

**CHARGING METHODOLOGY STATEMENT
FOR THE
ANGLO-FRENCH INTERCONNECTOR**

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Distribution

Name	Organisation
The Gas and Electricity Markets Authority	www.ofgem.gov.uk
Interconnector Users	various
Association of Electricity Producers	www.aepuk.com
European Federation of Energy Traders	www.efet.org
Eurelectric	www.eurelectric.com
National Grid Interconnectors Limited website	www.nationalgrid.com

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1 INTRODUCTION

- 1.1 National Grid Interconnectors Limited (NGIL) and RTE EDF Transport S.A. (RTE) are jointly responsible for the transmission of electricity across the Anglo-French Interconnector known as “Interconnexion France Angleterre” (IFA). The interconnector connects the national electricity transmission systems of France (owned and operated by RTE) and Great Britain (owned by three companies but operated by National Grid Electricity Transmission plc (NGET). NGIL is a wholly owned subsidiary of National Grid Plc formerly National Grid Transco plc (NGT) and holds a licence to operate the IFA (the “Licence”).
- 1.2 The interconnector circuits comprise two AC to DC converter stations connected by four pairs of cables between Sellindge in England and Les Mandarins in France, some 70KM distance in total, of which 45KM is subsea. Electrical current enters and leaves the interconnector circuits at the respective points of connection to the national transmission networks at these two converter stations.
- 1.3 This document sets out the charging methodology which will be applied by NGIL to the use of the IFA following the launch of the new Capacity Management System, scheduled for ‘Go-Live’ on 6th July 2009.
- 1.4 The two key changes from the current Charging Methodology (applicable from 1st April 2009) are as follows:
- interconnector capacity acquired in auctions will be invoiced based on the clearing (marginal) price of the valid bids accepted;
 - with any capacity so acquired becoming an hourly commodity, Generation-based TNUoS charges will be calculated and invoiced on £/MW/hour basis (instead of the current £/MW/day basis).
- 1.5 An electronic version of this document can be obtained by visiting the National Grid Interconnectors Limited website at: www.nationalgrid.com and following the links: Interconnectors, France, Charging Methodology.
- 1.6 Further information on NGIL’s activities and the information contained within this document can be obtained by contacting us by telephone, email or in writing:
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- 1.7 All further references to NGIL in this document relate to its role and participation in the joint administration of the third party access regime for the interconnector and in relation to its obligations as an interconnector operator and licensee in Great Britain.

2 INTERCONNECTOR CHARGING METHODOLOGY

2.1 Standard Licence Condition 10 of the Licence requires NGIL to establish a methodology showing the methods and principles on which charges for the use of IFA are based. This charging methodology is required to be approved by the Gas and Electricity Markets Authority (Authority) before it takes effect. Subsequent to this it may be modified from time to time in accordance with Standard Licence Condition 10 (5) of the Licence.

Objectives of the charging methodology

2.2 As a minimum the interconnector charging methodology has to comply with the objectives set out in Standard Licence Condition 10 (3) of the Licence (“relevant objectives”) which require that the Charges and their underlying methodology are :

- (a) Objective;
- (b) Transparent; and
- (c) Non-discriminatory.

2.3 In addition to this minimum set of relevant objectives NGIL has its own objectives for the charging regime. These are that the use of interconnector charges should:

- (a) Be simple to understand and implement; and
- (b) Promote efficient use of the interconnector within the context of the differing market structures it connects.

2.4 Where changes are proposed to this charging methodology these will be consulted upon with the industry in accordance with Standard Licence Condition 10 (5). The Authority has the right to amend any proposed changes to the methodology before the changes would otherwise take effect.

2.5 NGIL believes that the methodology it has prescribed for charges for using its interconnector facilitate the relevant objectives described above.

Use of interconnector charges

2.6 The right to flow electricity in any particular direction (“the capacity right”) will be offered on a non-discriminatory basis via an explicit auction mechanism. The auction rules are set out in the IFA Access Rules and these will operate on a “Clearing (Marginal) Price” basis up to the maximum physical capability of the IFA (France to England and England to France).

2.7 Capacity rights will be offered in units or multiples of 1MW/period (ie. per intraday duration, day, weekend, month, quarter, season, year, as the case may be). The IFA Access Rules set out the basis on which capacity rights will be offered, allocated to and utilised by eligible Users.

2.8 The price that Users will pay to NGIL for each capacity right is the price bid in an auction for the last unit in descending order of price (Clearing (Marginal) Price) that was accepted by NGIL (but subject to any curtailment in the event of unplanned outages). If the User does not exercise these capacity rights, they may subsequently be purchased by another (or the same) eligible User in accordance with the principles and criteria of Use it or sell it (“UIOSI”)/Use it or lose it (“UIOLI”) as described in the IFA Access Rules.

Bid acceptance

2.9 NGIL will accept bids in strict accordance with the criteria set out in the IFA Access Rules.

Capacity release

- 2.10 IFA has a maximum physical capability of 2000MW measured at mid channel in any one direction. NGIL in conjunction with the French transmission system operator Reseau de Transport d'Electricite will make available capacity rights for any given day up to the maximum physical capability via auctions for that day taking into account planned outages and extended unplanned outages.
- 2.11 Capacity rights unsold in longer term auctions may cascade into auctions closer to the day to which the capacity right applies by virtue of the application of the principles and criteria of UIOS/UIOLI as described in the IFA Access Rules. This ensures that all possible capacity remains available to the market up to the day before the day of use.
- 2.12 In situations where NGIL has sold more capacity rights than it can deliver, a process will be applied to ensure that the exercisable capacity rights are no greater than the capability of IFA. This process known as "Curtailment" is set out in the IFA Access Rules. Users will be credited only for purchased capacity that NGIL and RTE have not been able to deliver.

TNUoS charges

- 2.13 The basis of the pass through mechanism is as follows:
- (a) Generation Transmission Network Use of System (TNUoS) charges are passed through pro-rata to the amount of capacity allocated in the France to England direction;
 - (b) Demand TNUoS charges are passed through pro-rata to Users based on nominated flows contributing to a Net Interconnector Export (flow) in the England to France direction during a designated Triad Period.

3 USE OF INTERCONNECTOR CHARGES

Introduction

- 3.1 This publication sets out the use of interconnector charges that apply from xx July 2009 as required by Standard Licence Condition 10 of the Licence, and are effective from the date of the launch of the new Capacity Management System, scheduled for 'Go-Live in 6th July 2009.
- 3.2 Details of the third party access regime applicable to IFA in accordance with Standard Licence Condition 11 of the Licence can be found at www.nationalgrid.com and by following the links Interconnectors, France.

Eligibility to use the Interconnector

- 3.3 Customers wishing to become an IFA user can apply via a non-discriminatory eligibility process administered jointly by NGIL and RTE. The eligibility requirements are set out in Rule B2 of the IFA Access Rules and require parties to be signatories to the IFA Access Rules via an IFA User Agreement and signatories to the relevant market codes in England, Wales and France. These codes include the Balancing & Settlement Code and Connection & Use of System Code in Great Britain and Accord de Participation in France.

IFA Access Rules

- 3.4 This document should be read in conjunction with the IFA Access Rules that set out the conditions of access for use of IFA - this includes the process by which access rights (capacity) can be secured.
- 3.5 NGIL has an obligation to ensure that the IFA Access Rules fulfil the requirements of this Charging Methodology Statement. To the extent that changes in the IFA Access Rules result in a requirement to modify this Charging Methodology Statement then this shall be carried out in accordance with Standard Licence Condition 10 (5) of the Licence.

Units

- 3.6 Access (capacity) charges are expressed in €/MW/hour.
- 3.7 TNUoS pass through charges are expressed and charged on a £/MW/hour basis.

Invoicing

- 3.8 NGIL's invoicing team produces and issues invoices that are derived from the use of IFA charges levied in accordance with the IFA Access Rules and this statement. Payment for capacity will be in Euros only. TNUoS pass through charges will be invoiced in Pounds Sterling monthly in arrears.

Interconnector access rights

- 3.9 Users of IFA (Users) can acquire interconnector capacity in accordance with the IFA Access Rules. Obtaining capacity permits the User the right to nominate a transfer of electricity from one end of IFA to the other.
- 3.10 All access rights (capacity) relate to a particular period and to each hour within that period. Capacity is secured via a series of explicit "clearing (marginal) price" auctions at various periods in advance of the day of use.
- 3.11 Advance purchase of capacity is available in a series of capacity product auctions on a unidirectional basis ranging from up to one year ahead to one day ahead of the day of use, plus intraday capacity auctions.

Secondary trading

- 3.12 A User that holds firm capacity may relinquish this capacity for use by other eligible Users. There are two mechanisms to achieve this. The first is characterised as Reassignment and the second is achieved via a title transfer following its resale.
- 3.13 Reassignment involves the bilateral transfer of capacity to another eligible User where the original User retains the obligation to pay NGIL for that capacity.
- 3.14 A title transfer can be realised through the resale of capacity (via the auction process) to another eligible User in accordance with the principles and criteria of UIOSI/UIOLI as described in the IFA Access Rules, whereupon the acquiring party accepts the obligation to pay NGIL.
- 3.15 NGIL facilitates a complimentary resale service through the use of the Capacity Management System.

Use it or sell it (“UIOSI”)/Use it or lose it (“UIOLI”)

- 3.16 The IFA Access Rules will contain automated UIOSI/UIOLI provisions, in accordance with which any portion of long-term capacity (i.e. for the duration of a weekend or longer) that is not used is deducted from the User’s entitlement and made available to the daily auction process, with the proceeds (if any) being returned to the original User (UIOSI).
- 3.17 Likewise, any daily capacity which is unused is deducted from a User’s entitlement and made available to the intraday auction process, with the proceeds (if any) not being returned to the original User (UIOLI).

Access (Capacity) charges

- 3.18 The charge payable to NGIL will be a unit price of capacity multiplied by the number of units of capacity.

NGET TNUoS charges

- 3.19 The charges described above are the charges levied by NGIL for use of IFA. In addition to these charges Users of IFA will become liable to pay TNUoS charges for using the GB Transmission System. To the extent that these charges are levied on NGIL by NGET, these are subsequently levied on Users on a neutral pass through basis.
- 3.20 The basis for these charges is set out in the National Grid Statement of the Use of System Charging Methodology and the Statement of Use of System Charges which can be found on National Grid’s website at the following address www.nationalgrid.com and following the links Electricity, Charging, Charging Statements.

TNUoS (Generation)

- 3.21 The England-France Interconnector Use of System Generation charge levied by NGET on NGIL is derived from the Generation Tariff covering the South East, Zone 17 based on a registered Transmission Entry Capacity of 1988MW. For information, the charge payable by NGIL for the Financial Year 2009/10 amounts to £1,182,118.48, based on:

(a)	TNUoS Generation – Wider Zone Tariffs	=	£505,942.024
(b)	TNUoS Generation – Substation Tariffs	=	<u>£676,176.452</u>
	Total TNUoS	=	£1,182,118.48

- 3.22 NGIL makes a pro-rata adjustment to the charge that is passed through to the IFA Users to take account of interconnector losses. This reduces the charge to an equivalent level of 1976MW, representing the maximum Deemed Metered Volume

delivered onto the transmission system. NGIL absorbs the difference between this and the Transmission Entry Capacity (TEC) value. Following this adjustment NGIL passes the charge directly through to the Users in proportion to their total capacity allocation (that is not re-sold) France to England in any particular hour.

TNUoS (Demand)

- 3.23 If IFA presents a Net Export from the transmission system over any one or more of the three Triad Periods then a Use of System Demand-based charge would be levied on NGIL by NGET. NGIL then passes this charge directly through to the Users in proportion to their individual contribution to the Net Interconnector Export over the Triad Period. A Triad Period is one of the three half hour periods of highest peak demand between the beginning of November and end of February each year but separated by no less than 10 days between each of the peak half hour periods considered. In this context a Net Interconnector Export is a physical flow from England to France and a Net Interconnector Import is a physical flow from France to England.
- 3.24 The Demand-based charge for IFA is derived from the Demand Tariff covering the South East, Zone 11 and is £23.844075 / kW in 2009/10. The charge becomes liable for the whole year in the event of a net export recorded over any of the Triad periods and is in addition to the Use of System (Generation) charge. As IFA is assumed not to be a demand on the system no annual charge is levied; however in the event of a Demand-based charge becoming applicable interest would also be payable on the amount.

For the purposes of illustration the following scenarios are considered below:

Scenario 1:

Triad Period 1 (T1) Net Interconnector Export = 500MW

Triad Period 2 (T2) Net Interconnector Export = 750MW

Triad Period 3 (T3) Net Interconnector Export = 250MW

TNUoS Demand-based charge per annum would be:

$$\begin{aligned} & \underline{T1 (500) + T2 (750) + T3 (250)} \times (\text{£}23.844075/\text{kW} \times 1,000) \div 3 \\ & \qquad \qquad \qquad = \underline{\text{£}11,922,037.50 + \text{interest}} \end{aligned}$$

Scenario 2:

Triad Period 1 (T1) Net Interconnector Export = 500MW

Triad Period 2 (T2) Net Interconnector Import = 750MW

Triad Period 3 (T3) Net Interconnector Import = 250MW

TNUoS Demand-based charge per annum would be:

$$\begin{aligned} & \underline{T1 (500) + T2 (0) + T3 (0)} \times (\text{£}23.844075/\text{kW} \times 1,000) \div 3 \\ & \qquad \qquad \qquad = \underline{\text{£}3,974,012.50 + \text{interest}} \end{aligned}$$

Scenario 3:

Triad Period 1 (T1) Net Interconnector Import = 500MW

Triad Period 2 (T2) Net Interconnector Import = 750MW

Triad Period 3 (T3) Net Interconnector Import = 250MW

TNUoS Demand-based charge per annum would be:

$$\frac{T1 (0) + T2 (0) + T3 (0)}{3} \times (£23.844075/\text{kW} \times 1,000) \div 3$$
$$= \underline{\underline{£0.00}}$$

4 EXAMPLES

4.1 The following pages set out a series examples of how to calculate the charges for the use of IFA.

4.2 Charges produced by NGIL's invoicing section are definitive and the examples produced here are purely illustrative. The prices of capacity used in these examples in no way reflects the value a user may place on that capacity in any particular auction. The price used in the examples is an arbitrary number to enable the example calculations to be followed more easily.

4.3 Example 1

For a given hour a total of 1750MW of capacity rights are allocated in the direction France to England of which an individual user has secured 100MW at a price of €7.5/MW/hour and exercises those rights in full.

The TNUoS (generation) charge for 2009/10 is £1,182,118.48 based on a Registered Transmission Entry Capacity (TEC) of 1988MW.

Process	Calculation used
Capacity Charge Invoiced in €/MW/hour on a monthly basis.	As determined by pay as cleared auction multiplied by the number hours in the product period.
TNUoS Pass Through Charge Invoiced Monthly in arrears by NGIL in pounds sterling.	Transmission Network Use of System Charge (Generation Tariff) for Zone 17 Estuary based on a registered Transmission Entry Capacity (TEC) of 1988MW. NGIL adjusts this charge pro-rata to reflect the difference between the Registered TEC and maximum Deemed Metered Volume delivered onto the Transmission System (1976MW). This charge is then apportioned on an hourly basis pro-rata to capacity allocated. Steps to calculate Pass through charge: (((TNUoS Charge minus adjustment) divided by 8760*) divided by Total Capacity Allocated) multiplied by User's rights. *8784 in a leap year

For the given hour the User would pay a total of €750 ($€7.5/\text{MW} \times 100\text{MW}$) for Capacity and TNUoS charges of £7.66 based on $((£1,182,118.48 - £7,135.52) \div 8760^*) \div 1750) \times 100\text{MW}$.

*8784 in a leap year

4.4 Example 2

For a given hour a total of 1500MW of capacity rights are allocated in the direction England to France of which an individual User has secured 100MW at a price of €3.5/MW/hour and does not exercise those rights in a TNUoS Triad Charging Half Hour period.

Process	Calculation used
Capacity Charge Invoiced in €/MW/hour on a monthly basis.	As determined by pay as cleared auction multiplied by the number hours in the product period.

The User would only pay the Capacity Charge of €350 for the given hour. No TNUoS pass through charge would be become payable.

4.5 Example 3

For a given hour a total of 1500MW of capacity rights are allocated in the direction England to France of which an individual User has secured 500MW at a price of €3.5/MW/hour and exercises those rights in full during a single TNUoS Triad Charging half Hour Period. Taking into account other Users nominated flows the interconnector exports 1000MW England to France during one of the Triad Charging Half Hour Periods.

The interconnector flows France to England during the remaining two Triad Charging Half Hour Periods.

Process	Calculation used
Capacity Charge Invoiced in €/MW/hour on a monthly basis.	As determined by pay as cleared auction multiplied by the number hours in the product period.
TNUoS Demand Pass Through Charge Invoiced in pounds sterling after 28 th February each year.	$T1 = 1000, T2 = 0, T3 = 0$ $((1000 + 0 + 0) \div 3) \times (23.844075 \times 1000)$ Total Charge = £7,948,024.99 User's Proportion of Demand = 50%

The User would pay the Capacity Charge of €1,750 and a 50% proportion of the TNUoS demand charge amounting to £3,974,012.50 on a pass through basis.

4.6 Example 4

For a given hour a total of 2000MW of capacity rights are allocated in the direction England to France of which individual Users have each secured 500MW at a price of €3.5/MW/hour and exercise those rights during the TNUoS Triad Charging Half Hour Periods, as per the following:

Triad Period	(1)	(2)	(3)
User A	500MW	0MW	0MW
User B	0MW	300MW	200MW
User C	400MW	200MW	100MW
User D	100MW	0MW	450MW
Total	1000MW	500MW	750MW

$$\text{Average Demand} = (1000\text{MW} + 500\text{MW} + 750\text{MW}) \div 3 = 750\text{MW}$$

Process	Calculation used
Capacity Charge Invoiced in €/MW/hour on a monthly basis.	As determined by pay as cleared auction multiplied by the number hours in the product period.
TNUoS Demand Pass Through Charge Invoiced in pounds sterling after 28 th February each year.	T1 = 1000, T2 = 500, T3 = 750 $((1000 + 500 + 750) \div 3) \times (23.844075 \times 1000)$ Total Charge = £17,883,056.25

The Users would pay the Capacity Charge associated with their capacity holding as determined by the auction in which capacity was secured and a proportion of the TNUoS demand charge as set out in the table below on a pass through basis. (Note: for the purposes of this example, the values of capacity exercised have been treated as net values based on capacity rights exercised in the direction France to England being 0MW; however, the exercise of capacity rights in the direction France to England would reduce the net export value of the interconnector commensurately.)

User A – Proportion of total Demand = $500\text{MW} \div 2250\text{MW} = 22.22\%$ (£3,973,615.10)

User B – Proportion of total Demand = $500\text{MW} \div 2250\text{MW} = 22.22\%$ (£3,973,615.10)

User C – Proportion of total Demand = $700\text{MW} \div 2250\text{MW} = 31.11\%$ (£5,563,418.80)

User D – Proportion of total Demand = $550\text{MW} \div 2250\text{MW} = 24.45\%$ (£4,372,407.25)

5 CAPACITY TO BE OFFERED

- 5.1 The capacity offered will be 100% of IFA capability taking into account planned and unplanned outages, and IFA reliability. Details of planned outages are published and can be found at www.nationalgrid.com and clicking on Interconnectors, France, Notices & General Information. In the event of an unplanned outage curtailment will be applied where necessary, in accordance with the IFA Access Rules.
- 5.2 A timetable for auctions other than daily is also published on the website at the URL above.