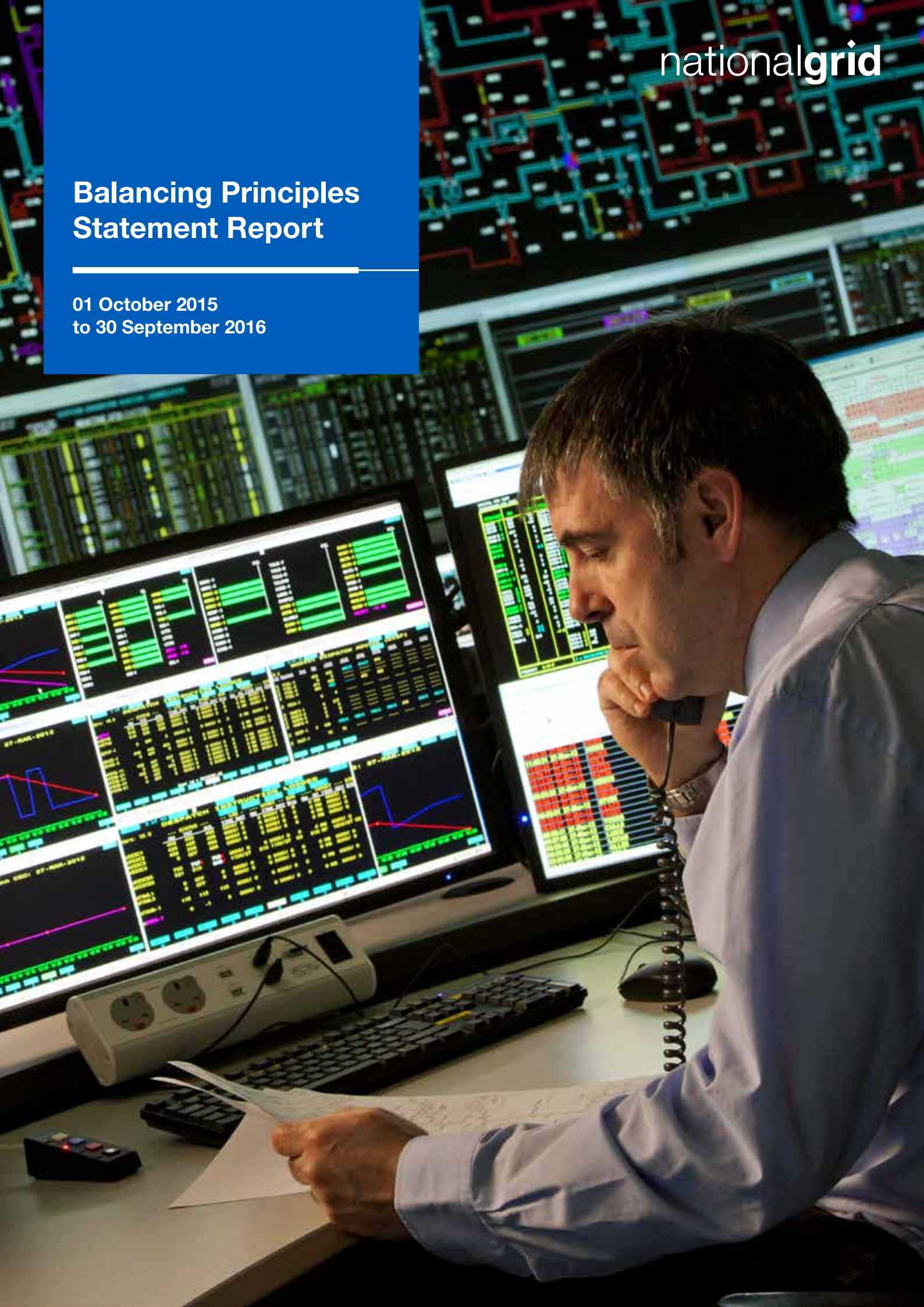


Balancing Principles Statement Report

01 October 2015
to 30 September 2016



Balancing Principles Statement Report

01 October 2015 to 30 September 2016

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Balancing Principles Statement Report

01 October 2015 to 30 September 2016

Executive Summary

National Grid has developed the Balancing Principles Statement (BPS) in accordance with Licence requirements to define the broad framework within which balancing action decisions are made.

The BPS is intended to help electricity market participants understand actions National Grid may take to achieve the efficient, economic and co-ordinated operation of the transmission system. To assist with this we have also held regular industry forums where we have provided data, detailed explanations of our balancing actions and answers to questions raised by participants.

This report demonstrates that throughout the period from 1 October 2015 to 30 September 2016, National Grid has operated the National Electricity Transmission System (NETS) in accordance with the guidelines set out in the Balancing Principles Statement. Our compliance with the BPS is subject to independent external review. A statement from the External Auditor (PriceWaterhouseCoopers) accompanies this report.

Key events highlighted in this report:

- There were no Emergency Instructions issued to Balancing Mechanism Units (BMUs). However, there were six instances where a non BM participant was instructed down by Emergency Instruction due to Localised Negative Reserve Active Power Margin Warnings (NRPAM). There were no requests for Maximum Generation Service.
- There were three occasions where Interconnector Emergency Assistance was requested by National Grid.
- No Demand Control instructions were issued over this reporting period.
- There was one occasion where Demand Side Balancing reserve (DSBR) was instructed, which involved seven providers.
- No NRPAM Warnings were issued. However, there were seven occasions when Localised NRPAM Warnings were issued in for Scotland.
- There were no occasions of system or partial system shutdown or islanding. No Black Start services were called off.
- Our Balancing Mechanism (BM) IT systems achieved 99.999% availability (excluding planned outages) in this reporting period.
- There were two instances occurrences of Involuntary Reduction by BMUs, where bids were used to reduce BMU trading positions.
- There were eleven occasions where BMUs were disconnected from the GB Transmission System due to faults. No Bid-Offer Acceptances (BOAs) were issued to these BMUs.

Balancing Principles Statement Report

01 October 2015 to 30 September 2016

1. BPS Part A: Introduction

National Grid has developed a Balancing Principles Statement (BPS) in accordance with Licence requirements in order to define the broad framework within which balancing action decisions are made.

The BPS is intended to help electricity market participants understand actions National Grid may take to achieve the efficient, economic and co-ordinated operation of the National Electricity Transmission System.

An overview of the BPS is contained in Appendix 1.

[Our compliance with the BPS is subject to independent external review and reflected in this annual report. Appendix 5 of this report contains an opinion from the external auditors.](#)

2. BPS Part B: General Principles

The BPS is written to be consistent with our Transmission Licence obligation to operate the system in an efficient, economic and co-ordinated manner, whilst ensuring the security of the system at all times.

In determining which balancing measures to employ, we take account of various sources of information. These include Balancing Mechanism Unit (BMU) data, our demand forecasts, our Transmission outage plan, actual system conditions, and any other relevant data (Grid Code BC 1.4.2 (f)).

In certain circumstances, we may need to issue Emergency Instructions or Involuntary Reductions in order to preserve the integrity of the National Electricity Transmission System (NETS). These circumstances may include system events and situations involving the requirement for demand control, Negative Reserve Active Power Margin, Black Start, frequency response and communication failure. In these circumstances, it may be necessary to depart from normal Balancing Mechanism operation in accordance with Grid Code BC2.9.

[Throughout the period from 1 October 2015 to 30 September 2016, National Grid has operated the GB Transmission Systems in accordance with the general principles set out in the Balancing Principles Statement.](#)

[We are permitted in certain circumstances to operate the system outside the normal principles of Balancing Mechanism operation \(as described in the BPS\). Specific occurrences are covered in more detail below.](#)

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The following table summarises the reporting sections for the last 4 years

Category	Oct 2012 - Sep 2013	Oct 2013 - Sept 2014	Oct 2014 - Sept 2015	Oct 2015 - Sep 2016
Emergency Instructions	1	0 ²	0 ⁴	0 ⁶
Interconnector Emergency Assistance	4	3	3	3
Demand Control	0	0	0	0
Demand Side Balancing Reserve (DSBR)	N/A	N/A	N/A	1
NRAPM Warnings	0 ¹	0 ³	0 ⁵	0 ⁷
Black Start/Islanding	0	0	0	0
Maximum Generation Service	0	0	0	0
Availability of National Grid Balancing Mechanism systems	100%	99.86%	99.86%	99.99%
Involuntary Reductions	2	2	2	2
No. of occasions BMUs disconnected by Transmission System Faults	27	21	21	11

Note 1: 5 Localised NRAPMs issued for Scotland in Year End Sept 2013

Note 2: 1 Emergency Instruction issued for BELLA (Bilateral Embedded Licence Exemptible Large Power Station Agreement) wind farms (non BM participant)

Note 3: 3 Localised NRAPMs issued for Scotland in Year End Sept 2014

Note 4: 12 Emergency instructions issued to BELLA wind farms (non BM participants)

Note 5: 10 Localised NRAPMS issued for Scotland in Year End Sept 2015

Note 6: 6 Emergency instructions issued to BELLA wind farms (non BM participants)

Note 7: 7 localised NRAPMs issued for Scotland n Year End Sept 2016

2.1 Emergency Instructions

In certain circumstances, it may be necessary for National Grid to issue Emergency Instructions in order to preserve the integrity of the National Electricity Transmission System and any synchronously connected external system. In such circumstances, it may be necessary to depart from normal Balancing Mechanism operation in accordance with BC2.9 of the Grid Code.

There were no instances of Emergency Instructions issued to BMUs; however, there were six instances

where an Emergency Instruction was issued to wind generation units not active in the BM. See Appendix 2 for details.

There were no requests made for Maximum Generation Service.

There were three occasions where Interconnector Emergency Assistance was requested by National Grid. There was no occasion were Interconnector Emergency Assistance provided by National Grid. (Grid Code section BC2.9.6).

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2.2 Demand Control

A situation may arise in BM timescales where there is insufficient active power generation available to meet demand, or there may be local operating problems on part of the transmission system. Under these circumstances, it may be necessary for Network Operators and National Grid to make provisions for the reduction of demand in accordance with Grid Code OC6.

[No Demand Control Actions were issued during the reporting year.](#)

2.3 Demand Side Balancing Reserve (DSBR)

Demand Side Balancing Reserve is a new service designed to support National Grid in balancing the system in the unlikely event that there is insufficient capacity in the market to meet demand. DSBR is designed as a further stimulus to the growing demand side market, and can be provided directly to National Grid or via a number of Aggregators who are engaged in the scheme. The service targets commercial and industrial energy consumers who volunteer to reduce demand between 4 and 8 pm on winter weekday evenings in return for a payment. Demand reduction can be delivered by reducing/shifting load, by running on site backup generation or by running small embedded generators. Payment of this service is based on the delivered MW when instructed.

[There was one instance when DSBR was instructed where seven individual units were instructed. See Appendix 3 for more information.](#)

2.4 Negative Reserve Active Power Margin

In order to ensure system security, National Grid must always be able to schedule sufficient frequency responsive plant to contain system frequency against the largest credible loss of generation or demand. Under conditions of low system demand (particularly overnight demand minimums during summer weekends), the generation notified to us may not include enough plant capable of providing this response. Under these circumstances, we would normally accept bids to desynchronise un-responsive plant and accept offers to replace this plant with more responsive generation.

However, in extreme cases, there could be an insufficient volume of bids available to reduce the level of unresponsive generation. In these circumstances, National Grid issues Negative Reserve Active Power Margin (NRAPM) warnings to the market to signal the shortage of responsive plant and request additional plant flexibility. If the NRAPM warnings have no effect, as a last resort National Grid could instruct plant to desynchronise under these NRAPM conditions in accordance with Grid Code section BC2.9.4. A localised NRAPM is issued where the same conditions exist, but in a localised area, usually due to a constraint on the system.

[No NRAPM warnings were issued nationally. However, there were seven localised NRAPM warnings issued for constraint groups in Scotland. See Appendix 2 for details.](#)

[Details of such Localised NRAPM warnings are covered in Appendix 2, which also provides details of Emergency Instructions issued to non BM participants.](#)

Balancing Principles Statement Report

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2.5 Black Start/Islanding

Under extreme conditions (e.g. multiple circuit tripping during severe weather), parts of the National Electricity Transmission System could become disconnected from the main system, or islanded. In addition, there could be a “partial shutdown” where all generation has ceased within an island, or a “total shutdown” where all generation has ceased in the total system and there is no electricity supply from external Interconnectors.

Grid Code section OC9 describes the implementation of recovery procedures following a total or partial shutdown (Black Starts), the re-synchronisation of islands and the Joint System Incidents Procedure which would apply under the above circumstances. National Grid has Ancillary Service contracts with certain generators to provide a Black Start capability to re-establish supply following a partial or total system shutdown.

There were no occasions of system or partial system shutdown or islanding. No Black Start services were called off (excluding routine testing).

2.6 Communication Failures

This subject is covered in both Grid Code BC2.9.7 and BPS Part B section 5(g). A communication failure is defined in the BPS as an “unplanned outage of the electronic data communication facilities or National Grid’s associated computing facilities preventing normal Balancing Mechanism operation”. Under these circumstances, National Grid will normally issue a “National Grid Balancing Mechanism IT System Failure” as soon as it is reasonably able to do so. This will normally be issued via the Balancing Mechanism Reporting System (BMRS), where possible will indicate the likely duration of the outage.

Our Balancing Mechanism IT systems achieved 99.99% availability (excluding planned outages) in this reporting period. One unplanned outage was reported in January 2016 with a total outage time of 2 hours and 25 minutes.

2.8 Involuntary Reductions

This subject is covered in BPS Part B section 6. Under certain exceptional circumstances, National Grid may need to instruct reductions in generation or demand before all valid and relevant Balancing Mechanism bids or offers have been accepted. This could be to preserve system response or reactive reserve levels, or as a result of automatic measures (e.g. the operation of an intertrip not covered by commercial agreements), or because communication problems prevent other relevant bids or offers being instructed. Involuntary Reductions include Demand Reduction and Disconnection referred to in Grid Code OC6.

There was two occasions where the output of BM units was reduced involuntarily due to transmission equipment issues. See Appendix 4.

Balancing Principles Statement Report

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3. BPS Part C: Principles underlying Balancing Measures

There are a number of principles described in the BPS that underpin the measures National Grid will take to balance the system. The balancing measures include the acceptance of bids and offers, utilisation of Balancing Service contracts, other commercial services, instruction of Emergency Actions and other Involuntary Reductions. These measures are called off in cost order unless this is not possible under circumstances described in Part C section 5. Part C also describes the treatment of BMUs disconnected by Transmission System faults.

We have used balancing measures in cost order wherever possible during this reporting period, with exceptions being in line with the circumstances described in BPS Part C Section 5. For more information on Balancing Services please see the National Grid website under Balancing Services, Monthly Balancing Services Summary Report. See Appendix 5 from our Auditor.

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Report-explorer/Services-Reports/>

3.1 Treatment of BMUs disconnected by Transmission System faults

This subject is referred to in BPS Part C paragraph 6. Following transmission system faults, BMUs may become instantaneously disconnected from the transmission system. Under such circumstances following the fault and prior to reconnection, we would only issue a BOA to the affected BMUs if the trade provides immediate assistance to us in controlling the transmission system.

There were 11 occasions where BMUs were disconnected due to Transmission System faults. These are summarised in the table below. No BOAs were issued to these BMUs, nor were issued to these units post event.

Number of BMUS Disconnected	SHETL	SP	NGT E&W
Weather	1		1
Transmission Eqpt. Failure	2		1
Field Issues		5	
Unknown		1	

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3.2 Pre Gate Closure BMU Transactions

Contracts will be entered into outside the BM when we anticipate a shortage of appropriate Offers and Bids in the BM to meet system security requirements, or if we consider that such contracts will lead to a reduction in overall cost or provide technical characteristics that are not available through BM Offers and Bids.

No Pre Gate Closure BMU Transactions (PGBTs) were issued in this reporting period. When PGBTs are issued they would be reported on the Monthly Balancing Services Reports on the National Grid website.

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Report-explorer/Services-Reports/>

4. BPS Part D: Transmission Constraint Management and Reserve/Response Principles

We employ a number of principles for the management of transmission constraints and response/reserve holdings. These include outage planning from year ahead to day ahead, security studies, constraint cost forecasting and negotiating Balancing Service contracts. BPS Part D also describes the calculation of response and reserve holding levels, allocation of holdings with due regard to cost, delivery dynamics and transmission constraints, and regaining levels of response holding following delivery.

We have managed transmission constraints and response/reserve holdings during this reporting period in line with the principles described in BPS Part D.

5. BPS Part E: Day Ahead and Within Day Balancing Processes

BPS Part E describes the Day Ahead and Within Day balancing processes – the Scheduling and Control phases. At the Day Ahead stage, this includes publishing day ahead demand forecasts, performing security studies, calculating reserve/response levels and calculating half hourly system plant margins. It also includes forecasting constraint costs, calling off Balancing Service contracts and revising the national and Zonal margin data.

Within Day includes releasing revisions to the demand forecasts and margin data to the Balancing Mechanism Reporting System, performing additional security studies, reassessing the need to call off Balancing Service contracts, and balancing the system minute by minute through the deployment of Balancing Services on an economic basis.

We have managed the Day Ahead and Within Day balancing processes during this reporting period in line with the principles described in BPS Part E.

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6. BPS Part F: Summary of GB Operational Security Standards

BPS Part F summarises the Operational Security Standards used by National Grid. We operate the system within these standards in order to maintain system security. The system is normally secured against certain specific “secured events” which are defined in Part F – for example the fault outage of a double circuit overhead line.

We have planned and operated the GB Transmission System to a single GB Security and Quality of Supply Standard (GB SQSS).

The Loss of supply, frequency and voltage excursions outside statutory limits are reported separately in accordance with Standard Condition C17 of the Transmission Licence.

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Report-explorer/Performance-Reports/>

7. BPS Part G: Exceptions to the BPS

Infrequently, circumstances may arise which require us to operate outside the principles described in the BPS. The specific examples identified in BPS Part G are:-

- Black start
- System islanding
- When emergency control centre evacuation procedures have been invoked or widespread communication problems
- Circumstances where operating within the BPS would prejudice the safe and secure operation of the system
- Insufficient time available to balance the system in accordance with the BPS.

Actions were taken as described in the subsections above to ensure the safe and secure operation of the GB transmission system, to avoid breaching our statutory obligations or where insufficient time was available to employ alternative measures to achieve balancing.

8. Future Reports

BPS reports are prepared by National Grid in accordance with the timetable set out in our Transmission Licence Standard Condition C16.

For further information on this report, please contact:

Compliance Assurance Manager

E-mail: BM.liaisonandcompliance@nationalgrid.com

Balancing Principles Statement Report

01 October 2015 to 30 September 2016

Appendix 1 – Overview of the Balancing Principles Statement

I. The Purpose of the Balancing Principles Statement

The BPS has been developed by National Grid to assist electricity market participants to understand our actions in achieving the efficient, economic and co-ordinated operation of the transmission system.

National Grid is required by Transmission Licence Standard Condition C16 section 5 to establish and maintain a BPS to define the broad framework within which we make balancing action decisions.

II. Changes to the BPS

The BPS is approved by OFGEM and may only be modified in accordance with the processes set out in Transmission Licence Standard Condition C16.

Where changes are required to the BPS in advance of the annual update then, subject to approval, a BPS supplement may be issued.

The current version of the BPS (version 11.0) was issued on 1 April 2013. The changes to these versions were due to the annual review of the BPS.

III. Further information

Copies of the BPS are available from the National Grid website.

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Balancing-framework/Transmission-license-C16-statements/>

For further enquiries relating to the BPS, please contact:

Head of Commercial Frameworks—Electricity
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick CV34 6DA

Email address

BalancingServices@nationalgrid.com

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Appendix 2 - Emergency Instructions

List of non BM participants instructed via emergency action

Non BM participants are intermittent or embedded generation who choose to not actively participate in the Balancing Mechanism. These units do not submit physical notifications or bid offer data to the Balancing Settlement Code Company (BSCCo)-Elexon, and are therefore not liable for Balancing Services Use of

System Costs. However, if they are positioned in an area with transmission constraints and would resolve the overloading of circuits, they can be instructed to come off the system via an emergency instruction. It must be noted that these actions are only taken when no other options are available in the BM. The following 6 units were instructed off the system via an Emergency Instruction when a Localised NRAPM was in force.

Non BM Participant (NG ID)	Time From	Time To	NRAPM in Force
NOVAW-2	27/11/2015 08:00	27/11/2015 10:11	Yes
GLLEH-1	09/02/2016 00:13	09/02/2016 06:23	Yes
CMSTW-1	04/08/2016 17:43	04/08/2016 18:30	Yes
ACHYW-1	12/08/2016 08:52	12/08/2016 10:33	Yes
CMSTW-1	12/08/2016 09:11	12/08/2016 10:01	Yes
CMSTW-1	30/08/2016 01:36	30/08/2016 03:30	Yes

More information on non BM participants (Bilateral Embedded Licence Exemptible Large Power Station Agreement (BELLA)/(Bilateral Embedded Generation Agreement (BEGA) bilateral contracts) can be found on the National Grid website.

<http://www2.nationalgrid.com/uk/services/electricity-connections/new-connection/>

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Seven Localised NRAPM warnings were issued:

- **Thursday 26-Nov-2015:** Due to expected high winds day ahead trades were made to Novar (NOVAW-2) and Achany (ACHYW-1) wind farms. A Localised NRAPM issued at 21:45 to generators within the SHEDEX constraint due a lack of available BM actions. At midnight as the day ahead trades came into effect, the Localised NRAPM was cancelled at 00:10.
- **Friday, 27-Nov-2016:** Following completion of the overnight trades (as above) flows across the SHEDEX constraint increased which indicated a further requirement of 30 MW. A localised NRAPM was again issued at 08:00 and NOVAW-2 windfarm was instructed down at this time. As the wind speed eased the Localised NRAPM was cancelled at 10:00.
- **Monday, 08-Feb-2016:** The TOKENEX export constraint had been identified as an active due to inflexible embedded hydro units that could potentially overload the Dumfries-Tongland 132kV circuit. Transfer across the circuit increased to a level where Emergency Instructions were required either pre or post fault. A localised NRAPM was issued for 23:00 to 10:00 the following day for the 20MW bid shortfall as there were no BMUs in the group. Glenlee (GLLEH-1) hydro units were then made available by SP Generation and were instructed down Emergency Instruction. The Localised NRAPM was cancelled at 10:00.
- **Sunday, 17-Apr-2016:** Localised NRAPM issued for the SHEDEX constraint group was issued at 13:35 with a bid shortfall of 30MW within the group. With a previously agreed trade with Causeymire (CAUSW-1) and demand increase within the group NRAPM was cancelled at 17:00.
- **Thursday, 4-Aug-2016:** At 18:00 a Localised NRAPM was issued for the North West Scotland due the Dounreay-Connagill circuit faulting as it was brought back from a outage. Subsequent trades with embedded wind farms that had been traded off for the duration of the outage could not be enacted until 18:30. With a 40MW insufficient bid volume available in the BM Camster (CMSTW-1) was instructed off by Emergency Instruction. The NRAPM was cancelled at 18:45.
- **Friday 12-Aug-2016:** Increasing wind levels across North West Scotland caused a Localised NRAPM to be issued, covering the period between 08:45 and 11:30 with a possibility of trades with embedded wind farms being considered. However, before the trades could be agreed the total generation increased faster than forecast, Emergency Instructions were made to Achany (ACHYW-1) and Camster (CMSTW-1) wind farms. The Localised NRAPM was cancelled at 11:30.
- **Tuesday, 30-Aug-2016:** A Localised NRAPM was for Northern Scotland was issued for the period covering 01:20 to 05:30 as issues with increasing embedded wind generation being forecast. The forecasts were further hampered by ongoing IT issues with the MET office affecting the BM forecasting system. Camster (CMSTW-1) wind farm was called off by Emergency Instruction. The Control Room also requested the duty trader to perform trades with BELLA wind farms and the Localised NRAPM was cancelled at 03:30 when these trades came into effect.

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Appendix 3 – Demand Side Balancing Reserve

Wednesday, 04-Nov-2016: An Electricity Margin Notice (EMN) was known as a Notice of Insufficient System margin (NISM) and is issued to the market when the level of contingency reserve does not meet the required level to ensure the effective operation of the BM if a unexpected generation losses occur

Around midday, generation plant assumed to be running during the evening, declared itself unavailable or only part available, reducing the contingency reserve with a shortfall of 500MW. An EMN was issued to the market at 13:30 between 16:30 and 18:30 known as the darkness peak of the day.

Following more generator redeclarations a DSBR warning was issued at 14:35 and the European Awareness System (EAS) status was changed to “Yellow Alert”. Shortly after which a station in the south withdrew their Physical Notifications (PN generation profile) and increased their prices to increase generation from £95/MWh to £2500/MWh. Interconnector exports were reduced by 2000MW by SO-SO trades.

At 15:00 43MW of DSBR was instructed between 17:00 and 18:00 (2 half hour settlement period) at a cost of ~£17,500 for utilisation payments. See below a table for the unit performance and payments made.

Unit	Contracted MWh/SP	Utilisation Rate (£/MWh)	Delivery Performance	Actual Payment
DSBR_1	0.745	250	1.3845	186.25
DSBR_2	1.5	500	1.1745	750
DSBR_3	23.424	250	0.494	2892.56
DSBR_4	7	250	0.7115	1245.02
DSBR_5	3	7500	0.552	12420.33
DSBR_6	3.25	750	0	0
DSBR_7	4	12500	0	0

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Appendix 4 - Involuntary Reductions

1. Saturday, -24- Oct-2016 Pembroke 400kV substation

Protection equipment to the busbars engaged at Pembroke 400kV substation, specifically relating to generator unit 3. On investigation by field staff it was decided to limit the output of station to 1260MW as all 5 generators were operating at the time. On further investigation an issue was found on the control panel/ bay of unit 3. Pembroke unit 3 (PEMB-31) instructed to desynchronise from 11:05 via the issue of bids in the BM until 22:30. The bay was returned to service on the 26 October 2015 at 22:19. The time that the unit was not allowed to generate after the BOAs were ceased would be paid via the connection agreement with National Grid.

2. Sunday 6-Dec-2015 Humber Power

The Humber –Killingholme 400kV tripped and a low pressure alarm on one of the disconnectors from Killingholme Substation on the Humber Refinery connection was activated. The fault therefore caused Humber Power generation to be at a single circuit risk- essentially if this second circuit tripped the BMU would trip off the system and possible damage to the generator. To alleviate the risk BMU HUMR-1 was bid down in the BM to 1000MW.

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Appendix 5 - Review opinion by PricewaterhouseCoopers



Private & Confidential

The Directors
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

7 December 2016

Our ref: DJG

Dear Sirs

Report on compliance with the Balancing Principles Statement for the year ended 30 September 2016 ("the Year")

- 1 We have reviewed the extent to which National Grid Electricity Transmission plc ("NGET"), in its procurement and use of Balancing Services, has complied with the Balancing Principles Statement ("BPS") for the year ended 30 September 2016. The services provided to NGET is addressed to National Grid Gas Plc ("NGG") who are the contracting party.
- 2 We have undertaken this review in accordance with the Form of Agreement 4538/03/SW agreed between ourselves and National Grid Company Plc on 8 March 2004, subject to:
 - a. Amendment Number 3 which was agreed on 7 August 2008;
 - b. Amendment Number 4 which was agreed on 30 September 2011; and
 - c. Amendment Number 5 which was agreed on 24 March 2016.
- 3 The Form of Agreement includes a clause limiting the total liability of PricewaterhouseCoopers LLP to NGET and all others authorised to rely upon this work, to a maximum of, unless otherwise specified in a Project Schedule, 200% of the charges incurred (excluding VAT).
- 4 Unless the context otherwise requires, words and expressions defined in the BPS, which is a document prepared by NGET pursuant to Paragraph 5 of Condition 16 of its Transmission Licence, have the same meanings in this report as in that statement. During the Year, the BPS has been updated. The versions relevant to our opinion are:
 - a. Version 12.0 dated 1 January 2014;
 - b. Version 13.0 dated 5 November 2015; and
 - c. Version 14.0 dated 1 April 2016.

PricewaterhouseCoopers LLP, Abacus House, Castle Park, Cambridge, CB3 0AN
T: +44 (0) 1223 460 055, www.pwc.co.uk

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Respective responsibilities of NGET and Balancing Principles Statement Auditor

- 5 NGET is responsible for taking all reasonable steps to ensure its compliance with the BPS, in respect of its use of Balancing Services.
- 6 It is our responsibility, within the Terms of Reference, to review on a sample basis, the compliance of NGET with the BPS in respect of the use of Balancing Services. This work is performed with a view to expressing an independent opinion as to whether NGET has complied with the relevant requirements in the Balancing Principles Statement.

Independence and Quality Control

- 7 We complied with the Institute of Chartered Accountants in England and Wales (ICAEW) Code of Ethics, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.
- 8 We apply International Standard on Quality Control (UK&I) 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Basis of review and scope of work

- 9 We have performed the reasonable assurance engagement in line with the requirements of the International Standard on Assurance Engagement 3000 (Revised), - '*Assurance engagements other than audits or reviews of historical financial information*' issued by the International Auditing and Assurance Standards Board
- 10 We have planned and performed our review in accordance with our review approach dated 30 November 2016, which we have agreed with NGET and which is set out in our document "Supplement to the Balancing Principles Statement report for the year ended 30 September 2016" ("the Supplement") which we have sent to both NGET and the Office of Gas and Electricity Markets ("Ofgem").
- 11 The Supplement provides a detailed description of the approach we have adopted to the review. In particular, it describes those aspects of Balancing Services that we have examined during our review and those which are outside the scope of this review. Our review included an examination, on a test basis, of both the Balancing Services procured and used by NGET, and of the estimates and judgements made by NGET in using Balancing Services. This report should be read in conjunction with the Supplement.
- 12 In reaching our conclusion we assessed the risk of a material breach of the way NGET has used Balancing Services compared with the requirements of the BPS, whether caused by fraud or other irregularity or error, and determined the adequacy of procedures and controls established by NGET to eliminate or reduce such risks.

Balancing Principles Statement Report

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Opinion

- 13 Based on our procedures, in our opinion, NGET has complied with the relevant requirements in the Balancing Principles Statement in all material respects, during the year ended 30 September 2016, with regards to:
- the receipt and validation (including application of default data) of Physical Notification ("PN") data;
 - the consistency of demand and operational data provided to market participants during the Day Ahead and within day balancing processes to data used internally by NGET and confirmation that the required timetable for the issue of this data has been met;
 - the call off of Balancing Services in cost order during the Day Ahead balancing process. Balancing Services to include Ancillary Services active power contracts only;
 - the call off of Balancing Services in cost order during the within day balancing process. Balancing Services to include Ancillary Services active power contracts and accepted Bids and Offers in the Balancing Mechanism including Pre Gate Closure BMU Transactions ("PGBTs"); and
 - NGET's adherence to internal operating procedures for activities that impact the call off of Balancing Services during the day-ahead and within day balancing processes. For the avoidance of doubt, this includes internal operating procedures that relate to the management of transmission constraints and response/reserve holdings during the day-ahead and within day balancing processes.

Use of this report

- 14 This report is intended solely for the use of the Directors of NGET and Ofgem. While we acknowledge that this report will be published on the NGET website, this is for information purposes only and we do not intend that it should be relied upon by anyone other than the parties mentioned above.
- 15 The maintenance and integrity of that website is the responsibility of the Directors of NGET. The work that we carried out does not involve consideration of the maintenance and integrity of that website and, accordingly, we accept no responsibility for any changes that may have occurred to this report since it was initially presented on the website.
- 16 This report has been prepared in the expectation that NGET and Ofgem will have sufficient experience of Balancing Services to understand the scope of our review without further background explanation and to evaluate the contents of this report in the context of the scope of our work.

Yours faithfully

A handwritten signature in black ink that reads "PricewaterhouseCoopers LLP".

PricewaterhouseCoopers LLP, Cambridge
Chartered Accountants

Balancing Principles Statement Report

01 October 2015 to 30 September 2016



Opinion

13 Based on our procedures, in our opinion, NGET has complied with the relevant requirements in the Balancing Principles Statement in all material respects, during the year ended 30 September 2016, with regards to:

- the receipt and validation (including application of default data) of Physical Notification ("PN") data;
- the consistency of demand and operational data provided to market participants during the Day Ahead and within day balancing processes to data used internally by NGET and confirmation that the required timetable for the issue of this data has been met;
- the call off of Balancing Services in cost order during the Day Ahead balancing process. Balancing Services to include Ancillary Services active power contracts only;
- the call off of Balancing Services in cost order during the within day balancing process. Balancing Services to include Ancillary Services active power contracts and accepted Bids and Offers in the Balancing Mechanism including Pre Gate Closure BMU Transactions ("PGBTs"); and
- NGET's adherence to internal operating procedures for activities that impact the call off of Balancing Services during the day-ahead and within day balancing processes. For the avoidance of doubt, this includes internal operating procedures that relate to the management of transmission constraints and response/reserve holdings during the day-ahead and within day balancing processes.

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- 16 This report has been prepared in the expectation that NGET and Ofgem will have sufficient experience of Balancing Services to understand the scope of our review without further background explanation and to evaluate the contents of this report in the context of the scope of our work.

Yours faithfully

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP, Cambridge
Chartered Accountants

Balancing Principles Statement Report

01 October 2015 to 30 September 2016