

Grid Code Review Panel

PPM Extensions

Background

1. Generators comprising Power Park Modules ("PPM"s) are required by the Grid Code to provide certain technical services and capabilities such as frequency response, fault ride through capability, reactive power and voltage control.
2. The technical requirements that a PPM is required to meet are dependent upon the Registered Capacity of the Power Station it comprises part of. Hence if a PPM changes its size, it can trigger a move into a different category with different requirements. The potential difficulties of meeting these requirements where existing facilities are extended were discussed in the "Power Park Modules and Synchronous Generating Units Working Group" in 2006.

Variation with Small, Medium & Large Power Station Categories

3. In the Grid Code Connection Conditions, the obligation on a generator to fulfil certain technical requirements can depend on whether the Power Station is Small, Medium or Large, membership of these categories being defined as illustrated below for the different transmission areas.

	Small	Medium	Large
NGET	RC* < 50MW	50MW ≤ RC < 100MW	RC ≥ 100MW
SPT	RC < 30MW	Not Applicable	RC ≥ 30MW
SHETL	RC < 10MW	Not Applicable	RC ≥ 10MW
Offshore	RC < 10MW	Not Applicable	RC ≥ 10MW

* RC = "Registered Capacity"

4. For example, CC.6.3 ("General Generating Unit Requirements") does not apply to Small Power Stations.
5. Other thresholds and options apply. For example, a 50MW threshold applies to the frequency control obligations in CC.6.3.6 and CC.6.3.7.

National Grid's View on PPM Extensions

6. It would be helpful to establish an unambiguous position regarding the expected obligations on a generator which is extended.
7. The simplest interpretation would be to require a PPM to fulfil whatever technical obligations apply to it at its current output capability, whatever that may be.
8. Thus a PPM with an associated Registered Capacity of 25 MW would not be required to provide frequency response. However, if the PPM was to be extended, and the associated Registered Capacity increased to, say, 60 MW, it would then be required to provide frequency response appropriate to its new category.

9. This treatment is simple, non-discriminatory and would help to ensure that applicable generators play their part in meeting the anticipated growing need for services to operating a safe and secure transmission network.
10. Alternative treatments were discussed within the Power Park Modules and Synchronous Generating Units Working Group, such as pro-rating obligations according the size of an "extension". This introduces a number of complexities, including the need to define how pro-rating would work for a range of obligations.
11. This treatment would be complex and would also mean that "extended" Power Stations would be treated differently to new and existing Power Stations.
12. National Grid recommends that the former approach is taken as it is clear, unambiguous and treats transmission users consistently.

Recommendation

11. The GCRP is invited to:
 - Agree that PPM extensions should be treated in the same way as existing and new developments.
 - Note that no changes are required to current Grid Code text to implement this approach.