



**Policy on the Payment of Ongoing Service Charge for  
Maintenance of Transmission Connection Assets**

**May 2013**

## **1. Introduction**

Parties who connect to the transmission system are responsible for the cost of maintenance of their connection assets. The charge levied for this is commonly known as the Ongoing Service Charge (“OGSC”). The basis for the OGSC is subject to the approval of the Commission for Energy Regulation (“CER”) and comes under the auspices of Sections 34 – 36 of the Electricity Regulation Act, 1999. EirGrid, in its role as Transmission System Operator (“TSO”), is responsible for determining OGSC rates payable based upon approved policy and maintenance rates. ESB Networks, in its capacity as Transmission System Owner (“TAO”) is responsible for deriving the Transmission Maintenance Unit Costs (“TMUCs”) upon which the OGSC standard charges are based.

This paper outlines the principles underpinning the application of OGSC charges and sets out a suite of proposed OGSC charges. It is proposed that these charges, once approved by the CER, will apply to all energised generators to which shallow transmission connection charges have applied. OGSC charges will not be applicable to demand customers.

## 2. OGSC Principles

- 2.1. A party is liable to pay OGSC in respect of those connection assets for which the party is required to make a financial contribution. The OGSC charge will apply in the same proportion as the capital contribution for their transmission connection. For clarity, such a party may be a Distribution System Operator (“DSO”) or TSO customer. The Transmission/Distribution Connection Agreement (“Connection Agreement”), as appropriate, shall make it clear that the connecting party is responsible for OGSC on transmission connection assets in line with the prevailing policy, as approved by the CER, and which may be amended from time to time.
- 2.2. The connection assets for which a party is liable to pay OGSC will be identified by the TSO and set out in the Connection Agreement. For each party liable for OGSC, the TSO will identify the connection assets on which OGSC is chargeable and will administer the appropriate charges, upon approval from the CER.
- 2.3. Parties which connected prior to electricity market liberalisation in February 2000 were not subject to the current shallow connection charging methodology. These parties, virtually all conventional generators, do not have a Least Cost Chargeable (LCC)<sup>1</sup> connection method identified in their Connection Agreements. These parties are, however, obliged to contribute to the cost of maintaining their shallow connection assets. While it is not possible to retrospectively identify the LCC for these parties, it is important that they are charged in a manner that is reasonable, proportional and broadly cost reflective. It is proposed that the OGSC to apply to such parties would be a per MW charge equal to the average OGSC charge per MW of all post market liberalisation conventional connections. This would reflect the cost of maintaining transmission works for the *average* conventional connection. This charge would be calculated and levied annually. Based on the charges published with this consultation, the charge to these pre-market liberalisation connections would currently be in the region of €435 per MW. The final charge to apply would be confirmed annually on calculation of the average per MW OGSC rate for post market liberalisation conventional connections.
- 2.4. OGSC shall be levied solely on those transmission connection assets which are operated by the TSO and maintained by the TAO. For all other transmission assets related to a party’s connection, the responsibility for carrying out, and the cost of, maintenance shall be the sole responsibility of the connected party.
- 2.5. Where a party pays for only a portion of the cost of a transmission asset, sharing that transmission asset with another connecting party, then the party shall be liable for OGSC based only on that proportion of the transmission connection assets for which that party is liable for transmission connection charges.  
  
In the event of a new connection to transmission assets for which OGSC is applicable, the OGSC charge for the pre-connected parties would be recalculated to reflect their reduced per MW share of the assets.
- 2.6. The high level principles which apply to connection charging will apply in the context of OGSC<sup>2</sup>.
- 2.7. It is the responsibility of the TAO to determine the TMUCs against a pre-defined set of transmission asset classes<sup>3</sup> In deriving these costs, the following factors are taken into account:

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<sup>1</sup> Please note that the term LCC has superseded the term LCTA for transmission connections. Connection Agreements executed before June 2010 refer to the LCTA.

<sup>2</sup> These principles are set out in the current version of EirGrid’s *Transmission Connection Charging Methodology Statement* and the *Joint TSO/DSO Group Processing Approach Charging and Rebating Principles paper*.

- Cost reflectivity
- Transparency
- The relative ease of calculation and billing

2.8. A change in maintenance policy by the TSO may result in an appropriate adjustment being made to the TMUCs. Such a change is likely to impact on the OGSC payable by connected parties.<sup>4</sup>

2.9. In practice, the actual maintenance costs incurred by the TAO on a particular section of line or cable or item of plant will vary from year to year. However, it is proposed to levy an annual charge based on the estimate of the average cost of maintenance, this cost to be incremented annually for inflation. In addition it is proposed to review the TMUCs (and subsequently the OGSC) on a 5 yearly basis to ensure that they remain appropriate.

2.10. Should OGSC charges be updated following review, customers will remain liable for the current and up to date OGSC charges as approved by the CER.

2.11. Should any new transmission standard connection charges be approved by the CER, corresponding OGSC charges will be developed.

2.12. OGSC invoices will be indexed as directed by the CER from time to time. The applicable index rate is currently Irish HICP (“Harmonised Index of Consumer Prices”) and OGSC invoices will be adjusted annually on this basis to the preceding December’s price level.

OGSC will be paid annually, in arrears from the date of first energisation.

2.13. The OGSC charges will apply from the date of approval by the CER and there will be no retrospective application of new OGSC charges. Customers will pay OGSC in accordance with the terms of their Connection Agreement until such time as the new charges are approved by the CER.

2.14. Demand customers are to be exempt from OGSC charging.

### 3. Basis of the OGSC charge:

3.1. There are number of charges that make up the overall OGSC charge. These charges are annexed to this paper.

- **Transmission Maintenance Unit Costs (TMUCs):** TAO has established TMUCs) which set out the cost of maintaining the plant and equipment on the Transmission System. These are detailed in **Annex 1** in the form of a summary document.
- **Annualised Operation and Maintenance Costs:** These costs represent the annual cost of maintenance and, as such, the OGSC which should be applied for a given item of plant or equipment. These annualised costs, developed by TSO, take into account maintenance policy and are based on the TMUCs. The individual Annualised Operation and Maintenance Costs are calculated based on the applicable TMUCs for each asset type. The list of Annualised Operation and Maintenance Costs are detailed in **Annex 2**.

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<sup>3</sup> These costs were provided to CER as part of the 3<sup>rd</sup> Price Review and were implicitly approved as part of this process

<sup>4</sup> Please note that any change in maintenance policy would have more wide-reaching consequences and as such would have to be assessed in the context of present and future price reviews

These charges have been calculated based on the following:

- Planned Maintenance Activities – These are activities generally carried out on a cyclic basis. The planned maintenance component of the unit costs is based on TSO maintenance policies for the type of plant involved.
- Fault Repair Activities - The fault repair component is based on an estimate of average annual fault repair costs
- **Commercial rates:** Commercial rates are paid to the local authorities based on the depreciated replacement costs of transmission networks assets. The OGSC unit costs contain a component to reflect the additional rates payable for assets used to connect the customer. This component is separately detailed in Annex 3 attached.

The total OGSC charge levied will be based on the *Annualised Operation and Maintenance Cost* plus the appropriate *Commercial Rate* for each asset type.

- 3.2. In addition to infrastructure-related maintenance costs referred to above, it is appropriate that the costs associated with maintaining private access routes to customer-driven transmission stations be recovered from the customer driving those stations. Given the difficulties in predicting the level of maintenance required on an average basis, it is proposed that these route maintenance costs be recovered on a pass through basis. At Handover Agreement<sup>5</sup> stage, extensive account will be taken of the route's condition, with a view to maintaining that standard.

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<sup>5</sup> The Handover Agreement covers the terms of handover of ownership of connection assets from the customer to the ESB.

**Annex 1**  
**Transmission Maintenance Unit Costs 2013 (on which the Annualised Operation and Maintenance Costs are based)**

Task	Sub-Task	Unit	Task interval	Cost	Annualised Cost
<b>TRANSMISSION STATIONS MAINTENANCE - UNIT COSTS</b>					
<b>Operational Test</b>	Operational Test on all cubicles including SVC	Per Task	1	€591	€443
<b>Ordinary Service</b>	Ordinary Service on 110kV Sectionalisers / Disconnects	Per Task	4	€1,520	€380
	Ordinary Service on 220 or 400kV Sectionalisers / Disconnects	Per Task	4	€2,880	€720
	Ordinary Service on Capacitors / SVC	Per Task	4	€6,623	€1,656
	Ordinary Service on Transformers / Reactors	Per Task	4	€2,974	€744
	Ordinary Service on all cubicles containing GIS switchgear	Per Task	4	€4,146	€1,037
	Ordinary Service on 110kV cubicles containing SF6 switchgear	Per Task	4	€6,557	€1,639
	Ordinary Service on 110kV cubicles containing AB/ MO switchgear	Per Task	4	€9,493	€2,373
	Ordinary Service on 220 or 400kV cubicles containing SF6 switchgear	Per Task	4	€9,549	€2,387
	Ordinary Service on 220 or 400kV cubicles containing AB/MO switchgear	Per Task	4	€12,495	€3,124
<b>Detailed Service</b>	Detailed Service on a 110kV GIS Circuit Breaker	Per Task	24	€69,867	€2,911
	Detailed Service on a 220 or 400kV GIS Circuit Breaker	Per Task	24	€85,626	€3,568
	Detailed Service on a non-GIS 110kV Circuit Breaker	Per Task	20	€25,384	€1,269
	Detailed Service on a Non-GIS 220/ 400kV Circuit Breaker	Per Task	20	€44,783	€2,239
<b>Condition Assessment</b>	Condition Assessment of cubicle (any voltage)	Per Task	8	€11,473	€1,434
	Condition Assessment of Batteries & Chargers in Transmission Station	Per Station	8	€4,475	€559
	Condition Assessment of Lightning Arrestors	Per Station	1	€3,246	€3,246
	Condition Assessment of Capacitor	Per Task	4	€12,354	€3,089
	Condition Assessment of Static Var Compensator (SVC)	Per Task	4	€14,559	€3,640
	Condition Assessment of Station Earthgrid	Per Station	12	€2,758	€230
<b>General Maintenance</b>	110kV Transmission Station	Per Station	1	€28,517	€28,517
	220kV & 400kV Transmission Station	Per Station	1	€40,749	€40,749
<b>Thermovision Survey &amp; Annual Inspection</b>	110kV Transmission Station	Per Station	1	€5,009	€5,009
	220kV & 400kV Station	Per Station	1	€5,891	€5,891
<b>TRANSMISSION LINES / CABLES MAINTENANCE - UNIT COSTS</b>					
Lines Maintenance		Per km per annum	1	€1,434	€1,434
Cables Maintenance - OF Cable		Per km per annum	1	€5,295	€5,295
Cables Maintenance - XLPE Cable		Per km per annum	1	€5,329	€5,329

**Annex 2**  
**Table of Annualised Operation and Maintenance Costs 2013**

<b>TRANSMISSION STATIONS</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	
	<b>Station Charge</b>	Time €	Time %	Materials €	Materials %	Other €	Other %	Line Charge	Cable Charge	<b>Fault &amp; Corrective (15% Planned)</b>	<b>TOTAL (A+J)</b>
220/400kV STATION	€50,675.21	€35,979.40	71%	€1,520.26	3%	€13,175.55	26%			€8,086.00	<b>€58,761.21</b>
110kV STATION	€37,561.21	€23,287.95	62%	€1,502.45	4%	€12,770.81	34%			€5,987.50	<b>€43,548.71</b>
<b>STANDARD 110kV CUBICLES</b>											
	<b>Station Charge</b>	Time €	Time %	Materials €	Materials %	Other €	Other %			<b>Fault &amp; Corrective (15% Planned)</b>	<b>TOTAL (A+J)</b>
110kV CUBICLE SF6	€4,785.83	€3,254.36	68%	€143.57	3%	€1,387.89	29%			€717.87	<b>€5,503.70</b>
110kV CUBICLE GIS	€5,825.00	€3,844.50	66%	€407.75	7%	€1,572.75	27%			€873.75	<b>€6,698.75</b>
110kV CUBICLE AB/MO	€5,519.83	€3,974.27	72%	€165.59	3%	€1,379.96	25%			€827.97	<b>€6,347.80</b>
110kV CUBICLE - Standard	€2,194.13	€1,053.18	48%	€87.77	4%	€1,053.18	48%			€329.12	<b>€2,523.24</b>
<b>STANDARD 220 &amp; 400 kV CUBICLES</b>											
	<b>Station Charge</b>	Time €	Time %	Materials €	Materials %	Other €	Other %			<b>Fault &amp; Corrective (15% Planned)</b>	<b>TOTAL (A+J)</b>
220/400kV CUBICLE - SF6	€6,503.78	€4,877.83	75%	€195.11	3%	€1,430.83	22%			€975.57	<b>€7,479.34</b>
220/400kV CUBICLE - GIS	€6,481.63	€4,083.42	63%	€583.35	9%	€1,814.86	28%			€972.24	<b>€7,453.87</b>
220/400kV CUBICLE - AB/MO	€7,240.28	€5,647.41	78%	€144.81	2%	€1,448.06	20%			€1,086.04	<b>€8,326.32</b>
220/400kV CUBICLE - Standard	€2,874.13	€1,638.25	57%	€86.22	3%	€1,149.65	40%			€431.12	<b>€3,305.24</b>
<b>STANDARD 110, 220 &amp; 400 kV TRANSMISSION LINE (per km)</b>											
								Line Charge		<b>Fault &amp; Corrective (15% Planned)</b>	<b>TOTAL (H+J)</b>
110kV LINE (1km)								€1,433.59		€215.04	<b>€1,648.62</b>
220/400kV LINE (1km)								€1,433.59		€215.04	<b>€1,648.62</b>
<b>STANDARD 110, 220 &amp; 400 kV CABLE (per km)</b>											
									Cable Charge	<b>Fault &amp; Corrective (15% Planned)</b>	<b>TOTAL (I+J)</b>
110kV CABLE - XLPE (1km)									€5,329.48	€799.42	<b>€6,128.91</b>
110kV CABLE - OIL FILLED (1km)									€5,295.43	€794.31	<b>€6,089.74</b>
220kV CABLE - XLPE (1km)									€5,329.48	€799.42	<b>€6,128.91</b>
220kV CABLE - OIL FILLED (1km)									€5,295.43	€794.31	<b>€6,089.74</b>

**Annex 3**  
**Table of Annualised Commercial Rates 2013**

<b>Item</b>	<b>Standard cost 2013 (€)</b>	<b>Rates (€)</b>
<b>110kV stations</b>		
New Looped Outdoor 110kV station (single strung B/B, AIS switchgear, SCS control, 4 bays)	€2,700,000	€24,300
New 110kV line bay in existing outdoor station	€750,000	€6,750
New Tail-fed (single supply) outdoor 110kV station - Industrial Customer	€1,340,000	€12,060
<b>200kV stations</b>		
New Looped Outdoor 220kV station (single 220kV B/B) - Generation (1 no.)	€3,740,000	€33,660
New 220kV line bay in existing 220kV outdoor station, single B/B	€1,080,000	€9,720
New 220kV line bay in existing 220kV outdoor station, double B/B	€1,270,000	€11,430
New 110kV line bay in existing 220kV outdoor station, double B/B	€800,000	€7,200
<b>Lines</b>		
110kV SC Woodpole 200mm <sup>2</sup> /300mm <sup>2</sup> ACSR 80C with earthwire(<10km)	€240,000	€2,160
110kV SC Woodpole 200mm <sup>2</sup> /300mm <sup>2</sup> ACSR 80C with earthwire(marginal cost per km for each km>10km)	€240,000	€2,160
110kV SC Woodpole 430mm <sup>2</sup> ACSR 80C with earthwire(<10km)	€360,000	€3,240
110kV SC Woodpole 430mm <sup>2</sup> ACSR 80C with earthwire(marginal cost per km for each km>10km)	€310,000	€2,790
220kV SC tower 600mm <sup>2</sup> ACSR 80C with earthwire (<10km)	€760,000	€6,840
220kV SC tower 600mm <sup>2</sup> ACSR 80C with earthwire (marginal cost per km for each km>10km)	€730,000	€6,570
<b>Cables</b>		
110kV 120MVA 1000mm <sup>2</sup> al single circuit (cable and civils)		
Roadway - day - Oil Filled	€880,000	€7,920
Roadway - day - XLPE	€880,000	€7,920
Roadway - night	€1,340,000	€12,060
110kV 150MVA 1600mm <sup>2</sup> CU single circuit (cable and civils)		
Roadway - day - Oil Filled	€1,920,000	€17,280
Roadway - day - XLPE	€1,920,000	€17,280
Roadway - night	€2,770,000	€24,930
220kV 500MVA - single circuit		
Roadway - day - Oil Filled	€2,050,000	€18,450
Roadway - day - XLPE	€2,210,000	€19,890
Roadway - night	€2,210,000	€19,890
<b>110kV cable terminations</b>		
250MVA (per end)	€110,000	€990
120MVA (per end)	€100,000	€900
Lines cables interface (per end)	€250,000	€2,250
<b>220kV cable terminations</b>		
500MVA (per end)	€260,000	€2,340