Tom Ireland
Electricity Charging & Access Development
National Grid Electricity Transmission plc
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Warwick Technology Park
Gallows Hill, Warwick
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23 July 2007

Dear Tom,

Pre-consultation: GB ECM 08 development of offshore charging

EDF Energy is pleased to have the opportunity to comment on offshore charging.
Our initial consideration for offshore generation connections was that a merchant, rather than a licensed price control approach would be most suitable. However, the Government and Ofgem believe that competitive tendering for OFTO licences will bring significant savings, so charging must ensure savings are realised. To this end, charges need to be cost reflective, yet flexible enough to encompass the connection of more than one generator.

- Charging should not provide an indirect subsidy to offshore generators;
- Offshore circuits are generation circuits and not shared with other Users;
- Simply applying onshore charging to offshore will not be cost reflective;
- The residual should not be used to socialise the higher costs of offshore platforms and transformers;
- Connection boundary should be the onshore connection point or second to that the offshore HV busbar, but not the LV busbar;
- A separate HVDC expansion factor, with HVDC converter costs, should be developed;
- We recommend generic, rather than specific, expansion factors for offshore.

Our preference for charging is:
1. Onshore connection boundary;
2. HV busbar connection boundary (with separate, generic expansion factors for AC and HVDC);

We do not believe using existing onshore arrangements (LV busbar connection boundary) is appropriate for offshore connections.

We hope these comments have been of help, if you have any questions please do not hesitate to ask.

Yours sincerely,

David Scott
Electricity Regulation, Energy Branch

OUR REASON FOR COMING TO THIS VIEW

1. **Charging should not provide an indirect subsidy to offshore generators.**

We have consistently stated at the TCMF, CISG and the Ofgem/BERR's offshore policy workshops that offshore generators should be responsible for paying for their connection to the onshore network. It is our belief any subsidy provided to a class of generation, should be provided in a transparent manner. We recognise that under the reform of the RO, offshore renewables are to be granted a 1.5 ROC banding. We would prefer this to cover connection costs to prevent consumers paying "twice" for renewable power.
This view is stark when you consider onshore and offshore renewables: If offshore renewables were to get the same subsidy as onshore renewables (only 1 ROC) then the shallow onshore charging regime may be suitable offshore. But with the 1.5 ROC banding, it is unfair on onshore renewables for those offshore to receive extra subsidy through the RO and an indirect subsidy through charging.

2. **Offshore circuits are generation circuits and not shared with other Users.**

The key argument for sharing the cost of the transmission network between demand and generation Users is the interconnected nature of the system. It is our view that any presumption on "sharing" the use of an offshore transmission cable is extremely tenuous. The function of the offshore connection is to flow power from the generator to the main interconnected transmission system (MITS) and will not support transfers across transmission boundaries. It cannot be compared to a circuit such as Walpole - Burwell – Pelham, which will support the flow of power across boundaries on the transmission system. To reflect this concept of a shared interconnected system, there exists a 27:73 split between generation and demand in TNUoS tariffs. Conversely the 100% allocation of Connection charges is reflective of an asset being generator circuits.

3. **Simply applying onshore charging to offshore will not be cost reflective.**

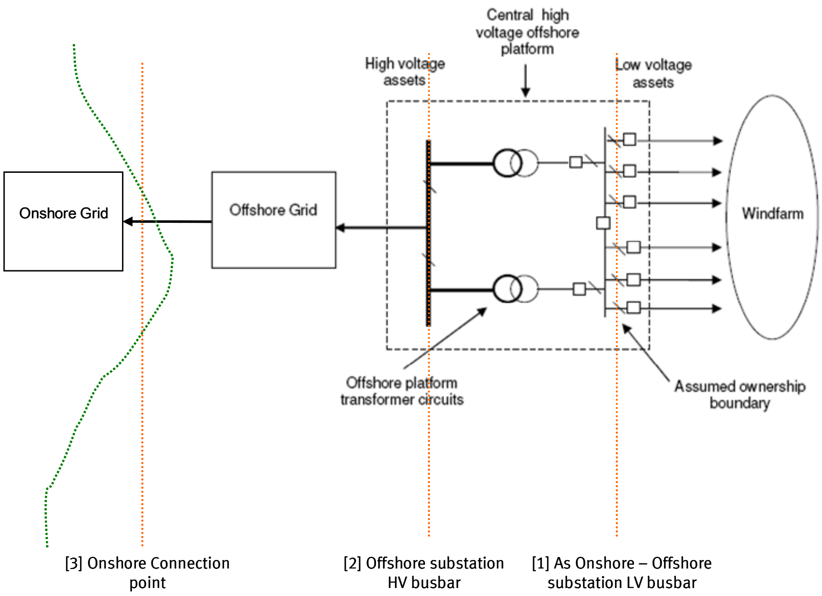
NGET adopts a charging method that tries to reflect the cost of the additional investment in the transmission system and is reflected in the Investment Cost Related Pricing load flow model. The aim of this model is to always reflect the differential between the investment necessitated on the system by the addition of demand or generation at each node. It calculates an MWkm investment required by the addition of generation or demand at a node, only considering the incremental cost of the overhead line (OHL) or equivalent. This locational cost reflectivity does not include non 'km' related costs, such as substations, which are included in the residual. Due to the inherently different capital costs for offshore platforms and transformers, as appose to the costs of onshore substation, including such assets in the residual is inappropriate.

4. **The residual should not be used to socialise the higher costs of offshore platforms and transformers.**

Onshore charges have a significant residual cost to reflect the cost of substations and to ensure overall cost reflectivity. This charge is smeared across all Users. We have concerns that the proportion of costs that go into the residual for offshore networks will be significantly higher than that onshore. We would want offshore platforms and transformers (non locationally varying costs) to be excluded from the residual and reflected in the locational charge. There may need to be a separate residual charge for offshore connections or a change to the connection boundary.

5. **Connection boundary should be the onshore connection point or second to that the offshore HV busbar, but not the LV busbar.**

NGET has presented three connection boundaries, which move the boundary progressively further from the offshore generator. It influences what assets are charged under Connection charges or Transmission Network Use of System charges (TNUoS). The key difference between the charges is Connection charges are placed solely on the connecting User and TNUoS charges have an element of sharing with other Users, through Zonal average locational differences and a residual element to the charge. Connection charges also have two options for the User, whether to accept payment with an agreed rate of return on the assets or pay a capital contribution (an advantage that should not be discounted for an offshore generator).



[1] The first boundary is the same as onshore, the LV busbar. We do not support using this as it results in offshore platforms and transformers being charged through the residual (unless these costs are included in the expansion factor).
[2] The second is the HV busbar, which would result in the HV transformer and platform being classified as connection assets and not charged through TNUoS. We support this definition of the connection boundary as it will remove much of the "extra" costs of offshore networks from the TNUoS charging model residual, making the charges more cost reflective.
[3] The third, to the onshore grid, would place all assets as connection and is the most cost reflective charging approach. It would result in the offshore generator paying Connection charges for the offshore network and TNUoS charges for the onshore network.
Appendix 1 outlines the annual and lifetime cost of the options: it is evident that option [1] would be provide a cheaper connection than options [2] and [3].

6. **A separate HVDC expansion factor, with HVDC converter costs, should be developed.**

The pre-consultation has stated that HVDC costs may be far greater than the costs of a conventional cable. It also suggested that the technology will have a higher proportion of the capital cost represented in the converter stations required at each end of the HVDC circuit. Although the cost of the HVDC converter stations will not vary by distance, there is little option but to include the extra costs in a separate expansion factor as these assets cannot be influenced by a change in the connection boundary to reallocate the costs unless all the assets are charged as connection assets.

7. **We recommend generic, rather than specific, expansion factors for offshore.**

With TNUoS charging there is a balance to be drawn between cost-reflectivity and simplicity. We believe that if option 3 is not used then expansion factors that include HVDC and offshore platforms & transformers will need to be developed. As costs will vary by project generic expansion factors will be slightly inaccurate, yet using them will allow developers to estimate charges more accurately. The ability to do this should not be underestimated in its importance in evaluating a power station development.

Appendix: Comparison between Connection and TNUoS charges for offshore generator

The following comparison of TNUoS and Connection charges uses the same input data as used by Ofgem/BERR in the joint policy statement, published 25th July 2007. For completeness, an estimate of £15m for the offshore platform and transformer costs has been included.

Table 1: Inputs for the comparison of offshore charges

Spur length	km	60
Platform & transformer costs	£m	£15
Cable capital cost	£m	£20
Cable installation cost	£m	£10
Security std	Zero redundancy	0
Connection node	Walpole	£3.99
2007/08 Expansion Constant	£/MWkm	£9.88
Size of connection	MW	200
Cable expansion constant	£/MWkm	£2,500
Annuity factor (8.9% CoCapital 1.8% O&M)	Annuity Factor	10.70%
CABLE Expansion FACTOR		27.07
Years of asset		20

Table 2: Comparison between charges for options 1-3

	Unit	Option 1	Option 2	Option 3
Connection boundary		LV busbar	HV busbar	Onshore
Under connection charging:				
Annual Connection charge	£m	£0.00	£1.61	£4.82
Total charge over lifetime	£m	£0.00	£32.10	£96.30
Under TNUoS charging offshore:				
Final locational Zonal tariff	£/kW	£28.15	£28.15	£0.00
Residual charge	£/kW	£3.84	£3.84	£0.00
Total TNUoS cost over lifetime	£m	£127.96	£127.96	£0.00
After SQSS discount (on basis of zero redundancy rather than 1.8)	£m	£71.09	£71.09	£0.00
Onshore TNUoS charge over lifetime:	£m	£0.00	£0.00	£15.96
Final cost Connection + TNUOS over lifetime	£m	£71.09	£103.19	£112.26
Annual charge	£m	£3.55	£5.16	£5.61
BSUOS charge for generator	£m	£0.43		

Key points:

- Annual difference between Option 1 and 3 is equivalent to 4xBSUoS
- Annual difference between Option 3 and 2: 1xBSUoS