Requirements for the list of generating units

1   Background

As part of the pre-qualification, Swissgrid must be provided with a list of generating units. This list will be used for the technical check and will be submitted to the person responsible for ancillary services, who will confirm the exact classification of the generating unit following consultation. The concept of the generating unit is explained below.

> Generating unit (GU)
>
> A unit for the delivery of ancillary services. A generating unit may be conventional or virtual.
>
> a) **Conventional generating unit**: The conventional generating unit is a system – defined according to certain criteria – of a power plant, such as a power plant block, a generation set, a large industrial user, an emergency generator, a power plant level, an entire cascade power station or similar. An important criterion is the geographical affinity of the system; therefore, a generating unit should generally feed into a grid node on level 1 or 3. In particular, power plants that are classified as «power plants in the transmission grid» based on their technical design and capabilities are deemed to be a generating unit. Existing generating units are classified during prequalification in consultation with Swissgrid (see Transmission Code glossary).
>
> b) **Virtual generating unit:** So-called virtual generating units also belong to the group of generating units. Virtual generating units consist of a reasonable number of substations, such as heat pumps or BUPPs with feed-in/feed-out nodes on grid levels 5 and 7. The virtual generating unit is characterised by the fact that the substations are gathered together into individual feed-in/feed-out nodes in terms of operational planning, control and monitoring. The amalgamation of consumers and consumer groups corresponds to this identification. The criteria that are used to gather substations together into a virtual generating unit may be agreed upon individually with Swissgrid as part of the prequalification. In the monitoring for Swissgrid, the virtual generating unit is the smallest supply unit. To form data aggregation, however, the provider must set up separate monitoring for all substations.

> Pool of generating units (GU pool)
>
> Summary of a provider's GUs – according to the previous definition – involved in the management of the respective AS product. The data collected for the participating GU are aggregated to describe the condition of the GU pools.
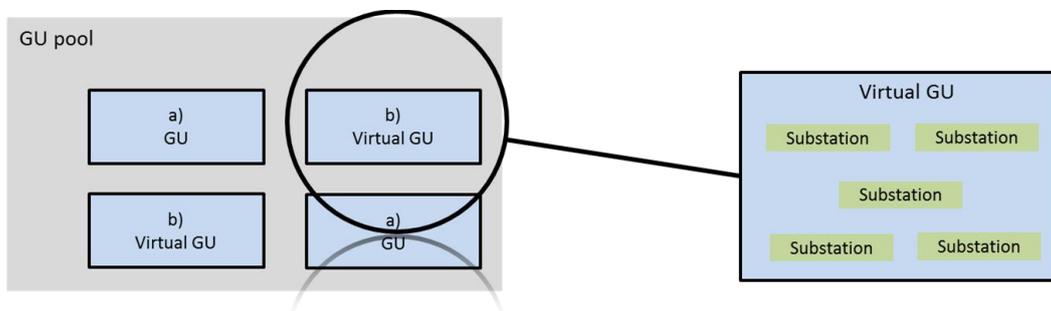

Figure 1: Overview of GU, virtual GU and GU pool

Providers of ancillary services must provide Swissgrid with a list of the GUs that make up their GU pool. In the case of virtual GUs, a list of the participating substations, which compose a virtual GU, must be submitted to Swissgrid.

The general criteria for a GU can be found in the document «Glossary for the Rules of Swiss Electricity Market» [1].

2 Requirements for the list of GUs

The following information must be specified for each proposed GU with its AS:

- type of AS offered
- pertinent operating resources, including
  - nominal apparent power [MVA]
  - nominal rated power [MW]
  - pertinent (or nearest) switching substation in the transmission grid (only for conventional GUs)
  - feed-in node (only for conventional GUs)
- organisational and operational information, including
  - location, together with address (only for conventional GUs)
  - balance group to which the resources are assigned (required for virtual GUs only if the majority of the connected output can be assigned to a single group balance)
  - distribution grid to which the resources are assigned if they are not directly connected to the transmission grid (required for virtual GUs only if the majority of the connected output can be assigned to a single distribution grid operator)
  - please also indicate whether the operating resources are eligible for CRF, incl. CRF project number (only for conventional GUs)

If the composition of the GU remains the same for various ASs, a listing of the various ASs per GU is sufficient. If the composition of an AS changes, the GU for it must be specified separately.

3 Requirements for the list of substations of a virtual GU

The following information must be specified for each substation as a component of a virtual GU:

- system type (e.g. cooling unit, heat pump etc.)
- balance group assignment
- company supplying energy
- nominal rated power [kW]
- metering point ID
- please also indicate whether the substations are eligible for CRF

4 References

[1]   Swissgrid Ltd., **Glossary for the Rules of the Swiss Electricity Market** is published in the currently valid version at www.swissgrid.ch and www.strom.ch.