

**Transmission Constraint Management Requirement Notice:
Invitation to Tender Pack, Letter 1**

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To All Service Providers

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Issue 1

Dear Service Provider

TRANSMISSION CONSTRAINT MANAGEMENT REQUIREMENT NOTICE - [TCMRN/03/17]

The following Transmission Constraint Management Requirement has been identified by National Grid Electricity Transmission ("National Grid") to manage forecast constraint costs and volumes, arising from asset health, planned outages and forecast system conditions. National Grid is therefore, seeking to procure constraint management services in order to economically and efficiently manage a potential constraint.

Index Price Only

Given the current uncertainty around plant running, National Grid is not looking to procure contracts for this requirement on a fixed price basis. We are inviting tenders based on an index price only as detailed below. Please note the below requirement is for a voltage only service at minimum output.

Constraint Requirement

Zonal Requirement:	Anglia/North London
Potential Service Providers:	Coryton South/ Little Barford/ Spalding North/ Rye House
Additional Notes:	The default mechanism will continue to be used for the payment of MVarh
Estimated volume required:	2 Units

Service providers are requested to provide prices for the following service:

Spread index linked

Service description:	Voltage Only
Service Type:	Option price without availability component
Term:	From: 03 NOV 2017 (23:00) To: 08 DEC 2017 (07:00)
Extension:	NG option for up to additional 1 month/31 January 2018
Period:	Overnight, 23:00 – 07:00 daily
Payment Rate:	On days when National Grid enacts the option, National Grid payout to unit based on the difference between the day ahead spark/dark spread and pre-agreed strike level (SEL) for the contracted period, as detailed in the Voltage Constraint Formula document.

Notice:	10:00 within day for 23:00 same night
Additional notes:	<p>We require prices for the following options.</p> <p>Option 1 - where at the time of the instruction, PN < SEL in EFA block 6B and EFA block 3A.</p> <p>Option 2 - where at the time of the instruction, PN >= SEL in EFA block 6B or where at the time of the instruction PN >= SEL in EFA block 3A.</p> <p>Option 3 - where at the time of the instruction, PN >= SEL in EFA block 6B and EFA block 3A.</p>

Please note that the above service is based on historic information and any service provider may offer an alternative if it is felt it may meet the requirement. Any new service offer, including prices, will be published as detailed below.

These requirements are National Grid's current best view based on OC2 generation availability, demand estimates, asset condition and forecast market conditions. However, if in National Grid's view the drivers change significantly then National Grid reserves the right to amend or withdraw these requirements. Where appropriate National Grid may republish the tender requirements and revise the relevant timescales accordingly.

Timescales

The timescales for this particular process are as follows:

Business Day 1, 17:00	Monday 9 October 2017	Requirement published
Business Day 6, 17:00	Monday 16 October 2017	Submission of prices & services
Business Day 11, 17:00	Monday 23 October 2017	Outcome published
Business Day 17, 17:00	Tuesday 31 October 2017	Contract in place
Business Day 20, 23:00	Friday 3 November 2017	Service commencement

Submission of Service and Price Offers

Should a service provider wish to submit service and price offers for these constraint management requirements, these should be submitted to Haarith Dhorat **and** the email address: commercial.operation@nationalgrid.com in accordance with the timescales above.

This process is not governed by National Grid standard contract terms, therefore the electronic submission of such offers are acceptable providing the above timescales are complied with.

A template for submissions is provided in Excel format on the constraint management website. Please use this Tender Sheet for your offer submission.

If there are any technical limitations on your stations ability to deliver this service, please ensure these are included in the tender for consideration in the assessment.

Publication of Information

National Grid shall publish and / or announce details of the information submitted for the provision of constraint management from any service provider, and the service provider is required to consent to the disclosure by National Grid of any such information. To this end, National Grid cannot accept an offer from any potential service provider unless they consent to the disclosure of such information.

Further Information

For further information and a more detailed explanation of the procurement process for the above or similar requirements, please contact your Balancing Services Account Manager.

Yours faithfully

Haarith Dhorat
Account Manager

APPENDIX 1 - GAS

Contract Fee

The **Contract Fee** for each **Service Period** shall be determined as follows:-

$$\text{Contract Fee (CF)} = (\text{Max}(0, \text{SP} - \text{CSS}_d)) * \text{SEL} * H_d$$

Where:

CF = the **Contract Fee** for the relevant **Service Period**.

SP = the Strike Price, being [] £/MWh

CSS_d = for **Service Periods** expiring in calendar day d, the day ahead **Clean Spark Spread**

$$\text{Clean Spark Spread} = \text{GBPP} - \text{Gas Cost} - \text{Carbon Cost}$$

Where:

$$\text{Gas Cost} = (\text{Day Ahead NBP} / \text{Gas Conversion Factor} * 10) / \text{Gas Efficiency Constant}$$

Carbon Cost = (Dec 2017EUA + CPS) * Gas Carbon Intensity, or where the contract is extended into January 2018, then for the period of January 1 2018 on:

$$\text{Carbon Cost} = (\text{Dec 2018EUA} + \text{CPS}) * \text{Gas Carbon Intensity}$$

And where:

GBPP = a mean average across each **Settlement Period** throughout the **Service Period** of the clearing prices for those **Settlement Periods** published by APX following the day ahead auction on calendar day d-1, quoted as £/MWh

Day Ahead NBP = the Day Ahead NBP volume-weighted average price as published by Argus on calendar day d-1 (or, where this is not a Working **Day**, on the immediately preceding Working **Day**) or, where the Working **Day** immediately preceding calendar day d is a Friday, the Argus Weekend NBP volume-weighted average price published on that day, quoted as pence/therm

Dec 2017EUA = the European Union Allowance price (expressed in €/tonne) for December of the relevant year published by the Intercontinental Exchange as the 'Settle Price' within the end of day report for contract C-EUA and dated the Day in which the Settlement Period falls or, if no report is published for that Day, the report published most recently prior to that Day, converted to £/tonne at the Euro to Sterling daily spot exchange rate for that Day published by the Bank of England.

Dec 2018EUA = the European Union Allowance price (expressed in €/tonne) for December of the relevant year published by the Intercontinental Exchange as the 'Settle Price' within the end

of day report for contract C-EUA and dated the Day in which the Settlement Period falls or, if no report is published for that Day, the report published most recently prior to that Day, converted to £/tonne at the Euro to Sterling daily spot exchange rate for that Day published by the Bank of England.

CPS = UK carbon price support being £18.00/tonne from 1st April 2017

Gas Carbon Intensity = 0.41

Gas Efficiency Constant= 0.49

Gas Conversion Factor = 29.3071

SEL = the **Contracted SEL**

H_d = the number of hours comprised in the relevant **Service Period** excluding periods of deemed unavailability pursuant to Sub-Clause 3.3.3 and any **Settlement Periods** in respect of which the **Generator** fails to comply with any of its obligations hereunder as referred to in Sub-Clause 3.5.2.

Euro GBP conversion = daily spot rate as published by the Bank of England.

APPENDIX 1 - COAL

Contract Fee

The **Contract Fee** for each **Service Period** shall be determined as follows:-

$$\text{Contract Fee (CF)} = (\text{Max}(0, \text{SP} - \text{CDS}_d)) * \text{CO} * H_d$$

Where:

CF = the **Contract Fee** for the relevant **Service Period**.

SP = the Strike Price, being [] £/MWh

CDS_d = for **Service Periods** expiring in calendar day d, the day ahead **Clean Dark Spread**

$$\text{Clean Dark Spread} = \text{GBPP} - \text{Coal Cost} - \text{Carbon Cost}$$

Where:

$$\text{Coal Cost} = (\text{Front Month API2} / \text{Coal Conversion Factor}) / \text{Coal Efficiency Constant}$$

Carbon Cost = (Dec 2017EUA + CPS) * Coal Carbon Intensity or where the contract is extended into January 2018, then for the period of January 1 2018 on:

$$\text{Carbon Cost} = (\text{Dec 2017EUA} + \text{CPS}) * \text{Coal Carbon Intensity}$$

And where:

GBPP = a mean average across each **Settlement Period** throughout the **Service Period** of the clearing prices for those **Settlement Periods** published by APX following the day ahead auction on calendar day d-1, quoted as £/MWh

Front Month API2 = the coal All Published Index number 2 closing price for the following calendar month as published by Bloomberg on calendar day d-1 (or, where this not a Working Day, on the immediately preceding Working Day), converted to £/ton

Dec 2017EUA = the European Union Allowance price (expressed in €/tonne) for December of the relevant year published by the Intercontinental Exchange as the 'Settle Price' within the end of day report for contract C-EUA and dated the Day in which the Settlement Period falls or, if no report is published for that Day, the report published most recently prior to that Day, converted to £/tonne at the Euro to Sterling daily spot exchange rate for that Day published by the Bank of England.

Dec 2018EUA = the European Union Allowance price (expressed in €/tonne) for December of the relevant year published by the Intercontinental Exchange as the 'Settle Price' within the end of day report for contract C-EUA and dated the Day in which the Settlement Period falls or, if no report is published for that

Day, the report published most recently prior to that Day, converted to £/tonne at the Euro to Sterling daily spot exchange rate for that Day published by the Bank of England.

CPS = UK carbon price support being £18.00/tonne from 1st April 2017

Coal Carbon Intensity = 0.94

Coal Efficiency Constant= 0.36

Coal Conversion Factor = 6.97

CO = the **Contracted Output**

H_d = the number of hours comprised in the relevant **Service Period** excluding periods of deemed unavailability pursuant to Sub-Clause 3.3.3 and any **Settlement Periods** in respect of which the **Generator** fails to comply with any of its obligations hereunder as referred to in Sub-Clause 3.5.2.

Euro GBP conversion = daily spot rate as published by the Bank of England.