

5 October 2018



Attention: Julie Dixon – Manager, Licensing and Compliance
Essential Services Commission of SA
GPO Box 2605
Adelaide SA 5001

Re: Variation to Existing Quarantine Power Station Generation License

Dear Julie,

I refer to the existing Generation License for Origin Energy Electricity Limited (Origin), issued on 27th October 1999 and as amended 30 July 2008 for Quarantine Power Station.

Quarantine Repower Project

Origin has commenced a series of re-power projects for the Quarantine Power Station. The projects consist of the replacement of the turbines of Units 1 to 4 over a period of three (3) years. The first project has commenced with the replacement of Unit 1 (QPS1), which is planned for energisation in mid-December 2018.

The initial assessment process determined it was not economic to completely replace the entire generator. Therefore, by not replacing the entire generator, there remained a “package” (physical size and configuration) constraint. The subsequent evaluation determined that there were only two remaining viable economic options:

- Maintain the existing Siemens SGT600 turbines; or
- Repower using the GE LM2500+ DLE gas turbines.

All other comparable-capability turbines did not fit within the package constraint.

The outcome of this evaluation was for Origin to select the repower solution as the best option. The primary benefit is the fast start feature which means the new generation unit can get to full capacity within five (5) minutes of starting. This capability will be of key importance for the South Australian grid going forward as it integrates with, and supports, renewables coming into the energy market. The existing QPS1 unit currently has a licensed capacity of 20.4 MW. The gas turbine output will have a moderate increase of output through increased efficiency with reduced emissions to 24.5MW.

Origin has engaged ElectraNet, and our consultant DlgSILENT, to amend the Transmission Connection Agreement and Generator Performance Standards (GPS). It is expected these items will be completed shortly. Note that as this is a replacement gas turbine and not a completely new generator, there is no requirement for engaging with the Office of the Technical Regulator (OTR) to obtain approval for inertia and such matters. However, the OTR has been advised of the project.

Request for Variation

Origin seeks for ESCOSA to process a variation of the existing license. Further, Origin has engaged Clutch Consulting to support the license variation process and authorises ESCOSA to communicate directly with Clutch Consulting on this matter as required.

We look forward to your response.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'MC', written over a circular scribble.

Michael Craig
Transmission and Gas Connections Manager

Origin

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