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1 June 2011

REQUEST TO MODIFY A MAJOR PROJECT – BAMARANG POWER STATION (Application no. 06_0029) SUPPORTING INFORMATION

The Bamarang Power Station Project ("Project") will construct a gas-fired power station at Bamarang, NSW, on the site of a disused abattoir. The project has been approved to proceed in two stages:

- Stage 1 will consist of 2 units of gas turbine-generators in open cycle configuration, plus supporting infrastructure including high pressure gas pipeline and high voltage connection to the electricity transmission system.
- Stage 2 will consist of the installation of two heat recovery steam generators and a single steam turbine-generator to convert the power station to combined cycle configuration with an installed capacity of 450MW. Stage 2 will also involve the construction of a water pipeline to supply water to the project.

The project approval provides for the developer to proceed straight to Stage 2 without first constructing and operating Stage 1.

The Project was declared a Major Project under section 75B(1)(a) of the Environmental Planning and Assessment Act 1979. It received Concept Approval on 27 February 2007 under Section 75O of the Environmental Planning and Assessment Act 1979 and Project Approval for Stage 1 under Section 75J of the Environmental Planning and Assessment Act 1979 also on 27 February 2007. The limits of approval include a condition that the approval would lapse five years after the date of approval unless works the subject of the project approval for Stage 1 of the development are physically commenced on or before that date. Thus, unless works are commenced, the Approvals will lapse in February 2012.

Project Approval of Stage 2 was granted on 29 October 2008.

The Project was devised and initiated by Delta Electricity. The Project (including ownership of the site and the benefit of all associated permits, modifications to permits, agreements, etc.) was sold to Lumo Generation Pty Ltd (ABN 69 147 186 865) ("Lumo") in February 2011 as part of the NSW Government's Electricity Asset Sales process.

Lumo requests a modification to the Concept and Project Approvals to vary the limits of approval such that the approvals will lapse 10 years after the initial date of approval (instead of 5 years as currently provided). Under this proposed modification, the approvals will lapse in February 2017

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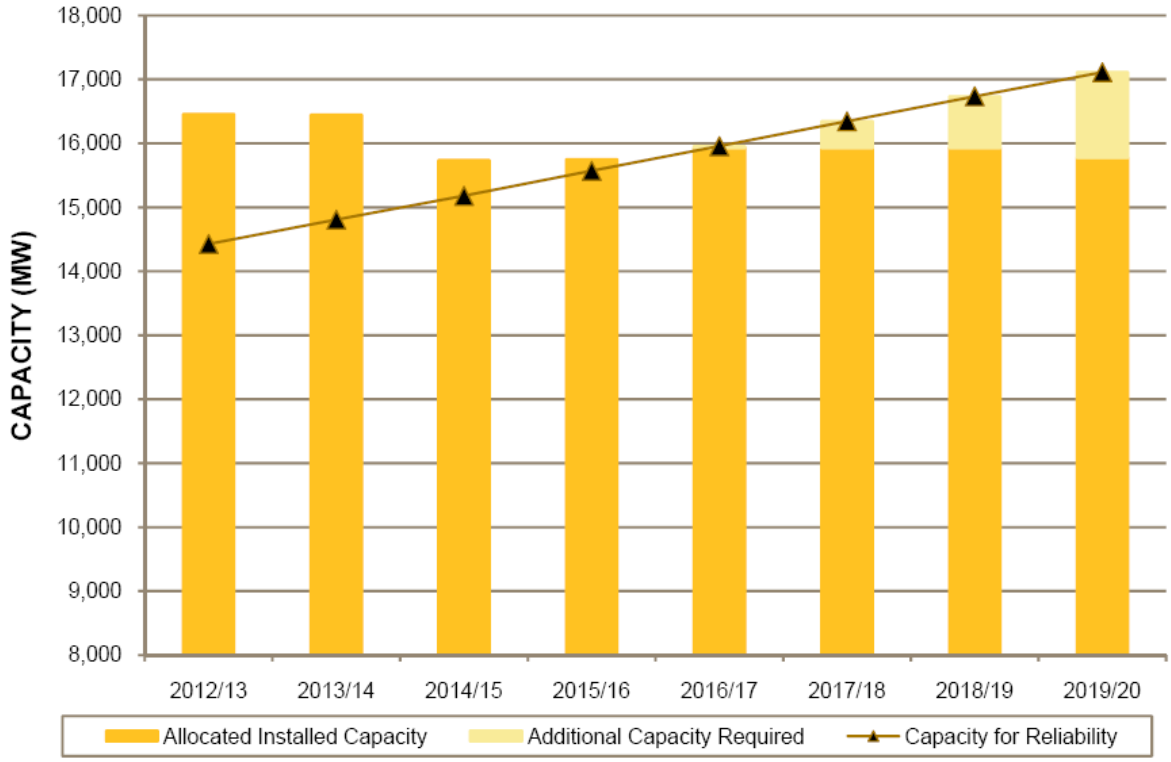
Is the Bamarang Power Station Project still required in New South Wales?

Lumo believes that the Bamarang site is an excellent one for the construction and operation of a new gas-fired power station. New South Wales will continue to need new investment in power generation capacity in order to meet growing demand for electricity by consumers, and gas-fired generation offers the optimum mix of fuel-efficiency, operational flexibility and low greenhouse gas emissions to supply that demand growth. However, Lumo believes that the time is not yet right for it to be able to construct the Bamarang Power Station Project and receive an economic return on its investment. Therefore, Lumo requests that the limits of approval of the Concept and Project Approvals be modified to extend the date on which the approvals lapse by a further 5 years.

Delta's Environment Assessment, prepared by consultants GHD in May 2006 and submitted in support of Delta's initial Development Application, referred to supply-demand forecasts of electricity sourced from NEMMCo (now the Australian Energy Markets Operator, or AEMO) in their 2005 Electricity Statement of Opportunity document (ESOO). The ESOO is prepared and published annually by AEMO, and forecasts future adequacy of electricity supplies based on generation reserve margin (i.e. the margin by which installed generation capacity exceeds expected demand for electricity) by assessing where the Low Reserve Condition point (LRC) falls below the Minimum Reserve Level (MRL). The premise is that additional generation capacity is required at the point at which the LRC falls below the MRL.

In the 2005 ESOO, this point was forecast to occur in 2008/09 (refer Fig 5.2 of the Environment Assessment). Five years on, and following the commissioning of over 1,600MW of new, gas-fired generating capacity at Tallawarra, Uranquinty and Colongra power stations, in the 2010 ESOO the LRC is forecast to fall below the MRL in 2016/17 under the medium demand growth scenario, and 2017/18 under the low demand growth scenario.



NSW Summer supply-demand outlook - medium economic growth (Fig 7.3 in 2010 ESOO)
Note that the ESOO analysis focuses on Summer because the demand for electricity is generally higher in summer than in other months, and thermal generation capacities and interconnection power transfer capabilities generally decrease over Summer, leading to an increased likelihood of low reserve conditions.

Hence, the point at which further new generation capacity is required in NSW, as assessed by AEMO, has moved out by some 8 years since the initial Development Application for the Project was submitted by Delta Electricity. This movement in electricity supply-demand balance supports Lumo's contention that investment in new plant in NSW is not currently required and, consequently, nor is it economic, and provides a strong argument for extending the Project Approvals until such time as investment in new generating capacity is justifiable.

Is construction of a Power Station at Bamarang still justified?

When a permit is granted, it is done on the basis of the assumptions and assessments contained in the Development Application and supporting documentation. Lumo understands that one of the key reasons why expiry dates are placed on Development Consents is because, over time, those assumptions and assessments become increasingly invalid. Such changes can render a development incompatible with evolving community expectations if the development is postponed unreasonably beyond the time at which it was initially assessed and approved.

In the case of a power station development, two key factors which can change, post-approval, are the technology of power generating equipment and the encroachment by human activity on the buffer zones which commonly surround a power station development site. Lumo does not believe that these concerns apply to an extension of the expiry date for the approvals for the Bamarang Power Station Project.

Have there been significant advances in gas turbine technologies?

Lumo proposes to develop the Bamarang Power Station in accordance with the plans and assumptions contained in Delta Electricity's Environmental Assessment. Lumo believes that the justifications for the development of the Project and the benefits flowing from it, as outlined in the Environment Assessment, are just as pertinent and valid today as when they were first presented by Delta in 2006. Gas turbine technology has not advanced significantly since 2006, and if Lumo were to select today the machines which will form the Bamarang Power Station, then it would only have available to it the same range of makes and models as was available to Delta in 2006.

Have other power generation technologies superseded gas turbines?

Furthermore, other power generation technologies have not emerged nor made substantial advances so as to make a gas turbine power station no longer suitable or appropriate to meet the growing demand for electricity in New South Wales. Gas-fired power generation continues to offer the most effective way to reduce the overall carbon intensity of the NSW generation fleet, and gas turbine technology offers the most fuel-efficient and flexible way of converting natural gas into electricity.

Another benefit of gas turbine generators is that they complement the installation of sustainable technologies, such as wind and solar. A characteristic of any electricity system is that the supply of

electricity from all generation sources must exactly match the instantaneous demand for electricity by customers connected to that system. Both wind and solar are dependent on the occurrence of natural phenomena in order to produce electricity – in the case of wind turbines, the wind needs to blow and in the case of solar, the sun needs to shine. However, the wind does not blow continuously nor at constant strength, and the sun does not shine for 24 hours each day nor is the day-time sky always cloudless. Thus, the electrical output from these sustainable technologies varies somewhat unpredictably over time, and is largely uncorrelated to the demand for electricity. Electricity systems containing significant quantities of sustainable generation therefore require the presence within the system of flexible, fast-responding, reliable power generating plant which can respond in order to smooth out fluctuations in electricity produced by the sustainable power stations. Gas turbine generators offer very flexible output that can start quickly and is well suited to load following and compensating for fluctuations in output from power stations based on sustainable technologies.

Has human encroachment made the Bamarang site unsuitable for use for power generation?

Since the initial Environment Assessment of the Project was completed, there has been minimal encroachment by human activity on the lands which form a buffer zone around the power station site. Recent consultation by Lumo with Shoalhaven Council confirmed that land usage at Bamarang, in the vicinity of the Project site, has not changed significantly since the Project received Concept Approval. The closest sensitive receptor to the power station site is a residential sub-division planned for Cabbage Tree Lane. Such development was identified as a likely future land use in the initial Environment Assessment submitted by Delta (p. 2.5). The Cabbage Tree Lane development lies some 1.2 km to the east of the power station site, and this separation means that noise emanating from the power station is unlikely to impact on residents there.

Thus, the assessments of noise and air quality impacts contained in the Environmental Assessment remain valid, and the construction and operation of the power station remains a viable use for the Bamarang site.