Generation Expansion - Meeting the Demand for Electricity

Meeting the demand for electricity is a fundamental part of LUCELEC's mandate. In fact, the Electricity Supply Act (ESA) requires that LUCELEC not only maintain enough generating capacity to meet the peak demand for electricity, but also to maintain sufficient spare or excess capacity to service that peak demand even with two of its largest engines out (for maintenance or repair). So from time to time, as peak demand increases, LUCELEC must put in additional generating capacity.

At present, LUCELEC's installed generating capacity is 77 MW. Current peak demand is approximately 60 megawatts (MW). This places LUCELEC on the edge of the statutory requirement for spare capacity. But as early as 2005 LUCELEC had begun exploring options and seeking optimal solutions for the next phase of major generation expansion, estimated to be needed by 2013.

To date LUCELEC has devised a three stage plan to meet short, medium and long term capacity requirements. The short term plan involves installing two high speed diesel units at the old Union Power Station. This project is at an advanced stage and the units will be commissioned shortly. These will ensure, in the immediate term, the spare capacity required by law.

The medium term plan calls for installing a 10 megawatt (MW) tri-fuel engine at Cul de Sac Power Station that is expected to be commissioned by July 2012. Preliminary work on this project has started.

The long term plan entails the construction of a new power plant by 2014 to be located in the south of the island – primarily to mitigate the risk of producing all our electricity in one location, to facilitate economic activity in the south, and to meet the power requirements for the future. The land space for this new power plant needed to be sufficiently large to cater for future expansion and had to be in close proximity to a marine port facility for ease of transporting equipment and fuel.

A site at La Tourney has been identified as the preferred site and has been approved by the International Civil Aviation Authority (ICAO), given its proximity to the Hewanorra International Airport. This site is under the control of the National Development Corporation (NDC) and LUCELEC has commenced discussions regarding the acquisition of the site. A Memorandum of Understanding (MOU) has been signed regarding access to the site for geotechnical and environmental impact studies that are scheduled to take place this year.

Another critical factor is a suitable generation technology, which must have a proven operational track record and the potential to reduce operating costs while increasing energy efficiency. In keeping with the recently approved St. Lucia National Energy Policy renewable energy sources, such as Geothermal and Wind, are also being considered. Cost estimates range between US$60M and US$100 million depending on the generation technology and the size of the plant.

During 2011 the final determination of the project cost will be completed and a financing plan finalised. The overall plan will ensure that the Company meets its statutory requirements for generation capacity in the short,

medium and long term. It will also ensure alignment with the renewable portfolio standard outlined in the National Energy Policy and the GOSL Sustainable Energy Plan. Critically too, the generation expansion plan seeks to ensure the use of different types of fuel to minimise dependence on oil or other fossil fuels and to mitigate risks associated with sudden and large fluctuations in the fuel prices.

Comments or questions associated with this article or about LUCELEC in general, please feel free to contact LUCELEC via email to connected@lucelec.com [1] or by calling 457-4400. You can also visit our website at www.lucelec.com [2] for additional information.

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