

# **Fifty mFRR EAM Recurring Meeting**

## **Statnett, Svenska Kraftnät and Fifty**

### **- technical view**

29.03.2022

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# Agenda

- Transition period - update
- Activations
  - Faster activation
  - Slower activation
- What's next?

# Transition period - update

- Svenska kraftnät and Statnett have communicated that we will postpone Transition to the autumn 2022 (instead of April to July)
- Important step towards go-live of mFRR EAM
  - ECP provides increased communication security
  - CIM-formats enable new bid attributes, important for end-to-end functional verification prior to go-live of mFRR EAM

# Transition period to go-live – specifics

- Today's process of hourly activations
- Technical linking requires same price and resource
- Bid selection will only consider simple divisible bids, technical linking, and max duration/resting time, other attributes will be overlooked
- The activation message will cover a full hour (see next slide)

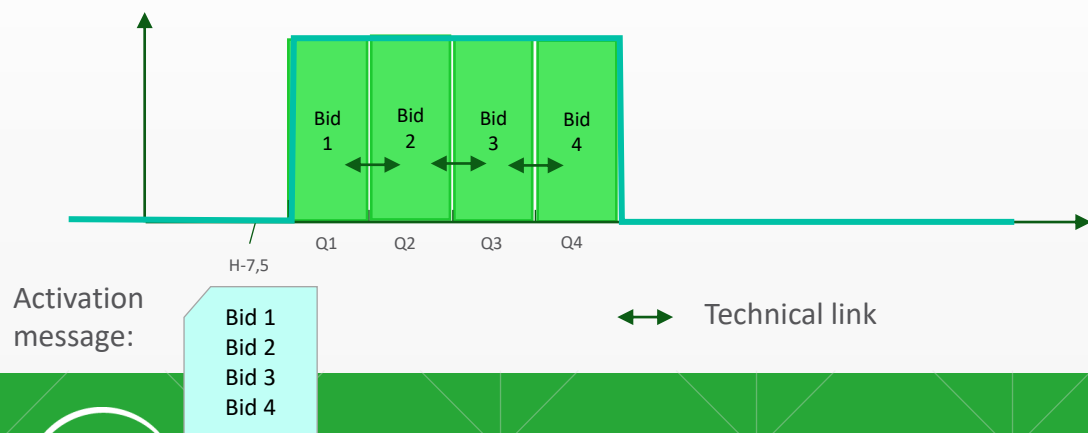
# Transition period to go-live – activation example

Main idea:

- Activation message contains time series for the whole hour for bids with technical linking
- Each activation time series refers to the corresponding bid ID
- BSP responds to each activation message

Needs further description:

- Deactivation before end of hour (updated activation message)
- Dependency between bid and activation message, due to UUID length
- Recurring activations and SCADA notification
- ..



# Plan for further description of transition to go-live

- We are working on detailing this and will present in next Fifty technical meeting
- The implementation guide will be updated with additional description for implementation of transition to go-live

# Activations

- There are different ways a bid can be activated.
- All bids must be able to be activated for scheduled activation except for bids with the bid attributes slower activation and period shift only
- It can be indicated if bids can be activated in additional ways through the following bid attributes:
  - Direct activation
  - Period shift
  - Faster activation

# Activations

- There are different ways a bid can be activated. Supported activation for a bid is specified in the market product type attribute + additional attributes:
  - **Scheduled activation only (SA)**
    - `standard_MarketProduct.marketProductType = A05`
  - **Scheduled activation and Direct activation (SA/DA)**
    - `standard_MarketProduct.marketProductType = A07`
  - **Period shift and SA/DA or SA only**
    - `standard_MarketProduct.marketProductType = A05 or A07, and Reason-code for beginning or end of period`
  - **Period shift only**
    - `standard_MarketProduct.marketProductType = Z01, and Reason-code for beginning or end of period`
  - **Faster activation and SA/DA**
    - `standard_MarketProduct.marketProductType = A07, and activation_ConstraintDuration.duration < standard FAT`
  - **Slower activation/Non-standard product**
    - `standard_MarketProduct.marketProductType = A02, and activation_ConstraintDuration.duration > standard FAT`



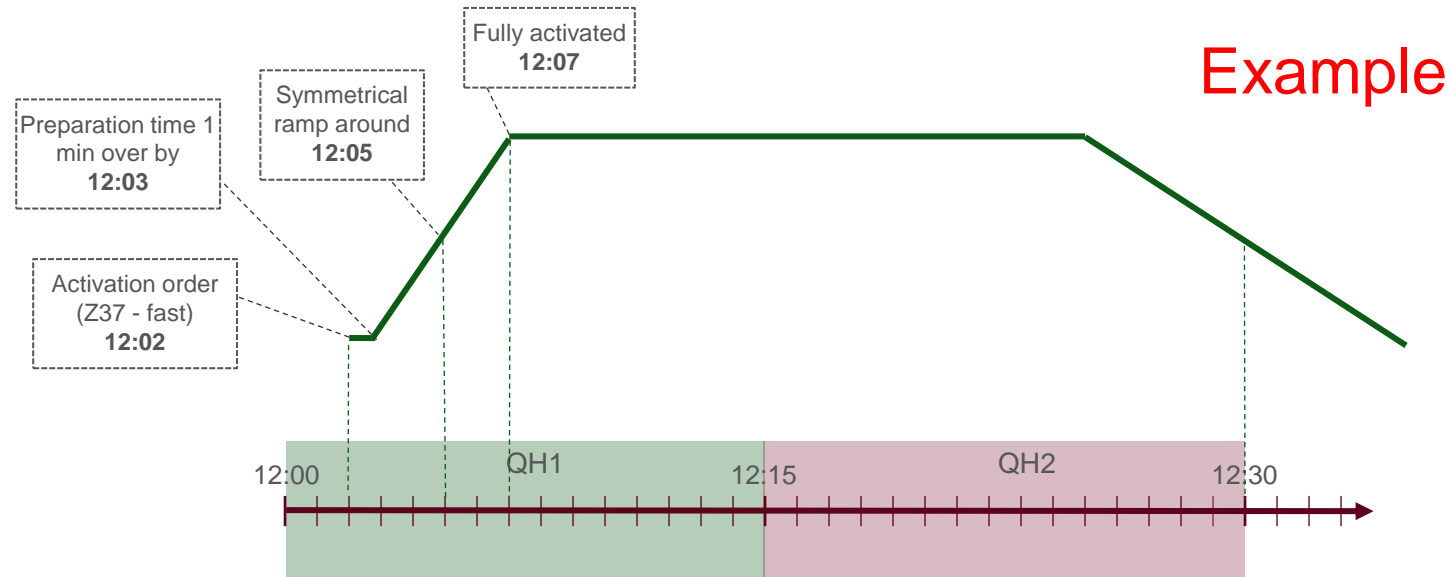
# Period shift activation

- Period shift activations will be ordered periodically every 15 minutes based on the structural imbalances around the period shift.
- Only bids not selected for SA will be considered for period shift activation.
- Each period shift activation will have a duration of 5 or 10 minutes in either the beginning of the quarter hour or in the end of the quarter hour.
- All period shift activations (beginning and end) for a given quarter hour will be ordered 7,5 minutes before the start of the quarter hour (T-7,5) in a separate activation message from the scheduled activations.
- The BSP is required to respond to the activation message within 2 minutes. The BSP is accountable for the activations regardless of the activation response.

# Faster activation

- Will only be used for *system purpose*, e.g. when there is an overload on a component in the grid, and not for *balancing purpose*
- Applicable only in Norway
- Faster activation time is specified in the activation\_ConstraintDuration.duration attribute of a standard product direct activation bid
  - Activation time < Standard FAT (15 min, will later change to 12,5 min)
  - Preparation time is included in the activation time and is assumed to be 1 min for faster activation
  - A bid with faster activation time may still be activated as scheduled activation or normal direct activation with standard 2,5 min preparation time and 10 min ramping time

# Ramping of faster activation



- In this example the standard product bid has 5 min as minimum activation time
- Activation order for faster than standard activation sent 12:02 for the activation period 12:05-12:30
- Fully activated by 12:07
- Activation continues in the next quarter hour like a standard direct activation
- Imbalance adjustment for the activation ramp will be according to the bid activation time

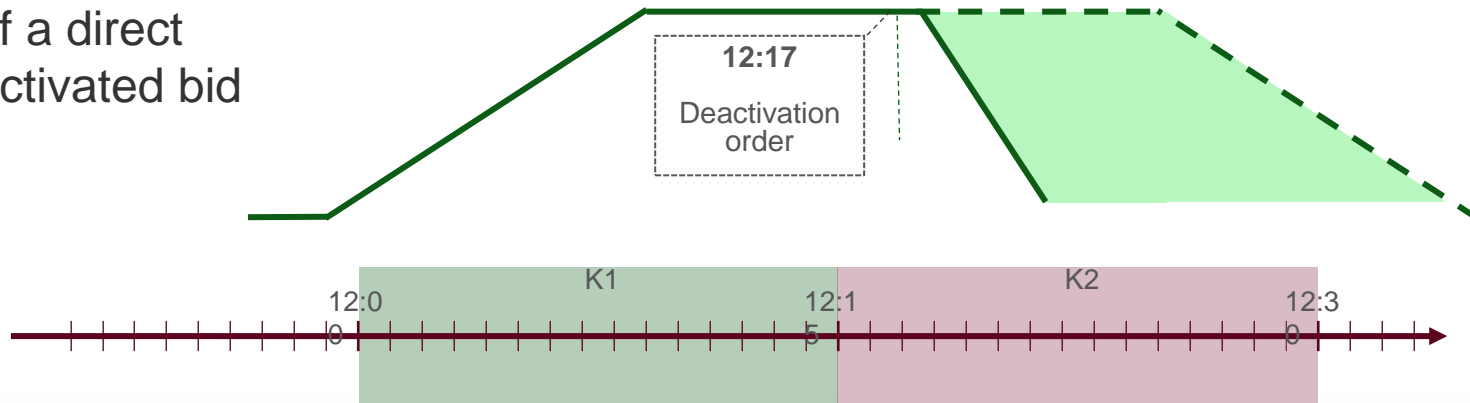
# Faster deactivation

- Applicable only in Norway
- Will only be used for *system purpose*, and only when no other alternative is available to maintain system security
- Faster deactivation must be possible for all standard product bids
  - Applicable for all SA and DA bids, no extra information in the bid
- When a deactivation order is given the BSP is obliged to start deactivation as soon as possible
- Imbalance position will be adjusted according to a predefined down-ramping profile
  - Preparation time: 1 minute
  - Ramping time: 4 minutes
- The reduced activation volume will be compensated for

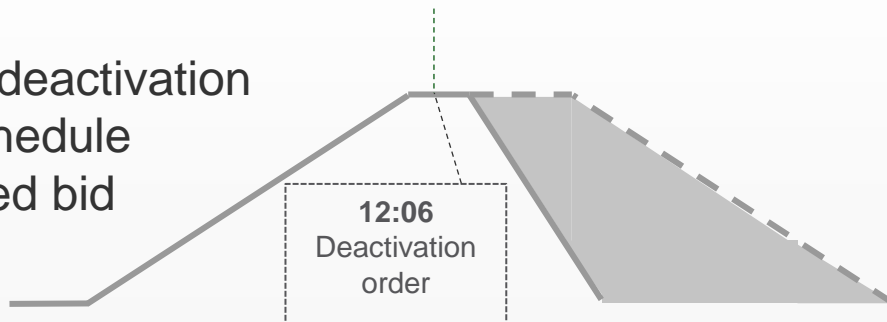
# Ramping of faster deactivation

Example

Faster deactivation  
of a direct  
activated bid



Faster deactivation  
of a schedule  
activated bid



# Slower activation

- Will only be used for *system purpose* or in *scarcity situations* in Sweden
- Slower activation bids are non-standard and will not be sent to the AOF (cannot be activated in scheduled activation or direct activation).
- Slower activation is indicated by:
  - `standard_MarketProduct.marketProductType = A02`, **and**
  - `activation_ConstraintDuration.duration > standard FAT (15 min, will later change to 12.5 min)`
- These bids are available for **manual activation through phone**
- This is applicable in Sweden, not in Norway

# Other non-standard product

- Non-standard product bids will be relevant in Norway for "Driftsforstyrrelsesreserve" and for system regulation on resources that cannot deliver standard product
- This will be described in a later version of the implementation guide

# Questions - Technically linked bids

## Can bids be technically linked over the day shift?

- Yes, they can by linking them using the same UUID in the <linkedBidsIdentification> element on the bids on either side of the day shift.
- However, please note that the bids that are technically linked over the day shift must be submitted in two separate bid messages as stated in *chapter 5.2 Document coverage* of the Implementation Guide.

## Can there be gaps in a series of technical linked bids?

- Yes, a series of technically linked bids may contain gaps.



# Fifty BSPI test environment

*Fifty BSPI test environments* for Svenska Kraftnät and Statnett are services available to the BSPs for verification of the validity of messages using the new format. The messages are validated according to the implementation guide.

The environment is operational, and several actors have begun verification of their implementations of the new bid messages.

Contact:

Norway - Statnett - [bsp@statnett.no](mailto:bsp@statnett.no)

Sweden - SVK - [mfrr@svk.se](mailto:mfrr@svk.se)

# Examples, FAQ and more information on the webpage

[Welcome to Fifty mFRR EAM :: BSP Integration documentation](#)

# What's Next?

- What would you like to discuss in future meetings?
- Questions?