Table 1 Justification of EDCM charges

Proposed EDCM Methodology	
Demand tariffs	**EDCM Method (LRIC)** • Based on the forward looking long-run incremental model principle; • Sense checking enhancements that avoid excessive charges and reduces volatility by capping charges to the total cost of the branch; • Uses Maximum Import Capacity at voltage of connection and super red kVA further upstream; • DNO direct costs and network rates are allocated on the basis of network assets deemed to be used by the customer (including sole use assets). • Transmission exit charges are allocated on the basis of demand at the time of peak and indirect costs are allocated on the basis of a combination of demand at the time of peak and capacity. • Uses Network Use Factors (NUFs) to derive the EDCM revenue pot and uses the NUFs (with cap and collars) to allocate out 80% of the remaining EDCM revenue pot after pre-allocation of costs. The remaining 20% of the revenue pot is allocated through a fixed adder approach using a combination of demand at the time of peak and capacity • Sole use assets are based on a technical definition of the boundary.
	EDCM Method (FCP) • FCP aims to produce £/kVA/annum charges that are reflective of the cost of future reinforcement of the network on a locational and network group basis. • Uses Maximum Import Capacity at voltage of connection and super red kVA further upstream; • DNO direct costs and network rates are allocated on the basis of network assets deemed to be used by the customer (including sole use assets). • Transmission exit charges are allocated on the basis of demand at the time of peak and indirect costs are allocated on the basis of a combination of demand at the time of peak and capacity. • Uses Network Use Factors (NUFs) to derive the EDCM revenue pot and uses the NUFs (with cap and collars) to allocate out 80% of the remaining EDCM revenue pot after pre-allocation of costs. The remaining 20% of the revenue pot is allocated through a fixed adder approach using a combination of demand at the time of peak and capacity • Sole use assets are based on a technical definition of the boundary.
Generation tariffs	**EDCM Method (LRIC)** • Uses a form of LRIC that caps charges; avoids excessive charges and reduces volatility; and • EDCM method uses scaling to generation charges on a fixed £/kVA basis which is linked to the generation incentive revenue derived under the price control.

	EDCM Method (FCP) • FCP uses a probabilistic test approach due to non-linear growth of generation to produce £/kVA/annum charges to reflect cost of future reinforcement of the network on a locational and network group basis; and • EDCM method uses scaling to generation charges on a fixed £/kVA basis which is linked to the generation incentive revenue derived under the price control.

C E Electric UK	Comparison of current method with the EDCM
Demand tariffs	**Current Method** • Site-specific EHV tariffs; • Notional path allocation of relevant assets allocated by agreed capacity and modern equivalent asset value; • Charge levied on a fixed daily rate; and • Sole use assets are based on a commercial definition of the connection boundary and takes account of customer contributions.
Generation tariffs	**Current Method** • Site-specific EHV charges; • Uses the generation incentive revenue to produce capacity based charges; and • Pre 2005 generators charged for any additional costs not recovered in capitalised connection charge or those recovered through demand charges.

Justification for demand tariffs

The current approved CE Electric UK methodology for charging EHV customers apportions allowances based on a notional path assessment of cost using capacity requirements and MEAVs. The charges are levied on a p/day rate and therefore do not give customers cost signals as to the most economical times to use the network.

In responding to the licence condition (SLC50A and SLC13B each set out the 'Relevant Objectives' of the EDCM in identical terms[1].) and Ofgem's policy intention we have developed charges in conjunction with other DNOs that we believe in the round satisfies the requirements expressed in the July 2009 policy document (with documented exceptions).

We believe that the proposed EDCM for demand charging incorporates a forward-looking view of future areas of investment in the network as a driver to allocate cost and therefore; is more cost reflective; encourages more efficient use of the network; better meets the relevant objectives and is capable of approval by the authority.

Justification for generation tariffs

Our current methodology is based on levying charges (based on nameplate capacity rating) that are equivalent to the allowances generated by that generator. In following the licence obligations set out above we have developed charges that are based on a view of long-run incremental future costs on the network. In so doing, we have developed a methodology that gives appropriate cost signals (both positive and negative) depending on the benefit the generator brings to the network it is connected to.

Again we believe that the proposed EDCM for generation charging incorporates a forward-looking view of future areas of investment in the network as a driver to allocate cost and therefore; is more cost reflective; encourages more efficient use of the network; better meets the relevant objectives and is capable of approval by the authority.

[1] Whilst each of the Relevant Objectives is the same in both of these licence conditions, only in SLC13B (i.e. in the enduring form in which the objectives are set out) is it stated that 'For the purposes of this condition the EDCM achieves the Relevant Objectives if it achieves them in the round, taking one objective with another.'

Central Networks (CN)	Comparison of current method with the EDCM
Demand tariffs	**CN Current Method** • Standard average EHV tariffs derived using a 500MW model methodology. • The Fixed, Available Capacity and Unit Rates recover customer related and asset costs for providing, operating and maintaining these assets.
Generation tariffs	**CN Current Method** • Site Specific EHV tariffs • Uses the generation incentive revenue (per CRC11) to produce capacity based charges on a site specific basis. • Pre 2005 generators currently exempt from DUoS

Justification for demand tariffs

In EDCM FCP costs and other business costs are pre-allocated to each customer before scaling and the scaling itself is primarily driven by the assets deemed to be used by the customer. The EDCM's method of cost allocation is different to Central Networks current methodology which is an average approach. Therefore, comparison of site specific EDCM tariffs with the current average tariffs will produce positive and negative variances to various degrees for each customer.

Justification for generation tariffs

In the EDCM the total generation charges are linked to the movement in the generation incentive mechanism within the DNO's allowed income. FCP is reflective of the cost of future reinforcement of the network on a locational and network group basis. Sole use asset charges are determined as an allocation of direct costs and network rates. Therefore, comparison of site specific EDCM tariffs with current tariffs will produce positive and negative variances to various degrees for each customer.

Electricity North West (ENW)	Comparison of current method with the EDCM
Demand tariffs	**Current Method** • Site-specific EHV tariffs • A fixed charge which covers the costs associated with operations and maintenance of sole use assets and a standing charge. • A capacity charge which covers the costs associated with operations and maintenance and depreciation on joint use assets (derived using a visual inspection of network diagrams). The capacity charge also covers network rates, transmission exit charges and a scaling element to reconcile the total recovered to the EHV target revenue. • The EHV target revenue is based on the DPCR4 value for EHV customers scaled for RPI and adjusted for any new or de-energised customers.
Generation tariffs	**Current Method** • Site specific EHV charges • Uses the generation incentive revenue (per CRC11) to produce capacity based charges. • Pre 2005 generators currently exempt from DUoS

Justification for demand tariffs

The current Electricity North West EHV charging methodology recovers the target revenue for all EHV customers based on the DPCR4 EHV allowed revenue and adjusted for RPI and new customers. This target revenue is allocated to individual customers based on their capacity and the modern equivalent asset value of the sole use and joint use assets they are deemed to use following a visual inspection of the network to determine their notional path.

The introduction of the EDCM improves our current methodology in the following ways:

- The introduction of a locational, forward looking charge through the LRIC component which encourages more efficient usage of the existing network.
- The identification of the notional path using a standardised AC powerflow method for demand customers.
- The introduction of unit charges for demand customers in a super-red timeband. This provides the opportunity for customers to mitigate their charge by altering their consumption pattern.
- Charges for demand customers are based on a combination of capacity and usage at peak via the super-red timeband which better reflects the DNOs cost of servicing a customer.
- The standardisation of our methodology with other DNOs.

Justification for generation tariffs

The current Electricity North West EHV generation charging methodology is based on the generation incentive revenue (per CRC11) to produce capacity based charges. The introduction of the EDCM improves our current methodology in the following ways:

- The removal of the exemption for charging pre-2005 generation.
- The introduction of a locational, forward looking charge through the LRIC component

which encourages more efficient usage of the existing network.

- The introduction of generation credits which are paid during the super-red time period, to provide an incentive to assist the network at times of heavy usage.
- The standardisation of our methodology with other DNOs.

SP Energy Networks	Comparison of current method with the EDCM
Demand tariffs	**SPEN Current Method** • Site-specific EHV tariffs • Fixed charge includes customer related costs. • The capacity charge recovers the asset related costs at the voltage of connection and the shared assets above the voltage of connection, including NGET exit. • An annual contribution towards the costs of on-going operation and maintenance is within the Sole user asset charge.
Generation tariffs	**SPEN Current Method** • Capacity based tariffs based depending upon zonal network costs set to recover DG incentive revenues. • Pre 2005 generators currently exempt from GDUoS

Justification for Demand tariffs

The main policy driver of the EDCM is to set prices based on a forward looking cost approach to encourage efficient network development. The EDCM will result in charges that provide a signal to users to encourage them to better utilises their use of the network and therefore help minimise the need for future reinforcement.

Due to the EDCM's method of cost allocation being different to the current SPEN methodology, when comparing EDCM tariffs with current tariffs both positive and negative variances to various degrees for each customer will be seen.

Justification for Generation tariffs

In the EDCM the total generation charges are linked to the movement in generation incentive mechanism within the DNO's allowed income. FCP is reflective of the cost of future reinforcement of the network on a locational and network group basis. Sole use asset charges are determined as an allocation direct costs and network rates.

The main policy driver of the EDCM is to set prices and pay credits based on forward looking costs to encourage efficient network development. The EDCM will result in charges and credits that provide a signal to users to encourage them to better utilise their use of the network and therefore help minimise the need for future network reinforcement.

Due to the differences in SPENs current methodology and the EDCM methodology, when comparing EDCM tariffs with current tariffs both positive and negative variances to various degrees for each customer will be seen.

SSE Power Distribution	Comparison of current method with the EDCM
Demand tariffs	**SEPD Current Method** • Site-specific EHV tariffs • Generally, Fixed charge reflects costs of providing, operating and maintaining sole use assets whilst Available Capacity and Unit Rates recovers costs for providing, operating and maintaining joint user assets **SHEPD Current Method** • Standard EHV tariffs • The Fixed, Available Capacity and Unit Rates recovers customer related and asset costs for providing, operating and maintaining these assets
Generation tariffs	**SHEPD/SEPD Current Method** • Standard EHV tariffs • Uses the generation incentive revenue (per CRC11) to produce capacity based charges. • Pre 2005 generators currently exempt from DUoS

Justification for demand tariffs

In EDCM FCP costs and other business costs are pre-allocated to each customer before scaling and the scaling itself is cost reflective as it is mainly driven by the assets deemed to be used by the customer. The EDCM's method of cost allocation is different to the current SEPD and SHEPD methodologies. Therefore, in comparing EDCM tariffs with current tariffs will produce positive and negative variances to various degrees for each customer.

Justification for generation tariffs

In the EDCM the total generation charges are linked to the movement in generation incentive mechanism within the DNO's allowed income.. FCP is reflective of the cost of future reinforcement of the network on a locational and network group basis. Sole use asset charges are determined as an allocation direct costs and network rates. Therefore, in comparing EDCM tariffs with current tariffs will produce positive and negative variances to various degrees for each customer.

UK Power Networks	Comparison of current method with the EDCM
Demand tariffs	**Current Method** • Site-specific EHV tariffs • A notional path allocation of applicable assets assigned by agreed capacity and modern equivalent asset value; • A capacity charge recovering costs associated with joint user assets • A fixed charge reflects costs of providing, operating and maintaining sole use assets which been defined on a commercial designated connection boundary and taking into account customer contributions
Generation tariffs	**Current Method** • Site specific EHV charges • Uses the generation incentive revenue to produce capacity based charges. • Pre 2005 generators charged for any additional costs not recovered in capitalised connection charge or those recovered through demand charges.

Justification for demand tariffs

The policy driver of the current UKPN methodology is to recover the annuitised MEAV of the notional path of assets used to provide the customers capacity requirements. This is effectively a static cost approach that doesn't provide a charging signal on the utilisation of their network capacity.

The main policy driver of the EDCM is to set prices based on forward looking costs to encourage efficient network development. The EDCM will result in charges that provide a signal to users to encourage them to better utilise their use of the network and therefore help minimise the need for future network reinforcement.

Justification for generation tariffs

The main policy driver of the EDCM is to set prices and pay credits based on forward looking costs to encourage efficient network development. The EDCM will result in charges and credits that provide a signal to users to encourage them to better utilise their use of the network and therefore help minimise the need for future network reinforcement.

Western Power Distribution	**Comparison of current method with the EDCM**
Demand tariffs	**Current Method** • Uses LRIC output from all nodes • Uses chargeable capacity (basically super red) kVA as the driver behind the fixed adder scalar • Allocates business rates and sole use asset charges separately • Scaling includes NGC exit charge allocation
Generation tariffs	**Current Method** • LRIC parts as demand prices • EDCM method introduces scaling to generation charges which is linked to the generation incentive revenue derived under the price control.

Justification for demand tariffs

In moving from the current WPD EHV methodology to the EDCM methodology the main improvements are that excessive marginal charges are avoided which leads to less volatility and greater cost reflectivity. More costs are pre-allocated before scaling and the scaling itself is cost reflective as it is mainly driven by the assets used by the customer.

This results in more cost reflective charges than the current methodology that are more stable between years which will better influence the future behaviour of demand users.

Justification for generation tariffs

In moving from the current EHV methodology to the EDCM methodology the main improvement is that excessive marginal charges are avoided which leads to less volatility and greater cost reflectivity. Further to this the total charges are linked to the movement in allowed income that the DNO observes through the incentive mechanism.