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To:

Generators, Customers,
Transmission System Owners,
System Operator, and other
interested stakeholders

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Dear Colleagues,

RIIO-T1: Consultation on our assessment of National Grid Electricity Transmission's proposed Network Development Policy for the electricity transmission price control

This letter sets out the main findings of our assessment of National Grid Electricity Transmission's (NGET) proposed Network Development Policy (NDP). We welcome stakeholders' views on NGET's proposed NDP and our minded-to position and request that these are sent to anna.kulhavy@ofgem.gov.uk by 14 June 2013.

As part of the new transmission price control, NGET is required to develop a Network Development Policy (NDP) setting out how it will determine the scope and timing of wider network reinforcement works.[1] NGET is required to apply its NDP over the price control period, RIIO-T1 (1 April 2013 to 31 March 2021) to determine which network reinforcements are value for money for existing and future consumers, and to take these forward.

NGET submitted a draft NDP to Ofgem in November 2012 and, at the same time, published a copy as part of its Electricity Ten Year Statement.[2] Following discussion with us and engagement with wider stakeholders, NGET refined the draft NDP further and submitted the final proposed NDP to us on 26 April 2013.

We have assessed this against the requirements for the NDP set out in Special Condition 6J (Allowed Expenditure for Incremental Wider Works) of NGET's Electricity Transmission Licence ("SpC 6J").[3] We consider the decision-making framework and process in NGET's proposed NDP to be a proactive, prudent and flexible approach. We consider that by applying this approach, NGET would have a reasonable basis to take decisions on network investment in a manner that is compatible with its overall duty to develop and maintain an efficient, coordinated and economical system of transmission.

[1] Wider reinforcement works strengthen the boundaries on the transmission network and are required to accommodate increases in electricity flows across these boundaries.
[2] See 2012 Electricity Ten Year Statement http://www.nationalgrid.com/uk/Electricity/ten-year-statement/current-elec-tys/
[3] See Special Conditions to National Grid Electricity Transmission plc's electricity transmission licence http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/NGSpCmods.pdf

Based on our assessment, and in consideration of our statutory duties, we support the implementation of NGET's proposed NDP. We are minded to not direct any changes to the proposed NDP, subject to stakeholders not raising any significant concerns about it.

Purpose of the NDP

There is uncertainty around the exact scope and timing of network reinforcements (known as Wider Works (WW) Outputs[4] in the price control framework) required over the RIIO-T1 period (1 April 2013 to 31 March 2021). To take account of this uncertainty NGET looked at network reinforcement requirements under a range of scenarios in its business plan for RIIO-T1. In the scenario the UK meets its 2020 renewable energy target, NGET set out that it would need to undertake significant reinforcement on its transmission system to accommodate new renewable and low carbon generation sources and maintain grid security standards. However, NGET and stakeholders made clear there are many possible future outcomes. As the requirements of users and customers evolve, NGET's network investments will also need to change.

The implications for consumers of this uncertainty are not trivial. Grid investment earlier than needed could lead to higher costs for consumers from unnecessary infrastructure costs and greater asset stranding risk. On the other hand, delayed delivery of transmission network infrastructure could also be detrimental to consumers' interests through constraint costs that could have been avoided; a delay in meeting the UK's Renewable Energy target; higher greenhouse gas emissions; and possible risks to security of supply.

To help manage the uncertainty and risks around transmission investment for GB consumers, we consulted during the development of RIIO-T1 on the inclusion of provisions to adjust NGET's allowances for grid investment as customer requirements evolve. In our RIIO-T1 Final Proposals[5] we decided that NGET would have more direct responsibility for determining investment commitments that deliver WW Outputs where these are incremental in scope. For very large WW Outputs, we introduced separate provisions, known as Strategic Wider Works arrangements. Under these arrangements NGET is able to request us to determine on the needs case for new SWW Outputs and, if the economic test is positive, make a revenue adjustment for the efficient costs of delivery.

Incremental WW outputs are defined by the two following categories.

Category 1 WW Outputs

- total delivery costs are less than £100m (2009-10 prices); and
- the output does not require planning permissions from a local authority or Development Consent Order from the Secretary of State.

Category 2 WW Outputs

- total delivery cost is less than £500m (2009-10 prices);
- the needs case for the incremental WW Output is supported by user commitment from more than one customer; and
- there is a positive needs case under a range of generation and demand scenarios.

[4] WW Outputs are measured in terms of increases in the electricity transfer capability across system boundaries in accordance with the National Electricity Transmission System Security and Quality of Supply Standards.
[5] See RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas – Final Decision Overview document http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/1_RIIOT1_FP_overview_dec12.pdf

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To ensure that NGET's decisions to take forward incremental WW Outputs are efficient, coordinated and economical, NGET is required to develop and apply an NDP. Under SpC 6J, NGET must have an NDP that sets out the decision making principles it will apply to determine the timing and staging of investment that meets the needs of existing and future consumers.

Subject to having an appropriate NDP, NGET's baseline price control revenue allowances will be adjusted for the incremental WW Outputs it delivers on its transmission system in accordance with its NDP. These revenue adjustments will be calculated automatically using a WW volume driver and unit cost parameters specified in NGET's Final Proposals.[6] For the avoidance of doubt, the Scottish transmission companies are not required to have an NDP as they do not have a volume driver to take forward incremental WW Outputs.

Our Assessment

Overall, we consider the NDP proposed by NGET is fit for purpose and includes all the required elements set out in paragraph 6J.8 of SpC 6J. We support the implementation of the decision framework and process set out in NGET's proposed NDP. We consider it to be a proactive, prudent and flexible basis for determining investment in incremental WW Outputs. Accordingly, we are minded to not direct any changes to the proposed NDP.

Appendix 1 sets out the key findings from our assessment of NGET's proposed NDP.

Next steps

We welcome stakeholders' views on NGET's proposed NDP and our minded to position by 14 June 2013. We would be grateful for early responses where possible.

Unless marked as confidential, we plan to publish all responses on our website.

We will consider stakeholders' responses before taking a final decision.

Yours sincerely,

Kersti Berge
Partner, Electricity Transmission

[6] See RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas – Costs and Uncertainty supporting document http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/3_RIIOT1_FP_Uncertainty_dec12.pdf

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Appendix 1 - Our assessment of NGET's proposed NDP

Our assessment approach

We have not received any specific feedback from stakeholders on NGET's proposed NDP and therefore the assessment represents our views only.

We have assessed NGET's proposed NDP against the requirements specified in SpC 6J which came into force on 1 April 2013. To help structure our assessment we set out our views on how NGET's proposed NDP meets the required elements under the following five broad sections covering:

1) objective and scope
2) methodology and decision making framework
3) data, assumptions and model inputs
4) process and timetable
5) accountability and evaluation.

1. The proposed NDP meets the requirements set out in paragraph 6J.8(a) to specify an objective and scope – As required NGET clearly states that the objective of its proposed NDP is to help it meet its statutory obligations to plan and develop an efficient, coordinated and economical system of transmission. Given the difference between the average lead times for new generation and wider reinforcement developments, we consider that the proposed NDP must set out a proactive, prudent and flexible approach to investing in incremental WW Outputs in order to be consistent with NGET's statutory obligation. In our view, the guiding principles proposed by NGET in its NDP for decision making under uncertainty are fit for this purpose. They include scenario-based analysis and a decision making rule that seeks to promote the consumer interest. NGET defines promoting the consumer interest as minimising the impacts that might arise if NGET invests too early or too late, ie unnecessary costs of financing, stranded assets or constrained generation.

As part of its policy, NGET will also qualitatively assess the potential impacts of network investment on greenhouse gas emissions. We support the inclusion of the broader impacts of network investment into NGET's proposed NDP analysis. These are important considerations in the context of existing and future energy consumers' interests given the contribution the electricity sector is expected to make to the UK's decarbonisation objectives through the increased deployment of low carbon generation technologies.

NGET has also set out a clear statement on the scope of its proposed NDP and how this will interact with the volume driver for incremental WW Outputs. This complies with the policy set out in Final Proposals.

2. The proposed NDP meets the requirements in paragraphs 6J.8(b)(ii – vi) to specify a methodology and decision making framework to achieve the objective of NGET's NDP – Consistent with standard licence condition C17 (Transmission system security standard and quality of service), NGET will identify wider reinforcement requirements in accordance with the technical and economic criteria set out in the National Electricity Transmission System Security and Quality of Supply Standards (NETS SQSS). We support NGET's proposal to build on this requirement in its annual NDP cycle by applying a scenario-based approach to its network analysis for a range of future market developments. We consider such an approach is necessary to capture uncertainty about

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future customer requirements and to identify the implications for possible network developments.

Building on its network analysis, NGET proposes to evaluate a wide range of possible solutions or sets of solutions (including the option of no reinforcement) for each scenario by calculating the net present value of the build costs, constraint costs and transmission losses associated with each solution. NGET proposes a decision making rule based on "least-worst regrets" to identify the investment strategy that is most advantageous relative to the alternatives in terms of the risks and benefits across each of the possible future energy scenarios. Due to the importance of these scenarios to the overall methodology we expect NGET to review the scenarios annually with stakeholders to ensure they are fit for purpose (see next section for more information). Where possible, NGET proposes to stage its investment commitments, for example, from the scoping stage through to optioneering, pre-construction and the construction of incremental WW Outputs. We support the sequential staging of investment commitments as this would keep options open for the earliest commissioning date if needed with minimal regret if it turns out that the output was not needed.

NGET's least-worst regrets analysis will focus on the investment strategies for incremental WW Outputs which require a decision to be made in the near term. This will be updated annually to refresh the optimal investment strategy as new information becomes available. NGET also proposes to include projects which it has begun in its annual NDP analysis to revisit whether continuing with the works remains in the interest of existing and future consumers. In the event that a project is no longer the efficient course of action, NGET will withdraw the output from its delivery programme as soon as reasonably possible. If the initial investment commitment was compliant with the NDP at the time it was taken forward (ie it was determined to be the least worst regrets course of action), the spend up to time of cancellation will be considered economic and covered by the volume driver arrangements.

Given the nature of the uncertainty, we support NGET's proposal to adopt a least-worst regrets decision making rule to decide between competing investment options and the staging of investment commitments. We consider the least-worst regrets approach to be an appropriate tool for managing the inherent risks associated with large investments with long lead times. We also support the application of the proposed NDP on a rolling basis to refresh the assessment of the economic and efficient near term investment commitments. Taken together we consider the decision framework in the NDP is sufficiently proactive, prudent and flexible to manage the risks arising from investing too early or not delivering WW Outputs in time when these turn out to be needed.

We note that NGET is committed to reviewing the decision making rule in its proposed NDP if stakeholders make a case for this.

3. The proposed NDP meets the requirements set out in paragraph 6J.8(b)(i) to set out details about the development of data, assumptions and other modelling inputs – We have reviewed NGET's proposed approach to populating model data and inputs for its analysis of network requirements, and the rationale for setting values of key model parameters such as constraint costs, and discount rates.

NGET proposes to develop scenario-based generation and demand background data with stakeholders through its UK Future Energy Scenarios (UK FES) process each year. We note that as part of this process NGET has previously undertaken to summarise stakeholder

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feedback on future energy market developments and shown how this has shaped the UK FES used in NGET's annual planning process. We support the use of stakeholder tested inputs in NGET's analysis of future network requirements. This is consistent with industry good practice. It also gives us more confidence that the inputs included in the analysis will be fit for purpose and that the range of scenarios will be sufficiently wide given the degree of uncertainty.

We support NGET's proposal to adopt the Spackman approach in its cost-benefit analysis (CBA) of potential network solutions. This approach was promoted by the Joint Regulators Group[7] in its Technical Paper "Discounting for CBAs involving private investment, but public benefit" where a firm finances the investment but the benefits mainly accrue to consumers or the wider public. We consider the Spackman approach is appropriate for the purposes of evaluating the net present value of a transmission project as the benefits (in terms of avoided constraint costs and potentially more macro considerations) accrue to consumers more widely. Under this approach all costs (including financing costs based on Weighted Average Cost of Capital, circa 6.25%) and benefits are discounted at HM Treasury's social time preference rate (3.5%).[8]

We are very supportive of NGET's commitment to publish the key assumptions and data it uses in the NDP network analysis and detailed cost benefit on its website. Increased transparency of data and user friendly tools such as the Electricity Scenarios Illustrator[9] will increase opportunities for stakeholder engagement and scrutiny to help ensure inputs are fit for purpose.

4. The proposed NDP meets the timetable requirements set out in paragraphs 6J.8(c) and 6J.8(b)(vii) on the NDP process – NGET proposes to embed its NDP process into its annual wider network planning cycle, starting at the beginning of each calendar year with stakeholders contributing to the UK FES and concluding at the end of each year with the publication of the Electricity Ten Year Statement (ETYS).[10]

As discussed in section three, NGET will undertake significant stakeholder engagement on the development of data and model inputs at the start of the annual NDP cycle. In relation to wider reinforcement options NGET has told us that it would be difficult to accommodate a meaningful consultation on the options within the NDP cycle given the time available. Instead NGET proposes to gather stakeholder feedback on its proposed transmission solutions following the publication of its NDP conclusions at the end of the annual cycle. This feedback will be used as an input into the following year's analysis on the preferred transmission solutions.

In our view, stakeholder consultation on wider reinforcement options is an important opportunity to identify some non-transmission solutions to meet network requirements as well as more coordination on system planning between NGET and other parties such as

[7] The Joint Regulators Group is an association of the UK's economic and competition regulators.
[8] HMT's Green Book on cost benefit analysis can be found here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/179349/green_book_complete.pdf.pdf
[9] The Electricity Scenario Illustrator (ELSI) model is a spreadsheet-based model NGET has developed for stakeholders to simulate GB electricity market operation over an extended period spanning the RIIO-T1 price control.
[10] In 2012 NGET revised its approach to the information it publishes on the potential development of the National Electricity Transmission System (NETS). It amalgamated the existing network investment documents, the Offshore Development Information Statement and the Seven Year Statement to create the Electricity Ten Year Statement to cover potential future developments in GB onshore and offshore networks in a single document. Further information can be found here: http://www.nationalgrid.com/uk/electricity/ten-year-statement/

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other onshore transmission owners, offshore transmission owners and interconnector owners. It is essential that there is a clear and meaningful process for stakeholders to input on the potential options as this would help to ensure that assets develop in line with the overall needs of the system. We consider NGET's proposal to consult on the transmission solutions and any alternatives between NDP cycles, and to use this as an input to the next year's NDP process is a pragmatic approach given the potential time constraints within a one year cycle.

We note that the expected construction phase of NGET's incremental WW Outputs, set out in its RIIO-T1 business plan, generally start later than 2013/14. Accordingly, holding a stakeholder engagement process at the end of the NDP cycle in 2013/14 will allow stakeholders to provide feedback on the transmission solution proposals considered under the NDP cycle starting in 2014/15 as required under paragraph 6J.8(b)(vii). Going forward this position will be the starting point for all future NDP cycles.

5. The proposed NDP meets the requirements set out in paragraphs 6J.8(d)(i) and (ii), 6J.8(e) and 6J.8(f) on accountability and evaluation respectively – We support NGET's proposal to publish the outputs from its NDP process as a set of Regional Strategies covering the onshore England and Wales transmission system. Amongst other things, these will:

- summarise the preferred transmission strategies for a given region;
- demonstrate the needs case for works that will be undertaken in the following year; and
- outline the strategies for the delivery of future incremental WW Outputs over the next ten years but which are not triggered in the following year.

We also note NGET's proposal to archive both the inputs to and the outputs from the NDP process so that these can be evaluated retrospectively to seek further improvements in its methodology and processes.

We welcome the proposed NDP process to verify the WW Outputs that NGET delivers during RIIO-T1 as required under paragraphs 6J.(e)(i) to (ii). WW Outputs are defined as the measured transfer capability across circuits on system boundaries. The calculation of transfer capability depends to some extent on the amount of nearby generation and demand and the prevailing security standards. NGET will use forecasts of these factors in determining the WW Outputs it will deliver. When a WW Output is delivered NGET will cross-check the actual outturn of these background factors against the initial modelling assumptions and report the impact any difference has on the calculated transfer capability. This will also help us, stakeholders and NGET to monitor the robustness of the approach that NGET has adopted and identify potential improvements in the approach.

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