

1 Introduction

Following the implementation of CAP097 in July 2006: "Revision to the Contractual requirements for Small and Medium Embedded Power Stations", Section 6.5 of the CUSC requires a compulsory request for a Statement of Works from National Grid by the relevant DNO in respect of proposed embedded medium sized generators (<100MW and =>50MW NGET). For proposed embedded small generators (<50MW NGET, <30MW SPT, <10MW SHETL) however, a request for a Statement of Works from National Grid by the relevant DNO, is required only where that DNO believes that the proposed small power station connection may have a significant impact on the GB transmission system.

National Grid does not consider that the DNO has access to the necessary information to accurately assess the impact which a small embedded development, or the aggregate effect of multiple developments, may have on the GB transmission system. In practice, due to the varying interpretations of the wide range of issues which need to be considered by the DNO, it has not always been possible for National Grid and the DNO to agree when the development of a small embedded generator (or multiple generators) is likely to have a significant impact on the GB transmission system.

Consequentially, National Grid has raised CAP167, which proposes to amend the CUSC to provide definitive clarification in the assessment of whether a small embedded power station development (or the aggregate effect of multiple projects) is likely to have a significant impact on the GB transmission system. For the avoidance of doubt CAP167 does not propose to amend the existing Statement of Works application and offer process and any such changes are out of scope for this CUSC Amendment. The existing process is detailed in annex 1.

This paper aims to develop a process to be governed by the CUSC, identifying the relevant criteria which should be followed by National Grid, with cooperation from the TOs and the DNOs in assessing when a small embedded generation project is likely to have a significant impact on the GB transmission system and subsequently, whether a request for a Statement of Works by the DNO is required or not.

It should be noted that the TO's are not party to the CUSC and reciprocal changes described below will be required within the STC to given affect to CAP167 as proposed.

2 Original CAP167 Amendment Proposal

The section details the criteria to be used by the GBSO when establishing and determining thresholds and includes the process that will be undertaken to finalise MW thresholds when a DNO on behalf of a Embedded Small Power Station should Request a Statement of Works.

2.1 Criteria

1. The current Grid Code thresholds of =>10MW in SHETL area, =>30MW in SPT area and =>50MW in NGET area will not be amended by this process. The definitions for Small, Medium and Large will still apply. The criteria and process below will only apply to Relevant Embedded Small Power Stations.

The DNO will still be required to submit a request for a Statement of Works from National Grid for all medium embedded power station projects.

2. National Grid will publish MW thresholds (with co-operation from the TO's and DNOs) of when it is necessary for a DNO to apply for a Statement of Works on behalf of relevant small embedded generation projects. Such thresholds will be published on a GSP-specific basis having applied the "Relevant Embedded Small Power Station Methodology" considering each of the following criteria which will be set out in the CUSC:
 1. **The impact on investment costs of reinforcing the GB transmission system as a result of that generator connecting.** [National Grid has a licence obligation to facilitate competition in the supply of generation business and considers that transmission access should be allocated in an efficient and co-ordinated manner. Presently, those parties wishing to connect generation to the GB transmission system which trigger the requirement for investment on the wider transmission network are only eligible to connect upon completion of those wider works by the relevant TO. In order to provide a level playing field, National Grid considers that this should be equally applicable for small generation projects connecting to distribution networks which trigger the requirement for wider transmission investment.]
 2. **The impact on operational costs on the GB transmission system as a result of that generator connecting.** [National Grid has a licence obligation to operate and maintain the GB transmission system in an efficient and economic manner. National Grid does not consider that increased operational costs resulting from the connection of small embedded generation projects should be incurred by the end consumer, when investment in the transmission system would be a more economic and efficient solution. National Grid considers that in calculating the likely impact of a small embedded generation on transmission constraints, this should be done so on the basis of a realistic generation background, not the contracted background.]
 3. **The administrative and cost burden on relevant small embedded generation projects.** [National Grid considers that it is important that the administrative and regulatory burden for smaller participants in the electricity generation market is proportionate. i.e. would the fees associated with a Statement of Works significantly reduce the viability of a project? Or act as a barrier to entry for small community projects?]
 4. **Consideration of technical issues at the connection point and the MITS, such as:**
 - o Impact on MITS power flows [In locations where transmission circuits cannot handle flows onto the transmission system there will be a requirement to take a constraint action, which may not necessarily be available locally]
 - o Local Demands [Generation connected locally will reduce local demand and the imports into the GSP from National Grid system will reduce proportionately. However, the flows across the MITS may increase which may in turn breach MITS constraints, whether voltage, stability or thermal. Action to manage the constraints may not necessarily be local.]

- Impact of generation on Supergrid Transformer circuit outages [Local generation may facilitate the outages of NG Supergrid Transformers.]
- Voltage / voltage step change issues [Local generation may support the local GSP voltage.]
- Fault levels [New local generation will add to the existing fault levels at the GSP and will need careful assessment so that they remain within safe levels.]
- Stability [System and generation stability is critical. Local generation may tip the balance from stable to an unstable situation. Exporting groups, may require careful management.]

2.2 Process

The following text outlines the process by which National Grid as GBSO determines appropriate MW thresholds for each GSP on the GB transmission network based on the criteria identified in Section 2.1. This process will be set out in the CUSC.

1. CUSC requires GBSO to prepare a Relevant Embedded Small Power Station Methodology which details how the CUSC criteria will be applied in respect of the GSP thresholds.
2. GBSO consults with DNOs and TOs within reasonable timescales, regarding the draft Relevant Embedded Small Power Station Methodology.
3. GBSO publishes a draft Relevant Embedded Small Power Station Methodology on the NGET website (with links via the DNO websites) for industry consultation over a period of 28 days.
4. GBSO publishes final Relevant Embedded Small Power Station Methodology in cognisance of industry responses.
5. In accordance with the Relevant Embedded Small Power Station Methodology, the GBSO will publish indicative MW thresholds for each GSP with additional guidance providing justification for the thresholds.
6. GBSO consults with industry parties over a period of 28 days regarding indicative MW thresholds and justifications.
7. GBSO publishes final MW thresholds for each GSP on the National Grid website, with supplementary information to identify the basis upon which the threshold has been determined in accordance with the methodology.
8. GBSO has an ongoing obligation contained in the CUSC, to keep the thresholds under review, with an annual review of the methodology in co-operation with the DNOs and TOs. CUSC and interested parties have the right to raise comments and concerns at any point, to be considered by the GBSO when undertaking the review process.
9. The existing CUSC dispute resolution process in Section 7 shall apply to the methodology and the thresholds for CUSC parties (including the DNO's). CUSC parties will be able to dispute the methodology and thresholds if the GBSO has not followed the criteria or process in accordance with the CUSC.

10. The existing STC disputes process in Section H shall apply to the methodology and the thresholds. STC parties will be able to dispute the methodology and thresholds if the GBSO has not followed the criteria or process in accordance with the STC.

Having published MW thresholds, those generators equal to or in excess of the threshold at the relevant GSP wishing to connect to the distribution network, the DNO on their behalf must request a Statement of Works from National Grid which will be assessed in accordance with the process below:

Annex 1

