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22nd March 2007

Dear Colleagues,

Recovering the costs of compensation for temporary physical disconnection (CAP048) – Open letter consultation and minded to statement

On 7 April 2005, Ofgem published an open letter consultation[1] which invited views on possible approaches to recovering the costs arising from compensation payments for temporary physical disconnection made under the Connection and Use of System Code (CUSC) further to implementation of CUSC Amendment Proposal 048 – *Firm Access and Temporary Physical Disconnection* (CAP048).

Following consideration of responses to that consultation, we concluded that a funding mechanism was not appropriate at that time. It also became apparent following the introduction of the British Electricity Transmission and Trading Arrangements (BETTA) that the cost forecast on which the April 2005 consultation had been based was inaccurate. We therefore consider it appropriate to carry out a further consultation, based on a revised forecast of compensation costs, before making the licence changes necessary to introduce a funding mechanism.

This letter:

- sets out the background to Ofgem's approval of CAP048[2]

[1] At http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/11102_11505.pdf
[2] The CAP048 decision letter is available at http://www.nationalgrid.com/uk/indinfo/cusc/pdfs/CAP048D.pdf

- summarises the main points of the April letter
- summarises the views of respondents to the April letter
- sets out Ofgem's current thinking, and
- invites views on the appropriate form of funding mechanism and discusses a timetable for implementation.

Non-confidential responses to the April letter are available from the Ofgem website[3].

Background to the CAP048 arrangements

CAP048 was approved on 19 March 2004[4]. It established a compensation mechanism within the CUSC that required National Grid Electricity Transmission (NGET) to compensate generators in the event that they were disconnected from the transmission network because of a planned or unplanned event.

The level of compensation payable under CAP048 depends on whether an outage is planned or unplanned. Compensation for planned outages is calculated based on the maximum of system average Transmission Network Use of System (TNUoS) charges or site TNUoS charges, while for unplanned events an eligible generator is compensated using the Market Index Price (MIP)[5] for the first 24 hours of an event or fault, with compensation being paid based on TNUoS charges for periods in excess of 24 hours.

No funding mechanism for CAP048 was in place for the period 2004/2005 or 2005/06. Ofgem undertook to develop arrangements for funding compensation in light of new information received following the initial consultation and gained through NGET experience of operating the GB transmission network.

The April letter

Historical and forecast data on the magnitude of compensation costs for both planned and unplanned outages in England and Wales, and Scotland was annexed to the April letter. The data illustrated that the level of compensation payable under CAP048 in

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[3] Non confidential responses to the CAP 048 open letter are available at http://www.ofgem.gov.uk/ofgem/search-result.jsp?type=current
[4] For additional background, see the CAP048 Amendment Report at http://www.nationalgrid.com/uk/indinfo/cusc/pdfs/CAP048_Amendment_Report_v_1_0.pdf
[5] As published on the Balancing Mechanism Reporting Service (BMRS)

England and Wales, for 2004/05, had been relatively low (approximately £7,300 for one incident).

The April letter explained that NGET considered that its role as GB system operator (GBSO) could make compensation costs large, unpredictable and difficult to forecast due to its lack control over the maintenance of assets in Scotland, the radial nature of the transmission system in Scotland and non-standard ownership boundaries at connection sites in Scotland.

The April letter explained that NGET had forecast costs for planned outages in Scotland of approximately £870,000 for 2005/6. This estimate excluded incidents where a generator has entered into a bilateral connection agreement (BCA) with NGET which covered temporary disconnection.

Three Options for recovering an efficient level of compensation costs were proposed in the April letter. These were:

- a mechanism that recovered costs via balancing services use of system (BSUoS) charges,
- an adjustment to the allowed revenues of each of the three transmission owners (TOs) to recover costs via TNUoS charges or,
- implementing no funding mechanism since the level of compensation costs for 2005/6 was expected to be lower than the £2 million threshold at which the GBSO can apply for an Income Adjusting Event (IAE) under its system operator incentive scheme.

The April letter went on to consider the various options. In particular, it questioned the extent to which the responsibility for costs could be attributed between the GBSO and TOs and the period for which any cost recovery mechanism should apply. It further noted that there was limited disconnection information available, particularly in respect of the transmission system in Scotland.

In light of these factors Ofgem suggested that it may be appropriate to provide an incentive for NGET to minimise compensation costs arising only in England and Wales through the existing NGET SO balancing services activity revenue restriction arrangements and that costs for Scotland should be subject to pass through arrangements. The April letter proposed that these matters would be reviewed after one year and that any proposed cost recovery mechanism would be effective retrospectively from 1 April 2005.

Views of respondents

Ofgem received ten responses to the April letter. NGET's response stressed the need to resolve issues associated with CAP048 and to introduce a mechanism for funding compensation costs arising from an efficient level of temporary physical disconnection as soon as practicable, noting that the modification proposal was introduced in April 2004. NGET was supportive of Ofgem's intention to retrospectively introduce any scheme from 1 April 2005. The remaining respondents suggested that there may be difficulties in setting targets for compensation, especially in Scotland. Their views regarding mechanisms for recovering compensation costs were also varied and the majority considered it impractical to develop incentive arrangements in the short term. A detailed description of respondents' views can be found in Appendix 1.

Rationale for second consultation

Since the publication of the April letter, following investigations conducted and considering respondents' views, it has become apparent that the forecast of compensation costs on which that letter was based were inaccurate. This was due to the inclusion of plant which has subsequently been provided for in agreements which limit, or avoid the need for compensation to be paid. Ofgem has therefore requested a revised forecast of compensation costs from NGET. This is contained in Appendix 2.

We therefore consider it appropriate to provide parties with an additional opportunity to comment on their preferred option for funding CAP048 costs in light of this new information. Due to the time that has passed since the decision, views are sought on whether implementation of any funding mechanism should be retrospective.

Ofgem's views on options for cost recovery

Ofgem notes the varying views of respondents on the appropriate mechanism for the recovery of costs of compensation. In particular, Ofgem notes the general acknowledgement that the setting of an appropriate target is problematic given the lack of relevant data. We understand that minimising the frequency and duration of disconnections from the GB transmission system requires the efficient and effective operation of both NGET as GBSO and all of the transmission licensees in their role as transmission owners in their relevant authorised areas. Section 9(2) of the Electricity Act 1989 already requires transmission licensees to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

Ofgem's preferred option

In addition to the options outlined in the April letter, parties were also asked to consider the implications of developing an enduring regime. We stated that,

"In the longer term, it may be appropriate to develop TO incentive arrangements. However, until more data on the level of GB outages is available, there may be difficulties in assessing the forecast level of costs on a GB basis. It would seem practicable to implement a short term scheme, with a view to developing more enduring arrangements as part of the transmission price control review."

Ofgem continues to consider that there is a need to establish an enduring regime for recovering the costs of temporary physical disconnection. However, despite several years passing since the approval of the modification proposal, Ofgem does not believe that setting a target level of efficiently incurred compensation costs would be practicable at this stage. Ofgem notes that, in the event that the cost target is set too high, system users and ultimately consumers will face unnecessary costs while, if the target is set too low, there is likely to be a need to re-open any cost target to allow licensees to finance compensation payments.

Ofgem remains of the view that clearly attributing responsibility for compensation costs between the GBSO and TOs is problematic. However, we consider that there is a need not to overly complicate any funding mechanism and therefore we agree with those respondents to the April letter who suggested that costs should be recovered via TNUoS charges. Given that TNUoS charges are a payment which allows a user to export power to the transmission system, we consider that payments associated with the unavailability of that system are best funded from the same revenue.

Ofgem is currently minded to introduce an additional term into the revenue restrictions of the three transmission licensees which allows them to pass-through an efficiently incurred level of compensation costs for the first 2 years of the price control period.

Ofgem considers that this approach should allow licensees to finance compensation payments.

Ofgem additionally considers that, after this period, it may be appropriate to revisit the issue and consider the development of appropriate incentives for the licensees to optimise relevant costs. This should take into account interactions with other incentives such as reliability incentives and other developments by then, including network output measures.

Ofgem also notes that proposals for change currently being considered by the industry may impact on the magnitude or form of compensation costs. In particular, we note that CAP144, Emergency Instruction to Emergency Deenergise is at a Working Group stage and that similar issues have been considered in the context of offshore transmission. We would welcome views on whether respondents consider that the preferred option outlined in this document would remain appropriate were the modification proposal to be approved or other changes to compensation arrangements brought forward.

Modifications to licences

Following consideration of respondents' views, we intend to develop the licence modifications necessary to introduce a funding mechanism.

Ofgem welcomes views on any of the issues raised in this document and, in particular, on our current view on the appropriate funding mechanism and the revised data in Appendix 2. Responses to this consultation should be sent to Karron Baker at karron.baker@ofgem.gov.uk by **20th April 2007.** If you wish to discuss any of the matters raised in this letter please contact Mark Copley at mark.copley@ofgem.gov.uk or on 020 7901 7410.

Yours sincerely

Robert Hull

Director, Transmission

Appendix 1 - Summary of responses to the April 2005 open letter consultation

NGET's response asserted that the primary causes of temporary physical disconnection of generation relate to the commissioning, maintenance and health of transmission assets, stating that these activities relate to the transmission asset owner function of licensees and therefore it should be transmission licensees which are exposed to costs associated with disconnection. NGET supported the proposal to remove its exposure to costs associated with physical disconnection of generation in Scotland in the short term and noted that, in the longer term, Scottish TOs should be exposed to these costs.

NGET considered that an efficient level of compensation costs for unplanned disconnection in England and Wales could exceed £1m for 2005/2006 and noted that planned disconnections are forecast to result in the payment of compensation totalling £50,000. NGET therefore questioned Ofgem's proposed target of between £50,000 and £100,000, considering that it did not provide an adequate allowance.

Of the remaining nine respondents, seven commented on Ofgem's proposed target for compensation costs. All noted the difficulties associated with setting a target given the limited amount of available data. One respondent, EDF Energy, considered that the materiality of costs was likely to be small and that it was therefore inappropriate to pass costs on to users. Three other respondents considered that the difficulty associated with setting a target meant that a cost pass through scheme was appropriate. One respondent was supportive of a target level of costs in the region proposed by Ofgem, noting that any target should be based on what is likely to be incurred as opposed to what could theoretically occur.

Four respondents questioned NGET's estimates of the level of compensation costs, particularly in Scotland. One respondent noted that there was insufficient evidence to suggest that NGET's historically low levels of disconnection would change, while another thought scrutiny of the target level of cost suggested for Scotland was required. Three respondents noted that liability for compensation associated with the radial nature of the Scottish network and non standard ownership boundaries had been written out of many connection agreements.

Two respondents questioned the statement that NGET's role as GBSO will make compensation costs significant, unpredictable and difficult to forecast, noting that the GBSO has the final decision regarding the scheduling of outages and can therefore control the impact of planned outages on generators. One respondent, British Energy, requested further information on the derivation of the Scottish compensation cost figure from NGET.

Respondents' views regarding mechanisms for recovering compensation costs were varied. One respondent, E.ON UK plc, supported continuing the current Income Adjusting Event provisions. Another stated that no scheme should be introduced as TNUoS charges provide for firm access of which compensation payments are a condition. Three respondents, EDF Energy, British Wind Energy Association and Scottish Power Energy Management Limited supported a mechanism to adjust TNUoS charges. One respondent, Scottish and Southern Energy favoured an amendment to BSUoS charges and two others, British Energy and SP Transmission and Distribution supported a mechanism involving changes to both TNUoS and BSUoS charges.

Of the respondents supporting an amendment to TNUoS charges, two supported a pass through scheme with an amendment being made to allowed revenues in the subsequent year. One of these respondents, BWEA, considered that compensation is a matter relating to firm transmission access which is rightfully addressed via transmission access charges. However, Scottish and Southern Energy considered that this approach could create geographical perversities, where the payment for compensation in the North could lower Southern charges, and supported funding the costs of compensation via BSUoS charges. EDF Energy considered adjustments to TNUoS charges to be preferable as they would avoid potential spikes in balancing charges.

One of the respondents, British Energy, which favoured funding the costs of compensation via both BSUoS and TNUoS charges stated that costs associated with access failure, for whatever reason, should be recovered via TNUoS charges and that costs associated with energy imbalance following disconnection should be recovered via BSUoS. The other respondent, SP Transmission and Distribution considered that a TO should meet the costs of disconnection but the SO should be properly incentivised to minimise the cost occurring from a fault. One respondent, Centrica, called for the development of similar compensation arrangements for demand connections.

The majority of respondents considered it impractical to develop incentive arrangements in the short term given the unpredictability regarding the likely outturn level of costs and lack of historic data with which to develop a target. Three respondents, Scottish Power

Management, SP Transmission and Distribution, and EDF Energy stated that any scheme should be reviewed at the next price control when more data would be available and two respondents, British Energy and RWE npower suggested that amendments to the System Operator – Transmission Owner Code should be progressed to provide a method of dividing responsibility for compensation payments between the SO and TOs. One respondent, E.ON UK plc considered that any scheme should apply GB wide as to do otherwise would create perverse incentives.

Appendix 2 – Revised Historical and Forecast Compensation Costs

In England and Wales there are 73 transmission-connected and embedded (with a Balancing Mechanism Unit (BMU)) generating stations that could be eligible for payments should they be affected by an Interruption. This represents 63GW of installed generation capacity. For Scotland there are 39 stations representing 9GW of installed generation capacity.

Historic Payments

Unplanned Temporary Physical Disconnections

NGET identified one payment to a CUSC party for an unplanned temporary physical disconnection. One payment of approximately £7,600 was made following a temporary physical disconnection at Dungeness A.

NGET report there have been no instances of compensation being paid for an Interruption as a result of a Planned Outage.

Forecast Costs

Planned Outages

The annual range of likely costs is estimated at 0 to £100 000.

These figures are based on the following NGET assumptions;

- At the upper end of this range, NGET may need to take a planned outage at short notice due to imminent failure of a piece of equipment. This could result in the disconnection of a unit from the system for a number of days or weeks. A one week outage at a mid-range TNUoS price of £10/kW/annum gives a cost of £100k.
- All affected Users within Scotland with differing asset ownership boundaries between England and Wales that require disconnection for certain specific outages for routine maintenance work are now excluded from CAP048 compensation via Bilateral Agreements. (There are some rare occasions where this can occur within England and Wales, for derogated connections. The same exclusion applies within the Bilateral Connection Agreement).

There is only one planned outage, scheduled for a 3 day period that would be covered by CAP 048 payments for 2007/2008.

Unplanned Outages

NGET estimate that each Unplanned Interruption has the potential average cost of £100,000 but that the cost can be as high as £1 million.

Estimated annual number of unplanned outages range form 0 to 3 events per year based on the following assumptions:

- 150 (large) BMUs across GB.
- BMU size ranges from 30 MW to ~1,000 MW
- The average MW size for a large BMU is ~500MW
- Illustratively, each connection has on average 1.2 items of Transmission electrical equipment providing the connection to the MITS (Main Interconnected Transmission System) whose failure would be the sole cause of a disconnection of the unit from the transmission system. (i.e. a section of busbar and, on occasions additional equipment in the form of a switch, transformer and/or section of OHLK or cable)
- Illustrative probability of failure for each item of equipment is 1% based on the following
    - 700 transformers from which there are on average 20 faults per year = 3%
    - 2500 circuit breakers of which there are on average 20 faults per year = <1%

The table below summarises the potential cost exposure range for Unplanned Interruptions

			Cost		
BMU	Size	MIP (~average forward price for 2007/08)	1 faults	2 faults	3 faults
1. Largest BMU paid for 24 hours	1,000	£45/MWh	~£1m	~£2m	~£3m
2. Smallest BMU paid for 24 hours	30		£32,400	£64,800	£97,200
3. Average BMU paid for 24 hours	500		£540,000	~£1m	~£1.6m

In addition NGET provided details of three actual incidents that occurred but compensation was not payable. These costs could have ranged between £330,000 to £500,000 per incident.