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WRITTEN QUESTION TO THE MINISTER FOR TREASURY AND RESOURCES
BY DEPUTY J.A. MARTIN OF ST. HELIER
ANSWER TO BE TABLED ON TUESDAY 18th JUNE 2013

Question

Will the Minister provide details (by use of a map if necessary) of what part of St Helier the proposed electricity sub-station at Westmount is intended to service and, in view of his comment in the States on 4th June 2013 that "there are going to be problems in the future in relation to the J.E.C.'s ability to deliver supply to homes" in St. Helier if the scheme does not go ahead, would he set out the likely timescale for any such disruption?

Would the Minister also give a list (using a map if necessary) of the other potential sites considered for the substation and explain, in each case, why the site was ruled out?

Answer

The Minister considers that the need to provide a reliable power supply to homes and businesses is a core requirement for the JEC and he is seeking a swift resolution to avoid any disruption to power supplies.

The Minister is advised that this is an urgent issue that needs to be resolved without delay and has sought to expedite the preferred solution with the Parish, as landowner, and the JEC.

The preferred option and other sites considered, together with a commentary provided by the JEC in respect of the pressure on capacity, are set out below.

St Helier West Primary Substation

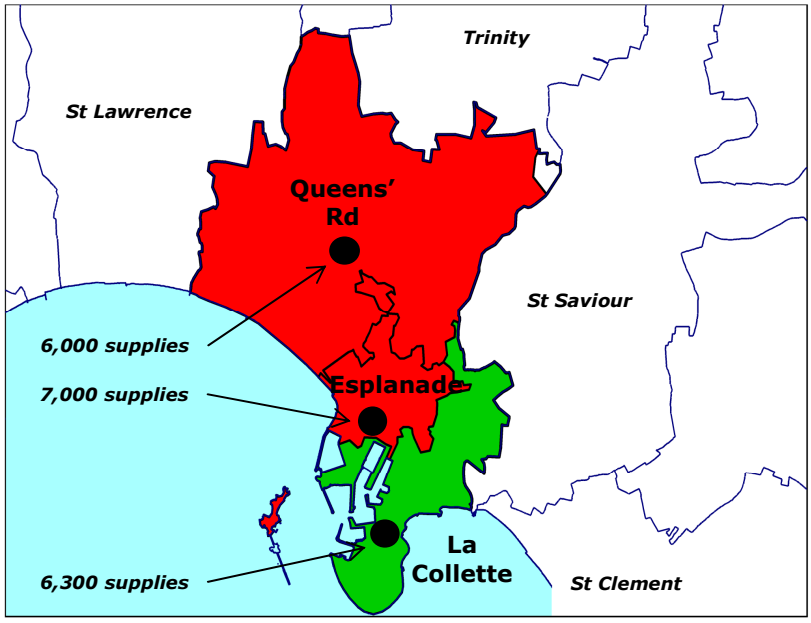
The electricity network in the central and western part of St Helier is presently near full capacity and demand is growing. Several cable circuits and related equipment between Queens Road and Esplanade were installed over 50 years ago and are becoming aged as well as 'stressed' due to the high electricity loadings. This could lead to a reduced asset life as well as increased risk of disruption of supplies to existing customers.

There is limited backup infrastructure available to maintain supplies in the event of an 'electrical fault' situation especially if an event occurred during the winter months. A sustained fault at either Queens Road Primary or Esplanade Primary would mean that Jersey Electricity could have difficulty supplying customers for up to 1,250 peak hours over the 6 winter months until the fault was repaired. A major fault could easily take 6 months to repair, requiring procurement of assets from specialist manufacturers' off-island.

Such an event would therefore lead to repeated supply (rota) disconnections and re-connections during the afternoon and evening when the electricity network loads are at their highest (and when the electricity is most needed). Customers affected could include domestic customers as well as existing businesses including those located in the commercial district of St Helier.

Two thirds of St Helier could be at risk depending on the nature and timing of the fault (darker area in Figure 1 below). In addition services to some customers in adjacent Parishes could also be similarly affected as the network topography is not delineated by Parish.

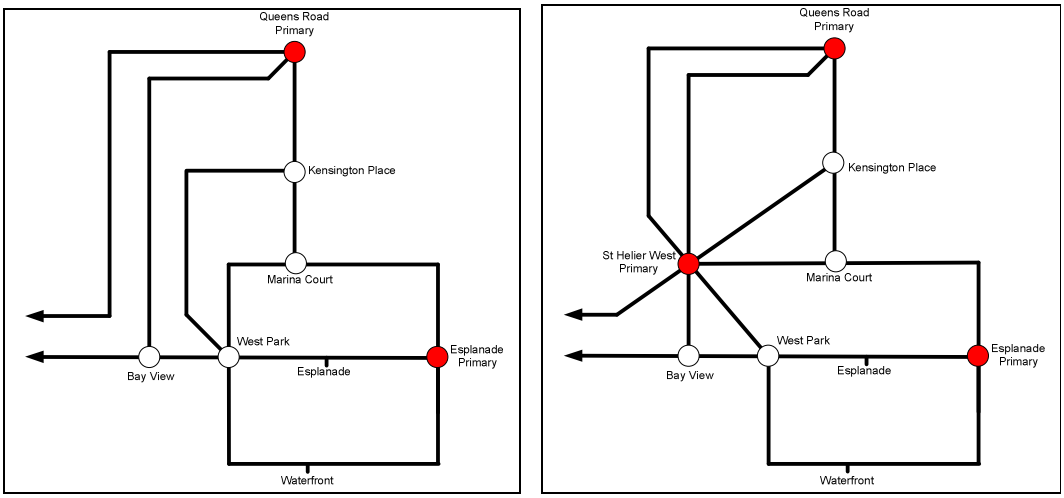
Figure 1 – Potential Area at Risk



An additional consequence of this is that Jersey Electricity is unable to provide new supplies to new developments, including the hospital development, housing schemes as well as new supplies to businesses and the commercial district of St Helier.

Jersey Electricity has been looking for a suitable site for a substation for several years. Parish and States officials have been extensively involved in this process. In order to securely reinforce the network in this part of St Helier, the substation needs to be physically located between the Esplanade Primary and the Queens Road Primary. The location is critical as it must be sited close to the load to offer secure integration to the existing Jersey Electricity network with minimal cable lengths and maximum cable separation that is necessary for resilient connections. The network design showing cabling, is shown diagrammatically in Figure 2 below.

Figure 2 – Diagrammatic Representation of the 11Kv Network

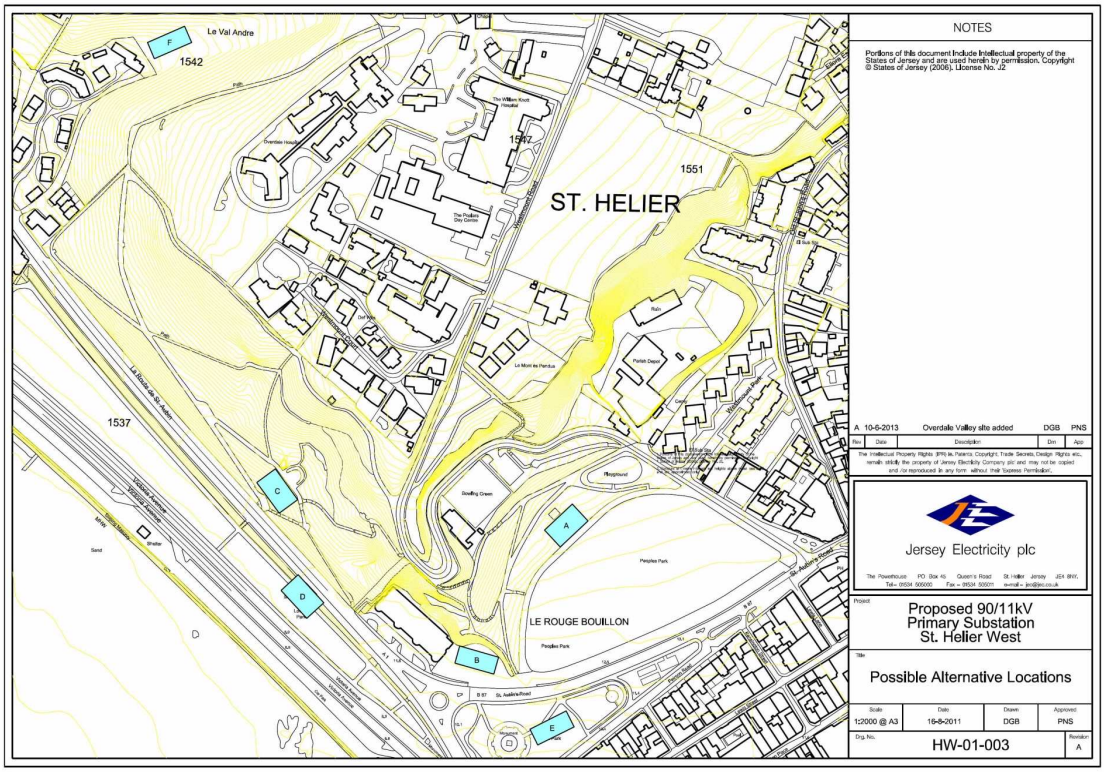


Existing 11kV Network *Network showing new St Helier West*

The new proposed St Helier West Primary substation will take load from the Esplanade Primary and from Queens Road Primary relieving those substations of their overload operation. It will also offer additional capacity for existing and new customers in the north, west and central St Helier.

Several options for the new substation have been extensively explored. These are shown in Figure 3 and described in detail below.

Figure 3 – Site Options Considered



The options considered were:-

A) Part buried in the crescent of Peoples Park - former fountain

B) In the car park adjacent to the Inn on the Park site
C) In the old disused quarry opposite Lower Park
D) As a direct replacement for Fergusson's Folly
E) In Victoria Park
F) In the Overdale Grounds Val Andre

The preferred site, taking into account the various trade-offs, is option C. This site was chosen after discussion with both Planning and Parish Officers for four primary reasons:

1. It was felt that the substation was easier to conceal and landscape than would be the case if sited in the open parkland alternatives
2. Whilst more expensive for Jersey Electricity in terms of site preparation and despite some technical compromise, the site was considered acceptable given the minimal loss of amenity, ease of concealment and ease of access for installation and for emergency repair
3. The site is remote from residential areas, minimising any safety risk or noise to neighbours
4. From a Parish perspective, they would no longer be responsible for any future contingent liability risk (and cost) associated with an old and potentially unstable quarry

Details for each option are listed as follows.

A) **Part buried in the crescent of Peoples Park (former fountain location)**

This location has been discussed with the Parish who welcomed the installation if it included Public Toilets and offered a viewing platform. These facilities could be included in the design.

Proposed St Helier West Primary Substation at People's Park

This is Jersey Electricity's preferred location. It is good secure location to connect into the existing 11kV circuits and 90kV circuits. <u>This proposal was not supported by planning officers.</u>

B) **In the car park adjacent to the Inn on the Park**

The primary substation could be located in the car park. It could be walled for security as required.

Its location is good for secure connection to the existing 11kV and 90kV cables. <u>This proposal was supported by Planning Officers. Significant objections may emerge from apartment owners who would be within a few metres of the site, and therefore this site has not been progressed.</u>

C) **In the old disused quarry opposite Lower Park**

This location was proposed by the Parish. The substation would be mostly concealed but the 11kV cable installation would still be challenging as 6 circuits would need to run along the inner road past West Park. However this is deemed achievable. Planning Officers agree with this proposal subject to design criteria.

Disused quarry - Existing Site

Substation cut into disused quarry opposite Lower Park - Proposed

D) **As a direct replacement for Fergusson's Folly**

The building shell is not quite large enough to accommodate the equipment but the style could be very closely followed if required and certain plant installed underground (under St Aubins Inner Road). The 11kV cable installation would be very difficult as 6 circuits would need to run along the inner road past West Park. If part of the installation was installed under the road, the road

would likely have to be closed for about 18 months pending the build process leading to significant traffic problems. This proposal was not supported by Planning Officers.

E) **In Victoria Park**

This location is good for connection to existing 11kV and 90kV circuits, but it was not supported by Planning Officers due to the sensitivity of the location.

F) **In Overdale Grounds Val Andre**

This location was proposed by Property Holdings as an alternative site to those previously considered. It is a very difficult (near impossible) location to install large plant and equipment and very difficult to resiliently connect to existing 11kV and 90kV circuits.