

Industry participants and
Interested parties

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Dear Colleague

Transmission Security Standard Review for Onshore Intermittent Generation

On behalf of the Great Britain Security and Quality of Supply Standard (GB SQSS) Review Group I am pleased to provide details of our first consultation document¹. This presents the findings of the *Transmission Security Standard Review for Onshore Intermittent Generation* undertaken by the three Transmission Licensees in Great Britain; National Grid Electricity Transmission, Scottish Power Transmission Ltd and Scottish Hydro Electric Transmission Ltd.

The GB SQSS was established for a power system predominately supplied by conventional generation and has provided the basis for the development of an economic and efficient transmission system over the years. However, the amount of renewable generation (particularly wind generation) connected to the transmission system is increasing. Many renewable generation sources are intermittent with characteristics significantly different from those of conventional plant. This has prompted a review of the methodology for determining the required capability of the main interconnected transmission system.

The review was undertaken by the Transmission Licensees over the last year to explore the issue of how much transmission capacity should be provided to accommodate intermittent sources of generation, such as wind. Five candidate approaches were considered and fully developed (with the exception of approaches 3 & 4, which are still in progress) and then evaluated against predetermined criteria. A scoring system was developed and used to rank the candidate approaches.

At present, the Transmission Licensees are minded to recommend to Ofgem that we adopt the second option of Approach One, namely,

¹ The consultation document is available at
<http://www.nationalgrid.com/uk/Electricity/Codes/gbsqsscode/reviews/> under the section headed
"GB SQSS review GSR001"

'Wind generation is treated like any other generation except a lower availability factor is used. It is proposed that an availability factor of 72% (compared to 100% for conventional generation) in exporting areas and 5% in importing areas be used for the calculation of planned transfer. This will be supplemented by cost benefit analysis to cover cases where transmission capabilities greater than those required solely for demand security are justified for economic reasons.'

In view of the breadth of the material, we have not posed specific questions through the consultation document. We would welcome comments on all aspects of the consultation document. However, in this covering letter we highlight some general issues upon which we would particularly welcome your views:

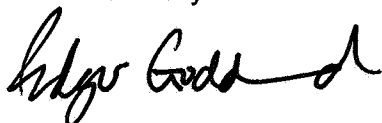
1. The document presents five approaches that could be used to determine the level of transmission required on the Main Interconnected Transmission System. We would welcome your views on:-
 - a) the advantages and disadvantages of each approach;
 - b) any alternative approaches or aspects that you consider that we have omitted thus far in our Review;
 - c) whether the evaluation has appropriately balanced between the security (deterministic), and the economic (probabilistic) Approaches.
2. Our security Approaches One to Three have assumed that we should provide the same level of security as in the current GB SQSS Standard, to the extent that we can measure and calibrate to it. We welcome views on whether a greater or lesser level of security from transmission is appropriate.
3. In our Review, we have very much focussed on wind as the principal intermittent source of generation. We would like to hear your views on whether you think there are aspects of any other intermittent source of generation, which are relevant for transmission planning, but which we have omitted.
4. The load factor of wind is obviously central to the issue of how much transmission is needed to accommodate Wind. We welcome your views on our assumed values for wind load factor, and also on our correlations between wind resources.
5. Approach Four is based on the concept that a minimum level of transmission is required, to let all generation compete equally in the national energy market. We would like to know if you agree with this concept. There remain some uncertainties regarding the timescales required to complete the analysis, and the conclusion of this approach. Given these uncertainties, do you think we should defer a final conclusion to this review until full results are available from this approach? This question also applies in respect of Approach Three.

6. The Transmission Licensees conclude that one or more of the deterministic approaches One to Four should determine a minimum level of transmission capacity; this can then be supplemented by additional transmission capacity justified by cost benefit. We welcome your views on this approach.
7. Given the framework of the previous question, we welcome your views on the proposed outline guidance on economic studies we have drafted at the end of section five. If you believe greater definition should be provided, please specify what you would like to see included.
8. The broad concept of availability factors of 100% for conventional generation and 72% for wind, followed by global scaling of all generation capacity by ~83%, only works for systems planned to a plant margin of 20% (or equivalent allowing for extra wind). The Licensees expect to retain the current approach of allocating contributory and non-contributory generation, to handle scenarios, such as regularly occur within the Seven Year Statement, where plant margin can be 50% or higher. We welcome your views on this approach.
9. At present, almost the whole of the SHETL region has demand < 1500MW, and so the interconnection allowance is not applied (Section 1.2 is the first point in the report where this becomes apparent, namely for SYS boundaries B1, B2 and B3). Given the likely growth of generation there, this treatment will become increasingly anomalous. In line with the symmetry of demand and generation in much of the GB SQSS, and in line with our experience of high constraints in Scotland, we propose to change the criterion, such that Interconnection Allowance is applied for all groups for which demand or generation capacity exceeds 1500MW. We would welcome your view on this proposal.
10. In light of our interim recommendation to remain with Approach One, do you think it is worthwhile for the Transmission Licensees to propose any change to the GB SQSS?

Your Transmission Licensee representative will be pleased to discuss any matters with you. Contact Bless Kuri (01926 656322) or Paul Plumpton (01926 653424) within NGET; Cornel Brozio (01698 413420) within SPTL; or Brian Punton (01738 456341) of SHETL.

We welcome your views, in particular on the above questions, but also in general on the most appropriate way to plan transmission for intermittent generation. Please reply by 22 February 2008 to Mr A. P. Hiorns at National Grid House.

Yours sincerely



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