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for energy consumers

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Date: 19 December 2013

Dear Company Secretary,

Project Direction ref: NGGD/ BioSNG Demonstration Plant/ 19 December 2013

National Grid Gas Distribution (NGGD) submitted the Project BioSNG Demonstration Plant on 9 August 2013 to be considered for funding through the Gas Network Innovation Competition (NIC). In this year's decision,¹ we selected the project for funding.

We have issued this Project Direction to NGGD. It contains the terms to be followed by NGGD as a condition of BioSNG Demonstration Plant receiving funding through the Gas NIC. It must comply with these terms, which can be found in the schedule to this direction.

Project Direction

Paragraph 5.66 of the Gas NIC Governance Document states that a Project Direction must:

- set out the Project-specific conditions that the Network Licensee is committing to in accepting funding;
- require the Network Licensee to undertake the Project in accordance with the commitments it has made in the Full Submission. Where appropriate, the Project Direction may therefore include extracts from the Full Submission or refer to specific sections of the Full Submission;
- set out the Approved Amount for the Project, that will form part of the calculation contained in the funding direction issued by the Authority under chapter 7 of the Governance Document;
- set out the Project budget that the Network Licensee must report against and how variances against the Project budget will be reported and approved; and
- the mechanism for the Network Licensee receiving the Approved Amount is set out in the Funding Direction.

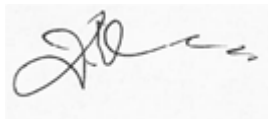
These are described for BioSNG Demonstration Plant in the schedule to this condition.

¹Please see here: <https://www.ofgem.gov.uk/ofgem-publications/84869/decisiononthefirstyearofthegasnetworkinnovationcompetition.pdf>

Decision

Provided NGGD complies with the NIC Governance Document and the schedule to this Project Direction, BioSNG Demonstration Plant is deemed to be an Eligible NIC Project².

This Project Direction constitutes notice pursuant to section 38A (Reasons for decisions) of the Gas Act 1986.



Dora Guzeleva

Head of Networks Policy, Local Grids

For and on behalf of the Authority

² Eligible NIC Project has the meaning given in definitions of the Gas Distribution licence.

Schedule to Project Direction

1. TITLE

Project Direction ref: NGGD / BioSNG Demonstration Plant / 19 December 2013

2. PREAMBLE

This Project Direction issued by the Gas and Electricity Markets Authority (the "Authority") to NGGD (the "Funding Licensee") pursuant to the Gas NIC Governance Document issued pursuant to Part E of Special Condition 1I (Network Innovation Competition) of the Gas Distribution Licence (the "Licence") sets out the terms to be followed in relation to BioSNG Demonstration Plant (the "Project") as a condition of it being funded under the NIC and the Funding Return Mechanisms³.

Unless otherwise specified, defined terms in this Project Direction are defined in Appendix 1 of the Gas NIC Governance Document.

References to specific sections of the Funding Licensee's Full Submission in this Project Direction are, for ease of reference, made by referring to the section number in the Funding Licensee's Full Submission pro-forma.

3. CONDITION PRECEDENT

The Funding Licensee will not access any funds from the Project Bank Account until it has signed contracts with the Project Partners named in Table 1.

Table 1 Condition Precedent

Advanced Plasma Power
Progressive Energy

4. COMPLIANCE

The Funding Licensee must comply with Special Condition 1I and the NIC Governance Document (as may be modified from time to time in accordance with Special Condition 1I and as modified and/or augmented in respect of the Project by this Project Direction) and the Project Direction.

Any part of the Approved Amounts that the Authority determines not to have been spent in accordance with this Project Direction (or the Gas NIC Governance Document) is deemed to be Disallowed Expenditure.

Pursuant to Special Condition 1I Disallowed Expenditure is revenue received (whether by the Funding Licensee or another Licensee) under the NIC and Funding Return Mechanisms that the Authority determines not to have been spent in accordance with the provisions of the Gas NIC Governance Document or those of the relevant Project Direction.

Pursuant to paragraph 8.48 of the Gas NIC Governance Document, Disallowed Expenditure includes any funds that must be returned if the Project is halted without Ofgem's⁴ permission, any funds that have not been spent in line with the approved Project Budget

³ the Funding Return Mechanism is defined in part C of Special Condition 1I.

⁴ Ofgem is the offices of the Gas and Electricity Markets Authority. The terms 'Ofgem' and 'Authority' are used interchangeably in this Project Direction.

contained within the Project Direction, and any unspent funds on the completion of the Project.

5. APPROVED AMOUNT FOR THE PROJECT

The Approved Amount is £1,875,150.95

6. PROJECT BUDGET

The Project Budget is set out in Annex 1. The Funding Licensee must not spend more than 110% of any category total (e.g. "Labour") in Annex 1 without the Authority's prior consent (such consent is not to be unreasonably withheld).

The Funding Licensee will report on expenditure against each line under the category total in the Project Budget, and explain any projected variance against each line total in excess of 5% as part of its detailed report which will be provided at least every six months, in accordance with paragraph 8.17 of the Gas NIC Governance Document. Ofgem will use the reported expenditure and explanation to assess whether the funding has been spent in accordance with the Gas NIC Governance Document or with this Project Direction.

For the avoidance of doubt, this reporting requirement does not change or remove any obligations on the Funding Licensee with respect to reporting that are set out in the Gas NIC Governance Document.

7. PROJECT IMPLEMENTATION

The Funding Licensee must undertake the Project in accordance with the commitments it has made in the Full Submission approved by the Authority pursuant to the Gas NIC Governance Document and the terms of this Project Direction. These include (but are not limited to) the following:

- (i) undertake the Project in accordance with the description set out in Section 2 (Project Description);
- (ii) provide a Network Licensee Compulsory Contribution of £212,550;
- (iii) complete the Project on or before the Project completion date of 31 March 2017; and
- (iv) disseminate the learning from the Project at least to the level described in Section 5 (Knowledge Dissemination).

8. COMPLETE PROJECT FUNDING

An unconfirmed and unspecified amount of External Funding is being sought by the Project Partners from the BESTF ERANET competition. This funding may include requirements over and above the Project scope set out in the Full Submission.

We note that any agreements signed by the Funding Licensee and the Project Partners will need to be consistent with both NIC and BESTF rules. The Funding Licensee notes the provisions of clauses 14 and 15 of this Project Direction.

Once the outcome of the BESTF ERANET competition has been confirmed, the Funding Licensee must inform and provide evidence to the Authority in writing of the amount of External Funding received by the Project from the BESTF ERANET competition.

We note that BESTF ERANET funding may require additional work, above that currently specified in the Full Submission. Once this is confirmed and for the purposes of this requirement, the Funding Licensee must inform and provide evidence to the Authority in

writing of any additional requirements or work, including any additional costs arising from these requirements.

In the event that the combined value of funding available to the Project, comprising:

- (i) the additional External Funding;
- (ii) the already confirmed External Funding (£637,650 from APP and £4,251 from Progressive Energy);
- (iii) the Funding Licensee Compulsory Contribution (£212,550); and
- (iv) the Approved Amount plus interest (totalling £1,912,950),

exceeds the Total Project Cost of £4,251,000 (as set out in the Funding Licensee's Full Submission at paragraph 1.4.5) and any additional costs of meeting requirements of the BESTF ERANET funding (the Total Combined Project Cost), the Funding Licensee must return the difference between the combined available funding and the Total Combined Project Cost to customers, subject to consideration of any requirements imposed by BESTF ERANET. The exact amount to be returned will be determined by the Authority following written notification and evidence from NGGD regarding the confirmed amount of External Funding from the BESTF ERANET competition.

For the avoidance of doubt, and notwithstanding any arrangements regarding External Funding for the Project, the Funding Licensee will be required to deliver the full scope and learning of the Project as set out in the Full Submission. If the Funding Licensee fails to deliver the full scope of the Project (as set out in the Full Submission), any or some of the funding spent may be considered Disallowed Expenditure.

9. REPORTING

Ofgem will issue guidance (as amended from time to time) about the structure and content of the reports required by paragraph 8.17 of the Gas NIC Governance Document. The Funding Licensee must follow this guidance in preparing the reports required by paragraph 8.17 of the Gas NIC Governance Document.

As required by paragraph 8.22 of the Gas NIC Governance Document, the Funding Licensee must inform the Authority promptly in writing of any event or circumstance likely to affect its ability to deliver the Project as set out in its Full Submission.

10. COST OVERRUNS

The maximum amount of Discretionary Funding that the Funding Licensee can request as additional funding for cost overruns on the Project is 5% of the Approved Amount⁵.

11. INTELLECTUAL PROPERTY RIGHTS (IPR)

In Section 5 (Knowledge Dissemination) the Funding Licensee has stated that the Project does conform to the default IPR arrangements set out in Chapter Nine of the Gas NIC Governance Document and must therefore undertake the Project in accordance with the default IPR arrangements.

⁵ This is the amount requested by the Funding Licensee in its Full Submission.

12. SUCCESSFUL DELIVERY REWARD CRITERIA

The Project will be judged by the Authority for the purposes of the NIC Successful Delivery Reward against the Successful Delivery Reward Criteria set out in Table 3⁶ below (that comply with paragraphs 5.26 – 5.29 of the Gas NIC Governance Document).

Table 3. Successful Delivery Reward Criteria

Successful Delivery Reward criterion	Evidence	Timing Months from start of project
<p>9.1 Dissemination Portal The consortium will create a National Grid BioSNG Website dedicated to the project, and through this portal provide public visibility of the objectives and aspirations of the project, as well as progress through the project life. Details of this web portal will be sent to all GB network licensees, as well as promoted at wider industry conferences. Already the project has received publicity in this way through a number of industry related conferences that promote waste to energy and fuels. We would expect this to continue and increase during the project. A key element of dissemination is also the 'showcase' Visitors' Centre – which is considered as a separate criteria, see Item 9.0.</p>	Setting up of a portal, and Promotion of portal and presentations at conferences.	Portal set up: 2 months 02/06/2014
<p>9.2 Final Design and Safety Review The work of the project will include completing the final designs and drawings prior to fabrication and assembly along with the completion of the safety review of the plant in accordance with the APP site safety procedures and regulations. This work will be completed as part of task one.</p>	Announcement to be made on the National Grid BioSNG Website that the Final Design and Safety Review has been completed.	5 months 01/08/2014
<p>9.3 Construction and Installation This is a clear criterion that will require the delivery to the site of completed equipment packages and the integration of these to make a complete BioSNG plant as set out in the final design document. Tasks two and three will show evidence of the</p>	Announcement to be made on the National Grid BioSNG Website that the equipment has been delivered to site – progress can be shown with pictures. Construction and Installation completion will be announced on the website.	12 months 10/04/2015

⁶ These are the Successful Delivery Reward Criteria set out in the Funding Licensees Full Submission

completion of the tasks whilst the start of commissioning will be further confirmation that the required equipment has been procured and brought to site.		
<p>9.4 Commissioning of plant</p> <p>a. Storage of syngas b. Purity level of syngas c. Water gas shift success = purity and levels of CO and H2 d. Methanator operation and production of substitute natural gas</p> <p>The major success delivery criterion will be seen once the plant has been commissioned and produces natural gas which will be fired in a household boiler in the exhibition area of the plant. There will be a number of different stages of the commissioning as each new piece of equipment is commissioned in sequence.</p>	We have timed the completion of the commissioning to be at the end of the first year of the project in July 2015. An announcement will be made on the National Grid BioSNG website with evidence shown in the Visitors' Centre.	15months 06/07/2015
<p>9.5 Test & Optimisation Programme</p> <p>The testing phase of the project will be completed during task 5 in the 2015/2016 year. The successful delivery of this criterion will be measured by the details as shown in the task 5 work package and reported in the milestone 5 report.</p>	Highlights of the results will be shown on the National Grid BioSNG website.	24 months 01/04/2016
<p>9.6 Assessment of scale up risks</p> <p>Once the project testing programmes have been completed the scale up risks to a commercial plant will be assessed during the report stage incorporating all of the learning that has been achieved during the project. A separate part of the final report will include scale up risks, their effect and the route to mitigation.</p>	The final project report will be submitted at the end of March 2017. The executive summary of the Final Report will be put onto the National Grid BioSNG website.	34 months 2/2/2017
<p>9.7 Engineering scheme for a full scale plant</p> <p>The basic design of a full scale plant will be included in task 8 and will submitted within the final report incorporating the learning that has been achieved during the project as milestone 10 report. The basic design will include high level process flow diagrams, mass and energy balance, functional</p>	Consistent with 9.6 above, the final project report will be submitted at the end of March 2017. The executive summary of the Final Report will be put onto the National Grid BioSNG website.	Final Report 36 months 31/03/2017

specifications and generic layout drawings.		
<p>9.8 Levelised Cost of Gas for a full scale plant in the UK As part of the project we will be developing the levelised cost of gas for a full scale plant which would be integrated with a 170,000 tonnes per annum waste capacity Gasplasma® plant taking the syngas output and then producing BioSNG. The objective is to show that the commercial scale plant will deliver value to the gas consumer and will demonstrate the commercial viability of the technical approach of the project. Furthermore this information will be used in the dissemination of the project information leading to the development of follow on commercial scale projects utilising the knowledge learned in this project.</p>	<p>This work will be completed as part of task 8 and provided within the milestone 8 report and highlights of the results will be shown on the National Grid BioSNG website.</p>	<p>Full scale report:35 months 27/2/2017</p>
<p>9.9 Operating showcase – dissemination Part of the project design will be a visitor’s centre with a household boiler, a set of radiators and a showroom exhibiting the technology of the project whilst also showing the potential future opportunities for the technology. The plant will be operated on a regular basis to demonstrate the technology to gas network licensees as well as to potential owners, developers and municipal authorities considering developing projects utilising the technology. This will allow the consortium to share both the vision of the opportunity created by BioSNG from waste, but also how projects can be deployed on the network. This will be accompanied by a programme of workshops planned onsite to explain the features and benefits of the BioSNG process for interested stakeholders including other network licensees.</p>	<p>This work will be completed as part of task 5. A visitors book will be used to record the names, dates and affiliations of people visiting the facilities. Certain visits will be highlighted on the National Grid BioSNG website.</p>	<p>16 months 03/08/2015</p>

The maximum amount of the NIC Successful Delivery Reward (which will not exceed the Licensee Compulsory Contribution) that the Project will be eligible for is £212,550.

13. USE OF LOGO

The Funding Licensee and Project Partners, External Funders and Project Supporters⁷ may use the NIC logo for purposes associated with the Project but not use the Ofgem or Ofgem E-Serve logos in any circumstances.

14. AMENDMENT OR REVOCATION

As set out in the Gas NIC Governance Document and this Project Direction, this Project Direction may be amended or revoked under the following circumstances:

- (i) if the Funding Licensee considers that there has been a material change in circumstance that requires a change to the Project Direction, and the Authority agrees (paragraph 8.23 of the Gas NIC Governance Document); or
- (ii) if Ofgem agrees to provide Contingency Funding, which requires the re-issue of the Project Direction (paragraph 8.42 of the Gas NIC Governance Document); or
- (iii) if the Funding Licensee applies for Discretionary Funding to cover a decrease in Direct Benefits and the Authority decides it would be in the best interest of customers to make changes to the Project Direction before the Discretionary Funding would be awarded (paragraph 8.42 of the Gas NIC Governance Document).

15. HALTING OF PROJECTS

This Project Direction is subject to the provisions contained in paragraphs 8.30 to 8.34 of the Gas NIC Governance Document relating to the halting of projects. By extension, this Project Direction is subject to any decision by the Authority to halt the Project to which this Project Direction relates and to any subsequent relevant Funding Direction issued by the Authority pursuant to Special Condition 1I.

In the event of the Authority deciding to halt the Project to which this Project Direction relates, the Authority may issue a statement to the Funding Licensee clarifying the effect of that halting decision as regards the status and legal force of the conditions contained in this Direction.

NOW THEREFORE:

In accordance with the powers contained in the Gas NIC Governance Document issued pursuant to Part E of Special Condition 1I of the Licence, the Authority hereby issues this Project Direction to the Funding Licensee in relation to the Project.

This constitutes notice of reasons for the Authority's decision pursuant to section 38A (Reasons for decisions) of the Gas Act 1986.

⁷ As listed in Box 1.5 in Section 1 of the Full Submission pro-forma.

ANNEX 1: PROJECT BUDGET

Cost Category	Cost
Labour	660.50
Equipment	1,139.00
Contractors	146.50
IT	30.00
IPR Costs	15.00
Travel & Expenses	40.50
Payments to users	-
Contingency	94.00
Decommissioning	-
Other	-
Total	2,125.50