnderstand="1" u:Id="id-235207" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <a:Address>http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</a:Address>
</a:ReplyTo>
<a:MessageID s:mustUnderstand="1" u:Id="id-11090325" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">b83ac27b-9a4f-40e3-a782-
96df2cbea73e</a:MessageID>
<a:To s:mustUnderstand="1" u:Id="id-27256294" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">ServiceAddress</a:To>
```

## WS-Security

```
<o:Security xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
  <o:BinarySecurityToken EncodingType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-s-message-security-1.0#Base64Binary" ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3" u:Id="CertId-17206535" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"><!-- REMOVED --></o:BinarySecurityToken>
  <d:Signature Id="Signature-190585" xmlns:d="http://www.w3.org/2000/09/xmldig#">
    <d:SignedInfo>
      <d:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
      <d:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldig#rsa-sha1" />
      <d:Reference URI="#UsernameToken-13236543">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>lm0E+rpDJ8oSP8Fh+ZlqZRiMjc8</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#Timestamp-2175170">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>02CsUF1As77a6I3+BkQZ22TogWI</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-4652787">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>ktXRJoijcGSFrHaUKaLXUnH43XU</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-17567474">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>lLOeuXRDI1Gs5IX+zvaWuFhVzw</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-11090325">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>ZsiiDzGRLHuyb8bKASKDo8ryoqc</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-235207">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>9p44ZJinb/97IPlX0C7yFayRHpc</d:DigestValue>
      </d:Reference>
      <d:Reference URI="#id-27256294">
        <d:Transforms><d:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </d:Transforms>
        <d:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldig#sha1" />
        <d:DigestValue>BCxp9HRQ6cJAykEdliom9mU86vA</d:DigestValue>
      </d:Reference>
    </d:SignedInfo>
    <d:SignatureValue><!-- REMOVED --></d:SignatureValue>
    <d:KeyInfo Id="KeyId-33119438">
      <o:SecurityTokenReference u:Id="STRId-28732159" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
        <o:Reference URI="#CertId-17206535" ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3" />
      </o:SecurityTokenReference>
    </d:KeyInfo>
  </d:Signature>
  <o:UsernameToken u:Id="UsernameToken-13236543" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
    <o:Username><!-- REMOVED --></o:Username>
    <o:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-profile-1.0#PasswordText"><!-- REMOVED --></o:Password>
    </o:UsernameToken>
    <u:Timestamp u:Id="Timestamp-2175170" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
      <u:Created>2009-07-01T09:24:06.011Z</u:Created>
      <u:Expires>2009-07-01T12:10:46.011Z</u:Expires>
    </u:Timestamp>
  </o:Security>
```

Header ending + body + message ending

```
</s:Header>
  <s:Body u:Id="id-4652787">
    <!-- body of the request -->
  </s:Body>
</s:Envelope>
```

### 3.2.3 Authentication and authorization of web service call

Web services are secured against unauthorized use. System user is required to have an assigned user account in the XMtrade®/ISZO system with the client certificate for signing and verification of identity. User is required to have assigned rights for calling of relevant web services.

## 3.3 Description of web services

Description of web services of the imbalance clearing information system XMtrade®/ISZO is given in the form of WSDL (<http://www.w3.org/TR/wsdl>) documents on the following addresses.

### 3.3.1 Production environment

| ID                    | Názov webovej služby          | Adresa služby/WSDL dokumentu   |
|-----------------------|-------------------------------|--|
| <a href="#">RD-01</a> | SubjectOfSettlementScheduling | <a href="https://iszo.okte.sk/interfaces/SubjectOfSettlementScheduling/Service.svc">https://iszo.okte.sk/interfaces/SubjectOfSettlementScheduling/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/SubjectOfSettlementScheduling/Service.svc?wsdl">https://iszo.okte.sk/interfaces/SubjectOfSettlementScheduling/Service.svc?wsdl</a> |
| <a href="#">RD-02</a> | BusinessPlatformScheduling    | <a href="https://iszo.okte.sk/interfaces/BusinessPlatformScheduling/Service.svc">https://iszo.okte.sk/interfaces/BusinessPlatformScheduling/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/BusinessPlatformScheduling/Service.svc?wsdl">https://iszo.okte.sk/interfaces/BusinessPlatformScheduling/Service.svc?wsdl</a>             |
| <a href="#">RD-03</a> | CrossBorderScheduling         | <a href="https://iszo.okte.sk/interfaces/CrossBorderScheduling/Service.svc">https://iszo.okte.sk/interfaces/CrossBorderScheduling/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/CrossBorderScheduling/Service.svc?wsdl">https://iszo.okte.sk/interfaces/CrossBorderScheduling/Service.svc?wsdl</a>                                 |
| <a href="#">RD-04</a> | FinancialGuarantee            | <a href="https://iszo.okte.sk/interfaces/FinancialGuarantee/Service.svc">https://iszo.okte.sk/interfaces/FinancialGuarantee/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/FinancialGuarantee/Service.svc?wsdl">https://iszo.okte.sk/interfaces/FinancialGuarantee/Service.svc?wsdl</a>   |
| <a href="#">VO-02</a> | ProvidedRegulationElectricity | <a href="https://iszo.okte.sk/interfaces/ProvidedRegulationElectricity/Service.svc">https://iszo.okte.sk/interfaces/ProvidedRegulationElectricity/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/ProvidedRegulationElectricity/Service.svc?wsdl">https://iszo.okte.sk/interfaces/ProvidedRegulationElectricity/Service.svc?wsdl</a> |
| <a href="#">VO-02</a> | AnalyticalAccounts            | <a href="https://iszo.okte.sk/interfaces/AnalyticalAccounts/Service.svc">https://iszo.okte.sk/interfaces/AnalyticalAccounts/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/AnalyticalAccounts/Service.svc?wsdl">https://iszo.okte.sk/interfaces/AnalyticalAccounts/Service.svc?wsdl</a>   |
| <a href="#">SR-01</a> | StatusRequest                 | <a href="https://iszo.okte.sk/interfaces/StatusRequest/Service.svc">https://iszo.okte.sk/interfaces/StatusRequest/Service.svc</a><br><a href="https://iszo.okte.sk/interfaces/StatusRequest/Service.svc?wsdl">https://iszo.okte.sk/interfaces/StatusRequest/Service.svc?wsdl</a>   |

### 3.3.2 Testing environment

Service addresses of testing environment are almost identical to production addresses. They solely differ in the domain name of the address: <http://test-iszo.okte.sk> instead of <http://iszo.okte.sk>.

## 3.4 Web service client

Web services of the XMtrade®/ISZO system are natively implemented on the platform of Microsoft .NET Framework 3.5 using *Windows Communication Foundation (WCF)* technology, however, with the respect of interoperability with other platforms, e.g. Java platform.

### 3.4.1 Utilization of services from .NET environment

Requirements:

- Microsoft .NET Framework 3.5
- Microsoft Visual Studio 2019

#### **Procedure**

#### 1. Proxy class

Generate proxy class on the basis of *WSDL* document of respective web service, e.g. by *wSDL.exe* tool or simply insert reference to web service in Visual Studio 2008 environment (item in the context menu *Add service reference*). Proxy class facilitating communication with web service is generated this way.

## 2. Client configuration

*App.config* configuration file of client contains the following specification:

```
<system.serviceModel>
  <behaviors>
    <endpointBehaviors>
      <behavior name="Default">
        <clientCredentials>
          <clientCertificate findValue="[NameOfClientCertificateForMessageSigning]"
            storeLocation="CurrentUser" storeName="My"
            x509FindType="FindBySubjectName" />
          <serviceCertificate>
            <defaultCertificate findValue="http://iszo.okte.sk"
              storeLocation="LocalMachine" storeName="My"
              x509FindType="FindBySubjectName" />
          </serviceCertificate>
        </clientCredentials>
      </behavior>
    </endpointBehaviors>
  </behaviors>
  <bindings>
    <customBinding>
      <binding name="InteropBinding">
        <textMessageEncoding messageVersion="Soap12WSAddressingAugust2004"
          writeEncoding="utf-8">
          <readerQuotas maxDepth="32" maxStringContentLength="999999999"
            maxArrayLength="999999999"
            maxBytesPerRead="4096" maxNameTableCharCount="999999999" />
        </textMessageEncoding>
        <security allowSerializedSigningTokenOnReply="true"
          authenticationMode="MutualCertificate"
          requireDerivedKeys="false" securityHeaderLayout="Lax"
          includeTimestamp="true"
          keyEntropyMode="CombinedEntropy"
          messageProtectionOrder="SignBeforeEncrypt"
          messageSecurityVersion="WSSecurity10WSTrustFebruary2005WSSecureConversationFebruary2005WSSecurityPolicy11BasicSecurityProfile10"
          requireSecurityContextCancellation="false">
          <secureConversationBootstrap />
        </security>
        <httpsTransport />
      </binding>
    </customBinding>
  </bindings>
  <client>
    <endpoint address="http://iszo.okte.sk/interfaces/[NameOfService]/Service.svc"
      behaviorConfiguration="Default" binding="customBinding"
      bindingConfiguration="InteropBinding"
      contract="ServiceProxy.[NameOfService]Contract" name="DefaultEndpoint">
    </endpoint>
  </client>
</system.serviceModel>
```

## 4 SPECIFICATION OF DATA STRUCTURES

The imbalance clearing information system XMtrade®/ISZO provides interfaces for automated data exchange, which involves use of data structures defined on the basis of XML formats in accordance with *ENTSO-E* standards:

- ENTSO-E Scheduling System (ESS)  
(Scheduling system),
- ENTSO-E Settlement Process (ESP)  
(Settlement process),
- ENTSO-E Acknowledgement Process (EAD)  
(Process for acknowledgement messages),
- ENTSO-E Status Request (ESR)  
(Request for status information),
- Energy Identification Coding Scheme (EIC)  
(System of identification in the energy area),
- ENTSO-E General Code List For Data Interchange (ECL)  
(Code lists used in *ENTSO-E* standards),
- ENTSO-E Harmonised Electricity Market Role Model  
(Electricity market role model).

| Interface   | Process  | User                            | ID                  | Format             |
|---|--|---------------------------------|---------------------|--------------------|
| Input of day-ahead diagrams                             | Registration of diagrams   | Subject of settlement           | RD-01-01            | ESS 3.1            |
|   |  |                                 | RD-01-02            | EAD 5.0            |
| Input of partial diagrams                               | Registration of diagrams   | Trading platform                | RD-02-01            | ESS 3.1            |
|   |  |                                 | RD-02-02            | EAD 5.0            |
| Input of cross-border diagrams                          | Registration of diagrams   | Operator of transmission system | RD-03-01            | ESS 3.1            |
|   |  |                                 | RD-03-02            | EAD 5.0            |
| Check of cross-border diagrams                          | Registration of diagrams   | Operator of transmission system | RD-04-01            | Own                |
|   |  |                                 | RD-04-02            | Own                |
| Input of RE evaluation                                  | Imbalance settlement   | Operator of transmission system | VO-02-01            | Own                |
|   |  |                                 | VO-02-02            | EAD 5.0            |
| <del>Input of source data for analytical accounts</del> | <del>Analytical accounts</del>   | <del>System operator</del>      | <del>VO-03-01</del> | <del>ESP 1.1</del> |
|   |  |                                 | <del>VO-03-02</del> | <del>EAD 5.0</del> |
| Retrieval of status information                         | Registration of diagrams, settlement of imbalance and RE and clearing of differences | Market participant              | SR-01-01            | ESP 1.1            |
|   |  |                                 | SR-01-02            | EAD 5.0            |
|   |  |                                 | SR-01-03            | ESP 1.1            |
|   |  |                                 | SR-01-04            | ESP 1.1            |
|   |  |                                 | SR-01-05            | ESS 3.1            |

| Interface | Process | User | ID       | Format  |
|-----------|---------|------|----------|---------|
|           |         |      | SR-01-06 | ESS 3.1 |
|           |         |      | SR-01-07 | ESP 1.1 |

## 4.1 Input of day-ahead diagrams (RD-01)

The system of imbalance clearing XMtrade®/ISZO allows subjects of settlement an automated interface (system-system) for input of day-ahead diagrams within day-ahead and intraday registration of diagrams. Day-ahead diagrams are inputted in XML format in accordance with *ENTSO-E Scheduling System (ESS)* standard, version 3.1. Detailed specification of *ESS* standard is publicly available on ENTSO-E web pages <http://www.entsoe.eu/>.

### 4.1.1 Processing level

Subjects of settlement input day-ahead diagrams within processes of day-ahead registration of diagrams and intraday registration of diagrams. Daily diagrams of subjects of settlement contain internal realizations of electricity supply and electricity consumption in defined area. Accepted offers/demands of subject of settlement that is a participant in short-term electricity market, realized through the day-ahead market and planned values of electricity supplies and electricity consumption of subjects of settlement on cross-border profiles provided by the transmission system operator to OKTE, a.s. are automatically included in the system of imbalance settlement and subject of settlement does not enter these values in its daily diagram as part of the diagram registration.

#### **Day-ahead registration of diagrams**

Day-ahead registration of diagrams occurs on the day preceding the trading day, for which day-ahead diagrams are registered. Day-ahead diagrams are inputted according to *ESS* standard in the form of schedule message in MW with the precision to 3 decimal places in valid Central European time or Central European Summer time for each clearing period by the deadline for reception of day-ahead diagrams, at the latest. Deadline for reception of day-ahead diagrams for trading day is **1:30 pm**. Subject of settlement is informed on successful acceptance or rejection of day-ahead diagram in accordance with *ESS/EAD* standard via Acknowledgement Report. Subject of settlement is allowed to input multiple versions of schedule message by the deadline for reception of day-ahead diagrams.

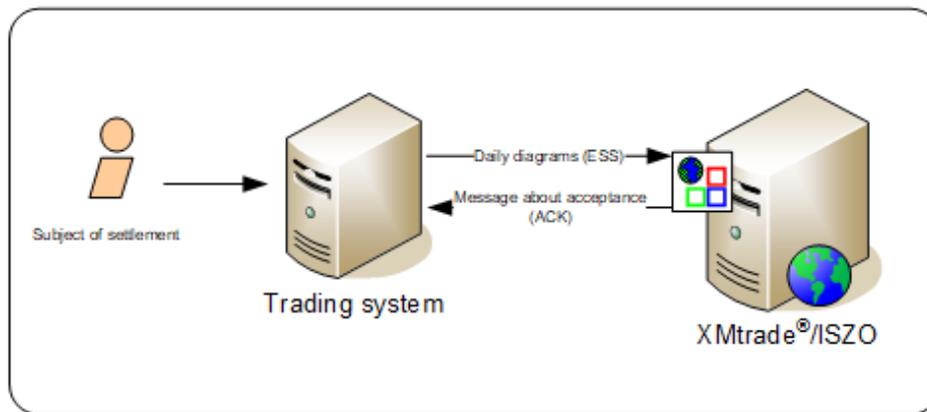
Subjects of settlement, whose values in day-ahead diagrams are evaluated by clearing agent as unmatched, are allowed to input modification via further version of the message by the deadline for day-ahead registration of diagrams. Modification solely relates to time series, in which clearing agent discovered a difference. Deadline for day-ahead registration of diagrams is set for the preceding day by **4:00 pm**.

#### **Intraday registration of diagrams**

Day-ahead diagrams are inputted according to *ESS* standard in the form of schedule message in MW with the precision to 3 decimal places in valid Central European time or Central European Summer time for each clearing period of respective time gate by the deadline for reception of day-ahead diagrams, at the latest. Deadline for reception of day-ahead diagrams from subjects of settlement for respective time gate ends **1/2 hour prior to the start of time gate**, in which realisation of consumption and supply occurs. Subject of settlement is informed on successful acceptance or rejection of day-ahead diagram in accordance with *ESS/EAD* standard via Acknowledgement Report. Subject of settlement is allowed to input multiple versions of schedule message by the deadline for reception of day-ahead diagrams.

### 4.1.2 Data flow

Details signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that informs the sender back on successful or failed reception of transmitted data via acknowledgement report ACK in accordance with *ENTSO-E EAD V5R0* standard. This method of communication can be used by all subjects of settlement.



**Figure 1** Interface for day-ahead diagrams

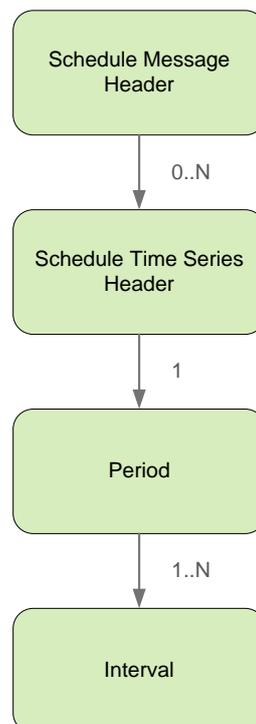
### 4.1.3 Data structures

Schedule message is used in accordance with *ESS V3R1* standard for automated input of day-ahead diagrams into the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities and balance areas. Schedule message uses *ENTSO-E General Code List For Data Interchange* code list that is publicly available on <http://www.entsoe.eu/> web pages. Date and time items are inserted into the message in UTC (Universal Time Coordinated).

#### **Schedule message (RD-01-01)**

Schedule message (SM), through which subjects of settlement input day-ahead diagrams, consists of the following parts in accordance with *ESS V3R1* standard:

- *Schedule Message Header* – contains general details that relate to the entire message.
- *Schedule Time Series Header* – contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of respective time series.
- *Interval* – contains values of respective time series.



## Schedule Message Header

Schedule message header contains values of particular elements according to the following table.

| Element                      | Value                        | Description   | Use      |
|------------------------------|------------------------------|---|----------|
| Message Identification       | SUB_YYYYMMDD_PT              | <p>Message identification.</p> <p>Recommended format:<br/>SUB_YYYYMMDD_PT<br/>YYYY - year<br/>MM - month<br/>DD - day<br/>PT - ProcessType (01 or 02)<br/>(e.g. SUB_20080319_02)</p> <p>Maximum 35 characters.</p>                              | Required |
| Message Version              | „1“, „2“, „3“, ...           | <p>Message version.</p> <p>Version number is incremented on each additional sending of message modification.</p> <p>Maximum 3 characters.</p>   | Required |
| Message Type                 | „A01“                        | <p>Message type.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Process Type                 | „A01“ / „A02“                | <p>Process type, which the message relates to.</p> <p>A01 - day-ahead registration of diagrams<br/>A02 - intraday registration of diagrams</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p> | Required |
| Schedule Classification Type | „A01“                        | <p>Communication classification.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Sender Identification        | EIC of subject of settlement | <p>Message sender identification.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>  | Required |
| Sender Role                  | „A01“ / „A08“                | <p>Message sender role.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Receiver Identification      | EIC OKTE                     | <p>Message receiver identification.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>  | Required |

| Element                | Value                                   | Description  | Use      |
|------------------------|---|--|----------|
| Receiver Role          | „A05“                                   | Message receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Message Date Time      | YYYY-MM-DDTHH:MM:SSZ                    | Date of message sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |
| Schedule Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Schedule time interval.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).  | Required |
| Domain                 | „10YSK-SEPS-----K“                      | Identification of balance area, for which the schedule is specified.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Subject Party          | EIC of subject of settlement            | Identification of entity, for which the schedule is set up.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Subject Role           | „A08“                                   | Role of entity, for which the schedule is set up.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Matching Period        | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Matching period.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute   | Required |

| Element | Value | Description  | Use |
|---------|-------|--|-----|
|         |       | <p>In case of day-ahead registration, it contains the period of the entire trading day.</p> <p>In case of intraday registration, it contains the period from the beginning of open gate or the gate of the first modification in diagram, if appropriate, by the end of trading day.</p> <p>Date and time items are inserted into the message in UTC (Universal Time Coordinated).</p> |     |

### Schedule Time Series Header

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | <p>Time series identification.</p> <p>Unique identification within schedule message.</p> <p>Maximum 35 characters.</p>  | Required |
| Senders Time Series Version        | "1", "2", "3", ... | <p>Time series version.</p> <p>Version number should be identical to the number of schedule message, in which time series were inputted or modified for the last time.</p> <p>Maximum 3 characters.</p> | Required |
| Product                            | "8716867000016"    | <p>It identifies product type.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 13 numeric characters.</p>  | Required |
| Measurement Unit                   | "MAW"              | <p>Unit, in which the values in time series are inputted (MW).</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>                                     | Required |
| Object Aggregation                 | "A03"              | <p>Object aggregation.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Metering Point Identification      | -                  | <p>Metering point identification.</p> <p>Maximum 35 characters.</p>   | Optional |

| Element                           | Value                        | Description   | Use      |
|-----------------------------------|------------------------------|---|----------|
| Capacity Contract Type            | -                            | Capacity contract type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Optional |
| Capacity Agreement Identification | -                            | Identification of agreement on capacity assignment.<br>Maximum 35 characters.   | Optional |
| Business Type                     | "A02" / „A06“                | Contract type.<br>A02 - internal contract<br>A06 - external contract<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| In Area                           | „10YSK-SEPS-----K“           | Balance area, to which the product is supplied.<br>EIC of balance area is used.<br>Maximum 16 characters.   | Required |
| Out Area                          | „10YSK-SEPS-----K“           | Balance area, out of which the product is taken.<br>EIC of balance area is used.<br>Maximum 16 characters.  | Required |
| In Party                          | EIC of subject of settlement | Consumer identification for internal diagrams.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Out Party                         | EIC of subject of settlement | Identification of supplier for internal diagrams.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description   | Use      |
|---------------|---|---|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute | Required |

| Element    | Value   | Description  | Use      |
|------------|---------|--|----------|
|            |         | Date and time items are inserted into the message in UTC (Universal Time Coordinated). |          |
| Resolution | „PT15M“ | Resolution of time series.<br>Values are inputted in 15-minute resolution.             | Required |

### Interval

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

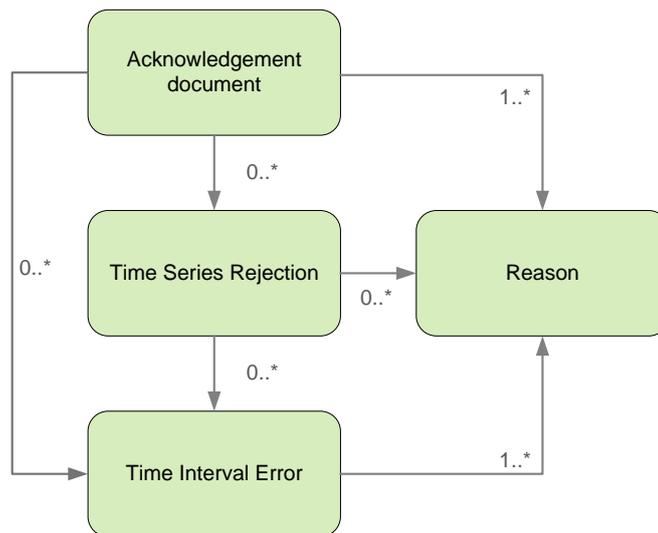
| Element | Value              | Description   | Use      |
|---------|--------------------|---|----------|
| Pos     | „1“, „2“, „3“, ... | Position of the value in time series.<br>Time series contain 96 values.<br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br>Maximum 6 characters. | Required |
| Qty     | NNNNNN.NNN         | Value of amount in MW with the precision to 3 decimal places. It always contains a positive number for increase of consumption or supply. Values without increase are represented by null.<br>Maximum 17 characters.                                | Required |

### Acknowledgement document (RD-01-02)

Acknowledgement document (ACK), through which clearing agent informs on acceptance or rejection of day-ahead diagram, consists of the following parts in accordance with *EAD V5R0* standard:

- *Acknowledgement document* - contains details that relate to the entire document.
- *Time Series Rejection* – contains identification details of the respective time series.
- *Time Interval Error* – contains identification details of the respective value in time series.
- *Reason* – contains information on acceptance or rejection of schedule message.

Depending on a specific case, information on acceptance or rejection of schedule message (*Reason*) relates either to the document as a whole (*Acknowledgement document*), to time series (*Time Series Rejection*), or to respective value of time series (*Time Interval Error*). Use of particular document parts is dependent on a specific case.



### Acknowledgement document

Header of acknowledgement document contains values of particular attributes according to the following table.

| Element                 | Value                        | Description  | Use      |
|-------------------------|------------------------------|--|----------|
| Document Identification | Identification               | Document identification.<br>Maximum 35 characters.   | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ         | Date of document sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Sender Identification   | EIC OKTE                     | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Sender Role             | „A05”                        | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Receiver Identification | EIC of subject of settlement | Document receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Receiver Role           | „A01“ / „A08“                | Document receiver role.  | Required |

| Element                           | Value                | Description  | Use      |
|-----------------------------------|----------------------|--|----------|
|                                   |                      | According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.  |          |
| Receiving Document Identification | Identification       | Identification of the original schedule message, which the acknowledgement document refers to.                                     | Required |
| Receiving Document Version        | "1", "2", "3", ...   | Version of the original schedule message, which the acknowledgment document refers to.   | Optional |
| Receiving Document Type           | „A01“                | Type of the original schedule message, which the acknowledgement document refers to.   | Optional |
| Receiving Payload Name            | file_name.xml        | File name of the original schedule message, which the acknowledgment document refers to.   | Optional |
| Date Time Receiving Document      | YYYY-MM-DDTHH:MM:SSZ | Reception date of the original schedule message in UTC (Universal Time Coordinated), which the acknowledgement document refers to. | Optional |

#### Time Series Rejection

Time series identification in the acknowledgement document contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | Time series identification within the original schedule message, in which error was identified.<br><br>Maximum 35 characters. | Required |
| Senders Time Series Version        | "1", "2", "3", ... | Time series version within the original schedule message, in which error was identified.<br><br>Maximum 3 characters.         | Required |

*Time Interval Error*

Identification of respective value in time series of the acknowledgement document contains values of particular attributes according the following table.

| Element                | Value                                   | Description   | Use      |
|------------------------|---|---|----------|
| Quantity Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | <p>Section of time series within the original schedule message, in which error was identified.</p> <p>Date and time format:<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           HH - hour<br/>           MM - minute</p> <p>Date and time items are inserted into the document in UTC (Universal Time Coordinated).</p> | Required |

*Reason*

Information on acceptance or rejection of the schedule message contains values of particular attributes according to the following table.

| Element     | Value | Description  | Use      |
|-------------|-------|--|----------|
| Reason Code | AXY   | <p>Information on acceptance or rejection of the original schedule message and reasons for its rejection.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p><u>At the message level:</u><br/>           A01 - Message fully accepted<br/>           A02 - Message fully rejected<br/>           A03 - Message contains errors at the time series level<br/>           A04 - Time interval incorrect<br/>           A05 - Sender without valid contract<br/>           A10 - Credit limit exceeded<br/>           A51 - Message identification or version conflict<br/>           A52 - Time series missing from new version of message<br/>           A53 - Receiving party incorrect<br/>           A57 - Deadline limit exceeded/Gate not open<br/>           A59 - Not compliant to local market rules<br/>           A60 - Inter-area transit schedule exceeds nominated schedule<br/>           A78 - Sender identification and/or role invalid<br/>           A79 - Process type invalid<br/>           A80 - Domain invalid<br/>           A81 - Matching period invalid<br/>           A94 - Document cannot be processed by receiving system</p> <p><u>At the level of time series:</u><br/>           A20 - Time series fully rejected<br/>           A21 - Time series accepted with specific time interval errors<br/>           A22 - In party/Out party invalid</p> | Required |

| Element     | Value     | Description  | Use      |
|-------------|-----------|--|----------|
|             |           | A23 - Area invalid<br>A41 - Resolution inconsistency<br>A50 - Senders time series version conflict<br>A55 - Time series identification conflict<br>A56 - Corresponding time series not netted<br>A57 - Deadline limit exceeded/Gate not open<br>A59 - Not compliant to local market rules<br>A62 - Invalid business type<br>A82 - In/Out area inconsistent with domain<br><br><u>At the period level:</u><br>A04 - Time interval incorrect<br><br><u>At the interval level:</u><br>A42 - Quantity inconsistency<br>A46 - Quantities must not be signed values<br>A49 - Position inconsistency<br>A59 - Not compliant to local market rules<br><br>999 - Errors not specifically identified |          |
| Reason Text | Open text | Additional text justification.   | Optional |

## 4.2 Input of partial diagrams (RD-02)

The system of imbalance clearing XMtrade®/ISZO allows trading platforms an automated interface (system-system) for input of partial diagrams within intraday registration of diagrams. Partial diagrams are inputted in XML format in accordance with *ENTSO-E Scheduling System (ESS)* standard, version 3.1. Detailed specification of *ESS* standard is publicly available on *ENTSO-E* web pages <http://www.entsoe.eu/>.

### 4.2.1 Processing level

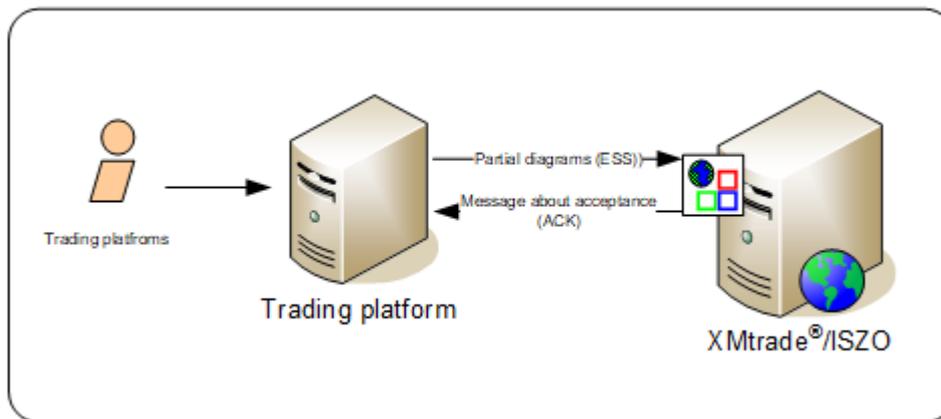
Trading platforms input partial diagrams within processes of intraday registration of diagrams.

#### *Intraday registration of diagrams*

Partial diagrams are inputted according to *ESS* standard in the form of schedule message in MW with the precision to 3 decimal places in valid Central European time or Central European Summer time for each clearing period of respective time gate by the deadline for reception of day-ahead diagrams, at the latest. Deadline for reception of day-ahead diagrams from subjects of settlement for respective time gate ends **1/2 hour prior to the beginning of the time gate**, in which realisation of consumption and supply occurs. Trading platform and subject of settlement are informed on successful acceptance or rejection of partial diagram in accordance with *ESS/EAD* standard via Acknowledgement Report.

### 4.2.2 Data flow

Details signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that informs the sender back on successful or failed reception of transmitted data via acknowledgement document ACK in accordance with *ENTSO-E EAD V5R0* standard. This method of communication can be used exclusively by trading platforms.



**Figure 2** Interface for partial diagrams

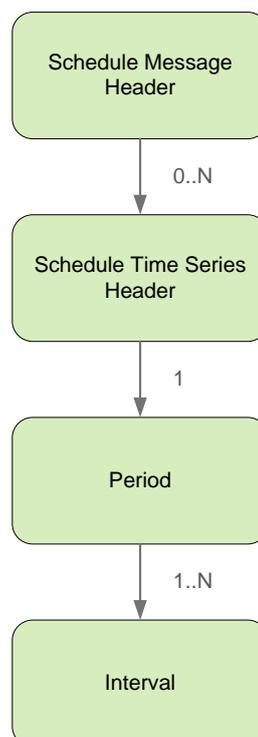
### 4.2.3 Data structures

Schedule message is used in accordance with *ESS V3R1* standard for automated input of partial diagrams into the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities and balance areas. Schedule message utilizes *ENTSO-E General Code List For Data Interchange* code list that is publicly available on <http://www.entsoe.eu/> web pages. Date and time items are inserted into the message in UTC (Universal Time Coordinated).

#### **Schedule message (RD-02-01)**

Schedule message (SM), through which trading platforms input partial diagrams, consists of the following parts in accordance with *ESS V3R1* standard:

- *Schedule Message Header* - contains general details that relate to the entire message.
- *Schedule Time Series Header* - contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of respective time series.
- *Interval* – contains values of respective time series.



## Schedule Message Header

Schedule message header contains values of particular elements according to the following table.

| Element                      | Value                     | Description  | Use      |
|------------------------------|---------------------------|--|----------|
| Message Identification       | OBP_RRRRMDD_PT_KONTRAKTID | <p>Message identification.</p> <p>Matching partial diagrams of subjects of settlement, which were generated out of a single contract, contain the same identification.</p> <p>Required format:<br/>           OBP_RRRRMDD_PT_KONTRAKTID<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           PT - ProcessType (01 or 02)<br/>           KONTRAKTID – contract identification<br/>           (e.g. OBP_20080319_02_K87654)</p> <p>Maximum 35 characters.</p> | Required |
| Message Version              | „1“, „2“, „3“, ...        | <p>Message version.</p> <p>Version number is incremented on each additional sending of message modification.</p> <p>Maximum 3 characters.</p>  | Required |
| Message Type                 | „A01“                     | <p>Message type.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Process Type                 | „A02“                     | <p>Type of process, which the message relates to.</p> <p>A02 - intraday registration of diagrams</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Schedule Classification Type | „A01“                     | <p>Communication classification.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Sender Identification        | EIC of trading platform   | <p>Message sender identification.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>   | Required |
| Sender Role                  | „A28“                     | <p>Message sender role.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p>  | Required |

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
|                         |   | Maximum 3 characters.  |          |
| Receiver Identification | EIC OKTE                                | Message receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A05“                                   | Message receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Message Date Time       | YYYY-MM-DDTHH:MM:SSZ                    | Date of message sending.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).       | Required |
| Schedule Time Interval  | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time interval of the schedule.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |
| Domain                  | „10YSK-SEPS-----K“                      | Identification of balance area, for which the schedule is specified.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Subject Party           | EIC of subject of settlement            | Identification of entity, for which the schedule is set up.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Subject Role            | „A08“                                   | Role of entity, for which the schedule is set up.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Matching Period         | YYYY-MM-DDTHH:MMZ/                      | Matching period.   | Required |

| Element | Value             | Description  | Use |
|---------|-------------------|--|-----|
|         | YYYY-MM-DDTHH:MMZ | <p>Date and time format:<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           HH - hour<br/>           MM - minute</p> <p>In case of intraday registration, it contains the period from the beginning of open gate or the gate of the first modification in diagram, if appropriate, by the end of trading day.</p> <p>Date and time items are inserted into the message in UTC (Universal Time Coordinated).</p> |     |

### Schedule Time Series Header

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | <p>Time series identification.</p> <p>Unique identification within the schedule message.</p> <p>Maximum 35 characters.</p>  | Required |
| Senders Time Series Version        | "1", "2", "3", ... | <p>Time series version.</p> <p>Version number should be identical to the number of the schedule message, in which time series were inputted or modified for the last time.</p> <p>Maximum 3 characters.</p> | Required |
| Product                            | "8716867000016"    | <p>It identifies product type.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 13 numeric characters.</p>  | Required |
| Measurement Unit                   | "MAW"              | <p>Unit, in which the values in time series are inputted (MW).</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Object Aggregation                 | "A03"              | <p>Object aggregation.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |

| Element                           | Value                        | Description   | Use      |
|-----------------------------------|------------------------------|---|----------|
| Metering Point Identification     | -                            | Metering point identification.<br>Maximum 35 characters.  | Optional |
| Capacity Contract Type            | -                            | Capacity contract type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Optional |
| Capacity Agreement Identification | -                            | Identification of agreement on capacity assignment.<br>Maximum 35 characters.   | Optional |
| Business Type                     | "A02" / „A06“                | Contract type.<br>A02 - internal contract<br>A06 - external contract<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| In Area                           | EIC of balance area          | Balance area, to which the product is supplied.<br>EIC of balance area is used.<br>Maximum 16 characters.   | Required |
| Out Area                          | EIC of balance area          | Balance area, out of which the product is taken.<br>EIC of balance area is used.<br>Maximum 16 characters.  | Required |
| In Party                          | EIC of subject of settlement | Identification of consumer/importer.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Out Party                         | EIC of subject of settlement | Identification of supplier/exporter.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description                                    | Use      |
|---------------|---|--|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br>Date and time format: | Required |

| Element    | Value   | Description   | Use      |
|------------|---------|---|----------|
|            |         | YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). |          |
| Resolution | „PT15M” | Resolution of time series.<br><br>Values are inputted in 15-minute resolution.  | Required |

### Interval

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

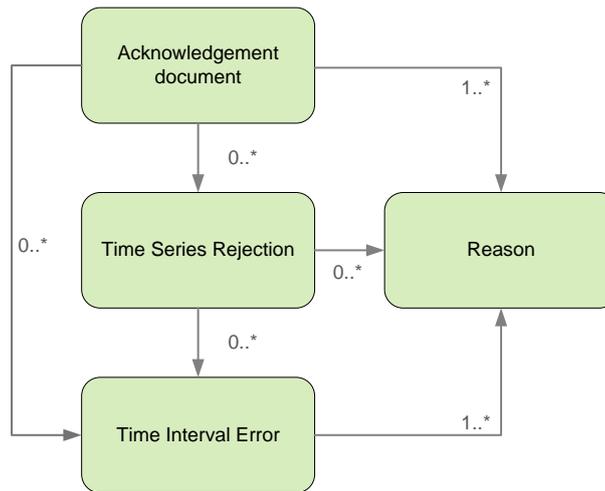
| Element | Value              | Description   | Use      |
|---------|--------------------|---|----------|
| Pos     | „1”, „2”, „3”, ... | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters. | Required |
| Qty     | NNNNNN.NNN         | Value of amount in MW with the precision to 3 decimal places. It always contains positive number for increase of consumption or supply. Values without increase are represented by null.<br><br>Maximum 17 characters.  | Required |

### Acknowledgement document (RD-02-02)

Acknowledgement document (ACK), through which clearing agent informs on acceptance or rejection of day-ahead diagram, consists of the following parts in accordance with *EAD V5R0* standard:

- *Acknowledgement document* - contains details that relate to the entire document.
- *Time Series Rejection* - contains identification details of the respective time series.
- *Time Interval Error* - contains identification details of the respective value in time series.
- *Reason* – contains information on acceptance or rejection of schedule message.

Depending on a specific case, information on acceptance or rejection of schedule message (Reason) relates either to the document as a whole (*Acknowledgement document*), to time series (*Time Series Rejection*), or to respective value of time series (*Time Interval Error*). Use of particular document parts is dependent on a specific case.



### Acknowledgement document

Header of acknowledgement document contains values of particular attributes according to the following table.

| Element                 | Value   | Description  | Use      |
|-------------------------|---|--|----------|
| Document Identification | Identification  | Document Identification.<br>Maximum 35 characters.   | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ                                    | Date of document sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Sender Identification   | EIC OKTE  | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Sender Role             | „A05“   | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Receiver Identification | EIC of trading platform or EIC of subject of settlement | Document receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Receiver Role           | „A28“   | Document receiver role.<br>According to ENTSO-E General Code List For Data Interchange.  | Required |

| Element                           | Value                | Description  | Use      |
|-----------------------------------|----------------------|--|----------|
|                                   |                      | Maximum 3 characters.  |          |
| Receiving Document Identification | Identification       | Identification of the original schedule message, which the acknowledgment document relates to.                                     | Required |
| Receiving Document Version        | "1", "2", "3", ...   | Version of the original schedule message, which the acknowledgment document relates to.  | Optional |
| Receiving Document Type           | "A01"                | Type of the original schedule message, which the acknowledgment document relates to.   | Optional |
| Receiving Payload Name            | file_name.xml        | File name of the original schedule message, which the acknowledgment document relates to.  | Optional |
| Date Time Receiving Document      | YYYY-MM-DDTHH:MM:SSZ | Reception date of the original schedule message in UTC (Universal Time Coordinated), which the acknowledgment document relates to. | Optional |

#### Time Series Rejection

Time series identification in the acknowledgement document contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | Time series identification within the original schedule message, in which error was identified.<br>Maximum 35 characters. | Required |
| Senders Time Series Version        | "1", "2", "3", ... | Time series version within the original schedule message, in which error was identified.<br>Maximum 3 characters.         | Required |

#### Time Interval Error

Identification of respective value in time series of the acknowledgement document contains values of particular attributes according to the following table.

| Element                | Value                                   | Description  | Use      |
|------------------------|---|--|----------|
| Quantity Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Section of time series in the original schedule message, in which error was identified.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |

## Reason

Information on acceptance or rejection of the schedule message contains values of particular attributes according to the following table.

| Element     | Value     | Description   | Use      |
|-------------|-----------|---|----------|
| Reason Code | AXY       | <p>Information on acceptance or rejection of the original schedule message and reason for its rejection.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p><u>At the message level:</u><br/> A01 - Message fully accepted<br/> A02 - Message fully rejected<br/> A03 - Message contains errors at the time series level<br/> A04 - Time interval incorrect<br/> A05 - Sender without valid contract<br/> A10 - Credit limit exceeded<br/> A51 - Message identification or version conflict<br/> A52 - Time series missing from new version of message<br/> A53 - Receiving party incorrect<br/> A57 - Deadline limit exceeded/Gate not open<br/> A59 - Not compliant to local market rules<br/> A60 - Inter-area transit schedule exceeds nominated schedule<br/> A78 - Sender identification and/or role invalid<br/> A79 - Process type invalid<br/> A80 - Domain invalid<br/> A81 - Matching period invalid<br/> A94 - Document cannot be processed by receiving system</p> <p><u>At the level of time series:</u><br/> A20 - Time series fully rejected<br/> A21 - Time series accepted with specific time interval errors<br/> A22 - In party/Out party invalid<br/> A23 - Area invalid<br/> A41 - Resolution inconsistency<br/> A50 - Senders time series version conflict<br/> A55 - Time series identification conflict<br/> A56 - Corresponding time series not netted<br/> A57 - Deadline limit exceeded/Gate not open<br/> A59 - Not compliant to local market rules<br/> A62 - Invalid business type<br/> A82 - In/Out area inconsistent with domain</p> <p><u>At the period level:</u><br/> A04 - Time interval incorrect</p> <p><u>At the interval level:</u><br/> A42 - Quantity inconsistency<br/> A46 - Quantities must not be signed values<br/> A49 - Position inconsistency<br/> A59 - Not compliant to local market rules</p> <p>999 - Errors not specifically identified</p> | Required |
| Reason Text | Open text | Additional text justification.  | Optional |

## 4.3 Input of cross-border diagrams (RD-03)

The system of imbalance clearing XMtrade®/ISZO allows operator of transmission system an automated interface (system-system) for input of cross-border diagrams within day-ahead and intraday registration of diagrams. Day-ahead diagrams are inputted in XML format in accordance with *ENTSO-E Scheduling System (ESS)* standard, version 3.1. Detailed specification of *ESS* standard is publicly available on *ENTSO-E* web pages <http://www.entsoe.eu/>.

### 4.3.1 Processing level

Diagrams of supply and consumption of electricity on cross-border profiles, which are inputted by subjects of settlement within day-ahead and intraday registration of diagrams, are matched against values entered into the system of operator of transmission system for scheduling of cross-border exchange. Provided that these values differ, values inputted on cross-border profiles will be used in the imbalance clearing system.

#### *Day-ahead registration of diagrams*

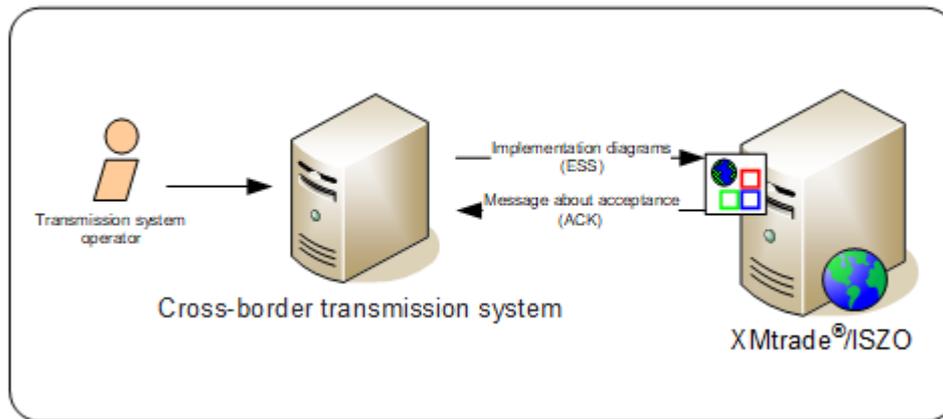
Day-ahead registration of diagrams occurs on the day preceding the trading day, for which day-ahead diagrams are registered. Cross-border diagrams, which are entered into the system for scheduling of cross-border exchange, are made available by operator of transmission system to clearing agent according to *ESS* standard in the form of schedule message in MW with the precision to 3 decimal places in valid Central European time or Central European Summer time for each clearing period by the deadline for reception of day-ahead diagrams that occurs at **1:30 pm**, at the latest. Subsequently, the system of imbalance clearing performs matching of diagrams involving comparison of values of cross-border diagrams. Operator of transmission system is notified of successful acceptance or rejection of day-ahead diagram in accordance with *ESS* standard via Acknowledgement Report. In case of rejection of the schedule message, operator of transmission system inputs modified message with a higher version.

#### *Intraday registration of diagrams*

Cross-border diagrams entered into the system of scheduling of cross-border exchange are made available by operator of transmission system to clearing agent according to *ESS* standard in the form of schedule message in MW with the precision to 3 decimal places in valid Central European time or Central European Summer time for each clearing period of respective time gate by the deadline for reception of day-ahead diagrams, at the latest. Deadline for reception of day-ahead diagrams from subjects of settlement for respective time gate ends **1/2 hour prior to the start of time gate**, in which realisation of consumption and supply occurs. Subsequently, the system of imbalance clearing performs matching of diagrams involving also comparison of values of cross-border diagrams. Operator of transmission system is notified of successful acceptance or rejection of day-ahead diagram in accordance with *ESS* standard via Acknowledgement Report. In case of rejection of the schedule message, operator of transmission system inputs modified message with a higher version

### 4.3.2 Data flow

Details signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that informs the sender back on successful or failed reception of transmitted data via acknowledgement document ACK in accordance with *ENTSO-E EAD V5R0* standard. This method of communication can be used exclusively by operator of transmission system.



**Figure 3** Interface for cross-border transmission

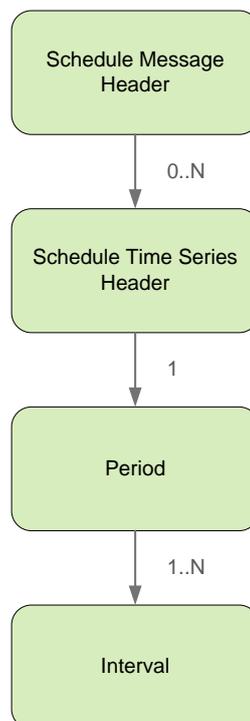
### 4.3.3 Data structures

Schedule message is used in accordance with *ESS V3R1* standard for automated input of day-ahead diagrams into the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities and balance areas. Schedule message utilizes *ENTSO-E General Code List For Data Interchange* code list that is publicly available on <http://www.entsoe.eu/> web pages. Date and time items are inserted into the message in UTC (Universal Time Coordinated).

#### **Schedule message (RD-03-01)**

Schedule message (SM), through which operator of transmission system inputs cross-border diagrams, consists of the following parts in accordance with *ESS V3R1* standard:

- *Schedule Message Header* - contains general details that relate to the entire message.
- *Schedule Time Series Header* - contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Interval* – contains values of the respective time series.



## Schedule Message Header

Schedule message header contains values of particular elements according to the following table.

| Element                      | Value              | Description  | Use      |
|------------------------------|--------------------|--|----------|
| Message Identification       | Identification     | <p>Message identification.</p> <p>Unique identification within communication for a given trading day.</p> <p>Recommended format:<br/>YYYYMMDD_PTP_ EEEEEEEEEEEEEEEEE</p> <p>EEEEEEEEEEEEEEEE - EIC of receiver<br/>YYYY - year<br/>MM - month<br/>DD - day<br/>PTP – Process Type<br/>(e.g. 20080319_A01_10XSK-SEPS-GRIDB)</p> <p>Maximum 35 characters.</p> | Required |
| Message Version              | „1“, „2“, „3“, ... | <p>Message version.</p> <p>Version number is incremented on each additional sending of message modification.</p> <p>Maximum 3 characters.</p>  | Required |
| Message Type                 | „A01“              | <p>Message type.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Process Type                 | „A01“ / „A02“      | <p>Type of process, which the message relates to.</p> <p>A01 - day-ahead registration of diagrams<br/>A02 - intraday registration of diagrams</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Schedule Classification Type | „A01“              | <p>Communication classification.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Sender Identification        | „10XSK-SEPS-GRIDB“ | <p>Identification of transmission system operator.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>  | Required |
| Sender Role                  | „A04“              | <p>Message sender role.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p>  | Required |

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
|                         |   | Maximum 3 characters.  |          |
| Receiver Identification | EIC OKTE                                | Message receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A05“                                   | Message receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Message Date Time       | YYYY-MM-DDTHH:MM:SSZ                    | Date of message sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).       | Required |
| Schedule Time Interval  | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time interval of the schedule.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |
| Domain                  | „10YSK-SEPS-----K“                      | Identification of balance area, for which the schedule is specified.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Subject Party           | -                                       | Identification of entity, for which the schedule is set up.<br>Entity EIC is used.<br>Maximum 16 characters.   | Optional |
| Subject Role            | -                                       | Role of entity, for which the schedule is set up.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Optional |

| Element         | Value                                   | Description  | Use      |
|-----------------|---|--|----------|
| Matching Period | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | <p>Matching period.</p> <p>Date and time format:<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           HH - hour<br/>           MM - minute</p> <p>In case of day-ahead registration, it contains the period of the entire trading day.</p> <p>In case of intraday registration, it contains the period from the beginning of open gate or the gate of the first modification in diagram, if appropriate, by the end of the trading day.</p> <p>Date and time items are inserted into the message in UTC (Universal Time Coordinated).</p> | Required |

#### Schedule Time Series Header

Diagrams of cross-border exchange are inputted for each entity in aggregate state in the form of overall import and overall export of the entity. Fictitious entity „SEPS zahraničie“ is always the counterparty.

#### Example of diagram for import:

InArea = OutArea = SEPS

InParty = Subject of settlement

OutParty = „SEPS Zahraničie“

#### Example of diagram for export:

InArea = OutArea = SEPS

InParty = „SEPS Zahraničie“

OutParty = Subject of settlement

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | <p>Time series identification.</p> <p>Unique identification within the schedule message.</p> <p>Maximum 35 characters.</p>  | Required |
| Senders Time Series Version        | “1”, “2”, “3”, ... | <p>Time series version.</p> <p>Version number should be identical to the number of the schedule message, in which time series were inputted or modified for the last time.</p> <p>Maximum 3 characters.</p> | Required |

| Element                           | Value              | Description  | Use      |
|-----------------------------------|--------------------|--|----------|
| Product                           | "8716867000016"    | It identifies product type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 13 numeric characters.                    | Required |
| Measurement Unit                  | "MAW"              | Unit, in which values in time series are inputted (MW).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Object Aggregation                | "A03"              | Object aggregation.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                                     | Required |
| Metering Point Identification     | -                  | Metering point identification.<br>Maximum 35 characters.   | Optional |
| Capacity Contract Type            | "A05" / "A07"      | Capacity contract type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                                 | Optional |
| Capacity Agreement Identification | Identification     | Identification of agreement on capacity assignment.<br>Maximum 35 characters.  | Optional |
| Business Type                     | "A03"              | Contract type.<br>A06 - external contract<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.               | Required |
| In Area                           | „10YSK-SEPS-----K“ | Identification of balance area, for which the schedule is specified.<br>EIC of balance area is used.<br>Maximum 16 characters.                   | Required |
| Out Area                          | „10YSK-SEPS-----K“ | Identification of balance area, for which the schedule is specified.<br>EIC of balance area is used.<br>Maximum 16 characters.                   | Required |

| Element   | Value   | Description  | Use      |
|-----------|---|--|----------|
| In Party  | EIC of subject of settlement or EIC SEPS zahraničie | EIC of subject of settlement is specified for time series that represent import to SEPS.<br>EIC SEPS zahraničie is specified for time series that represent export to SEPS.<br><br>Entity EIC is used.<br><br>Maximum 16 characters. | Required |
| Out Party | EIC of subject of settlement or EIC SEPS zahraničie | EIC of subject of settlement is specified for time series that represent export to SEPS.<br>EIC SEPS zahraničie is specified for time series that represent import to SEPS.<br><br>Entity EIC is used.<br><br>Maximum 16 characters. | Required |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description   | Use      |
|---------------|---|---|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |
| Resolution    | „PT15M“                                 | Resolution of time series.<br><br>Values are inputted in 15-minute resolution.  | Required |

### Interval

Time series contain records for each clearing period of the trading day. Record of time series contains values of particular attributes according to the following table.

| Element | Value              | Description   | Use      |
|---------|--------------------|---|----------|
| Pos     | „1“, „2“, „3“, ... | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters. | Required |
| Qty     | NNNNNN.NNN         | Value of amount in MW with the precision to 3 decimal places. It always contains a  | Required |

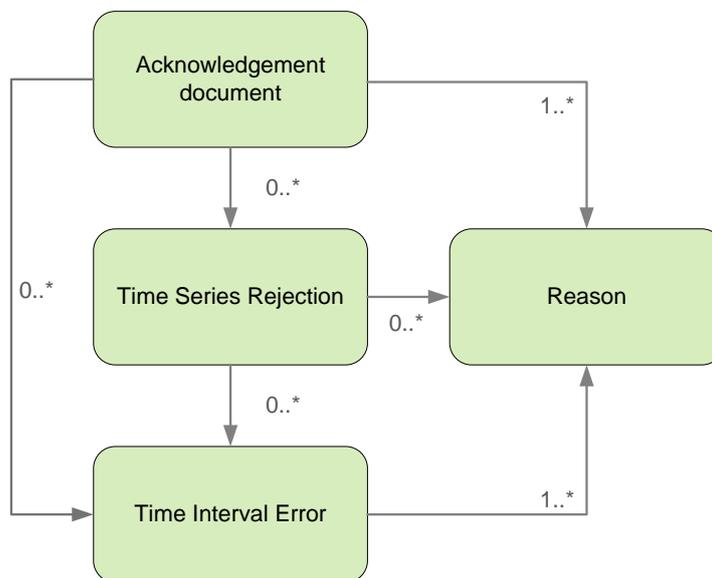
| Element | Value | Description   | Use |
|---------|-------|---|-----|
|         |       | positive number for increase of consumption or supply. Values without increase are represented by null.<br><br>Maximum 17 characters. |     |

### Acknowledgement document (RD-03-02)

Acknowledgement document (ACK), through which clearing agent informs on acceptance or rejection of day-ahead diagram, consists of the following parts in accordance with *EAD V5R0* standard:

- *Acknowledgement document* - contains details that relate to the entire document.
- *Time Series Rejection* - contains identification details of the respective time series.
- *Time Interval Error* - contains identification details of the respective value in time series.
- *Reason* – contains information on acceptance or rejection of the schedule message.

Depending on a specific case, information on acceptance or rejection of schedule message (*Reason*) relates either to the document as a whole (*Acknowledgement document*), to time series (*Time Series Rejection*), or to respective value of time series (*Time Interval Error*). Use of particular document parts is dependent on a specific case.



### Acknowledgement document

Header of acknowledgement document contains values of particular attributes according to the following table.

| Element                 | Value                | Description   | Use      |
|-------------------------|----------------------|---|----------|
| Document Identification | Identification       | Document identification.<br><br>Maximum 35 characters.  | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ | Date of document sending.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute | Required |

| Element                           | Value                | Description  | Use      |
|-----------------------------------|----------------------|--|----------|
|                                   |                      | Date and time items are inserted into the document in UTC (Universal Time Coordinated).  |          |
| Sender Identification             | EIC OKTE             | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Sender Role                       | „A05“                | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                     | Required |
| Receiver Identification           | „10XSK-SEPS-GRIDB“   | Document receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Receiver Role                     | „A04“                | Document receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                   | Required |
| Receiving Document Identification | Identification       | Identification of the original schedule message, which the acknowledgment document relates to.                                     | Required |
| Receiving Document Version        | “1”, “2”, “3”, ...   | Version of the original schedule message, which the acknowledgment document relates to.  | Optional |
| Receiving Document Type           | „A01“                | Type of the original schedule message, which the acknowledgment document relates to.   | Optional |
| Receiving Payload Name            | file_name.xml        | File name of the original schedule message, which the acknowledgment document relates to.  | Optional |
| Date Time Receiving Document      | YYYY-MM-DDTHH:MM:SSZ | Reception date of the original schedule message in UTC (Universal Time Coordinated), which the acknowledgment document relates to. | Optional |

### Time Series Rejection

Time series identification in the acknowledgement document contains values of particular attributes according to the following table.

| Element                            | Value              | Description   | Use      |
|------------------------------------|--------------------|---|----------|
| Senders Time Series Identification | Identification     | Time series identification within the original schedule message, in which error was identified.<br><br>Maximum 35 characters. | Required |
| Senders Time Series Version        | "1", "2", "3", ... | Time series version within the original schedule message, in which error was identified.<br><br>Maximum 3 characters.         | Required |

### Time Interval Error

Identification of respective value in time series of acknowledgement document contains values of particular attributes according to the following table.

| Element                | Value                                   | Description  | Use      |
|------------------------|---|--|----------|
| Quantity Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Section of time series within the original schedule message, in which error was identified.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |

### Reason

Information on acceptance or rejection of the schedule message contains values of particular attributes according to the following table.

| Element     | Value | Description   | Use      |
|-------------|-------|---|----------|
| Reason Code | AXY   | Information on acceptance or rejection of the original schedule message and reasons for its rejection.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br><u>At the message level:</u><br>A01 - Message fully accepted<br>A02 - Message fully rejected<br>A03 - Message contains errors at the time series level<br>A04 - Time interval incorrect<br>A05 - Sender without valid contract<br>A51 - Message identification or version conflict<br>A52 - Time series missing from new version of message<br>A53 - Receiving party incorrect<br>A57 - Deadline limit exceeded/Gate not open | Required |

| Element     | Value     | Description   | Use      |
|-------------|-----------|---|----------|
|             |           | A59 - Not compliant to local market rules<br>A60 - Inter-area transit schedule exceeds nominated schedule<br>A78 - Sender identification and/or role invalid<br>A79 - Process type invalid<br>A80 - Domain invalid<br>A81 - Matching period invalid<br>A94 - Document cannot be processed by receiving system<br><br><u>At the level of time series:</u><br>A20 - Time series fully rejected<br>A21 - Time series accepted with specific time interval errors<br>A22 - In party/Out party invalid<br>A23 - Area invalid<br>A41 - Resolution inconsistency<br>A50 - Senders time series version conflict<br>A55 - Time series identification conflict<br>A56 - Corresponding time series not netted<br>A57 - Deadline limit exceeded/Gate not open<br>A59 - Not compliant to local market rules<br>A62 - Invalid business type<br>A82 - In/Out area inconsistent with domain<br><br><u>At the period level:</u><br>A04 - Time interval incorrect<br><br><u>At the interval level:</u><br>A42 - Quantity inconsistency<br>A46 - Quantities must not be signed values<br>A49 - Position inconsistency<br>A59 - Not compliant to local market rules<br><br>999 - Errors not specifically identified |          |
| Reason Text | Open text | Additional text justification.  | Optional |

## 4.4 Check of cross-border diagrams (RD-04)

The system of imbalance clearing XMtrade®/ISZO allows operator of transmission system an automated interface (system-system) for check of cross-border diagrams against the current status of financial guarantee of subjects of settlement within registration of long term and day-ahead implementation diagrams into the system of cross-border transmissions.

### 4.4.1 Processing level

Check of long term and day-ahead cross-border diagrams against the current status of financial guarantee of subjects occurs at defined times or continuously at diagram registration in the system of cross-border transmissions.

#### ***Day-ahead registration of cross-border diagrams***

Day-ahead registration of cross-border diagrams occurs on the day preceding the trading day, for which day-ahead diagrams are registered. Check of implementation diagrams against the current status of financial guarantee of subjects occurs at defined times:

- At **7:00 am**, check of long term implementation diagrams occurs. This check is carried out in bulk for those long term diagrams that are already registered in the system. After the end of this check,

all other diagrams (long term as well as day-ahead diagrams) are being checked immediately after their input.

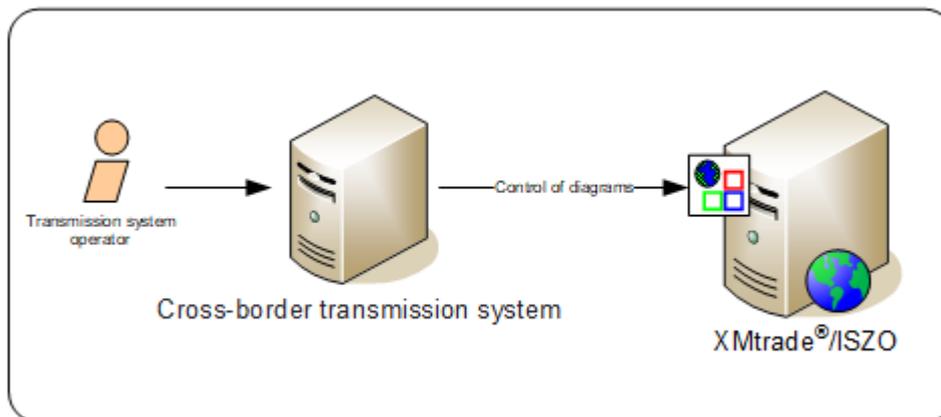
- At **7:45 am**, deadline for input of long term implementation diagrams occurs. By this deadline, long term implementation diagrams are being continuously checked immediately after their input into the system.
- At **1:00 pm**, deadline for input of day-ahead implementation diagrams occurs. By this deadline, day-ahead implementation diagrams are being continuously checked immediately after their input into the system.

### **Intraday registration of cross-border diagrams**

Check of implementation diagrams against the current status of financial guarantee of subjects can be also used within intraday registration.

#### **4.4.2 Data flow**

Applications for check of implementation diagrams signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that immediately performs appropriate check and informs the sender back on the result of check. This method of communication can be used only by operator of transmission system.



#### **4.4.3 Data structures**

Application for check of financial guarantee and Result of financial guarantee check are used for automated check of cross-border diagrams through information system of imbalance clearing XMtrade®/ISZO.

#### **Application for check of financial guarantee (RD-04-01)**

Application for check of financial guarantee contains values of particular elements according to the following table.

| Element     | Value     | Description   | Use      |
|-------------|-----------|---|----------|
| Preliminary | "0" / "1" | Indicator of preliminary registration of diagram:<br>0 – it is not preliminary check,<br>1 – it is preliminary check. | Required |
| Long Term   | "0" / "1" | Indicator of registration of long term diagram:<br>0 – short term diagrams as well,<br>1 – long term diagrams only.   | Required |

| Element      | Value                        | Description   | Use      |
|--------------|------------------------------|---|----------|
| Business Day | YYYY-MMDD                    | Date of business day in 'YYYY-MMDD' format.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day | Required |
| EIC          | EIC of subject of settlement | Identification of subject of settlement.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.                 | Required |
| Import       | NNNNNN.NNN                   | The sum of external diagram - import.<br>Value is specified in MWh with the precision to 3 decimal places.        | Required |
| Export       | NNNNNN.NNN                   | The sum of external diagram - export.<br>Value is specified in MWh with the precision to 3 decimal places.        | Required |

### **Result of financial guarantee check (RD-04-02)**

Result of financial guarantee check contains values of particular elements according to the following table.

| Element | Value  | Description  | Use      |
|---------|--|--|----------|
| Status  | "0" / "1" / "2" / "3" / "4" /<br>"5" / "6" / "7" / "8" | Status of check:<br>0 - diagram exceeds disposable financial guarantee,<br>1 - diagram successfully checked,<br>2 – blocked entity,<br>3 – unknown EIC code,<br>4 – system is not in the state of diagram check,<br>5 – invalid input data,<br>6 – error at diagram check,<br>7 – intraday limit 20% exceeded,<br>8 – error at entry of input indicators<br>Preliminary and Long Term: preliminary check is allowed solely for long term diagrams. | Required |
| Exceed  | NNNNNN.NNN   | Exceed value of trade amount.<br>Value is specified in MWh with the precision to 3 decimal places.   | Required |
| Mode    | "0" / "1"  | Determination of warning/strict regime:<br>0 – warning regime,<br>1 - strict regime.   | Required |

## 4.5 Input of RE evaluation (VO-02)

The system of imbalance clearing XMtrade®/ISZO allows operator of transmission system an automated interface (system-system) for input of details on regulating electricity for the purpose of imbalance clearing. Details on regulating electricity are inputted in XML format in accordance with the format of *Damas Energy* system.

### 4.5.1 Processing level

Details on regulating electricity are reported by operator of transmission system to clearing agent within the handover of details for the purpose of imbalance clearing.

#### **Daily imbalance settlement**

For the purpose of daily imbalance evaluation, operator of transmission system hands over to clearing agent preliminary details on regulating electricity for each clearing period of the preceding day on a daily basis by **9:00 am**.

Details on regulating electricity are handed over to clearing agent via XML document in the format following the specification of *Damas Energy* system in MW with the precision to three decimal places in valid Central European time or Central European Summer time. Operator of transmission system is informed on successful acceptance or rejection of details via Acknowledgement Report. In case of document rejection, system operator inputs modified document with a higher version.

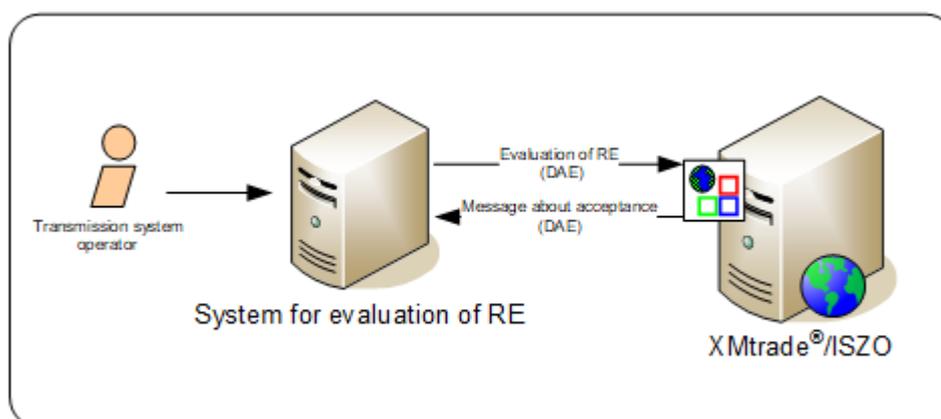
#### **Monthly imbalance settlement**

For the purpose of monthly imbalance evaluation, operator of transmission system hands over to clearing agent final details on regulating electricity for each clearing period of the preceding month **not later than by the 5<sup>th</sup> calendar day of the month**. Details take into account refined values from evaluation of regulating electricity.

Details on regulating electricity are handed over to clearing agent via *a higher version of final report* in the format according to the specification of *Damas Energy* system in MW with the precision to three decimal places in valid Central European time or Central European Summer time. System operator is informed on successful acceptance or rejection of details via Acknowledgement Report. In case of document rejection, system operator inputs modified document with a higher version.

### 4.5.2 Data flow

Details signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that informs the sender back on successful or failed reception of transmitted data via acknowledgement report. This method of communication can be used exclusively by operator of transmission system.



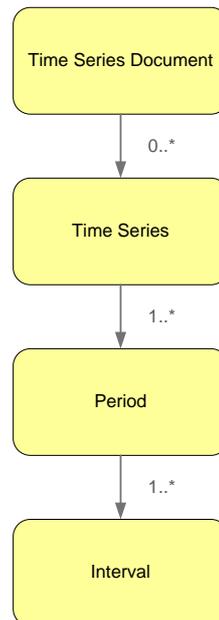
### 4.5.3 Data structures

Document in accordance with the specification of *Damas Energy* system is used for automated input of details on regulating electricity into the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities and balance areas.

#### **RE Document (VO-02-01)**

RE document, through which operator of transmission system inputs details on regulating electricity, consists of the following parts in accordance with agreed custom format:

- *Time Series Document* – contains general details that relate to the entire document.
- *Time Series* – contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Interval* – contains values of the respective time series.



#### *Time Series Document*

Document header contains values of particular elements according to the following table.

| Element                 | Value              | Description   | Use      |
|-------------------------|--------------------|---|----------|
| Document Identification | Identification     | <p>Document identification.</p> <p>Unique identification within communication for a given trading day.</p> <p>Recommended format:<br/>           EEEEEEEEEEEEEEEEEEE_YYYYMMDD_ID</p> <p>EEEEEEEEEEEEEEEEEEEE - EIC of sender<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           ID - identification of subdocument<br/>           (e.g. 10XSK-SEPS-GRIDB _20080319_01)</p> <p>Maximum 35 characters.</p> | Required |
| Document Version        | „1“, „2“, „3“, ... | Document version.   | Required |

| Element                 | Value  | Description  | Use      |
|-------------------------|--|--|----------|
|                         |  | Version number is incremented on each additional sending of document modification.<br>Maximum 3 characters.  |          |
| Document Type           | "ZDAE_SS_BENBEE\EVALUATION\DATAFLOW_BE_EVALUATION" | Identification of data flow.<br>Data flows are identified by the object code, including the incorporation into hierarchy.  | Required |
| Sender Identification   | „10XSK-SEPS-GRIDB“                                 | Identification of operator of transmission system.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role             | „A04“  | Document sender role.<br>Maximum 3 characters.   | Required |
| Receiver Identification | EIC OKTE   | Document receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Receiver Role           | „A05“  | Document receiver role.<br>Maximum 3 characters.   | Required |
| Document DateTime       | YYYY-MM-DDTHH:MM:SSZ                               | Date of document sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |

### Time Series

Time series header contains values of particular attributes according to the following table.

| Element                            | Value   | Description   | Use      |
|------------------------------------|---|---|----------|
| Senders Time Series Identification | Identification                                  | Time series identification, which also defines trading meaning of data.<br><i>Values are defined in the table at the end of this chapter.</i> | Required |
| Object Aggregation                 | "ZDAE_ATOMIC"                                   | Information whether the time series is of atomic or interval type.  | Required |
| Measurement Unit                   | v="MWh" type="ENERGY"<br>v="€" type="PRICE_EUR" | Unit, in which values in time series are inputted according to the meaning of trading data.   | Required |

| Element                     | Value  | Description   | Use      |
|-----------------------------|--|---|----------|
| Dimensions / Time Dimension | name="QUARTER_HOUR"<br>v=YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Definition of values of time and factual dimensions of time series. | Optional |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description  | Use      |
|---------------|---|--|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Resolution    | „PT15M”                                 | Resolution of time series.<br><br>Values are inputted in 15-minute resolution.   | Required |

### Interval

Time series contain records for each clearing period of the trading day. Record of time series contains values of particular attributes according to the following table.

| Element | Value                   | Description  | Use      |
|---------|-------------------------|--|----------|
| Pos     | „1“, „2“, „3“, ...      | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters.  | Required |
| Qty     | NNNNNN.NNN<br>or „null“ | Value of amount / price.<br>If the marginal price of positive or negative regulated electricity is not evaluated, in time series ZDAE_SS_BEN\BEE\EVALUATION\MARGINAL_PRICE_BE\MARGINAL_PRICE_POSITIVE a ZDAE_SS_BEN\BEE\EVALUATION\MARGINAL_PRICE_BE\MARGINAL_PRICE_NEGATIVE it is possible to enter value null.<br><br>Maximum 17 characters. | Required |

Overview of trading meaning of data is specified in the following table.

| Type  | Senders Time Series Identification                                  | MeasurementUnit        |
|---|---|------------------------|
| Marginal price of positive RE   | ZDAE_SS_BENBEE\EVALUATION\MARGINAL_PRICE_BE\MARGINAL_PRICE_POSITIVE | v="€" type="PRICE_EUR" |
| Marginal price of negative RE   | ZDAE_SS_BENBEE\EVALUATION\MARGINAL_PRICE_BE\MARGINAL_PRICE_NEGATIVE | v="€" type="PRICE_EUR" |
| Amount of positive RE from activation of ancillary services (in Slovak: podporné služby - PpS) for entity | ZDAE_SS_BENBEE\EVALUATION\ANS_ACTIVATION\PARTY_POWER_POSITIVE       | v="MWh" type="ENERGY"  |
| Costs of positive regulating electricity from activation of entity  | ZDAE_SS_BENBEE\EVALUATION\ANS_ACTIVATION\COSTS_PARTY_POSSITIVE      | v="€" type="PRICE_EUR" |
| Amount of negative RE from activation of ancillary services (in Slovak: podporné služby - PpS) for entity | ZDAE_SS_BENBEE\EVALUATION\ANS_ACTIVATION\PARTY_POWER_NEGATIVE       | v="MWh" type="ENERGY"  |
| Costs of negative regulating electricity from activation of entity  | ZDAE_SS_BENBEE\EVALUATION\ANS_ACTIVATION\COSTS_PARTY_NEGATIVE       | v="€" type="PRICE_EUR" |
| Amount of positive unguaranteed regulating electricity (SEPS)   | ZDAE\SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_POWER_POS_SEPS    | v="MWh" type="ENERGY"  |
| Costs of positive regulating electricity from auction (SEPS)  | \SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_COSTS_POS_SEPS        | v="€" type="PRICE_EUR" |
| Amount of negative unguaranteed regulating electricity (SEPS)   | ZDAE\SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_POWER_NEG_SEPS    | v="MWh" type="ENERGY"  |
| Costs of negative regulating electricity from auction (SEPS)  | \SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_COSTS_NEG_SEPS        | v="€" type="PRICE_EUR" |
| Amount of positive unguaranteed regulating electricity (other TSOs)                                       | ZDAE\SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_POWER_POS         | v="MWh" type="ENERGY"  |
| Costs of positive regulating electricity from auction (other TSOs)  | \SS_BENBEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_COSTS_POS             | v="€" type="PRICE_EUR" |

| Type  | Senders Time Series Identification                                  | MeasurementUnit        |
|---|---|------------------------|
| Amount of negative unguaranteed regulating electricity (other TSOs) | ZDAE\SS_BEN\BEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_POWER_NEG        | v="MWh" type="ENERGY"  |
| Costs of negative regulating electricity from auction (other TSOs)  | \SS_BEN\BEE\EVALUATION\EBE_AUCTION\EBE_AUCTION_COSTS_NEG            | v="€" type="PRICE_EUR" |
| Import amount of guaranteed RE                                      | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\G_BEN_IMPORT_AMOUNT            | v="MWh" type="ENERGY"  |
| Import costs of guaranteed RE                                       | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\G_BEN_IMPORT_COSTS             | v="€" type="PRICE_EUR" |
| Export amount of guaranteed RE                                      | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\G_BEN_EXPORT_AMOUNT            | v="MWh" type="ENERGY"  |
| Import amount of emergency supply                                   | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\EMERGENCY_SUPPLY_IMPORT_AMOUNT | v="MWh" type="ENERGY"  |
| Import costs of emergency supply                                    | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\EMERGENCY_SUPPLY_IMPORT_COSTS  | v="€" type="PRICE_EUR" |
| Export amount of emergency supply                                   | \SS_BEN\BEE\EVALUATION\ABROAD_ENERGY\EMERGENCY_SUPPLY_EXPORT_AMOUNT | v="MWh" type="ENERGY"  |
| GCC volume of positive RE   | ZDAE_SS_BEN\BEE\GCC\GCC_EVALUATION\INT_BE_POS_VOL                   | v="MWh" type="ENERGY"  |
| GCC costs on positive RE  | ZDAE_SS_BEN\BEE\GCC\GCC_EVALUATION\INT_BE_POS_COSTS                 | v="€" type="PRICE_EUR" |
| GCC volume of negative RE   | ZDAE_SS_BEN\BEE\GCC\GCC_EVALUATION\INT_BE_NEG_VOL                   | v="MWh" type="ENERGY"  |
| GCC costs on negative RE  | ZDAE_SS_BEN\BEE\GCC\GCC_EVALUATION\INT_BE_NEG_COSTS                 | v="€" type="PRICE_EUR" |
| Volume of positive RE that was delivered thought agregator          | ZDAE_SS_BEN\BEE\EVALUATION\AGGREGATION\AGGREG_POWER_POS             | v="MWh" type="ENERGY"  |
| Costs on positive RE that was delivered thought agregator           | ZDAE_SS_BEN\BEE\EVALUATION\AGGREGATION\AGGREG_COSTS_POS             | v="€" type="PRICE_EUR" |
| Volume of negative RE that was delivered thought agregator          | ZDAE_SS_BEN\BEE\EVALUATION\AGGREGATION\AGGREG_POWER_NEG             | v="MWh" type="ENERGY"  |

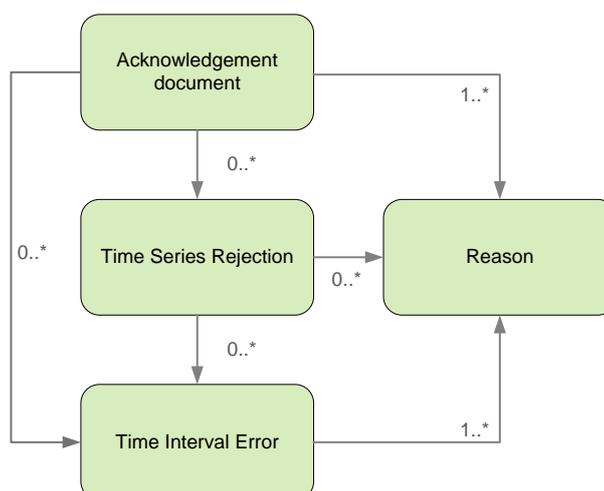
| Type  | Senders Time Series Identification                      | MeasurementUnit        |
|---|---|------------------------|
| Costs on negative RE that was delivered thought agregator | ZDAE_SS_BEN\BEE\EVALUATION\AGGREGATION\AGGREG_COSTS_NEG | v="€" type="PRICE_EUR" |

### Acknowledgement document (VO-02-02)

Acknowledgement document (ACK), through which clearing agent informs on acceptance or rejection of document, consists of the following parts in accordance with *EAD V5R0* standard:

- *Acknowledgement document* - contains details that relate to the entire document.
- *Time Series Rejection* - contains identification details of the respective time series.
- *Time Interval Error* - contains identification details of the respective value in time series.
- *Reason* - contains information on acceptance or rejection of the document.

Depending on a specific case, information on acceptance or rejection of document (*Reason*) relates either to the document as a whole (*Acknowledgement document*), to time series (*Time Series Rejection*), or to the respective value of time series (*Time Interval Error*). Use of particular document parts is dependent on a specific case.



### Acknowledgement document

Header of acknowledgement document contains values of particular attributes according to the following table.

| Element                 | Value                | Description   | Use      |
|-------------------------|----------------------|---|----------|
| Document Identification | Identification       | Document identification.<br>Maximum 35 characters.  | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ | Date of document sending.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute | Required |

| Element                           | Value  | Description   | Use      |
|-----------------------------------|--|---|----------|
|                                   |  | Date and time items are inserted into the document in UTC (Universal Time Coordinated).   |          |
| Sender Identification             | EIC OKTE   | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role                       | „A05”  | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                      | Required |
| Receiver Identification           | „10XSK-SEPS-GRIDB“                                 | Identification of transmission system operator.<br>Entity EIC is used.<br>Maximum 16 characters.                                    | Required |
| Receiver Role                     | „A04“  | Document receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                    | Required |
| Receiving Document Identification | Identification                                     | Identification of the original schedule message, which the acknowledgement document relates to.                                     | Required |
| Receiving Document Version        | “1”, “2”, “3”, ...                                 | Version of the original schedule message, which the acknowledgment document relates to.   | Optional |
| Receiving Document Type           | "ZDAE_SS_BENBEE\EVALUATION\DATAFLOW_BE_EVALUATION" | Type of the original message, which the acknowledgment document relates to.   | Optional |
| Receiving Payload Name            | file_name.xml                                      | File name of the original schedule message, which the acknowledgement document relates to.  | Optional |
| Date Time Receiving Document      | YYYY-MM-DDTHH:MM:SSZ                               | Reception date of the original schedule message in UTC (Universal Time Coordinated), which the acknowledgement document relates to. | Optional |

### Time Series Rejection

Time series identification in acknowledgement document contains values of particular attributes according to the following table.

| Element                            | Value          | Description  | Use      |
|------------------------------------|----------------|--|----------|
| Senders Time Series Identification | Identification | Time series identification within the original message, in which error was identified.<br>Maximum 35 characters. | Required |

| Element                     | Value              | Description  | Use      |
|-----------------------------|--------------------|--|----------|
| Senders Time Series Version | "1", "2", "3", ... | Time series version within the original message, in which error was identified.<br><br>Maximum 3 characters. | Required |

#### Time Interval Error

Identification of the specific value in time series of acknowledgement document contains values of particular attributes according the following table.

| Element                | Value                                   | Description   | Use      |
|------------------------|---|---|----------|
| Quantity Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Section of time series within the original message, in which error was identified.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |

#### Reason

Information on acceptance or rejection of the schedule message contains values of particular attributes according to the following table.

| Element     | Value | Description   | Use      |
|-------------|-------|---|----------|
| Reason Code | AXY   | Information on acceptance or rejection of the original message and reasons for its rejection.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br><u>At the message level:</u><br>A01 - Message fully accepted<br>A02 - Message fully rejected<br>A03 - Message contains errors at the time series level<br>A04 - Time interval incorrect<br>A05 – Sender without valid contract<br>A51 - Message identification or version conflict<br>A52 - Time series missing from new version of message<br>A53 - Receiving party incorrect<br>A57 - Deadline limit exceeded/Gate not open<br>A59 - Not compliant to local market rules<br>A78 - Sender identification and/or role invalid<br>A79 - Process type invalid<br>A94 - Document cannot be processed by receiving system<br><br><u>At the level of time series:</u><br>A20 - Time series fully rejected | Required |

| Element     | Value     | Description   | Use      |
|-------------|-----------|---|----------|
|             |           | A21 - Time series accepted with specific time interval errors<br>A22 – In party/Out party invalid<br>A23 - Area invalid<br>A41 - Resolution inconsistency<br>A50 - Senders time series version conflict<br>A55 - Time series identification conflict<br>A56 - Corresponding time series not netted<br>A57 - Deadline limit exceeded/Gate not open<br>A59 - Not compliant to local market rules<br>A62 - Invalid business type<br><br><u>At the period level:</u><br>A04 - Time interval incorrect<br><br><u>At the interval level:</u><br>A42 - Quantity inconsistency<br>A46 - Quantities must not be signed values<br>A49 - Position inconsistency<br>A59 - Not compliant to local market rules<br><br>999 - Errors not specifically identified |          |
| Reason Text | Open text | Additional text justification.  | Optional |

## ~~4.6 Submission of source data for analytical accounts (VO-03)~~

~~The system of imbalance clearing XMtrade®/ISZO allows system operators an automated interface (system-system) for submission of source data for analytical accounts. Source data are submitted in XML format in accordance with ENTSO-E Settlement Process (ESP) standard, version 1.1. Detailed specification of ESP standard is publicly available on ENTSO-E web pages <http://www.entsoe.eu/>.~~

### ~~4.6.1 Processing level~~

~~Operators of distribution systems and operator of transmission system submit expected daily source data and monthly source data for monitoring of analytical account to clearing agent.~~

#### ~~Expected daily source data~~

~~For the purpose of analytical accounts, operator of distribution system hands over to clearing agent source data for the following day on a daily basis by **10:00 am**:~~

- ~~• expected diagram of electricity production generated from renewable sources of energy in facilities for electricity production, which are connected to the system, in the classification according to points of transfer of electricity producers, for which operator of distribution system assumed responsibility for imbalance, and points of transfer of electricity producers, for which operator of distribution system did not assume responsibility for imbalance,~~
- ~~• expected diagram of electricity generated by highly effective combined production in facilities for electricity production, which are connected to the system, in the classification according to points of transfer of electricity producers, for which operator of distribution system assumed responsibility for imbalance, and points of transfer of electricity producers, for which operator of distribution system did not assume responsibility for imbalance,~~
- ~~• expected diagram of electricity losses in the distribution system,~~
- ~~• expected diagram of own electricity consumption of operator of distribution system over the course of system operation,~~
- ~~• expected diagrams of electricity consumption and electricity supply for points of delivery and transfer with specified measure without continuous recording of values in the classification according to balance groups.~~

Operator of transmission system hands over to clearing agent source data for the following day on a daily basis by 10:00 am:

- ~~expected diagram of electricity production generated from renewable sources of energy in facilities for electricity production connected to the transmission system;~~
- ~~expected diagram of electricity production generated by highly effective combined electricity production and heat in facilities for electricity production connected to the transmission system.~~

~~Details with source data are handed over to clearing agent via *preliminary report* in the format according to *ESP* standard in MW with the precision to three decimal places in 15-minute resolution in valid Central European time or Central European Summer time. System operator is informed on successful acceptance or rejection of details in accordance with *ESP* standard via Acknowledgement Report. In case of document rejection, system operator inputs modified document with a higher version. After the deadline for submission of source data at 10:00 am, it is not allowed to submit expected daily values for the following day to clearing agent.~~

### ***Monthly source data***

~~For the purpose of analytical accounts, operator of distribution system hands over to clearing agent source data for the elapsed month on a monthly basis **not later than by the 10<sup>th</sup> day** after the end of calendar month:~~

- ~~diagram of electricity production generated from renewable sources of energy in facilities for electricity production, which are connected to the system, in the classification according to points of transfer of electricity producers, for which operator of distribution system assumed responsibility for imbalance, and points of transfer of electricity producers, for which operator of distribution system did not assume responsibility for imbalance;~~
- ~~diagram of electricity generated by highly effective combined production of electricity and heat in facilities for electricity production, which are connected to the system, in the classification according to points of transfer of electricity producers, for which operator of distribution system assumed responsibility for imbalance, and points of transfer of electricity producers, for which operator of distribution system did not assume responsibility for imbalance;~~
- ~~diagram of electricity losses in the distribution system used for preparation of data relating to monthly imbalance clearing;~~
- ~~diagram of own electricity consumption of operator of distribution system over the course of system operation.~~

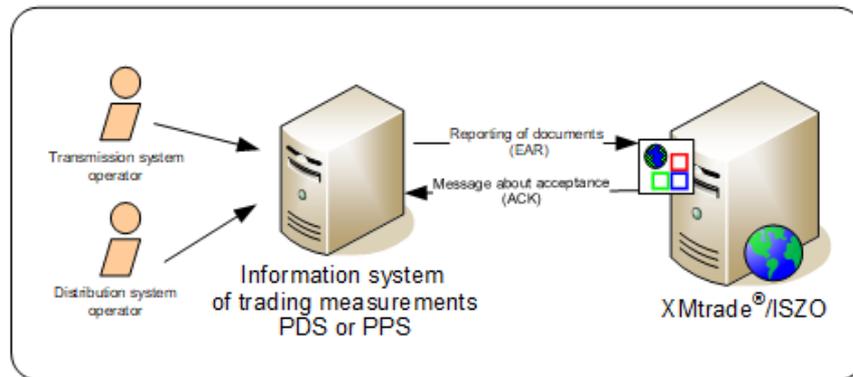
~~Operator of transmission system hands over to organizer of short term electricity market source data for the elapsed month not later than by the 10<sup>th</sup> day after the end of calendar month:~~

- ~~diagram of electricity production generated from renewable sources of energy in facilities for electricity production connected to the transmission system and~~
- ~~diagram of electricity production generated by highly effective combined production in facilities for electricity production connected to the transmission system.~~

~~Details with source data are handed over to clearing agent on the basis of details from specified measures, values from type diagrams of consumption and values reported by electricity market participants via *preliminary report* in the format according to *ESP* standard in MW with the precision to three decimal places in valid Central European time or Central European Summer time. System operator is informed on successful acceptance or rejection of details in accordance with *ESP* standard via Acknowledgement Report. In case of document rejection, system operator inputs modified document with a higher version. After the deadline for submission of source data, which is at 12:00 am on the 10<sup>th</sup> day after the end of month, it is not allowed to submit expected daily values for the preceding month to clearing agent.~~

### **4.6.2 Data flow**

~~Details signed by qualified certificate are transmitted via web service directly to the system of imbalance clearing that informs the sender back on successful or failed reception of transmitted data via acknowledgement report in accordance with *ENTSO-E EAD V5R0* standard. This method of communication can be used exclusively by operator of transmission system or operator of distribution system.~~



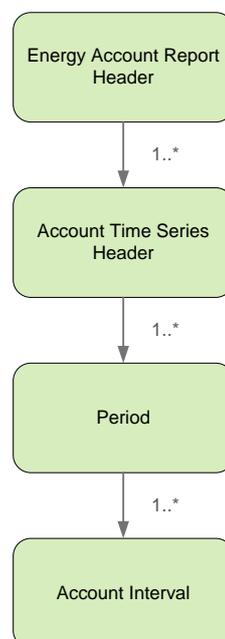
### 4.6.3 Data structures

Message in accordance with *ESP V1R1* standard is used for automated submission of source data for analytical accounts into the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities and balance areas. Message utilizes *ENTSO-E General Code List For Data Interchange* code list that is publicly available on <http://www.entsoe.eu/> web pages. Date and time items are inserted into the message in UTC (Universal Time Coordinated).

#### Report on source data submission (Energy Account Report) (VO-03-01)

Report on source data submission (EAR, Energy Account Report), through which operator of transmission system and operators of distribution systems submit daily expected source data and monthly source data, consists of the following parts in accordance with *ESP V1R1* standard:

- *Energy Account Report Header* — contains general details that relate to the entire report.
- *Account Time Series Header* — contains details that relate to the respective time series.
- *Period* — contains details that relate to the period of the respective time series.
- *Account Interval* — contains values of the respective time series.



All relating source data are allowed to be submitted via a single EAR report or submission can be divided into multiple separate reports according to the value of *Business Type* element in *Account Time Series Header* section.

**Energy Account Report Header**

Report header contains values of particular elements according to the following table.

| Element                 | Value              | Description  | Use      |
|-------------------------|--------------------|--|----------|
| Document Identification | Identification     | <p>Document identification.</p> <p>Unique identification within communication for a given trading day.</p> <p>Recommended format:<br/>           EEEEEEEEEEEEEEEEE_YYYYMMDD_ID<br/>           EEEEEEEEEEEEEEEEE - EIC of sender<br/>           YYYY - year<br/>           MM - month<br/>           DD - day<br/>           ID - Identification of subdocument<br/>           (e.g. 24X-VSD-----P_20080319_01)</p> <p>Maximum 35 characters.</p> | Required |
| Document Version        | „1“, „2“, „3“, ... | <p>Document version.</p> <p>Version numbering occurs separately for daily source data and separately for monthly source data starting from version 1. Version number is incremented on each additional sending of document modification.</p> <p>Maximum 3 characters.</p>  | Required |
| Document Type           | „A09“ / „A11“      | <p>Document type.</p> <p>A09 - Finalized schedule for expected daily source data</p> <p>A11 - Aggregated energy data report for monthly source data</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Document Status         | „A01“              | <p>Status of details in the document.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Process Type            | „A04“ / „A05“      | <p>Type of process, which the document relates to.</p> <p>A04 - System operation closure for expected daily source data</p> <p>A05 - Measured data aggregation for monthly source data</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
| Classification Type     | "A02"                                   | Communication classification.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Sender Identification   | EIC of system operator                  | Identification of operator of transmission or distribution system.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role             | "A09"                                   | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Receiver Identification | EIC-OKTE                                | Document receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Receiver Role           | "A05"                                   | Document receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ                    | Date of document sending.<br>Date and time format:<br>YYYY – year<br>MM – month<br>DD – day<br>HH – hour<br>MM – minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated).   | Required |
| Accounting Period       | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Document time interval is required to be submitted with the correct HH value for Central European Summer time, Central European Winter time and for transient days.<br>Maximum allowed interval for a single report on metering is 31 trading days.<br>Date and time format:<br>YYYY – year<br>MM – month<br>DD – day<br>HH – hour<br>MM – minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |

| Element | Value              | Description  | Use      |
|---------|--------------------|--|----------|
| Domain  | „10YSK-SEPS-----K“ | Identification of balance area, to which data are relating.<br>Entity EIC is used.<br>Maximum 16 characters. | Optional |

### Account Time Series Header

Time series header contains values of particular attributes according to the following table.

| Element                            | Value   | Description   | Use      |
|------------------------------------|---|---|----------|
| Senders Time Series Identification | Identification  | Time series identification.<br>Unique identification within the schedule message.<br>Maximum 35 characters.   | Required |
| Business Type                      | „Z01“ / „Z02“ / „Z03“ / „Z04“ / „Z05“ / „Z06“ / „Z07“ | Identification of energy data type.<br>Z01 — production from renewable sources of energy (in Slovak: obnoviteľné zdroje energie – OZE) — own balance group (in Slovak: bilančná skupina – BS),<br>Z02 — production from OZE — other BS,<br>Z03 — production from highly effective combined production of electricity and heat (in Slovak: vysoko účinná kombinovaná výroba elektriny a tepla – VUKVET) — own BS,<br>Z04 — production from VUKVET — other BS,<br>Z05 — losses in the system,<br>Z06 — own consumption of system operator,<br>Z07 — consumption and supply of electricity on points of delivery and transfer (in Slovak: odberné a odovzdávacie miesta – OOM) with specified measure without continuous recording of values.<br>Maximum 3 characters. | Required |
| Product                            | “8716867000016”                                       | It identifies product type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 13 numeric characters.   | Required |
| Object Aggregation                 | „A01“   | Object aggregation.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |

| Element                  | Value                | Description  | Use      |
|--------------------------|----------------------|--|----------|
| Area                     | EIC of balance group | <p>Balance group, for which data in time series are provided.</p> <p>Value of 24Y-F-OZE-INBS-6 is used for BusinessType-Z01.<br/>Value of 24Y-F-OZE-EXBS-H is used for BusinessType-Z02.<br/>Value of 24Y-F-KVE-INBS-8 is used for BusinessType-Z03.<br/>Value of 24Y-F-KVE-EXBS-J is used for BusinessType-Z04.<br/>Value of 24Y-F-STRATY-1-W is used for BusinessType-Z05.<br/>Value of 24Y-F-VL-SP-12-R is used for BusinessType-Z06.<br/>EIC code of respective balance group of subject of settlement is used for BusinessType-Z06.</p> <p>Maximum 16 characters.</p> | Required |
| Party                    | Entity EIC           | <p>Identification of subject of settlement, which assumed responsibility for imbalance on behalf of the balance group, is used for time series with Z07 value of <i>BusinessType</i> attribute.</p> <p>Identification of system operator that submits source data is used for time series with values ranging from Z01 to Z06 of <i>BusinessType</i> attribute.</p> <p>Maximum 16 characters.</p>  | Required |
| Agreement Identification | -                    | <p>Identification of agreement on capacity assignment.</p> <p>Maximum 35 characters.</p>   | Optional |
| Measurement Unit         | "MAW"                | <p>Unit, in which values in time series are inputted (MW).</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Currency                 | -                    | <p>Currency.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Optional |
| Accounting Point         | -                    | <p>Accounting Point.</p> <p>Accounting point EIC is used.</p> <p>Maximum 16 characters.</p>  | Optional |

**Period**

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description   | Use      |
|---------------|---|---|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval specified within the document header in <i>Accounting-Period</i> attribute.<br><br>Maximum allowed interval for a single report on metering is 31 trading days.<br><br>Date and time format:<br>YYYY – year<br>MM – month<br>DD – day<br>HH – hour<br>MM – minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Resolution    | „PT15M”                                 | Resolution of time series.<br>Values are inputted in 15-minute resolution.  | Required |

**Account Interval**

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

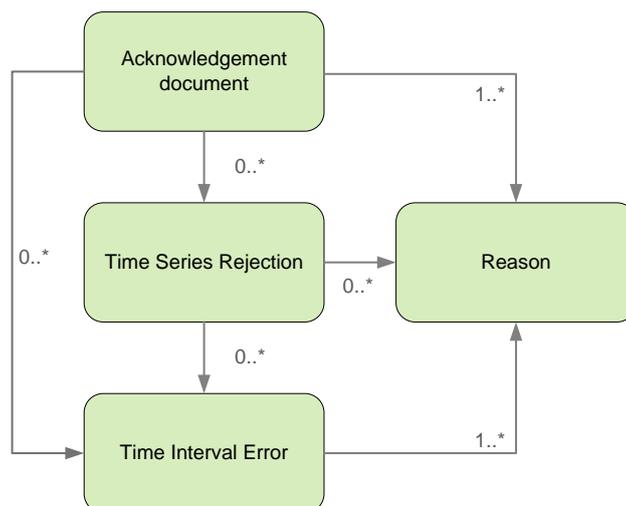
| Element           | Value              | Description  | Use      |
|-------------------|--------------------|--|----------|
| Pos               | „1”, „2”, „3”, ... | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters.                                      | Required |
| In Qty            | NNNNNN.NNN         | Value of consumption amount in MW with the precision to 3 decimal places for time series with the value of Z05, Z06, and Z07 of <i>BusinessType</i> attribute. It always contains a positive number.<br><br>Maximum 17 characters.   | Required |
| Out Qty           | NNNNNN.NNN         | Value of delivery or production amount in MW with the precision to 3 decimal places for time series with the value of Z01, Z02, Z03, Z04, Z05 in case of submission of negative losses and Z07 of <i>BusinessType</i> attribute. It always contains a positive number.<br><br>Maximum 17 characters. | Required |
| Settlement Amount | -                  | Settlement price.<br><br>Maximum 17 characters.  | Optional |

### Acknowledgement document (VO-03-02)

Acknowledgement document (ACK), through which clearing agent informs on acceptance or rejection of submitted report, consists of the following parts in accordance with EAD V5R0 standard:

- *Acknowledgement document* – contains details that relate to the entire document.
- *Time Series Rejection* – contains identification details of the respective time series.
- *Time Interval Error* – contains identification details of the respective value in time series.
- *Reason* – contains information on acceptance or rejection of the report.

Depending on a specific case, information on acceptance or rejection of submitted report (*Reason*) relates either to the document as a whole (*Acknowledgement document*), to time series (*Time Series Rejection*), or to respective value of time series (*Time Interval Error*). Use of particular document parts is dependent on a specific case.



### Acknowledgement document

Header of acknowledgement document contains values of particular attributes according to the following table.

| Element                 | Value                | Description  | Use      |
|-------------------------|----------------------|--|----------|
| Document Identification | Identification       | Document identification.<br>Maximum 35 characters.   | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ | Date of document sending.<br>Date and time format:<br>YYYY – year<br>MM – month<br>DD – day<br>HH – hour<br>MM – minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Sender Identification   | EIC-OKTE             | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Sender Role             | „A05”                | Document sender role.  | Required |

| Element                           | Value                  | Description   | Use      |
|-----------------------------------|------------------------|---|----------|
|                                   |                        | According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   |          |
| Receiver Identification           | EIC of system operator | Identification of operator of transmission or distribution system.<br>Entity EIC is used.<br>Maximum 16 characters.                 | Required |
| Receiver Role                     | „A09“                  | Document receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                    | Required |
| Receiving Document Identification | Identification         | Identification of the original message, which the acknowledgement document relates to.  | Required |
| Receiving Document Version        | “1”, “2”, “3”, ...     | Version of the original schedule message, which the acknowledgment document relates to.   | Optional |
| Receiving Document Type           | „A09“ / „A11“          | Type of the original message, which the acknowledgment document relates to.   | Optional |
| Receiving Payload Name            | file_name.xml          | File name of the original schedule message, which the acknowledgment document relates to.   | Optional |
| Date-Time Receiving Document      | YYYY-MM-DDTHH:MM:SSZ   | Reception date of the original schedule message in UTC (Universal Time Coordinated), which the acknowledgement document relates to. | Optional |

### *Time Series Rejection*

Time series identification in the acknowledgement document contains values of particular attributes according to the following table.

| Element                            | Value              | Description  | Use      |
|------------------------------------|--------------------|--|----------|
| Senders Time Series Identification | Identification     | Time series identification within the original message, in which error was identified.<br>Maximum 35 characters. | Required |
| Senders Time Series Version        | “1”, “2”, “3”, ... | Time series version within the original schedule message, in which error was identified<br>Maximum 3 characters. | Required |

*Time Interval Error*

Identification of specific value in time series of the acknowledgement document contains values of particular attributes according the following table.

| Element                | Value                                   | Description  | Use      |
|------------------------|---|--|----------|
| Quantity Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | <p>Section of time series within the original message, in which error was identified.</p> <p>Date and time format:<br/>           YYYY – year<br/>           MM – month<br/>           DD – day<br/>           HH – hour<br/>           MM – minute</p> <p>Date and time items are inserted into the document in UTC (Universal Time Coordinated).</p> | Required |

*Reason*

Information on acceptance or rejection of the schedule message contains values of particular attributes according to the following table.

| Element     | Value | Description  | Use      |
|-------------|-------|--|----------|
| Reason Code | AXY   | <p>Information on acceptance or rejection of the original message and reasons for its rejection.</p> <p>According to ENTSO-E General Code List For Data Interchange:</p> <p><u>At the message level:</u><br/>           A01 – Message fully accepted<br/>           A02 – Message fully rejected<br/>           A03 – Message contains errors at the time series level<br/>           A04 – Time interval incorrect<br/>           A05 – Sender without valid contract<br/>           A51 – Message identification or version conflict<br/>           A52 – Time series missing from new version of message<br/>           A53 – Receiving party incorrect<br/>           A57 – Deadline limit exceeded/Gate not open<br/>           A59 – Not compliant to local market rules<br/>           A78 – Sender identification and/or role invalid<br/>           A79 – Process type invalid<br/>           A94 – Document cannot be processed by receiving system</p> <p><u>At the level of time series:</u><br/>           A20 – Time series fully rejected<br/>           A22 – In party/Out party invalid<br/>           A23 – Area invalid<br/>           A41 – Resolution inconsistency<br/>           A50 – Senders time series version conflict<br/>           A55 – Time series identification conflict<br/>           A57 – Deadline limit exceeded/Gate not open<br/>           A59 – Not compliant to local market rules<br/>           A62 – Invalid business type</p> | Required |

| Element     | Value     | Description  | Use      |
|-------------|-----------|--|----------|
|             |           | <p><u>At the period level:</u><br/>A04 – Time interval incorrect</p> <p><u>At the interval level:</u><br/>A42 – Quantity inconsistency<br/>A46 – Quantities must not be signed values<br/>A49 – Position inconsistency<br/>A59 – Not compliant to local market rules</p> <p>999 – Errors not specifically identified</p> |          |
| Reason-Text | Open-text | Additional text justification.   | Optional |

#### 4.74.6 Retrieval of status information (SR-01)

The system of imbalance clearing XMtrade®/ISZO allows electricity market participants an automated interface (system-system) for retrieval of status information in processes requiring longer processing time. Request for status retrieval are inputted in XML format in accordance with *ENTSO-E Status Request (ESR) V1R1* standard. Detailed specification of *ESR* standard is publicly available on ENTSO-E web pages <http://www.entsoe.eu/>.

##### 4.7.14.6.1 Data flow

Details signed by qualified certificate are transmitted via secured web service directly to the system of imbalance clearing that informs the sender back on status of requested process or failed reception of transmitted data. This method of communication can be used by all subjects of settlement, suppliers of regulated electricity or trading platforms, respectively.

##### 4.7.24.6.2 Data structures

Request for retrieval of status in accordance with *ESR V1R1* standard is used for submission of request for retrieval of process status to the imbalance clearing information system XMtrade®/ISZO. *EIC* standard is used for identification of entities. Request for retrieval of status utilizes ENTSO-E *General Code List For Data Interchange* code list that is publicly available on <http://www.entsoe.eu/> <http://www.ets-net.org/> web pages. Date and time items are inserted into the document in UTC (Universal Time Coordinated). The system of imbalance clearing XMtrade®/ISZO responds to the request for retrieval of status via message that corresponds to respective process. System responds in accordance with *ENTSO-E EAD V5R0* standard via acknowledgement document ACK for processes of diagram registration (A01,A02). During the process of day-ahead diagram registration (A01,A02), the system makes available also information on discrepancy of diagrams via Anomaly Report AR and on total acceptance of day-ahead diagrams via Confirmation Report CR, both reports follow *ENTSO-E ESS V3R1* standard. For the process of imbalance and regulating electricity clearing (A06), the system responds by report on imbalance clearing (Energy account report EAR), or report on clearing of regulating electricity (Energy account report EAR), both follow *ENTSO-E ESP V1R1* standard.

#### Request for retrieval of status (SR-01-01)

| Element                | Value   | Description   | Use      |
|------------------------|---|---|----------|
| Message Identification | Identification  | Unique message identification.<br>Maximum 35 characters.                                  | Required |
| Message Type           | „A07“ / „A08“ / „A10“ / „A12“ / „A16“ / „A17“ / „A18“ / „Z01“ | Type of message, which status is being requested.<br>A07 – continuous confirmation report | Required |

| Element                 | Value                         | Description   | Use      |
|-------------------------|-------------------------------|---|----------|
|                         |                               | <p>A08 – final confirmation report<br/> A10 – report on clearing of regulating electricity<br/> A12 – report on imbalance clearing<br/> A16 – anomaly report<br/> A17 – acknowledgement report<br/> A18 – confirmation report<br/> Z01 – report on clearing of differences</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p> |          |
| Process Type            | „A01“ / „A02“ / „A06“ / „Z01“ | <p>Type of process, to which the message is relating.</p> <p>A01 - day-ahead registration of diagrams<br/> A02 - intraday registration of diagrams<br/> A06 - imbalance and regulating electricity clearing<br/> Z01 – clearing of differences</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>                             | Required |
| Sender Identification   | EIC of sender                 | <p>Message sender identification.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>  | Required |
| Sender Role             | „A01“ / „A08“ / „A28“         | <p>Message sender role.</p> <p>A01 – market participant<br/> A08 – subject of settlement<br/> A28 – trading platform</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>   | Required |
| Receiver Identification | EIC OKTE                      | <p>Message receiver identification.</p> <p>Entity EIC is used.</p> <p>Maximum 16 characters.</p>  | Required |
| Receiver Role           | „A05“                         | <p>Message receiver role.</p> <p>According to ENTSO-E General Code List For Data Interchange.</p> <p>Maximum 3 characters.</p>  | Required |
| Message Date Time       | YYYY-MM-DDTHH:MM:SSZ          | <p>Date of message sending.</p> <p>Date and time format:<br/> YYYY - year<br/> MM - month</p>   | Required |

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
|                         |   | DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).   |          |
| Requested Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time interval.<br><br>Maximum allowed interval for a single message of the following types:<br>A10 - 1 calendar month<br>A12 - 1 calendar month<br>A17 - 1 trading day<br>Z01 - 1 calendar month<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |

### **Acknowledgement report (SR-01-02)**

Response to the request for retrieval of status is represented by acknowledgement report (ACK, type = A17) in accordance with *ENTSO-E EAD V5R0* standard created within specific requested process. The system of imbalance clearing XMtrade®/ISZO shall return corresponding [RD-01-02](#), [RD-02-02](#), [RD-03-02](#) responses in case that the schedule message was inputted via a web service.

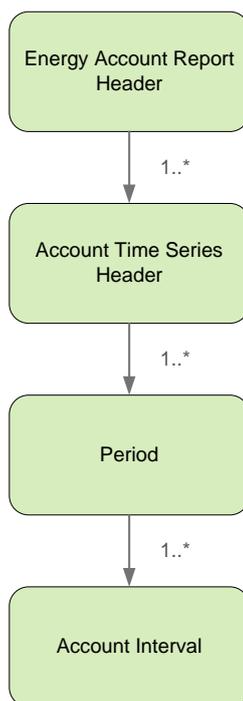
### **Report on imbalance clearing (Energy Account Report) (SR-01-03)**

Response to the request for retrieval of current status of imbalance clearing is represented by report on imbalance clearing (EAR, Energy Account Report, type = A12) in accordance with *ENTSO-E ESP V1R1* standard. The system of imbalance clearing XMtrade®/ISZO always returns current values from last performed imbalance clearing.

Within a single data flow, the system returns total details on imbalance in the system and details on imbalance of respective subject of settlement in two separate structures.

Report on imbalance clearing (EAR, Energy Account Report), through which subjects of settlement retrieve details from imbalance clearing, consists of the following parts in accordance with *ESP V1R1* standard:

- *Energy Account Report Header* - contains general details that relate to the entire report.
- *Account Time Series Header* – contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Account Interval* – contains values of the respective time series.



### Energy Account Report Header

Report header contains values of particular elements according to the following table.

| Element                 | Value          | Description   | Use      |
|-------------------------|----------------|---|----------|
| Document Identification | Identification | Document Identification.<br>Maximum 35 characters.  | Required |
| Document Version        | „1“            | Version of response to the request.<br>Maximum 3 characters.  | Required |
| Document Type           | „A12“          | Document type.<br>A12 – report on imbalance clearing (energy account report)<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Document Status         | „A01“ / „A02“  | Status of details in the document.<br>A01 – continuous report for daily, decadal and monthly imbalance clearing<br>A02 – final report for imbalance clearing<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Process Type            | „A06“          | Type of process, to which the document is relating.   | Required |

| Element                 | Value                        | Description  | Use      |
|-------------------------|------------------------------|--|----------|
|                         |                              | A06 – clearing of imbalances and regulating electricity<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.   |          |
| Classification Type     | „A01“ / „A02“                | Communication classification.<br><br>A01 – detailed data at the level of subject of settlement<br><br>A02 – summary data at the level of balance area<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.   | Required |
| Sender Identification   | EIC OKTE                     | Document sender identification.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.   | Required |
| Sender Role             | „A05“                        | Document sender role.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.   | Required |
| Receiver Identification | EIC of subject of settlement | Document receiver identification.<br><br>Entity EIC is used, specified in <i>Sender Identification</i> attribute of the request for retrieval of status.<br><br>Maximum 16 characters.   | Required |
| Receiver Role           | „A01“ / „A08“ / „A28“        | Document receiver role, specified in <i>Sender Role</i> attribute of the request for retrieval of status.<br><br>A01 – market participant<br>A08 – subject of settlement<br>A028 – trading platform<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters. | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ         | Date of document sending.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute  | Required |

| Element           | Value                                   | Description  | Use      |
|-------------------|---|--|----------|
|                   |   | Date and time items are inserted into the document in UTC (Universal Time Coordinated).  |          |
| Accounting Period | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Document time interval, specified in <i>Requested Time Interval</i> attribute of the request for retrieval of status.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Domain            | „10YSK-SEPS-----K“                      | Identification of balance area, to which data are relating.<br>Entity EIC is used.<br>Maximum 16 characters.   | Optional |

## Account Time Series Header

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value                  | Description  | Use      |
|------------------------------------|------------------------|--|----------|
| Senders Time Series Identification | Identification         | Time series identification.<br>Unique identification within the schedule message.<br>Maximum 35 characters.  | Required |
| Business Type                      | from „Z01“ up to „Z29“ | Identification of energy data type.<br>Z01 – imbalance<br>Z02 – positive / negative imbalance<br>Z03 – costs for acquisition of regulating electricity<br>Z04 – total additional costs (till 31.12.2011)<br>Z05 – contractual amount<br>Z06 – balance of consumption and supply<br>Z08 – measured amount<br>Z11 – payment for positive additional costs (till 31.12.2011)<br>Z12 – clearing price for imbalance<br>Z13 – share on positive additional costs (till 31.12.2011)<br>Z17 – total regulating electricity<br>Z18 – payment of subject of settlement for imbalance<br>Z19 – payment of OKTE for imbalance<br>Z20 – continuous meterings (as of 1.4.2013)<br>Z21 – non-continuous meterings (as of 1.4.2013)<br>Z22 – balance of revenues from imbalance clearing and costs for securing of RE (as of 1.4.2013)<br>Z23 – total losses for systems balanced from below (as of 1.1.2014)<br>Z24 – continuous aggregates for systems balanced from above (as of 1.1.2014)<br>Z25 – combined aggregates for systems balanced from above (as of 1.1.2014)<br>Z26 – non-continuous aggregates for system balanced from above (as of 1.1.2014)<br>Z27 – clearing price of PNRE (as of 1.1.2014)<br>Z28 – ratio of non-continuous meterings (as of 1.1.2014)<br>Z29 – price for share on RE costs (as of 01.05.2014) | Required |
| Product                            | “8716867000016”        | It identifies product type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 13 numeric characters.  | Required |

| Element                  | Value                        | Description   | Use      |
|--------------------------|------------------------------|---|----------|
| Object Aggregation       | "A01" / "A03"                | Object aggregation.<br>A01 – details at the level of balance area<br>A03 – details at the level of subject of settlement<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Area                     | „10YSK-SEPS-----K“           | Balance area.<br>EIC of balance group is used.<br>Maximum 16 characters.  | Required |
| Party                    | EIC of subject of settlement | Identification of subject of settlement for details that relate to the subject.<br>Attribute is not specified for details that relate to the system.<br>Entity EIC is used.<br>Maximum 16 characters.             | Optional |
| Agreement Identification | -                            | Identification of agreement on capacity assignment.<br>Maximum 35 characters.   | Optional |
| Measurement Unit         | "MWH"                        | Unit, in which values in time series are inputted (MWh).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Currency                 | "EUR"                        | Currency, in which values in time series are inputted (EUR).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Optional |
| Accounting Point         | -                            | Accounting Point.<br>Accounting point EIC is used.<br>Maximum 16 characters.  | Optional |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description                                    | Use      |
|---------------|---|--|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br>Date and time format: | Required |

| Element    | Value   | Description  | Use      |
|------------|---------|--|----------|
|            |         | YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). |          |
| Resolution | „PT15M” | Resolution of time series.<br><br>Values are inputted in 15-minute resolution.   | Required |

### Account Interval

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

| Element | Value              | Description  | Use      |
|---------|--------------------|--|----------|
| Pos     | „1“, „2“, „3“, ... | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters.  | Required |
| In Qty  | NNNNNN.NN<br>N     | Value of amount in MWh with the precision to 3 decimal places representing consumption / shortage of electricity.<br><br>For time interval of the report till December 31, 2018 volume of positive imbalance is indicated in time period with attribute BusinessType Z01 and Z02. For time interval of the report till January 1, 2019 volume of negative imbalance is indicated according to the Regulation EBGL.<br><br>It always contains a positive value.<br><br>Maximum 17 characters. | Required |
| Out Qty | NNNNNN.NN<br>N     | Value of amount in MWh with the precision to 3 decimal places representing supply / surplus of electricity.<br><br>For time interval of the report till December 31, 2018 volume of negative imbalance is indicated in time period with attribute BusinessType Z01 and Z02. For time interval of the report till January 1, 2019 volume of positive imbalance is indicated according to the Regulation EBGL.<br><br>It always contains a positive value.<br><br>Maximum 17 characters.       | Required |

| Element           | Value           | Description   | Use      |
|-------------------|-----------------|---|----------|
| Settlement Amount | NNNNNN.NN<br>NN | <p>Unit price in EUR/MWh or costs/payment in EUR with the precision to 4 decimal places.</p> <p>For the time interval of the report until December 31, 2018, a positive value in time interval with value of the BusinessType attribute Z01, Z18, Z19 and Z21 represents the liability of subject of imbalance, while the negative value represents the liability of imbalance settler. For the time interval of the report from January 1, 2019 in accordance with Regulation EBGL, the positive value represents the liability of imbalance settler, while the negative value represents the liability of subject of imbalance.</p> <p>For time interval of the report from January 1, 2019 price sign is rotated in time interval with value of attribute BusinessType Z27 and Z29 in accordance with Regulation EBGL.</p> <p>In time interval with attribute value BusinessType Z03, Z12, Z22 and Z28 sign of value in element SettlementAmount doesn't change.</p> <p>Maximum 17 characters.</p> | Optional |

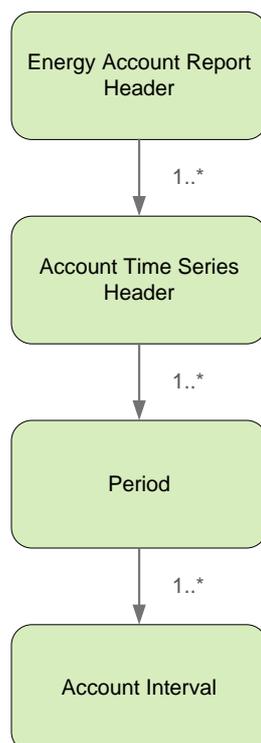
### **Report on clearing of regulating electricity (Energy Account Report) (SR-01-04)**

Response to the request for retrieval of current status of regulating electricity clearing is represented by report on clearing of regulating electricity (EAR, Energy Account Report, type = A10) in accordance with *ENTSO-E ESP V1R1* standard. The system of imbalance clearing XMtrade®/ISZO always returns current values from last performed clearing of regulating electricity.

Within a single data flow, the system returns total details on acquired regulating electricity for the entire system and details on supplied regulating electricity of respective RE supplier in two separate structures.

Report on clearing of regulating electricity (EAR, Energy Account Report), through which entities retrieve details on clearing of regulating electricity, consists of the following parts in accordance with *ESP V1R1* standard:

- *Energy Account Report Header* - contains general details that relate to the entire report.
- *Account Time Series Header* - contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Account Interval* – contains values of the respective time series.



### Energy Account Report Header

Report header contains values of particular elements according to the following table.

| Element                 | Value          | Description   | Use      |
|-------------------------|----------------|---|----------|
| Document Identification | Identification | Document identification.<br>Maximum 35 characters.  | Required |
| Document Version        | „1“            | Version of response to the request.<br>Maximum 3 characters.  | Required |
| Document Type           | „A10“          | Document type.<br>A10 – report on clearing of regulating electricity<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Document Status         | „A01“ / „A02“  | Status of details in the document.<br>A01 - continuous report for daily, decadal and monthly clearing of regulating electricity<br>A02 - final report for final clearing of regulating electricity<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |

| Element                 | Value                        | Description   | Use      |
|-------------------------|------------------------------|---|----------|
| Process Type            | „A06“                        | Type of process, to which the document is relating.<br>A06 – clearing of imbalances and regulating electricity<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Classification Type     | „A01“ / „A02“                | Communication classification.<br>A01 – detailed data at the level of subject of settlement<br>A02 – summary data at the level of balance area<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Sender Identification   | EIC OKTE                     | Document sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role             | „A05“                        | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Receiver Identification | EIC of subject of settlement | Document receiver identification.<br>Entity EIC is used, specified in <i>Sender Identification</i> attribute of the request for retrieval of status.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A01“ / „A08“ / „A28“        | Document receiver role, specified in <i>Sender Role</i> attribute of the request for retrieval of status.<br>A01 – market participant<br>A08 – subject of settlement<br>A28 – trading platform<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ         | Date of document sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour  | Required |

| Element           | Value                                   | Description  | Use      |
|-------------------|---|--|----------|
|                   |   | MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated).   |          |
| Accounting Period | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Document time interval, specified in <i>Requested Time Interval</i> attribute of the request for retrieval of status.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Domain            | „10YSK-SEPS-----K“                      | Identification of balance area, to which data are relating.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.   | Optional |

#### Account Time Series Header

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value                  | Description   | Use      |
|------------------------------------|------------------------|---|----------|
| Senders Time Series Identification | Identification         | Time series identification.<br><br>Unique identification within the schedule message.<br><br>Maximum 35 characters.   | Required |
| Business Type                      | from „Z03“ up to „Z17“ | Identification of energy data type.<br><br>Z03 – positive / negative regulating electricity<br>Z07 – payment for negative additional costs (till 31.12.2011)<br>Z09 – payment for supply of negative RE<br>Z10 – share on negative additional costs (till 31.12.2011)<br>Z14 – payment for supply of positive RE<br>Z15 –marginal price of positive RE<br>Z16 –marginal price for negative RE<br>Z17 – total regulating electricity | Required |
| Product                            | “8716867000016”        | It identifies product type.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 13 numeric characters.   | Required |

| Element                  | Value                        | Description   | Use      |
|--------------------------|------------------------------|---|----------|
| Object Aggregation       | "A01" / "A03"                | Object aggregation.<br>A01 – details at the level of balance area<br>A03 – details at the level of subject of settlement<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Area                     | „10YSK-SEPS-----K“           | Balance area.<br>EIC of balance group is used.<br>Maximum 16 characters.  | Required |
| Party                    | EIC of subject of settlement | Identification of subject of settlement for details that relate to the subject.<br>Attribute is not specified for details that relate to the system.<br>Entity EIC is used.<br>Maximum 16 characters.             | Optional |
| Agreement Identification | -                            | Identification of agreement on capacity assignment.<br>Maximum 35 characters.   | Optional |
| Measurement Unit         | "MWH"                        | Unit, in which values in time series are inputted (MWh).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Currency                 | "EUR"                        | Currency, in which values in time series are inputted (EUR).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Optional |
| Accounting Point         | -                            | Accounting Point.<br>Accounting point EIC is used.<br>Maximum 16 characters.  | Optional |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description                                    | Use      |
|---------------|---|--|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval.<br>Date and time format: | Required |

| Element    | Value   | Description  | Use      |
|------------|---------|--|----------|
|            |         | YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). |          |
| Resolution | „PT15M” | Resolution of time series.<br><br>Values are inputted in 15-minute resolution.   | Required |

### Account Interval

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

| Element           | Value              | Description   | Use      |
|-------------------|--------------------|---|----------|
| Pos               | „1“, „2“, „3“, ... | Position of the value in time series.<br><br>Time series contain 96 values.<br><br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters. | Required |
| In Qty            | NNNNNN.NNN         | Value of amount in MWh with the precision to 3 decimal places. It always contains a positive value.<br><br>Maximum 17 characters.   | Required |
| Out Qty           | NNNNNN.NNN         | Value of amount in MWh with the precision to 3 decimal places. It always contains a positive value.<br><br>Maximum 17 characters.   | Required |
| Settlement Amount | NNNNNN.NNNN        | Payment in EUR with the precision to 4 decimal places. Positive value represents clearing agent obligation, on the contrary negative value represents subject of settlement obligation.<br><br>Maximum 17 characters.   | Optional |

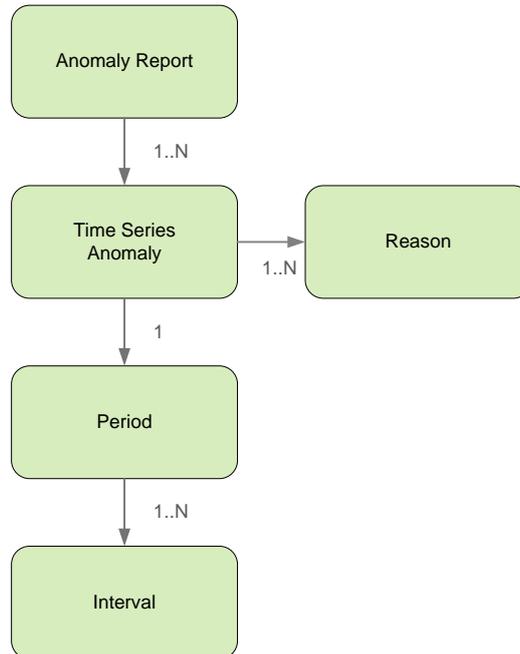
### Anomaly Report (SR-01-05)

Anomaly Report (AR, type = A16), through which clearing agent informs on failed matching of day-ahead diagrams, consists of the following parts in accordance with *ESS V3R1* standard:

- *Anomaly Report* - contains details that relate to the entire report.
- *Time Series Anomaly* - contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Interval* – contains values of the respective time series.
- *Reason* – contains information on anomalies in the time series.

Anomaly report is available via web service only in case that the original schedule message was also submitted via web service.

Information on anomaly of time series (Reason) relates to time series (*Time Series Anomaly*).



### Anomaly report

Header of anomaly report contains values of particular attributes according to the following table.

| Element                | Value                | Description  | Use      |
|------------------------|----------------------|--|----------|
| Message Identification | Identification       | Message Identification.<br>Maximum 35 characters.  | Required |
| Message Date Time      | YYYY-MM-DDTHH:MM:SSZ | Date of message sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |
| Sender Identification  | EIC OKTE             | Message sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role            | „A05”                | Message sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
| Receiver Identification | EIC of subject of settlement            | Message receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A01“ / „A08“                           | Message receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Schedule Time Interval  | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Message time interval.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated). | Required |

### Time Series Anomaly

Time series identification in anomaly report contains values of particular attributes according to the following table.

| Element                        | Value                                  | Description   | Use      |
|--------------------------------|--|---|----------|
| Message Sender Identification  | EIC of subject of settlement           | Message sender identification, which diagrams are in anomaly.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Senders Message Identification | Identification of the original message | Identification of the message, in which diagrams are in anomaly.<br>Maximum 35 characters.  | Required |
| Senders Message Version        | Version of the original message        | Version of the message, in which diagrams are in anomaly.<br>Version number is incremented on each additional sending of message modification.<br>Maximum 3 characters. | Required |

Additional attributes as *Senders Time Series Identification*, *Senders Time Series Version*, *BusinessType*, *Product*, *Object Aggregation*, *In Area*, *Out Area*, *Meteringpoint Identification*, *In Party*, *Out Party*, *Capacity Contract Type*, *Capacity Agreement Identification* and *Measurement Unit* as well as respective information in *Period* and *Interval* sections contain identical values as the respective time series of the original document.

### Reason

Information on anomaly in the schedule message contains values of particular attributes according to the following table.

| Element     | Value     | Description  | Use      |
|-------------|-----------|--|----------|
| Reason Code | AXY       | Information on anomaly of the time series and reasons for the failure to match.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>A09 - Time series not matching<br>A27 - Cross border capacity exceeded<br>A28 - Counterpart time series missing<br>A29 - Counterpart time series quantity differences | Required |
| Reason Text | Open text | Additional text justification.   | Optional |

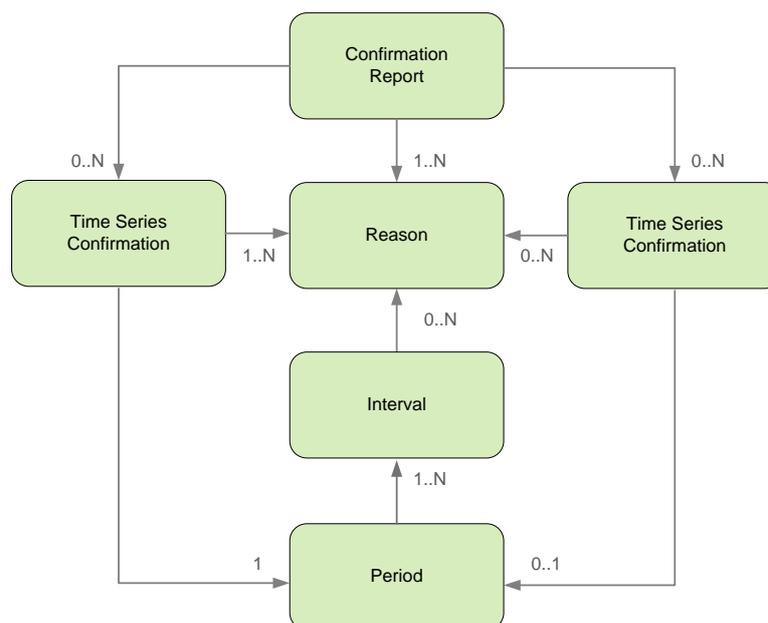
### Confirmation report (SR-01-06)

Confirmation report (CR, type = A07/A08/A18), through which clearing agent informs on acceptance of day-ahead diagrams, consists of the following parts in accordance with *ESS V3R1* standard:

- *Confirmation Report* - contains details that relate to the entire report.
- *Time Series Confirmation* - contains details that relate to the time series.
- *Imposed Time Series* – contains details that relate to the imposed time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Interval* – contains values of the respective time series.
- *Reason* – contains information on acceptance of time series.

Confirmation report is available via web service only in case that the original schedule message was also submitted via web service.

Depending on a specific case, information on document acceptance (Reason) relates either to the document as a whole (*Confirmation Report*), to time series (*Time Series Confirmation / Imposed Time Series*), or to the respective value of time series (*Interval*). Use of particular document parts is therefore dependent on a specific case.



## Confirmation Report

Confirmation report header contains values of particular attributes according to the following table.

| Element                 | Value                                   | Description  | Use      |
|-------------------------|---|--|----------|
| Message Identification  | Identification                          | Message Identification.<br>Maximum 35 characters.  | Required |
| Message Type            | "A07" / "A08" / „A18“                   | Message type.<br>A07 – continuous confirmation report<br>A08 – final confirmation report<br>A18 – final confirmation report<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Message Date Time       | YYYY-MM-DDTHH:MM:SSZ                    | Date of message sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).     | Required |
| Sender Identification   | EIC OKTE                                | Message sender identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Sender Role             | „A05“                                   | Message sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Receiver Identification | EIC of subject of settlement            | Message receiver identification.<br>Entity EIC is used.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A01“ / „A08“                           | Message receiver role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Schedule Time Interval  | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Message time interval.<br>Date and time format:<br>YYYY - year<br>MM - month   | Required |

| Element                          | Value                        | Description  | Use      |
|----------------------------------|------------------------------|--|----------|
|                                  |                              | DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the message in UTC (Universal Time Coordinated).   |          |
| Confirmed Message Identification | Identification               | Identification of the original schedule message, which the confirmation report relates to.   | Required |
| Confirmed Message Version        | "1", "2", "3", ...           | Version of the original schedule message, which the confirmation message relates to.   | Optional |
| Domain                           | „10YSK-SEPS-----K“           | Identification of balance area, for which the schedule is specified.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.  | Required |
| Subject Party                    | EIC of subject of settlement | Identification of entity, for which the schedule is set up.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.   | Required |
| Subject Role                     | „A01“ / „A08“                | Role of entity, for which the schedule is set up.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.   | Required |
| Process Type                     | „A01“ / „A02“                | Type of the process, to which the message is relating.<br><br>A01 - day-ahead registration of diagrams<br>A02 - intraday registration of diagrams<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters. | Required |

### Time Series Confirmation

All time series, which were sent for respective subject of settlement, are specified within this section. Eventual discrepancies in rejected time series are identified via *Reason Code*. Attributes as *Senders Time Series Identification*, *Senders Time Series Version*, *BusinessType*, *Product*, *Object Aggregation*, *In Area*, *Out Area*, *Meteringpoint Identification*, *In Party*, *Out Party*, *Capacity Contract Type*, *Capacity Agreement Identification* and *Measurement Unit* contain identical values as values in time series of the original document.

### Imposed Time Series

Time series, which were imposed within registration rules of day-ahead diagrams (e.g. cross-border diagrams, successfully traded amount on the organized market and so on), are specified within this section.

Time series identification in confirmation report contains values of particular attributes according to the following table.

| Element                            | Value   | Description   | Use      |
|------------------------------------|---|---|----------|
| Imposed Time Series Identification | Identification                                      | Time series identification.<br>Unique identification within the schedule message.<br>Maximum 35 characters.   | Required |
| Imposed Time Series Version        | "1", "2", "3", ...                                  | Time series version.<br>Version number should be identical to the number of the schedule message, in which the time series was inputted or modified for the last time.<br>Maximum 3 characters. | Required |
| Business Type                      | "A02" / „A06“                                       | Contract type.<br>A02 - internal contract<br>A06 - external contract<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.                                   | Required |
| Product                            | "8716867000016"                                     | It identifies product type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 13 numeric characters.   | Required |
| Object Aggregation                 | "A03"   | Object aggregation.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| In Area                            | „10YSK-SEPS-----K“                                  | Balance area, to which the product is supplied.<br>EIC of balance area is used.<br>Maximum 16 characters.   | Required |
| Out Area                           | „10YSK-SEPS-----K“                                  | Balance area, out of which the product is taken.<br>EIC of balance area is used.<br>Maximum 16 characters.  | Required |
| Metering Point Identification      | -   | Metering point identification.<br>Maximum 35 characters.  | Optional |
| In Party                           | EIC of subject of settlement or EIC SEPS zahraničie | Consumer identification for internal diagrams.  | Required |

| Element                           | Value   | Description  | Use      |
|-----------------------------------|---|--|----------|
|                                   |   | EIC of subject of settlement is specified for time series that represent import to SEPS.<br>EIC SEPS zahraničie is specified for time series that represent export to SEPS.<br><br>Entity EIC is used.<br><br>Maximum 16 characters.   |          |
| Out Party                         | EIC of subject of settlement or EIC SEPS zahraničie | Identification of supplier for internal diagrams.<br><br>EIC of subject of settlement is specified for time series that represent export to SEPS.<br>EIC SEPS zahraničie is specified for time series that represent import to SEPS.<br><br>Entity EIC is used<br><br>Maximum 16 characters. | Required |
| Capacity Contract Type            | -   | Capacity contract type.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Optional |
| Capacity Agreement Identification | -   | Identification of agreement on capacity assignment.<br>Maximum 35 characters.  | Optional |
| Measurement Unit                  | "MAW"   | Unit, in which the values in time series are inputted (MW).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |

### Period

*Period* header contains values of particular attributes as *Time Interval* and *Resolution* that are identical to values in the original document. In case of imposed time series, these values are identical to values within other time series of subject of settlement.

### Interval

Time series contain records for each clearing period of a trading day. Record of time series contains values of particular attributes according to the following table.

| Element | Value              | Description   | Use      |
|---------|--------------------|---|----------|
| Pos     | „1“, „2“, „3“, ... | Position of the value in time series.<br>Time series contain 96 values.<br>During time shift from Central European time to Central European Summer time and backwards, time series contain 92 or 100 values, respectively.<br><br>Maximum 6 characters. | Required |
| Qty     | NNNNNN.NNN         | Value of amount in MW with the precision to 3 decimal places. It always contains a positive number for increase of consumption  | Required |

| Element | Value | Description   | Use |
|---------|-------|---|-----|
|         |       | or supply. Values without increase are represented by null.<br>Maximum 17 characters. |     |

### Reason

Information on acceptance, rejection or imposition of time series in the schedule message contains values of particular attributes according to the following table.

| Element     | Value     | Description   | Use      |
|-------------|-----------|---|----------|
| Reason Code | AXY       | Information on acceptance, rejection or imposition of time series and reasons for rejection and imposition.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><u>At the message level:</u><br>A06: Schedule global position accepted<br>A07: Schedule global position partially accepted<br>A08: Schedule global position rejected<br><u>At the level of time series:</u><br>A20: Time series fully rejected<br>A26: Default time series applied<br>A30: Imposed Time series from nominated party's time series (party identified in reason text)<br>A63: Time series modified<br><br><u>At the interval level:</u><br>A43: Quantity increased<br>A44: Quantity decreased<br>A45: Default quantity applied | Required |
| Reason Text | Open text | Additional text justification.  | Optional |

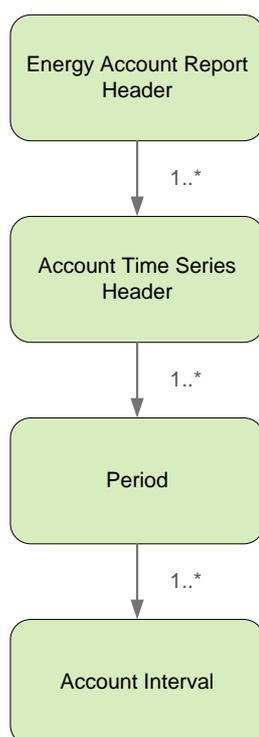
### Report on clearing of differences (Energy Account Report) (SR-01-07)

Response to the request for retrieval of current status of clearing of differences is represented by report on clearing of differences (EAR, Energy Account Report, type = Z01) in accordance with *ENTSO-E ESP V1R1* standard. The system of imbalance clearing XMtrade®/ISZO always returns current values from last performed clearing of differences.

Within a single data flow, the system returns total details on differences of respective subject of settlement.

Report on clearing of differences (EAR, Energy Account Report), through which subjects of settlement retrieve details from clearing of differences, consists of the following parts in accordance with *ESP V1R1* standard:

- *Energy Account Report Header* - contains general details that relate to the entire report.
- *Account Time Series Header* - contains details that relate to the respective time series.
- *Period* – contains details that relate to the period of the respective time series.
- *Account Interval* – contains values of the respective time series.



### Energy Account Report Header

Report header contains values of particular elements according to the following table.

| Element                 | Value          | Description   | Use      |
|-------------------------|----------------|---|----------|
| Document Identification | Identification | Document Identification.<br>Maximum 35 characters.  | Required |
| Document Version        | „1“            | Version of response to the request.<br>Maximum 3 characters.  | Required |
| Document Type           | „Z01“          | Document type.<br>Z01 – report on clearing of differences<br>Maximum 3 characters.  | Required |
| Document Status         | „A01“ / „A02“  | Status of details in the document.<br>A01 – report for monthly clearing of differences<br>A02 – report for final clearing of differences<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Process Type            | „Z01“          | Type of process, to which the document is relating.<br>Z01 – clearing of differences<br>Maximum 3 characters.   | Required |

| Element                 | Value                                   | Description   | Use      |
|-------------------------|---|---|----------|
| Classification Type     | „A01“                                   | Communication classification.<br>A01 – detailed data at the level of subject of settlement<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.   | Required |
| Sender Identification   | EIC OKTE                                | Identification of subject of settlement.<br>Entity EIC is used.<br>Maximum 16 characters.   | Required |
| Sender Role             | „A05“                                   | Document sender role.<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.  | Required |
| Receiver Identification | EIC of subject of settlement            | Document receiver identification.<br>Entity EIC is used, specified in <i>Sender Identification</i> attribute of the request for retrieval of status.<br>Maximum 16 characters.  | Required |
| Receiver Role           | „A08“                                   | Document receiver role, specified in <i>Sender Role</i> attribute of the request for retrieval of status.<br>A08 – subject of settlement<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Required |
| Document Date Time      | YYYY-MM-DDTHH:MM:SSZ                    | Date of document sending.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br>Date and time items are inserted into the document in UTC (Universal Time Coordinated).                | Required |
| Accounting Period       | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Document time interval, specified in <i>Requested Time Interval</i> attribute of the request for retrieval of status.<br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour                              | Required |

| Element | Value              | Description  | Use      |
|---------|--------------------|--|----------|
|         |                    | MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated).           |          |
| Domain  | „10YSK-SEPS-----K“ | Identification of balance area, to which data are relating.<br><br>Entity EIC is used.<br><br>Maximum 16 characters. | Optional |

### Account Time Series Header

Header of time series contains values of particular attributes according to the following table.

| Element                            | Value                  | Description   | Use      |
|------------------------------------|------------------------|---|----------|
| Senders Time Series Identification | Identification         | Time series identification.<br><br>Unique identification within the schedule message.<br><br>Maximum 35 characters.   | Required |
| Business Type                      | from „Z01“ up to „Z07“ | Identification of energy data type.<br><br>Z01 – differences of non-continuous consumptions<br>Z02 – differences of non-continuous supplies<br>Z03 – differences of losses in systems balanced from below<br>Z04 – differences of aggregates for systems balanced from above<br>Z06 – data for payment of subject of settlement<br>Z07 – data for payment of OKTE<br>Z08 – compensatory price for clearing of differences | Required |
| Product                            | “8716867000016”        | It identifies product type.<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 13 numeric characters.   | Required |
| Object Aggregation                 | “A03”                  | Object aggregation.<br><br>A03 – details at the level of subject of settlement<br><br>According to ENTSO-E General Code List For Data Interchange.<br><br>Maximum 3 characters.   | Required |
| Area                               | „10YSK-SEPS-----K“     | Balance area.<br><br>EIC of balance group is used.<br><br>Maximum 16 characters.  | Required |

| Element                  | Value                        | Description   | Use      |
|--------------------------|------------------------------|---|----------|
| Party                    | EIC of subject of settlement | Identification of subject of settlement for details that relate to the subject.<br>Entity EIC is used.<br>Maximum 16 characters.                          | Optional |
| Agreement Identification | -                            | Identification of agreement on capacity assignment.<br>Maximum 35 characters.   | Optional |
| Measurement Unit         | "MWH"                        | Unit, in which the values in time series are inputted (MW).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters.      | Required |
| Currency                 | "EUR"                        | Currency, in which the values in time series are inputted (EUR).<br>According to ENTSO-E General Code List For Data Interchange.<br>Maximum 3 characters. | Optional |
| Accounting Point         | -                            | Accounting Point.<br>Accounting point EIC is used.<br>Maximum 16 characters.  | Optional |

### Period

Period header contains values of particular attributes according to the following table.

| Element       | Value                                   | Description   | Use      |
|---------------|---|---|----------|
| Time Interval | YYYY-MM-DDTHH:MMZ/<br>YYYY-MM-DDTHH:MMZ | Time series interval, for which unified compensatory price for clearing of differences is applied.<br><br>Date and time format:<br>YYYY - year<br>MM - month<br>DD - day<br>HH - hour<br>MM - minute<br><br>Date and time items are inserted into the document in UTC (Universal Time Coordinated). | Required |
| Resolution    | „PnD”                                   | Resolution of time series that is represented by the number of days (n) of the interval specified in <i>Time Interval</i> attribute.  | Required |

*Account Interval*

Time series contains a single record for the total interval specified in the header of period. Record of the time series contains values of particular attributes according to the following table.

| Element           | Value       | Description  | Use      |
|-------------------|-------------|--|----------|
| Pos               | „1“         | Identification of time interval value.   | Required |
| In Qty            | NNNNNN.NNN  | <p>Value of difference amount in MWh with the precision to 3 decimal places representing shortage of electricity in the time interval with the value of Z01, Z02, Z03, Z04, Z05 and Z06 of <i>BusinessType</i> attribute.</p> <p>For the time interval of the report till December 31, 2018, volume of positive imbalance is indicated. For the time interval of the report from January 1, 2019, volume of the negative imbalance is indicated in accordance with Regulation EBGL.</p> <p>It always contains a positive value.</p> <p>Maximum 17 characters.</p>  | Required |
| Out Qty           | NNNNNN.NNN  | <p>Value of difference amount in MWh with the precision to 3 decimal places representing surplus of electricity in the time series with the value of Z01, Z02, Z03, Z04, Z05 and Z07 of <i>BusinessType</i> attribute.</p> <p>For the time interval of the report till December 31, 2018, volume of negative imbalance is indicated. For the time interval of the report from January 1, 2019, volume of positive imbalance is indicated in accordance with Regulation EBGL.</p> <p>It always contains a positive value.</p> <p>Maximum 17 characters.</p>   | Required |
| Settlement Amount | NNNNNN.NNNN | <p>Unit price in EUR/MWh or payment in EUR to 4 decimal places.</p> <p>For the time interval of the report till December 31, 2018, a positive value in the time interval with the value of the <i>BusinessType</i> attribute Z06 and Z07 represents the liability of subject of imbalance, while the negative value represents the liability of imbalance settler. For the time interval of the report from anuary 1, 2019 in accordance with Regulation EBGL, positive value represents the liability of imbalance settler, while the negative value represents the liability of subject of imbalance.</p> <p>In the time interval with the value of the <i>BusinessType</i> attribute Z08, the sign of the balancing price for the settlement of differences doesn't change.</p> <p>Maximum 17 characters.</p> | Optional |

## 5 LIST OF FIGURES

|  |    |
|--|----|
| Figure 1 Interface for day-ahead diagrams .....        | 33 |
| Figure 2 Interface for partial diagrams .....          | 43 |
| Figure 3 Interface for cross-border transmission ..... | 53 |