Scheduling System Manual for Market Participants (Web Application)

Market Management System

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APPLICATION BASICS

The Scheduling System for Market Participants (Web Application) is web-based application. Access to Scheduling Web Application is only allowed to Balance Responsible Parties (BRPs) / Capacity Traders (CT) according to national Grid Code and Market Code. Application is available on: https://mms-pp-com.ems.rs/External-Scheduling-Client/ (Test environment) and https://mms.ems.rs/External-Scheduling-Client/ (Production environment).

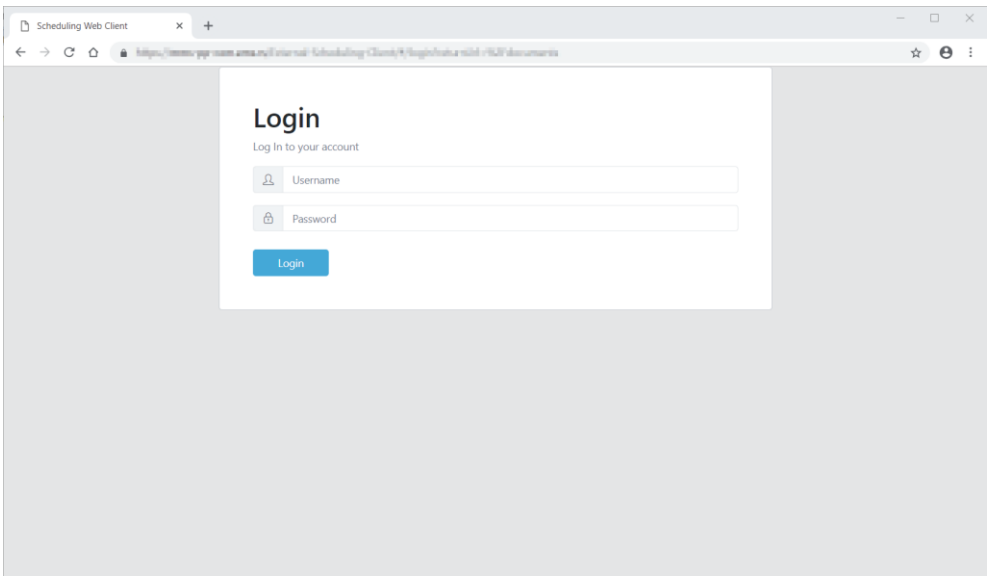
Its functionalities are implemented according to documents and definitions produced by the ENTSO-E Electronic Data Interchange (EDI) Working Group. Links to particular documents are available bellow, but you can check the entire EDI Library.

Scheduling Web Application is html application compatible with the following browsers:

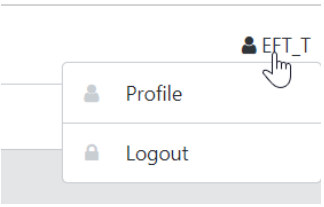
- Chrome
- Microsoft Edge
- Firefox
- Opera
- Vivaldi
- …

The user is required to use an electronic certificate (cryptographic hardware token) and Scheduling Web Client user account (username and password logon). After selecting certificate, dialog with the username and password field is displayed.

Once you are logged in, the application will be synchronized with the server.



Logout option is available in right upper corner.



Scheduling Web Application supports following functions, available on the left side navigation tree:

- **Documents overview** – all documents related to Party logged in;
- **Intraday Capacity reservation** – support for reserving intraday available capacity;
- **Transmission Rights Portfolio** – the document with a complete portfolio of Market participant (Party) transmission capacity rights;
- **User Profile**.

DOCUMENTS OVERVIEW

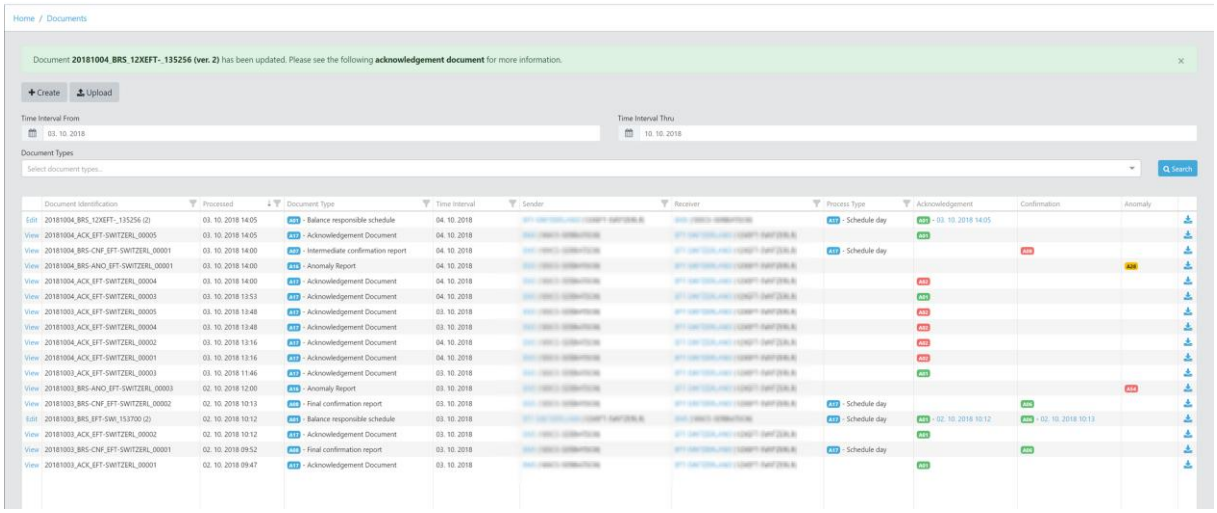
Documents view is a main view of provided Balance Responsible Schedules and related documents. On the top filter is available with Time Interval and Documents Type options. In the table below from the right first Edit and View options are available. Balance Responsible Schedules can be edited, all other documents can be reviewed. Following Document Identification, Processed date and time, Document Type, Time Interval, Sender and Receiver information is available. Next Reason Codes data are available, with following logic used:

- **Balance Responsible Schedules** (BRS) have link to related latest Acknowledgement, Confirmation and Anomaly reports, with related document Reason Code and time of creation displayed. While using "mouse over" function, additional Reason Text is displayed and with clicking on hyperlink next to it, related document is opened;



- **All other documents** (BRS related documents) have just their own or related Acknowledgement code displayed.

Users can download all documents as XMLs using button. Data can be filtered in grid table also by all available columns.



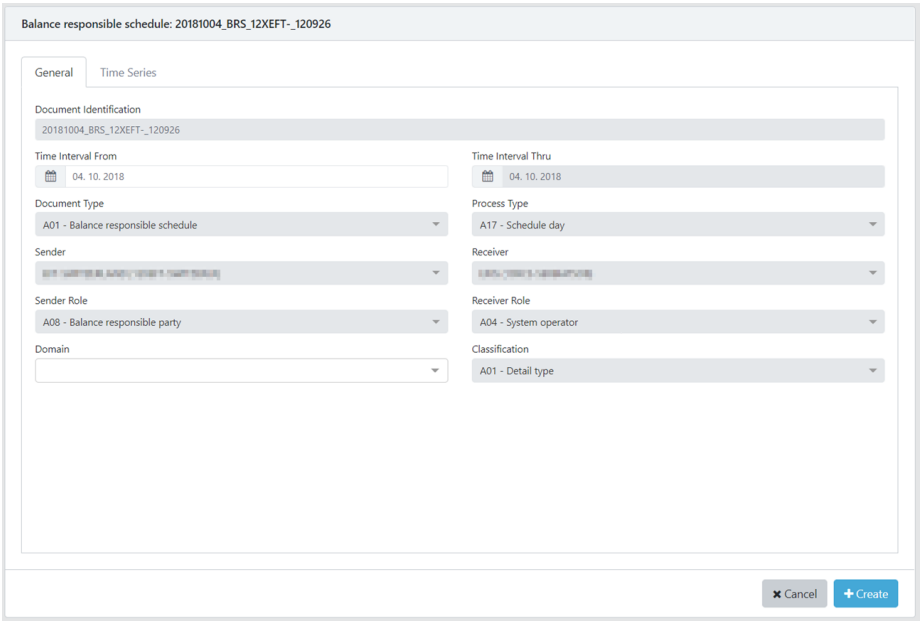
BALANCE RESPONSIBLE SCHEDULES

The **Balance Responsible Schedule** is the only document to be entered manually via GUI in Scheduling Web Application Documents section. It provides the position of a Market participant (Party) or a Domain related to some market information (i.e. Document Type). It includes a set of time series schedules.

It is required, that one schedule document (attributes checked are: *Domain*, *In/Out Area*, *In/Out Party*, *Capacity Contract Type* and *Capacity Agreement Identification*) is exchanged for a date

and role, which means, that if there are additions, modifications or suppressions to the set of time series within the schedule document, the Document Identification remains unchanged but the version number must be increased. In Scheduling Web Application the version number is automatically increased, when user changes and confirms schedule document.

To enter new Balance Responsible Schedule, click on + Create button in the upper left corner of Documents section. Most of the data required by ESS standard is already pre-entered and cannot be changed.



Domain "**34Y-ESS-CRP----0**" and Object aggregation "**A03**" (Party) are mandatory information when Business type **A04** (Consumption) is selected. Schedule messages without required or with irregular data will be rejected.

Domain "**34Y-ESS-PRP----7**" and Object aggregation "**A03**" (Party) are mandatory information when Business type **A01** (Production) is selected. Schedule messages without required or with irregular data will be rejected.

Schedule time series entry is available on the **Time Series** tab. Users can create a new one with clicking + Add button or edit an existing with click on it in the left part of the Time Series view. On the Schedule Time Series dialog some data are (pre)entered automatically and cannot be changed according to ENTSO-e rules. Capacity Contract Type (CCT) and Capacity Agreement Identification (CAI) are mandatory information, when Business type A03 (External trade explicit capacity) is selected. Schedule messages without required or with irregular data will be rejected. See ESS Implementation Guide for more information about Schedule documents.

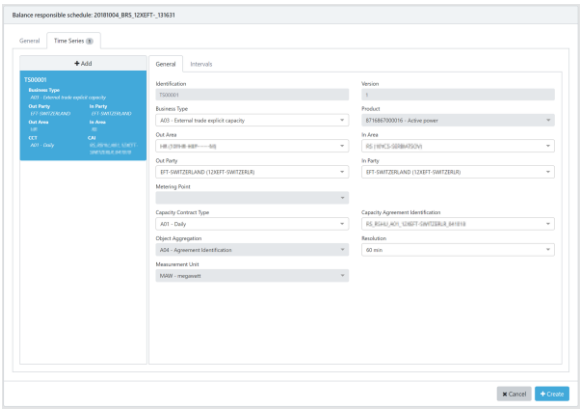
Time series quantity entry is available on **Intervals** tab. User can type values directly, use copy (Ctr+C) / paste (Ctr+V) functions or alternatively, the values can be set in bulk by using the **Position Setter** tool, available by clicking the button in right corner. While clicking Position Setter, **Standardized Product** options dialog is opened. It allows choosing the delivery profile

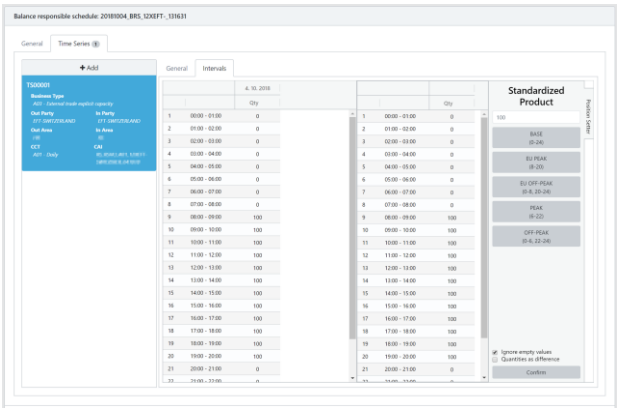
for time interval predefined on General tab using predefined products (Base, EU Peak, EU Off-peak, Peak, Off-peak) or entering each value individually. When **CONFIRM** button is pressed, the values are copied into the main grid.

If **Ignore empty values** option is checked, CONFIRM will not copy empty cells as 0 to the main grid – it will leave the original data in those positions unchanged. For example:

- First document version has BASE time interval Qty (10);
- In second document version user wants to reduce EU OFF-PEAK Qty to 5. This can be simply done with Position Setter – add Qty 5, then use EU OFF-PEAK option and finally Ignore empty values option, so non-EU OFF-PEAK values remains unchanged on Intervals grid.

You can select to have **Quantities as difference** (offsets) from the existing time series intervals. For example, if you would like to lower quantities for the whole time series for 1MW, you could enter quantity -1. After confirming the dialog 1 MW will be subtracted from intervals.





Document entry is finished by pressing  button. System immediately respond with Acknowledgement document (ACK) and if everything was ok, the Balance Responsible Schedule appears in the Documents list. If there was any problem, complete document is rejected and negative ACK or system message is provided to user. In this case user need to reenter/resubmit file once again.

Additionally prepared XML file can be sent by clicking on  function. Once file is chosen, its uploaded (sent) to system operator automatically and system also immediately respond with the ACK message.

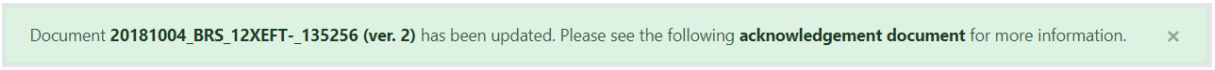
Acknowledgement Documents

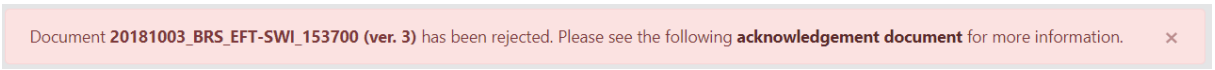
The Acknowledgement document is used in conjunction with the transmission of all electronic documents defined in the ETSO process for technical or application acknowledgement. A document is checked by the system in two levels:

- It is first controlled at system level to detect **syntax errors** (XML parsing errors, file, processing errors, etc.);

- Next it's controlled at the application level to detect any **semantic errors** (invalid data, wrong process, etc.).

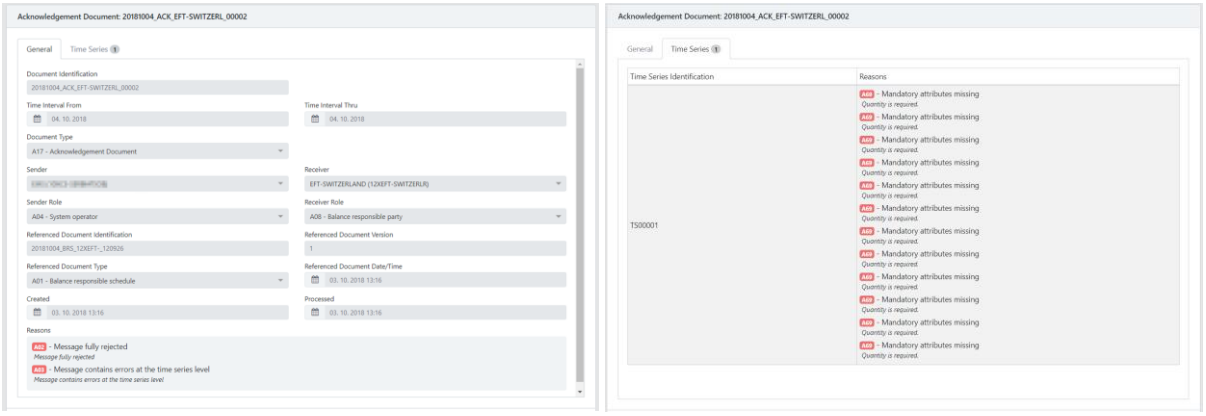
All Acknowledgment documents are available as other documents in Documents view, but while entering BRS system immediately responds with message and link to acknowledgement document as shown on picture below:





If there is a problem encountered at the first level, then a technical acknowledgement may be sent to inform the originator of the problem. If errors are encountered at the second level or if the application can successfully process the information, then an application acknowledgement may be sent to inform the originator of the situation. See ESS Implementation Guide and EAD Implementation Guide for more information about Acknowledgements documents.

With the Web Application all of Acknowledgement documents sent to particular party in question can be reviewed. On the **General tab** detailed information about original document, parties, date/time and acknowledgement reason (***A01 – Message fully accepted*** or ***A02 – Message fully rejected***) are displayed. **Time Series tab** can provide more information about rejected time series and the reasons of the rejections.



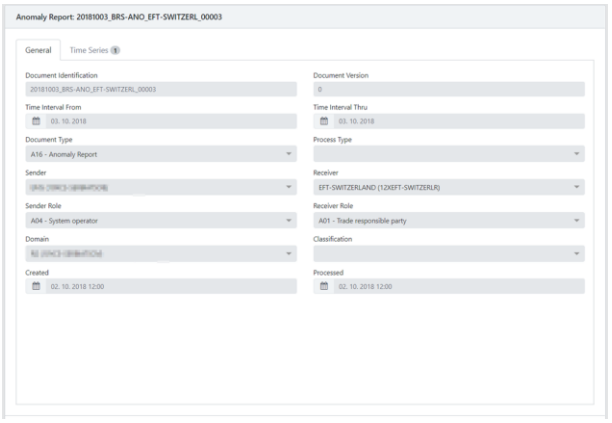
Anomaly Reports

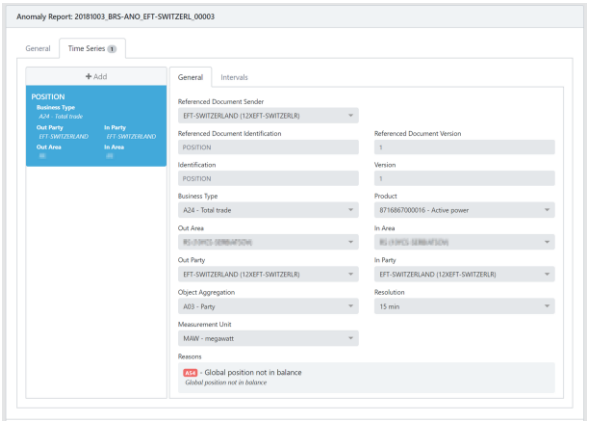
The **Anomaly report** contains the time series that have been identified as being in error (mismatched) for the party in question. It is generated as soon as the system operator has all the necessary information in his possession.

Time series found to be in error need to be resent via the retransmission of the applicable schedule message (with a new message version) containing the corrected time series (with the version number of the retransmit message) by provider or provider counter party. The retransmitted schedule message will also include all the non-erroneous time series that were

sent with the message. These should maintain the version number of their last clean transmission. See ESS Implementation Guide for more information about Anomaly reports.

With the Web Application all of anomaly reports sent to a particular interconnection trade responsible (ITR)/Balance Responsible Party (BRP) can be reviewed. On the **General tab** sender, receiver and date/time information are available. **Time series tab** provides detailed information about time series in error.

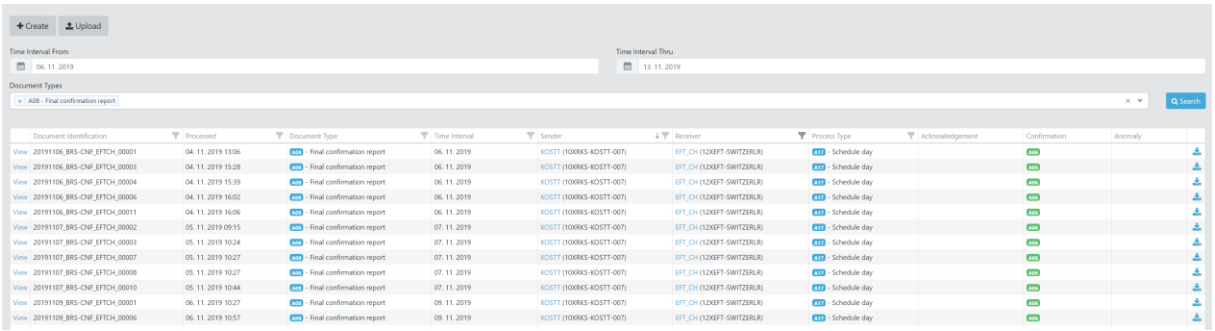




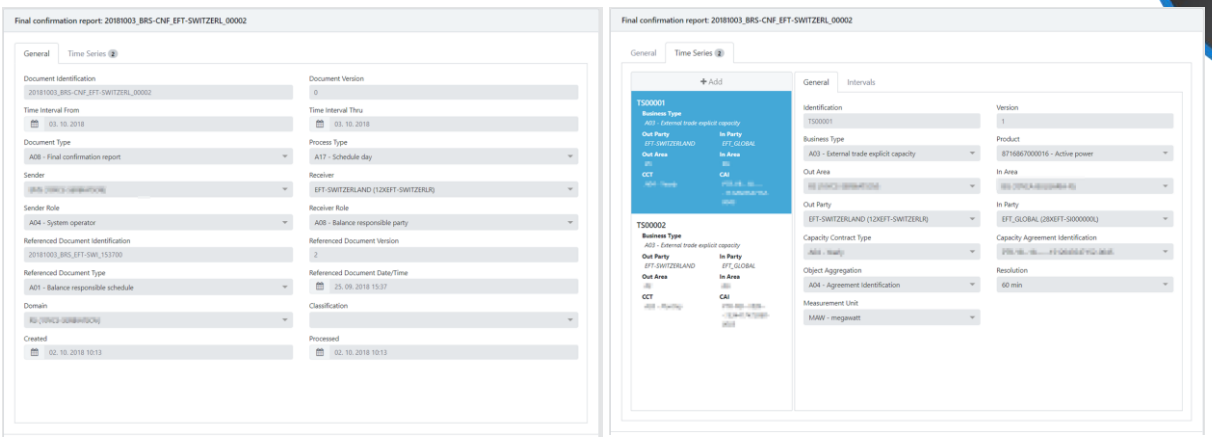
Confirmation Reports

The **Confirmation report** contains all the time series that have been sent in the schedule document. It may include one or several time series that the system operator has imposed on the market participant in compliance with market rules. Balance Responsible Schedule can either be globally confirmed, or in the case of discrepancies, you will be informed of what aspects of your time series have been accepted. System generates intermediate confirmation reports and final confirmation report (last after cutoff time). See ESS Implementation Guide for more information about Confirmation reports.

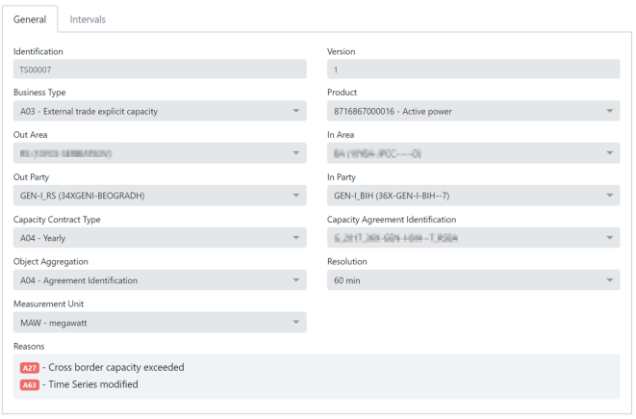
On the main **Documents** view first Confirmation Reason Code (*A06 – Schedule accepted*, *A07 – Schedule partially accepted* or *A08 – Schedule rejected*) is available.



Next on the **General tab** Of Confirmation Report information about Document Type (Intermediate or Final Confirmation Report), Sender, Receiver, Referenced Document Identification, Referenced Document Version, Referenced Document Type and processed date/time are displayed.



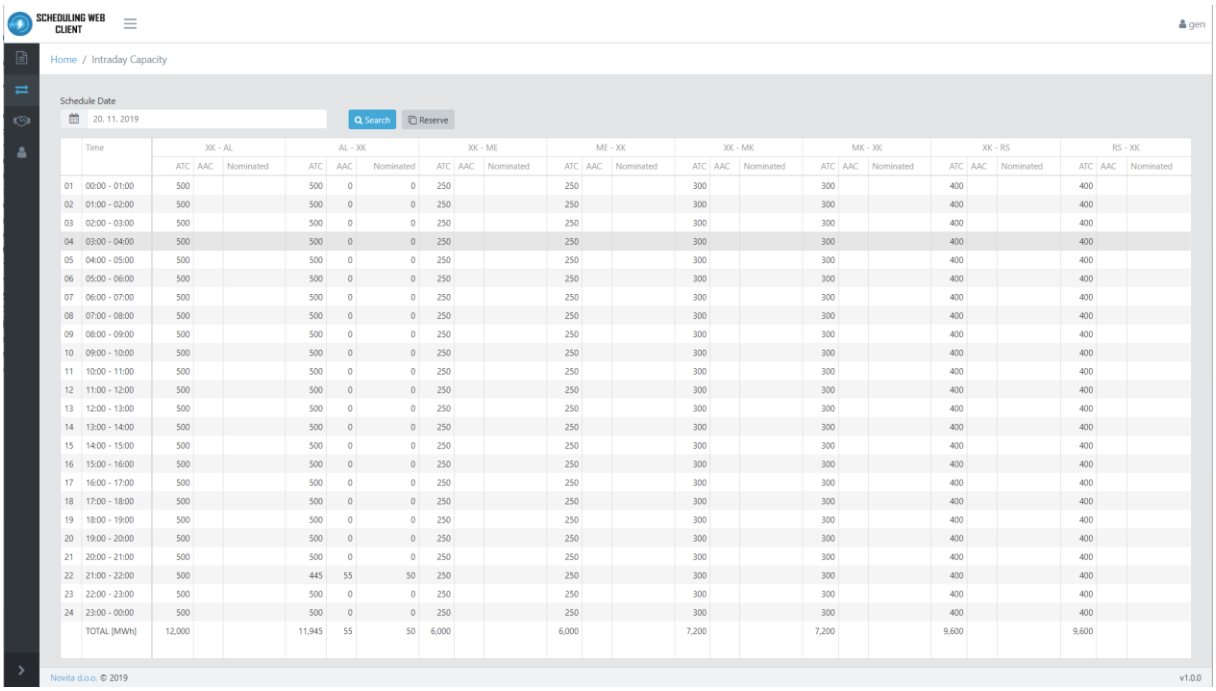
Time series tab provides detailed information about confirmed series and decreased or increased quantities in case of mismatches on Interval tab. Each time series with any kind of mismatched or modifications is clearly marked with corresponding Reason Codes on General tab, as on example below:



INTRADAY CAPACITY RESERVATION

ATC Reservation Process

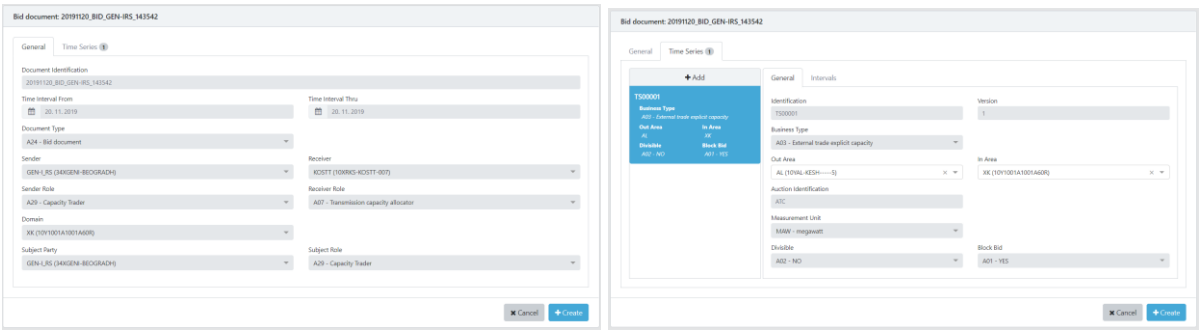
Available Transmission Capacity (ATC) is the part of NTC that remains available after the allocation procedure and is used for further commercial activity. ATC is usually calculated by the **following equation**: *ATC = NTC – AAC + counter confirmed trades*, where NTC (Net Transfer Capacity) corresponds to the maximum exchange between two areas and AAC (Already Allocated Capacity) to the total amount of allocated transmission rights **or by using different calculation**, based on local market rules. In this section user can also review nominated quantities.



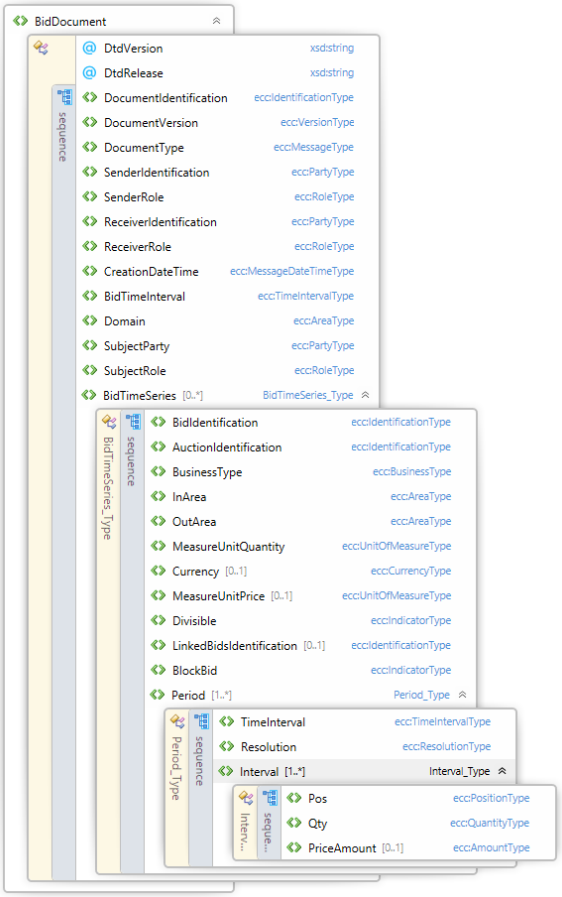
Capacity traders can reserve desired quantity by sending or uploading a Bid document XML or using GUI in Web Application (see below). A Bid document is a document which contains a set of bids (represented by time series). The bid time interval and the domain define the period for which the capacity is requested. There may be several Bid documents submitted by the Sender for the same bid period and subject party (Capacity Trader). Bid price must not be specified. As reservations are either accepted or rejected immediately, only one version of each bid document is allowed. See ECAN Implementation Guide for more information about Bid documents.

Manual Bid entry via GUI: Web Application supports participants to place ATC reservation bids by selecting appropriate schedule date from the status view, and then clicking the **Reserve** button.

A dialog for the Bid Document opens, with prefilled fields. Participant only has to specify In/Out Area and one or more hourly quantities they intend to reserve.



Bid XML Document: Participant with implemented back-office support can also directly send an ECAN Bid Document to the system. Document may be transmitted via any configured channel (e-mail, ftp …). It is also possible to upload externally prepared XML document via the Web Application.



Allocation of ATC is based on algorithm **first come first served** and can be reserved during intraday, when local market rules do not require an auction allocation.

The system supports automatic use-it-or-lose-it process. For each border, the administrator may specify the maximum reservation time. If the allocated intraday capacity has not been nominated until the expiration of this period, the unused portion will be **automatically released**.

When capacity is released, all Rights Documents created for the allocation are updated to the next version.

Additionally, at the end of a matching cycle, all intraday contracts which are not at least partially nominated, are released in the positions which can no longer be nominated.

Allocation Process: The system checks if requested capacity is available. There are three possible situations:

- ATC is sufficient to completely satisfy the asked quantity. System will allocate total requested capacity with A73 – Bid accepted reason code.
- ATC is only partially sufficient and the bidder has specified a divisible bid. The requested capacity will be only partially allocated with A72 – Original bid divided to permit acceptance reason code.
- ATC is either not available or is insufficient and the bidder did not specify a divisible bid. No capacity will be allocated with A27 – Cross border capacity exceeded reason code.

When capacity is allocated, the system creates a new capacity agreement with contract type A07 – Intraday contract, and identification in the following format: *AA_RES-ATC_A1-A2_yyyyMMdd_cccccc*

where:

- AA – short code of the local balance area
- A1 – short code of out area
- A2 – short code of in area
- yyyyMMdd – schedule date (time interval from)
- cccccc – incremental counter (6 digits, zero padded)

When no capacity is allocated, the capacity agreement identification for the ARD document will be "NONE" (XML schema designates this element as mandatory).

After each successful allocation, the updated ATC is published with appropriate documents (no specific processing for the intraday process).

Response Documents

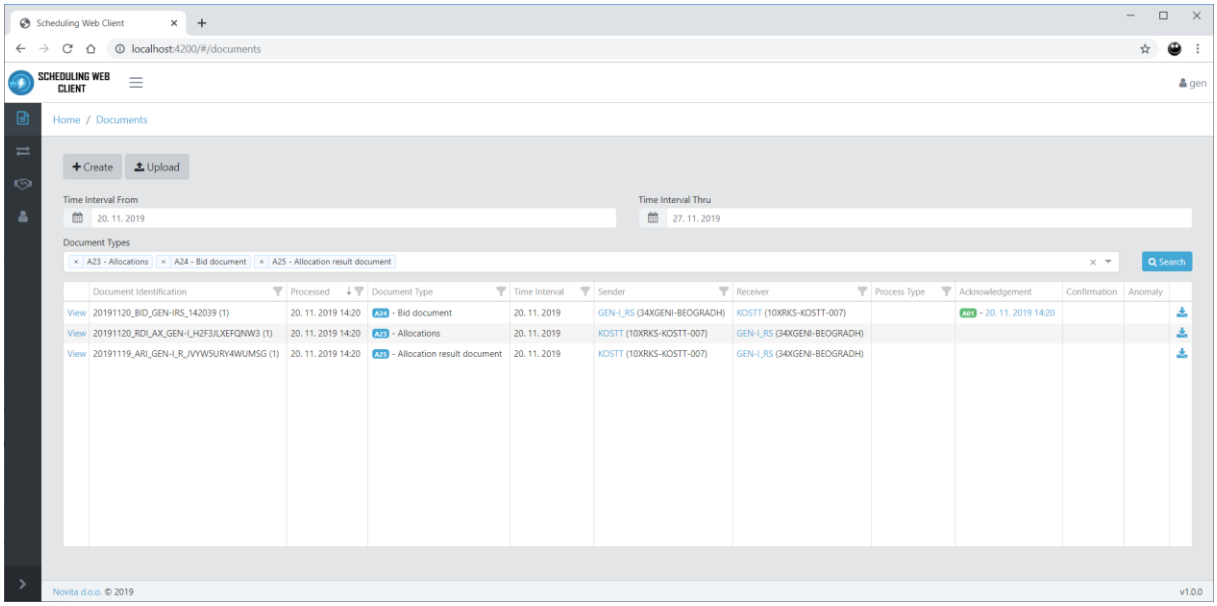
As a result of allocation process, the following output documents are created for Capacity Trader:

- ECAN Allocation Result Document: Contains the results of allocation and is sent to the bidding participant (Capacity Trader). This document is sent even when no capacity was allocated. The document contains a single time series with allocated quantities (possibly all zero) with appropriate reason code.
- ECAN Rights Document for the Capacity Trader.

The rights documents are only created when there was a successful (full or partial) allocation.

Nomination: There are no differences in nomination for contracts allocated within Scheduling System and contracts allocated externally (imported Rights Documents).

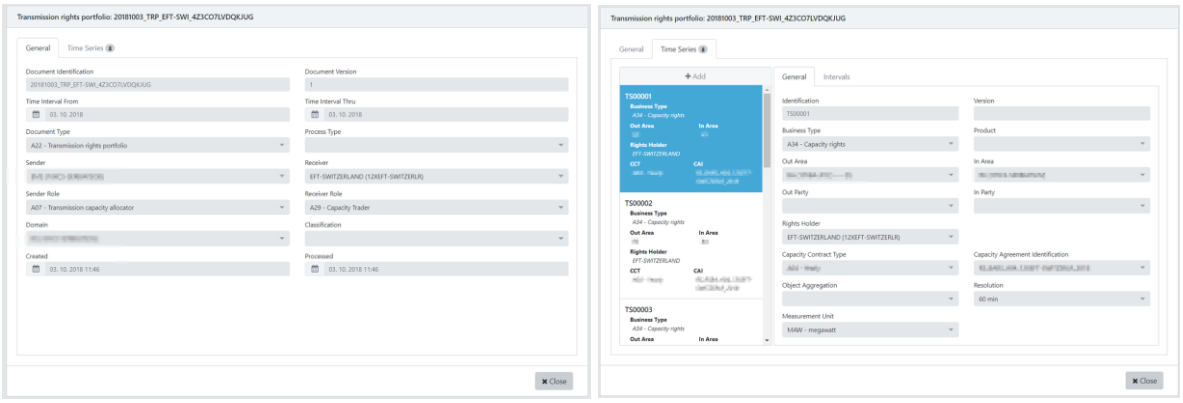
Input document **A24 – Bid Document** and two output documents **A25 – Allocation result document** and **A23 – Allocations** are available in Documents section.



TRANSMISSION RIGHTS PORTFOLIO

Transmission Rights Portfolio (TRP) option provides **Rights document** with document type **A22: Transmission Rights Portfolio**, business type A34: Capacity rights and it informs Capacity trader about the allocated capacity rights. The document is created upon user request, and user can request new document with **Request New** button. If there is already TRP created for the day in the question, a new version of already existed document will be created.

The document contains a complete portfolio of transmission capacity rights, whether allocated by local TSO or by any other capacity allocator (if rights documents have been transmitted to local TSO).



Please Note: Each Market Participant (Party) can receive (or view in drop box while manually entering Balance Responsible Schedules) only their own allocated capacity rights (CCTs+CAIs). Capacities owned from cross-border counter party are not displayed and need to be provided from counter party (and entered manually while entering Balance Responsible Schedules via Web Application).

It is possible to send **Status Request** document also as XML document via email or upload it. See ETSO Status Request Implementation Guide for more information about Status Request documents.

USER PROFILE

On User Profile page, users can review information about their profile (username, associated party etc.). Last password change time, password expiration time and change password options are also available.

