



JAO Report

Auction cancelations internal JAO causes

Canceled Auctions since 31/12/2015*

Date	Border(s)	Capacity Offered (MW) (avg per hour)**	Hours unavailable	Reason
31/12/15	CEE	13,925	24	Algorithm failure
01/01/16	CEE	12,355	24	
31/12/15	CH<>DE	4,659	24	Min-max file incorrect
01/01/16	IT-AT IT-SI		8 (XBID2)	Contract ID structure
26/03/16	CEE FR-CH	12,215 1,474	24	System freeze due to extreme high load
29/05/16	CH-IT	1,828	24	
01/06/16	Italian XBID	530	24 (XBID1)	NFS failure
13/07/16	CEE	13,666	24	Algorithm failure
23/07/16	Italian XBID	126	24 (XBID1)	Stuck process
29/07/16	CEE	12,764	24	Human Error

cancellations

- 31-12 and 01-01
 - Bug in the Auction Algorithm
 - **Problem solved**
- 31-12
 - Min/max file format incorrect. Back-up available but declined by TSO since it was not tested
 - **Problem solved**
- 26-03
 - 4 times higher amount of pre-bids than experienced before
 - **Problem solved**
- 29-05 and 01-06
 - Network Files Server malfunction due to random malfunction of NFS software.
 - **Problem solved**
- 13-07
 - Bug in the Auction Algorithm. Not related to 31-12 and 01-01
 - **Problem solved**
- 23-07
 - 2 processes running in parallel. Procedure has been changed
 - **Problem solved**
- 29-07
 - Error in ATC calculation. Procedure has been changed. Process automated by November 2016

JAO incidents July 2016

Market day 14th July

- Algorithm failed to generate results, due to a bug in the algorithm. This was triggered by a specific set of bid and offered capacity
- System provider was unable to solve the problem within the given timeframes
- Shadow auctions results could not be used due to passed deadline

Market day 30th July

- System worked as expected
- TSOs required JAO to cancel the auction because JAO had allocated more than what was available. Given the design of the auctions/market of CEE, all borders are within one auction and therefore all CEE borders were affected,
- Error came from an error on JAO side in the ATC calculation for the Polish borders
- Cancellation was late because JAO was not informed earlier that there was an issue in the available capacity / sold capacity
- Shadow auctions results could not be used due to passed deadline

Auction cancellations causes external to JAO

Border	Horizon	Delivery period	Cap not sold (MW)	Reason	Comments
FR<>IT	XBID1	01/04/16	N/A	both directions cancelled due to BEC file integration issue at EPEX	<i>Auctions cancelled before receiving the ATC</i>
CH->IT	XBID2	17/05/16	780	Critical conditions on the NTC level	<i>Auction results canceled by TSO's</i>
All	XBID1	29/06/16	N/A	IT issue on TSO level	<i>Auctions cancelled before receiving the ATC</i>
IT<>GR	Daily	15/08/16	0	Unavailability of the interconnector	<i>ATC received was 0</i>
IT<>GR	Daily	16/08/16	0	Unavailability of the interconnector	<i>ATC received was 0</i>
IT<>GR	Daily	17/08/16	0	Unavailability of the interconnector	<i>ATC received was 0</i>
IT<>GR	Daily	18/08/16	0	Unavailability of the interconnector	<i>ATC received was 0</i>
FR<>IT AT<>IT	XBID1	21/08/16	N/A	Delay in notification process Austria / France	<i>Auctions cancelled before receiving the ATC</i>
IT->CH	XBID2	01/09/16	7937	Critical conditions on the NTC level	<i>Auction results canceled by TSO's</i>

JAO and TSOs committed to take the necessary actions to ensure a satisfactory service level

- **JAO improvement plan initiated**
 - Reporting to Supervisory Board and shareholders meeting
 - Monitored by external party who independently reports to SB
- **JAO internal organisation enhanced and reinforced**
 - New COO since June
 - Following independent audit by third party, comprehensive change plan launched, comprising project management & operational processes and staff coaching.
 - Additional resources hired
 - Internal procedures and responsibilities reviewed and amended
- **Monthly Operational report sent to TSO Joint Service Counsel**
 - providing information on incidents, actions taken, open issues, progress, etc.
 - Monthly report also shared with TSO's as Shareholders

IT systems JAO (1)

- Several improvements have been performed and work is still on-going to address all known issues and to improve the monitoring to anticipate potential issues in the future.
- Functionally, the algorithm was corrected after the incidents on the 31/12/15 and 01/01/16, affecting the CEE borders.
- Following 6.5 months of stable operation the algorithm failed on July 13 due to a specific set of bids and capacity offered.
 - Prior to this, the algorithm was regularly checked internally as well as externally and confirmed to work as expected.
 - Following the incident of 13/07/16, GE identified the issue in the algorithm and the fix was deployed shortly after

IT systems JAO (2)

- Infrastructure
 - JAO have changed the technology used for the Network File System (NFS) following the incidents at the end of May and beginning of June.
 - Software Supplier had an on-site with JAO's hosting provider during the second week of August to identify any potential performance issues Based on the results from the on-site, changes implemented to further improve the stability.
- Operationally
 - following each incident the backup processes have been reviewed and optimised
 - For example; Shadow auctions are run every morning prior to the actual daily auction. This way, in the event of a failure in the CEE auction, the results from shadow auctions can be used. However this solution only works in the failure being detected before the deadline (10:15)

Processes and Procedures (1)

- Shadow Auction as fall back has been disconnected from the daily auction operation to ensure being always available
- limiting the chance on human error
 - Release 3 of the IT system early November 2016 will limit human interaction
- New releases and features are only accepted on production after being fully testing and running in parallel for some time
 - Call upon all, especially MP's, to actively participate when asked
- Processes and procedures are constantly reviewed in order to eliminate potential risks
- Information on the website being improved
 - Suggestions are welcome!

Processes and Procedures (2)

Following the July incidents, JAO will propose during the upcoming Joint Service Counsel (September 27) the following procedural changes to the respective TSO's;

- Split the CEE region in separate auctions so that the cancelation on one border do not affect the other borders.
 - It shall be noted that due to the specific situation at the Polish borders the auctions on these borders will remain being considered as one auction.
- TSO's should approve the ATC calculation when provided to them. In case no objection is received before market closure, the provided ATC values are deemed accepted.
- The TSO's shall, in case of an mistake in the ATC values consider curtailment in stead of cancelation to limit the market impact.