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19 May 2015

For the attention of Mark Jenkins

Dear Sir

Re: Request for Statement of Works received on 27 March 2015
For 418MW of Embedded Generation at Staythorpe Substation
User Agreement Reference No. A/EME/91/5-15EX

I refer to your **Request for a Statement of Works** in relation to the possible connection of the above embedded generators to your **Distribution System** (the "Project"). **The Company** started processing this request on 21 April 2015.

We have now undertaken an initial assessment of the significance of the Project and believe the **Embedded Generators** has a significant impact on the **National Electricity Transmission System** (for the avoidance of doubt, such significant impact involves either party in an expenditure of more than £10,000) and would advise you of the following implications:-

i. Requirement for works on the **National Electricity Transmission System** where such works are not at a **Connection Site**

YES

Our initial assessments have highlighted that increases in the fault levels at Staythorpe 400kV due to the fault contributions from the new embedded generation will overstress four of the generator owned circuit breakers at Staythorpe 400kV. As a result of our findings a Modification Application will be required to further study the impact and identify appropriate works.

ii. Requirement for works to the **National Electricity Transmission System** at a **Connection Site (Grid Supply Point)**

YES

Our initial assessments have shown that under the N-1 conditions for the two 400/132kV SGTs at Staythorpe the remaining SGT will be overloaded. As a result of our findings, additional detailed studies would be required to understand the reinforcements required to

accommodate additional embedded generation and study the impact on the transmission network.

iii. Necessity for **Site Specific Requirements** (at the site of connection) of the **Power Station**

YES

Based on the data submissions made with the application, for the BICF-WBUR-WALP-STAY access group the load reduction is estimated to be around 500MW and 24MVAr of which about 130MW and 4.1MVAr reduction is estimated for Staythorpe. This poses a voltage problem on the transmission system in that region and other parts of the network.

Any reduction in demand contributes to raising the voltage levels on the system close to high voltage limits and eventually may lead to non-compliance. We therefore need to agree a strategy to address the wider impacts on the transmission system due to increasing embedded generation and decreasing demand levels.

The methodology adopted was to calculate the equivalent reactive compensation required at Staythorpe 400kV substation to bring the post-connection voltages down to their pre-connection levels. This has been calculated as 12MVArs. There are a number of options for compensation that will need to be explored, for example shunt reactors on the distribution or transmission networks or more locally agreeing power factor arrangements with each relevant embedded generator.

Any **Site Specific Requirements** necessary will be confirmed in the **Modification Offer**.

This **Statement of Works** will remain valid for a period of 90 **Business Days** from the date hereof, i.e. until 1 October 2015 (**"Expiry Date"**). After the Expiry Date this Statement of Works will lapse.

Should your customer wish to progress the Project, you will need to advise us of this fact by signing and returning to **The Company** the **Confirmation of Progression** form attached hereto by the **Expiry Date**.

Any signed **Confirmation of Progression** (together with the appropriate fee) received by **The Company** by the **Expiry Date**, together with the information included in the **Request for a Statement of Works**, shall be deemed to be **Modification Application** for the purposes of the **Charging Statements** and for Paragraphs 1.3.2, 6.9.2, 6.9.3 and 6.10 of the **CUSC** which shall apply thereto.

Modification Applications (including deemed **Modification Applications**) will only be valid under this process if received by **The Company** on or before the **Expiry Date.** In such event the **Expiry Date** shall not be extended, and this **Statement of Works** will lapse after the **Expiry Date** except where **The Company** agrees in writing that a revised **Statement of Works** is not reasonably required.

This **Statement of Works** has been assessed as at the date of issue. In the event that the system background changes on or before the **Expiry Date** of this **Statement of Works**, or before the **User** has completed, signed and returned the **Confirmation of Project Progression** with the appropriate fee, **The Company** reserves the right to revise any and all aspects of this **Statement of Works** and will notify the **User** of any changes to this **Statement of Works**.

This **Statement of Works** is made on the basis of and is only valid in respect of the information provided by the **User** in the **Request for a Statement of Works**. If the **User** wishes to make any changes to any information submitted with the **Request for a Statement of Works** a new **Request for Statement of Works** must be submitted to **The Company** before **Energisation** of the connection can take place. Please note, you may not energise the connection of the Project without having received a written notification from **The Company** that the process set out in Paragraph 6.5 of CUSC has been complied with in full.

Please note this **Statement of Works** should be forwarded to the **Power Station** as soon as reasonably practicable in accordance with Paragraph 6.5.5.3 of the CUSC.

All communication in relation to this **Statement of Works** should, in the first instance, be directed for the attention of Steph Wootton, who can be contacted by telephone on 01926 656126 or by email at steph.l.wootton@nationalgrid.com

Yours faithfully

NICOLA PATON
HEAD OF CUSTOMER SERVICE

FOR AND ON BEHALF OF
NATIONAL GRID ELECTRICITY TRANSMISSION PLC