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Modification Proposal

Amendment Proposal: WPD/WALES/WEST/UOS016

Title: Amendment of Use of System Charging Methodology to revoke the LV/HV DRM Methodology from the Implementation Date of the CDCM

Date of Issue: 11/01/2010

FOR APPROVAL BY THE AUTHORITY

This Modification Proposal sets out Western Power Distribution (South Wales) plc and Western Power Distribution (South West) plc ("WPD") proposals to amend WPD's Use of System Charging Methodologies to revoke the LV/HV DRM methodology from the Implementation Date of the CDCM and to address the Ofgem decision to lift the exemption of pre April 2005 generator from use of system charges.

Issue Date	Issue No.	Author	Amendment Details
04/12/2009		N J Turvey	Issued to Ofgem for assessment
11/12/2009		N J Turvey	Amended following comments from Ofgem and updated following DPCR5 final proposals
11/01/2010		S Yeo	Re-issued as 016 following request from Ofgem to fully align prices in report with indicative issued on 16/12/09

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Western Power Distribution
Proposed changes to the Use Of System Methodology

January 2010

INTRODUCTION

1. Licence condition 50 requires WPD to revoke its current methodology for LV and HV customers once the CDCM has been approved by the Authority. The changes shown in this modification proposal show how WPD intend to make this revocation once the CDCM is approved.

2. WPD proposes to modify its Use of System Charging Methodology to adapt to the implementation of the CDCM for HV and LV customers. The approach taken is one of minimum possible change to the current methodology for EHV customers, both in demand and generation. The changes presented in this report are those necessary to make to the Use of System methodology statement as a result of the CDCM.

3. WPD also proposes to address the issue of ceasing the blanket exemption of charges to pre April 2005 EHV connected generators and address circumstances when charges in excess of the asset value of the network are produced by our current methodology.

4. Whilst there has not been time to consult on these proposals, they were presented to stakeholders at a stakeholder workshop we held on 1st December 2009.

5. Provided these proposals receive a non-veto decision they will apply from April 2010.

DESCRIPTION OF THE MODIFICATION

6. The changes in the methodology statement are as follows:

   - Changes to the Reconciliation to Require Revenue part of the statement to reflect the £/kVA scalar the “adder”
   - Updated references to licence conditions
   - References made to DCUSA to replace a large section on the need for UoS agreement and the terms in those agreements
   - Removal of the 10% cap on generator charge movement resulting from the proposed merger of the allowed revenues for demand and generation
   - Update of references to regulatory cost of capital following DPCR5 final proposals
   - Introduction of a capping arrangement to restrict charges to the asset value
   - Removal of the exemption for EHV generator connected pre April 2005 to pay use of system charges and changes to the way that charges are calculated for these generators to ensure that there is no undue discrimination between pre and post April 2005 generators

7. The EHV target revenue is derived in the same way as the currently implemented method but now uses the revised DRM model from the CDCM for the split of revenue between EHV and HV/LV. The DRM model identifies the assets that would be needed to add a 500 MW increment of demand to the network. The assets are identified by voltage level and valued at modern equivalent asset value. This allows the total target revenue to be split between EHV and HV/LV levels on the basis of the modern equivalent asset value of the network.

8. The significant differences between the DRM in our existing methodology and that in the CDCM are that it assumes that all LV networks are underground whereas the existing method has the same mix of underground and overhead networks as the existing network. It also assumes that only 1/3rd of trenching and reinstatement costs are included on LV networks. The difference in split is shown in the table below and is the main driver of the price disturbance that results from the introduction of the CDCM.

	% of revenue at EHV	% of revenue at HV/LV
Existing method – S West	36.3%	63.7%
Proposed method – S West	37.8%	62.2%
Existing method – S Wales	38.1%	61.9%
Proposed method – S Wales	40.7%	59.3%

9. In accordance with Ofgems decision that the demand and generation allowed revenues should be merged for pricing purposes, the £/kVA adder is only applied to demand connections. Consideration was given to applying the adder to both demand and generation equally, however:

   - the network is currently demand dominated and
   - the fixed adder is applied to winter peak, which for generation is the P2/6 assessed capacity (which for wind farms is assessed as zero)

   A further consideration is that not applying the £/kVA adder to generation causes the least price disturbance from existing charges to these generators. The EDCM is currently under development for application from April 2011 and this may cause further price disturbance to this class of customer and will allow consultation on whether and if so how a fixed adder should apply to EHV generation. Consequently, we believe that not applying the fixed adder to generation from April 2010 better meets the licence objectives at this time. Further consideration will be given to this during the development of the EDCM.

10. The existing methodology has a cap on the annual change to a generators charge of 10%. This was introduced to prevent excessive volatility in post April 2005 generator changes when they were being scaled to a small allowed generator revenue. Whilst this reduces volatility, it causes large and inconsistent difference between the calculated marginal charges and actual charges.

Introducing charges to pre April 2005 generators, for which there is no identified allowed revenue, will result in distortions between pre and post April 2005 EHV generators which would be discriminatory should the 10% cap continue on post April 2005 connected generators.

11. With the combining of the demand and generation allowed revenues for pricing purposes there is no longer a need to reconcile the generator charges to the generation allowed revenue. Hence the cost message in the calculated marginal charges can be maintained and pre April 2005 generator charges can be introduced on a consistent basis to that applied to post April 2005 generator charges. Any volatility in generator charges will now be due to differences in costs or load flows rather than the reconciliation process and hence it is proposed that the 10% cap on the annual change to a generators charge is removed as this will be more cost reflective.

12. The regulatory cost of capital is used in the LRIC methodology to calculate the marginal charges. The DPCR5 final proposals reduces the cost of capital from 6.9% to 5.6%. It is proposed that all references are updated along with the example in Appendix 1 of the methodology.

13. The LRIC method calculates the brought forward (or deferred) reinforcement cost as a result of the addition of an increment of demand or generation at each node. Full details of the steps and data used are contained in our methodology statement. The characteristic of the algorithm used is that the resulting charge rises rapidly as utilisation of the asset approaches 100%. This can result in annual charges which match or exceed the reinforcement cost of the assets. Economically this would lead to a decision to replace the asset before it reaches full capacity, where in practice the asset is reinforced at the time it reaches 100% loading.

14. To date, this issue has not caused any significant problems in setting charges, however the Ofgem decision to bring pre April 2005 generators into the UoS charging regime has highlighted this issue where generators have been sized to effectively match the available export capacity of the network resulting in some highly utilised shared use assets. This can result in a charge that is excessive compared to the reinforcement costs that would be needed to expand the export capacity of the network to which they are connected.

15. The charge to an individual EHV demand or generation customer is made up of the sum of branch prices for branches used to supply or allow export from that customer. It is proposed that each branch price is capped to the lower of the LRIC charge or an annuity of the asset value for that branch. With a 5.6% cost of capital, the resulting 40 year annuity is 6.31%.

16. The attached tables show the effect of this capping arrangement.

TREATMENT OF PRE APRIL 2005 EHV GENERATION

17. EHV generation connected pre April 2005 paid a deep connection charge consisting of the full cost of sole use assets (including an uplift for O&M) together with the full cost of any necessary reinforcement (including the O&M on these assets). To date, pre April 2005 generators have been exempt from use of system charges. Ofgem have removed this blanket exemption from April 2010 and future arrangements should not unduly discriminate between pre and post April 2005 generators.

18. Consideration was given to not charging these generators from April 2010 for the following reasons:

    - pre April 2005 generators were connected under a deep connection charge policy and so the costs faced by pre and post April 2005 generators is different
    - there has been no agreement about how to treat the deep connection charges paid by pre April 2005 generators
    - there is little notice to pre April 2005 generators of these charges
    - continuation of current policy of not charging these generators is reasonable if this has been the historic practice

19. In reality, only a very small number of pre April 2005 generators paid for more than sole use assets, so whilst the policy could have resulted in higher contributions associated with more assets, generally it did not. Ofgem have been clear since a decision document on structure of charges in November 2003 that the exemption to charging pre April 2005 generators would expire in March 2010, hence there has been 7 years notice. Historic practice was based on this exemption whereas future practice needs to take account of the non-discrimination requirements in SLC 19. In addition, the decision under the CDCM for HV and LV generators is to charge pre April 2005 generators and hence a decision to charge pre April 2005 EHV generators is consistent with this.

20. Given the historic deep connection charge policy, it is proposed that use of system charges are calculated in the same way for pre and post April 2005 EHV generators with the following adjustments:

    - no charge is made for sole use assets (post April 2005 generators are charged the O&M on sole use assets as part of UoS charges as this does not form part of the connection charge)
    - where a connection charge was paid for reinforcement, the branches that those charges applied to are excluded from the calculation of the generators charge

21. Consideration has been given to the period of time that these adjustments should apply. There are two main options:

    - the duration of the connection agreement
    - a fixed time period after connection (e.g. 20 years)

22. A fixed period would give the same timescale for all pre April 2005 generators, although it is difficult to fully justify any particular period as different generator technology types will have different expected lives. Pre April 2005 generators paid for assets on the basis that this was a payment covering the original installation of the assets together with its future maintenance for the duration of the connection agreement. Hence, whilst the arguments for these approaches are finely balanced, it is proposed that the duration of the connection agreement is used for both the sole use and reinforcement assets. No pre April 2005 generator agreements are due to expire before April 2011 and hence there is an opportunity to consider this issue further as part of the development of the EDCM which is due to be introduced from April 2011.

23. This approach results in pre April 2005 generators paying use of system charges only on assets that were not contributed to at the time of connection (i.e. no double charging nor free use of an asset) and ensures that there is not undue discrimination between pre and post April 2005 EHV generators.

24. The attached tables show the resulting charges for pre April 2005 generators.

HOW THE PROPOSAL BETTER MEETS THE RELEVANT OBJECTIVES IN LICENCE CONDITION 13

25. The Relevant Objectives in SLC 13.3 are:

> (a) that compliance with the methodology facilitates the discharge by the licensee of the obligations imposed on it under the Act and by this licence;
>
> (b) that compliance with the methodology facilitates competition in the generation and supply of electricity, and does not restrict, distort, or prevent competition in the transmission or distribution of electricity;
>
> (c) that compliance with the methodology results in charges which reflect, as far as is reasonably practicable (taking account of implementation costs), the costs incurred by the licensee in its Distribution Business; and
>
> (d) that, so far as is consistent with sub-paragraphs (a), (b), and (c), the methodology, as far as is reasonably practicable, properly takes account of developments in the licensee's Distribution Business.

26. The proposal meets the requirements under Licence Condition 50 to allow for a new CDCM to be implemented. The changes proposed to integrate our EHV methodology with the CDCM (required to be introduced by LC50) and to accommodate the merging of the demand and generation allowed revenue in to 'one pot' are the minimum required. These changes better meet relevant objective (a).

27. The proposal to remove the 10% cap on the change to a generators charge allows generators charges to better match marginal charges and improves the cost reflectivity of the methodology which better meets relevant objective (c).

28. The proposal to update the cost of capital to that contained in the DPCR5 final proposals improves the cost reflectivity of the method which better meets relevant objective (c).

29. The proposed treatment of pre April 2005 generators meets our obligation under SLC19 not to unduly discriminate between persons or classes of persons. This better meets relevant objective (a). Not unduly discriminating between pre and post April 2005 connected generators facilitates competition per relevant objective (b) by ensuring that competing generators face UoS charges calculated on an equivalent basis.

30. The proposed capping of branch charges to the asset value is more cost reflective that the current approach as it better reflects the decision process on reinforcement and hence better meets relevant objective (c).

31. The changes to licence references and reference to DCUSA improves clarity and hence facilitates competition better meeting relevant objective (b).

DESCRIPTION OF THE REVOCATIONS

32. The changes in the methodology statement are as follows:

    - Removal of the HV/LV DRM methodology
    - Removal of the HV/LV generation tariff methodology

33. Once approved, the CDCM replaces the methodology for HV and LV tariffs. Consequently, this part of the methodology for both demand and generation connections has been removed from the statement.

34. The existing requirement for generators to be restricted in reducing their agreed export capacity for the first 5 years after connection has been amended to only refer to EHV generators as HV and LV generators are covered by the CDCM.

35. The existing arrangements for the incentive for Network Access have been retained in the statement for EHV generators and amended to match those in the CDCM.

PROPOSED WORDING OF THE USE OF SYSTEM METHODOLOGY STATEMENT

36. The proposed tracked changed version is attached to this proposal as a separate document together with change accepted versions.

REVISED USE OF SYSTEM CHARGES

37. The impact of the proposed changes on charges is shown in the following tables. These charges are based on a revenue derived from the DPCR5 final proposals

published on 7th December 2009. Whilst the 09/10 Actual charges are included on the table for information, they were calculated using the 09/10 loadings, network configuration, chargable capacities and allowed revenue and hence are not directly comparable with the 10/11 charges.

South West

	A	B	C	D			
	09/10 Actual	10/11 pre capping or adjustment to pre April 2005 generators	10/11 Plus capping	10/11 Plus treatment of pre 2005 generators	C/B	D/C	D/B
Airbus (UK)Ltd	£216,858	£244,560	£244,560	£244,560	100%	100%	100%
Bristol Energy	£131,386	£131,965	£131,965	£131,965	100%	100%	100%
DML	£494,245	£494,727	£494,727	£494,727	100%	100%	100%
Imerys	£392,421	£301,195	£301,195	£301,195	100%	100%	100%
RR Turbine Test	£33,235	£30,582	£30,582	£30,582	100%	100%	100%
RoF Puriton	£10,307	£6,439	£6,439	£6,439	100%	100%	100%
Caberboard	£166,509	£133,020	£133,020	£133,020	100%	100%	100%
SWW Tamar	£6,950	£11,392	£11,392	£11,392	100%	100%	100%
SWW Roadford	£16,406	£19,950	£19,950	£19,950	100%	100%	100%
St Regis	£133,262	£168,687	£168,687	£168,687	100%	100%	100%
Tarmac	£51,487	£19,316	£19,316	£19,316	100%	100%	100%
Langage	£56,449	£48,691	£48,691	£48,691	100%	100%	100%
Generation - Post April 2005							
Connon Bridge Landfill 33kV	£9,626	£3,248	£3,248	£3,248	100%	100%	100%
Chelson Generator 33kV	-£11,514	-£11,888	-£11,888	-£11,888	100%	100%	100%
Darracott	£12,255	£5,356	£5,356	£5,356	100%	100%	100%
St Day	£1,504	-£5,046	-£5,046	-£5,046	100%	100%	100%
Shooters Bottom	£11,642	-£2,465	-£2,465	-£2,465	100%	100%	100%
Heathfield	-£39,389	-£19,643	-£19,643	-£19,643	100%	100%	100%
Goonhilly	£101,706	£195,920	£76,224	£76,224	39%	100%	39%
Delabole 33kV WF	None	£16,728	£16,728	£16,728	100%	100%	100%
Fullabrook WF	None	£378,349	£378,349	£378,349	100%	100%	100%
Generation - pre April 2005							
Bears Down Windfarm 33kV	None	£5,544	£5,544	£2,497	100%	45%	45%
Bradon Farm 33kV	None	£53,546	£48,341	£43,013	90%	89%	80%
Carland Cross 33kV	None	£675	£675	£675	100%	100%	100%
Cold Northcott 33kV	None	£12,406	£12,406	£12,265	100%	99%	99%

Forestmoor Windfarm 1	None	-£63	-£63	-£63	100%	100%	100%
Forestmoor Windfarm 2	None	-£125	-£125	-£125	100%	100%	100%
Four Burrows 33kV	None	£1,357	£1,357	-£51	100%	-4%	-4%
Huntworth Generator 33kV	None	£47,218	£47,218	£47,155	100%	100%	100%
Isles of Scilly	None	-£160,868	-£160,868	-£160,868	100%	100%	100%
Marsh Barton 132kV Power Station	None	-£232,929	-£232,929	-£232,929	100%	100%	100%
Rolls Royce Filton 132kV	None	£71,604	£71,604	-£1,802	100%	-3%	-3%
St Breock 33kV	None	£16,667	£9,179	£9,179	55%	100%	55%

South Wales

	A	B	C	D			
	09/10 Actual	10/11 pre capping or adjustment to pre April 2005 generators	10/11 Plus capping	10/11 Plus treatment of pre 2005 generators	C/B	D/C	D/B
AES	£24,031	£102,740	£102,740	£102,740	100%	100%	100%
Alcoa	£114,820	£24,658	£24,658	£24,658	100%	100%	100%
Alpha Steel	£66,145	£17,299	£17,299	£17,299	100%	100%	100%
ASW 33/11	£391,396	£322,963	£322,963	£322,963	100%	100%	100%
ASW Rod Mill	£331,281	£396,748	£396,748	£396,748	100%	100%	100%
Blagden	£38,501	£106,272	£106,272	£106,272	100%	100%	100%
Blue Circle Cement	£84,369	£90,457	£90,457	£90,457	100%	100%	100%
Boc Margam	£1,211,290	£975,595	£975,595	£975,595	100%	100%	100%
Corus Margam	£1,033,985	£659,171	£659,171	£659,171	100%	100%	100%
Corus Orb	£413,169	£416,172	£416,172	£416,172	100%	100%	100%
Corus Trostre	£650,789	£707,120	£707,120	£707,120	100%	100%	100%
Corus Whiteheads	£36,725	£31,507	£31,507	£31,507	100%	100%	100%
DCWW Nantgaredig	£9,445	£4,818	£4,818	£4,818	100%	100%	100%
DCWW Rover Way	£312,816	£117,629	£117,629	£117,629	100%	100%	100%
Dow Corning	£77,774	£55,174	£55,174	£55,174	100%	100%	100%
Elf Oil	£868,662	£912,822	£912,822	£912,822	100%	100%	100%
Ford Bridgend	£417,217	£380,417	£380,417	£380,417	100%	100%	100%
Ford Swansea	£66,190	£57,537	£57,537	£57,537	100%	100%	100%
Fort James	£163,213	£156,711	£156,711	£156,711	100%	100%	100%
Inco (Europe)	£122,311	£137,496	£137,496	£137,496	100%	100%	100%
Mainline Pipelines	£46,942	£15,563	£15,563	£15,563	100%	100%	100%
Monsanto	£129,367	£122,319	£122,319	£122,319	100%	100%	100%
PCC Texaco	£1,324,848	£1,365,071	£1,365,071	£1,365,071	100%	100%	100%
Simms	£22,719	£9,065	£9,065	£9,065	100%	100%	100%
Swansea University	£47,807	£59,372	£59,372	£59,372	100%	100%	100%
Tower	£82,149	£11,041	£11,041	£11,041	100%	100%	100%
Whitbread Magor	£43,174	£50,124	£50,124	£50,124	100%	100%	100%
Dragon	£521,070	£39,860	£39,860	£39,860	100%	100%	100%
South Hook	£1,232,469	£173,183	£173,183	£173,183	100%	100%	100%
Cardiff Sports Village	£300,068	£70,223	£70,223	£70,223	100%	100%	100%
Aberystwyth	£1,321,431	£1,313,527	£1,313,527	£1,313,527	100%	100%	100%
Velindre	£420,584	£493,817	£493,817	£493,817	100%	100%	100%

Timet	£93,129	£93,550	£93,550	£93,550	100%	100%	100%
Valleywood	£159,869	£1,480	£1,480	£1,480	100%	100%	100%
Generators Pre 2005							
Aberaman Park 33kV	None	-£18,506	-£18,506	-£24,330	100%	131%	131%
Blaen Cregan 66KV	None	£166,867	£166,867	£137,869	100%	83%	83%
British Energy 33kV	None	-£3,807	-£3,807	-£5,164	100%	136%	136%
Bryn Titli Windfarm 66KV	None	£8,875	£8,875	£1,384	100%	16%	16%
Cornelly 33kV	None	-£17,267	-£17,267	-£19,670	100%	114%	114%
Crymlyn Burrows 33KV	None	-£6,021	-£6,021	-£8,108	100%	135%	135%
Dyffryn Brodyn 33 KV	None	£122,374	£103,217	£101,482	84%	98%	83%
Llyn Brianne 33kV	None	£65,810	£65,810	£22,546	100%	34%	34%
Parc Cynog 33KV	None	£88,273	£88,273	£87,204	100%	99%	99%
Pwllfa Gwatkin 33 kV	None	-£5,817	-£5,817	-£7,463	100%	128%	128%
Sully 132kV	None	£2,178,486	£840,856	£648,717	39%	77%	30%
Taff Ely Windfarm 33KV	None	£5,082	£5,082	-£2	100%	0%	0%
Tir John	None	-£4,111	-£4,111	-£4,111	100%	100%	100%
Waterston(Gulf) 2	None	£53,145	£53,145	£53,145	100%	100%	100%
Generators Post 2005							
Trecatti	-£18,813	-£13,965	-£13,912	-£13,965	100%	100%	100%
Withy Hedges	-£34,087	-£24,520	-£24,427	-£24,520	100%	100%	100%
BOC Biomass	£95,988	-£19,362	-£19,288	-£19,362	100%	100%	100%
Blaen Bowi	£23,188	£180,134	£179,451	£180,134	100%	100%	100%
Pendine Wind Farm	None	£114,229	£111,924	£112,350	98%	100%	98%
Blaengwen	None	£664,382	£661,863	£664,382	100%	100%	100%
Bettws Generator	None	-£14,616	-£14,561	-£14,616	100%	100%	100%
Fochrhiw windfarm	None	£6,279	£6,255	£6,279	100%	100%	100%
Maerdy Windfarm	None	£79,157	£20,218	£20,295	26%	100%	26%
Newport Biomass	None	£48,374	£48,191	£48,374	100%	100%	100%