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Dear Colleague,

BETTA “minded to” statement on the interim discount for small transmission connected generators and impact assessment

In accordance with standard licence condition C13 (Adjustments to use of system charges (small generators)), when calculating use of system charges which are to apply to “eligible generators”¹ from the British Electricity Trading and Transmission Arrangements (BETTA) go-live date (expected to be 1 April 2005), the National Grid Company plc (NGC) is to set its charges less a designated sum to be directed by the Authority.

This letter sets out Ofgem’s “minded to” position on the level of that designated sum (referred to as a “discount” throughout this document). An impact assessment of the options that Ofgem has considered with respect to that discount, including the option that is the subject of this “minded to” letter, is set out in Appendix 1 of this letter.

Background

In November 2003, Ofgem/DTI published a consultation document on matters relating to eligible generators (referred to as “small generators” throughout this document) for the purposes of BETTA². After receiving responses to that document, Ofgem/DTI published its conclusions document³.

A key factor in Ofgem/DTI’s considerations has been the statutory definition of “transmission” in Scotland, where the transmission system includes the network lines at 132 kilovolts (kV) (which generally form part of the distribution network in England and Wales), and the consequence that small generators in Scotland are more likely to be connected directly to the transmission system.

¹ “Eligible generator” has the meaning given in standard licence condition C13 (Adjustments to use of system charges (small generators)) of the transmission licence.

² “Small generator issues under BETTA: An Ofgem/DTI consultation document”, November 2003, Ofgem #145/03

³ “Small generator issues under BETTA: An Ofgem/DTI conclusions document”, May 2004, Ofgem #96/04

Small generators connected to the transmission system at 132kV cannot “net-off” demand to avoid Transmission Network Use of System (“TNUoS”) charges for which a supplier would otherwise be liable whereas small distribution connected generators in England and Wales may do so. This difference has not previously been highlighted as an issue under the existing arrangements in England and Wales as there are currently no small generators connected at a transmission voltage in England and Wales.

Ofgem/DTI concluded that it was appropriate to implement measures to ensure that small transmission connected generators (whether they are currently in Scotland or whether they are, at some point in the future, in Scotland or in England and Wales) are not unduly disadvantaged in the GB market.

As a consequence, Ofgem/DTI concluded that in the medium term, work should be undertaken to address this discrepancy on an enduring basis. Ofgem recognises the important role of network charges in providing signals to generators and other network users. These signals must be clear and consistent if they are to promote efficiency to the fullest extent. Ofgem/DTI identified this as an area where further work was required to provide clear and consistent signals for 132kV connected generators in GB. It was noted that relevant considerations in this regard would be ongoing work to review the structure of distribution charges and other developments in the transmission network.

However, given the timescale for introducing GB charging arrangements under BETTA and to ensure that small transmission connected generators were not disadvantaged in the short-term, whilst an enduring solution was identified, considered and implemented, Ofgem/DTI proposed the introduction of an interim discount against NGC’s TNUoS charges.

Ofgem/DTI concluded that it intended to implement the discount through a stand-alone licence condition applying to the GB system operator. In July 2004 Ofgem/DTI published a consultation on a draft licence condition⁴ for this purpose. That condition provided that there would be a two-step process for the GB system operator to calculate final charges to transmission users. First, the GB system operator would calculate use of system charges pursuant to its approved charging methodology independent of the proposed interim measure. Second, the GB system operator would modify the charges derived through the application of its approved methodology in a manner prescribed in the stand-alone licence condition. It also provided that the costs of the discount would be met by all customers taking demand from the GB transmission system by way of an adjustment to demand use of system charges in a non-discriminatory and non-locational basis.

Following publication of the conclusions document, a new standard licence condition (“SLC”) C13 (Adjustments to use of system charges (small generators)) was designated. The condition confirmed that the discount should be set for a maximum of three years, that is, until 31 March 2008 with scope for the Authority to remove the discount before this date if this is deemed appropriate. It is the responsibility of the Authority to determine the level of this discount under SLC C13.

⁴ “BETTA consultation on draft licence condition to implement a proposed interim charging measure for small, transmission connected generators” - Ofgem, 23 July 2004 #173/04

The Authority will progress work to address the charging arrangements for small generators on an enduring basis in due course and in timescales consistent with the anticipated duration of the measures provided for under SLC C13. This review will seek to ensure that charging arrangements are cost-reflective and non-discriminatory for all users of networks. Further this review might result in a set of arrangements where a discount for 132kV connected generators is no longer required.

Legal Framework

The Electricity Act 1989 (Electricity Act) sets down the legislative structure under which the electricity industry operates including the roles and duties of the Authority. Sections 3A to 3C set out the Authority's principal objective and statutory duties.

The Authority's principal objective is "to protect the interests of consumers ... wherever appropriate by promoting competition". In addition the Electricity Act places a number of other duties on the Authority including to carry out its functions in a manner which is best calculated to secure a diverse and viable long term energy supply, having regard to the effect on the environment of activities connected with the generation, transmission, distribution or supply of electricity. In carrying out its duties the Authority must also have regard to any additional guidance issued by the Secretary of State in relation to social or environmental policies. On 5 October 2004 the Authority became subject to two additional statutory duties. These relate to contributing to the achievement of sustainable development and having regard to the principles of best regulatory practice.

In addition to the regulatory framework set out under the Electricity Act, the electricity industry is also subject to European law and competition law. Section 3D of the Electricity Act confirms that the obligations imposed on the Authority under Sections 3A to 3C of that Act do not override contradictory duties or obligations under European law including Directive 2003/54/EC concerning common rules for the internal market in electricity and Directive 2001/77/EC concerning the promotion of electricity from renewable sources in the internal market.

Finally, Section 5A of the Utilities Act 2000 places a duty on Ofgem to undertake an impact assessment prior to taking a decision on anything for the purposes of, or in connection with, the carrying out of any function exercisable by it under or by virtue of Part 1 of the Gas Act 1986 or Part 1 of the Electricity Act which is considered to be "important". The criteria to determine what constitutes an important decision includes having a significant impact on market participants in the gas or electricity sectors or upon persons engaged in commercial activities connected to the gas or electricity sectors. Ofgem considers it necessary to carry out an impact assessment in relation to the introduction of an interim discount for small generators connected to the GB transmission system. This is set out in Appendix 1.

Ofgem's views

In its May 2004 conclusions document, Ofgem/DTI reinforced its view, initially set out in its November consultation paper, as to how the level of the discount would be determined. Specifically, Ofgem/DTI concluded that the discount would relate to the "residual" (essentially

the non-locational element⁵) of NGC's TNUoS charges. This view was driven by the conclusion that the difference in charging between small generators connected at 132kV related to the ability of small distribution connected generation to "net-off" demand and avoid residual charges. Ofgem's view is set out below.

Currently, in England and Wales, the concept of "netting-off" allows a supplier to contract with a small distribution connected generator for output therefore preventing use of the transmission network and consequently transmission charges. This has implications for both generation and demand. By "netting-off" demand with a distribution connected generator, the supplier will pay less demand TNUoS than it would if it were unable to "net-off". Also, by choosing to contract with the supplier rather than trade centrally, the generator avoids generation TNUoS charges.

Demand TNUoS has a locational element (D_L) and a residual element (D_R). Similarly, Generation TNUoS has a locational element (G_L) and a residual element (G_R). If the generator and the supplier enter into this "netting off" arrangement, then the total amount of the charges that can be avoided from "netting off" is the sum of the locational and the residual generation and demand charges that would otherwise be payable, namely:

$$\text{Total net benefit} = (G_L + D_L) + (G_R + D_R)$$

However, it should be noted that under NGC's current charging model, demand is treated as negative generation and consequently the locational generation and demand elements, being equal in value and opposite in sign, cancel each other out. As a result, the total net benefit to generation and demand can be characterised as the sum of the residual elements, namely:

$$\text{Total net benefit} = (G_R + D_R)$$

This total benefit accrues as a result of the transaction between the generator and the supplier and is consequently shared between those two parties. The key issue for determining the appropriate level of the discount for small generators would therefore appear to be how to determine the share of the total benefit characterised above attributable to the generator, and to compare this to how a generator might be treated if it were distribution connected. As noted during the consultation process an element of judgement is involved in determining this split. In a competitive market the sharing of the total benefit would be determined by the contract between the supplier and generator. To replicate the outcome of this arrangement it might therefore be appropriate to adopt a 50/50 split. However, as set out in the November 2003 consultation document there are factors which could be argued to demonstrate that the benefit accruing to generation should be lower than half the total residual.

First, the November 2003 consultation document noted that the "deep" connection charge currently paid by distribution connected generators could be argued to include cost elements that are treated as part of residual cost recovery under NGC's TNUoS methodology. If this is the case then to include the total residual would overstate the differences between transmission and distribution connected generators. In addition there are other benefits to transmission connected

⁵ NGC's use of system tariffs are comprised of two principle components. Firstly, a locational element is calculated for both generation and demand using NGC's DC Load Flow model, and then divided to ensure a pre-determined split of revenue between generation and demand. Secondly, all tariffs are scaled up uniformly by the addition of a "residual" to ensure total revenue recovery in aggregate and to retain the same split of revenue between generation and demand.

generators that are not available to distribution connected parties that were highlighted in the context of the consultation process. These include access to a larger number of suppliers and lower electrical losses. Finally, Ofgem is also of the view that, given that the interim solution will be funded by other demand users, the level of the discount should be set so as to minimise the consequent burden on other parties.

Under the existing arrangements in England and Wales the total residual is split 27/73 between generation and demand. The same split was used by NGC as the initial basis for consulting on the GB split of revenue between generation and demand. It was on this basis that Ofgem/DTI concluded that the generation residual element of approximately a quarter or 25% of the total residual (estimated to be between £2.50/kW and £3.50/kW) represented a robust basis for determining the appropriate share of the total residual accruing to generation and as such a reasonable proxy for the level of the discount. Although Ofgem/DTI noted in the November 2003 consultation document that they were still considering whether to specify the level of the discount as a £/kW fixed sum or whether it should be linked directly to the residual charge.

Since Ofgem/DTI's consultation on the treatment of small generators, the manner in which the generation residual charge is calculated has been reviewed by NGC and NGC has set out a different approach in its preferred GB charging methodology as part of its September proposals report⁶. The reason cited by NGC for this proposal was to avoid the scope for negative demand charges in Scotland, which NGC considered would create perverse incentives to waste energy at times of peak system demand. The solution proposed by NGC was to increase the proportion of revenue recovered from demand to 90% while consequently reducing the proportion recovered from generation to 10%.

NGC's proposed GB connection and use of system charging methodologies were considered by the Authority at its meeting of 25 November 2004. On 10 December 2004 the Authority published a document which set out its decisions concerning NGC's proposed connection and use of system charging methodologies⁷ together with the reasons for those decisions. This document noted that while the Authority had decided to approve NGC's connection charging proposals it had decided it could not approve NGC's use of system charging proposals in their current form on the basis that the interests of consumers could be better served by NGC undertaking further work to refine its proposals in a number of areas. One of the areas Ofgem highlighted was in relation to NGC's proposal to change the generation/demand split to recover 90% of its revenue from demand. Ofgem concluded that this approach might be expected in the short term to have a materially adverse impact on consumers relative to the proportion of revenue recovered from those parties today.

Whilst NGC's preferred methodology was not approved by the Authority, it did illustrate the potential for NGC's generator residual charge to be distorted by factors (i.e. the split of total revenue recovery between generation and demand) which, in Ofgem's view, were unrelated to the underlying policy rationale for the proposed small generators discount if it were linked

⁶ GB Transmission Charging: Final Methodologies Conclusion Report to the Authority – NGC, 30 September 2004

⁷ NGC's proposed GB transmission charging methodologies: The Authority's decisions – Ofgem, 10 December 2004 #275/04

directly to the NGC's generator residual charge. Ofgem therefore considers it would not be appropriate to determine the level of discount based on NGC's generator residual charge⁸.

Ofgem's proposal

Ofgem considers that it would be appropriate for the discount to continue to be based on the generators' appropriate share of the total benefit from "netting-off". Ofgem considers this to be broadly equivalent to what the generation residual charge would be in the absence of a change in the generation/demand split. In addition Ofgem considers that the discount should be characterised as a percentage of the total residual. The logic of this approach is that it ensures that the total level of the discount is not artificially adjusted by a future change in the split of revenue recovery between generation and demand. This approach provides increased certainty for both small transmission connected generators and for GB demand which will ultimately meet the cost of the discount.

Ofgem is therefore minded to propose to set the level of the discount as 25% of the total residual element of NGC's TNUoS charges. Further, it is proposed that the level of the discount continues to be calculated as 25% of the total residual for the future years of its application.

The actual amount of the discount will depend on the final tariffs determined by NGC under the process set out in SLC C13 and on NGC's total allowed revenues for the relevant years. However, for illustrative purposes, and based on the indicative tariffs presented by NGC as part of its September proposals document⁹, this would give a discount under its alternative (Scenario A) and preferred (Scenario B) TNUoS charging methodologies of £3.80/kW and £3.91/kW respectively in the charging year commencing 1 April 2005.

Views invited

Parties are free to raise comments on any of the matters covered in this document and in the attached impact assessment. In particular Ofgem welcomes views on the proposals to:

- set the level of the discount as a percentage of the total residual
- to use 25% of the total residual as an appropriate level for the discount in terms of its impact on small generators and in terms of its impact on demand charges, and
- to continue to use 25% as the basis of the discount in future years rather than to set a fixed £/kW sum.

⁸ As noted above the total residual comprises both a generation and demand element. Under the current arrangements in England and Wales, 73% of the residual is paid by demand and 27% paid by generation. Under NGC's preferred methodology the reduction of the generation residual element to recover 10% of total revenue from generation would have reduced the small generator discount to approximately £1.57/kW. By basing the small generator discount on the total residual (i.e. the sum of the generation and demand residual elements) the total level of the small generator discount will be unaffected by changes in the proportion of revenue recovered from generation and demand.

⁹ See footnote 6.

Comments should be sent by 21 January 2005, to:

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Alternatively, comments can be emailed to BETTA.consultationresponse@ofgem.gov.uk marked 'Response on small generator discount – consultation and impact assessment'. If you wish to discuss any aspect of this document please contact Colin Sausman, email colin.sausman@ofgem.gov.uk, telephone 020 7901 7339 or Grant McEachran, email grant.mceachran@ofgem.gov.uk, telephone 0141 332 5647.

APPENDIX 1: IMPACT ASSESSMENT

Objective

To promote the equitable treatment of all transmission and distribution connected generators with a capacity of less than 100MW by addressing the charging treatment of transmission generators connected to the GB transmission system at 132 kV. If not addressed, small transmission connected generators may be disadvantaged under the GB charging arrangements.

Summary of preferred proposal

The key aspects of Ofgem's proposals are as follows:

- to introduce for an interim period of three years, a discount for small (defined as generators with a total connected capacity of less than 100MW) 132kV transmission connected generators
- to set the level of the discount in relation to the total residual (non-locational element) of NGC's Transmission Network Use of System (TNUoS) charges
- to determine the level of the discount as 25% of the total residual, and
- to base the discount in future years on 25% of the total residual rather than a fixed £/kW sum.

Legal framework

Domestic law, European law and the Authority's principal objective and statutory duties apply to the introduction of a discount for small transmission connected generators.

The key elements of the legal framework are set out in Chapter 4 of Ofgem/DTI's May 2004 conclusions document on small generator issues under BETTA. They are also summarised in the "minded to" statement on the interim discount for small transmission connected generators (to which this impact assessment is annexed) and are therefore not repeated here.

SLC C13 (Adjustments to use of system charges (small generators)), which was determined by the Secretary of State and had effect on and from 1 September 2004, gives effect to the application of a discount for small transmission connected generators. It provides for the Authority to set the level of discount and determines that the discount automatically falls away after three years. The condition also enables the Authority to remove the discount within the three year period if it considers it to be no longer required.

Options

There were four main options available within the timescale for the introduction of the GB charging arrangements.

Option 1: To introduce a discount against the transmission charges faced by small transmission connected generators, set in relation to the total residual (non-locational element) of NGC's TNUoS charges.

Option 2: To introduce a cap on charges for small 132kV transmission connected generators at a level commensurate with embedded benefits in England and Wales.

Option 3: To exempt small 132kV generators from all transmission related charges that is, all transmission charges would be discounted.

Option 4: To retain the status quo whereby no provision is made to discount charges for small transmission connected generators that is, the discount would be set to zero.

Each of these options is assessed below against the relevant criteria highlighted in Ofgem's published guidance on impact assessments¹⁰.

Risks and unintended consequences

Option 1

There is a risk that in setting the level of the discount the advantage of being distribution connected relative to being transmission connected is overestimated and demand users are required to pay excessively high charges to compensate.

Ofgem considers that setting the level of the discount at 25% of the total residual reflects the charging disparity between generation and demand while at the same time recognising the other advantages of being transmission connected.

Option 2

The key risk in setting a cap on the charges paid by small transmission connected generators is that the cap will be set at an inappropriate level and the level of the discount will be over or under estimated. As noted previously if the cap were to reflect the total level of embedded benefits, Ofgem considers the discount is likely to be over-estimated. The consequence of overestimating the level of the cap is that distribution connected generators are disadvantaged relative to small transmission connected generators and competition is skewed.

One advantage of setting a cap is that it establishes certainty as to the level of the tariffs paid by small generators going forward.

Option 3

In line with Option 2, if all small 132kV transmission connected generation were exempted from transmission charges then distribution generation may be disadvantaged relative to small transmission connected generation. Further all other transmission connected generation may be disadvantaged by having to meet the additional transmission costs not paid for by 132kV connected generation.

The main consequence may be that the competitiveness of distribution connected generation would be hampered. One implication of this is that where a prospective future connectee has a

¹⁰ 'Guidance on Impact Assessments: Decision document' – Ofgem, September 2004 # 229b/04

choice of connecting at a transmission or distribution connected voltage then, under such charging arrangements, the best commercial decision is likely to be to connect at 132kV. Such a decision would undermine the cost and environmental benefits of embedded generation.

Option 4

The risk of not addressing the issues identified by setting no discount at all is the introduction of charging arrangements under which small transmission connected generators are disadvantaged relative to equivalent distribution connected generators. This could hinder the competitiveness of the electricity markets.

Further, given that a significant proportion of the small transmission connected generation connected at 132kV in Scotland is derived from renewable resources then the competitiveness of these generators could be reduced and consequently the ability of the Government to meet its renewable targets put at risk.

Competition and impact on consumers

Option 1

Ofgem's principal objective is to protect consumers where possible through the promotion of effective competition. Competition puts pressure on generators to be more efficient in their actions and to reflect savings in the pricing of their products to consumers. In developing the GB charging arrangements it is desirable to avoid charging disparities which could put any party or group of parties at a competitive disadvantage.

Ofgem/DTI demonstrated in their May 2004 conclusions document that the disparity between small 132kV transmission connected generation and distribution connected generation did not, (given other benefits to being transmission connected such as lower electricity losses and having access to a wider number of suppliers) relate to the total differences in their charges but rather to a proportion of their residual costs. By setting the discount to reflect the value of the net benefit gained from being distribution connected, the arrangements by targeting the level of the disparity should create a level playing field for competition among small generators across GB. This in turn will facilitate effective competition in the market as a whole.

Option 2

Embedded benefits reflect the specific benefits that a distribution connected generator provides to the transmission system by preventing additional use of that system and consequently additional costs being incurred. A generator connected at 132kV in Scotland is already connected to the transmission system and therefore cannot by its actions prevent costs on that network.

The application of a cap to reflect the total level of embedded benefits to the extent that it overestimates the level of the reduction in charges for small transmission connected generators, may distort competition in favour of those generators and in a manner that is inconsistent with consumer interests. Accordingly, the application of a cap on transmission charges based on the total level of embedded benefits received by distribution connected generators may distort competition. This in turn would harm consumer interests.

Option 3

In the first stage of the consultation process on small generator issues Ofgem set out the view that an approach based on exonerating small 132kV connected generators from all transmission charges would not be appropriate as it would mean that while using the transmission network such generators would make no contribution to its costs. Ofgem noted that this would place 132kV transmission connected generators at an advantage over distribution-connected generators who would have paid “deep” distribution connection charges and over other transmission connected generators who would have to meet the additional transmission costs.

As a result the removal of all transmission charges may further exaggerate the benefits to small transmission connected generation provided by Option 2 at the expense of the competitiveness of distribution connected generators and other transmission connected generators. Ultimately consumer interest may be harmed as a result of increases in transmission charges.

Option 4

From the perspective of competition the unaltered extension of the existing England and Wales charging arrangements to GB will have the same shortcomings as Options 2 and 3. By retaining the disparity in the charging arrangements, the extension of the status quo may create an arbitrary benefit to small distribution connected generators relative to small transmission connected generators. The result may be to discriminate against small transmission connected generators and as a result to distort competition which in turn may hamper consumer interest.

Security of supply

Option 1

Given the magnitude of the discount and the size of the charging base affected, the discount proposed by Ofgem should have little impact on security of supply. However, to the extent that the removal of the distortion in charging will lead to efficient investment decisions, it should have a positive benefit for system security.

Option 2

The application of a cap should have little impact on security of supply. However, if the cap is set at an inappropriate level and creates a further distortion in charging it could result in inefficient investment decisions and hamper system security.

Option 3

The impact is likely to be comparable to that for Option 2.

Option 4

The impact is likely to be comparable to that for Options 2 and 3.

Costs and benefits

Option 1

Under the model used by NGC to derive the charges set out in NGC's September proposals document¹¹, the amount of generation that would qualify for the small generator discount would be 878MW, approximately 9% of the total Scottish generation charging base. For illustrative purposes the total residual elements set out for NGC's alternative and preferred options were respectively £15.19/kW and £15.65/kW¹². Setting the level of the discount at 25% of the total residual element based on these illustrative numbers would, under NGC's preferred and alternative models, give a discount of between £3.80/kW and £3.91/kW in the first year. Multiplying the level of the discount by the relevant charging base would mean the value of the total discount was between £3.3m and £3.4m. This is the total quantifiable benefit to small generators.

On the other hand the total illustrative discount of between £3.3m to £3.4m also represents the total additional costs to demand. However, as this will be met by all GB demand and spread across a charging base of approximately 59GW it represents a much lower cost per kW of around £0.06/kW.

In addition to this, there are a number of non-quantifiable benefits of the proposed approach set out by Ofgem. These include the fact that by basing the solution on a percentage of a published total residual, this figure will be transparent and therefore enable parties to make reasoned investment decisions. Further by separating the application of the discount from the annual calculation of the use of system tariffs it will ensure that the measure can be phased out when appropriate without unnecessary complication and additional costs.

Option 2

During the consultation on small generators issues, respondents expressed a range of views on the level of a potential cap from £6/W to £44/kW. These views reflect different interpretations of the cost differences between being transmission and distribution connected.

Assuming the amount of generation that would qualify for the small generator discount would continue to be that with a connected capacity of less than 100MW that is, approximately 878MW, then the total quantifiable benefits to small transmission connected generators would be between £5.3m and £38.6m.

As a result, small transmission connected generators are likely to be better off than under Option 1, however at the same time a number of other parties are likely to be significantly worse off. This reduction in transmission revenue would have to be met by another party. If it were met by GB demand it would be likely to be passed on to consumers in the form of higher prices. If it were met by generators then it would weaken the competitive position of those parties and ultimately would be paid for by consumers through reduced competitive pressure on prices.

¹¹ GB Transmission Charging: Final Methodologies Conclusion Report to the Authority – NGC, 30 September 2004

¹² GB Transmission Charging: Final Methodologies Conclusion Report to the Authority – NGC, 30 September 2004 pages 80 and 82

Option 3

Again for illustrative purposes the unweighted average generation charges in Scottish transmission zones under NGC's alternative and preferred TNUoS methodology set out in its September 2004 proposals were respectively £13.21/kW and £14.22/kW. Assuming once again that the same level of generation was liable for the discount, then the total savings to those generators and the associated cost to either GB demand or other transmission connected generators would be in the range of between £11.6m and £12.5m.

However, as noted in relation to Option 2 the benefit to small transmission connected generators would also be offset by additional non-quantifiable costs to distribution connected generation and ultimately to GB customers through the reduction in the competitiveness of distribution connected generation relative to equivalent small transmission connected generation.

Option 4

In the event that no discount is applied to the transmission charges paid by small transmission connected generators then there is neither an immediate quantifiable benefit to those generators nor an equivalent additional cost to GB demand.

However, on the assumption that a discount of around £4/kW represents a reasonable proxy for the disparity of treatment between transmission and distribution connected generators at 132kV, the quantifiable benefit of £3.4m of applying that discount represents in turn the cost to that generation of not applying the discount. Further, there will be additional non-quantifiable costs to that generation and ultimately to GB customers through the reduction in its competitiveness relative to equivalent distribution connected generation.

Environment

Option 1

The proposed discount for small transmission connected generators is likely to have a positive impact on the environment.

The principal parties to benefit from the introduction of a discount are the significant number of renewable projects, particularly wind-powered energy connected to the 132kV network in the north of Scotland. The reduction of charges for these parties not only means that they will be able to compete with similar generators connected to the distribution network but that it would also increase the viability of future renewable connections. The greater use of generation from renewable sources would be expected to reduce carbon dioxide emissions and thus have positive implications for the environment.

Further the fact that the discount is proposed to remove a disparity in the charging arrangements within the context of NGC's locational charging model would be expected to result in generators making more efficient commercial decisions in terms of connecting to and using the transmission system. This will have benefits in terms of the future development of the

transmission system and in particular is likely to discourage the unnecessary creation of additional transmission lines with the associated negative impact on rural areas and in terms of the volumes of electricity that is transferred over longer distances and lost as heat.

Option 2

To the extent that a cap on transmission charges is likely to favour renewable projects in Scotland relative to conventional generation then it would provide some environmental benefits.

However, this must be weighed against the impact these arrangements would have in relation to the relative competitive positions of certain generators and the fact that it might lead to inefficient decision making in relation to the siting of generation and use of the transmission system. If it leads to a greater use of the transmission system then this is likely to increase carbon dioxide emissions and have a negative impact on the environment.

Option 3

The impact on the environment of a charging arrangement which exempted all small 132kV transmission connected generation from transmission charges would be comparable to that set out under Option 2.

Option 4

The failure to address the charging disparity between small transmission connected and distribution connected generation would have a negative impact on the environment in terms of their impact on the competitive position of small 132kV connected renewables in Scotland.

It would also lead to inefficient decision making in relation to connecting to and disconnecting from the total system.

Conclusion

The proposal to introduce a discount for small transmission connected generators based on a fixed percentage of total residual charge (Option 1) has a number of benefits relative to the alternative options. The application of a discount will be targeted to address the specific charging disparity between small generators connected at 132kV. By removing this disparity the arrangements will foster competition in generation and support the development of small transmission connected renewable projects in Scotland. Further the benefits of facilitating effective competition in this area outweigh the estimated cost of the discount to GB demand of around £0.06/kW.

The proposals to apply a cap to reflect the total level of embedded benefits (Option 2) or to exonerate all small 132kV connected generation from the transmission charge (Option 3), while resulting in a more favourable discount to small 132kV transmission connected generation than Option 1, will create wider negative externalities by distorting effective competition. Such approaches are likely to ultimately disadvantage consumers through higher costs.

The option of retaining the status quo by making no provision for setting a discount (Option 4) is also not a viable response. Respondents to Ofgem's November 2003 and May 2004

consultation documents recognised the potential for a disparity in the charging treatment of small generators if the existing arrangements were extend unaltered across GB. It is recognised that failure to address this disparity may result in small 132kV transmission connected generators being commercially disadvantaged relative to distribution connected generators. This may distort competition and is unlikely to be in the best interests of consumers.

Views invited

Ofgem would welcome views on any of the issues set out in this impact assessment. Responses should be submitted by 21 January 2005.