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25 September 2006

Dear Tim

NGET's external System Operator incentive scheme 2005/06:

Determination under Special Condition AA5A Part 2(i), paragraph 12(a) of National Grid Electricity Transmission plc's Transmission Licence in respect of Scottish Constraints and CAP047

I am writing to you to inform you of the Authority's decision concerning the two notices for income adjusting events (IAEs) that you submitted to Ofgem on 30 June 2006. In forming our conclusions on these events we have given careful consideration to the views that we received from both National Grid and third parties in response to our August consultation on these issues.¹ I am placing a copy of this letter on our website in order to notify all market participants and interested parties the reasons for the Authority's decision.

We² have carefully considered the issues you raise in your two notices, and have concluded that:

- the events described in your two notices both constitute IAEs; but
- the economic and efficient level of costs resulting from each event is lower than the level specified by NGET in each notice.

We have undertaken analysis to assess the economic and efficient level of costs that we consider relate to each IAE. The costs we have calculated for each IAE are as follows:

¹ "Potential income adjusting events under NGET's 2005/06 system operator incentive scheme", Ofgem, August 2006 (135/06).

² Ofgem is the Office of the Gas and Electricity Markets, which supports the Gas and Electricity Markets Authority, the regulator of gas and electricity industries in Great Britain. The terms "Ofgem", the "Authority" and "we" are used interchangeably.

Scottish constraints

	Total cost (£m)	Scheme allowance (£m)	Net IAE amount requested by NGET (£m)	Net IAE amount determined by the Authority (£m)
Internal Scotland	£28.54	£10.00	£18.54	£14.22
Cheviot	£31.63	£20.00	£11.63	£11.63
Total	£60.18	£30.00	£30.18	£25.85

CAP047

	Total cost (£m)	Scheme allowance (£m)	Net IAE amount requested by NGET (£m)	Net IAE amount determined by the Authority (£m)
Total	£12.94	£7.35	£5.59	£3.65

The combined income adjustments determined by the Authority therefore are £6.27m below those requested by NGET. In terms of NGET's SO incentive scheme, this means that in 2005/06 **NGET will incur a loss of £4.04 million, compared to a loss of £2.79 million that would otherwise have been incurred had NGET's proposed income adjustments been allowed in full (i.e. a difference of £1.25 million).**³

In this letter, we set out:

- background to the notices submitted by NGET;
- a summary of respondents' views; and
- the Authority's determination.

Background to NGET's notices

Each year, we develop an incentive scheme designed to encourage NGET to operate the GB high voltage electricity transmission system in an efficient and economic manner, and to reduce the costs of operating the system. While the incentive scheme establishes a target for the costs that NGET incurs in performing its SO role, it also allows NGET to submit notices to us of proposed IAEs where resulting costs are materially different to those allowed under the incentive.⁴ Once submitted, the proposed IAEs are assessed by the Authority in order to determine whether the events constitute IAEs, whether the events have increased or decreased costs by more than the threshold amount (i.e. £2 million), and the amount of any adjustment.

The 2005/06 SO incentive scheme for the first time covered NGET's GB wide system operator costs, since the British Electricity Trading and Transmission Arrangements (BETTA) were implemented on 1 April 2005. As a consequence, NGET became responsible for the management of transmission constraints within Scotland. Further, from November 2005 there was a change to the manner in which prices for frequency response were determined.⁵ We agreed to include

³ Details of this calculation, in the context of NGET's 2005/06 SO incentives scheme can be found in Appendix 1.

⁴ "NGC System Operator incentive scheme from April 2005, Final Proposals and Statutory Licence Consultation", Ofgem, March 2005, page 52. See also special condition AA5A paragraphs 10-12 of NGET's transmission licence.

⁵ CUSC Amendment Proposal 047 (CAP047).

allowances within the 2005/06 incentive target for both these changes to NGET's balancing costs.⁶

On 30 June 2006, NGET submitted notices to us of two proposed IAEs, asking for a total reduction of £35.77 million to its actual 2005/06 incentivised balancing costs of £427.2 million.⁷ We published a consultation document in August 2006 that summarised each of NGET's notices, outlined our initial views and invited feedback from interested parties on a range of questions (including whether NGET acted economically and efficiently in the management of costs resulting from the proposed IAEs).⁸

Respondents' views

In total we received 13 responses to the consultation (including NGET's response). The non-confidential responses can be found on the Ofgem website.⁹

Regarding the internal to Scotland and Cheviot constraints, aside from NGET, two parties expressed some support for NGET's view that it acted efficiently in managing these constraints, but did not take a definitive view on the validity of the IAEs. Another respondent considered NGET acted efficiently in managing the Cheviot constraint, but not in managing the internal Scotland constraints.

Five respondents considered NGET did not act efficiently in its initial management of the internal Scotland constraints through the balancing mechanism. Two respondents considered NGET made a commercial decision to manage constraints through the balancing mechanism, and should therefore be responsible for the costs that result.

With regard to the impact of CAP047, four respondents considered the risk of higher costs was foreseeable. These respondents considered NGET had sufficient time to determine how to best manage this risk, and that NGET should have acted to manage this risk. Two respondents considered NGET did act economically and efficiently in managing the impact of CAP047. One stated NGET should bear the full cost of higher prices for frequency response (given it had agreed to the 2005/06 SO incentive scheme).

The Authority's determination

This section explains the determination that the Authority reached for each of the proposed IAEs.

IAE relating to internal Scotland and Cheviot constraints

In considering whether these events constitute an IAE, we concluded the 2005/06 SO incentive scheme gave NGET an expectation that it could raise an IAE, if the costs for managing Scottish constraints were materially different from the allowances specified in the incentive scheme (i.e. exceeding £2 million).¹⁰ We

⁶ For further background on the nature of NGET's 2005/06 SO incentive scheme see Chapter 2 of "Potential income adjusting events under NGET's 2005/06 system operator incentive schemes", August 2005, Ofgem, 135/06.

⁷ The non-confidential parts of NGET's notices were published on our website on 5 July 2006.

⁸ "Potential income adjusting events under NGET's 2005/06 system operator incentive scheme", Ofgem, August 2006 (135/06).

⁹ <http://www.ofgem.gov.uk>

¹⁰ "NGC System Operator incentive scheme from April 2005, Final Proposals and Statutory Licence Consultation", Ofgem, March 2005, page 52.

therefore focused our analysis on whether the costs that NGET incurred were economic and efficient.

We have therefore undertaken analysis to assess the actions that the SO undertook to determine if they were economic and efficient.¹¹

a) Internal Scotland constraints

We consider the costs incurred by NGET are higher than those we would have expected to be incurred by an economic and efficient SO. We do not consider NGET has provided sufficient evidence that an active risk management strategy was in place to manage the cost of these constraints to the amount of the allowances included in the incentive scheme.

Our analysis has suggested that by contracting for the management of these constraints ahead of winter 2005/06, NGET may have been able to lower the costs incurred in the management of these constraints by around £4.3 million.¹² In light of the uncertainty regarding the decision to self-despatch by relevant generators over winter 2005/06, we would have expected NGET to at least investigate the option of managing the NLOANSSE constraint through a longer term contract. We understand that NGET did not undertake any such investigation.

b) Cheviot constraint

We undertook similar analysis to that presented above to assess the level of cost we would have expected an economic and efficient SO to incur in the management of the Cheviot constraint. We consider that under certain scenarios, the cost to NGET of contracting in advance for the management of the Cheviot constraint may have been below those actually incurred.

However, our analysis has also shown that there was sufficient uncertainty regarding the potential cost of mitigating actions by NGET regarding the Cheviot constraint in advance of winter 2005/06 to suggest that the cost incurred by NGET in managing this constraint was reasonable. We therefore consider that the full income adjustment proposed by NGET regarding management of the Cheviot constraint is appropriate.

c) Scottish constraints in aggregate

On the basis of the analysis presented above, the Authority has determined that an income adjustment of £25.85 million is appropriate in relation to NGET's notice concerning the Scottish constraints.

IAE relating to cost of frequency response

Consistent with our view outlined above for internal Scotland and Cheviot constraints, we consider the incentive scheme gave NGET an expectation that it could raise an IAE in response to a material increase in costs relating to implementation of CAPO47 (so long as this increase exceeded the threshold of £2 million). We therefore consider that NGET should be allowed an IAE for costs that

¹¹ It is important to note that this approach aims to identify the actions we would have expected NGET to undertake at the time on the basis of information available to it (as opposed to identifying what would have been the correct approach to take by NGET with the benefit of hindsight).

¹² This analysis is described in more detail in Appendix 2.

were economically and efficiently incurred by NGET as a consequence of these events.

However, we do not consider that NGET has provided sufficient evidence that it explored all possible ways in which the higher costs frequency response could have been reduced as a consequence of CAP047 (e.g. investigating whether a change in rules may have mitigated these cost increases).¹³ We also consider that the costing methodology used by NGET in its notice overestimates the cost implications of CAP047.¹⁴

Our analysis suggests that the effect of NGET eliminating the distortion in the rules before the end winter 2005/06, and adjusting the costing methodology used would imply reductions of £1.14 million and £0.8 million respectively in NGET's submitted IAE. On the basis of this analysis, the Authority has determined an IAE of £3.65 million is appropriate for the increased cost of frequency response. This is a reduction of £1.94 million compared to NGET's proposed income adjustment of £5.59 million

Conclusion

On the basis of the analysis presented above, the Authority has determined the following IAEs are appropriate for NGET's 2005/06 electricity SO incentives:

- Scottish Constraints IAE = £25.85 million
- CAP 047 IAE = £3.65 million

This combination of income adjustments will result in a loss to NGET of £4.04 million under its SO incentive scheme for 2005/06. This represents a difference to that sought by NGET of £1.25 million. Full details of this calculation may be found in Annex 1.

In considering these notices we, in common with some respondents, have given consideration to the structure of incentive schemes and the IAE provisions. Our thinking on these issues will be set out in our preliminary thoughts document for NGET's SO incentives for 2007/08.

If you have any further queries in relation to the issues raised in this letter, please feel free to contact Jo Witters on 020 7901 7159.

Yours sincerely

Stephen Smith
Managing Director, Markets

¹³ For example, by raising an urgent modification proposal to remove the distortion.

¹⁴ See pages 37-39 of the August consultation.

Appendix 1 - Income adjustments

		Current (£m)	NGET proposed (£m)	Authority determination (£m)
Actual SO costs	(1)	427.2	427.2	427.2
Income adjustment				
Internal Scotland			18.54	14.22
Cheviot			11.63	11.63
CAP047			5.59	3.65
<i>Total income adjustment</i>	(2)	0.00	35.77	29.50
Actual IBC [(1)-(2)]	(3)	427.2	391.4	397.7
IBC target	(4)	377.5	377.5	377.5
Downside sharing factor	(5)	20%		
Impact on NGET [(5)*((4)-(3))]		-9.94	-2.79	-4.04
Net change			7.15	5.90

Note Numbers may not add due to rounding.

The combination of income adjustments determined by the Authority of £29.50 million results in an incentivised balancing cost for NGET under its 2005/06 SO incentive scheme of £397.7 million. This contrasts with a target of £377.5m (i.e. £20.2 million higher costs than the incentive target).

Under NGET's 2005/06 SO incentive, NGET retains 20% of any "downside" loss (i.e. when actual cost incurred exceeds a specified target level). This means NGET will now incur a loss of £4.04 million on its 2005/06 SO incentive. This compares to a loss of £9.94 million that NGET would have incurred had no income adjustment been incurred, and a loss of £2.79 million that NGET would have incurred had its proposed income adjustments been allowed in full.

Appendix 2 – Supporting analysis

This appendix describes key assumptions made in determining the level of income adjustment outlined in the decision letter. Our analysis is described separately for:

- Scottish constraints costs; and
- CAPO47 costs.

Scottish constraint costs

We undertook analysis to evaluate an appropriate level for the cost of both the:

- NLOANSSE constraint; and
- Cheviot constraint.

NLOANSSE constraint

We estimated the “constrained on” volume to amount to some 340GWh between November 2005 and March 2006. We consider it likely a contract capacity volume of between 180MW and 200MW would be required. Assuming this capacity would be required for winter day times, this gives us a range for a required contract volume of between 326GWh and 362GWh. On balance, we therefore consider 340GWh to be an appropriate assumption.¹⁵

We then estimated the price at which NGET may have been able to procure this volume of energy.

The approach we adopted in calculating the economic and efficient cost of mitigating the NLOANSSE constraint was to estimate the opportunity cost to relevant generators of contracting in advance with NGET for the provision of sufficient generation services to mitigate the constraint. We consider an appropriate proxy for this opportunity cost is winter 2005/06 forward power prices.

The forward curve for electricity prices in April 2005 had a price for peak power over the 2005/06 winter of £51.38/MWh. Hence, the cost of 340 GWh of power at this peak price would have been £17.47 million, a reduction of £4.32 million from the actual costs incurred by NGET (implying an income adjustment of £14.22 million rather than £18.54 million).

An alternative approach would be to argue that a premium may have been placed on this market price. For illustrative purposes, we have calculated the cost implications of such a premium, using scenarios of 3% and 5%:

- a 3% premium on forward electricity prices (i.e. a contract price of £52.92/MWh) would imply a total contract cost of £17.99 million, £3.80 million below that actually incurred; and
- a 5% premium on forward electricity prices (i.e. a contract price of £53.95/MWh), would imply a total contract cost of £18.34 million, £3.45 million below that actually incurred.

¹⁵ For reasons of confidentiality we are not able to provide fuller details regarding the reasons for our assumptions here.

On balance, we do not believe it is appropriate to apply any premium to the forward price on the basis that the selection of any such premium would be extremely subjective.

Cheviot constraint

We considered the information that would have been available to NGET regarding the likelihood of the level of generation in Scotland exceeding the Cheviot transmission constraint being active.

We used data from NGET's website for the Scottish demand for 2004/05 and an assumed growth rate of 2% (based on forecast in peak electricity demand for 2005/06) to derive hourly estimates of demand for 2005/06. We deducted this from an estimate of the level of generation that might have been expected to be produced by Scottish plants. This was based on:

- the capacities included in NGET's Interim Seven Year Statement,
- a day-time capacity factor for wind of 30% and a night-time capacity factor of 15%,
- an average availability of hydro plants of 40%,
- a forced outage rate for thermal plants of 5% with all plants assumed to operate at their forced outage adjusted TEC i.e. 95% of their TEC,
- an assumption that pumped storage capacity would only be generating in peak hours, and
- the treatment of Scottish nuclear output as must run based on the 2004/05 output.

By subtracting from the resulting estimate of Scottish generation our estimate of Scottish demand, we arrived at a value of the potential exports from Scotland in each half-hour.

We consider it unlikely that an economic and efficient SO would have contracted for generation reductions during the summer months (June to September inclusive) when maintenance is undertaken. We also believe that the SO would only have contracted to constrain generation when potential export values exceed 3000 MW. This cut-off point, which is 700 MW above the nameplate capacity of the interconnector, was chosen to reflect the cut-off point that an economic and efficient company might have chosen, given uncertainties in generation output and Scottish demand.

In other words, an economic and efficient SO would not contract for all the periods where potential export values exceed the interconnector capacity because it is unlikely that all the thermal plant would have run at their full (force outage adjusted) output when not on maintenance.

Our analysis implies that the SO would have contracted for 2.25TWh, whereas NGET accepted only 0.30TWh of bids to assist in solving the Cheviot constraint. This means that our analysis is conservative in that it over-estimates for how much capacity NGET would have need to contract, and therefore is also likely to overstate the cost of such a contract.

We have assumed that NGET could have contracted in advance for these output reductions at an average price of £12/MWh (reflective of the lowest of bid prices used by NGET in developing its original forecasts), which yields an overall cost of

£27 million, compared to NGET's actual costs of £31.63 million. On the basis of this analysis, NGET would be entitled to an income adjustment of £7.0 million, rather than the £11.63 million it has estimated (i.e. a reduction of £4.63 million).

However, as the above description makes clear, a large number of assumptions have to be made in arriving at our estimate of a lower bound on the costs that a prudent and efficient company might have incurred in managing the Cheviot constraint. For example, the costs would have equalled those actually incurred by NGET if we had used an average bid price of just over £14/MWh rather than £12/MWh. On the basis of our analysis, we consider there was sufficient uncertainty regarding the potential cost of mitigating actions by NGET regarding the Cheviot constraint in advance of winter 2005/06 to suggest that the cost incurred by NGET in managing this constraint was reasonable.

CAP047 costs

We evaluated the economic and efficient cost of managing frequency response costs following the implementation of CAP047 through a potential rules modification, and also considered the appropriate costing methodology.

Rules modification

We consider an economic and efficient SO would have raised an urgent rules modification shortly after seeing significant price increases following the implementation of CAP047 e.g. at the beginning of December. On the basis of past experience, we consider it possible that such a rule modification could have been implemented by the beginning of March 2006.¹⁶

We consider it unlikely that such a modification would have resulted in prices for Holding Payments returning to levels expected in the absence of CAP047 (given the removal of the previously administered pricing arrangements). However, we do think it likely that removing the distortion in rules would have been more likely to reduce the level of increases in the level of holding payments.¹⁷ We therefore assumed that the level of holding payments in March 2006 would have been the same as those in February 2006 (i.e. £3.758/MWh). Under the same assumptions regarding volumes and firm frequency response costs used by NGET, this one change yields a total excess cost of £11.80 million, £1.14 million below NGET's estimate.

Costing methodology

In the absence of CAP047, we consider that Holding Payment prices in November 2005 would, more likely than not, have continued to trend forward from the level observed in October 2005 of £1.75/MWh, rather than have fallen to £1.63/MWh as occurs under NGET's methodology.¹⁸ The resulting pre-CAP047 prices were shown in Table 4.1 of our consultation document, suggesting that the holding

¹⁶ For example, CAP046 "Mandatory Frequency Response (Calculation of Volumes)," was submitted by NGET on 20 February 2003, and a decision was issued on 9 April 2003 (i.e. in under 2 months).

¹⁷ For more details, see Chapter 4 of "Potential income adjusting events under NGET's 2005/06 system operator incentive scheme", Ofgem, August 2006 (135/06).

¹⁸ £1.75/MWh is the average October Holding Payment price advised by NGET after correcting for the despatch error resulting from a new frequency response provider being despatched on indicative contract prices, but settled at higher final contract prices, which had not been updated in NGET's despatch file. See page 38 of the August consultation for more details.

payment price in March 2006 absent CAP047 may have been £1.74/MWh rather than £1.62/MWh.¹⁹

Reworking the impact of the rules modification outlined above at this revised price yields an efficient level of cost incurred of £11.00 million. Deducting this from the allowance included in NGET's SO incentive scheme (£7.35 million), this results in an income adjustment of £3.65 million (i.e. an additional £0.8 million adjustment on the adjustment relating to the rules modification).

¹⁹ "Potential income adjusting events under NGET's 2005/06 system operator incentive schemes", August 2005, Ofgem, 135/06, page 38.