**Implementation Guide on Electronic Data Interchange**

# General

This document describes the requirements on the electronic data interchange between Elering AS and Balancing Service Providers (BSPs)

All date and time information expressed in the messages are to be represented as in UTC time zone.

# Information exchange

## Creation of CMOLS



### Collecting bids from BSPs

Elering shall collect balancing energy bids from local BSPs. BSP offers can be provided according to rules applied for standard product.

Elering shall send Acknowledgement (ACK) message with positive or negative response for the bids received from BSPs.

**DOCUMENT TYPE, COMUNICATION CHANEL**

|  |  |
| --- | --- |
| Document | ReserveBidDocument |
| Document format | .XML |
| Communication channel | Web-service or e-mail |

**NAMING CONVENTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Value** | **Mandatory** | **Description** |
| File name | Choice of each BSP | Yes | File name usually contains date, product name, sender etc. |
| Message subject | Choice of each BSP | Yes | Description usually contains date, product name, sender etc. |

**FIELD DESCRIPTION**

|  | **Element** | **Value** | | **Mandatory** | **Description** |
| --- | --- | --- | --- | --- | --- |
| **1.Header** | | |  | | | |
| 1.1 | DocumentIdentification | (1..35 chars). | | Yes | Unique identification of the document for which the time series data is being supplied.  All additions, modifications, or suppressions for the time series and activation period must use the same identification.  Best practice to contain BSP abbreviation and date |
| 1.2 | DocumentVersion | (1….3 chars). | | Yes | Document version (Starts at 1 and increases sequentially).  Each modification for previous Document with same DocumentIdentification expressing data for same timeseries should be larger than previously sent document. |
| 1.3 | DocumentType | A37 | | Yes | The coded type of the document being sent:  A37 – reserve bid document; |
| 1.4 | SenderIdentification | (1…16 chars) | | Yes | Identification of the party that is the owner of the document and is responsible for its content (BSP EIC code.) |
| 1.5 | SenderRole | A08  A21  A27 | | Yes | Identification of the role that is played by the sender.  A08 – BRP;  A21 – Producer;  A27 - Resource Provider |
| 1.6 | ReceiverIdentification | 10X1001A1001A39W | | Yes | Identification of the party who is receiving the document - EIC code:  10X1001A1001A39W- ELERING |
| 1.7 | ReceiverRole | A04 | | Yes | Identification of the receiver role  A04 – System Operator |
| 1.8 | CreationDateTime | YYYY-MM-DDTHH:MM:SSZ | | Yes | The date and time that the document was prepared for transmission by the application of the sender.  The date and time must be expressed in UTC as YYYY-MM-DDTHH:MM:SSZ. |
| 1.9 | Reserve Bid Time Interval | YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ format | | Yes | This information provides the start and end date and time of the tender period. The receiver will discard any time intervals outside the tender period.  The start and end date and time must be expressed as YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ. |
| **2. ReserveBidTimeSeries** | | |  | | | |
| 2.1 | ReserveBidIdentification | (1..35 chars). | | Yes | A unique identification of the tender assigned by the sender. This corresponds to a unique tender. It must be unique for a given auction identification.  Various formats for Each BSP.  Good practice to include BSP EIC. |
| 2.2 | AuctionIdentification | BalticCoBA | | Yes | A unique identification assigned by the Reserve Allocator of the set of specifications that clearly defines the auction to which the tender is addressed. Constant value: BalticCoBA |
| 2.3 | Business type | Z54 | | Yes | The nature of the time series for which the product is handled.  Regulation offers:  Z54 – Volume for mFRR standard product; |
| 2.4 | Acquiring Area | 10Y1001A1001A39I | | Yes | The area where the energy is to be put –EIC code.  10Y1001A1001A39I - Estonia |
| 2.5 | Connecting area | 10Y1001A1001A39I | | Yes | The area where the energy is coming from – EIC code.  10Y1001A1001A39I - Estonia |
| 2.6 | Measure Unit Quantity | MAW  (1..3 chars) | | Yes | The unit of measurement used for the quantities expressed within the time series.  Always expressed in megawatts - MAW |
| 2.7 | Currency | EUR  (1..3 chars) | | Required only if there is a Price specified | The currency in which the monetary amount is expressed. EUR |
| 2.8 | Measure Unit Price | MWH  (1..3 chars) | | Required only if there is a Price specified | The unit if measurement used for the price expressed within the time series MWh per unit (code MWH), etc.). |
| 2.9 | Divisible | A01  A02 | | Yes | The indication of whether or not the tender may be reduced to the MinimumActivationQuantity in increments compliant with the StepIncrementQuantity.  A01- Yes (Divisible)  A02- No (not divisible) |
| 2.10 | LinkedBidIdentification | (1..35 chars) | | No | Unique identification associated with all linked tenders.  The linked bids identification is only provided if a tender is associated with the current tender.  Example:  Bid B is linked with bid A.  Bid B can be activated only after bid A is activated. Bid B need to have bid A ID. |
| 2.11 | BlockBid | A02 | | Yes | The indication that all the time intervals in the time series are to be considered as a whole and that they cannot be subdivided.  A02- No |
| 2.12 | ReserveObject | EIC code  (1…18 chars) | | Yes | Identifies the Reserve Object managed by the Resource Provider that is used to supply the reserve (EIC code). |
| 2.13 | Direction | A01  A02 | | Yes | This identifies the direction of the energy flow.  A01 = UP, this signifies that the available power can be used by the Acquiring area to increase energy.  A02 = DOWN, this signifies that the available power can be used by the Acquiring area to decrease energy. |
| 2.14 | MinimumActivationQuantity | 1 | | Yes | Minimum quantity of power that can be activated at a given time interval: 1 MW |
| 3 | **Period** |  | | | |
| 3.1 | TimeInterval | YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ | | Yes | This information provides the start and end date and time of the period being reported.The start and end date and time must be expressed in compliance with the following format:  YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ. |
| 3.2 | Resolution | PT60M | | Yes | The resolution defining the number of periods that the time interval is divided.  PnYnMnDTnHnMnS. Where nY expresses a number of years, nM a number of months, nD a number of days. The letter “T” separates the date expression from the time expression and after it nH identifies a number of hours, nM a number of minutes and nS a number of seconds. |
| **4** | **Interval** |  | | | |
| 4.1 | Pos | (1…6 chars) | | Yes | The relative position must be expressed as a numeric integer value beginning with 1. All leading zeros must be suppressed. The maximum number of characters is 6. |
| 4.2 | BidQty | (1…17 numeric chars) | | Yes | This information defines the quantity that is tendered for the interval in question and that is expressed in the Measurement Unit Quantity. |
| 4.3 | EnergyPrice | (1…17 numeric chars) | | Yes | The unit of price for energy expressed in a unit of Currency per unit of measure (i.e. MeasureEnergyPrice) EURO/MWh  The price of the energy. |

## Activation Documents

Three types of activation documents are used:

1. Activation order (DocumentType: A40)
2. Activation order response (DocumentType: A41)
3. Tender Reduction (DocumentType: A42)

Activation order is sent by Elering to BSP to communicate the information about bid activation. Activation order response is sent by BSP to Elering to communicate the actual activation of the bid. Tender reduction is sent by BSP to Elering to communicate the unavailability of the bid after the gate has been closed for that particular timeseries. Documents descriptions can be found in the following chapter.

Received documents should be checked by receiving party against .xml schema and Acknowledgement (ACK) message with positive or negative response should be sent. Acknowledgement documents are described in Chapter 3.

### Activation documents (EDI)

**TIMING**

Activation orders and Tender Reduction documents can be sent when bids have become firm according to currently valid standard terms and conditions. Activation response is expected after sending of Activation Order.

**DOCUMENT TYPE, COMUNICATION CHANEL**

|  |  |
| --- | --- |
| Document | ActivationDocument |
| Document format | .XML |
| Namespace | urn:entsoe.eu:wgedi:errp:cobaactivationdocument:5:0 |
| Communication channel | web-service |

**NAMING CONVENTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Value** | **Mandatory** | **Description** |
| File name | Choice of each sender | Yes | File name usually contains date, product name, sender etc. |

**FIELD DESCRIPTION**

|  | **Element** | **Value** | **Mandatory** | **Description** |
| --- | --- | --- | --- | --- |
| **1** | **Header** |  | | |
| 1.1 | DocumentIdentification | (1..35 chars). | Yes | Unique identification of the document for which the time series data is being supplied.  All additions, modifications, or suppressions for the time series and activation period must use the same identification.  Best practice to contain BSP abbreviation and date |
| 1.2 | DocumentVersion | (1….3 chars). | Yes | Document version (Starts at 1 and increases sequentially).  Each modification for previous Document with same DocumentIdentification expressing data for same timeseries should be larger than previously sent document. |
| 1.3 | DocumentType | A40  A41  A42 | Yes | The activation order should be sent using coded type of the document:  A40 – DATCR Activation  For activation response should be used:  A41 - Activation response  For update to the unavailability of bids in CMOL the activation order should be sent using coded type of the document  A42 – Tender reduction |
| 1.4 | ProcessType | A30 | Yes | The process type identifies the process to which the information flow is directed.  Permitted codes are:  A30 – Tertiary reserve process |
| 1.5 | SenderIdentification | (1…16 chars) | Yes | Identification of the party that is the owner of the document and is responsible for its content (Sender EIC code) |
| 1.6 | SenderRole | A04  A08  A21  A27 | Yes | Identification of the role that is played by the sender.  A04 – System Operator;  A08 – BRP;  A21 – Producer;  A27 - Resource Provider |
| 1.7 | ReceiverIdentification | (1…16 chars) | Yes | Identification of the party who is receiving the document (Receiver EIC code) |
| 1.8 | ReceiverRole | A04  A08  A21  A27 | Yes | Identification of the receiver role  A04 – System Operator;  A08 – BRP;  A21 – Producer;  A27 - Resource Provider |
| 1.9 | CreationDateTime | YYYY-MM-DDTHH:MM:SSZ | Yes | The date and time that the document was prepared for transmission by the application of the sender.  The date and time must be expressed in UTC as YYYY-MM-DDTHH:MM:SSZ. |
| 1.10 | Activation Time Interval | YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ format | Yes | This information provides the start and end date and time of the activation period  The start and end date and time must be expressed as YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ. |
| 1.11 | Domain | 10Y1001A1001A94A | Yes | Identification of the domain that is covered in the MOL Document.  10Y1001A1001A94A (Synchronous area of Baltic states) |
| 1.12 | OrderIdentification | (1..35 chars) | **Only for A41** | **Field is only relevant for A41.**  **Not applicable for A40/A42.**  DocumentIdentification of A40 the response is being provided for. |
| 1.13 | OrderIdentificationVersion | (1….3 chars) | **Only for A41** | **Field is only relevant for A41. Not applicable for A40/A42.**  DocumentVersion of A40 the response is being provided for. |
| **2** | **Time series** |  | | |
| 2.1 | AllocationIdentification | (1..35 chars). | Yes | The identification of the allocation that was established with the Resource Provider to provide reserves.  This should be equal to ReserveBidIdentification. |
| 2.2 | ResourceProvider | (1..35 chars). | Yes | A unique identification of the Resource Provider responsible for reserve activation. BSP EIC code. |
| 2.3 | Business type | Z54 | Yes | The nature of the time series for which the product is handled.  Regulation offers:  Z54 – Volume for mFRR standard product; |
| 2.4 | Acquiring Area | 10Y1001A1001A94A  10YLV-1001A00074  10Y1001A1001A39I  10YLT-1001A0008Q  10YFI-1--------U  10YSE-1--------K  10YPL-AREA-----S  10Y1001A1001A49F10Y1001A1001A51S | Yes | The area where the reserve is contracted for use (destined) – EIC code.  For normal activation (mFRR):  10Y1001A1001A94A - Synchronous area of Baltic states  For special activation (ER mFRR):  10YLV-1001A00074 - Latvia  10Y1001A1001A39I - Estonia  10YLT-1001A0008Q – Lithuania  10YFI-1--------U – Finland  10YSE-1--------K – Sweden  10YPL-AREA-----S - Poland  10Y1001A1001A49F - Russian area  10Y1001A1001A51S - Belarus area  **If DocumentType is Tender reduction, then empty.** |
| 2.5 | Connecting area | 10Y1001A1001A39I | Yes | The area where the energy is coming from – EIC code.  10Y1001A1001A39I - Estonia |
| 2.6 | Measure Unit Quantity | MAW | Yes | The unit of measurement used for the quantities expressed within the time series.  Always expressed in megawatts - MAW |
| 2.7 | Direction | A01  A02 | Yes | This identifies the direction of the energy flow.  A01 = UP, this signifies that the available power can be used by the Acquiring area to increase energy.  A02 = DOWN, this signifies that the available power can be used by the Acquiring area to decrease energy. |
| 2.8 | Status | A07  A08  A11 | Yes | The status of the specific activation request.  The permitted status codes are as follows:  If DocumentType: DACTR activation:  A08 = In process – the quantities in the time series are requested for activation.  If DocumentType: Activation Response:  A07= Activated - The quantities in the time series have been activated.  If DocumentType: Tender reduction:  A11 = Unavailable – the quantities in the time se ries are unavailable. |
| 2.9 | ResourceObject | (1…18 chars) | Yes | This identifies the Reserve Object managed by the Resource Provider that is used to supply the energy capabilities.  Contains value from bid field ”ReserveObject”. |
| 3 | **Period** |  | | |
| 3.1 | TimeInterval | YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ | Yes | This information provides the start and end date and time of the period being reported.  The start and end date and time must be expressed in compliance with the following format:  YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ. |
| 3.2 | Resolution | PTnM | Yes | The resolution defining the number of periods that the time interval is divided.  PnYnMnDTnHnMnS. Where nY expresses a number of years, nM a number of months, nD a number of days. The letter “T” separates the date expression from the time expression and after it nH identifies a number of hours, nM a number of minutes and nS a number of seconds. |
| **4** | **Interval** |  | | |
| 4.1 | Pos | (1…6 chars) | Yes | This information provides the relative position of a period within an activation interval  The relative position must be expressed as a numeric integer value beginning with 1. All leading zeros must be suppressed. The maximum number of characters is 6 |
| 4.2 | Qty | (1…17 numeric chars) | Yes | This information defines the quantity that is to be activated for the interval in question and that is expressed in the Measurement Unit Quantity.  If the document type is Tender reduction, then quantity for which the volume decreases. |
| **5** | **Reason** |  | | |
| 5.1 | Reason Code | (1…3 chars) | Yes | Reason codes for activation:  If DocumentType is DACTR activation:  A37 - Balancing  Z01 – Countertrade FI-EE  Z02 – Countertrade EE-LV  Z03 – Countertrade LV-LT  Z04 – Countertrade LT-PL  Z05 – Countertrade LT-SE  A46 - System services  **If DocumentType is Tender reduction, then empty** |
| 5.2 | ReasonText | (1…512 chars) | This information is dependent. | Textual explanation of information.  If the code does not provide all the information to clearly identify an Reason code, the reason text may be used. |

#### Rules of creating Activation Documents

Activation Document provides a time series that is based on the exact time interval (start time and stop time) that is communicated and has only one interval providing the block representing the constant power value for which the status is changed for. The time resolution consequently corresponds to the difference between the start time and the stop time.

There is only one Period class within time series. The Time Interval of the time series within the document must have the same start time as that of the Activation Time Interval defined in the Activation Document class. The stop time of time series must be equal to that of the Activation Time Interval.

For a activation document the following processing rules shall apply:

1. Change end time to earlier: create new version - new version of AO is sent with same amount and new end time.
2. Change end time to later: create additional activation - new AO is sent with same amount and new period.
3. Change start time to later: create new version - new version of AO is sent with same amount and new start time.
4. Change start time to earlier: create additional activation - new AO is sent with same amount and new period.
5. Cancel activation: create new version - new version of AO is sent with same amount and Time Interval end time the same as Time Interval start time

General rule for changes to amount: To change amount of activation new AO shall be created (AO version can not be used). Examples for specific cases:

1. To increase amount for whole activation:

Option 1: New AO is sent with additional amount and same period.

Option 2:

Step 1) Cancel activation - New version of AO is sent with same amount and Time Interval end time the same as Time Interval start time;

Step 2) Create new activation - new AO is sent with new amount and same period.

2. To decrease amount for whole activation:

Step 1) Cancel activation - New version of AO is sent with same amount and Time Interval end time the same as Time Interval start time;

Step 2) Create new activation - new AO is sent with new amount and same period.

3. To increase amount for part of activation:

Option 1: New AO is sent with additional amount and new period.

Option 2

Step 1) Stop activation - new version of AO is sent with same amount and new end time.

Step 2) Create new activation - new AO is sent with new amount and new period.

4. To decrease amount for part of the activation:

Step 1) Stop activation - new version of AO is sent with same amount and new end time.

Step 2) Create new activation - new AO is sent with new amount and new period.

## Acknowledgements

Each received document is verified and an acknowledgment (Acknowledgement Document version 6.0) is sent to the originator of the document.

If the received document is fully accepted, then the acknowledgement contains single Reason Code A01.

If the reveived document is rejected, then the acknowledgement contains single Reason Code A02 (Message fully rejected).

**DOCUMENT TYPE, COMUNICATION CHANEL**

|  |  |
| --- | --- |
| Document | EAD ACKNOWLEDGEMENT DOCUMENT |
| Document format | .XML |
| Namespace | urn:entsoe.eu:wgedi:acknowledgement:acknowledgementdocument:6:0 |
| Communication channel | e-mail or web service |

**NAMING CONVENTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Value** | **Mandatory** | **Description** |
| File name and message subject (if applicable) | [Sender]- ACKN]-[Document type]- [yyyymmddhh]- [version] | Yes | Document Type: MOL, CMOL, Activation;  Sender: AST, Elering, Litgrid  Example:  ASTACKN-MOL-2017040713-1 |

**FIELD DESCRIPTION**

|  | **Element** | **Value** | **Mandatory** | **Description** |
| --- | --- | --- | --- | --- |
| **1.Header** | |  | | |
| 1.1 | DocumentIdentification | 1..35 chars | Yes | An acknowledgement document is sent in reply to the receipt of a document. This identification is assigned by the party who is acknowledging the application reception of a document |
| 1.2 | DocumentDateAnd Time | YYYY-MM-DDTHH:MM:SSZ | Yes | Date and time of transmission of the acknowledgement.  The date and time that the document was prepared for transmission by the sender.  The date and time must be expressed in UTC as YYYY-MM-DDTHH:MM:SSZ |
| 1.3 | SenderIdentification | 10X1001A1001B54W  10X1001A1001A39W  10X1001A1001A55Y  (1…16 chars) | Yes | Identification of the party that is the owner of the document and is responsible for its content.  10X1001A1001B54W - AST  10X1001A1001A39W- ELERING  10X1001A1001A55Y - LITGRID |
| 1.4 | SenderRole | A04 | Yes | Identification of the role that is played by the sender.  A04 – TSO |
| 1.5 | ReceiverIdentification | 10X1001A1001B54W  10X1001A1001A39W  10X1001A1001A55Y  (1…16 chars) | Yes | Identification of the party who is receiving the document - EIC code:  10X1001A1001B54W - AST  10X1001A1001A39W- ELERING  10X1001A1001A55Y - LITGRID |
| 1.6 | ReceiverRole | A04 | Yes | Identification of the receiver role  A04 – TSO |
| 1.7 | ReceivingDocumentIdentification | (1…35 chars) | Yes | Unique identification of the document that has been received.  This information identifies the document that has been received by the receiving party. The identification is extracted from the received document |
| 1.8 | ReceivingDocumentVersion | (1…3 chars) | The document version must be provided for all documents being acknowledged that have a document version attribute | The version of the document that has been received. |
| 1.9 | ReceivingDocumentType | (1…3 chars) | The document type is mandatory in contexts where there is potential ambiguity about the document being acknowledged | The document type is used to identify the type of document being acknowledged. |
| **2** | **Reason** | | | |
| 2.1 | ReasonCode | (1…3 chars) | Yes | A code providing the acknowledgement status. Reason codes are described in the table below. |
| 2.2 | ReasonText | (1…150 chars) | Yes | Textual description of a rejection.  Reason Title from table below should be used as ReasonText. |

**ACKNOWLEDGEMENT REASON CODE USAGE DESCRIPTION**

| **Reason Code** | **Reason Title** | **Meaning** |
| --- | --- | --- |
| A01 | Message Fully Accepted | Message is accepted for further processing. |
| A02 | Message Fully Rejected | Message is not accepted for further processing. |
| A03 | Message contains errors at the Time Series Level | Part of the message contents (i.e. certain time series) has been accepted for application processing. It is necessary to look at the time series level to determine the time series that have been rejected. The time series is excluded from the global position. |
| A04 | Schedule time interval incorrect | The schedule time interval is not within the contractual agreement or the period does not agree with the schedule time interval. |
| A51 | Message identification or version conflict | Message version number conflict. The message identification is already in the receiving system. Or a higher version already exists. Message identification cannot be found when receiving CMOL update or Activation order Message rejected Version number for the same process type must be always higher as in the previous message. When the process type changes (for example D-1 plan is sent after long term plans), it is permitted to start version numbering from 1 again or continue numbering from previous message version. |
| A52 | Time series missing from new version of message | A time series is not contained in a new version of the message. Message rejected |
| A53 | Receiving party incorrect | The receiving party is incorrect. Message rejected. |
| A55 | Time series identification conflict | The identification of the time series is duplicated or incorrect. Time series will be rejected. |
| A49 | Position inconsistancy | Data rows are not consistent with the time period. For example time period is for 24h, but there are more or less data rows than 24. |
| A57 | Deadline limit exceeded/Gate not open | For stated Process Type messages are not accepted. Message is sent either too soon (before Gate Open time) or too late (after Gate Close time). |
| A42 | Quantity inconsistancy | The quantity is not coherent. For example a time period with the same version number but different quantities or an non permitted number of digits after the decimal point, etc.  Digits after the decimal dot are more than permitted. All data must be presented with accuracy one digit after the decimal dot. |
| A22 | In party/Out party invalid | In Party or Out Party EIC code on the data file is faulty. Also will be shown in which Time Series (by Time series ID) the faulty code was discovered. |
| A23 | Area invalid | In Area or Out Area EIC code on the data file is faulty. Also will be shown in which Time Series (by Time series ID) the faulty code was discovered. |
| A46 | Quantities must not be signed  Values | On the form there must be no signed values: consumption or production must not be negative values; for the fixed deliveries there is a separate column for each direction – negative numbers are not used. |
| A50 | Senders time series version conflict | There is an error in the senders time series version. (i.e. it could be superior to the message version or is inconsistent with the existing data). The time series has been rejected.  It occurs when Time Series version number in previous plan was higher than in sent plan. To avoid possible version conflict the Time Series Version can set always 1. |
| A62 | Invalid business type | The business type does not belong to the valid set of business types for the process in question. |
| A71 | Linked bid rejected due to associated bid unsuccessful | The bid in question has been rejected because an associated bid has been unsuccessful or is not activated yet. |
| A79 | Process type invalid | The process type does not figure in the list of valid process types for this document |
| A80 | DomainInvalid | The domain does not figure in the list of valid domains for this document and process |
| B09 | Bid not accepted | The bid in question has NOT been accepted (bid is not divisible,.....) |