

CAP170 draft response: economic annex

Note prepared for ScottishPower

July 2nd 2009

This note provides a self-contained annex on the economic issues related to the CAP170 Impact Assessment that may form part of Scottish Power's response to Ofgem.

Annex 2: Analysis of the competitive impacts of Ofgem's Category 5 Operational Intertripping Scheme

- 1.1 Ofgem's CAP170 Impact Assessment acknowledges that there are benefits from a competitive market for ancillary services, and concedes that extending administered intertrip arrangements could be perceived as being inconsistent with this principle.¹ Ofgem's rationale for considering a non-market-based intervention such as administered pricing arises from its concern over whether there is effective competition in the market.

¹ Ofgem (2009), 'CAP170: Category 5 System-to-Generator Operational Intertripping Scheme—Impact Assessment and Consultation', May 21st, para 3.29.

- 1.2 As described in this annex, a robust assessment of the case for administered pricing requires further examination of whether there is indeed a market failure (in the form of a lack of effective competition). Further evidence is also required to support the case that administered pricing for a Category 5 intertripping scheme represents an appropriate intervention even if competition were shown to be ineffective.
- 1.3 The key elements missing from the analysis are set out below.
- The Impact Assessment does not fully establish the relevant economic market being assessed. An accurate assessment of market boundaries is important to understand: the nature of substitution possibilities; whether there is a need for intervention; and the potential distortions to competition under alternative options.
 - The evidence presented in the Impact Assessment does not demonstrate that competition is ineffective, as it fails to provide an assessment of whether there is dominance in the relevant market; nor does it provide evidence on whether there is cause for concern that the prices for commercial intertrip are not reflective of competitive levels. Further investigation might also have been expected to explore the evolution of market dynamics in the relevant market, and the experience of innovation and new services under the current market structure.
 - Ofgem has not provided an analysis of options other than provision of intertrip under compulsion and at administered prices, which may be more proportionate following a detailed assessment of the impact of administered intertrip arrangements on competition and ultimately consumers. A consideration of market-based solutions would appear appropriate given the limited evidence presented by Ofgem to suggest that competition in the provision of ancillary services is not effective.
- 1.4 This annex sets out the limitations of Ofgem’s existing analysis in its Impact Assessment. It highlights that there are a number of areas where more evidence is required for any judgement on whether there are robust grounds for intervention. The annex:
- sets out the economic rationale for this type of intervention on price-setting;
 - examines the need to assess the relevant economic market before concluding whether there is a sound basis for intervention;
 - considers the extent to which the evidence presented by Ofgem can be used to draw conclusions on dominance and performance of the market, given that the relevant market is likely to be at least as wide as the market for ancillary services;
 - highlights a number of potential effects of administered pricing that Ofgem should investigate before concluding that administered prices and volumes would lead to a more efficient level of prices.

When to regulate

- 1.5 The administered pricing regime proposed in CAP170 represents a non-market-based intervention, which would restrict the commercial freedoms of the generators behind a derogated, non-compliant transmission boundary.²
- 1.6 The key benefit of a well-functioning market is that the price signal, determined by the interaction between demand and competing sources of supply, contains vital information to

² As defined in Ofgem (2009), op. cit., para 2.6.

determine the allocation of resources (ie, what and how much to provide) and provides the incentives for innovation and new entry. Intervention that prevents this price formation might be expected to alter the allocation of resources and incentives within the relevant market (as well as related markets). As such, intervention is appropriate only where there is an identified market failure—where the market, when left to its own devices, would produce a sub-optimal outcome in allocating economic resources.

- 1.7 A full assessment of the effects of CAP170 on the potential distortions to the allocation of resources is also required to ensure consistency with National Grid's obligations under the Connection and Use of System Code (CUSC) objectives to facilitate an efficient discharge of the obligations imposed upon it.³ This requires an assessment of the implications for the operation of the market and services provided, as well as the output decisions in related markets over and above a determination of whether prices could be lowered.
- 1.8 The apparent market failure of concern to Ofgem is that there is scope for generators to exploit market power that leads to increased costs for resolving constraints. Given that the proposed intervention significantly restricts companies' freedom to earn returns on previous investment, good regulatory practice would suggest that this type of intervention is only contemplated once a robust case has been made that the company has significant market power.⁴
- 1.9 In particular, the question of whether the provision of intertrip represents an 'essential facility' could have been examined in line with the hurdles present in European competition law for compelling firms to offer access to their assets. At a minimum, the threshold should assess whether any of the participants in the relevant market have a position of dominance.
- 1.10 The case has not been made that intertrip could constitute an essential facility, for which it would be required to show that the existing commercial intertripping arrangements provided by generators behind a derogated boundary would not be economically viable to replicate, or that it would not be possible to balance the system without access to that facility.
- 1.11 Ofgem's concern with market power is also not supported by an assessment of the relevant market as the basis from which to determine the extent of firm dominance; nor is evidence provided that the observed level of prices for commercial intertrip represents an exploitation of market power. These are important considerations that Ofgem might be expected to consider before drawing conclusions on the potential for cost savings from changes in the level of prices.
- 1.12 As discussed in the following sections, a robust assessment of the CAP170 proposal requires a more detailed investigation of the relevant economic market in order to understand the interactions within the market, and the nature of competition between products. This is required to establish that the conditions for market failure are met, in order to justify intervention. This analysis would also inform the assessment of the implications of any proposed intervention for competition within the sector.

Market definition

- 1.13 Central to the question of market definition is the degree of supply and demand substitution for the provision of current commercial intertripping arrangements. Supply substitution considers the likelihood that alternative ancillary services may be elicited from generators that provide related existing services or from large electricity users that can alter their

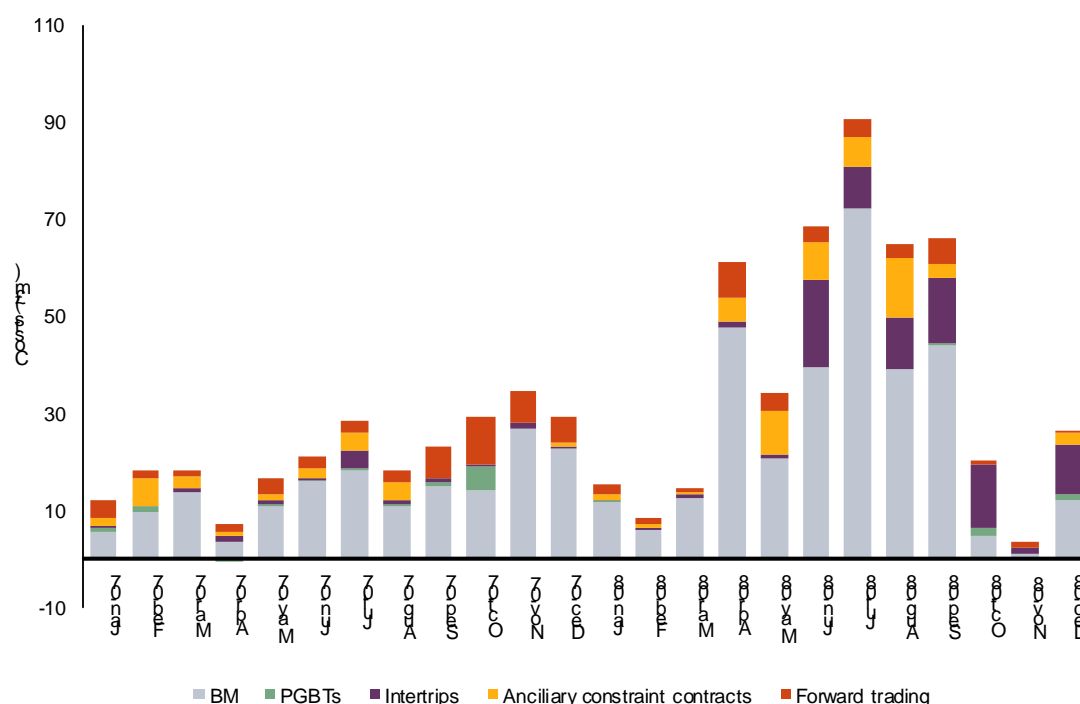
³ Electricity Transmission License: Standard Conditions, C10: Connection and Use of System Code (CUSC).

⁴ See, for example, European Commission (2002), 'Directive on a common regulatory framework for electronic communications networks and services (Framework Directive)', 2002/21/EC. Article 16 discusses when it may be necessary to consider appropriate remedies.

demand profile. Demand substitution refers to the ability of National Grid to switch to alternative sources to balance the system.

- 1.14 Market definition also requires consideration of the geographic aspect of the market. By introducing an intertripping scheme that affects only those generators behind a derogated transmission boundary, CAP170 implicitly segments the market geographically. Given that the negotiations for commercial intertrip contracts occur in advance of transmission constraints, the details of which may not be known by generators, intertrip contract pricing would be expected to reflect competition from other alternatives from other geographic locations, such as the Balancing Mechanism. As such, there may be no relevant geographic segmentation of the market.
- 1.15 The Impact Assessment acknowledges that, in the short run, National Grid may take a number of alternative actions to manage constraints, which include:
- buying or selling electricity in the Balancing Mechanism (BM);
 - entering into contracts with generators (or customers) to increase or reduce output (or demand) at short notice;
 - entering into intertrip arrangements.
- 1.16 In addition, other substitutes, including contracts to reduce output further in advance (such as capped PN contracts), which are not mentioned by Ofgem would appear relevant.
- 1.17 Figure A2.1 below shows the use of alternative ancillary services during 2007 and 2008. This highlights that the use of intertrip arrangements has increased as demand for ancillary services rose during summer 2008, as too, has the use of more innovative offerings, such as ancillary constraint contracts.

Figure A2.1 Historical use of ancillary services and costs (£m)



Source: BMRA database, National Grid and Oxera analysis.

- 1.18 There are clear supply substitution possibilities between the services shown in Figure A2.1 (even though they differ in the timing and duration for which they are contracted) and the terms and conditions between parties that may provide different options for generators to manage risk. The generating plant that may provide these services is also potentially wider

than flexible plant listed by Ofgem. As such, Ofgem's focus on a narrower set of competitors may be misleading.⁵

As described more fully in the Market Development Annex (submitted confidentially to Ofgem by ScottishPower along with its response to the Impact Assessment), BMU and non-BMU demand participants qualify to provide intertrip, as do nuclear plant. Discussions are also under way to enable renewable generation to participate in the Balancing Mechanism. The flexibility with which National Grid is able to draw on current commercial intertrip arrangements highlights the benefit such arrangements bring in providing a competitive alternative to other ancillary services, such as actions taken in the Balancing Mechanism or PGBTs.

- 1.19 Consideration of these substitution possibilities should form the basis of a more detailed assessment of the market boundaries. The wider pool of potential sources of intertrip from generating units and demand participants suggests that the relevant market is likely to be at least as wide as the market for ancillary services; Ofgem does not appear to have considered this evidence. In view of the clear relationship between different types of ancillary services, a more detailed investigation is warranted—indeed, given that the use of an intertrip directly affects the ability to supply power in the forward market, an even broader market might be found.

Market performance

- 1.20 Ofgem refers to high concentration levels in the primary market (ie, for forward power) for flexible plant and a discussion of historical prices in the Balancing Mechanism to motivate the case for administered prices for a Category 5 intertripping scheme.
- 1.21 As set out above, the generating plant that may provide intertrip and services in the Balancing Mechanism is wider than fossil-fuel plant. Ofgem's focus on a more narrow set of competitors may therefore be misleading, with the result that the concentration measures used by Ofgem may be biased upwards.
- 1.22 In any event, concentration measures are not sufficient to draw conclusions on market power. Further assessment should examine the extent to which a firm can act independently of its competitors, which could include for example whether competing intertrip agreements have been accepted in place of those of a particular generator. The following definition of a position of dominance used by the European Commission is therefore relevant:
- a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained in the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers, and ultimately of the consumers.⁶
- 1.23 Thus, in addition to the concern, outlined above, over the completeness of the analysis of market definition, the market power assessment appears incomplete for the following reasons:
- consideration is not given to the countervailing buying power of the System Operator;
 - the role of entry—for example, through new ancillary products—has not been assessed.
- 1.24 On the demand side, as the sole buyer of ancillary services, National Grid has strong purchasing power. This, together with an asymmetry of information from its private knowledge of the need for the quantity and timing of services—provides National Grid with

⁵ Ofgem (2009), op. cit., para 3.32.

⁶ Hoffmann-La Roche & Co AG v Commission of the European Communities, Case 85/76 [1979] ECR 461, para. 38.

the opportunity to use auction techniques (such as the competitive tenders for constraint management in 2008 and 2009, as described in the Market Development Annex) to seek cost-reflective prices. Indeed, competitive constraint management tenders were cited by National Grid as a reason for reporting outturn costs below budget for TIRG-related outages.⁷

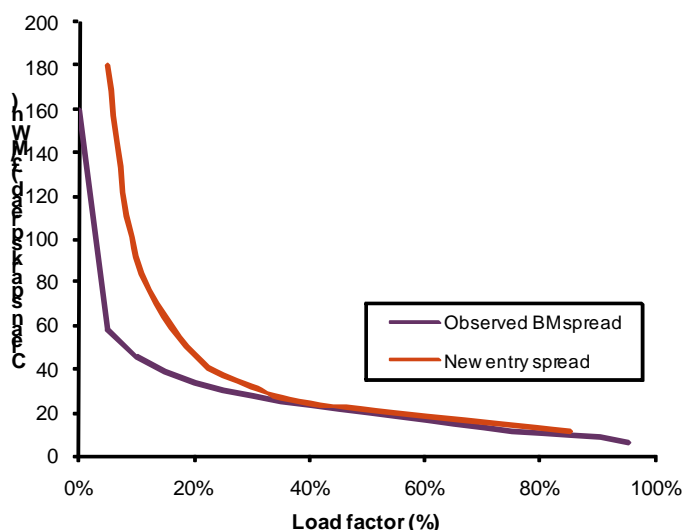
1.25 More importantly, Ofgem's conclusion that there has been an exploitation of market power from an assessment of the level of historical Balancing Mechanism prices appears unsubstantiated.⁸ First, Ofgem could not conclude in its recent Competition Act 98 (CA98) investigation that there had been an abuse of dominance by Scottish generators during the periods under scrutiny. Second, Ofgem's evidence of observed prices would appear inconclusive on the basis that it fails to:

- account for the operating circumstances and differences in the opportunity cost of different plant on the system;
- compare prices against a counterfactual or benchmark level reflective of new entry requirements or the effects of scarcity.

1.26 The Impact Assessment makes reference to a £14/MWh price differential between coal bid prices in Scotland and England & Wales.⁹ Ofgem does not comment on why it considers this to be a relevant comparison, which might be expected, given that the relevant market is unlikely to be disaggregated by fuel type. A more detailed investigation might be expected to include the extent to which accepted bids at coal plants in Scotland cut deeper into the merit-order stack relative to England & Wales, and the consequent impact on increased two-shifting of plant and start-up costs, together with increased fuel stocking costs. Further investigation would also seem warranted to explore the effects of local environmental issues and constraints that may result in different costs and opportunities being reflected in bid prices.

1.27 Figure A2.2 shows that historical average BM prices (ranked highest to lowest) have been below new entry requirements.

Figure A2.2 Observed BM spreads, 2006–08



Source: BMRA database and Oxera analysis.

⁷ See National Grid (2009) 'Operational and SO cost update', Operational forum, June.

⁸ Ofgem (2009), op. cit., para 3.30 and footnote 26.

⁹ Ibid., para 3.33.

- 1.28 In this context, the CAP170 Impact Assessment does not establish the case for market failure, given the importance of services offered via the BM, PGBTs, forward trading and ancillary constraint contracts as a competitive alternative to commercial intertrip. Neither has robust evidence been provided to support the case that the observed level of prices has been above competitive levels.

Adverse effects of administered prices

- 1.29 Ofgem asserts that introducing an administered price could be argued to be ‘an improvement on the status quo and result in more efficient costs overall’.¹⁰
- 1.30 A robust assessment of the efficiency of administered pricing requires an examination of the wider impacts on competition in the relevant market. The Impact Assessment does not explore this, but rather states that any effects would be outweighed by the benefits to consumers, which are calculated by assuming a greater use of intertrip (on the basis of an assumed level of administered prices) rather than services provided through the BM.
- 1.31 To help understand the impact on competition, the Office of Fair Trading’s (OFT) guideline on competition assessments in impact assessments suggests questions that should be asked. A number of these are identified here, highlighting that the questions are particularly relevant in this context and have not been carefully considered by Ofgem.
- 1.32 The following question is put forward by the OFT to help assess the impact of regulation on competition:¹¹
- would the proposal limit the ability of suppliers to compete, for example by influencing the prices that can be charged or products offered?
- 1.33 The OFT highlights the following risk in this regard.
- The imposition of a maximum price may also lead to **some suppliers exiting the market**, may **distort the choice of products supplied** and may lead to the imposition of hidden charges to circumvent the price ceiling.¹² [emphasis added]
- 1.34 The risk of market exit in the provision of other commercial ancillary services following the change in market rules implied by CAP170 would appear to merit further investigation.
- 1.35 The Impact Assessment also does not appear to examine fully the effect on competition in areas other than ancillary services, and in particular, the impact on forward and spot wholesale electricity prices. The assertion that ‘CAP170 could have a positive impact on promoting competition’ seems therefore to be largely unsubstantiated.¹³
- 1.36 A further question suggested by the OFT would appear relevant:
- would the proposal directly limit the number of suppliers?
- 1.37 It would appear that Ofgem has not given consideration to the physical condition of plant to which CAP170 would apply, and the effects that any additional use of intertrip could have. It might be expected that this could increase maintenance requirements, especially for older plant.

¹⁰ Ibid., para 3.37.

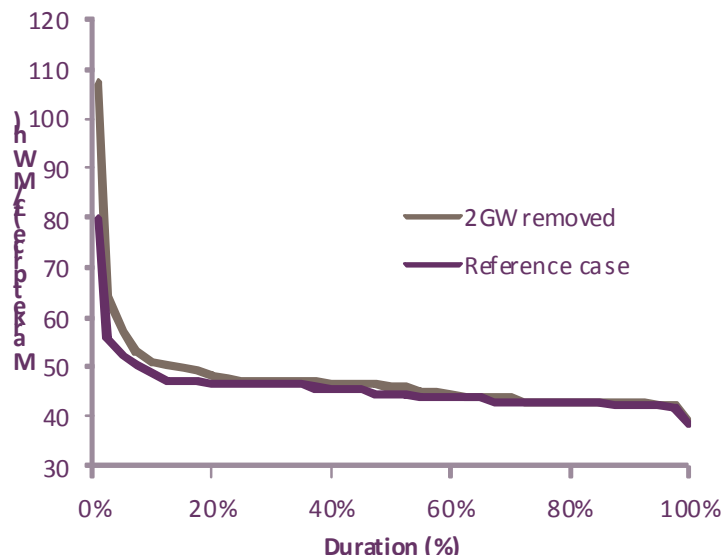
¹¹ OFT (2007), ‘Completing competition assessments in impact assessment’, August.

¹² Ofgem (2009), op. cit., p. 28.

¹³ Ibid., para 3.28.

- 1.38 The effect of increased maintenance might be expected to affect the ability of the affected plant to compete because of the higher direct costs of maintenance, as well as not being able to offer services during those periods. This might be expected to have a wider impact on the level and volatility of wholesale prices, especially at peak times. This is not examined in the Impact Assessment. The potential impact of the removal of 2GW of coal plant can be significant, and is illustrated in Figure A2.3 below.

Figure A2.3 Illustrative spot price increase caused by 2GW outage



Note: This figure shows the distribution of GB wholesale electricity prices that might be expected at certain levels of demand using Q1 2008 fuel prices before and after the withdrawal of 2GW of capacity.
Source: Oxera.

- 1.39 Ofgem has not made reference to these effects on competition or consumers, and the impact of this volatility relative to its assessment of the possible impact of CAP170 on BSUoS. In particular, it would appear necessary to understand the implications of the proposals for the physical condition of plant, the potential effect on the appropriate level of prices and impact on the wider market.
- 1.40 The Impact Assessment acknowledges that an inadequate intertrip payment might be regarded as a barrier to entry.¹⁴ However, further analysis would appear necessary to assess the impact that increased maintenance costs and outages may have on project economics, as well as the risks perceived by investors in new plant and the likelihood of any adverse impacts on existing generators leading to higher hurdle rates due to increased regulatory risk.
- 1.41 The OFT suggests addressing the following question:
- would the proposal indirectly limit the number or range of suppliers, for example by raising the costs of entering an affected market?
- 1.42 Ofgem asserts that it would be sufficient for a clear methodology of which generators would be required to provide Category 5 intertrip to address regulatory risk and its potential impact on new investment.¹⁵ Leaving aside whether the methodology is clear, this does not account for the perceptions of future regulatory change following implementation of CAP170, or the past expectations of generators' duties with respect to future selling of access rights at the outset of BETTA.

¹⁴ Ibid., para 3.36.

¹⁵ Ibid., para 3.38.

- 1.43 Without the considerations set out above, the Impact Assessment has not provided a full assessment of the impact of CAP 170 on efficiency relative to the current situation in order to assess whether it facilitates the CUSC objectives. Any conclusions drawn are likely to be premature in the absence of analysis to examine:
- static efficiency—that is, the loss in the efficient allocation of resources if administered prices do not adequately reflect the costs associated with the frequency of use of a Category 5 intertripping scheme which may vary by plant;
 - dynamic efficiency, or the wider effects that constraining these prices may have on ancillary service innovation—for example, through new forms of contracts, forward trading and the incentives for plant closure.

Limitations to the appraisal of Ofgem's analysis

- 1.44 Impact assessments are a tool to help promote better regulation and policy-making. One of the five principles of good regulation, devised by the Better Regulation Task Force, is transparency.¹⁶ It is difficult to provide a full appraisal of the analysis presented by Ofgem in its Impact Assessment without greater clarity in the following areas.
- **Market power assessment in ancillary services:**¹⁷ An appraisal of the analysis behind the assertion that 'market power exists in the primary markets' and the reasons for believing that this will affect ancillary services is difficult without knowledge of the underlying analysis of market definition.
 - **Historical price differentials:**¹⁸ Further details are required to comment on the time periods chosen to examine historical prices, any adjustments made to reflect local conditions, and reasons for believing that the prices reported are comparable.
 - **Net impact on the promotion of competition:**¹⁹ supporting analysis is required on the extent to which CAP170 is believed to reduce risk in order to promote competition, and the net effect when also considering the wider impact on plant operation and perceived regulatory risks for new entrants.
 - **Frequency and effect of increased use of intertrip:**²⁰ without knowledge of supporting analysis to show the frequency of tripping within the analysis, as well as the effect of this on plant condition and future availability, it is difficult to assess the wider conclusions on the impact on competition. The Impact Assessment states that changes in generator behaviour have not been modelled, which could imply that it has been assumed that there are no adverse effects on competition.
 - **Impact on small constraint volumes:**²¹ it is asserted that the effect of CAP170 in the context of relatively small constraint volumes would be expected to reduce the volume of constraints. This appears to contradict the statement in paragraph 3.8 and Figure 1 of the Impact Assessment.
 - **Forecast reference prices of BM activity and commercial intertrip:**²² without details of the assumptions used in forecast prices of commercial intertrip and BM prices in the absence of CAP170, it is difficult to assess whether there would be increased use of intertrip and the scale of any cost reductions.

¹⁶ See: Better Regulation Task Force (2000), 'Five principles of good regulation'

¹⁷ Ibid., para 3.31.

¹⁸ Ibid., para 3.33.

¹⁹ Ibid., para 3.28.

²⁰ Ibid., footnote 22, p. 22 and Appendix 2, para 1.7.

²¹ Ibid., para 3.9.

²² Ibid., para 3.14.

- **Scale of reduction of generator revenues:**²³ to comment fully on the assessment of the likely reduction in revenues would require knowledge of the assumptions used for plant availability and potential maintenance requirements.

²³ Ibid., para 3.49.