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1 Our engineers will discuss the clients DSR requirements and collect the necessary information for the ENA G59 application and financial modelling.

Collection of the technical information may require a site survey, but can often be taken from single line diagrams (SLDs), metering half hourly data and handbooks and photographs provided by the clients specialist staff.

We also have an extensive library of the required generator technical information needed to complete the G59/3 application if this information is not available from the client.



- 2 We will compile all the necessary information, to complete the ENA G59/3 application or online process for the following:
 - Existing back up generation Island mode conversion to full long term parallel.
 - ▶ Existing back up generation Short term parallel mode conversion to full long term parallel.
 - New back up generation Full long term parallel
 - I New battery storage coupled at a.c.

The ENA application is technical in nature. Information required for the application includes:

- Provision of single line diagrams and control diagrams to the standards required by the
- Determining site demand during the DSR period i.e. (Triad, STOR etc.), including top up and export requirements
- ▶ Provision of fault calculations
- **)** Generator & transformer parameters
- Location details
- ▶ Completing any specific DNO checklists
- 3 Our engineers will liaise with the applicable DNO throughout the application process. Discussing and agreeing technical issues and negotiating the most cost effective G59/3 option for the

If required we will compile all the necessary information, and complete the ENA G100 form for export limitation.

- 4 DNO approval may contain no restrictions or some of following:
 - Attendance at G59 witness testing*
 - ▶ Export limitation**
 - Network upgrade***
 - Quality Monitoring****
 - Statement of Works*****

- * As a minimum the DNO will require attendance at the witness testing. This cost will be included as part of the connection
- ** Additional functionality & protection will be required in accordance with ENA100. Where a DNO requires additional protection to be installed this will have to be paid by the client.
- *** Network upgrades, often as a consequence of fault level or thermal restrictions. These costs will have to be paid by the client, but they can be prohibitive.
- ****Additions due to network constraints can include provision of quality monitoring, reverse power protection and remote tripping which will have to be paid by the client.
- ***** National Grid statement of works approval, mainly in WPD areas. This can add significant cost, which has to be paid by the client and time delays to the approval process.



- 5 Our engineers will carry out a detailed survey of the clients power system to determine those assets which require enhancement to attain a generator G59 connection. This can include, but
 -) Generator AVR and governor upgrades

is not limited to, the following:

Additional generator fuel capacity upgrade

- Additional engine control facilities
- Modifications to exsiting switchgear interlocking

We will prepare detailed technical specifications including design and project management requirements to enable our client to seek competitive prices for the installation of the these upgrade works.

7 We will carry out a detailed review of your demand reduction requirements and your goals in order to build a clear picture of your requirements.

We offer our client specification and tendering services for both the DSR aggregator and export G59/3 project power purchase agreement (PPA)

Including electricity supply contract advice to ensure maximum benefits flow from the G59/3 DSR opportunity.



- 8 We will carry out a review and financial analysis of the DNO's Connection offer, DSR income stream and capital costs to establish the way forward.
- 9 If either the DNO offer or financial modelling does not meet customer requirements. We will assist our client with considering an alternative site.



- 10 It will be necessary for the client to pay the DNO connection charge within 90 days of receiving their quotation. Unless extended for a further 90 days, the application will be cancelled and the client has to reapply.
- Often a Client's authorisation chain prevents payment being made within the 90 days. In such cases we may come to an arrangement to pay the cost on their behalf.
- 1) We offer our clients a complete project management of the works arising from the necessary G59 modifications or demand reduction recommendation.
- 12 We can act as the client's technical representative on site during the installation works, witness commissioning and accept the installation on behalf of the client.



13 We will arrange for the DNO to attend the G59 witness testing as part of the overall ENA

Our engineers can also carryout the G59 testing or act as the client's representative during the tests if required.

- 14 Following successful commissioning and testing we will.
 - Review and sign off for the changes to the site connection agreement with the DNO.
 - For export G59/3 projects appoint the most cost-effective export MOP/DA/DC and ensure export MPANS are registered.
 - Insure export metering is working correctly, especially as this can be an issue on dual MPAN sites.
- 15 We will co-ordinate with the DSR aggregator to
 - Installation and testing of the aggregator generator communications.