



# R3 provided by distributed resources – PRODUCT PROPOSAL for 2014

1st Experts Working Group for A.S. provided by distributed resources

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PROPOSAL FOR DISCUSSION



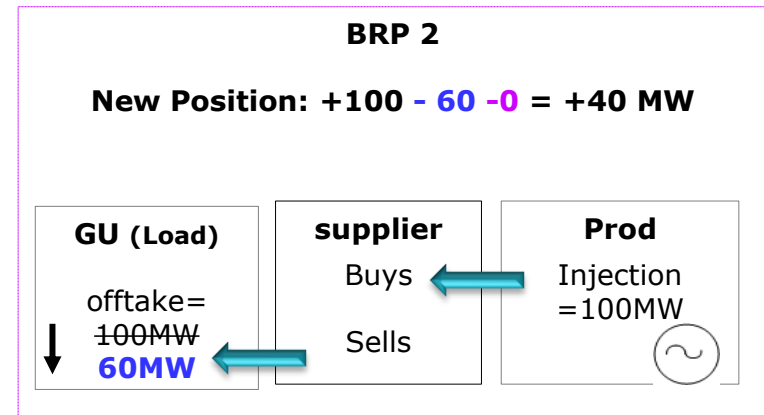
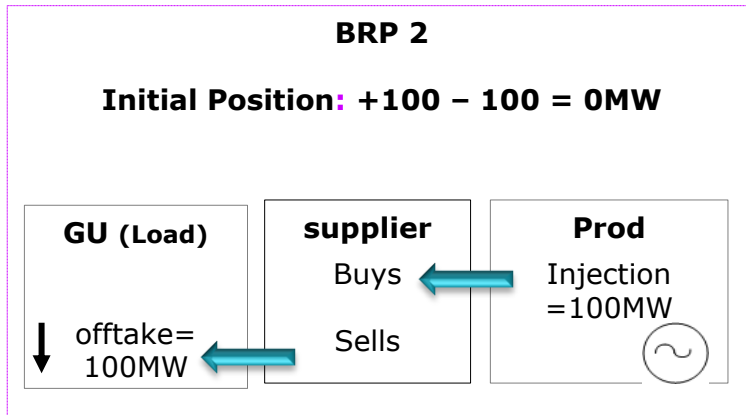
# Content



- **Main characteristics of most adequate model for DER**
- **Contractual impact for Elia**
- **Data exchanges that are needed**
- **Congestion management**
- **Product proposal for a R3 from distributed resources**

## 1. NO correction of BRPs perimeter:

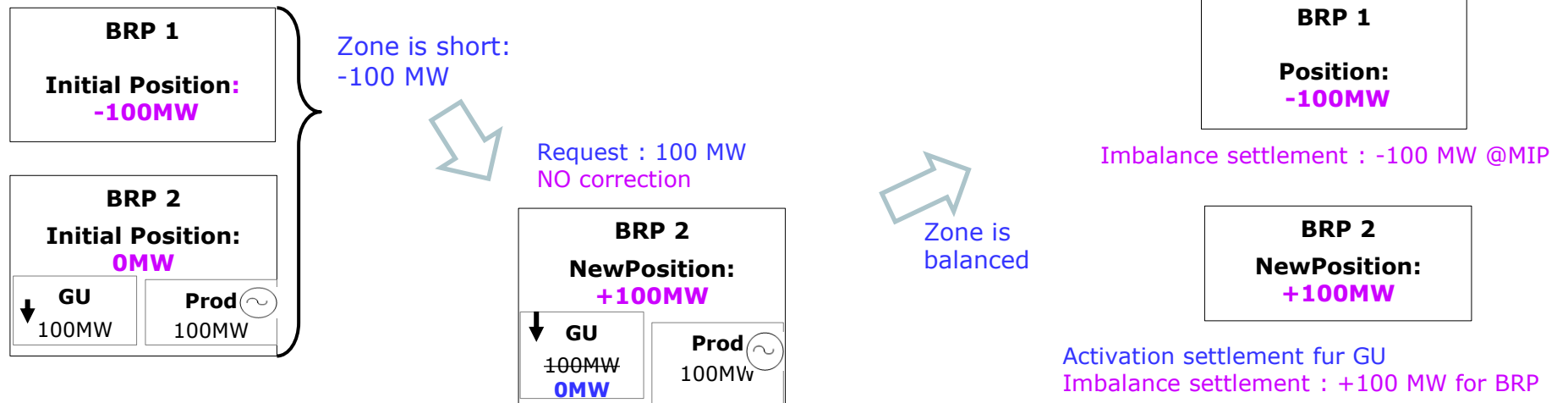
Request to GU : 40 MW  
No correction



Activation settlement : 40MW for BSP GU  
Imbalance settlement : + 40 MW @ MIP

- BRPs position is raised with the effectively activated energy
  - ⇒ BRP (and through him Supplier) is remunerated by the tariffs
  - ⇒ BRP is not penalized for the discrepancy
- A specific control of the activation is necessary as there is no incentivizing correction
- This works under the assumption that the final position of the BRP is favourable towards the position of the zone ⇒ NRV must have the same sign during the whole activation period
  - ⇒ duration of activation has to be limited (and recovery time as well)
  - ⇒ activation must happen after R3 production and volume has to be limited

## 2. Capacity Only product:



Result:			
BRP 1	-100	invoiced	@ MIP
BRP 2	+100	paid	@ MIP
GU	+100	Paid	@ Bid price
Total	+100		Bid price

- As there is no correction of BRP's perimeter, activation costs are not covered by tariffs
- Activation costs have to be = 0 €/activation & entire remuneration provided on capacity fee
  - ⇒ # and duration of activations have to be contractually fixed
- Such product cannot be price maker
  - ⇒ out of merit order (at the end of )
  - ⇒ Tariff signals have to be adapted when such product is activated

## 1. Contractual impact for Elia:

1. Balancing rules have to be adapted
2. "Contrat ARP" has to be adapted (contractual obligation for BRP to be balanced)
  - » Obligation to be balances must remain
  - » In real time deviations caused by activations should be authorized

## 2. Data exchanges that are needed

See next slides

## 3. Congestion management

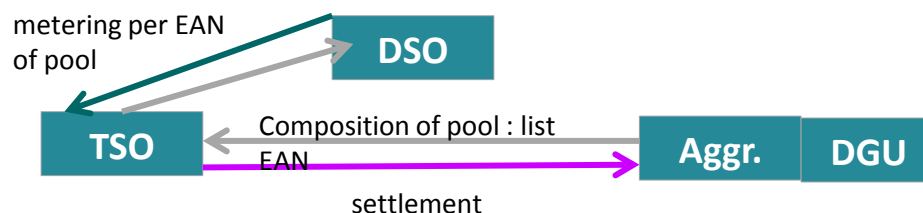
## 1. Settlement of the service (availability, activation):

- Elia: verifies the availability of /activates a contractual reserved power
- Aggregator: “splits” the reserve power into it’s pool of access points
- DSO: owns the validated metering of the concerned access points
- Remark: only telemetered DGUs

⇒ **For 2014**, as there isn't any central clearing house yet, Elia proposes the following data flux:

1. At the moment of the contracting, the Aggregator gives the composition of the pool to Elia
2. Based on that composition, Elia sends the list of needed metering points (EAN codes of access points of the pool) to each concerned DSO
3. Each DSO sends to Elia the metering data of the asked EANs through the existing data transmission flows and under the existing formats (~ metering data 4.1; 4.2)
4. Elia aggregates the transferred EAN based on the composition described by the aggregator in order to perform the settlement

⇒ Time needed to administrative adaptation when composition of pool changes (→ Number of changes has to be limited and announced with a period of notice)

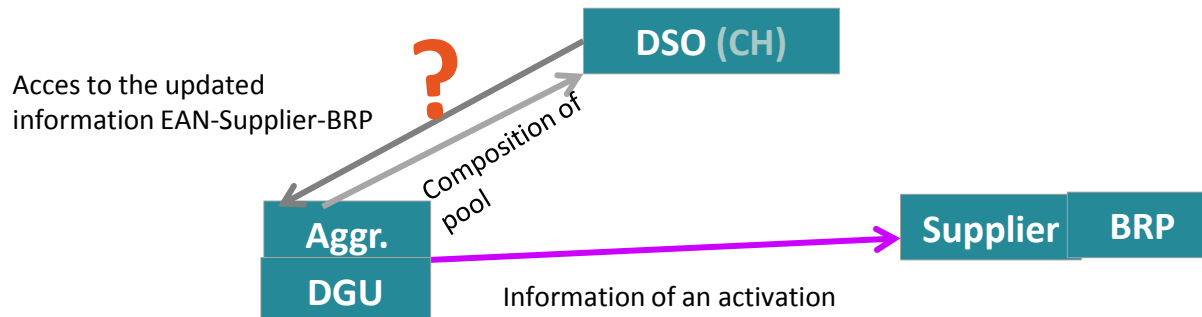


## 2. Imbalance Settlement:

- AS Today : no need to correct BRP’s perimeter and therefore to know the “split” per BRP of the activated energy

### 3. How to Report each activation to the right BRP:

- Elia: activates a amount of energy (cf; contractual reserved power)
- Aggregator: “splits” the power into it’s pool of access points
- DSO : owns the register of the supplier and BRP per access point
- Contractual existing relation: GU/supplier
  - ⇒ GU has to inform it’s supplier of the fact that he is part of a pool and that he is activated
  - ⇒ The aggregator could provide that service to the GU (and send the information to the supplier/BRP on behalf of the GU)



- ⇒ DGU has to be proactive in informing it’s aggregator by any switch of contract
- ⇒ **? Feasibility for 2014:** can DSO provide an updated view of the register (EAN-supplier-BRP) to the aggregator , especially in case a DGU switches it’s suppliers?

### 4. Real Time information

- Aggregator provides the aggregated 10” signal to Elia only for real time view of the dispatching and not for invoicing purposes
- no additional data flux needed

## 1. Contractual impact for Elia:

## 2. Data exchanges that are needed

## 3. Congestion management

- Congestion management tools : at Elia and at DSO's sites
- Condition : use the energy via aggregator for balancing purposes, without downgrading the SO's flows conditions
- To be analysed and further discussed between SO



## 1. Needs:

- Any new R3 product should have nearly the same 'quality' as R3 prod (availability, flexibility...) and at most competitive price
- Remark: aggregators announce be competitive with R3 production

## 2. Volume:

- Has to be limited in comparison with R3 prod due to characteristics of Model
- ⇒ Proposition: start with ~50 MW with max 15 MW per BSP in order to limit the risk
- ⇒ Minimum threshold for participation: 5MW

## 3. # and duration of activations:

- Contractually predefined and will influence the reservation price
- As close possible as # & duration of R3 prod. activations
- # can be less, as activated in end of merit order
- ⇒ Proposition:
  - ~40 activations but depending on price
  - Accept 12h between 2 consecutive activations
- Duration of activation must be limited in order to avoid a change of NRV sign
- On the other hand a duration of activation must fulfil to current R3 prod characteristics and needs of dispatcher
- ⇒ Proposition: **maximum duration = 2 hours**

} Trade off between conservative need and price

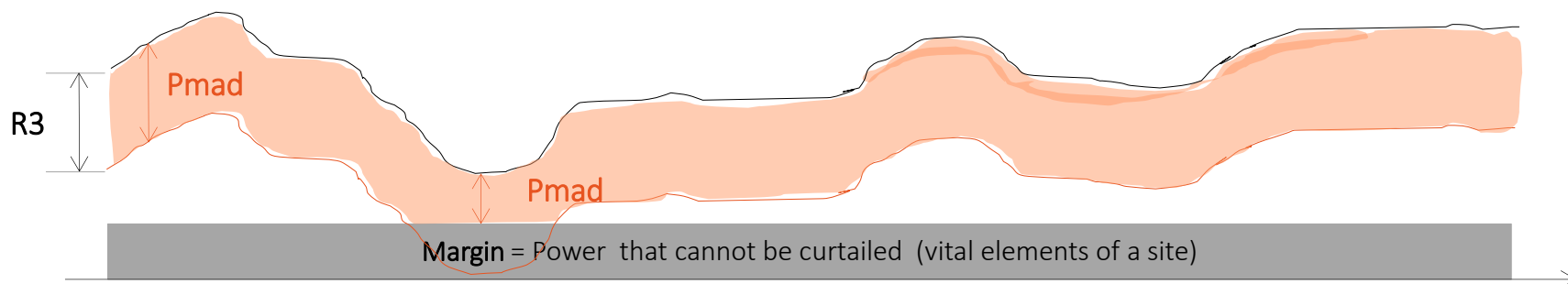
## 4. Reservation

- Need: 100% availability
- Based on real metering and not on nominations
- Controlled per quarter-hour
- Reduction on R3 – Pmad ( Penalty on R3min-Pmad)
- No control of availability during 2 hours after activation
- Example of penalty:

$$P_{mad} = \min (P_{mes} - \text{margin}; R3)$$

$$\text{Missing power} = R3 - P_{mad}$$

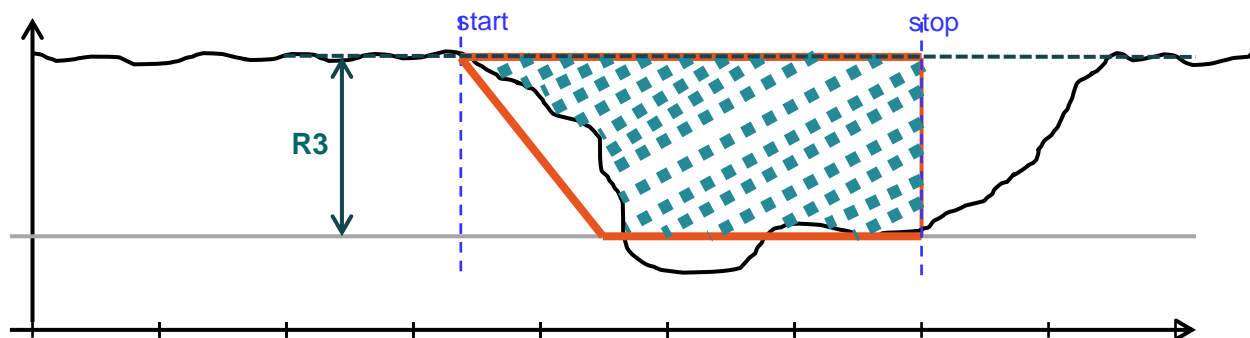
$$\text{Penalty for missing power} = \max \left( 1,3 * \text{annual} \frac{\text{remuneration}}{\#\text{quarters}}; BPX \right)$$



- To be investigated:
  - Increasing penalty based on cumulative missing energy + exclusion after a threshold
  - Monthly cap= 2 times the monthly reservation remuneration
  - Possibility for aggregators to collaborate (ex ante during contracting) in order to cover together a band of R3

## 5. Activation

- 1 activation = # quarters between start and stop
- No remuneration necessary due to characteristics of Model
- Based on real 15' metering and not on 10" T.M.
- Reference curve: based on last 15' metering
- Penalty per 15' on (**Energy that should be activated** – **really activated energy**) / **Energy that should be activated**



- Control of availability starts 2 hours after activation