

Minutes

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| Project Title | XBID Market |
| Title of Meeting | 7 th User Group Meeting |
| Date / Place | 20/03/18, 09:30 – 11:00 CET, conference call |

| Status | Version | Date | Comment |
|--------|---------|----------|---------------------------------|
| Draft | 1 | 20/03/18 | Draft provided to PP for review |
| Draft | 2 | 23/03/18 | Draft provided to MP for review |
| Final | 3 | 28/03/18 | Final |

PRESENT MARKET PARTIES (MP)

| Name | Company |
|----------------------|--------------------|
| Anders Damm Johansen | Danske Commodities |
| Jerome Michel | EDF |
| Paul-Erik Vermeulen | EFET |
| Jérôme Le Page | EFET |
| Anders Sivertsgård | Energy Norway |
| Ana Lopez Carracelas | ENERGYA VM |
| Yannick Phulpin | Eurelectric |
| Hélène Robaye | Eurelectric |
| Petri Evasoja | NAET |
| Benjamin Karsten | Statkraft Markets |
| Markus Bäck | Vattenfall |
| Santiago Blanco | Wind to Market |

PRESENT PROJECT PARTIES (PP) AND LIP REPRESENTATIVES

| Name | Company |
|---------------------------------|------------------------------------|
| Dirk Rauschenbach | Amprion |
| Susanne Dornick | E-Bridge, PMO |
| Viviane Illegems | Elia |
| Christoffer Bolding Christensen | Energinet |
| Pierre Milon | EPEX |
| Vladimir Satek | Indra, PX Project Manager |
| Katharina Niciejewska | EPEX |
| Mark Pickles | National Grid, TSO Project Manager |
| Karri Mäkelä | Nord Pool |
| Espen Dovle | Nord Pool |
| Nuria Tranco | OMIE |
| Juan Fran Pérez Herráiz | OMIE |
| Alejandro Esteban | OMIE |
| Bruno Lemetayer | RTE |
| Chris Kleinpenning | TenneT BV |

AGENDA

| TIME | AGENDA ITEM | PRESENTER |
|---------------|--|---|
| 09:30 – 09:40 | 1. Welcome, agenda | Mark Pickles |
| 09:40 – 09:50 | 2. Project status update | Mark Pickles |
| 09:50 – 10:35 | 3. Feedback trial period a) Feedback market parties b) NEMO's view (implicit trading) c) RTE's/Amprion's view (explicit trading) | Market parties Espen Døvre, Nuria Tranco, Pierre Milon Bruno Lemetayer, Dirk Rauschenbach |
| 10:35 – 10:50 | 4. XBID performance | Vladimir Satek |
| 10:50 – 11:00 | 5. Wrap up, next steps | Vladimir Satek, Mark Pickles |

The questions (Q) received from the market parties (MP) and the respective answers (A) given by the project parties (PP) during and after the presentation are listed in the minutes.

1. Welcome, agenda

The participants of the User Group call are welcomed.

2. Project status update

A short update on XBID progress since the Pre-Launch Event on 31/01/18 is provided.

Q: Is there any update on the Iberian market design?

A: This is dealt with by the Iberian NRAs. OMIE will inform the MP once there is any update.

3. Feedback trial period

The floor is given to the MP and the PP to share their feedback on the 1st trial period.

MP feedback:

- There are a lot of questions about the trading solutions and how these are designed. This is especially around the EPEX LTS.
 - EPEX informs that 20th March EPEX Exchange Council will discuss continuous market setup and that a press release will be published shortly after.
- Low participation by MP stressed (not much liquidity on the platform) which did not allow for testing of the system as if in production.
- Pity that first day of trial period could not be used for testing.
- IT application service providers from MP did not receive sufficient information on the interface to one NEMO's LTS.

Nord Pool feedback:

- In view of that one week prior the trial period the release that contains all updates and developments for XBID was delivered to their members, there was good participation in the trial period.
- Members connected via API and Comtrader.

OMIE feedback:

- 1st trial period went well in general and OMIE's expectations were fulfilled. Members' participation was as expected.
- Members had tested LTS in the previous months already and the XBID trial period was a good opportunity for their members to test the XBID Solution.
- A lot of questions from members regarding the hardware and software of the LTS were received. These were all answered and in the end all parties who intended, also managed to connect to the LTS and their bids were submitted to XBID.

EPEX feedback:

- A lot of members took part in the trial period – more than in usual member testing.
- The parties connected via API and Comtrader. Members asked for specific period to be scheduled in order to have all API internal systems verified. This is foreseen as of 02/04/2018.
- Trade recalls were performed and this went well. This will be replicated during the 2nd trial period.
- Members also asked to be able to test XBID features in LTS or API satellite systems before 14th May. The project secured XBID Simulation environment for additional weeks of training.

RTE/Amprion feedback:

- In general the response from MPs was very low.
- Regarding the connection via the GUI (the XBID GUI being very similar to the existing ICS GUI) only 2-3 feedbacks were received.
- 16 users wanted to connect via API. Arrangements were made prior the trial period and during this the core down issue was caused by a party. As a consequence the prequalification process was adjusted and MPs are only allowed to access the

production environment after they have proven that they are able to successfully connect to the simulation system. Once proven, they are provided with the user login and password to the production environment. Only 3 parties were connected during the trial period via API.

- MP are encouraged to participate in the 2nd trial period. XBID go-live will not be postponed due to MP not being able to connect explicitly to the FR-DE border.

Regarding the core down issue caused by an explicit party prior to the start of the trial phase, PP explain that a change was implemented by DBAG and successfully tested by the project on the originally foreseen first day of the trial period. This was the reason why the trial period started with one day delay.

Following feedback received PP have agreed to offer an extended opportunity for MP to test on an NEMO individual basis. This will happen on the following principles:

- Based on individual offering and coordination of each NEMO and Amprion/RTE for explicit allocations at FR-DE border.
- Technical details of the period and other specifics will be provided by the individual NEMOs upon request of MP.
- The days for the provision of capacity are foreseen for the delivery day of Tuesdays and Wednesdays (local offering may deviate from this principle).

The 2nd trial period is scheduled for 14-18/05 and the daily timing and testing scenarios are presented (slide 12). Regarding improvements for the 2nd trial period the following points are put forward:

- MP: same set-up as for 1st trial period is fine
- PP: To increase liquidity it is suggested to focus on one particular day and time slot to where all MP should trade so that system boundaries can be tested.

Q: Will be sub-hourly and quarter hourly products offered at go-live?

A: The products that are provided today will be also provided within XBID at the respective borders.

4. XBID performance

XBID Solution performance is one of the key factors of the XBID project. Therefore several steps have been taken to ensure that the XBID Solution fulfils the requested performance needs, e.g. diverse Realistic Test Scenarios (RTS) were defined and run. Each RTS represents a set of system parameters (e.g. order book depths, activation of block orders, etc.), conditions (number of order events, trades, etc.), topology (number of hubs, number of borders, etc.) formalized via system boundaries and service level agreement. For go-live the PP contractually agreed with the service provider system boundaries of maximum 800,000 daily order transactions and maximum 200,000 daily trades. The concluded tests have shown that the system performance goes beyond these.

The project is continuously working on increasing system performance. Already now the scenarios of the next RTS (so called "RTS slice B") are agreed and necessary input is collected from parties who are part of go-live and from parties who are expected to join in the 2nd wave. There is also a dedicated performance stream focusing on the further performance improvements which could be delivered within limited time after go-live.

Q: Were performance tests run with the different tick sizes (0,01 and 0,1)?

A: Discussions are still ongoing among some parties at Project level. Also performance tests are foreseen and an outcome is expected end of April. Tests made already showed that tick size does not impact the stability and robustness of the XBID solution. Some MP replied that if this is true on a functional level, past experience over continental and Nordic continuous markets showed that 0,01€/MWh price tick increases number of submitted numbers without necessarily bringing liquidity.

Q: Is any improvement of order book depth foreseen for go-live?

A: Discussions on increasing order book depth are currently ongoing and respective planning has been agreed with DBAG. However, the current focus of DBAG and the PP is on delivering robust and stable business go-live in June. Due to that there is a high probability that an increased order book depth will not be delivered for go-live, however, it is foreseen to be delivered as soon as possible after go-live.

5. Wrap up, next steps

The next User Group meeting is scheduled for 17/04 from 09:30 till 12:30 and will take place at Brussels Airport. The MP may email any points or topics they wish to be picked up to the PP.