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Transmission System Owners,
Generators, Suppliers, Traders,
Customers and Other Interested
Parties

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all gas and electricity customers*

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Date: 16 April 2012

Dear Colleagues,

Consultation on a proposed new special licence condition of National Grid Electricity Transmission (NGET) licence relating to the capacity assessment project

NGET is the System Operator for the electricity transmission system in Great Britain (GB). This letter sets out our proposals for a new special licence condition obliging NGET to prepare and to provide the Authority with a capacity assessment model and capacity assessment report. The report should be submitted on or before 1 June 2012 and on or before that date in each subsequent calendar year so as to enable the Authority to send an annual report to the Secretary of State under section 47ZA of the Electricity Act 1989 (the Act). A draft of the proposed licence condition is set out in Annex 2 to this letter.

We welcome views from stakeholders on our proposed licence condition. This consultation will run for 4 weeks. Responses to this consultation are invited by 14 May 2012 and should be sent to:

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If following consideration of responses to this consultation we decide to proceed with the proposed licence modification, we will launch a statutory consultation on the proposed modification to NGET's licence.

The Energy Act 2011 amended the Act and inserted a new section 47ZA into it which requires the Authority¹ to prepare and to send to the Secretary of State a report assessing different electricity capacity margins and the risk to security of supply associated with each alternative. The capacity assessment report is to be sent to the Secretary of State before 1 September 2012 and before that date in every subsequent calendar year. The text of section 47ZA of the Act is set out in Annex 1 to this letter.

Section 47ZA of the Act requires the Authority to

¹ The Gas and Electricity Markets Authority (the "Authority"). In this letter the terms, "Authority", "Ofgem", "we" and "us" are used interchangeably.

- (a) prepare a report on the future demand for, and supply of, electricity in GB, and
- (b) send the report to the Secretary of State.

The report must include, as regards each forecast period

- (a) a forecast of the peak demand for the supply of electricity to consumers in GB;
- (b) an assessment of different possible capacity margins for that supply, and of the degree of protection that each would provide against the risk of shortfalls in supply due to unexpected demand or unexpected loss of capacity.

The forecast periods are

- (a) each of the four calendar years immediately following the year of the report; or
- (b) any other periods that the Secretary of State specifies by order.

Section 47ZA of the Act says that the forecast or assessment may to any extent be made by, or based on information provided by the holder of a transmission licence or any other person. We consider that NGET is the most appropriate party to complete the model build for the capacity assessment project and we propose to delegate the responsibility for building the model and preparing the capacity assessment report to NGET.

Reasons behind the introduction of the new special licence condition

Security of supply

The Authority's principal objective under section 3A of the Act is to protect the interests of existing and future consumers. Section 3A(1A) of the Act provides that the interests of existing and future consumers are their interests taken as a whole including their interests in the security of the supply of electricity to them. Section 3A(1B) of the Act says that wherever appropriate, Ofgem should exercise its functions in a manner which it considers would further the principal objective by promoting effective competition. However, before exercising its functions in this manner, Ofgem must consider whether the interests of consumers would be better protected by exercising its functions in any other manner. In performing the duties under section 3A(1B) the Authority is required to have regard to the need to secure that all reasonable demands for electricity are met.

In proposing to delegate the preparation of the report and of the modelling to NGET, which has relevant expertise, we are acting consistently with protecting consumers' interests in the security of the supply of electricity to them and having regard to the need to secure that all reasonable demands for electricity are met. The outputs of the capacity assessment model will provide an indication to the Secretary of State of GB's security of electricity supply for four years ahead. In order to ensure these estimates are as accurate as possible and to guarantee a satisfactory model quality, we propose to delegate the model build to NGET which has the industry, data and modelling expertise to complete the model. In addition, over the course of the project we have received advice from an academic panel, an internal panel as well as input from industry workshops in order to ensure we get an accurate perspective of how the modelling should be conducted.

Electricity Directive objectives

Section 3A(1A) of the Act provides that the interests of existing and future consumers are their interests taken as a whole including their interests in the fulfilment by the Authority, when carrying out its functions as designated regulatory authority for GB, of the objectives set out in Article 36(a) to (h) of Directive 2009/72/EC (the Electricity Directive).

Article 36 of the Electricity Directive provides that in carrying out its regulatory tasks specified in the Electricity Directive the Authority shall take all reasonable measures in pursuit of the objectives set out in Article 36. One of the objectives set out in Article 36 (Article 36(d)) is "*helping to achieve, in the most cost-effective way, the development of secure, reliable and efficient non-discriminatory systems that are consumer oriented, and promoting system adequacy*".

One of the regulatory tasks of the Authority under Article 37(1)(b) of the Electricity Directive is to ensure that electricity undertakings, including NGET, comply with their obligations under the Electricity Directive and related legislation. NGET is required, under Article 12 of the Electricity Directive to ensure "*the long-term ability of the system to meet reasonable demands for the transmission of electricity, operating, maintaining and developing under economic conditions secure, reliable and efficient transmission systems with due regard to the environment*".

In carrying out the regulatory task of ensuring NGET complies with its obligations under Article 12, we therefore have to take all reasonable measures in pursuit of the objective of developing secure and reliable electricity systems and promoting system adequacy. We will be taking all reasonable measures to achieve this objective by delegating the modelling to NGET which has the required expertise in this area. The outputs of the capacity assessment model will provide an indication to the Secretary of State of GB's security of electricity supply for four years ahead and will help to promote a secure and reliable system and system adequacy.

Efficiency

Section 3A(5) of the Act provides that the Authority shall carry out its functions under Part I of the Act in the manner which it considers is best calculated — (a) to promote efficiency and economy on the part of persons authorised by licences or exemptions to [distribute, supply or participate in the transmission of] electricity and (c) to secure a diverse and viable long-term energy supply.

By proposing to delegate the modelling to NGET we believe we can complete the modelling in the most efficient and economic manner. NGET is already required to produce regular reports based on electricity market models, e.g. the Seven Year Statement and the Winter and Summer Outlooks. Having this previous experience means that NGET can build the capacity assessment model within the tight timelines dictated by section 47ZA of the Act and to the required standard.

Transparency and process

Section 3A(5A) of the Act says that in carrying out our functions under Part I of the Act the Authority must have regard to—(a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed; and (b) any other principles appearing to him or, as the case may be, it to represent the best regulatory practice.

In October 2011 we consulted on our proposed methodology for measuring and modelling the risk of supply shortfalls. The October consultation outlined the proposed methodology and also communicated to the industry our initial proposal to delegate the modelling aspect of the project to NGET. All responses to the consultation were received by 7 December 2011. Transparency was one of the key points stressed in the consultation responses. We published a decision letter on 23 January 2012 setting out our views. Given the importance of the capacity assessment project we agree that transparency is essential. In addition, we believe receiving industry's input during the construction of the model is beneficial. Therefore we believe that we have followed a transparent process regarding the modelling

approach. We held a workshop in September and another in February to present the modelling approach and methodology to industry.

Proposal

While Ofgem is responsible for preparing and sending the final report to the Secretary of State under section 47ZA of the Act, we believe it is appropriate to propose to delegate to NGET the preparation of the capacity assessment report which will inform the Authority's report and the capacity modelling. If the modelling were to be delegated to NGET this would make best use of NGET's existing knowledge of the market, data and modelling capabilities. As previously stated, NGET already produces reports based on electricity market models and has existing in-house modelling capabilities as well as the best access to the required data. Delegation of the modelling to the system operator is consistent with current international practice in Ireland, Australia and some parts of the U.S.

In summary, the proposed new licence condition will require NGET to:

- Prepare and provide Ofgem with a capacity assessment model and with a capacity assessment report on or before 1 June 2012 and on or before such a date in every subsequent calendar year.
- The model will be required to specify for each of the forecast periods: the derated capacity margin, estimates of loss of load expectation and expected energy unserved, and added value metrics.
- Such outputs will be subjected to scenarios and stress tests as specified by the Authority.
- All calculations will be conducted for the total system and for specific zones within the total system.
- NGET will be required to provide Ofgem with a user manual (specifying the design of the model), a technical description of the methodology, and a list of assumptions and data sources as well as a report with the results from the capacity assessment modelling.
- NGET will be required to cooperate with any external consultants and Ofgem's capacity assessment team and will provide access to the model and component elements.
- NGET may be directed to engage an external reviewer to review the modelling and if so must provide the external reviewer with required information and access to the model, its staff and premises.
- All outputs above will be required to be produced in such a way as to enable Ofgem to comply with its obligations under section 47ZA of the Act.

We welcome views from stakeholders on our proposed licence condition. This consultation will run for 4 weeks. Responses to this consultation are invited by 14 May 2012 and should be sent to:

Karen Mayor,
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If following consideration of responses to this consultation we decide to proceed with the proposed licence modification, we will launch a statutory consultation on the proposed modification to NGET's licence.

We are happy to accept responses by post or email. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website at www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to compatibility with Ofgem's principal objective and duties, and any obligations to disclose information, for example, under the Freedom of Information Act 2000. Respondents who wish to have their responses remain confidential should clearly mark the document(s) to that effect and include the reasons for confidentiality. Respondents are asked to put any confidential material in the appendices to their responses.

Kind regards,

Andrew Wright
Senior Partner, Markets, Ofgem

Annex 1 – Section 47ZA of the Act

“47ZA Annual report by Authority on security of electricity supply

- (1) The Authority must, before 1 September 2012, and before that date in every subsequent calendar year—
 - (a) prepare a report on the future demand for, and supply of, electricity in Great Britain, in accordance with subsection (2), and
 - (b) send the report to the Secretary of State.
- (2) A report under subsection (1) must include, as regards each forecast period—
 - (a) a forecast of the peak demand for the supply of electricity to consumers in Great Britain;
 - (b) an assessment of different possible capacity margins for that supply, and of the degree of protection that each would provide against the risk of shortfalls in supply due to unexpected demand or unexpected loss of capacity.
- (3) The forecast periods in relation to a report under subsection (1) are—
 - (a) each of the four calendar years immediately following the year of the report; or
 - (b) any other periods that the Secretary of State specifies by order.
- (4) A forecast by virtue of subsection (2)(a) must be expressed as a single figure in megawatts rounded to the nearest 100 megawatts, unless the Secretary of State directs otherwise.
- (5) An assessment by virtue of subsection (2)(b) must take into account, in particular—
 - (a) the generation of electricity;
 - (b) the operation of electricity interconnectors;
 - (c) the storage of electricity;
 - (d) the extent to which the available capacity of a generating station is likely to be lower than its maximum possible capacity due to routine maintenance, weather conditions or any other expected limitation on its operation;
 - (e) demand side response.
- (6) A forecast or assessment by virtue of subsection (2) may to any extent be made by, or based on information provided by—
 - (a) the holder of a transmission licence;
 - (b) any other person.
- (7) The Secretary of State may give the Authority directions regarding—
 - (a) the form of a report under subsection (1);
 - (b) the manner in which such a report must be prepared or sent;
 - (c) the manner in which a forecast or assessment by virtue of subsection (2) must be made or expressed (including, in particular, the method of calculation of any of the things mentioned in subsection (2)(a) or (b)).
- (8) In this section—
 - “capacity margin” means the amount by which the peak demand for the supply of electricity is exceeded by the capacity likely to be available to meet that demand;
 - “consumers” includes both existing and future consumers;

- “demand side response” means the cessation of, or a reduction in, the provision of electricity to a person at times of high demand, by agreement with the person.”

Annex 2 – Proposed draft special licence condition of NGET’s licence

Special Condition O: report on security of electricity supply

1. The purpose of this condition is to secure the provision to the Authority by the licensee of a capacity assessment model and a capacity assessment report so as to enable the Authority to send an annual report to the Secretary of State.
2. The licensee shall on or before 1 June 2012 and before that date in each subsequent calendar year, submit to the Authority a capacity assessment model.

For the purposes of this condition, the “**capacity assessment model**” is a model which shall specify in relation to each of the forecast periods:

- (i) the level of the derated capacity margin in relation to the total system;
 - (ii) estimates of loss of load expectation and expected energy unserved in relation to the total system; and
 - (iii) added value metrics
 - (iv) and which contains such outputs with scenarios and stress tests as shall be specified by the Authority by notice in writing.
3. The outputs of the capacity assessment model should relate to the total system and to specific zones or areas within the total system as shall be specified by the Authority by notice in writing and be in such form and as directed by the Authority by notice in writing.
4. On or before 1 June 2012 and before that date in each subsequent calendar year the licensee shall submit to the Authority:
 - (i) a user manual including a specification of the design of the capacity assessment model, a technical description of the methodology used to produce the capacity assessment model, and a list of assumptions and data sources used, for each of the forecast periods; and
 - (ii) a capacity assessment report with the results of the capacity assessment model in such form as directed by the Authority.
5. The licensee shall cooperate with any external consultants and the team within Ofgem working on the preparation of the annual report for the Secretary of State.

6. The licensee shall at all times ensure that the Authority has access to the capacity assessment model and the component elements within it in such a manner that will enable the Authority to assess the functionality of the capacity assessment model.
7. The Authority may issue a direction to the licensee varying the form and content of the capacity assessment model and of the capacity assessment report if the Authority considers such a variation is necessary to enable the Authority to comply with its obligations under section 47ZA of the Act.
8. The Authority may direct the licensee to engage an external reviewer to review and prepare a report on whether, in its opinion, the information contained in the capacity assessment model and the capacity assessment report are fair and accurate ("the review report").
9. For the purposes of preparing the review report, the licensee shall secure that the external reviewer has reasonably access to its premises, staff and information systems.
10. Where the Authority has directed the licensee to engage an external reviewer in accordance with paragraph 8, the licensee's performance of its obligations under paragraph 9 is conditional on the reviewer having entered into an agreement with the licensee to maintain confidentiality on reasonable terms.
11. The licensee shall submit each review report to the Authority within 14 days of receipt of the review report by the licensee from the external reviewer.

In this special condition:

"added value metrics" refers to the outputs of the capacity assessment model other than (i) the level of the derated capacity margin in relation to the total system; (ii) estimates of loss of load expectation and (iii) expected energy unserved, as specified by the Authority including but not limited to estimates of equivalent firm capacity, demand side response and imports through the interconnectors required to achieve a given level of demand security, and the variability of the derated capacity margin and indices of the frequency and duration of unserved events.

"annual report" means a report on security of electricity supply by the Authority to the Secretary of State under section 47ZA of the Act, to be sent before 1 September 2012, and before that date in every subsequent calendar year.

"available generation capacity" means the part of the installed generation capacity that is expected to be accessible in operational timelines. In particular, such capacity

shall not include generation capacity that has been decommissioned or that is offline due to maintenance or forced outage, and shall take into account any expected intermittency of particular generating equipment, or classes of generating equipment.

“capacity assessment report” means the report produced by the licensee on or before 1 June 2012 and before that date in each subsequent calendar year, in a form directed by the Authority, in respect of the level of the derated capacity margin; estimates of loss of load expectation, added value metrics and expected energy unserved on the total system and outputs with scenarios and stress tests as specified by the Authority.

“derated capacity margin” means the expected excess of available generation capacity over demand for electricity.

“equivalent firm capacity” means the capacity of perfectly reliable conventional plant (capacity with 100% availability) which has the same influence on the reliability of supply on the system as intermittent generation actually installed, eg. wind, solar, tidal generation.

“expected energy unserved” means a statistical measure of the expected volume of firm electricity demand (that is electricity demand which is not supplied under interruptible contracts) that cannot be met over a year because the required generation capacity is lower than that which would be required to meet such demand.

“forecast periods”: in relation to the capacity assessment model and the capacity assessment report are

(a) each of the four calendar years immediately following the year of the capacity assessment model and the capacity assessment report; or

(b) any other periods that the Authority specifies.

“loss of load expectation” means the probability of the capacity margin being negative or of demand being higher than the available generation capacity in any given year.

“total system” means the national electricity transmission system and the distribution systems of all authorised electricity operators which are located in the national electricity transmission system operator area.

“scenarios and stress tests” means different projected circumstances taking into account possible developments including but not limited to developments in generation, interconnection, demand or fuel supplies.

“unserved events” points in time over the year where the amount of electricity demand cannot be met due to an insufficient supply of electricity being available.