CUSC - EXHIBIT I

THE CONNECTION AND USE OF SYSTEM CODE MODIFICATION APPLICATION

MODIFICATION APPLICATION – NOTES

Please study the following notes before completing and signing this application form.

Please note that certain expressions which are used in this application form are defined in the Interpretation and Definitions (contained in Section 11 of the **CUSC**) and when this occurs the expressions have capital letters at the beginning of each word and are in bold. If the **Applicant** has any queries regarding this application or any related matters then the **Applicant** is recommended to contact **The Company**[1] where our staff will be pleased to help.

1. **The Company** (National Grid Electricity Transmission plc) requires the information requested in this application form for the purposes of preparing an offer (the "**Offer**") of a **Construction Agreement** for the construction of a proposed **Modification** and for the variation of the existing [**Bilateral Connection Agreement** or **Bilateral Embedded Generation Agreement**] affected by the **Modification**. It is essential that the **Applicant** should supply all information requested in this application form and that every effort should be made to ensure that such information is accurate.

2. Where **The Company** considers that any information provided by the **Applicant** is incomplete or unclear, or further information is required, the **Applicant** will be requested to provide further information or clarification. The provision/clarification of this information may impact on **The Company's** ability to commence preparation of an **Offer**.

3. Should there be any change in the information provided by the **Applicant** then the **Applicant** should immediately inform **The Company** of such a change. Where this is a change in the information provided for Sections B to D then the **Applicant** should contact **The Company** to see if such a change can be accommodated as it is unlikely that material changes could be accommodated. If **The Company** cannot accommodate such a change bearing in mind the timescales within which the **Offer** must be made then the application will be processed on the original information although it is open to the **Applicant** to withdraw the application.

4. **The Company** shall charge the **Applicant**, and the **Applicant** shall pay to **The Company**, **The Company's** engineering charges in relation to the application. A fee will be charged by **The Company** in accordance with the **Charging Statements**. No application will be considered until such payment has been received.

5. The effective date upon which the application is made shall be the later of the date when **The Company** has received the application fee pursuant to paragraph 4 above or the date when **The Company** is

[1] Customer Services, National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA (Telephone No. 01926 654634)

reasonably satisfied that the **Applicant** has completed Sections A-D. **The Company** shall notify the **Applicant** of such date.

6. **The Company** will make the **Offer** in accordance with the terms of Paragraphs 6.9 (Modification) and 6.10 (**Modifications and New Connection Sites**) of the **CUSC** and the **Transmission Licence**.

7. **The Company** will make an **Offer** as soon as is reasonably practicable and, in any event, within three (3) months of the effective date of the application or such later period as the **Authority** may agree. The **Offer** may, where it is necessary to carry out additional extensive system studies to evaluate more fully the impact of the proposed development, indicate the areas that require more detailed analysis. Before such additional studies are required, the **Applicant** shall indicate whether it wishes **The Company** to undertake the work necessary to proceed to make a revised **Offer** within the three (3) month period or, where relevant, the timescale consented to by the **Authority**. To enable **The Company** to carry out any of the above mentioned necessary detailed system studies the **Applicant** may, at the request of **The Company**, be required to provide some or all of the **Detailed Planning Data** listed in Part 2 of the Appendix to the **Planning Code** which is part of the **Grid Code**.

8. In the course of processing the application, it may be necessary for **The Company** to consult the appropriate **Public Distribution System Operator(s)** on matters of technical compatibility of the **National Electricity Transmission System** with their **Distribution System(s)** or to consult the **Relevant Transmission Licensees** to establish the works required on the **National Electricity Transmission System**. On grounds of commercial confidentiality, **The Company** shall need authorisation for the release to the **Public Distribution System Operator(s)** or **Relevant Transmission Licensees** of certain information contained in your application. Any costs incurred by **The Company** in consulting the **Public Distribution System Operator(s)** or **Relevant Transmission Licensees** would be included in **The Company** charges for the application. If it is found by the **Public Distribution System Operator(s)** that any work is required on their **Distribution System(s)**, then it will be for the **Public Distribution System Operator(s)** and the **Applicant** to reach agreement in accordance with Paragraph 6.10.3 of the **CUSC**.

9. In accordance with Paragraph 6.30.3 of **CUSC**, **The Company** will need to disclose details of any agreement to vary **Bilateral Agreements** and shall need authorisation from the **Applicant** in respect of this.

10. Data submitted pursuant to this application shall be deemed submitted pursuant to the **Grid Code**.

11. **The Company's Offer** will, to the extent appropriate, be based upon its standard form terms of **Modification Offer** and the statement of charges

issued by **The Company** under Standard Conditions C4 and C6 of the **Transmission Licence**. The **Applicant** should bear in mind **The Company's** standard form terms of **Offer** when making this application.

12. As provided for in **Grid Code** CC 8.1, Generators and Dc Converter Station owners should appreciate that they will be required to perform **Mandatory Ancillary Services** to ensure that System Operational Standards can be achieved. This requirement may have implications towards **Plant** specification. You should be satisfied that before an application is made that your intended **Plant** design can meet the requirements. **Applicants** are recommended to contact **The Company**[1] where our staff will be pleased to help.

13. **The Applicant** has the ability to pay a fixed price application fee in respect of their application or pay the actual costs incurred (variable price application fee). The fixed price application fee is derived from analysis of historical costs of similar applications. The variable price application fee is based on an advance of the Transmission Licensee's Engineering and out of pocket expenses and will vary according to the size of the scheme and the amount of work involved. **The Applicant** is requested to indicate their preferred basis of application fee in Section A question 4. **The Applicant** is advised that further information can be obtained from the **Charging Statements** which can be found on **The Company's Website**[2].

14. Please complete this application form in black print and return it duly signed to Customer Services Manager, National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA (Telephone No. 01926 65 4634). In addition to returning the application to the Customer Services Manager an electronic form may be e-mailed to **The Company** at camdata@uk.ngrid.com

15. For the most up to date contact details applicants are advised to visit **The Company's Website**[2].

[2] **www.nationalgrid.com/uk/electricity**

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

SECTION A. DETAILS OF APPLICANT (in respect of this application)

1. **Registered Company**

Name: Yorkshire Electricity Distribution Limited (YEDL).....

Address (of Registered Office in the case of a Company):

Lloyds Court.....

78 Grey Street.....

Newcastle upon Tyne NE1 6AF.....

Company Number: 2906593.....

Parent Company Name (if applicable): CE Electric UK.....

2. **Company Secretary or person to receive CUSC notices**

Name: Mr John Elliott.....

Email: john.elliott@ce-electricuk.com.....

Telephone: 0191 223 5103 .....

Fax: 0191 223 5132 .....

3. **Commercial Contact/Agent (person to receive Offer if different from Company Secretary or person to receive CUSC notices as identified in 2 above)**

Name: Mr Joseph Helm.....

Title: Asset Management Engineer.....

Address: 98 Aketon Road.....

Castleford.....

West Yorkshire WF10 5DS.....

Email: joseph.helm@ce-electricuk.com .....

Telephone: 01977 605954.....

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

4. Please identify which application fee basis you wish to use for this application.

Fixed price application fee	[ ]
Variable price application fee	[✓]

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

SECTION B THE CONNECTION SITE TO BE MODIFIED

1. Please provide agreement reference number.

   A/YEG/90/15-7EX

2. Please identify by name the **Connection Site** at which the **Modification** is to be undertaken.

   Jordanthorpe 275/33kV substation.

3. Give details of the rights in any additional land which you are proposing to acquire at the **Connection Site** (to include leasehold and freehold interests and in the case of **Connection Sites** in Scotland legal interests and heritable or leasehold interests including servitudes or other real rights) so as to undertake the **Modification**).

   It is proposed that the currently unused National Grid compound adjacent to SGT1 at Jordanthorpe may be acquired by YEDL, on a temporary basis for the duration of the demonstration project, to accommodate a Superconducting Fault Current Limiter (SFCL) and associated motorised isolators and to facilitate busbar connection of the SFCL to the 33kV SGT1 transformer feeder.

4. Is space available on the **Connection Site** for working storage and accommodation areas for **The Company** contractors or, for **Connection Sites**, in Scotland the contractors of the **Relevant Transmission Licensees**? If so, please indicate by reference to a plan the location of such areas, giving the approximate dimensions of the same.
   National Grid have sufficient space available at the Connection Site that may be made available for working storage and accommodation areas for contractors. A suitable area will be agreed for this purpose that meets all stakeholders needs.

5. Please provide details (including copies of any surveys or reports) of the physical nature of any additional land the subject to your answer to Question 2 above including the nature of the ground and the sub-soil.
   Not applicable.

6. Please give details and provide copies of all existing relevant planning and other consents (statutory or otherwise) held by you relating to the **Connection Site** or the **Modification** and/or details of any pending applications for the same.
   The existing site and compound is declared as being an operational substation. It is anticipated that permitted development rights will be provided under the Town and Country Planning General Permitted Development Order 1995.

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

7. Please indicate what, if any, of the necessary construction works necessary for the **Modification** you would like **The Company** to conduct upon your behalf.

YEDL does not require National Grid to carry out any works on its behalf. However, YEDL expects National Grid to carry out all the necessary works to National Grid's equipment to facilitate this modification.

YEDL intends to deliver this scheme through a self-build construction process. YEDL will be responsible for the procurement and installation of busbars, isolators and associated support structures to facilitate the SFCL connection. YEDL will also be responsible for building and civil works associated with siting the SFCL.

It is anticipated that National Grid will revise their protection scheme associated with the circuit and provide resource for testing and commissioning of the SFCL.

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

SECTION C. TECHNICAL INFORMATION

1. Summary of Application (brief description of plant to be connected):

This project trials a specific piece of new equipment that has a direct impact on the operation and management of the distribution system and potentially the transmission system.

The aim is to design, build, install and commission a three-phase 33kV SFCL on the SGT1 33kV feeder at Jordanthorpe 275/33kV substation, subject to site surveys and agreement with National Grid.

Installation of the SFCL will limit the fault current to within the rating of the 33kV switchgear and provide additional headroom for the future connection of low carbon generation.

The pre-saturated reactor principle of operation is illustrated in the diagram below, which shows a pair of ferromagnetic cores, both of which are driven into saturation by the magnetic field produced by a superconducting coil common to both cores. Each core also passes through a high capacity winding of a few turns which carries the line current.

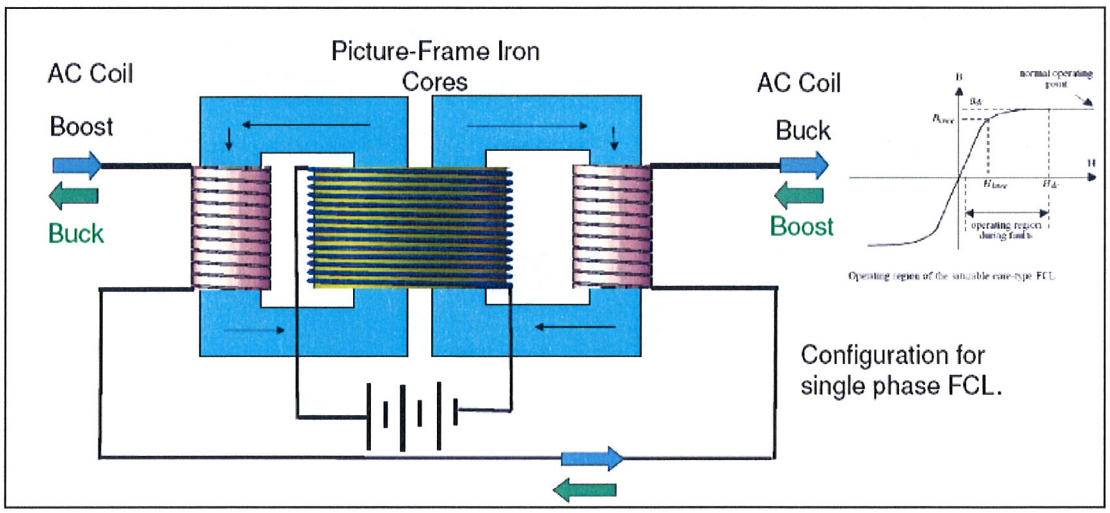


Diagram to illustrate the operation of the pre-saturated core SFCL

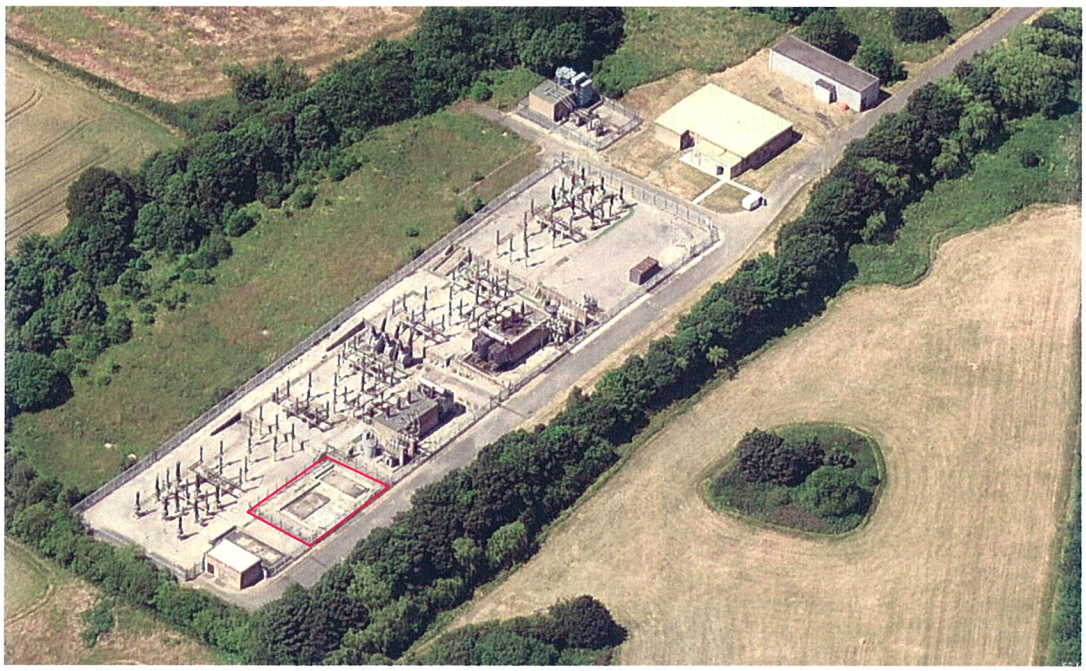
Current flowing from left to right (blue arrow) augments the field in the left hand core, but reduces the field in the right hand core. If the current reaches a sufficient level (i.e. fault current flows), the right hand core becomes de-saturated, resulting in a sudden and substantial increase in the inductance of the right-hand line-current winding. The converse applies for current flowing from right to left (green arrows). This action, which inserts inductance into the faulted circuit for a short time during each half cycle, is able to reduce the magnitude of the fault current when

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

this is large enough to initiate de-saturation. The level at which this occurs can be varied to suit the requirements for a given FCL application.

This process provides a fault current limiter able limit the current by up to 40%, i.e. to 60% of the unlimited value. Limiting starts at fault inception and the first peak is limited, again by up to 40%. The limiter can carry the limited current for long periods of time, up to 3 seconds. When the fault is cleared, the limiter impedance reverts to its lower pre-fault level and load flow can be immediately supported.

The photograph below is of the Jordanthorpe site. The boundary of an enclosed compound to the south west of SGT2 is identified in red. The compound is currently unused and it is proposed that this compound is acquired from National Grid on a temporary basis for the duration of the demonstration project.



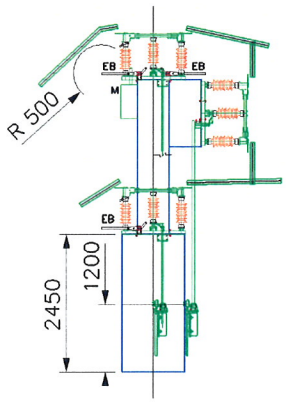
Aerial photograph of the Jordanthorpe site

YEDL proposes to interrupt the bus bar connections between SGT1 and the 33kV cable sealing ends which feed the CE Electric 33kV substation situated at the top right of the photograph. The SFCL connection will therefore need isolators and bypass arrangements and an auxiliary transformer to be fitted in or near to this compound. The main benefits of this approach are the lack of disruption to underground cables, the ease of returning the site back to normal operation after the demonstration and making best use of the existing infrastructure as civil costs will be minimised.

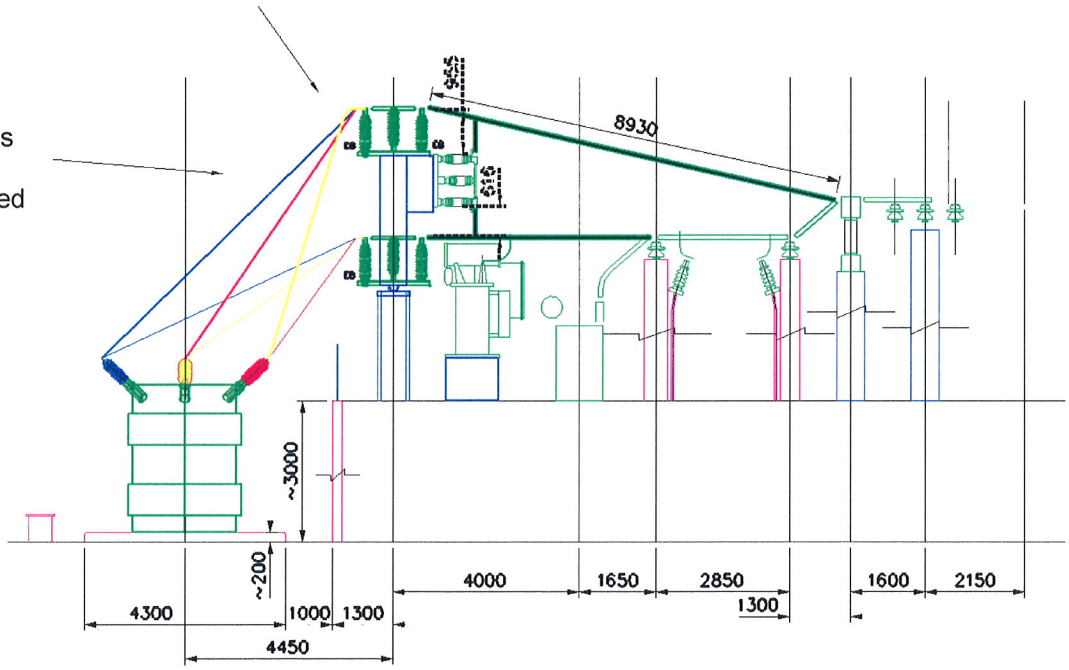
A drawing showing the proposed busbar connection arrangement is included below.

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM



Note: Yellow busbar requires bending to achieve required clearance



Drawing to show the proposed busbar connection arrangement of the SFCL to the SGT1 33kV feeder and detail showing proposed isolator arrangement.

The SGT, 33kV transformer tail and 33kV transformer circuit breaker up to the point of the clamp onto the 33kV busbars are owned by National Grid. The installation of the SFCL, an auxiliary transformer and 33kV isolators would all be connected to National Grid assets.

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

- The project will provide an upfront 100% capital contribution towards the new equipment and CE Electric UK will be responsible for the operation and maintenance of the SFCL. The metering point will be maintained.

2. Please provide full details of the proposed **Modification** together with the relevant **Standard Planning Data** as listed in Part 1 of the Appendix to the **Planning Code** to the extent that the data will change from previously submitted Committed Project Planning Data or Connected Planning Data as a result of the proposed **Modification**. Note: the data concerned form part of the **Planning Code** and **Data Registration Code**. **Applicants** should refer to these sections of the **Grid Code** for an explanation. Further guidance is available from **The Company**[3] on request.

   Week 24 data previously submitted remains valid.

3. Please notify **The Company** as to whether the **Modification** is associated with a **BELLA/BEGA Application** and if so details of the relevant **BELLA/BEGA Application**.

   BELLA/BEGA Agreement Ref: .....N/A.....

   Site of Connection.....

[3] Customer Services, National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA (Telephone No. 01926 654634)

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

SECTION D. PROGRAMME

Please provide a suggested development and construction programme in bar chart form for the work necessary to install the **User Development** (not the **Transmission Connection Assets** needing to be installed) indicating the anticipated date when the connection will be required to be made and any other key dates such as back feed date.

The bar chart below indicates the phasing of the development and key milestones.

		2011									2012											2013							
MS	**Current Forcast 22/6/11**	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	Design report				MS1																									
2	Material Procurement				IAD	MS2					Build																			
3	Balance of plant report				MS3																									
4	Factory test													MS4																
5	Type test completed															MS5														
6	Energisation					Mod App			Contract & design							Build		MS6												
7	Final Report																					Monitor						MS7		

MODIFICATION – APPLICATION

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If not already included in the above bar chart please provide details of when the **Applicant** expects to be completing the following relevant phases of the **User Development** or reach the following relevant key milestones below and other additional milestones as necessary (working backwards from expected connection date at 'year 0'). Where applicable this information is expected to provide the anticipated project overview at the time of application:-

- Planning Application Submitted (Town & Country Planning, S36,S37*)
- Planning Consent Awarded
- Plant Ordered (i.e. **Power Station** or substation)
- Construction Started (site mobilisation)
- Construction Completed

Notes

- The consent for the **User's Power Station** granted under Section 36 of the Electricity Act or planning permission for the **User's Power Station** granted under the Town and Country Planning Act 1990 or any amendment thereto in England and Wales or the Town and Country Planning (Scotland) Act 1997 or any amendment thereto in Scotland

MODIFICATION – APPLICATION

PLEASE ENSURE THAT YOU HAVE STUDIED THE NOTES BEFORE COMPLETING AND SIGNING THIS APPLICATION FORM

1. We hereby apply to modify our connection to the **National Electricity Transmission System** at Jordanthorpe 275/33kV **Connection Site**.

2. We agree to pay **The Company's** Engineering Charges on the terms specified in the Notes to the **Connection Application**.

3. We will promptly inform **The Company** of any change in the information given in this **Application** as quickly as practicable after becoming aware of any such change.

4. We authorise the release of certain information, on the grounds of commercial confidentiality, to the appropriate **Public Distribution System Operator(s)** or **Relevant Transmission Licensees** should it be considered necessary.

5. We confirm that we do/do not meet **The Company's Credit Rating/Approved Credit Rating**.

6. We confirm our agreement to the disclosure in the manner set out in Paragraph 6.30.3 of **CUSC** of the information specified in such Paragraph.

7. We confirm that this **Modification** is associated with a:

   BELLA Application [ ]
   BEGA Application [ ]
   Neither [✓]

SIGNED BY:

.....

JOSEPH HELM

For and on behalf of Yorkshire Electricity Distribution Limited

Date.....4/8/11.....

END OF EXHIBIT I