



CAP169 Reactive Power from
Power Park Modules, Large Power
Stations and Embedded Power
Stations

CUSC Panel 27/02/2009

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Overview

- ◆ CAP169 has been raised by National Grid with the purpose of improving reactive power arrangements within the CUSC

- ◆ This presentation will:
 - Outline the defect/issue under consideration and proposed solution, considering:
 - Power Park Modules
 - Large Power Stations
 - Embedded Generators

 - Outline recommendation for a way forward

Power Park Modules

- ◆ Grid Code CC6.3 previously amended to incorporate reactive capability requirements from Power Park Modules
- ◆ Corresponding changes in CUSC have not yet been introduced
- ◆ This Amendment Proposal is designed to change current arrangements to facilitate this, in particular through introducing additional referencing to reactive power from Power Park Modules and appropriate capability tables within the MSAs
- ◆ Successful CUSC Modification will allow:
 - An increased pool of Reactive Power providers
 - Power Park Modules to be despatched and paid accordingly

Large Power Stations

- ◆ Current CUSC provisions require that National Grid is only “obliged” to conclude or amend MSAs if the Reactive Power capability of the Generating Unit is 15Mvar or more – equating to approximately 45MW
- ◆ This does not cover all categories of Large Power Stations, which have the obligation to provide a Reactive Power Service
- ◆ This proposal seeks to amend the obligation whereby National Grid is obliged to conclude an MSA on request from a Large Power Station with a reactive capability below 15Mvar

Embedded Generators

- ◆ Some embedded generators are under connection conditions from the DNOs which prevent despatch instructions from National Grid through 0 Mvar
- ◆ Such restrictions result in National Grid being unable to instruct the relevant generator to achieve economic and efficient use of the reactive power across the transmission system
- ◆ The Proposed Amendment seeks to facilitate partial payment to generators under such connection conditions, reflecting:
 - The Grid Code requirement and dynamic benefit from those under restriction
 - That it is not possible for National Grid to despatch Reactive Power from such generators to 0 Mvar in line with system operation requirements
- ◆ A consequential Grid Code change may be required to facilitate communication to National Grid to trigger acknowledgment and corresponding action as a result of the described restriction

Impact on Applicable CUSC Objectives

CAP169 better facilitates CUSC Applicable Objective (a) by:

- ◆ Ensuring that National Grid can despatch reactive power from Power Park Modules and Large Power Stations, and facilitate payment for this service – thus increasing the pool of potential providers resulting in increased stability and system security
- ◆ Facilitating appropriate remuneration for the provision of a reactive power service, thus ensuring that the system is operated and managed in the most economic and efficient manner
- ◆ Ensuring alignment of the CUSC and Grid Code

Recommendation

- ◆ Proposal has been shared with the BSSG – with initial views received
- ◆ Grid Code participation has been invited to ensure appropriate communication element included in development
- ◆ Recommend proposal be considered via the Working Group (BSSG)
 - Request 4 months, with intention to report back sooner if possible