



STATEMENT OF OPPORTUNITY

EXECUTIVE SUMMARY

This Statement of Opportunity is published by Guernsey Electricity in accordance with Condition 33.1 of its conveyance licence.

The Statement is intended to allow existing and potential users of the system to obtain an overview of the electricity system within the island of Guernsey.

This executive summary provides an overview for those who require an understanding of the system sufficient to enable them to know what steps are needed to make enhanced use of the system.

The network described is an island network with sufficient local generation to meet demand and with a single interconnector to Jersey and onward to France. This summary details separately the generation, interconnection, conveyance and supply assets of the system and the ability of the system to accept new load or generation.

GENERATION

Local generation is presently situated on a single site with machines distributed in three different generating stations. Total capacity is 115.3 Mega watts (MW), comprising 65.3MW of slow speed diesel generators and 50MW of gas turbine generators. The slow speed machines are fuelled by heavy fuel oil and are economical to operate. The gas turbines are fuelled by diesel oil and constitute quick start plant for emergency and winter peak load usage where their very high production costs can be tolerated. All generators operate at 11,000 volts with this voltage transformed to 33,000 volts for supply to the conveyance system.

Decision of the States of Deliberation render the future of the Energy from Waste plant difficult to predict, therefore the expected 7MW of local generation has been removed from the Statement of Opportunity until further notice.

INTERCONNECTION

The island's conveyance system is connected to the European grid by a single 90,000 volt, 60MW submarine cable running to Jersey. Jersey has a pair of submarine cables, rated together at 145MW, subject to thermal constraints of the cables, connecting to the European grid at La Haye du Puits in Normandy.

The balance of imported power to locally generated power available in Guernsey is determined by the contract arrangements between Jersey, Guernsey and the

European supplier, by the cost of local generation, by the power demand in both islands and by the technical limitations of the network.

At present the minimum effective import into Guernsey is 16MW, occurring in early spring and late autumn, and the maximum approximately 50MW. During summer months it is expected that imported power will be sufficient to meet all the demands of the island. In winter, when system demand is highest, imported power is augmented by the use of local generation.

CONVEYANCE AND SUPPLY

The conveyance network operates at 33,000 and 11,000 volts and consists entirely of underground cables.

The network consists of three bulk supply points converting 33,000 down to 11,000 volts and a strong arrangement of 11,000 volt ring circuits feeding 48 primary substations across the island. Conversion of 11,000 volts to the 415 volt supply system takes place at these substations and at a further, approximately 300, smaller secondary substations spread across the area of the island to meet the positions of loads.

The 415v supply network is largely underground, with a few rural areas supplied by overhead systems.

It is Guernsey Electricity policy to replace overhead lines with underground cables where it is technically and economically feasible, as a result less than 1.5% by length of the supply network is overhead.

The supply network is run in an interconnected mode so that loads normally supported by one substation may be supplied by another in the event of a cable fault.

As at 31st March 2005 the total number of energy users connected to the system was 28,255 of which 83% were classified as domestic.

The highest ever network demand recorded at standard 30 minute record times was 70.4MW in March 2005. Annual energy supplied to the system, including energy used in generation, was 340 million kWh in the year 1st April 2004 to 31st March 2005.

NETWORK PLANNING

The ability of the network to accept new loads or additional sources depends upon two basic factors viz:

- 1) The location of the new load/source in relation to existing network assets.
- 2) The power demand or generation output.

Guernsey Electricity recommends that any interested party contemplating additional use of the system contact Guernsey Electricity at the outset, since the costs and timescale of making network provision will vary considerably according to the precise location and usage expected. The following points are intended to provide only the most general guidance and are no substitute for a specific enquiry.

Loads of up to 10kW, such as a single domestic property, can normally be accommodated with a simple connection to the existing supply network.

Loads in the range 10 – 100kW, such as a commercial property or a number of domestic properties, may require a new supply cable to be laid from the nearest conveyance network substation, a plant upgrade at that substation or a new substation.

In both the above cases the critical factor in determining the lead time will probably be obtaining permission for any necessary roadworks. In roads that have recently been resurfaced the Public Services Department Code of Practice prevents excavation for a period of three years other than in exceptional circumstances. In other roadways a shorter lead time of three to six months is more normal.

Where it is necessary to construct a new substation, obtaining the necessary legal documentation and planning permission can be expected to take six months, or longer where there are specific legal issues such as boundary or access disputes.

Loads in the range 100kW to 1MW, such as a new housing estate, a hotel or significant commercial development, will normally require the construction of a secondary substation with a lead time as above. In addition it may be necessary to consider reinforcement of the conveyance network in the area.

Loads in the range 1 to 10MW will require detailed individual consideration as it may be necessary to reinforce significant parts of the conveyance system. At the top of this range it is likely that major cable laying will be necessary, possibly over a significant distance. Loads in this range are likely to be achieved in one to two years.

Loads above 10MW will require the most detailed individual consideration as they will have a significant impact not just on the conveyance network but also on the importation and generation infrastructure. The lead time for such a development could be over two years. As a generalisation it will be more economic to supply substantial loads when such loads occur physically closer to principal power system assets. Thus the north east of the island would be the preferred general location.

In all cases potential users should be aware that the costs of network development to meet their specific requirements will be chargeable to them, less any contribution that Guernsey Electricity may make where the development is of value to other users. Such contributions will be consistent with the Connection Charging Statement issued in accordance with Condition 31 of Guernsey Electricity's conveyance licence.

Details of the location of network assets and their connectivity will be found in the main body of the Statement.

GENERATION PLANNING

The objective of electrical energy availability planning is to ensure that sufficient energy is always available whilst minimising the cost. In examining the power availability at any time power utilities allow for a number of generation units or interconnectors to be out of service due to fault conditions. In its generation planning Guernsey Electricity assumes the simultaneous loss of its two largest generating units. On this basis, and allowing for the long term contracted minimum 16MW import capacity from the interconnector to Jersey, the secure capacity is presently 92.3MW. The present level of maximum demand under severe winter conditions is estimated to be approximately 72MW, giving a margin of capacity over supply of approximately 20MW.

If only organic growth in demand occurs then the forecast maximum demand will increase by 4MW in the period to 2010. The existing generation and importation plant can therefore sustain an increase in maximum demand of approximately 16MW without concern as to the adequacy of this plant.

Fuller details of the generation plant and planning process will be found in the body of this Statement.

The following States Guidance also needs to be noted in all generation planning decisions:

- “2. *However electricity services are to be provided in future, they are to be provided within a policy of retaining sufficient on-Island generating plant to meet the total long term demand, to cover for the possibility of interruption or unavailability of power through the cable link to France.*”

CONCLUSION

The island has an electricity system which is planned, operated and maintained in accordance with appropriate international standards. It is equipped with a range of generating plant that is both efficient and flexible. The interconnector to Europe provides access to electricity generated from a variety of sources at European market prices. It also enhances system security and provides a degree of diversity of supply. The on island network is largely underground and constructed to recognise the importance island customers place on reliability. The network is capable of accepting significant additional load. Potential system users are advised to make an early enquiry of Guernsey Electricity when considering such usage.