

Types of Bids



MARI: Standard and variable bid characteristics

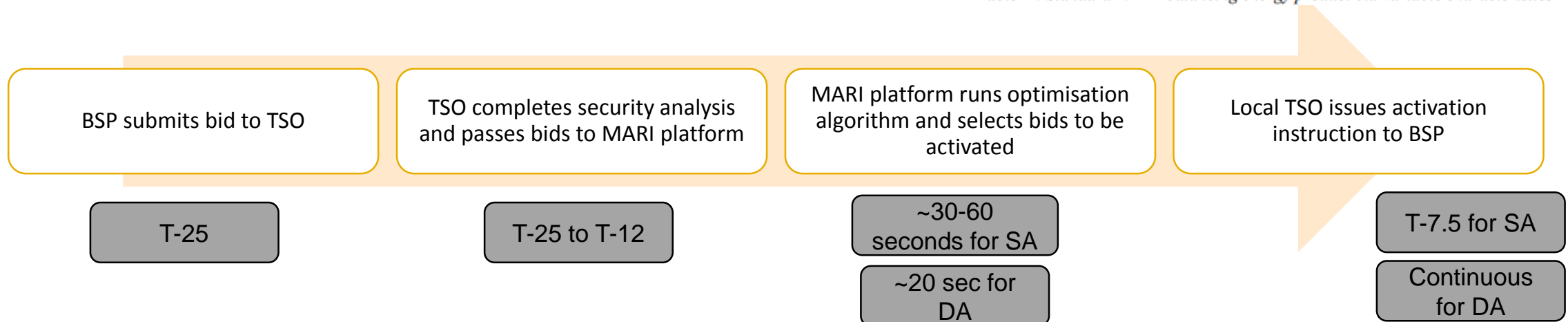
- Reminder: BSPs submit mFRR bids and offers to their local TSO.
- Bids are to be provided to NGESO in GBP, with NG to have responsibility for conversion to/from Euro.
- The standard and variable bid characteristics are defined in the IF document.
- The different types of bids are covered in the following slides

Mode of activation	Manual
Activation type	Direct or scheduled
Full activation time ("FAT")	12.5 minutes
Minimum quantity	1 MW
Bid granularity	1 MW
Maximum quantity	9,999 MW
Minimum duration of delivery period	5 minutes
Price resolution	0.01 €/MWh
Validity Period	<p>A scheduled activation can take place at the point of scheduled activation only.</p> <p>A direct activation can take place at any time during the 15 minutes after the point of scheduled activation.</p>

Table 1: Standard mFRR balancing energy product bid characteristics

Price	in €/MWh
Location	At least the smallest of LFC area or bidding zone.
Divisibility	<p>BSPs are allowed to submit divisible bids with an activation granularity of 1 MW.</p> <p>BSPs are allowed to submit indivisible bids pursuant to Article 7(4)</p>
Technical linking between bids	BSPs are required to provide information on technical linking between bids submitted in consecutive quarter hours and within the same quarter hour
Economic link	parent-child linking and exclusive group orders will be allowed

Table 2 : Standard mFRR balancing energy product bid variable characteristics



Types of bids

Bid Type	Description	Sub-bid Type	Description
Simple Bids (within one MTU)	Simple bids – one bid, one price	Divisible bid	Bids can be ‘divisible’ meaning that any portion of the volume of the bid may be activated. A 100MW fully divisible bid may be activated at anywhere between 1MW and 100MW.
		Indivisible bid	‘Indivisible bid’ means a standard mFRR balancing energy product bid, which cannot be activated partially, i.e. all or nothing
Complex Bids (within one MTU)	Complex bids – combination of simple bids. A complex bid consists of a group of bids within the same MTU period that are associated with each other. The following two types of complex bids will be supported by the platform: Exclusive and multipart bids	Exclusive bids	Exclusive bids are mutually exclusive according to the principle “exactly one or none”. They may have different prices, directions and volumes. They must have the same activation type and availability status. Exclusive bids always refer to the same MTU period.
		Multipart bids	If an upward multipart bid is accepted, then all associated bids with lower price must also be accepted. If a downward multipart bid is accepted, then all associated bids with a higher price must also be accepted. This is referred to as parent-child linking in the mFRR IF. Multipart bids must cover the same MTU period and have the same direction. Each bid must have a different price. They must have the same activation type and availability status
Linked bids (between MTUs)	There may be links between bids in different MTU periods. The links will apply retrospectively, i.e. the availability of a bid is determined by the outcome for the linked bids in earlier, already optimised MTU periods. Two different types of links are supported; technical and conditional.	Technically linked bids	Technical linkage is the linkage of two bids (simple or complex) in two subsequent quarter hours.
		Conditional bids	Conditional linking is a link between two or three adjacent quarter hours and is only applicable to simple bids (for day 1 of go live).

MARI: Simple Bids

- Simple bids are those bids, which are not linked together in any form.
- Every simple bid is characterised by a unique price. The offered volume determines the size of the bid.

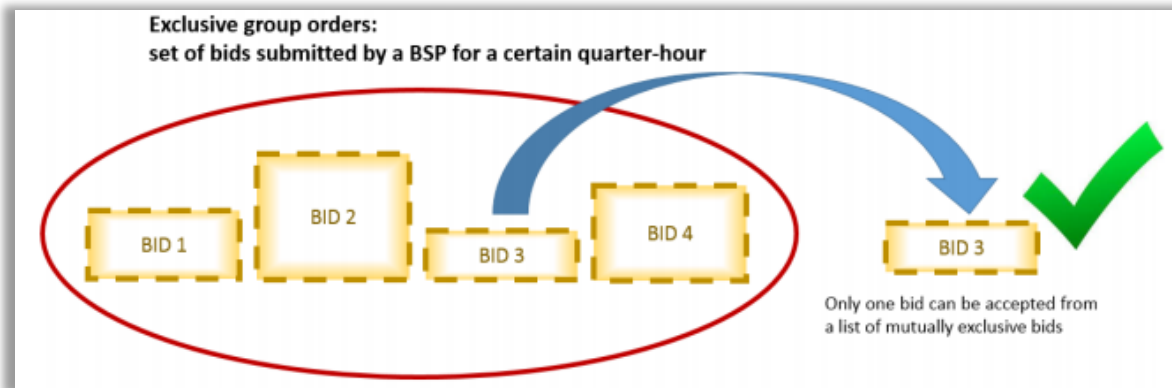
Bid	
Price	y €/MWh
Offered Volume	x MW
Min offered volume	z MW

Depending of the size of the minimum offered Volume (parameter z);
the following types of bid can be modelled.

	Fully divisible bid	Indivisible bid	Divisible bid
Price	y €/MWh	y €/MWh	y €/MWh
Offered Volume	x MW	x MW	x MW
Min offered volume	z MW Where $z = 0$ MW	z MW Where $z = x$ MW	z MW Where: $0 \text{ MW} < z < x \text{ MW}$

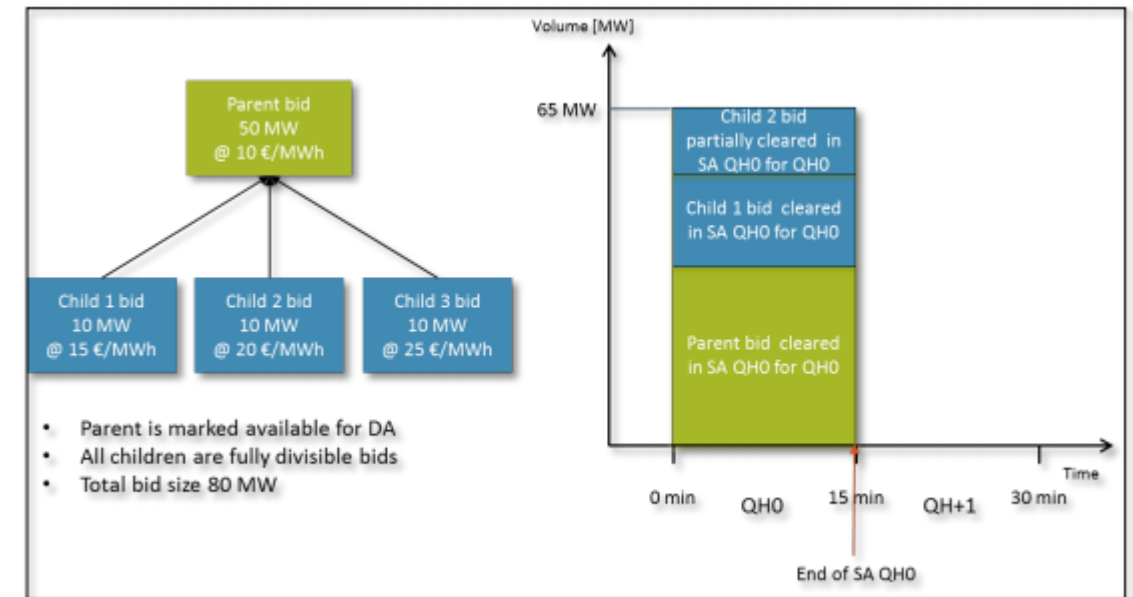
MARI: Complex Bids – Exclusive bid example

- Mutually exclusive according to the principle „exactly one or none”
- All bids can be divisible, indivisible, and fully divisible
- May have different prices, volumes and directions
- Always refer to the same MTU (15 min)
- If the group was not activated in SA, it can be cleared in DA
- All the bids in an exclusive group should have the same activation type



MARI: Complex Bids – Multipart bid/Parent – Child Bid Example

- Bids can be (fully) divisible or indivisible
- Must cover the same MTU period and have the same direction
- The activation type should be the same for all bids of the multi-part bid.
- All bids in the multi-part bid should have different prices. The parent bid will be the cheapest one for the positive direction and the most expensive for the negative direction.
- If a downward multipart bid is accepted – all associated bids with higher price must also be accepted
- If an upward multipart bid is accepted – all associated bids with lower price must also be accepted
- If any component / any bid in the multi-part bid is accepted in SA, none of the other components would be available in DA.

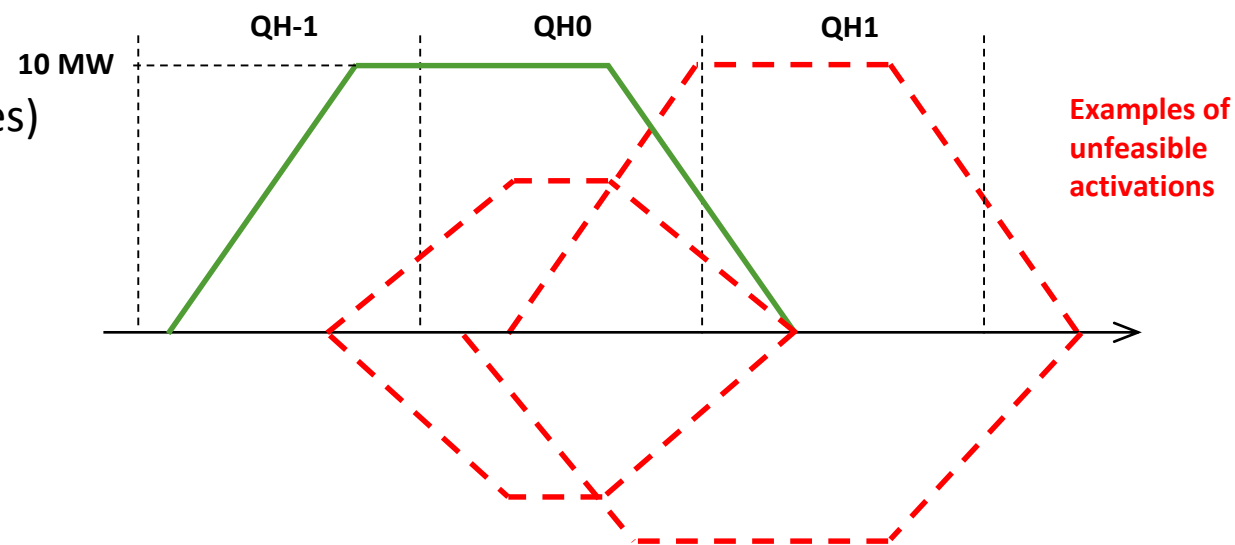


MARI: Linked Bids – Technical Linkage Example

- TSOs are still investigating the interaction between technical and conditional linking, the content presented is subject to change and may be adapted
- At gate closing for QH0, the BSP does not know the result of the clearing for DA for QH-1. Therefore, if the bids submitted for QH-1 and QH0 represent the same asset or the same pool the dependencies between those bids must be communicated to the mFRR platform in order to prevent overlapping or unfeasible activations.
- Technical linking ensures that a bid in QH0 is not available for clearing if the bid in the previous quarter hour was activated in DA. This is important in order not to activate the same balancing resource twice.
- Technical linkage is the **linkage of two bids (simple or complex) in two subsequent quarter hours**.
- Any bid in QH0 may have a technical link to DA bid in QH-1.
- It remains the responsibility of BSPs to correctly identify their bids, in order to avoid unfeasible activations (e.g. double activation of the same resources)

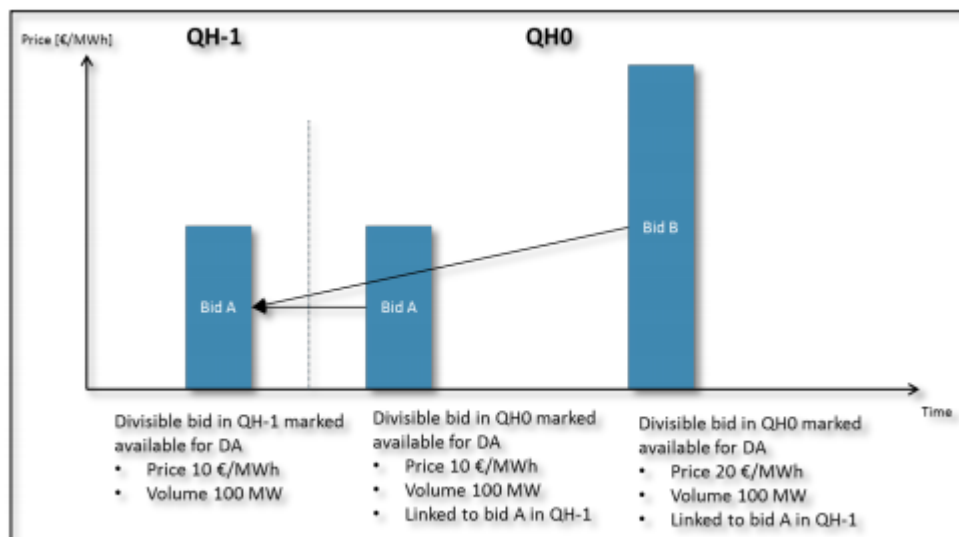
The following rule will be supported:

A bid that underwent direct activation in QH-1 (i.e. for the preceding quarter hour) is not available in QH0, neither for scheduled nor for direct activation. This rule shall always be enforced by the AOF.



MARI: Linked Bids – Conditional Linkage Example

- TSOs are still investigating the interaction between technical and conditional linking, the content presented is subject to change and may be adapted
- At gate closing for QH0, the BSPs do not have the knowledge, if their bid in QH-2 was activated in DA or if their bid in QH-1 was activated in SA or DA. A bid in QH0 may for example be available / unavailable for clearing if bid in QH-2 was activated in DA or bid in QH-1 was activated in SA.
- Conditional linking is similar to technical linking and aims to change the availability of a bid in QH0 under certain conditions.
- Conditional linking is a link **between two or three adjacent quarter hours and is only applicable to simple bids (for day 1 of go live).**
- Responsibility of the BSPs to ensure that the conditional linking rules reflect the actual technical availabilities of the underlying assets for activation.



The following types of conditionality shall be supported:

- Bid in QH0 not available if bid in QH-1 or QH-2 is activated/activated in SA/activated in DA
- Bid in QH0 not available if bid in QH-1 or QH-2 is rejected
- Bid in QH0 not available for DA if bid in QH-1 or QH-2 is activated in SA
- Bid in QH0 not available for DA if bid in QH-2 is activated in DA

MARI: Linked Bids – Conditional Linkage Example

Modelling:

- All bids subject to conditional linking have an initial availability status: they may be either available or unavailable. The conditional linking will turn the initial availability status of bids to the opposite availability status if the condition materializes.
- Types of conditional link:

Nr.	Rule of conditional link	Identification	Code
1	If linked bid is activated, the bid in QH0 is unavailable	u_a	Abb
2	If linked bid is activated, the bid in QH0 is available	a_a	Acc
3	If linked bid is activated in SA, the bid in QH0 is unavailable	u_aSA	Add
4	If linked bid is activated in SA, the bid in QH0 is available	a_aSA	Aee
5	If linked bid is activated in SA, the bid in QH0 is unavailable for DA	uDA_aSA	Aff
6	If linked bid is activated in SA, the bid in QH0 is available for DA	aDA_aSA	Agg
7	If linked bid is activated in DA, the bid in QH0 is unavailable	u_aDA	Ahh
8	If linked bid is activated in DA, the bid in QH0 is available	a_aDA	Aii
9	If linked bid is activated in DA, the bid in QH0 is unavailable for DA	uDA_aDA	Ajj
10	If linked bid is activated in DA, the bid in QH0 is available for DA	aDA_aDA	Akk
11	If linked bid is not activated, the linked bid in QH0 is unavailable.	u_na	All
12	If linked bid is not activated, the linked bid in QH0 is available.	a_na	Amm

- Maximum number of conditional links is 6 (3 between QH0 & QH-1; 3 between QH0 & QH-2)

Local implementation survey response

Survey Question	NGESO Response
Do you intend to implement option for BSP to send you SA-only bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you SA and DA bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you fully divisible bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you partially divisible bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you indivisible bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you linked bids (technical linking) in your local balancing system?	Yes
Do you intend to implement option for BSP to send you linked bids (conditional linking) in your local balancing system?	Yes
Do you intend to implement option for BSP to send you exclusive bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you multipart bids in your local balancing system?	Yes
Do you intend to implement option for BSP to send you all possible combinations of previously defined bid options?	Yes - but we need some more clarity on this and do validation checks to understand what combinations are possible