Central Networks

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Central Networks West – Use of System Charging Methodology, Modification 3

December 2005

INTRODUCTION

This proposal is made in respect of Central Networks West. A separate but similar proposal is also being made in respect of Central Networks East. This proposal ('Modification 3') replaces our 'Modification 1', submitted in November 2005, which has been withdrawn.

Proposal

We have developed a new cost reflective methodology for setting excess capacity charges. It is our intention to implement the new methodology and to use it to produce the prices that will come into effect from 1 April 2006. This timetable would require us to make an indicative announcement in late December 2005. Ideally we would like to have the Authority's approval of this proposal prior to this date, but recognise that we might have to make the indicative prices conditional upon such approval.

The remainder of this section is arranged in the following way:

1. Detailed description of our proposal;
2. Explanation of how the proposal better meets licence objectives;
3. Consultations carried out;
4. Illustrative charges;
5. Proposed wording of Methodology Statement;
6. Our future plans.

1. Detailed description of the proposal

In relation to dealing with breaches of agreed capacity Central Networks West currently charges for excess demand in the month in which it occurs at the normal rate for authorised capacity. For the year 2005/06 we had proposed to change the rate for excess capacity to three times the normal rate of capacity, which was something that had worked exceptionally well in reducing overall excess, and therefore costs, on the network for Central Networks East. When considering our proposed methodology statement early in 2005 the Authority was concerned that setting the excess demand charge at three times the rate for authorised capacity was not cost reflective. Central Networks accepted that the three times multiplier had been chosen for its incentive effect and proportionality, rather than by any demonstrably cost reflective methodology, but maintained that excess demand was a driver of excess costs. At the time it was agreed that excess capacity should be

charged for at the same rate as normal capacity, and this arrangement was subsequently approved by the Authority.

The proposed new methodology is based on the premise that the whole network must provide capacity, over and above that needed to meet authorised demand, to cater for the fact that authorised capacity levels will be exceeded by a proportion of customers spread randomly over the network.

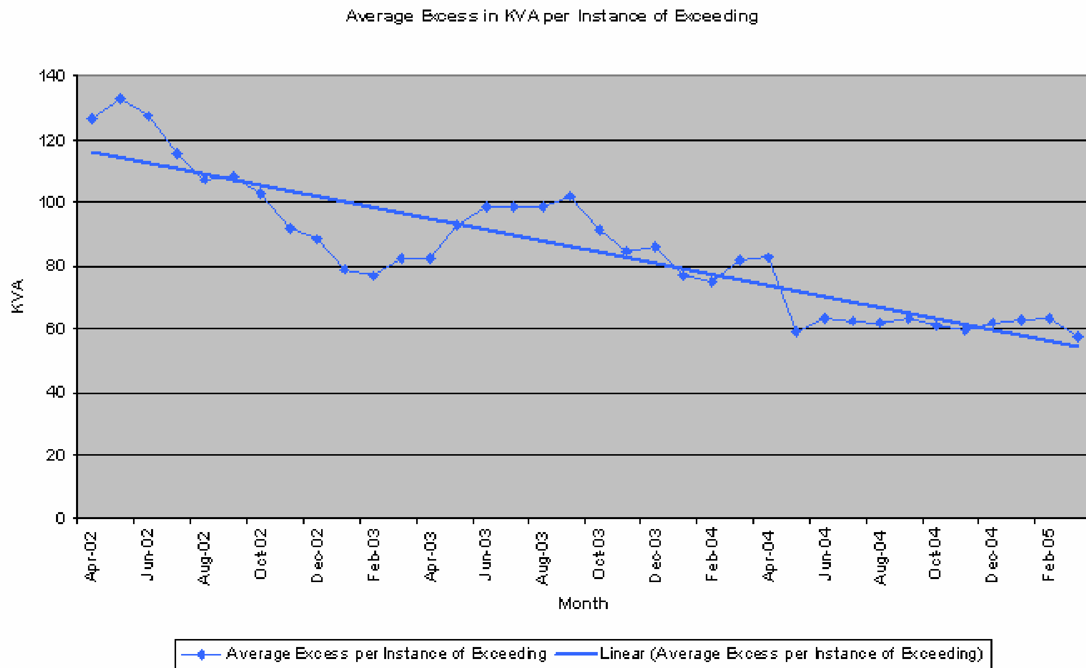
In developing this proposal it has been suggested that there is no justification for charging excess demand at premium rates as compared with authorised demand, because the cost of capacity is the same in each case. It could even be argued that, as networks generally have some spare capacity there is no extra cost whatsoever, and that there should therefore be no charge for excess demand. In response to these arguments we would point out the following as justification for premium charging:

- When designing networks in a world where customers are prone to excess demand, more capacity must be provided than would be the case in a (hypothetical) world where customers did not exceed their authorised capacity;
- Network design standards have been developed over the years in a world where excess demand is known to occur randomly across networks, and therefore these standards implicitly embody allowances for this;
- Authorised capacity is the key piece of information when requests for connection are considered, and forms the basis for the apportionment of shared reinforcement costs to the customer. It is important that customers have an incentive to apply for the capacity they actually need;
- In contrast to authorised capacity, any excess demand will not have been subject to apportionment of additional shared costs to the customer and, in the absence of excess capacity charges, these costs would simply (and unfairly) be spread over all customers;

- The possibility of excess demand is not factored into our new model's calculation of the normal availability charges, and if it were to be included this would increase the total costs to be allocated to all customers;
- Network costs driven by excess demand should be focused on those that create excess demand;
- There is strong evidence that properly applied excess demand charges influence customer behaviour in a positive way and therefore facilitate the more efficient development of the network in the longer term.

Our proposed methodology takes account of information on authorised capacity, levels of excess demand and factors reflecting demand diversity effects. These are then used to calculate the average levels of excess capacity that the network must accommodate. The cost of this capacity is then shared amongst those giving rise to the need for the capacity (i.e. customers that exceed authorised demand levels). This cost is expressed as a multiplier to be applied to the normal capacity charge rates to arrive at the excess demand charge rates (expressed in pence per kVA per day). An initial indicative multiple of 1.7 has been calculated for Central Networks West.

Central Networks are proactive in helping customers manage their capacity requirements, and our aim is that all large customers should have the right authorised capacity. Evidence from Central Networks East strongly suggests that the proposed approach will provide a successful incentive for customers to manage their demand and will reduce overall levels of excess demand (see graph below). In light of this we would expect the multiplier to reduce over time.



The graph above tracks the average level of excess demand over the period during which Central Networks East operated 'in month' excess capacity charges with a multiplier of 3. Prior to this we had for many years operated the more traditional '12 month rolling capacity increase' approach to excess demand. During the three years for which the new policy operated average levels of excess demand halved.

2. Explanation of how the proposal better meets licence objectives

We believe that the proposal better meets licence objectives by providing cost reflective charges for excess capacity that have been demonstrated to modify customers' behaviour in a way that will reduce long run network costs.

By contrast our current method of charging for excess capacity (at the same rate as normal authorised capacity) effectively allocates part of the additional cost caused by customers that exceed, to all large customers. This provides little incentive for customers to control their demand, and unfairly penalises those customers that do control their demand.

3. Consultations carried out

In June 2005 we wrote to all suppliers with an update on the work we were doing to develop our use of system methodology, and an invitation to comment. The text of the letter was as follows:

Dear Supplier

I am writing to you to tell you about work that we are currently doing to develop our use of system methodology, and to invite your comments.

This letter does not constitute formal notice of changes to the methodology or charges. Any change to the methodology would be subject to approval by the Authority, and any subsequent change to the charges would be subject to the usual three months formal notice to suppliers. We do not currently anticipate changing our charges before April 2006, though we reserve the right to do this at any time with the appropriate notice.

You may be aware that approval of the use of system methodologies for both Central Networks East and West are subject to conditions that we are required to address by April 2006. In response to these conditions we are currently developing a new pricing model for our demand tariffs based on forward looking long run marginal costs. This model will use information about the network and other costs to arrive at yardstick prices. We are aiming to complete this model and to propose amendments to our methodology by the end of September 2005.

It is anticipated that the new methodology will form the basis of charging until the longer term framework, currently under development by the ISG and recently the subject of consultation by Ofgem, is implemented.

In addition to addressing Ofgem's specific conditions, we are considering further improving the methodology for demand tariffs in a number of other ways:

- *By reducing the number of tariffs that we publish so as to simplify and clarify charges. We are currently looking at a number of*

possible ways to do this; including standardising the 'economy 7' night time slot within and across the two licensed areas, removing residual and inappropriate references to metering in tariffs, removing references to 'commercial' and 'industrial' end users, removing some preserved and little used tariffs, rationalising charges for unmetered supplies, etc. Our aim will be to achieve a minimal set of tariffs that will enable us to make a cleaner transition to the longer term framework in due course;

- *By placing greater emphasis on capacity charges, rather than unit charges, in our half-hourly tariffs;*

- *By introducing (reintroducing in the case of CN East) differential charges for excess demand for our half-hourly tariffs, based on a cost reflective methodology for establishing the differentials;*

- *By introducing special charges for demand at average power factors below an acceptable limit, possibly by way of kVArh charges where kVArh exceeds a set proportion of kWh in a particular charging period.*

We do not currently anticipate making any changes to our methodology for generation export tariffs.

I hope that this letter provides a helpful insight into the work that we are currently undertaking. If you would like to make any comments it would be helpful to receive these by mid July. I would also be happy to discuss any comments with you on a one-to-one basis, please contact me if you would like to do this.

Yours sincerely

Andrew Neves
Tariff and Income Manager

c.c. Mark Cox, Ofgem

We did not receive any response to this letter, and this was taken as an indication that the proposals it outlined were broadly acceptable to

suppliers. We also listened to what suppliers were saying in forums such as the Implementation Steering Group (ISG). Again these views did not appear to conflict with anything that we were proposing to do and, in particular, the views submitted by npower in their recent paper and discussed at the ISG were consistent with our proposed method of charging for excess capacity.

We have not carried out formal consultations on our final proposals.

4. Illustrative charges

The illustrative availability and excess capacity charges for large non-domestic (half-hourly) customers detailed in the table below have been calculated in a way designed to allow fair comparison of the old and new methodologies. The table illustrates the effects of the proposed multiplier on the excess capacity charges.

The table compares Central Networks West's existing 2005/06 availability charges and excess capacity charges ("Old Price") to equivalent 2005/06 tariffs derived using our new pricing model and the methodology for excess demand described above ("New Price").

These are NOT indicative 2006/07 prices. Also, please note that capacity charges are expressed p/kVA/day in our charging statement, however for ease of understanding and comparison they have been expressed here as £/kVA/month.

Name	Charge	Units	Old Price	New Price
LND LV	Availability charge	£/kVA/m	£1.16	£1.26
	Excess capacity charge	£/kVA/m	£1.16	£2.14
LND HV	Availability charge	£/kVA/m	£1.00	£1.00
	Excess capacity charge	£/kVA/m	£1.00	£1.70
LND EHV	Availability charge	£/kVA/m	£0.81	£0.61
	Excess capacity charge	£/kVA/m	£0.81	£1.04

It should be noted that the level of the excess demand charges has implications for the level of the 'normal' availability charges. In effect

the normal availability charges need to be higher if the excess demand multiplier is one. If the methodology described above was not implemented, then the prices shown in the table below would apply.

Name	Charge	Units	Old Price	New Price
LND LV	Availability charge	£/kVA/m	£1.16	£1.28
	Excess capacity charge	£/kVA/m	£1.16	£1.28
LND HV	Availability charge	£/kVA/m	£1.00	£1.02
	Excess capacity charge	£/kVA/m	£1.00	£1.02
LND EHV	Availability charge	£/kVA/m	£0.81	£0.62
	Excess capacity charge	£/kVA/m	£0.81	£0.62

5. Proposed wording of methodology statement

In addition to the standard capacity charges that apply to use of the network within the authorised supply capacities of particular connections, demand in excess of this is subject to excess capacity charges in the month in which excess demand occurs[1]. The excess demand charges are set at a multiple of the normal capacity charge rate for the relevant tariffs.

The multiplier is determined by reference to a methodology based on the premise that the whole network must provide capacity, over and above that needed to meet authorised demand, to cater for the possibility that authorised capacity levels will be exceeded by a proportion of customers spread randomly over the network.

Historical information on authorised capacity, levels of excess demand and factors reflecting demand diversity effects are then used to calculate the average levels of excess capacity that the network must accommodate. The cost of this additional capacity is then shared amongst those giving rise to the need for the capacity (i.e. customers that exceed authorised demand levels). This cost is expressed as a multiplier to be applied to the normal capacity charge rates to arrive at the excess demand charge rates (expressed in pence per kVA per day).

[1] See 'Use of System Charging Statement' for full details of the application of these charges

The methodology is set out in more detail below:

- The average percentage excess demand of all half-hourly metered connections is calculated;

- This percentage is then applied to the total authorised supply capacity, to give a notional additional capacity of a network designed to accommodate average levels of excess demand;

- This total additional capacity is reduced by the application of a diversity factor of 0.33, reflecting the effects of demand diversity;

- This reduced total is then divided by the total excess demand, to give the excess demand multiplier;

- The multiplier is then applied to the normal capacity charge rates for each tariff, to give the relevant charges for excess demand (expressed in pence per kVA per day).

6. Our future plans

We plan to use the proposed methodology (if approved) to set the indicative charges for 2006/7, which will be announced in late December 2005.

We are actively collaborating with other DNOs through the Energy Networks Association (ENA) to develop proposals for the longer term arrangements. We are aware that some other DNOs see advantages in using a methodology along the lines described above as part of the longer term arrangements, and we will be promoting this approach to the other DNOs.