



Modification proposal:	<b>BSC Change Proposal P270 – The Application of Line Loss Factors to GSPs that are not Transmission-interconnected</b>		
Decision:	The Authority <sup>1</sup> has decided to reject the proposal		
Target audience:	National Grid Electricity Transmission plc (NGET), Parties to the BSC and other interested Parties		
Date of publication:	31 <sup>st</sup> October 2011	Implementation Date:	N/A

## Background to the modification proposal

The Energy Act 2004 (EA04) redefined offshore transmission as electric lines of 132kV or more and extended the prohibition on the transmission of electricity without a licence to offshore waters.<sup>2</sup> The effect was to designate electric lines of a nominal voltage of 132kV or more used to connect offshore generation assets as part of the National Electricity Transmission System (NETS). These changes took effect in June 2009, (the Go Active date) with the Government introducing a new regulatory regime for Offshore Electricity Transmission Networks using powers provided for in section 90 of the EA04.<sup>3</sup>

The new offshore regulatory regime led to a number of changes to industry codes. Specifically, the Balancing and Settlement Code (BSC) re-classified the boundary points between remote offshore generator assets and onshore Distribution systems (known as remote GSPs for the purposes of P270) as Grid Supply Points (GSPs)<sup>4</sup>. Metering systems at GSPs are not subject to line loss factors (LLFs).<sup>5</sup> Prior to the Go Active date, remote GSPs were classified as Balancing Mechanism Units (BMUs)<sup>6</sup> and a DNO would apply LLFs to metering systems at such boundary points.

As we explain in more detail below, the EA04 and subsequent code changes had the effect of treating offshore generators connected to an onshore distribution system via an offshore transmission system and generators connected directly to the onshore transmission system equivalently with respect to transmission losses.

<sup>1</sup> The terms 'the Authority', 'Ofgem' and 'we' are used interchangeably in this document. Ofgem is the Office of the Gas and Electricity Markets Authority.

<sup>2</sup> Sections 180 and 89 respectively of the EA04 – these provisions were commenced for specific offshore developments on 29 July 2010. SI No 1889 2010 refers.

<sup>3</sup> Section 90 of the Energy Act 2004 refers which enables the Secretary of State to make changes to the licences and industry codes to introduce the offshore transmission regime.

<sup>4</sup> A Grid Supply Point is a point where the Transmission System (including an Offshore Transmission System) is connected to a Distribution System.

<sup>5</sup> A Line Loss Factor (LLF) is a multiplier applied to data from a Metering System connected to a Boundary Point of a Distribution System to convert it to an equivalent value for the Transmission System Boundary. In other words, LLFs allow for the allocation between those connected to the distribution network of losses that occur on the distribution system.

<sup>6</sup> BMUs are used as units of trade within the Balancing Mechanism. Each BMU accounts for a collection of plant and/or apparatus, and is considered the smallest grouping that can be independently controlled. Most BMUs contain either a generating unit or a collection of consumption meters. Any energy produced or consumed by the contents of a BMU is accredited to that BMU.

## The modification proposal

### *The perceived defect*

Electricity North West (ENW) raised modification P270 in February 2011. The proposer considers that, under the current BSC arrangements, the flow to a distribution system from an offshore transmission connection point (ie a remote GSP) distorts the cost reflectivity of losses allocated to other distribution system users (ie allocated through LLFs). The proposer also considers that the System Operator does not have visibility of the full impact of offshore networks that connect to a distribution system on the losses the connection imposes as remote GSPs are not assigned LLFs following the introduction of the EA04 and subsequent code changes.

### *Intention of P270*

P270 would assign LLFs to remote GSPs with the associated costs to be recovered from transmission losses. The effect of the change would be to assign a volume of distribution system losses<sup>7</sup> from distribution system users to transmission system users.

The proposer considers that remote GSPs differ from conventional GSPs (ie boundary points between the onshore transmission system and the onshore distribution system). Such conventional GSPs flexibly supply electricity to meet the needs of the distribution system - the onshore transmission system does not “*carry out activities that [...] increase or decrease losses on the distribution system*”.<sup>8</sup> By contrast, the proposer contends that remote GSPs are more similar to distribution system users because remote GSPs use the distribution system as a means of dispersing electricity flowing from the remote network to which they are connected.<sup>9</sup>

The proposer contends that the re-introduction of LLFs for remote GSPs will improve the cost reflectivity of the LLFs assigned to other distribution network users. In particular, the proposer notes that the current exemption of LLFs from remote GSPs can have a pronounced effect on the LLFs for proximate sites connected at extra high voltage.

## **BSC Panel recommendation**

The Final Modification Report (FMR)<sup>10</sup> was considered by the BSC Panel at its meeting on 14<sup>th</sup> July 2011. The unanimous view of the Panel was that P270 would not better facilitate the Applicable BSC Objectives. The views of Panel members are set out in the FMR.

## **The Authority’s decision**

In reaching its decision, we have assessed the proposal against the Applicable BSC Objectives. We have considered the issues raised by the modification proposal and the FMR dated 15 July 2011. We have also considered and taken into account the responses to Elexon’s<sup>11</sup> consultation on the modification proposal which are attached to the FMR.

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<sup>7</sup> Including where a connection relieves losses - a LLF of greater than 1 would indicate that the line alleviates distribution network losses.

<sup>8</sup> Elexon (3 June 2011) P270: The Application of Line Loss Factors to GSPs that are not Transmission Interconnected p. 3, Para. 3.

<sup>9</sup> The proposer considers that remote GSPs drive energy across the distribution system in one direction only, either causing or reducing losses on the Distribution System (depending on the interaction with the other Distribution System elements). See Elexon (3 June 2011) OP CIT. Attachment A, p 3

<sup>10</sup> The FMR can be viewed at the following link: <http://www.elexon.co.uk/Pages/P270.aspx>

<sup>11</sup> The role and powers, functions and responsibilities of Elexon are set out in Section C of the BSC.

The Authority has concluded that implementation of the modification proposal will not better facilitate the achievement of the Applicable Objectives of the BSC.<sup>12</sup>

## **Reasons for the Authority's decision**

### Applicable BSC objectives

We consider that the proposal does not better facilitate objective (c), and is neutral with regard to objectives (a), (b) and (d). The Authority's assessment of P270 against the Applicable BSC Objectives is set out below.

*(a) 'efficient discharge by the licensee of the obligations imposed on it by the Act and by its licence'.*

The proposer considered that P270 would increase the visibility of the losses associated with remote GSPs, potentially promoting efficient network design as losses could be taken into account in connection decisions. However, most of the Workgroup members disagreed with this view. They considered it unlikely that new offshore networks will connect via the distribution system in the future. A majority of the Workgroup considered that P270 had a neutral impact with regard to relevant objective (a).

We agree with the majority view. We understand it is unlikely that future offshore networks will connect via a distribution system, assuming the trend to larger offshore installations continues. Moreover, as P270 will socialise the costs of the remote GSP within transmission losses rather than impose such charges on the party requesting the connection, P270 is unlikely to lead to more efficient connection decisions.

*(b) – the efficient, economic and co-ordinated operation of the national electricity transmission system*

Three Workgroup members considered that P270 would have a positive marginal efficiency benefit due to the increased visibility of losses caused by offshore transmission. One member considered that it would have a negative impact on the efficiency of the transmission system. Three members considered that it would have a neutral impact.

We agree that the determination of an LLF for remote GSPs will increase the transparency of the costs imposed on the distribution network of such connections. However, P270 does not propose to assign the costs to the offshore generator, and such costs are therefore unlikely to be taken into account in the operation of the offshore system or in future connection decisions. As such, the greater visibility of costs constitutes only a minor positive impact. Overall, we consider the proposal will have a neutral impact with regard to objective (b).

*(c) – The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent with that) the promotion of such competition in the sale, distribution and purchase of electricity*

We have considered the relative cost reflectivity of the current arrangements with those proposed by P270, and the materiality and distributional impacts of the proposed changes. We have also considered the issue of the proposed different treatment of GSPs. We set out our views below.

We agree with the proponent of P270 that the allocation of LLFs to remote GSPs could result in the calculation of more cost-reflective LLFs for other distribution networks

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<sup>12</sup> As set out in Standard Condition C3(3) of NGET's Transmission's Licence

users. Thus, we consider P270 could improve price signals for distributed generation (DG).

However, P270 does not propose to allocate the distribution losses associated with remote GSPs directly to offshore generation. Offshore generation will not face a more cost-reflective charge, and there is no expected improvement in the economic despatch of offshore generation plant. Moreover, P270 proposes to redefine distribution losses as transmission losses where they result from the operation of a remote GSP. Such a reallocation would result in less cost-reflective charges to transmission system users and have a negative impact on the efficient operation of generation connected to the main transmission network (i.e. by making them less competitive relative to non-transmission connected generation plant).

With regard to the parties that would be affected, the current arrangements impose the cost (or in some cases the benefit) of the distributional losses associated with a remote GSP on other distribution network users. If P270 were introduced, DG would in general realise a gain from an expected improvement in LLF, and distribution network end-users would in general face a reduction in their electricity bills (on the assumption that a reduction in LLFs would be passed through by suppliers). However, generation connected to the main transmission system would face higher charges, and we would expect these costs to be passed through into wholesale prices and end-user bills. Thus, the effect of P270 is to transfer the cost of distribution losses from users of the distribution system with remote GSPs to the generality of GB electricity consumers.

The P270 Workgroup estimated the expected net gain (or loss) to distribution network users with remote GSPs. The Workgroup noted that Robin Rigg, which connects 180MW of off-shore generation to ENW's distribution network, and was the driver for the proposal, was the only significant example of the issue identified by P270.<sup>13</sup> The Workgroup estimated the distribution losses associated with Robin Rigg at around £0.85 million per annum. That is, if P270 were approved, we would expect ENW's distribution network customers to benefit by this amount (i.e. passed through by suppliers in terms of a reduction in consumer bills). However, we note that this potential benefit is negligible in the context of distribution network charges (at c.0.24%), and even more so in terms of total electricity charges (i.e. including wholesale and retail charging elements).<sup>14</sup>

With regard to potential losers from the introduction of P270, the Workgroup estimated the effect of P270 would result in a net increase in transmission charges of c. £0.5 million per annum or 0.13% in overall transmission losses.<sup>15</sup> As with distribution charges, this net impact is a negligible component of overall wholesale generation costs.

We have also considered the proposed different treatment of GSPs. We note that members of the workgroup considered that conventional GSPs also physically affect losses on the distribution system in the same way as a remote GSP, and a majority of the Workgroup considered that the proposals would discriminate between remote and

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<sup>13</sup> The Workgroup also identified remote GSPs served by UK Power Networks but the Workgroup estimated the impacts were less significant than for Robin Rigg. The Workgroup also note that there are no Distribution System-connected sites planned under the other rounds of projects under the offshore transmission arrangements.

<sup>14</sup> Electricity North West base revenue allowance for 2011-12 I £359.5 (2011-12 prices). Source: Special conditions of the Electricity Distribution licence, 31 March 2010. Charge Restriction Condition (CRC) 04, Appendix 1, p. 26. Link: [http://epr.ofgem.gov.uk/document\\_fetch.php?documentid=14676](http://epr.ofgem.gov.uk/document_fetch.php?documentid=14676). Thus, the benefit to ENWs distribution network customers is around £0.85/£359.2 or 0.24%.

<sup>15</sup> The estimate of £0.5 million includes the cost associated with the estimate of the LLF assigned to Robin Rigg (£0.85 million p.a.), as well as the LLFs associated with other remote GSPs.

conventional GSPs. As with the majority of the Workgroup, we are not convinced that there is a rationale for treating remote GSPs differently from conventional GSPs.

Overall, we do not consider that the proposal will better facilitate competition in the generation and supply markets. P270 would result in improved loss allocation to distribution network users with remote GSPs but less cost-reflective charges in relation to generation connected to the main transmission system. In both cases, the effects would be negligible. We are also concerned that the proposals discriminate between remote and conventional GSPs.

*(d): 'promoting efficiency in the implementation and administration of the balancing and settlement arrangements'.*

A majority of the Workgroup also considered the proposal had a neutral impact against relevant objective (d). One member considered that P270 would potentially add another layer of complexity to the BSC arrangements by making distinctions between GSPs. We consider that P270 would have a neutral impact on the BSC arrangements and therefore agree with the majority Workgroup view.

Rachel Fletcher  
**Acting Senior Partner, Distribution**

Signed on behalf of the Authority and authorised for that purpose