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Modification Proposal

Amendment Proposal: WPD/WALES/WEST/UOS019

Title: Amendment of Use of System Charging Methodology to integrate pre April 2005 EHV Generation with post April 2005 Generation Charging

Date of Issue: 17/06/2010

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 address the Ofgem decision to lift the exemption of pre April 2005 generator from use of system charges.

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Western Power Distribution
Proposed changes to the Use Of System Methodology

June 2010

INTRODUCTION

1. Since April 2005 EHV generators connected under post April 2005 arrangements have been charged annual use of system charges whereas those on pre April 2005 arrangements have not been charged use of system charges. Originally this was due to the connection policy at the time of connection. Since April 2005 this has been on the basis of an exemption introduced by Ofgem in April 2005.

2. The exemption from charging EHV generators connected under pre April 2005 arrangements was lifted by Ofgem as part of DPCR5 from 1 April 2010 and hence SLC 19 (prohibition on discrimination) needs to be complied with.

3. WPD's charging modification request 017 was not vetoed by Ofgem on 18th February 2010. In respect of EHV generators connected under pre April 2005 arrangements, this states that

   Charging arrangements for EHV generation connected prior to 1st April 2005 are subject to appropriate charging arrangements being developed through industry collaboration. Until this is developed, no charges will apply to these generators.

4. WPD organised and chaired two industry workshops (19th March 2010 and 6th May 2010) where the issue was discussed and various solutions debated. Apart from a status quo position that appeared to have a consensus amongst generator representatives present, there was no consensus on the way forward. Following a presentation by WPD to the DCMF on 3rd June 2010, one attendee, with a generation interest, raised a concern about whether unexpired capitalised O&M charges would be refunded in any future arrangement.

5. Ofgem have requested that DNOs review their position in relation to generators connected under pre April 2005 arrangements and set out how they propose to deal with them. Ofgem has stated that DNOs are 'to ensure that users' rights are clear and are not unduly discriminatory'.

6. This modification proposal proposes to integrate pre and post April 2005 EHV generator charging arrangements as contractual terms allow.

7. Provided these proposals receive a non-veto decision by 20th August they will apply from 1st October 2010. If a decision is not received by 20th August 2010 but subsequently a non-veto decision is made they will apply from 1st April 2011 unless replaced by proposals within the EDCM. The 20th August date is driven by the need to give 40 days notice of price changes under DCUSA.

DESCRIPTION OF THE MODIFICATION

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

- Where the contractual arrangements allow to charge EHV generators connected under pre April 2005 arrangements for use of system on the same basis as those under post April 2005 arrangements.

9. Whilst not part of the proposed methodology statement it is also proposed that where charges are applied to EHV generators connected under pre April 2005 arrangements a process is put in place to refund any remaining unexpired capitalised O&M charges made at the time of connection.

TREATMENT OF EHV GENERATION ON PRE APRIL 2005 ARRANGEMENTS

10. EHV generation connected under pre April 2005 arrangements paid a deep connection charge consisting of the full cost of sole use assets (including an uplift for O&M) together with usually the full cost of any necessary reinforcement (including the O&M on these assets). The current connection charge policy charges the full cost of sole use assets (but not uplifted for O&M) and, subject to sharing rules, a contribution to any necessary reinforcement (not uplifted for O&M).

11. EHV generators connected to WPD's distribution system have site specific connection agreements in place. Those that operate in the CVA market have connection and use of system agreements with WPD. These connection and use of system agreements contain rights to use the network but do not contain express rights to charge use of system charges for export. Generators operating in the SVA market contract with a Supply Licence holder to export. In the SVA market, use of system charges are levied via suppliers and these are contractually enabled via the DCUSA.

12. The following options for integrating pre and post April 2005 EHV generator charging arrangements were considered:

13. Option 1 - Status quo – continue to not charge EHV generators connected under Pre April 2005 EHV arrangements and to charge generators under post April 2005 EHV charging arrangements and all (pre and post April 2005) HV/LV generators. We believe that under SLC 19 this is only sustainable in the short term as the generators are being subjected to different charges.

14. Option 2 - Charge EHV generators connected under pre April 2005 EHV arrangements on the same basis as those under post April 2005 arrangements whether or not the connection agreement allows it. This takes no account of contractual arrangements and hence we would not be able to implement it even if not vetoed by the Authority.

15. Option 3 - Charge EHV generators connected under pre April 2005 arrangements on the same basis as those under post April 2005 arrangements conditional on the generators contractual agreement with WPD allowing this (including WPD invoking the variation provisions in such contracts).

16. Option 4 – As option 3 but refund any deep connection charges paid that would not have been paid if the current shallowish connection charge policy had applied at the time. This method is dependent on detailed information being available on the connection charges paid and the detailed make up of these.

17. Option 5 - As option 3 but include an annual rebate to all EHV generators under pre April 2005 arrangements to reflect the charges relating to assets that were

fully contributed to at the time of connection. This does not need knowledge of historic connection charges paid but does need knowledge of the sole use assets and the assets involved in any reinforcements paid for at the time of connection.

18. Under option 5, it would be proposed that use of system charges are calculated in the same way for EHV generators under pre (where the contractual arrangements allow) and post April 2005 arrangements with the following adjustments to those on pre April 2005 arrangements:

    - no charge being made for sole use assets (generators under post April 2005 arrangements 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 connection charges were paid for reinforcement, the branches that those charges applied to would be excluded from the calculation of the generators charge (see example 1 at end of modification request) save where the charges relate to a replacement, modification or other change to the branch which, according to the contractual provisions or the connection policy at the time, was not paid for as part of the connection charges.

19. Consideration has been given to the period of time that the adjustments under option 5 would apply. There are two main options:

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

20. As the generators' expectation at the time of entering into the connection agreement may have been the duration of the connection agreement, it would be proposed that this is the default period. Where contracts entered into prior to April 2005 do not have a defined duration, it would be proposed that a default 20 year period from the time of connection is used. 20 years is used as this was historically the standard time period used by WPD to calculate the O&M uplift. This principle was detailed in response to an information request from the Office of Electricity Regulation (Offer) in December 1997. Appendix 1 shows the periods over which these annual rebates would apply for WPD's generators connected under pre April 2005 arrangements.

21. The approach under option 5 would result in EHV generators under pre April 2005 arrangements 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).

22. A further option raised by the generators is to pay compensation equal to the net present value of future charges to the end of the contractual period and then apply UoS charges. Putting aside the practical difficulties of predicting UoS charges under a method designed to vary charges as the loading and capacity of the network changes, the financial effect of this option, if symmetrically applied for both positive and negative[1] charges, is the same as option 1, with a significantly more complex implementation.

DISCUSSION OF OPTIONS

[1] Where the method gives a negative charge the generator would need to pay the compensation to WPD to give a correct NPV result.

23. We do not consider options 1 and 2 to be viable as option 1 conflicts with SLC19 and option 2 could not, in practice, be implemented without a significant risk of an unrecoverable bad debt being created due to non payment of the charges.

24. Option 3 results in a degree of double charging as certain costs were recovered under the deep connection charge policy that applied pre April 2005 which do not (and did not) apply to EHV generators under post April 2005 arrangements (see para 10). As those costs now form part of the ongoing UoS charges, generators connected under pre April 2005 arrangements would potentially be paying such costs for a second time – this is in relation to the O&M uplift and the reinforcement costs.

25. In relation to the O&M uplift, generators under pre April 2005 arrangements generally paid a lump sum intended to cover the operations and maintenance overheads in relation to the incremental connection equipment. Whilst this was paid as an upfront charge (in contrast to charges for sole use assets and reinforcement costs), it covered costs that are incurred on an ongoing basis to allow the generator to remain to be connected rather than one off costs associated with the connection of the generator. For this aspect of the costs, applying the post April 2005 use of system charges to generators connected under pre April 2005 arrangements would result in double charging for costs that are incurred on an ongoing basis. For this reason, if applying option 3, it is appropriate to refund the unexpired proportion of capitalised O&M charges.

26. In relation to reinforcement costs, the issue is whether the different contributions that generators have made to such costs constitutes discrimination, i.e. whether this element needs to be taken account of when making UoS charges of EHV generators connected under pre April 2005 arrangements. Although different treatment has occurred (there being a difference in the extent of the charging), this does not involve discrimination contrary to SLC 19.1 and 19.2, since the charging structure in place at any time treats all generators connected at that time the same. The principle of non discrimination does not require the same charging structure to remain in place indefinitely, so that any new generator connected must be the same as any previous generator who has been connected, since this would unduly restrict the charging structure and prevent appropriate policy changes being made. Hence, the fact that connection charges in relation to reinforcement costs were levied on a different basis under pre and post April 2005 arrangements does not constitute discrimination. In contrast to the O&M uplift, the reinforcement costs were one-off cost of connection rather than an ongoing cost of remaining connected and for this reason, if applying option 3, it is not appropriate to refund generators connected under pre April 2005 arrangements for this element.

27. Option 4 implies that if the charging structure or boundary between connection and use of system is changed then all those connected prior to the change need to be compensated to put them in the same position as post change connections. This would greatly complicate and in practice unduly restrict future changes and hence does not appear to be an appropriate way forward. In addition, it requires information that we do not have for many of the historic generation connections and hence considerable estimation would be required to implement.

28. The principle behind option 5 is that generators continue to benefit from rights to use assets that were contributed to at the time of connection without further charge, but are charged for assets used that were not contributed to at the time of connection. Option 5 removes some of the double charging aspect of option 3,

does not require information on historic connection charges paid or the detailed breakdown of these charges and it recognises existing contractual arrangements. Whilst option 5 seeks to remove the double charging aspect of option 3, EHV generators connected under post April 2005 arrangements may have contributed to a share of reinforcement assets and hence there could still be differences in the treatment of EHV generators connected under pre and post April 2005 arrangements. Option 5 does not therefore result in the application of the same basis of charges to pre and post 2005 generation going forward and hence may be contrary to SLC19.

29. Option 5 was presented to the DCMF on 3rd June 2010 as WPD's preferred way forward. An issue raised by an attendee was whether unexpired capitalised O&M would be refunded. Consideration of this issue led us to further review all the options and additional issues not considered prior to 3rd June 2010 have been incorporated into the above discussion of options.

30. Given the above considerations, it has been decided to seek to implement option 3 coupled with a refund of any unexpired capitalised O&M being available. Additional advantages of option 3 are that:

    - it lines up with Ofgems preferred approach in the DPCR5 final proposals by charging all generators on the same basis going forward and refunding the relevant proportion of the connection charge to take account of contractual rights; and
    - it will not require any discount methodology to be amended to line up with any future amendments to the methodology used to calculate use of system charges

31. The method of calculating the refund of capitalised O&M charges and proposed refund method is detailed below.

32. Whilst not part of this modification request, WPD will take steps within its reasonable power and control to modify any connection agreement that does not currently allow charges for use of system for export to be made to do so. We will use the variation rights within these contracts to their fullest extent which may lead to referral of changes to the Authority for determination.

PROPOSED CALCULATION OF THE REFUND OF CAPITALISED O&M CHARGES FOR GENERATORS CONNECTED UNDER PRE APRIL 2005 ARRANGEMENTS

33. Where WPD charged generators connected under pre April 2005 arrangements for O&M charges on an upfront capitalised basis, as set out above, it is appropriate to refund any unexpired element of these charges.

34. It is appropriate to refund these charges based on the unexpired period to the termination date of the connection agreement (or such other period that a connected generator can produce reasonable evidence to show that they were originally capitalised over), or where there is no termination date 20 years from the time of connection. The reason we believe that 20 years is an appropriate default is explained in para 20. The following table shows the percentage of O&M amount to be refunded for differing unexpired periods of capitalised O&M charges for the default 20 year period. The detail of how these percentages are derived is shown in appendix 2. These refund percentages will vary for differing contractual periods and will be applied on a case by case basis.

No. of completed years from connection date to implementation of UoS charges	Refund %age of original O&M charges
1	91.3%
2	83.2%
3	75.6%
4	68.5%
5	61.8%
6	55.6%
7	49.7%
8	44.2%
9	39.1%
10	34.2%
11	29.7%
12	25.4%
13	21.5%
14	17.8%
15	14.3%
16	11.1%
17	8.0%
18	5.2%
19	2.5%
20	0.0%

35. The refund will require generators to provide reasonable evidence to show that capitalised O&M was paid at the time of connection associated with the generation connection, the amount paid and the duration of the connection agreement.

36. The detailed method of calculating the refund is under consideration and hence there may be changes in this calculation.

RESULTING CHARGES

37. The tables set out at paragraph 47 show the resulting charges for EHV generators connected under pre April 2005 arrangements.

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

38. 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.

39. The proposed treatment of all EHV generators meets our obligation under SLC19 not to unduly discriminate between persons or classes of persons as the arrangements would apply consistently. This better meets relevant objective (a).

40. Not discriminating between EHV connected generators under pre and post April 2005 arrangements facilitates competition per relevant objective (b) by ensuring that competing generators face UoS charges calculated on the same basis.

41. Recognising pre existing contractual rights enhances stability and predictability which better meets relevant objective (b) by facilitating competition.

42. Taking account of capitalised O&M paid at the time of connection by way of a refund of any unexpired amount better reflects the costs incurred and hence better meets relevant objective (c).

43. Whilst not part of the methodology, the commitment to seek to vary any connection agreements that do not currently allow charges to be made better facilitates relevant objectives (a), (b) and (c) by seeking to give cost reflective charges to EHV generators connected under pre April 2005 arrangements that will contribute towards the development of an economic and efficient network.

PROPOSED WORDING OF THE USE OF SYSTEM METHODOLOGY STATEMENT

44. The proposed change to the use of system methodology statement is from:

EHV Generators with connection agreements dated pre April 1st 2005

Charging arrangements for EHV generators connected prior to 1st April 2005 are subject to appropriate charging arrangements being developed through industry collaboration. Until this is developed, no charges will apply to these generators.

If a generator connected prior to April 1st 2005 makes a significant alteration to their export requirement (due to, for example, increased export capacity) the incremental increase in export capacity will be charged generator use of system on the same basis as post April 1st 2005 generators.

Replaced with:

EHV Generators connected under pre April 1st 2005 terms

Where contractual arrangements allow, use of system charges in relation to all EHV generators connected on any date are made on the same basis in accordance with this charging methodology.

If a generator connected under April 1st 2005 arrangements makes a significant alteration to their export requirement (due to, for example, increased export capacity) the incremental increase in export capacity will be charged generator use of system on the same basis as post April 1st 2005 generator charging arrangements.

FIT WITH EDCM

45. SLC50A requires the DNOs to develop common LRIC and FCP charging methodologies for EHV charging and submit these to Ofgem by 1st September 2010. If this proposed change request receives a non-veto decision then there would not need to be any difference in treatment of EHV generators connected under pre April 2005 arrangements compared to those under post April 2005 arrangements.

46. The two EDCM methodologies are still in development and hence even if this proposal is adopted as the EDCM method of addressing the pre April 2005 generator issue, the resulting annual charges could vary significantly from those shown in this modification request.

REVISED USE OF SYSTEM CHARGES

47. The impact of the proposed changes on charges is shown in the following tables. There are no changes to generators charges that are currently subject to use of system charges as a result of this modification request.

    South West

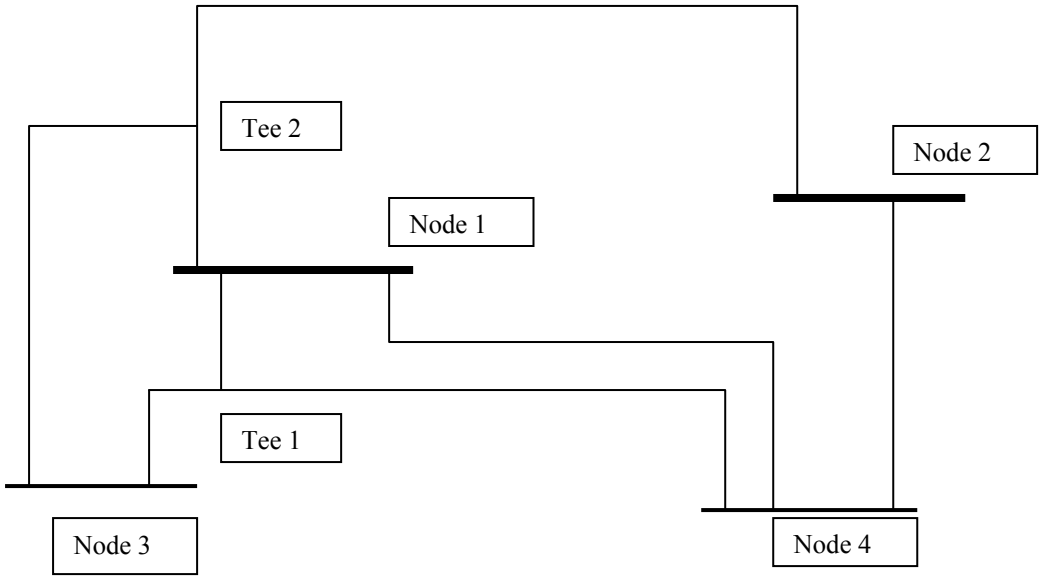
S West	Annual charge
BEARS DOWN WINDFARM 33kV	£5,544
BRADON FARM 33kV	£53,546
CARLAND CROSS 33kV	£675
COLD NORTHCOTT 33kV	£12,406
FORESTMOOR WINDFARM	-£63
FORESTMOOR WINDFARM	-£125
FOUR BURROWS 33kV	£1,357
HUNTWORTH GENERATOR 33kV	£47,218
ISLES OF SCILLY	-£160,868
MARSH BARTON 132kV POWER STN	-£232,929
ROLLS ROYCE FILTON 132kV	£71,604
St BREOCK 33kV	£16,667
Total	-£184,968

South Wales

S Wales	Annual charge
ABERAMAN PARK 33kV	-£18,506
BLAEN CREGAN 66KV	£166,867
BRITISH ENERGY 33kV	-£3,807
BRYN TITLI W/FARM 66KV GEN	£8,875
CORNELLY 33kV	-£17,267
CRYMLYN BURROWS 33KV	-£6,021
DYFFRYN BRODYN 33 KV GEN	£122,374
LLYN BRIANNE 33kV	£65,810
PARC CYNOG 33KV	£88,273
PWLLFA GWATKIN 33 kV	-£5,817
SULLY 132kV	£2,178,486
TAFF ELY WINDFARM 33KV GEN	£5,082
TIR JOHN	-£4,111
Total	£2,580,238

Example 1 – Note that this relates to option 5 which is not WPD's proposed option.

The following network is used to show how account is taken of reinforcement assets paid for under the deep connection charge policy at the time of connection.



Node	Type
Node 1	Grid Supply Point
Node 2	Grid Supply Point
Node 3	Busbar with demand and a Generator connected
Node 4	Busbar with demand connected

Circuit		LRIC charge at Node 3 from each circuit (£/kW)
From	To	
Node 1	Tee 1	0.05
Node 1	Tee 2	0.025
Node 1	Node 4	0.01
Tee 1	Node 3	1.9
Tee 1	Node 4	1.0
Tee 2	Node 2	0.725
Tee 2	Node 3	3.3
Node 2	Node 4	0.65
Total £/kW charge for generation at Node 3		7.66

Hence for a 150MW generator at Node 3 the annual charge would be

150MW x £7.66/kW = £1,149,000

If the generator at Node 3 connected pre April 2005 and paid for the circuits between Tee 1 to Node 3 and Tee 2 to Node 3 as reinforcement for an existing 33kV busbar then the charges associated with these circuits would be excluded.

Hence the £/kW at Node 3 for generation would be

£7.6/kW - £1.9/kW - £3.3/kW = £2.4/kW

And the 150MW generators annual charge would be

150MW x £2.4/kW = £360,000

Appendix 1

Periods over which annual rebates under option 5 would apply (Note that this relates to option 5 which is not WPD's proposed option.)

S West

Year annual rebate will apply until	No. of generators annual rebate applies to
2014	2
2017	2
2019	1
2021	2
2025	3
2026	1
2040	1
Total	12

S Wales

Year annual rebate will apply until	No. of generators Annual rebate applies To
2013	2
2014	1
2016	1
2017	1
2018	1
2021	1
2022	4
2025	1
2026	1
2040	1
Total	14

Appendix 2

Calculation of the proposed refund of unexpired capitalised O&M charges under the proposed option (Option 3)

The basic steps taken are as follows:

1. An assessment is made of the annual equivalent O&M that would have been charged instead of a lump sum using an annuity calculated from the following formula:

$$\text{Annuity} = \frac{d}{\left(1 - \left(\frac{1}{(1+d)^n}\right)\right)}$$

d is the discount rate (see below)
n is the period to spread payments over (see below)

2. An NPV is applied to the annual charge and these are summed over the unexpired period of O&M charges

3. The resulting discount is then inflated by RPI from the time of connection as annual payments would have been updated each year to reflect increases in costs.

4. The refund percentage is then applied to the original capitalised O&M amount paid on connection to determine the amount to be refunded.

The discount rate used is the regulatory cost of capital in each price control period. The number of years used to spread the payments is 20 as this was the period used to originally derive the capitalised O&M payment.

The calculations used to derive the numbers used in para 34 are shown in the following table:

	2009/10	2008/09	2007/08	2006/07	2005/06	2004/05	2003/04	2002/03	2001/02	2000/01	1999/00	1998/99	1997/98	1996/97	1995/96	1994/95	1993/94	1992/93	1991/92	1990/91
Discount rate	6.9%	6.9%	6.9%	6.9%	6.9%	6.5%	6.5%	6.5%	6.5%	6.5%	7.0%	7.0%	7.0%	7.0%	7.0%	6.7%	6.7%	6.7%	6.7%	6.7%
Years ago connected	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount factor	0.935	0.875	0.819	0.766	0.716	0.673	0.632	0.593	0.557	0.523	0.489	0.457	0.427	0.399	0.373	0.349	0.327	0.307	0.288	0.270
Sum of discount factor	10.773																			
Percent per year equivalent	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%	9.28%
Percent * DF	0.087	0.081	0.076	0.071	0.066	0.062	0.059	0.055	0.052	0.049	0.045	0.042	0.040	0.037	0.035	0.032	0.030	0.028	0.027	0.025
Sum of above	1																			
Refund	91.3%	83.2%	75.6%	68.5%	61.8%	55.6%	49.7%	44.2%	39.1%	34.2%	29.7%	25.4%	21.5%	17.8%	14.3%	11.1%	8.0%	5.2%	2.5%	0.0%