

Grid Code Short Circuit Ratio requirement for Synchronous Generators

Update paper

At the September GCRP National Grid presented a paper discussing issues associated with the Grid Code Short Circuit Ratio (SCR) requirement for synchronous generating units [1].

Since then, National Grid has been in communication with five international manufacturers who are involved in the supply or manufacture of large turbo alternators up to 2000MVA with a view to understanding:

- i) Whether there are restrictions that prevent the current Grid Code SCR requirements from being met for Generating Units up to 2000MVA.
- ii) If there are restrictions, what is the MVA limit at which the Grid Code SCR requirement can be satisfied.
- iii) The impact of a lower SCR on the reactive power capability of machines.
- iv) The ability of Generating Units to minimise the impact of a reduction in SCR from a transmission perspective

To date, some very limited information has been obtained, however, further information is required from a greater number of manufacturers before firm conclusions can be drawn. Consequently, NGET is unable to confirm that the current Grid Code SCR requirements cannot be achieved by the majority of manufacturers for machines up to 2000MVA. NGET requests assistance from Generators to obtain the relevant information.

It is National Grid's intention to report to the February GCRP:

- A summary and comparison of information obtained from manufacturers.
- Its recommendations on Grid Code modifications if they are considered necessary
- Any measures that may be necessary to ensure system stability performance if the SCR requirement is changed

Recommendations

The GCRP is asked to:-

- i) Note that NGET is continuing to seek information from manufacturers to establish if restrictions exist.
- ii) Generators to provide assistance in obtaining the required information
- iii) Note that NGET will provide a final update to the February 2009 GCRP.

References

- [1] Grid Code Short Circuit Ratio Requirement for Synchronous Generators – Update Paper Available at:-
http://www.nationalgrid.com/NR/rdonlyres/B7A001BD-816F-4490-A150-A65487121F78/28419/pp08_32_shortcircuitratio.pdf