Balancing Principles Statement Report

October 2018-September 2019

Executive Summary

National Grid Electricity System Operator (NGESO) has developed the Balancing Principles Statement (BPS) in accordance with the Electricity Transmission Licence Standard Condition C16 requirements to define the broad framework within which balancing action decisions are made.

The BPS is intended to help electricity market participants understand actions NGESO 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 2018 to 30 September 2019, NGESO has operated the National Electricity Transmission System (NETS) in accordance with the guidelines set out in the BPS. Our compliance with the BPS is subject to independent external review. A statement from the External Auditor PriceWaterhouseCoopers (PwC) accompanies this report.

Key events highlighted in this report:

- **There was one Emergency Instruction issued to a Balancing Mechanism Units (BMUs) to start generating. There were three instances where non BM participants were instructed down by Emergency Instruction due to Localised Negative Reserve Active Power Margin Warnings (NRPAM).**
- **There were nine occasions where Interconnector Emergency Assistance was requested by NGESO.**
- **No Demand Control instructions were issued over this reporting period.**
- **No National NRAPM warnings were issued. However, there were five occasions when localised NRAPM warnings were issued in for Scotland.**
- **There was one occasion of system or partial system shutdown. No Black Start services were called off.**
- **Our Balancing Mechanism (BM) IT systems achieved 99.93% availability (excluding planned outages) in this reporting period.**
- **There were two instances where BMUs had to involuntary reduce output. Bids were not used to reduce the output of the units in either event.**
- **There were twenty-eight occasions where BMUs were disconnected from the GB Transmission System due to faults. No Bid-Offer Acceptances (BOAs) were issued to these BMUs.**

1. BPS Part A: Introduction

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

The BPS report is intended to help electricity market participants understand actions NGESO 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 the NGET 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)).

Throughout the period from 1 October 2018 to 30 September 2019, NGESO 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.

Category	Oct 2015-Sept 2016	Oct 2016-Sept 2017	Oct 2017-Sept 2018	Oct 2018-Sept 2019
Emergency Instructions	0[1]	0[3]	0[5]	1[7]
Interconnector Emergency Assistance	3	1	10	8
Demand Control	0	0	0	0
NRAPM Warnings	0[2]	0[4]	0[6]	0[8]
Black Start / Islanding	0	0	0	0
Maximum Generation Service	0	0	0	0
Availability of NGESO Balancing Mechanism systems	99.99%	99.99%	99.99%	99.93%
Involuntary Reductions	2	0	1	2
No. of occasions BMUs disconnected by Transmission System Faults	11	7	8	28
Demand Side Balancing Reserve (DSBR)	1	0	0	0

Note 1: 6 Emergency instructions issued to BELLA wind farms (non BM participants)
Note 2: 7 Localised NRAPMs issued for Scotland in Year End Sept 2016
Note 3: 4 Emergency instructions issued to non BM participants
Note 4: 5 localised NRAPMs issued for Scotland in Year End Sept 2017
Note 5: 4 Emergency Instructions issued to non BM participants in Year End Sept 2018
Note 6: 3 Localised NRAPMs issued for Scotland in Year End Sept 2018
Note 7: 3 Emergency instructions issued to non BM participants
Note 8: 5 Localised NRAPMs issued for Scotland in Year End Sept 2019

2.1 Emergency Instructions

In certain circumstances, the Electricity System Operator (ESO) may need to issue Emergency Instructions or Involuntary Reductions in order to preserve the integrity of the National Electricity Transmission System (NETS) and any synchronously connected external system. 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.

There was one instance where a single unit was given an instruction to generate. There were no emergency instructions for BMUs to shut down; however, there were three instances where Emergency Instructions were issued to non BM participants generating in Scotland due to localised NRAPM issues. See Appendix 2 for details.

There were no requests made for Maximum Generation Service.

There were eight occasions where Interconnector Emergency Assistance was requested by NGESO. (Grid Code section BC2.9.6). See Appendix 3 for details.

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 NGESO to make provisions for the reduction of demand in accordance with Grid Code OC6.

No Demand Control Actions were issued during the reporting year.

There was a single Low Frequency Demand Disconnection event on 9 August 2019; which in its self cannot be classed as a Demand Control Instruction as it is an automatic event to safeguard the Transmission System and caused by the frequency falling outside statutory limits (50Hz ± 0.5Hz), as defined in the Security and Quality Supply Standard. For more information please see Appendix 2.

2.3 Demand Side Balancing Reserve (DSBR)

The Demand Side Balancing Reserve was discontinued in September 2017. The information has been included in this report due to historical instances.

2.4 Negative Reserve Active Power Margin

To ensure system security, NGESO 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, NGESO would issue 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 NGESO 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 National NRAPM warnings were issued. However, there were five localised NRAPM warnings issued for constraint groups in Scotland. See Appendix 2 for details.

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 Start), the re-synchronisation of islands and the Joint System Incidents Procedure which would apply under the above circumstances. NGESO 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 was one occasion where two stations and embedded generation to desynchronised from the system, which caused widespread demand loss which was reported nationally. Please see Appendix 2 for further details

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 “*Where unplanned outages of the electronic data communication facilities or NGET associated computing facilities has occurred preventing normal BM operation*”. Under these circumstances, NGESO 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 99.93% availability (excluding planned outages) in this reporting period.

There was a single occasion on 8 February 2019 where the part of the BM stopped working at 22:25, causing a domino effect on the Bid-Offer Acceptances (BOAs) profiling processes and the electronic systems (EDL and EDT) to stop working. The ESO Control Room stopped all the processes and moved onto the Contingency Logging System and an unplanned outage was declared at 22:59. The BM system returned to full functionality at 04:30 the following morning.

2.7 Involuntary Reductions

This subject is covered in BPS Part B section 6. Under certain exceptional circumstances, NGESO 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 intertrip services not covered by commercial agreements), or because communication problems prevent other relevant bids or offers being instructed. Involuntary Reductions include Demand Reduction and Disconnection as referred to in Grid Code OC6.

There were two instances where BMUs were required to reduce generation output due to faults on the Transmission System. See Appendix 4.

3. BPS Part C: Principles underlying Balancing Measures

There are a number of principles described in the BPS that underpin the measures NGESO 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 NGESO website under Balancing Services, Monthly Balancing Services Summary Report. See Appendix 5 from our External Auditors.

https://www.nationalgrideso.com/c16-statements-and-consultations

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 twenty-eight occasions where BMUs were disconnected due to Transmission System faults. These are summarised in the table below. Eight of the affected BMUs affected were less than 20MW. The remaining twenty consisted of large wind units in Scotland, English offshore windfarms (OFTO), and CCGT stations in England. The increased number of disconnections can be traced back to a number of non BMUs entering the market, the congestion of various units in parts of the Scottish Networks where one fault can cause several BMUs to trip and the increase in offshore transmission operators (OFTO) which are connecting to the system.

No BOAs were issued to these BMUs, nor were any issued to these units Post Event.

Category	SHETL	SP	NGT	OFTO
Weather	7	2	1	2
Transmission Eqpt Failure	2	1	2	2
Field Issues	2	2		2
Unknown	2	1		

3.2 Pre-Gate Closure BMU Transactions

No PGBTs were enacted between 1 October 2018 and 1 April 2019 and PGBTs have now been removed from the Balancing Principles Statement, in agreement form the market following the review in April 2019.

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. See Appendix 5 from our External Auditors

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

BPS Part F summarises the Operational Security Standards used by NGESO. We operate the system within these standards in order to maintain system security. The system is normally secured against certain specific "secured events" as 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.

https://www.nationalgrid.com/uk/electricity/market-operations-and-data/transmission-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 NGESO in accordance with the timetable set out in our Transmission Licence Standard Condition C16.

For further information on this report, please contact the Performance Transformation Manager via the group email: BM.liaisonandcompliance@nationalgrideso.com

Appendix 1 – Overview of the Balancing Principles Statement

I. The Purpose of the Balancing Principles Statement

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

NGESO 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 version of the BPS (version 16.0) was issued on 1 April 2018. The changes to these versions were due to the annual review of the BPS.

III. Further information

The BPS is available from the NGESO website.

https://www.nationalgrideso.com/c16-statements-and-consultations

For further enquiries relating to the BPS, please contact:

Commercial Codes Manager
National Grid ESO
Faraday House,
Gallows Hill
Warwick,
CV34 6DA

Email address
BalancingServices@nationalgrid.com

Appendix 2 - Emergency Instructions

Emergency Instruction to DINO-2 on Friday, 9 August 2019

Following a lightning strike, the trip of two transmission connected generators with a total loss of 1,378 MW of energy, the frequency fell to 48.79Hz and BMU DINO-2 was sent an emergency instruction to generate at 15:56. The unit was then shut down at 16:08. The unit was sent a total of five BOAs between these times.

The event was reported nationally and scrutinised by Ofgem, Department for Business, Energy and Industrial Strategy (BEIS), Energy Emergencies Executive Committee (E3C) and our auditors. For more Information refer to

https://www.nationalgrideso.com/information-about-great-britains-energy-system-and-electricity-system-operator-eso

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 add to 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.

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.

https://www.nationalgrid.com/uk/electricity/industrial-connections/applying-connection

There were five localised NRAPMs issued for the Dumfries and Galloway area in Scotland over the year. The loading in this area is usually controlled by a load management scheme but is insufficient to manage the constraint when there are high winds in the area. Therefore, when there is an insufficient volume of available bids to be taken in the BM, emergency actions are required to secure the system, until trades are enacted with the various parties. These have been summarised as below.

Localised NRAPM Effective		Emergency Instructions to Non BMUs		
Date from	Date to	Non BM Participant (NG ID)	Time From (GMT)	Time To (GMT)
05/02/2019 16:20	05/02/2019 19:20			
10/08/2019 19:20	10/08/2019 21:20	NORHW-1	10/08/2019 19:25	10/08/2019 20:30
15/08/2019 04:20	15/08/2019 06:00	NORHW-1	15/08/2019 04:30	15/08/2019 05:20
04/09/2019 11:50	04/09/2019 14:30			
28/09/2019 22:00	29/09/2019 00:52	ARTF-1	28/09/2019 22:12	28/09/2019 00:50

Appendix 3- Interconnector Emergency Assistance

There are three intercontinental interconnectors connecting the UK with France(2GW), Netherlands(1GW) and Belgium (1GW). These give us access to clean renewable energy when required and the market is able to access more affordable generation reducing consumer bills.

Interconnectors submit reference programs to the NGESO at the day ahead, however due the large capacities and where they are connected to the GB Transmission System, NGESO has to control the volume and the rate of import and exports from them. This is usually done by adjusting the volumes in conjunction of our in house Trading Team.

The five of the eight emergency assisstance request this year were for Rate of Change of Frequency (RoCoF) and the other three to reduce the flow due to contraint limits when trades were either not agreed or had been unwound by the market prior to the gate close.

INSTIGATOR	Reduce or Increase	Direction	INTERCONNECTOR	DATE FROM	DATE TO	REASON
NGC	Reduce	Import	Netherland	08/10/2018 04:00	08/10/2018 05:00	RoCof Management
NGC	Reduce	Import	France	21/10/2018 23:00	22/10/2018 02:15	RoCof Management
NGC	Reduce	Export	Netherland	04/11/2020 04:00	04/11/2020 05:00	RoCof Management
NGC	Reduce	Import	France	26/01/2019 22:52	27/01/2019 07:00	RoCof Management
NGC	Reduce	Import	France	28/01/2019 00:57	28/01/2019 05:00	RoCof Management
NGC	Reduce	Export	France	25/04/2019 22:00	26/04/2019 05:00	Emergency Assistance
NGC	Reduce	Export	France	26/04/2019 21:58	27/04/2019 00:03	Emergency Assistance
NGC	Reduce	Export	France	25/07/2019 18:56	25/07/2019 20:05	Emergency Assistance

Appendix 4 - Involuntary Reductions

17:04 Saturday, 2 February 2019: During work to repair a circuit breaker at Fort Augustus substation a battery earth fault was discovered at an adjacent circuit breaker, which needed to be repaired and had to be switched out. BHLAW-1 and BEINW-1 generation had to be curtailed with a total loss of 12MW from the units for 01:19 hours. No BOAs were sent to the BMUs to enable this

02:53 Friday, 7 June 2019: A transformer trip caused the generation at Lynemouth Station to be reduced by 185MW. The transformer was returned to service at 22:17 the same day. No BOAs were issued to the BMUs involved.

Appendix 5 - Review opinion by PricewaterhouseCoopers

pwc

Private and confidential

The Directors
National Grid Electricity System Operator Limited
Faraday House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

12 May 2020

PwC reference: CW

Dear Sirs

Report on compliance with the Balancing Principles Statement for the year ended 30 September 2019 ("the Year")

1. We have reviewed the extent to which National Grid Electricity System Operator Limited ("NGESO"), previously 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 2019.
2. We have completed this audit work in accordance with the Form of Agreement, Project Proposal WS942194761 agreed between ourselves and National Grid Electricity Transmission Plc on 11 December 2017 and novated to National Grid Electricity System Operator Limited applicable from 1 April 2019.
3. The Form of Agreement includes a clause limiting the total liability of PricewaterhouseCoopers LLP to NGESO 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 NGESO 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 16.0, dated 1 April 2018; and
    b. Version 17.0, dated 1 April 2019.

Respective responsibilities of NGESO and Balancing Principles Statement Auditor

5. NGESO 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 NGESO 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 NGESO has complied with the relevant requirements in the Balancing Principles Statement.

pwc

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) 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 August 2019, which we have agreed with NGESO and which is set out in our document "Supplement to the Balancing Principles Statement report for the year ended 30 September 2019" ("the Supplement") which we have sent to both NGESO 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 NGESO, and of the estimates and judgements made by NGESO 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 NGESO 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 NGESO to eliminate or reduce such risks.

13. For the avoidance of doubt, the scope of work performed excluded Emergency Instructions and Involuntary Reductions as described in the Grid Code for use in preserving system security in exceptional circumstances, such as the Low Frequency Demand Disconnection ("LFDD") following Generator Trips and Frequency Excursion on 9 August 2019.

Opinion

14. Based on our procedures, in our opinion, NGESO has complied with the relevant requirements in the Balancing Principles Statement in all material respects, during the year ended 30 September 2019, 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 NGESO 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
    - NGESO'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

15. This report is intended solely for the use of the Directors of NGESO and Ofgem. While we acknowledge that this report will be published on the NGESO 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 (where terms are agreed with Ofgem in writing).
16. The maintenance and integrity of that website is the responsibility of the Directors of NGESO. 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.
17. This report has been prepared in the expectation that NGESO 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, Birmingham
Chartered Accountants