

02 July 2009

Lesley Nugent Senior Manager - Transmission Ofgem 70 West Regent Street Glasgow G2 2QZ

Dear Lesley,

Response to Impact Assessment and Consultation on CAP170 Category 5 System to Generator Operational Intertripping Scheme

Thank you for the opportunity to respond to this Impact Assessment and Consultation Document. This response is submitted on behalf of ScottishPower Energy Management Ltd, ScottishPower Generation Ltd and ScottishPower Renewable Energy Ltd. Given the terms of the representations which we wish to make on the Impact Assessment our response is structured as follows:

- 1. Consultation Response
- 2 Response to Questions raised in Impact Assessment
- 3 Legal, Cost, Economic and Market Development Annexes

1. Consultation Response

ScottishPower considers that the proposed amendment will not better meet the Applicable CUSC Objectives and therefore should not be implemented for the following reasons:

- The case for replacement of a competitive market mechanism with an administered scheme has not been made
- Unilateral replacement of existing commercial arrangements increases regulatory risk and will deter future investment
- The proposed amendment discriminates against Scottish generators and in particular those which have an existing intertrip facility
- The proposal will weaken market signals for greater infrastructure investment
- The proposed payment mechanism does not reflect the economic value of the service provided by the intertripping
- The effects of the proposal would include inefficiency, undermining and distorting competition in the GB wholesale market and undue discrimination in that market

ScottishPower has consistently worked with National Grid on a supportive, proactive basis in the competitive market for provision of ancillary services and we will continue to do so. We are firmly of the view that this competitive market should be allowed to develop further rather than substituting competition with regulatory intervention.

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Wider Context

The introduction of CAP170 would fundamentally undermine the level playing field that BETTA was designed to introduce across Scotland, England and Wales. At its simplest level, the effect of the imposition of administered intertrip on Scottish generators would be to restrict their ability to compete in the GB wholesale market and would amount to undue discrimination. The Impact Assessment (IA) fails to recognise or consider this.

By way of reference, the Ofgem/DTI conclusion document on "The initial allocation of GB transmission system access rights under BETTA" (August 2004) stated that the aim of BETTA was to "implement new trading and transmission arrangements that are designed to promote the creation of a single competitive wholesale electricity trading market and to introduce a single set of arrangements for access and use of any transmission system in Great Britain." (emphasis added). Generators in Scotland therefore have a legitimate expectation to be able to participate on an equal footing in the wider GB electricity market. Had existing generators' existing transmission access not been "grandfathered" at BETTA this would have acted as a major deterrent to investment in generation in Scotland through the introduction of unacceptable regulatory uncertainty.

Enhancement of Transmission Infrastructure

It is plainly the case that the most significant, and best, option for addressing the constraints that exist at the Cheviot boundary is to make the necessary enhancements to the transmission infrastructure. A series of plans have been put forward by the industry which would increase export capacity from Scotland from 2.2GW to 6.2GW, including the West coast subsea cable. It is of fundamental importance that Ofgem focuses its energies on the early implementation of these plans rather than measures such as CAP170 which in our view obstruct the market in dealing with the overselling of access rights.

By the summer of 2002, the Renewable Energy Transmission Study (RETS) prepared by National Grid, SP and SSE had identified a set of upgrades needed for the Scotland/England interconnector, together with the Beauly-Denny line, in order to accommodate the growth in renewables in Scotland.

Ofgem and DTI considered the regulatory issues arising from this information and, a little over two years later, Ofgem published in December 2004 its Transmission Investment for Renewable Generation (TIRG) final proposals. These provided a regulatory mechanism to fund grid improvements but concluded that "it would be prudent only to make funding available for the interconnector if the Beauly-Denny reinforcement receives planning consent or if requests for transmission connections in the West of Scotland trigger the need for substantial work on the western circuit of the interconnector".

Following further representations from the grid operators, Ofgem agreed in December 2005 that the interconnector upgrades should proceed independently from Beauly-Denny and in September 2006 costings were agreed. The whole process took over four years from the RETS study findings to the final go-ahead.

As a result of these delays (which are plainly not a result of the actions of generators in Scotland who were connected before the commencement of the BETTA arrangements in April 2005), NGET is facing severe constraint problems as it implements the necessary outages to install the interconnector upgrades. It is clearly important that NGET works with the industry to manage the costs of these constraints efficiently – a point made by Ofgem's Director of Transmission in his letter to NGET dated 16 February 2009, where he suggested that there had been a failure by National Grid (to that date) in managing constraint costs in accordance with its statutory and licence obligations.

In fact, NGET has responded to the constraints issue by reconsidering its approach. It has worked to encourage new participants to offer intertrip services and it has entered into a variety



of contracts with Scottish generators to manage the position more cost effectively than relying on last minute interventions. It seems highly likely that the cost of managing constraints this summer will be well below the levels suggested in Ofgem's letter of February, despite recession-induced demand reductions, demonstrating that the existing market – combined with NGET's more proactive approach – is working effectively.

In summary, the imposition of a change which does nothing to address the fundamental cause(s) of the problem but affects the ability of generators to participate in a commercial market (both in the widest sense and in respect of the provision of ancillary services) simply represents the imposition of a penalty upon those generators.

Impact on Constraint Costs

The representation of Cheviot constraint costs in Chapter 3 is misleading as it fails to stress that the significant rise in costs in 2008/09 and forecast for 2009/10 reflects a step change in the amount of transmission outages required on the Cheviot boundary (in order to implement the somewhat delayed upgrade work) and a consequent increase to the interruption of the planned generation from users behind the boundary. This increase should be temporary in nature and will be resolved once the upgrades to the transmission network are completed. Nevertheless, it is clear that the management of the upgrade outages would have been somewhat easier if the work had commissioned sooner after the 2002 RETS study, when significantly less wind generation was in place in Scotland.

In any event, as noted above and indicated by Ofgem in February, there was room for improvement in the way National Grid managed constraint costs.

Level of Administered Prices

The IA fails to consider and assess the key differences that exist between the proposed Category 5 intertrip and the other categories when proposing that it is reasonable to apply the administered price currently applied to Category 2 and 4 Intertrip to Category 5 Intertrips. The following key differences should have been recognised.

Category 2 and 4 Intertrips are agreed with the generator pre-connection and form part of the generator's rational investment decision process. A generator offered a connection offer with the requirement for operational intertrip can consider the expected frequency of arming and firing of the intertrip and assess the implications for the plant design and reliability. He can then decide whether to accept the offer in that form or wait until further reinforcements have been completed. Category 5 intertrips would be imposed retrospectively on existing generators and therefore the generator has no control over the impact on the value of his generation investment.

The effect of categories 2 and 4 intertrip is to facilitate competition in the generation market as they enable generators to connect to the transmission system earlier than would otherwise have been the case. In contrast, the effect of Category 5 intertrip would be to restrict competition in the generation market as those generators would have their access to the network unilaterally modified.

Another key difference between Category 5 Intertripping and the Categories 2 and 4 is the availability of alternative mechanisms to NGET for the resolution of wider constraints such as balancing mechanism trades, trades to limit the output from generating stations and commercial intertripping. Category 5 Intertripping should therefore be remunerated on a basis which not only covers all the costs of provision of the service including the impact of additional stress upon the plant, but also on a basis which reflects the economic value of the service.

Application of a single Intertrip Payment value irrespective of the age, size or technology of the generating unit subject to the intertrip cannot be considered cost reflective as it takes no account of the greater imbalance exposure of larger generating units and those whose



technologies may require a greater time to return to pre-intertrip levels of generation output. Further, the single payment takes no account of wear and tear or consequential damage resulting from the use of the intertrip and may no longer be reflective of current imbalance prices. Consideration of the proposal by a CUSC Working Group would have allowed such areas to have been fully explored.

In particular, Category 5 Intertripping should be remunerated at a level which allows the individual generator to take into account the particular operating characteristics of its equipment, and the possibility that plant may be unable to resume production within the timescales covered in the ABSVD Methodology Statement. This potentially exposes the generator to the risk of exposure to high imbalance prices or high replacement energy costs in the wholesale market where the availability of replacement energy could be scarce.

The firing of an intertrip is a stressful event for a power station, both in terms of the electrical consequences of suddenly disconnecting the unit from the load, and in terms of safely dissipating the very substantial heat and mechanical energy that no longer has an outlet. As an example, we have assessed in our Cost Annex the potential economic consequences for a power station owner of an intertrip causing a generation transformer failure in a station like Longannet. Taking into account the ability (or not) of the owner to locate strategic spares, the cost of the outage and repairs could be in a range between £25 million and £100 million.

This is not just a theoretical point. One of our transformers at Longannet did recently suffer a major failure and, based on the analysis carried out after the failure, we believe that intertrip has the highest risk profile (of possible non-baseload activities considered) in relation to failures of this sort occurring. While the outage time was mitigated by a strategic spare being on order, the overall cost was very substantial and we have changed the way we offer intertrip at the station to take account of the learnings from this incident. Further details are provided in the Cost Annex.

We note at 3.19 that the Intertrip Payment excludes the costs of consequential losses. Even if consequential losses were allowed, this could lead to difficult assessments of the extent to which an intertrip event caused a subsequent failure. It seems unlikely that selecting plant to provide this stressful service without proper assessment of its condition and risk factors will lead to an efficient outcome. Not only the Intertrip Payment, but also the selection of units to provide the service and the manner in which it is to be provided (for example the number of trips allowed) should, amongst other factors, take into account the significant, non-standard operational stresses and strains involved. This is best achieved through a bilaterally negotiated commercial contract. We refer to our Cost Annex which provides evidence of the potential costs faced by generators when providing an intertripping service.

The inference that the payment of consequential losses as part of the intertripping payment would constitute an "insurance pool" to allow generators to construct less reliable plant cannot be applied retrospectively to existing plant. The condition of such plant will have a major impact on the cost and manner of providing an intertripping service which places significant stresses on both mechanical and electrical components.

The provision of a methodology for the selection of Category 5 Intertripping generators does not remove the discrimination element from this proposal as the service will be required from all existing service providers. Thus, new generators will either be excused from providing the service or will have a choice as to whether or not to connect with a Category 5 requirement while existing service providers will have the requirement imposed upon them with a high likelihood that the administered payment will not cover the potential costs and loss of commercial revenues.



Environmental Impact

ScottishPower believes that this proposal would create regulatory uncertainty by entertaining the possibility of retrospectively requiring the provision of a service on a discriminatory basis and below potential cost. This perceived regulatory risk would be likely to have a negative effect on investment in generation, especially in Scotland. As the majority of such investment will be low carbon – renewables and CCS – the implementation of CAP170 could have a detrimental impact on the achievement of the government's environmental targets for carbon reduction.

In particular, CAP170 could act as a major deterrent to investment in Carbon Capture and Storage (CCS) and other Clean Coal technologies at Scottish generation plants which are ideally situated geographically to exploit the CO2 storage potential in the North Sea. This could affect the development of CCS and clean coal technology potentially damaging worldwide efforts to reduce greenhouse gas emissions.

Competition in Electricity Generation and Supply

We do not accept that CAP170 would reduce the level of volatility in BSUoS more significantly than other measures available to NGET. The Cheviot outages are planned well in advance and NGET should be more proactive in approaching the market to develop long-term solutions to manage constraint costs through commercial arrangements negotiated in advance in a competitive market. We have seen some evidence of NGET adopting such an approach in recent months, leading to more efficient management of constraints within a competitive market. It is absurd to suggest that replacing a competitive market mechanism with an administered one could have a positive impact on promoting competition as suggested at 3.28.

Any purported reduction in risk due to reduced volatility in BSUoS prices would be prospective and would potentially only provide increased certainty of costs to new generators. This would be to the detriment of existing generators who would face being required to offer intertrip on an unfair basis.

Competition in the Ancillary Services Market

We note that Ofgem suggests that there is scope for 'undue exploitation' of 'market power' in the generation market in Scotland. However, it has not put forward any evidence to that effect to ScottishPower or provided us with an opportunity to respond to such suggestions. Given that Ofgem was not able to substantiate the suspicions which gave rise to its Competition Act investigation into ScottishPower and SSE, it is inappropriate for reliance to be placed upon unsubstantiated claims of this sort in the present context.

The impact assessment fails to provide a full assessment of dominance in the ancillary services market. The evidence contained in the Market Development Annex regarding recent new entry in this market suggests that ScottishPower is unable to act independently of its competitors; this would be indicative of a lack of dominance in this market.

The claim in the impact assessment at 3.33 that there is a £14/MWh difference between balancing mechanism (BM) bid prices of coal plant in Scotland compared to coal plant in England & Wales at times of system constraint is misleading and does not consider all the relevant factors in setting bid prices. Comparison should be made with all accepted bid prices irrespective of fuel type as there is a single market for balancing services. Accepted bids at coal plants in Scotland cut deeper into the merit order stack relative to E&W and result in increased two-shifting and start-up costs together with increased fuel stocking costs (including those for biofuel and waste derived fuels). In addition, local environmental issues and constraints may result in different costs and opportunities being reflected in bid prices.

The IA fails to consider the extent of competition that exists in the balancing services market and in particular, how this has continued to develop. We would refer to Annex 4 which



summarises ScottishPower's view of the market that exists for the provision of balancing services. In recognition of the market that exists (and the absence of any market failure) we consider that it would be entirely inappropriate and indeed disproportionate to approve CAP170.

As stated by National Grid at their Operational Forum on 16 June 2009, the entry of a new intertripping service provider in Scotland has resulted in a lower cost of securing commercial intertripping service and is clear evidence of the effective functioning of the competitive market for intertripping service. In addition, a more proactive approach by National Grid in recent months to secure alternative balancing services to intertripping has resulted in a lower cost of managing constraints than either forecast or budget.

Discrimination Issues

This proposal is discriminatory on two levels: i) on generation plant in Scotland that could be affected by CAP170; and ii) on generators with existing intertrip capability which according to para 3.60 of the IA will be called upon to provide administered intertrip.

The Cheviot boundary between Scotland and England is currently the only derogated noncompliant transmission boundary on the GB system. Generators in Scotland pay the highest Transmission Use of System charges in GB in order to secure firm access to the GB Transmission System. Where there has been insufficient investment in transmission infrastructure which compromises NGET's ability to fulfil its commitments to provide this firm access, it can (and should) resort to alternative commercial arrangements on a competitive basis with generators across the GB electricity market.

This proposal attempts to restrict the opportunities available to generators behind the Cheviot boundary to participate in these commercial arrangements by unilaterally removing the entitlement to commercially negotiated intertrip payments and replacing that entitlement with payments administered by the CUSC. This discrimination adversely affects the GB Balancing Mechanism as a whole.

There is no objective justification for generators located behind a constrained transmission boundary to contribute towards the cost caused by the overselling of access rights subsequent to their connection. The decision by Ofgem to allow NGET to oversell transmission rights with effect from the BETTA go-live date should not result in the imposition of excessive charges on generators connected prior to that date. The lack of capacity on the Cheviot boundary was known well ahead of the BETTA go-live date and Ofgem should have approved the necessary transmission investment earlier to resolve this issue. The slow development of the regulatory framework for TIRG and the mistaken initial decision to defer the interconnector upgrade until Beauly-Denny received consent have prevented Scottish generators from having adequate access to the GB Transmission System. It is unreasonable and discriminatory to require those same generators to provide services without adequate remuneration to fix a problem that was not of their making. The effect of the proposal will be to restrict the ability of the Scottish generators to compete on a level basis.

The statement at 3.60 of the impact assessment that "NGET will not be asking any providers beyond those that currently have intertrip schemes installed to install equipment" exacerbates the discriminatory nature of this proposal. From this (and the anticipated application of the procurement guidelines methodology) it would appear clear that CAP170 is targeted solely at existing providers of intertrip services in Scotland. The requirement to provide Category 5 Intertripping should be determined objectively regardless of whether the equipment is currently installed at present or not and should not rule out as a matter of principle or as matter of application to other potential providers.



Security of Supply

Generation plant requires continued investment to remain operable, efficient and compliant with environmental requirements. Additional costs, such as the provision of services or the restriction of grid access without proper remuneration, will affect the cases for such investments. The Impact Assessment does not provide sufficient evidence to show that the implementation of CAP170 would not affect those investments and therefore lead to accelerated plant closure. This is exacerbated by other costs of Scottish generation such as the estimated £100m excess locational TNUoS charges paid by Scottish generators making Scotland unattractive to all forms of generation investment but particularly those lacking the support of the ROC mechanism.

Process failures

The process that has been adopted in relation to CAP 170, including this IA, has been seriously flawed in the following key respects: i) defective impact assessment; ii) defective consultation on the IA; iii) apparent pre-judgement on the part of Ofgem; and iv) failure to meet better regulation duties. The Legal Annex to this response provides further detail on these failures in process.

2. Response to Questions raised in Impact Assessment

We attach, in addition to our annexes, our responses to the various questions raised in the impact assessment and consultation.

3. Legal, Cost, Economic and Market Development Annexes

We enclose with this letter a number of further annexes which we describe in more detail below. These should be considered along with our consultation response and the responses referred to in section 2 above.

Annex 1 – Legal

ScottishPower would be entitled, with the permission of the Competition Commission, to appeal under s.173 of the Energy Act 2004 against a decision by the Authority to approve the modification of the CUSC proposed by CAP170. In that context, we have set out a number of submissions in Annex 1 (listed according to the requirements specified in s.175(4) of the 2004 Act) and request that the Authority reflect carefully on those submissions in considering its decision on the proposed modification.

Annex 2 (Confidential) – Cost

This Annex estimates the potential commercial impact of the failure of a generation transformer in plant like Longannet as a result of an intertrip event depending on the availability of a strategic spare. It also discusses ScottishPower's recent experience in relation to this issue.

As discussed in section 1 above, the administered prices proposed under CAP170 for Category 5 intertrip would not reflect the costs incurred in providing such a scheme, especially those costs which may differ materially between plant of different age and/or condition.

The urgent procedure under which CAP170 has been adopted has not permitted such matters to be examined. We believe that it is important for the Authority to undertake a thorough investigation into this deficiency.



Annex 3 – Economic

We enclose an expert report which we have commissioned from Oxera in connection with the CAP170 proposal. The report analyses the impact of the proposal on competition within the balancing services market and the broader GB wholesale market together with comments on the potential market failure questions raised by CAP170.

In view of the analysis and conclusions in Oxera's report, we believe that the Authority should now undertake its own thorough analysis of the distortions of competition which, in our submission, will result from implementation of the proposal.

Annex 4 (Confidential) – Market Development

We have enclosed (on a confidential basis) information concerning the development of the market in balancing services in which ScottishPower and others participate. This Annex describes recent actions and information provided by NGET which show how the market for balancing services in Scotland is developing, including with new providers for intertrip services. It appears to us that the Authority has not yet properly taken account of the development of this market in its impact assessment. We believe that the Authority should now do so, having regard to this and other similar information which ought to be available from others, including National Grid.

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

Yours faithfully,

James Anderson Commercial and Regulation Manager



2. RESPONSE TO QUESTIONS RAISED IN IMPACT ASSESSMENT Chapter 3

Question 1

Do respondents consider we have appropriately identified, and where possible quantified, the impacts of CAP170, including environmental impacts? If not, what additional quantification is required?

We refer to the Economic Annex attached to this response which identifies areas where further analysis of the impacts of CAP170 should be carried out.

The impact assessment fails to take account of the impact upon Scottish generators who would be subject to the imposition of Category 5 Intertripping and the significant risk of stranding existing generation assets and the significant investment in those assets (e.g. around the development of CCS and other clean coal technologies).

The impact assessment fails to consider adequately the cost to a generator of providing an intertripping service. We have provided further details of this in our response to Question 3 below.

The impact assessment is seriously flawed and makes no attempt to quantify the cost of increased regulatory risk perceived by the electricity generation market from both the replacement of a competitive market for the provision of ancillary services with an administered pricing scheme and from the deficient process used to force the change upon that market. The additional regulatory risk will increase the rate of return required by potential investors, will make the UK unattractive to future investment in generation and will result in serious issues of security of supply in the medium term.

For example, it is understood from discussion with National Grid that providers of investment capital for renewable generation perceive that schemes which involve the mandatory provision of intertripping services have an increased risk profile.

Question 2

Do respondents consider that there are additional impacts that have not been fully addressed? Where respondents consider there are additional impacts, what are these impacts?

It is unclear from the impact assessment whether Ofgem have correctly considered the cost of installation of intertripping equipment by new generators. National Grid state in their Procurement Guidelines at Part C, 2.1, 2 b) that "the selection of an appropriate service provider for Category 5 Intertripping Scheme will be based on.... b) The cost of connecting a Generating Unit to the System-to-Generator Scheme" and include a cost of £100k in the worked examples provided. Ofgem's impact assessment states at 2.9 that "this methodology will be based upon a cost-benefit analysis, considering aspects such as installation costs" but at 3.61 the impact assessment states that "the annual capability fee a generator would receive is intended to cover such installation costs." i.e. it is not clear whether a generator will be compensated by National Grid for the costs of installing the intertripping equipment nor what form this compensation will take.

Question 3

Do respondents wish to present any additional analysis that they consider would be relevant to assessing the direct and indirect impacts of the proposals?

In considering CAP170, ScottishPower has conducted a review of the costs to a generator from providing an intertripping service. It has become clear that there are significant risks of material damage to generation plant providing an intertripping service which may result in very high value damage to such plant. We have provided an example of how costs in the range £25m to £100m (considering both repairs and lost running) could arise (depending on the availability of a



strategic spare) in the event of the failure of the generation transformer in a plant such as Longannet in the confidential annex attached to this response.

From the magnitude of these costs, it is clear that the administered payment provided under CAP170 is wholly inadequate to compensate a generator subject to the imposition of Category 5 intertripping and the risk would be most appropriately reflected in bilaterally negotiated commercial terms as at present. This more flexible approach also allows the condition of the plant to be taken into account in selecting the nature of intertripping service offered.

Question 4

Do respondents wish to raise any other issues that they have not had the opportunity to raise in the course of NGET's consultations on CAP170 and the consequential changes given the urgent timescales?

The CAP170 process has been deficient as it has allowed insufficient time for industry members to review the proposal in accordance with normal CUSC timescales, and therefore to attempt to put into a more workable form. The result is an inadequately justified and discriminatory proposal which has been rejected by both the CUSC Panel and Grid Code Review Panel.

Question 5

Do respondents have any views on the implementation issues associated with CAP170, including the nature, scope and development timescales for consequential changes to other documents?

It is clear from the impact assessment that the severely truncated "urgent" process adopted has not allowed Ofgem to fully consider the consequential changes from CAP170. At 3.2 the assessment states "we have taken account of the consequential changes... (where these have been available in advance of publication of this impact assessment)." Considering the fundamental importance of the consequential changes to the Balancing Principles and Procurement Guidelines to the implementation of CAP170, this is a significant defect in the process.

ScottishPower has submitted its detailed response to the proposed changes to both the Procurement Guidelines and Balancing Principles Methodology. The proposed changes are drafted at a high level and provide no clear and objective justification for National Grid's process of selecting generators for either the installation of intertripping equipment or for the arming of such equipment. Indeed the Procurement Guidelines as drafted simply point to the current providers of commercial intertripping services in Scotland.

The consultation on the proposed Procurement Guidelines does not appear to have been meaningful as Ofgem state in the impact assessment at 3.60 that "NGET will not be asking any providers beyond those that currently have intertrip schemes installed to install equipment". We would question the purpose of the "consultation process" on the Guidelines when it appears that the outcome was already decided.

Question 6

Do respondents consider there are any further risks and unintended consequences associated with CAP170 which the Authority should consider in reaching its decision?

As outlined in our response to Question 1 above, the impact assessment takes no account of the impact of increased regulatory risk arising from the removal a commercial market for balancing services and its replacement with an administered scheme.

As outlined in our response to Question 3, no account has been taken of the potential for significant physical damage and consequential financial loss from the tripping of a system-to-generator intertripping scheme.



Chapter 4 Question 1 Do respondents have any views on both the process and timetable that are proposed for the Authority making its decision on CAP170?

We think that there is more than sufficient evidence to allow the Authority to endorse the nearly unanimous recommendation of the CUSC Panel and reject CAP170. This would remove the uncertainty from the market and allow additional generators to install intertripping equipment without the risk that they might be required to make it available at an administered price.

If the Authority were minded to continue to explore CAP170, we believe that it would be necessary to assess the points we have made, together with those made by others, and remedy the significant gaps we have identified in the evidence base. We doubt whether this can be done properly without further consultation and debate.

ScottishPower 2 July 2009