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

Vicci Baker
Account Manager

vicci.baker@nationalgrid.com
Direct tel: +44 (0)1926 655224
Direct fax: +44 (0)1926 656613
www.nationalgrid.com

To All Service Providers

24 April 2014
Issue 1

Dear Service Provider

TRANSMISSION CONSTRAINT MANAGEMENT REQUIREMENT NOTICE - VMRN/03/14

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 declining MVAr demand and low levels of expected generation overnight in the south east. National Grid is therefore, seeking to procure constraint management services in order to economically and efficiently manage a potential constraint.

Constraint Requirement

Zonal Requirement:	London and South East
Potential Service Providers:	Damhead Creek, Grain, Coryton, Medway, Barking, Littlebrook and Rye House[1]
Additional Notes:	More than one price structure may be offered Only one unit is required for each service type

[1] Although these Power Stations have been identified as being particularly effective for this localised requirement, this list is not exhaustive.

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

Service	Reactive (Y/N)	Response (SEL / PLP / N(SEL))	Interconnector – Balance position on Interconnector	Service Type	Description	Payment	Time	Term
1	Y	N (SEL)	No	Firm	Firm Voltage Only Service	Availability Fee (£/SP)	Mon – Fri: 00:30–06:00 Sat & Sun: 00:30 – 07:00 Bank Holidays: 00:30–08:00	Applicable for all services: **a)** 1 Jul – 30 Sep **b)** 1-31 July **c)** 1-31 August **d)** 1-30 September
2	Y	SEL	No	Firm	Firm Combined FR+Volts SEL	Availability Fee (£/SP)		
3	Y	PLP	No	Firm	Firm Combined FR+Volts PLP	Availability Fee (£/SP)	24 hrs	
4	Y	N (SEL)	Yes	Firm	Firm Combined Volts and Interconnector	Availability Fee (£/SP)		
5	Y	SEL	Yes	Firm	Firm Combined FR, Volts and Interconnector (SEL)	Availability Fee (£/SP)	Mon – Fri: 00:30–06:00 Sat & Sun: 00:30 – 07:00 Bank Holidays: 00:30–08:00	
6	Y	PLP	Yes	Firm	Firm Combined FR, Volts and Interconnector (PLP)	Availability Fee (£/SP)		
7	Y	N (SEL)	No	Optional	Optional Voltage Only Service	Availability Fee Utilisation Fee (£/SP)	Mon – Fri: 00:30–06:00 Sat & Sun: 00:30 – 07:00 Bank Holidays: 00:30–08:00 Notice (issued by Traders): D-1 by 1300hrs (e.g. instruction at 13:00 on Mon for service delivery 00:30 on Tues)	**a)** 18 June – 30 Sep **b)** 18-30 June **c)** 1-31 July **d)** 1-31 August **e)** 1-30 September

Key/ Additional Information:
PLP – Part load point
N (SEL) – No frequency response service for the avoidance of doubt the service will be at SEL
Term – Providers are invited to submit prices for the whole period and for each of the individual months
Interconnector – Balance position on Interconnector: This is a new development to the service that we are currently looking at and we would welcome submissions for. Draft Heads of Terms will be published in due course for the Interconnector

The green shading denotes that these services are a priority for providers to submit pricing for

Please note that the above services are 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 and forecast market conditions. However, if in National Grid's view, system or market conditions change significantly in the period between publication of this letter and the request for Round 2 submissions, then National Grid reserves the right to amend or withdraw these requirements. National Grid may request tender submissions for any revised requirements during Round 2. 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, 14:00	Thur 24 April 2014	Requirements published
Business Day 8, 17:00	Tues 6 May 2014	Submission of prices & services: Round 1
Business Day 14, 17:00	Weds 14 May 2014	Outcome of Round 1 published
Business Day 21, 17:00	Fri 23 May 2014	Submission of prices & services: Round 2
Business Day 27, 17:00	Tues 3 June 2014	Outcome of Round 2 published
Business Day 33, 17:00	Weds 11 June 2014	Contract in place

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 your Balancing Services Account Manager **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 is acceptable providing the above timescales are complied with.

A suggested template for submissions is provided in Appendix One. 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

Vicci Baker
Account Manager

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Appendix One – Potential Services

The assessment will include, but is not limited to, the information in the table below.

Station	BMU ID	Service	Availability Fee (£/sp)	Exercise Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Interconnector (IFA/Britned)	Inertia 'H' Value	Comments

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Transmission Constraint Management Requirement Notice: Invitation to Tender Pack, Letter 2

Paul Lowbridge
Account Manager

paul.lowbridge@nationalgrid.com
Direct tel: +44 (0)1926 656451
Direct fax: +44 (0)1926 656613
www.nationalgrid.com

To All Service Providers

14 May 2014
Issue 1

Dear Service Provider

TRANSMISSION CONSTRAINT MANAGEMENT REQUIREMENT NOTICE - VMRN/03/14

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 declining MVAr demand and low levels of expected generation overnight in the south east. National Grid is therefore, seeking to procure constraint management services in order to economically and efficiently manage a potential constraint.

Tenders for Round One of this requirement have been received from six parties. We would like to thank those who participated in Round One. These offers are summarised in Appendix One to this letter along with feedback following assessment by National Grid.

Constraint Requirement

Zonal Requirement:	London and South East
Potential Service Providers:	Damhead Creek, Grain, Coryton, Medway, Barking, Littlebrook and Rye House[1]
Additional Notes:	More than one price structure may be offered Only one unit is required for each service type

[1] Although these Power Stations have been identified as being particularly effective for this localised requirement, this list is not exhaustive.

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Service providers are requested to provide prices for the following services. *Please note the following changes to the service parameters for Round 2:*

- *Service 2 is now 24hrs and start times for Service 1,4,5,7 have changed to 00:00 (previously 00:30);*
- *Removal of Service 6 due to there no longer being a requirement;*
- *Changes to the Term applicable for Services 1,4,5,7.*

Service	Reactive (Y/N)	Response (SEL / PLP / N(SEL))	Balance position on Interconnector	Service Type	Description	Payment	Time	Term
1	Y	N (SEL)	No	Firm	Firm Voltage Only Service	Availability Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00	Applicable for services: **a)** 1 Jul – 30 Sep
2	Y	SEL	No	Firm	Firm Combined Frequency Response +Volts SEL	Availability Fee (£/SP)	24 hrs	Applicable for all services: **a)** 1 Jul – 30 Sep **b)** 1-31 July **c)** 1-31 August **d)** 1-30 September
3	Y	PLP	No	Firm	Firm Combined Frequency Response +Volts PLP	Availability Fee (£/SP)		
4	Y	N (SEL)	Yes	Firm	Firm Combined Volts and Interconnector	Availability Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00	Applicable for services: **a)** 1 Jul – 30 Sep
5	Y	SEL	Yes	Firm	Firm Combined Frequency Response, Volts and Interconnector (SEL)	Availability Fee (£/SP)		
7	Y	N (SEL)	No	Optional	Optional Voltage Only Service	Availability Fee Utilisation Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00 Notice (issued by Traders): D-1 by 1300hrs (e.g. instruction at 13:00 on Mon for service delivery 00:30 on Tues)	**a)** 18 June – 30 Sep

Key/ Additional Information:

PLP – Part load point

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Term – Providers are invited to submit prices for the whole period and for each of the individual months

Interconnector – Balance position on Interconnector: This is a new development to the service that we are currently looking at and we would welcome submissions for. Draft Heads of Terms have been published for this service.

The green shading denotes that these services are a priority for providers to submit pricing for

Please note that the above services are 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. To submit an offer in Round 2 potential service providers must have participated in Round 1.

These requirements are National Grid's current best view based on OC2 generation availability, demand estimates and forecast market conditions. However, if in National Grid's view of system or market conditions change significantly, National Grid reserves the right to amend or withdraw these requirements.

Timescales

The timescales for this particular process are as follows:

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Business Day 21, 17:00	Fri 23 May 2014	Submission of prices & services: Round 2
Business Day 27, 17:00	Tues 3 June 2014	Outcome of Round 2 published
Business Day 33, 17:00	Weds 11 June 2014	Contract in place

Round One Assessment

Tenders for Round 1 of this requirement have been received from six parties offering services from six stations. These offers are summarised in Appendix One to this letter along with feedback following assessment by National Grid. A number of the tenders were not considered economic against the alternatives; we would encourage these offers to be submitted at reduced prices in Round 2. A number of tenders offered potential benefits against the alternatives and we would encourage providers to submit their best price for these services in Round 2. When considering submissions we would encourage providers to submit their lowest SEL levels.

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 your Balancing Services Account Manager **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 is acceptable providing the above timescales are complied with.

A suggested template for submissions is provided in Appendix Two. 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

Paul Lowbridge
Account Manager

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Appendix One – Tender Data

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Barking	BARK-B2	1a)	7160	n/a	220	238:186								Does not provide economic benefit against alternative services
	BARK-B2	1b)	7160	n/a	220	238:186								
Coryton	COSO-1	1a)	4027	n/a	220	192:397								Provides economic benefit but more economic options are available
	COSO-1	2a)	4077	n/a	220	192:397	10	20	25	30	70	0	0	Requirements have changed, would like to see retender
	COSO-1	3a)	1365	n/a	250	192:397	10	20	25	30	70	9	20	Provides economic benefit, would like to see retender
	COSO-1	4/5/6	Expression of interest received											Due to the developmental nature of this service this expression of interest has been noted and we welcome further information to be provided in Round 2.
Damhead Creek	DAMC-1	1a)	5095	n/a	475	377:362								Does not provide economic benefit against alternative services
	DAMC-1	1b)	5205	n/a	475	377:362								
	DAMC-1	1c)	5000	n/a	475	377:362								
	DAMC-1	1d)	5940	n/a	475	377:362								
	DAMC-1	2a)	5188	n/a	475	377:362	52	52	52	60	76	60	190	Requirements have changed, would like to see retender
	DAMC-1	2b)	5297	n/a	475	377:362	52	52	52	60	76	60	190	

	DAMC-1	2c)	5091	n/a	475	377:362	52	52	52	60	76	60	190	
	DAMC-1	2d)	6037	n/a	475	377:362	52	52	52	60	76	60	190	
	DAMC-1	3a)	1630	n/a	607	377:362	52	52	52	60	76	60	190	
	DAMC-1	3b)	1648	n/a	607	377:362	52	52	52	60	76	60	190	Provides economic benefit, would like to see retender
	DAMC-1	3c)	1589	n/a	607	377:362	52	52	52	60	76	60	190	
	DAMC-1	3d)	1861	n/a	607	377:362	52	52	52	60	76	60	190	
	GRAI-7	1a)	3398.05	n/a	230	155:341								
	GRAI-7	1b)	4049.55	n/a	230	155:341								Provides economic benefit but more economic options are available
	GRAI-7	1c)	4366.62	n/a	230	155:341								
	GRAI-7	1d)	4664.6	n/a	230	155:341								
	GRAI-7	2a)	3547.93	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	2b)	4202.8	n/a	370	155:341	26	58	58	32	60	32	65	Requirements have changed, would like to see retender
Grain Unit 7	GRAI-7	2c)	5615.76	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	2d)	5973.92	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	3a)	2061.97	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	3b)	1768	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	3c)	2025.52	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	3d)	2163.01	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-7	7a)	258.86	2329.75	230	155:341								Provides economic benefit, would like to see retender
	GRAI-7	7b)	1070.19	9631.75	230	155:341								
	GRAI-7	7c)	541.09	4869.81	230	155:341								
	GRAI-7	7d)	557.76	5019.82	230	155:341								
	GRAI-7	7e)	582.07	5238.61	230	155:341								

Grain Unit 8	GRAI-8	1a)	3398.05	n/a	230	155:341								Provides economic benefit but more economic options are available
	GRAI-8	1b)	4049.55	n/a	230	155:341								
	GRAI-8	1c)	4366.62	n/a	230	155:341								
	GRAI-8	1d)	4664.6	n/a	230	155:341								
	GRAI-8	2a)	3547.93	n/a	370	155:341	26	58	58	32	60	32	65	Requirements have changed, would like to see retender
	GRAI-8	2b)	4202.8	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	2c)	5615.76	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	2d)	5973.92	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	3a)	2061.97	n/a	370	155:341	26	58	58	32	60	32	65	Provides economic benefit, would like to see retender
	GRAI-8	3b)	1768	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	3c)	2025.52	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	3d)	2163.01	n/a	370	155:341	26	58	58	32	60	32	65	
	GRAI-8	7a)	258.86	2329.75	230	155:341								
	GRAI-8	7b)	1070.19	9631.75	230	155:341								
	GRAI-8	7c)	541.09	4869.81	230	155:341								
	GRAI-8	7d)	557.76	5019.82	230	155:341								
	GRAI-8	7e)	582.07	5238.61	230	155:341								
Littlebrook	LITTD1/2	1a)	11681	n/a	80	330:470								Does not provide economic benefit against alternative services
	LITTD1/2	7a)	224	11457	80	330:470								Does not provide economic benefit against alternative services
Medway	MEDP-1	1a)	5188	n/a	170	249:335								Does not provide economic benefit against alternative services
	MEDP-1	1b)	5184	n/a	170	249:335								
	MEDP-1	1c)	5450	n/a	170	249:335								
	MEDP-1	1d)	5353	n/a	170	249:335								

	MEDP-1	1a)	6627	n/a	340	383:478								
	MEDP-1	1b)	6470	n/a	340	383:478								
	MEDP-1	1c)	6989	n/a	340	383:478								
	MEDP-1	1d)	6845	n/a	340	383:478								
	MEDP-1	3a)	2409	n/a	298	265:288	15	38	38	24	52.5	15.5	39.5	
	MEDP-1	3b)	2386	n/a	298	265:288	15	38	38	24	52.5	15.5	39.5	
	MEDP-1	3c)	2443	n/a	298	265:288	15	38	38	24	52.5	15.5	39.5	
	MEDP-1	3d)	2504	n/a	298	265:288	15	38	38	24	52.5	15.5	39.5	
	MEDP-1	3a)	2829	n/a	595	373	30	76	76	48	105	31	79	
	MEDP-1	3b)	2703	n/a	595	373	30	76	76	48	105	31	79	
	MEDP-1	3c)	2939	n/a	595	373	30	76	76	48	105	31	79	
	MEDP-1	3d)	2952	n/a	595	373	30	76	76	48	105	31	79	
	MEDP-1	7a)	1000	10044	170	249:335								

Appendix 2 - Potential Services

The assessment will include, but is not limited to, the information in the table below.

Station	BMU ID	Service	Availability Fee (£/sp)	Exercise Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Interconnector (IFA/Britned)	Inertia 'H' Value	Comments

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Transmission Constraint Management Requirement Notice: Invitation to Tender Pack, Letter 3

Vicci Baker
Account Manager

vicci.baker@nationalgrid.com
Direct tel: +44 (0)1926 655224
Direct fax: +44 (0)1926 656613
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To All Service Providers

3 June 2014
Issue 1

Dear Service Provider

TRANSMISSION CONSTRAINT MANAGEMENT REQUIREMENT NOTICE - VMRN/03/14

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 declining MVAr demand and low levels of expected generation overnight in the south east. National Grid is therefore, seeking to procure constraint management services in order to economically and efficiently manage a potential constraint.

Tenders for Round Two of this requirement have been received from five parties. We would like to thank those who participated in this tender. These offers are summarised in Appendix One to this letter.

Constraint Requirement

Zonal Requirement:	London and South East
Potential Service Providers:	Damhead Creek, Grain, Coryton, Medway, Barking, Littlebrook and Rye House[1]
Additional Notes:	More than one price structure may be offered Only one unit is required for each service type

[1] Although these Power Stations have been identified as being particularly effective for this localised requirement, this list is not exhaustive.

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- Service providers were requested to provide prices for the following services.

Service	Reactive (Y/N)	Response (SEL / PLP / N(SEL))	Balance position on Interconnector	Service Type	Description	Payment	Time	Term
1	Y	N (SEL)	No	Firm	Firm Voltage Only Service	Availability Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00	Applicable for services: **a)** 1 Jul – 30 Sep
2	Y	SEL	No	Firm	Firm Combined Frequency Response +Volts SEL	Availability Fee (£/SP)	24 hrs	Applicable for all services: **a)** 1 Jul – 30 Sep **b)** 1-31 July **c)** 1-31 August **d)** 1-30 September
3	Y	PLP	No	Firm	Firm Combined Frequency Response +Volts PLP	Availability Fee (£/SP)		
4	Y	N (SEL)	Yes	Firm	Firm Combined Volts and Interconnector	Availability Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00	Applicable for services: **a)** 1 Jul – 30 Sep
5	Y	SEL	Yes	Firm	Firm Combined Frequency Response, Volts and Interconnector (SEL)	Availability Fee (£/SP)		
7	Y	N (SEL)	No	Optional	Optional Voltage Only Service	Availability Fee Utilisation Fee (£/SP)	Mon – Fri: 00:00–06:00 Sat & Sun: 00:00 – 07:00 Bank Holidays: 00:00–08:00 Notice (issued by Traders): D-1 by 1300hrs (e.g. instruction at 13:00 on Mon for service delivery 00:30 on Tues)	**a)** 18 June – 30 Sep

Key/ Additional Information:
PLP – Part load point
N (SEL) – No frequency response service for the avoidance of doubt the service will be at SEL
Term – Providers are invited to submit prices for the whole period and for each of the individual months
Interconnector – Balance position on Interconnector: This is a new development to the service that we are currently looking at and we would welcome submissions for. Draft Heads of Terms have been published for this service.

The green shading denotes that these services are a priority for providers to submit pricing for

Round Two Assessment

All tenders have been reviewed to take account of their effectiveness in resolving our forecast requirements for voltage management and frequency response and taking into account the forecast alternative cost of resolving these issues. As a result of this assessment National Grid would like to take forward to contract with Damhead Creek for Service 3a.

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

Vicci Baker
Account Manager

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Appendix One – Tender Data

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Barking	BARK-B2	2b)	1362	n/a	220	238:186	22	55	72	26	65	0	0	Does not provide economic benefit against alternative services
	BARK-B2	2c)	1397	n/a	255	238:186	22	55	72	26	65	0	0	Does not provide economic benefit against alternative services
	BARK-B2	3b)	1246	n/a	220	238:186	22	55	72	26	65	0	0	Does not provide economic benefit against alternative services
	BARK-B2	3c)	1278	n/a	255	238:186	22	55	72	26	65	0	0	Provides economic benefit but more economic options are available
Coryton	COSO-1	1a)	3125	n/a	220	192:397								Does not provide economic benefit against alternative services
	COSO-1	2a)	1247	n/a	220	192:397	10	20	25	30	70	0	0	Provides marginal economic benefit but more economic options are available
	COSO-1	3a)	1188	n/a	256	192:397	10	20	25	30	70	9	20	Does not provide economic benefit against alternative services
	COSO-1	4a)	3125	n/a	220	192:397								Does not provide economic benefit against alternative services
	COSO-1	5a)	3125	n/a	220	192:397	10	20	25	30	70	9	20	Does not provide economic benefit against alternative services

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Damhead Creek	DAMC-1	1a)	3645	n/a	475	377:362								Does not provide economic benefit against alternative services
	DAMC-1	2a)	1654	n/a	475	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	2b)	1733	n/a	475	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	2c)	1702	n/a	475	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	2d)	1729	n/a	475	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	3a)	1323	n/a	607	377:362	52	52	52	60	76	60	190	Most economic option available
	DAMC-1	3b)	1402	n/a	607	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	3c)	1362	n/a	607	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available
	DAMC-1	3d)	1408	n/a	607	377:362	52	52	52	60	76	60	190	Provides economic benefit but more economic options are available

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Grain Unit 7	GRAI-7	1a)	4114	n/a	230	155:341								Does not provide economic benefit against alternative services
	GRAI-7	2a)	2488	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-7	2b)	2534	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-7	2c)	2671	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-7	2d)	2697	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-7	3a)	2801	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-7	3b)	2838	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-7	3c)	2912	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-7	3d)	2928	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-7	7a)	953	3811	230	155:341								Does not provide economic benefit against alternative services

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Grain Unit 8	GRAI-8	1a)	4114	n/a	230	155:341								Does not provide economic benefit against alternative services
	GRAI-8	2a)	2488	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-8	2b)	2534	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-8	2c)	2671	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-8	2d)	2697	n/a	370	155:341	26	58	58	32	84	0	0	Does not provide economic benefit against alternative services
	GRAI-8	3a)	2801	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-8	3b)	2838	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-8	3c)	2912	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-8	3d)	2928	n/a	370	155:341	26	58	58	32	60	32	65	Does not provide economic benefit against alternative services
	GRAI-8	7a)	953	3811	230	155:341								Does not provide economic benefit against alternative services

Station	BMU ID	Service	Availability Fee (£/sp)	Utilisation Fee (£/sp)	MW Level	MVAr Range Lead:Lag	Primary Response @0.2 Hz	Primary Response @0.5 Hz	Primary Response @0.8 Hz	Secondary Response @0.2Hz	Secondary Response @0.5Hz	High Response @0.2Hz	High Response @0.5Hz	Feedback
Medway	MEDP-1	1a)	2609	n/a	170	249:335								Provides marginal economic benefit but more economic options are available
	MEDP-1	1a)	3827	n/a	340	383:478								Does not provide economic benefit against alternative services
	MEDP-1	2a)	1487	n/a	170	249:335	15	36	36	24	53	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2b)	1539	n/a	170	249:335	15	36	36	24	53	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2c)	1457	n/a	170	249:335	15	36	36	24	53	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2d)	1520	n/a	170	249:335	15	36	36	24	53	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2a)	3137	n/a	340	383:478	30	72	72	48	105	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2b)	3128	n/a	340	383:478	30	72	72	48	105	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2c)	3112	n/a	340	383:478	30	72	72	48	105	0	0	Does not provide economic benefit against alternative services
	MEDP-1	2d)	3228	n/a	340	383:478	30	72	72	48	105	0	0	Does not provide economic benefit against alternative services

MEDP-1	3a)	1288	n/a	298	265:288	15	38	38	24	53	16	40	Does not provide economic benefit against alternative services
MEDP-1	3b)	1314	n/a	298	265:288	15	38	38	24	53	16	40	Does not provide economic benefit against alternative services
MEDP-1	3c)	1270	n/a	298	265:288	15	38	38	24	53	16	40	Does not provide economic benefit against alternative services
MEDP-1	3d)	1337	n/a	298	265:288	15	38	38	24	53	16	40	Does not provide economic benefit against alternative services
MEDP-1	3a)	1598	n/a	595	407:373	30	76	76	48	105	31	79	Does not provide economic benefit against alternative services
MEDP-1	3b)	1547	n/a	595	407:373	30	76	76	48	105	31	79	Does not provide economic benefit against alternative services
MEDP-1	3c)	1614	n/a	595	407:373	30	76	76	48	105	31	79	Does not provide economic benefit against alternative services
MEDP-1	3d)	1690	n/a	595	407:373	30	76	76	48	105	31	79	Does not provide economic benefit against alternative services
MEDP-1	7a)	500	5000	170	249:335								Does not provide economic benefit against alternative services
MEDP-1	7a)	550	7050	340	383:478								Does not provide economic benefit against alternative services

Inertia and Voltage Constraint Management

Firm combined volts and interconnector service - DRAFT HEADS OF TERMS
24/04/2014

An overnight requirement for generation to run in order to support voltage management has been identified in the South East. There is also a requirement to manage the overall rate of change of frequency and level of inertia on the system. National Grid would like to investigate whether a new combined service can be developed to support both these issues which both occur at times of low demand.

This document provides draft heads of terms and should be read together with the published requirement. These heads of terms aim to give an indication of how the service could work but should not be considered binding and are open to further development. We welcome the opportunity to discuss this service with potential providers.

Name of Service	**Inertia and Voltage Constraint Management** ***(Minimum output combined with Interconnector trading)***
Commencement and Term	To commence on date of signature for a fixed term Service term and service periods to be included in contract based on ad hoc requirement detailed in invitation to tender letter.
Governance	Requirements to be tendered on an ad-hoc basis. Following successful tender bilateral contracts agreed. Generic terms to be developed during tender. Final contract including specific service and provider details to be agreed following tender. Providers would need to separately ensure they (or a third party acting on their behalf) are capable of purchasing and declaring intraday capacity and volumes on an interconnector before entering into a contract.
Service Description	**General** This service aims to help with voltage issues in the south east and inertia issues across the whole system. Contract terms for voltage and inertia already exists however a new mechanism for delivering this service is being proposed. This service will require the generator to run their station at SEL in order to provide voltage support as required under the original contract. In addition to this obligation, under this new service the generator must also replace their volume with intra-day trading on the interconnector to ensure a net increase of inertia on the system. We would like to investigate whether by combining both generation and interconnector actions through a contract we are able to achieve cost efficiency. **Service Requirement** This service will be required during overnight minimums where due to the lack of conventional generation synchronised issues with voltage and inertia become a concern.

	Service Periods Specific service periods will be identified as part of any specific requirement it is likely these periods would be overnight in summer but could extend to other parts of the year. **Who can Participate** BM participants who also have generation in the south east and the facility to trade on the interconnector or agreements in place with a third party who can do this on their behalf.
Provider obligations	• Contracted BM unit must declare PN at agreed MW level and must generate at agreed MW level unless otherwise instructed by National Grid • Contracted BM unit must be available for instruction of reactive power in line with the tendered Mvar range • Provider must purchase agreed MW volume of intraday capacity on either BritNed or IFA (which interconnector must be specified upfront in the contract). • Provider must declare agreed flow volume at the final intraday interconnector gate. (Energy should flow from UK to the rest of Europe)
Metering and Monitoring	• PNs of contracted unit(s) to be monitored • Monitoring of interconnector activity to be via MCRPs and/or Damas website
Tenders for Service Provision	**Market Information** Specific requirement included in invitation to tender letter. **Tender Timescale** Specific timescales included in invitation to tender.
Availability of Service	• Service should be available during all service periods in the service term. • Generator should declare unavailable where they are not able to provide the service.
Utilisation of Service	• Under this firm service the provider must fulfil their obligations without further instruction from National Grid
Payment Provision	• For the firm service a £/SP availability fee will be paid for each SP within a service period. • Providers may wish to include indexation provisions. These must be agreed with National Grid ahead of tender assessment.
Failure to Provide Service	• If the provider does not submit the agreed PN they will not be paid for 80% of the service fee. • If the provider does not make the agreed trade they will not be paid for 50% of the service fee.