Richard Lavender
Senior Commercial Analyst
Commercial
National Grid Company plc
NGT House (Floor C3)
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

21 January 2005

0141 568 4469

Dear Richard,

GB Transmission Charging: Use of System Charging Methodology Revised Proposals Consultation
20 December 2004

Thank you for the opportunity to respond to this consultation. This response is submitted on behalf of ScottishPower UK Division, which includes the UK energy businesses of ScottishPower, namely ScottishPower Energy Management Ltd, ScottishPower Generation Ltd and ScottishPower Energy Retail Ltd.

You will recall that we commissioned NERA to provide expert reports on GB transmission charging after publication of NGC's Initial Methodologies Consultation in April and Final Methodologies Consultation in August. These were subsequently submitted to and published by NGC. NERA has been further commissioned to provide a report in relation to this Revised Proposals Consultation and that is submitted with this response.

I hope that you find these comments useful. Should you have any queries on the points raised, please feel free to contact us.

Yours sincerely,

Mike Harrison
Commercial Manager, Trading Arrangements
ScottishPower Energy Management Limited

EXECUTIVE SUMMARY

This response submitted on behalf of ScottishPower UK Division (SP) is based on a thorough review of NGC's revised GB charging methodology and is submitted in conjunction with a further report from NERA on specific issues arising out of the 20 December consultation. We continue to have a number of serious concerns about NGC's consultation.

Failure to disclose information

NGC has consistently failed to disclose adequate supporting information to allow proper consultation on the transmission charging methodology. This renders the resulting methodology substantively flawed and consultation process unfair.

Failure to address properly our arguments that the locational charges are higher than can be justified

In our response to Ofgem's Impact Assessment (IA) published in October 2004 we concluded that the charging methodologies which NGC had previously submitted to Ofgem for approval involved several assumptions which led to higher locational differences in charges than could reasonably be justified. As a result we found that the NGC proposals were disproportionate and would place an unreasonable and unlawful burden on generators in Scotland when compared to their competitors in England and Wales. In that response we explained how NGC had invariably adopted assumptions that led to excessively high locational charges and we highlighted the following examples.

1. Locational differentials are magnified by 80% by a locational security factor which is not properly justified, does not take account of spare capacity and is methodologically flawed.

2. No allowance is made for the fact that most transmission expansion is achieved at a cost that is below the cost of new build.

3. No allowance is made for the fact that new build transmission projects typically take several years from identifying a need for new build to commencing construction.

4. The methodology fails to allow for the significant amount of spare capacity that currently exists in the GB transmission system.

5. It makes no allowance for the fact that decremental marginal costs are typically much lower than incremental costs.

6. It fails to apply a suitable scaling factor when modelling wind generation.

In the revised methodology published by NGC on 20 December the only issue from the list above that NGC has seriously attempted to address (albeit in our view still inadequately) is the method of achieving system expansion.

Flaws in revised analysis of methods of system expansion

The revised methodology incorporates alternative assumptions about the different methods of achieving system expansion and introduces TO-specific expansion factors. However NGC's assumptions regarding the likely costs of the alternative system expansion options are flawed. They appear to have been derived more out of a desire to justify the high locational differential in charges that were a feature of the earlier proposals rather than an objective assessment of the likely cost of expanding the transmission network.

This response includes detailed explanations of why we believe the assumptions used by NGC continue to overstate the locational differences in incremental costs. We urge NGC to reconsider the approach it has taken thus far. We are willing, as ever, to engage constructively with NGC in this regard.

Flawed analysis of effects on competition

NGC's analysis of the effect of its proposals on competition is flawed: it incorrectly makes a comparison with a base case which includes the imposition of unlawful interconnector charges and fails to assess the *relative* impact of the new methodology on Scottish generators as compared to those in England and Wales.

Tariff uncertainty

Significant changes to generation zones is creating instability which needs to be addressed so as not to expose users to unmanageable risks of significant tariff changes at short notice.

GB TRANSMISSION CHARGING:

USE OF SYSTEM CHARGING METHODOLOGY REVISED PROPOSALS CONSULTATION

SCOTTISHPOWER UK DIVISION RESPONSE

1 INTRODUCTION

1.1 Thank you for the opportunity to respond to this consultation. This response is submitted on behalf of ScottishPower UK Division (SP), which includes the UK energy businesses of ScottishPower; namely, ScottishPower Energy Management Limited, ScottishPower Energy Retail Limited and ScottishPower Generation Limited.

1.2 SP has participated fully in the development of the proposed GB transmission charging methodologies ('GB TCMs') and has submitted detailed responses to each of the three previous consultation exercises that NGC has held. We also commissioned and submitted to you two specialist economic reports produced by NERA. In this response, we have, on occasion, referred you to our earlier responses and to the NERA reports. This is to avoid unnecessary repetition of our existing concerns.

Reservation of SP's legal position

1.3 Notwithstanding that the remainder of this response focuses principally upon the specific points raised by the current NGC consultation, we stress that we remain of the view that the concerns raised by us in our previous responses and correspondence must be addressed and that we have not waived in any way our right to pursue these issues. Following a review of NGC's 20 December 2004 consultation document, those concerns remain for the reasons previously stated. We reiterate that NGC's proposals for a GB TCM have failed to address properly a number of issues as set out in our previous submissions to the GB TCM consultation process and, in particular, our consultation responses to NGC dated 6 February, 21 May and 17 September 2004, our letter to Ofgem dated 26 July 2004, the two NERA reports, dated 26 July and 13 September 2004, submitted by us to NGC, the consultation response, submitted to Ofgem on 12 November 2004 and the Article 23(6) complaint to Ofgem of the same date.

1.4 Without prejudice to the generality of the foregoing, our concerns about the following specific issues continue to be relevant (referenced to our responses of 21 May (Paper 1), 17 September (Paper 2) and 12 November 2004 (Paper 3)):

- Failure by NGC to apply the proportionality standard properly (Paper 1: para. 5.2 to 5.3, sections 6-9; Paper 2: paras. 2.1 to 2.8; Paper 3: section 2.1).

- Failure by NGC to provide objective justification for its proposed GB TCM(s) (Paper 2: paras. 2.13 to 2.20; Paper 3: sections 2.2 to 2.4).

- Failure by NGC to act with sufficient transparency during the consultation process (Paper 1: para. 12.6; Paper 2: paras. 2.9 to 2.12; Paper 3: para. 2.4.2).

- Failure by NGC to produce proposals which would lead to stable charges (Paper 2: paras. 2.19 to 2.20; Paper 3: para. 2.5.1 and para. 2.5.5).

- Failure by NGC to take proper account of the adverse impact of its proposed GB TCM(s) on competition (Paper 2: paras. 2.4 to 2.8 and 2.21 to 2.24; Paper 3: sections 2.1, paras. 3.4 and 3.6).

- Failure by NGC to make, or to suggest to Ofgem, appropriate adjustments to its assumptions (Paper 2: paras. 3.1 to 3.18 and 4.3 to 4.5; Paper 3: paras. 2.1 to 2.3, 2.5.2 and 3.8), and

- Failure by NGC to consider available alternative proposals (Paper 1: paras. 3.6 and 5.4 to 5.7; Paper 2: paras. 2.25 to 2.28 and section 3; Paper 3: section 2.1, 3.8 and 3.9).

1.5 Please note that this response is made without prejudice to any subsequent complaint, appeal or legal challenge that we may wish to make in relation to the proposed or approved GB TCM. Furthermore, and without prejudice to the generality of the foregoing, SP reserves its right to renew its complaint to the Authority under Article 23(6) of Directive 2003/54/EC (IMED). In a letter from David Halldearn of Ofgem addressed to Alex Brennan and dated 16 December 2004, Ofgem acknowledged that we may wish to make further representations, whether under Article 23(6) of the said Directive or otherwise, in light of NGC's revised proposals for the GB TCM.

NGC's failure to disclose information

1.6 During the GB TCM consultation we have consistently raised with NGC and Ofgem our belief that NGC has frustrated a proper consultation on the issue of the marginal costs of network expansion by failing to disclose the cost data on which it bases its assertions (see, for example, Paper 2, Executive Summary, page 2 and paragraphs 2.11-2.12; Paper 3, paragraph 2.4.2; complaint under Article 23(6) dated 12 November 2004, points 2 and 3; NERA paper of 26 July ("NERA 1"), paragraphs 6.1, 6.2.2, 6.6.1 and 6.8). This has denied SP (and others) a fair opportunity to engage meaningfully in the consultation on this crucial issue, with the result that the TCM has not been objectively and transparently justified as cost-reflective. Further, key aspects of NGC's modelling have remained wholly outside the consultation process: for example, no proper opportunity was provided for consultation on the locational security factor since details of the model supporting it (which are in any event inadequate to enable proper consultation) only first emerged on 3 December 2004 at the DCLF expert users group *after* NGC had published its conclusions document and the Authority had made its decision. A detailed discussion of NGC's failure to disclose information is set out in Annex A of this response, together with a list of those areas where information is still outstanding.

1.7 NGC has failed to advance an adequate basis for denying SP its right to have disclosed to it the underlying data on which NGC's modelling of the expansion constant is based. That is a substantively unlawful approach and prevents the methodology from being objectively justified, proportionate and transparent. The continuing failure of disclosure also renders the consultation process flawed and unfair. We repeat our request that the information be disclosed.

2 ISSUES RAISED BY OFGEM

Negative demand charges

2.1 SP does not believe that negative demand charges, like negative generation charges, can be cost-reflective since all users impose costs on the network. This failure of cost-reflectivity is especially pronounced since the Plugs charging methodology was introduced.

2.2 As we stated in our response to Ofgem's October 2004 consultation and Impact Assessment[1] we believe that the occurrence of negative demand charges is an indication that the parameters of the model have been set at levels which over-state the locational differentials, and that this problem can be overcome by the adoption of more realistic assumptions. Failing that, further consideration should be given to eliminating the negative charges by scaling back the tariff differentials. Thus, whilst NGC is right to be concerned about the impact of its methodology for users at the extremities of the system:

> (a) it is wrong about the cause of these difficulties: negative demand charges highlight the disproportionate impact that the ICRP methodology *as calibrated by NGC* has on users at the extremities of the network;
>
> (b) it is inconsistent in its approach to these extremes in charges - being concerned when charges are particularly low (in the case of negative demand charges), but not when they are particularly high (in the case of Scottish generator charges).

2.3 Notwithstanding our view that negative demand charges can be removed by adjustments to the model, we believe NGC should commit to a programme of phased reductions in the generators' share of TNUoS charges with the target of eliminating generator charges within five years.

Expansion constant and expansion factors

2.4 We welcome NGC's recognition that techniques other than new build should be included in the calculation of the expansion constant. In the case of the 400kV expansion constant however, we believe that NGC is overstating the costs of expansion. We particularly noted that NGC only gave the re-profiling technique 20% weighting in their calculation of the expansion constant although their analysis seems to indicate a higher availability of this technique, thus overstating the cost of expansion.

[1] Paragraph 3.79

2.5 We also believe that NGC is overstating the specific cost of capacity increments provided by re-conductoring and uprating. Where assets are replaced while creating extra capacity, some of the costs should be allocated to the future replacement of the original capacity rather than the entire project cost being assigned to the capacity increment. This would reduce the expansion constant.

2.6 We found the analysis of investment costs against tariff differentials in £/kW terms in Section 5.3.2 of the proposals paper to be generally unconvincing and misleading as we do not believe that the exercise compared like with like. On the one hand, the tariff differentials were derived from the ICRP methodology using the cost of capacity of distance related elements of the network. On the other hand, the investment costs were based on improvements in boundary transfer capability which are dependent on many other aspects of network operation, e.g., generation despatch patterns and voltage considerations. Furthermore, the specific expansion cost for the boundary B6 reinforcement was calculated on the basis of the interim capability increment rather than the increment which would be available when other reinforcements have been completed. This clearly overstates the specific cost and could be misleading. It is also not clear what elements of the total reinforcement costs have been included in the 'distance related component' used in the calculations shown in the table. Overall, we believe that the figures in the two emboldened columns are not comparable and could mislead the reader.

2.7 For expansion of the 275kV network we welcome NGC's recognition of voltage uprating as being the most likely method to be employed. However, by including the cost of voltage transformation as part of the distance related costs of such a scheme, and particularly by apparently including two transformers per circuit, we believe that NGC has, once again, significantly overstated the costs. We do not believe that the transformer costs should be included as this is inconsistent with the current philosophy in which all substation costs are excluded from the expansion constant calculation.

2.8 We also believe, from past experience, that uprating to 400kV operation generally takes place as part of an extension of the 400kV network rather than as the uprating of an isolated circuit within a 275kV network. Transformers connecting the two systems can often be relocated from the old to the new interface between the two system voltages, thus obviating the need to purchase new units. Thus, even if transformer costs were to be included, there would be fewer transformers than the allowance of two per 30km of line which NGC has included and the costs would be significantly lower than NGC has claimed. The cost of the portion of 275kV expansion which relates to voltage uprating should therefore be significantly less than the cost of 400kV new build and a fraction of the cost of 275kV new build, thus lowering the 275kV expansion factor.

2.9 We welcome recognition that the proportion of the 275kV expansion constant which relates to voltage uprating should be based on the proportion of the network which could be uprated rather than the proportion which is planned to be uprated. While recognising that an assessment of the proportion of the 132kV network which would be uprated by rebuilding if expansion was necessary would be more difficult to carry out, we believe that a realistic estimate of this proportion must be used rather than simply using the proportion which the TO is currently planning to rebuild. To restrict the assessment to the short period covered by the TOs' current

plans will clearly underestimate the extent to which expansion at a higher voltage is likely to occur.

2.10 We note that NGC has asserted that the new build cost is as good an approximation to the average expansion cost for the lower transmission voltages as it is for 400kV. We do not accept that this is the case in the absence of any supporting evidence.

2.11 Given the major differences between the networks in Scotland and England and Wales, not least the presence of significant amounts of 132kV network in Scotland, we fully support the use of TO-specific expansion factors. We recognise that this is a departure from the philosophy of applying modelling parameters consistently across GB. However, we have long argued that the GB network is not homogenous and we welcome the recognition of this in NGC's revised proposals. The use of TO-specific expansion factors is entirely logical and fully justified in the circumstances of networks which have been developed in differing circumstances by different licensees. It is certainly not an "arbitrary regional difference" as was suggested at the meeting of the Transmission Charging Methodologies Forum on 11 January.

2.12 Having recognised, but misunderstood, our concerns regarding the asymmetry of incremental and decremental costs, NGC continues to ignore the fact that the cost savings associated with reductions in transmission capacity requirements do not equate to the cost of provision of new capacity. NGC also continues to ignore the effect of the introduction of the Plugs connection charging methodology, when account is taken of the impact on other users of the costs of local infrastructure, on the locational signals provided by transmission charges and the economic efficiency of decisions to close plant in the north and open new plant in the south. For the avoidance of doubt, we are not arguing against Plugs but believe that it increases the asymmetry between incremental and decremental costs of infrastructure such that this asymmetry can no longer be ignored within the TNUoS methodology.

2.13 Arguments which we submitted in response to the Final Methodologies consultation in relation to these issues are included in Annex B of this response for reference (sections B1, B2 and B3). We would also draw your attention to sections 2, 3 and 4 in the enclosed NERA report, which provide support to the arguments which we develop in this section.

Spare capacity

2.14 We note Ofgem's comment that NGC's arguments as to why the final proposals already reflect the presence of spare capacity had not been presented clearly or consistently to date. This is unsurprising given the complete change of philosophy which has taken place over the last year. We believe that the (flawed) methodology being proposed now differs fundamentally in this respect from the ICRP methodology which was introduced in England and Wales in 1994.

2.15 The ICRP methodology was intended to relate the charges paid by users to the potential marginal or incremental cost of accommodating on the wider network a further increment of generation at the particular node to which the user was connected, i.e., tariffs were related to notional future increments of capacity.

Clearly, some increments could be accommodated without further investment due to the presence of spare capacity on the network and this was recognised in the model through the 'under-utilised lines' feature.

2.16 The philosophy which NGC now seems to be advocating as underlying the ICRP methodology (at least in its approach to spare capacity) has fundamentally changed. It now appears that the methodology is intended to relate the allocation of costs to current utilisation. We believe that this approach is flawed, inconsistent with the original philosophy underpinning the ICRP methodology and its current application in England and Wales, and reduces the cost-reflectivity of the methodology. This change from the original philosophy is not justified by the application of the ICRP methodology to GB rather than merely England and Wales, and we do not believe NGC has provided any adequate explanation or justification for it.

2.17 Whilst endeavouring now to demonstrate the opposite, NGC's latest explanation demonstrates clearly that the concept of spare capacity is not recognised by any part of the currently proposed methodology. As demonstrated by the example in NGC's paper, the current proposals calculate the marginal cost as the difference between the cost of the total base case MWkm and the cost of the total MWkm after incrementing the generation at one node. Clearly this does not take account of any spare capacity in the system as it assumes that all the incremental MWkm must be provided at the appropriate voltage and TO specific expansion costs.

2.18 The argument that "*there is no need to take into account the relative utilisation of a circuit as the Security and Quality of Supply Standards ensure that the network maintains a certain security level*"[2] does not help NGC's case. Clearly, an assessment under the SQSS of the investment required to accommodate an increment of generation may find that no investment is required, or only a proportion of the increased MWkm require investment, but the charging methodology does not recognise this. It is therefore self-evident that the presence of spare capacity is not reflected in the model.

2.19 The failure of the proposed methodology to recognise the presence of spare capacity in the network when deriving the nodal marginal costs is repeated in the process for calculating the locational security factor. This is discussed more fully below.

2.20 Further arguments and proposals regarding the treatment of spare capacity which we submitted in our response to the Ofgem consultation and Impact Assessment in November 2004 are annexed for reference (Section B3). We would also draw your attention to section 5 in the enclosed NERA report, which provides support for the arguments which we develop in this section.

[2] Section 5.5, page 21

3 OTHER ISSUES

Facilitating competition, burden on individual parties as a result of location

3.1 We note that Ofgem concluded that the adoption of a single methodology applied across GB would facilitate competition and that the locational tariffs would not place a disproportionate burden on individual parties located at different points on the network provided that they are properly cost-reflective. We are concerned that these conclusions were based in part on NGC's assertion that the change to the total charges on Scottish generators was broadly neutral.

3.2 This statement ignores the fact that, as we have previously submitted, the current arrangements for charging for access to the Interconnector are discriminatory and unlawful and (as Ofgem now appears to acknowledge) are themselves capable of distorting competition (see paragraph 5.12 of December Decisions Document). It also ignores any change to the total charges of generators in Scotland relative to those in England and Wales as a consequence of the implementation of BETTA. In fact the change to GB charging will lead to a significant reduction in the charges paid by generators in England and Wales. It is undeniable that generators in England and Wales will receive a significant competitive benefit from the introduction of the GB TNUoS charging methodology. It is this relative effect of changes in charges which is crucial to the effect on competition between generators.

3.3 We would also draw your attention to section 6 in the enclosed NERA report, which contains an analysis of this relative effect and its impact on competition.

System security

3.4 We note that Ofgem concluded that a model that reflects the costs of providing security on a locational basis would appear more cost-reflective than a model that ignores the need to accommodate parties on a secure network. While this may be the case, we do not believe that the method chosen by NGC, especially when combined with the lack of recognition of spare capacity discussed above, provides a reasonable assessment of the cost of security, or a fair allocation of these costs.

3.5 Furthermore, we are concerned that Ofgem has again endorsed NGC's application of the locational security factor in the absence of any public knowledge of or consultation on the detailed methodology which NGC uses for its calculation. No details of this process have been available to the industry until a short description was issued to members of the DCLF Expert Users Group at its meeting on 3 December 2004, i.e., after Ofgem had apparently accepted the inclusion of this feature in the GB charging methodology. SP has serious concerns over both the calculation of the locational security factor and the process by which its inclusion in the charging methodology has been approved.

3.6 The locational security factor is calculated using the SECULF model, which is described as a secured loadflow model. This is a misnomer. What SECULF does is to calculate line flows which would occur in the event of certain fault outages which must be secured under the SQSS. It does not take account of any circuit ratings and hence cannot make any assessment of system security, nor can it make

any assessment of how much investment would be required to ensure that security is maintained. As with the calculation of the basic nodal marginal cost, the calculation of the secured nodal marginal cost takes no account of the existence of spare capacity on the network and therefore over-states the cost of security.

3.7 Quite apart from the failure to allow for spare capacity, we believe that the SECULF process overstates the cost of security by assigning to each node the sum of the maximum post fault flow increments on each transmission line rather than the maximum of the sum of the post fault flow increments for a single contingency. We believe that allocating to all nodes the sum of the maximum post fault flows over-states significantly the cost of providing system security and also neglects the fact that the extra investment implied by this approach would benefit all system users, i.e., such costs are not correctly allocated.. The security factor for each node should be based on the maximum incremental cost for that node associated with a single contingency.

3.8 Finally, we continue to believe that the use of a uniform security factor across GB is inappropriate. As we have stated in the past, and as has now been recognised in the context of the expansion factors, we do not believe that the GB network is homogenous. Historic differences in the design and operation of the networks have been recognised in the regional differences within the GB SQSS. These differences include greater use of economic justification to reduce transmission investment, especially at times other than system peak, i.e., 99.995% of the time. Whilst NGC states that the current charging model is based on the system peak half hour, at which time the standards are equivalent, this is not the only factor driving network design. Use of a single security factor for networks which have such a different approach to off peak system security is inappropriate. We see no reason why TO specific security factors cannot be introduced to be more cost reflective of the effect of the different security standards on the overall level of transmission service which users will receive over the course of a year. These differences should be incorporated into the SECULF methodology.

Transport model data

3.9 We note that the illustrative tariffs included in the proposals paper use Scottish generation data from the Interim GB SYS. It is made clear in the SYS[3] that more up-to-date information had been sought but was not available at that time. If more up-to-date information is now available then we would ask that NGC use the best possible data which is available at the time that the tariffs need to be calculated, and amend the wording of the Methodology Statement appropriately, rather than continuing to use the Interim SYS data because of prior decisions.

TEC scaling

3.10 We note that the latest illustrative tariffs contain an extra 1000MW of wind generation in Scotland and, as highlighted by NGC at the recent TCMF meeting, this has had a significant effect on the illustrative tariffs and led to rezoning. As we have argued many times before, we believe that this wind generation capacity should be scaled down before entry into the DCLF model in recognition of its

[3] Section 3, page 9

inability to respond to market signals or to choose to run at full output at the time of the system peak due to the intermittent and uncontrollable nature of its energy source. Given that the TOs only recognise 60% of this capacity when planning network developments it is inconsistent to base the tariffs on 100% of the capacity.

Generation zones

3.11 The latest illustrative tariffs use generation zones which are significantly different from those in previous proposals papers. We continue to be concerned about the tariff uncertainty created by the zoning process and the late stage in the process at which any re-zoning becomes apparent. Further work is required to develop a system which does not expose users to these unmanageable risks of significant tariff changes at short notice.

ANNEX A: NGC'S FAILURE TO DISCLOSE INFORMATION

Introduction

A1 Together with independent economic consultants, NERA, whom SP commissioned to investigate the transmission charging mechanism ("TCM"), we have provided NGC with a range of analyses which seriously call into question NGC's apparent assessment of the marginal costs of network expansion (see in particular NERA 1 and NERA's paper of 13 September 2004 ("NERA 2")).

A2 However, when dealing with the criticisms made of its approach to the expansion constant and in particular the above-mentioned failures of transparency, rather than provide the detailed information on which its expansion constant is apparently based and address openly the points put that its approach substantially over-estimates the true expansion constant, NGC has relied variously on the arguments that:

1. it was prevented by reasons of commercial confidentiality from disclosing more detailed data on its expansion constant;[4]

2. NGC *"clearly has no incentive to artificially modify any of the results"*[5] and is *"totally impartial and [has] no incentive to arrive at a particular conclusion"*[6] and

3. an expansion constant *"which reflected the most likely techniques for providing additional capacity"* would be too complex;[7] and essentially similar arguments in relation to discounting capital investment costs for long lead times[8];[9]

A3 These reasons disclose errors of law. They also demonstrate that the consultation has been inadequate and unfair. These flaws have not been adequately remedied either by the limited disclosure of some further information by NGC in its paper of 22 October 2004 or by the revised analysis presented by NGC in its consultation of 20 December 2004.

A4 Those areas where we consider that disclosure is still outstanding are listed at the end of this Annex.

A5 The remainder of this section sets out the legal basis on which SP is entitled to full and proper disclosure and deals with the arguments raised by NGC to deny that entitlement.

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[4] Final Methodologies Conclusion, 30 September 2004 ("Final Proposal"), p42
[5] Final proposal, p45
[6] Final proposal, p46
[7] Final Proposal, p40
[8] Final Proposal, p41
[9] SP also advocates reducing the expansion constant to take proper account of spare capacity. NGC's position on this issue has been unclear and appears to have varied over the course of the consultation; its current position is that no adjustment is necessary: 20 December 2004 consultation, §5.5.

Legal basis for SP's entitlement and NGC's counter-arguments

A6 As articulated by the Court in *R v North and East Devon Health Authority ex p Coughlan* [2001] QB 213 at [108]: *"To be proper, consultation must ... include sufficient reasons for particular proposals to allow those consulted to give intelligent consideration and an intelligent response"*; similarly, in *R v Secretary of State for Trade and Industry, ex p UNISON* [1996] ICR 1003 1015F per Otton LJ: *"Under domestic law, fair consultation involves giving the body consulted a fair and proper opportunity to understand fully the matters about which it is being consulted and to express its views on those subjects ..."*.

A7 This domestic law duty is reinforced in the present context by Article 4(1) of the Access Regulation (Regulation 1228/2003) which requires that charges for access to networks are transparent, and by the requirement in Article 23(4) of IMED II (Directive 2003/54/EC) that transmission tariffs and the rules and methodologies governing them are proportionate.

A8 In the present case, in order for SP to be in a position to properly understand the basis on which NGC arrives at its expansion constant and why NGC rejects the arguments advanced by NERA as to why the expansion constant is overstated, SP needs full and proper disclosure of the data on which NGC bases its assertions. Without that disclosure of underlying data SP is unable properly to assess the fairness of the conclusions which NGC has drawn from it, and unable to point out to NGC ways in which it may have erred. SP has done its best in the circumstances by engaging NERA to draw on available comparisons with other transmission systems; but since NGC simply dismisses these comparisons as inferior to its own analysis of its own system,[10] this ultimately cannot be an effective substitute for access to the primary information on which NGC relies.

A9 None of NGC's counter-arguments are sufficient to defeat SP's rights of disclosure.

Confidentiality / alleged impartiality not adequate bases for denying consultation

A10 The value of the expansion constant has profound effects on the charges faced by operators; NERA has previously estimated that NGC's estimate of the expansion constant may be over 60% greater than the true expansion constant[11,12]. Thus NGC's "just take our word for it, we're impartial" approach cannot be an adequate substitute for proper consultation on such a crucial issue. SP does not accept that NGC is as disinterested as it repeatedly claims to be, and nor apparently does Ofgem: see para 2.12 of Paper 2. As a commercial profit-making undertaking (albeit one with a privileged and powerful position as GB system operator) NGC cannot be assumed to have no interest in arriving at a particular TCM:

[10] Final Consultation, pp34-35

[11] This figure is based on NERA's calculation (see NERA 1, §6.8, NERA 2, §2) that the true expansion constant could be up to 40% lower than that proposed by NGC (ie the NGC figure is up to 67% greater than the true value). Of course, NERA did not use NGC's data; the figure might well vary if it did. But given that NGC will not disclose its data, this is the best estimate that SP can currently provide.

[12] Note that NERA explains in its paper of 21 January 2005 why NGC's comparisons of its model with actual investment projects is biased and misleading.

1. it might be seen as having an interest in arguing that it is relatively expensive to increase capacity, since that might influence Ofgem's regulation of its income – allowing it a greater level of regulated income to reflect its (apparently) "high" future costs; and

2. it might also be seen as having an interest in achieving a high expansion constant since this makes locating in Scotland and using the Scottish transmission mechanism relatively unattractive compared to locating in England and Wales, using NGC's transmission system, and paying revenues to NGC (rather than SPT or SHET.

A11 Further, NGC's stance cannot be supported by reference to its alleged concerns about confidentiality:

1. we believe that it would be possible to disclose suitably aggregated cost-information without giving rise to issues of confidentiality; further or alternatively, it should be possible to disclose confidential information to such named persons as is necessary, those persons undertaking not to disclose the information more widely (the concept of a "confidentiality club" amongst professional advisors is well established and commonly used in commercial and public law litigation and in commercial transactions generally); in any event,

2. there is no basis on which NGC's concerns about commercial confidentiality can be permitted to override SP's legal rights to be subject to a fair procedure in the development of what must be an objectively justified and transparent methodology: cf *R v Monopolies and Mergers Commission ex p Elders IXL Ltd* [1987] 1 WLR 1221.

Complexity not adequate basis for not consulting on more realistic expansion constant

A12 SP and NERA advanced three key bases which justified developing a third scenario with more realistic expansion costs:

1. including methods other than new build for expansion of the transmission system at 400kV, 275kV and 132kV;[13]

2. discounting for delays in construction;[14] and

3. allowing for under-utilised capacity.[15]

A13 NGC rejected the first two of these effectively on grounds of complexity; NGC's approach to the third has been confused – variously suggesting that spare capacity *should* be modelled[16], that adjusting for spare capacity was too complex[17], and

[13] See, for example, NERA 2, §2
[14] See, for example, NERA 2, §2.2.2
[15] See, for example, NERA 2, §3
[16] NGC, GB Transmission Charging: Initial Thoughts, 16 December 2003,
[17] NGC, 8 April 2004 consultation, §4.3.3

(now) relying on the erroneous argument that spare capacity is implicitly included in its calculations[18].

A14 As to NGC's argument that it would be too complex to develop an expansion constant *"which reflected the most likely techniques for providing additional capacity"*[19], this is untenable as a legitimate approach to such an important issue in the development of a TCM; particularly when NERA has presented prima-facie evidence that the value advanced by NGC may overstate the true marginal costs of network expansion by over 60%.

A15 NGC has defended its stance by arguing that *"whilst some users have the resource and experience to fully assess complex charging arrangements, the vast majority of users are not in such a position, and an unnecessarily complex charging model should therefore be considered in this context"*[20]. This statement discloses two serious errors:

1. As to the mixed ability of users to engage in consultation:

    a. The degree to which different users respond to different aspects of the consultation will clearly be dependent on a host of factors including how much a particular aspect of the consultation is likely to affect a particular user's interests, and the extent of the resources the user wishes to devote to considering the issue: if the matter has a sufficiently important effect on a user's interests, that user will rationally tend to devote a substantial proportion of its resources to it; if it does not substantially affect the user, it need not do so.

    b. The issue of the true value of the expansion constant affects some users (and in particular SP) acutely. SP's rights to engage in a fair procedure of consultation cannot legitimately be compromised by a (wholly untested) assertion that some other users may be less willing to commit resources to engaging in the issue.

    c. At "worst", some other users may not respond at all to attempts to put a more accurate value on the expansion constant. However, that does not undermine the consultation process. A consultation is not an adversarial process or one meant to elicit a majority verdict: it is meant (i) to give those users who are affected by a particular issue a fair and proper opportunity to respond and put their case should they wish to do so; and (ii) to inform NGC's decision-making process so that (at least theoretically) it develops a better TCM. Neither of these objectives is undermined if some users choose not to invest the resources to respond on a particular issue which would otherwise not be canvassed at all.

    d. To the extent that NGC is concerned that better resourced users will be able to put a more powerful case, if this is true at all, it affects *all*

[18] NGC, 20 December consultation, §5.5
[19] Final Proposal, p40
[20] Final Proposal, p40

aspects of *any* consultation, and again cannot be a legitimate basis for denying certain users their proper rights of consultation.

2. As to NGC's reference to *"an unnecessarily complex charging model"* and subsequent points which it developed concerning the alleged complexity of SP's proposal and the suggestion that SP is advocating a deeper connection charge with more specific user costs[21]:

    a. NGC fundamentally misunderstands the approach which SP is advocating. SP has not suggested that the charging model itself should be materially more complex or result in highly user-specific costs. Its main point has always been that, in calculating an *average* value for the marginal cost of expansion *across the network*, the approach should *"*[reflect] *the most likely techniques for providing additional capacity"* – an approach which was expressly dismissed by NGC.[22] In any event, NGC has itself recognised the appropriateness of transmission operator specific expansion factors for voltages below 400kV[23].

    b. To seek to reflect the most likely techniques for providing additional capacity and the true costs of doing so when arriving at a value for the marginal cost of providing additional capacity cannot tenably be said to be *"unnecessarily complex"*:

        i. NERA's previous estimates of the true value of expansion constant[24] are not excessively complex: they simply calculate a weighted average expansion constant based on the cost of a particular method and its likely share of new capacity; they then suggested that the modelled cost of increasing capacity should be adjusted to reflect real and significant delays in investment and the existence of spare capacity; and

        ii. on the basis of that NERA assessment the resulting expansion constant potentially differs by over 60%[25].

List of areas where information is outstanding

The costs and capacities of all the different methods of expanding the transmission network at each of the three transmission voltages, i.e., re-profiling, bundling, re-stringing, voltage uprating and new build at each of 132kV, 275kV and 400kV.

The proportions of historic expansion achieved by each of these methods at each transmission voltage.

The anticipated proportions of future expansion which will be achieved by each of these methods at each transmission voltage.

[21] Final proposal, pp40-42, 68
[22] Final Proposal, p40
[23] NGC 20 December 2004 proposal, §5.4, p20.
[24] NERA 1 , section 6.2; NERA 2, section 2
[25] See footnote 16

The derivation of the current expansion constant and expansion factors.

The prevalence of spare capacity and its correlation with the line flow in the DCLF base case.

The effect of changing the treatment of spare capacity on the calculation of marginal costs and the security factor.

The effect on the security factor of the regional differences in the Security and Quality of Supply Standards.

The detailed working of the SECULF model

ANNEX B: ADDITIONAL ARGUMENTS FROM PREVIOUS RESPONSES

B1 Failure to consider asymmetry of incremental and decremental costs (From our response to NGC's Final Methodologies consultation, 20 August 2004, paragraph 2.18))

2.18 Not only does the TCM assume that all increments of capacity will be met by the construction of new transmission lines, it also assumes that the value of any decrements of required capacity will be the avoided cost of constructing that capacity. We believe that this is an unrealistic assumption, on which the NERA Report commented extensively at paragraphs 4.6.2 and 6.4, and that continued reliance on this assumption further undermines the proportionality of the proposed TCM.

B2 Failure to consider the full consequences of the introduction of the Plugs connection charging methodology (From our response to NGC's Final Methodologies consultation, 20 August 2004, paragraphs 2.19, 2.20)

2.19 One of the consequences of the introduction of the new Plugs connection charging methodology is a change to the treatment of the costs of transmission infrastructure local to the site of a new generator. Previously, these costs would have been treated as connection costs and recovered from the newly connected party either through connection charges or termination charges. Under Plugs these costs are recovered from all system users through TNUoS charges and will remain with those users when the connected party terminates its agreement, thus increasing the charges on those users. This transfer of costs has increased the avoidable costs of closure of a station while, at the same time, reducing the costs of connection of a replacement (as the local costs will be treated as infrastructure). This indirectly sharpens the locational differentials across the network and further undermines the proportionality of the proposed TCM.

2.20 Another consequence of the introduction of Plugs and the associated change to the TNUoS charging methodology is the volatility of nodal tariffs due to the inclusion of connections which were previously treated as generator only spurs. This has led to the introduction of more frequent rezoning, with a consequential increase in the uncertainty surrounding future tariffs.

B3 Decremental costs and the treatment of spare capacity (From our response to the Ofgem consultation and Impact Assessment, October 2004, paragraphs 2.3.1-2.3.10)

2.3.1 As noted above, the proposed TCM assumes that all increments of capacity are provided by new build. The methodology also values any capacity released by counterflows at the avoided cost of the equivalent increment of capacity. The effect of this is to create a locational signal which is intended to cause those users whose locations reinforce the predominant flow to reduce their use of the system and hence, in theory, reduce the need for capacity on the system.

2.3.2 The draft GB Statement of the Use of System Charging Methodology[26] states that "charges should reflect the impact that users of the transmission system at different locations would have on the Transmission Owner's costs, if they were to increase or decrease their use of the respective systems." To assume that a reduction in system use would reduce NGC's costs is unrealistic; to assume that it would reduce the costs by the equivalent of the avoided costs of building the capacity is grossly unrealistic. In the event that the users did reduce their use of the system, we do not believe, and have seen no objective evidence to suggest, that NGC would reduce the amount of capacity on the system, either immediately or in the longer term when the equipment became time-expired; indeed, the GB Security and Quality of Supply Standard (SQSS) expressly states[27] that a reduction in use should not necessarily lead to a reduction in capacity and, given the difficulties of gaining consents for new overhead line routes, we believe it to be unlikely that NGC would retire and remove any existing capacity. The costs of provision of any released capacity would therefore remain in the asset base and would be recovered from the remaining users. We believe therefore that the charges do not accord with the principle set out in the methodology statement and that the methodology overstates the locational differentials due to the incorrect valuation of capacity decrements.

2.3.3 The introduction of the Plugs connection charging methodology has altered the treatment of legacy costs following the exit of a user. Users are no longer subject to termination costs in respect of the local infrastructure provided for their connection to the system, this is recovered through infrastructure charges. Quite apart from the implicit sharpening of locational differentials which this has caused, due to the reduction in the costs of entry and exit, it clearly demonstrates that a reduction in use does not lead to a reduction in costs to NGC and, indeed, it leads to an increase in charges to other users. Thus the closure of a northern generator and the entry of an equivalent southern generator, far from reducing costs, would actually increase NGC's infrastructure costs and lead to two increases in TNUoS charges to other system users. First there is the reallocation to other users of existing costs previously paid by the departing northern generator. Second there is the recovery of new costs incurred in providing the local infrastructure required to connect the new southern generator. (Note that under Plugs such costs would be recovered over all users thereby increasing the overall level of TNUoS charges while previously they would have been targeted on the given user with no effect on overall TNUoS.) We would also highlight that contrary to NGC's misinterpretation of our comments on these matters[28] we are not arguing that deep connection charges should be reintroduced, we are merely pointing out that inefficiency in exit/entry decisions as a result of flaws in the TNUoS charging methodology will be more pronounced following the implementation of Plugs.

2.3.4 Nor do we believe that it is realistic to assume that another user would immediately take up any released capacity. Consequently, and also as a result of the lumpiness of transmission investment, there is invariably spare capacity on the system, albeit not on every circuit. Hitherto, NGC has taken account of the presence of spare capacity in its methodology and, as recently as November 2003, has gone so far as to state[29] "National Grid believes that the designation of some lines as being routes

[26] Paragraph 1.6
[27] GB Security and Quality of Supply Standard, Version 1.0, paragraph 1.5
[28] Final Methodologies Conclusions Report, paragraph 5.2.4, pp 41-42
[29] UoSCM-M-10 Conclusions Report

with spare capacity for the purposes of the DCLF model is appropriate and that to change the current methodology to remove such designation would not better meet its relevant objectives and therefore should not be proposed." NGC's Initial Thoughts consultation in December 2003 confirmed its view that it would be appropriate to continue to apply this approach on a GB basis, yet NGC has subsequently proposed not to adopt this approach for GB. NGC have attempted to justify this revised position on the basis of arguments which we believe are not only inconsistent with its previous statements on this matter, but also at odds with the principles on which the methodology is based. Specifically, we believe that NGC, in trying to demonstrate that the incorporation of generator-only-spurs into infrastructure as a consequence of introducing the Plugs methodology did not relieve generators of the local cost incentive, has become confused between cost reflectivity and cost allocation.

2.3.5 *The GB charging Conclusions Report states[30] that the ICRP methodology is intended to reflect "the marginal costs of investment in the transmission system required as a result of an increase in demand or generation at each node." The incremental flow on any line is independent of the underlying flow on the line and, given that there is spare capacity on most lines, most small increments could be accommodated on the system without any investment being required. As the increment of generation increases it will become necessary to reinforce an increasing number of lines until, at some point, it becomes necessary to reinforce them all. Clearly, the level of reinforcement necessary to accommodate a particular new user at a particular point will vary, but it is unlikely, because of the presence of spare capacity noted above, that the entire increment will require the equivalent infrastructure to be provided at all points on the network.*

2.3.6 *The England & Wales methodology recognises this by scaling down the lengths of circuits that are identified as having spare capacity, on the basis that they are "assumed to be less costly to invest in as there is a buffer before new investment would be required"[31]. We believe that the proposed removal of this feature without otherwise reflecting the existence of spare capacity on the network would result in less cost-reflective nodal marginal costs. However, the argument which NGC has used to justify its removal is that the resulting tariffs are consistent with the allocation of costs incurred in installing spur circuits, according to usage of the installed capacity. This cost allocation approach is inconsistent with the principle underpinning the methodology that the charges are based on nodal marginal costs which reflect forward-looking incremental investment costs over the wider transmission system, and is criticised in the supplementary NERA report[32].*

2.3.7 *We believe therefore that NGC is misguided in removing the spare capacity factor from the proposed methodology, and that the argument which has been used to justify this decision on page 41 of the Conclusion Report (regarding the correct allocation of costs to a generator) is flawed. However, noting that NGC has also argued that it is too complex to identify lines with spare capacity in the Scottish network using the process previously carried out for England & Wales, we suggested that a simpler identification process should be adopted for GB, rather*

[30] Paragraph 4.2.1
[31] Statement of Use of System Charging Methodology, paragraph 2.9
[32] Section 3.1

than abandoning the modelling of spare capacity entirely. NERA suggested that a suitable alternative means of identifying such lines would be those with flows in the DCLF model less than a given proportion of their rated capacity, given the strong correlation between such lines and those identified as having spare capacity under NGC's previous process. Our response to the August consultation proposed alternative scenarios incorporating the modelling of spare capacity on this basis. However, NGC neither consulted on those alternatives nor submitted them to Ofgem, while NGC's conclusions report reiterated its latest view that the modelling of spare capacity should be removed.

2.3.8 *We note that, in response to a request from Ofgem, NGC has subsequently published[33] additional information regarding the reinstatement into the methodology of the spare capacity factor, including tariffs under various alternative scenarios. We believe that this information demonstrates that the removal of this factor was incorrect, and confirms NERA's view that it has a significant effect on the tariffs depending on the rule used to identify lines as having spare capacity.*

2.3.9 *We believe that NGC did not, however, exactly fulfil Ofgem's request to publish indicative tariffs by "using the treatment [of spare capacity] proposed by one of the respondents to its consultation." The respondent suggested using a flow of 30% of the circuit capacity in the DCLF study as the threshold for circuits with spare capacity. NGC, on the other hand, have used as the threshold a flow of 30% of circuit capacity in the secured loadflow study when calculating the indicative tariffs in Scenarios 4 and 6 of the supplementary information paper. This is a significant and crucial difference. We firmly believe that a network which had no spare capacity would have circuit loadings significantly in excess of 30% following the most onerous secured events. We therefore believe that NGC is understating the amount of spare capacity in the network and that the threshold should either be a much higher percentage level if being determined from the secured loadflow, or 30% if being determined from the DCLF.*

2.3.10 *Using the DCLF-based threshold would be significantly more transparent to users than would any threshold derived from the secured study and this would be our preference. As shown by the NERA report, this would have a significant impact on the zonal tariffs, particularly in Scotland. We believe this would result in more proportionate tariffs than NGC's proposals.*

[33] National Grid response to the Authority's request for supplementary information, 22 October 2004