AUSTRALIAN ENERGY COUNCIL

Director – Resource Assessments
Planning and Assessment
NSW Department of Planning, Industry and Environment

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Hunter Power Project (Kurri Kurri Power Station)

The Australian Energy Council ('AEC') welcomes the opportunity to make a submission to the NSW Department of Planning, Industry and Environment's consultation on the Hunter Power Project – Kurri Kurri Power Station.

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

The AEC is not in a position to provide feedback on the specific environmental matters contained within the comprehensive Environmental Impact Statement ('EIS') for the Hunter Power Project ('Project'). We do, however, wish to make some general comments about the broader climate benefits that peaking gas-fired generation can provide by smoothing the energy transition. Its flexible and firming qualities can supplement the variability of renewable generation, and therefore enable a more confident transition away from traditional baseload generation.

When considering the EIS, the AEC encourages the Department to weigh these broader benefits against any local impacts of the Project, which in any case, should be diminished by the proposed peaking role of this power plant.

Characteristics of gas-fired generation

There are currently 40 gas-fired generating units in the National Electricity Market ('NEM') and they each successfully contribute to Australia's electricity supply with few air pollutants. In addition to being a firm electricity source, gas-fired plants operate flexibly, enabling them to efficiently respond to variable supply forecasts.

While gas is sometimes conflated with coal as a fossil fuel, the emissions profile of each is very different. Coal-fired power stations are responsible for a much wider range of emissions that must be managed carefully due to the nature of the fuel compounded by coal generation's baseload running characteristics. Gas-fired generation, in contrast, burns a naturally purer fuel and operates non-continuously.

The main air pollutant from gas-fired generation, NOx emissions, can be limited through appropriate burner design and flame temperature management. We note here that the EIS states the proposed power plant is expected to only operate at about two percent of its full capacity each year and will have 'best practice' emissions abatement technology installed.[1] This indicates the Project's overall emissions output will be minimal.

The two percent capacity projection is presumably because the Project is intended to have a peaking function. This is consistent with the purpose of other recently built gas-fired generators, such as Barker Inlet in South Australia, which provides valuable peaking capacity to firm the state's high uptake of

[1] Jacobs, 'Hunter Power Project – Environment Impact Statement', 22 April 2021, p22, 27.

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variable generation. This peaking role is going to become increasingly important in future years as Australia transitions to a net-zero economy.

Smoothing Australia's transition to net-zero

In December 2020, the Federal Government published its emissions projections for Australia over the next decade (i.e. until 2030). The ten-year projections see the electricity sector achieving a 36 percent reduction in its carbon emissions, by far the largest sectoral contribution across Australia's economy.[2] This projection is likely conservative because it does not take into account the NSW Electricity Infrastructure Roadmap, the early closure date of Energy Australia's Yallourn power station, or the possibility of other coal-fired power stations bringing forward their date of closure. This possibility reflects the ever-increasing output of solar and wind generation, the costs of which continue to dramatically decline. It is now widely assumed that these sources will provide the bulk of future electricity in Australia.[3]

The accelerating pace of the change to Australia's electricity generation mix brings with it opportunity, but also challenges. Because these sources are variable, they require flexible and firm back-up capacity to cover periodic lulls in their output. Dispatchable generation, like a peaking gas-fired power station, is well suited to perform this role even as overall gas consumption declines. For example, the Australian Energy Market Operator ('AEMO') has forecasted in its *2021 Gas Statement of Opportunities* that 'while the volume of gas consumed for generating electricity is forecast to decline … the value of that generation is expected to increase in line with the growth of variable renewable energy and the retirement of coal generation'.[4] This type of forecasting enables market participants to respond accordingly to projected gaps in electricity supply that dispatchable generation can fill. Independent thinktanks like the Grattan Institute have corroborated AEMO's forecasts, stating that with appropriate market signals gas can 'naturally fill' the role of providing dispatchable generation as 'coal plants are retired and investment in renewables continues'.[5]

In line with this sentiment, peaking gas should be viewed as complementary to, rather than a substitute for, renewable generation. The AEC encourages the Department to ensure, when making its decision, that market participants maintain confidence that investments in peaking gas capacity will be assessed on their overall merits.

Any questions about this submission should be addressed to Rhys Thomas, by email to Rhys.Thomas@energycouncil.com.au or by telephone on (03) 9205 3111.

Yours sincerely,

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[2] Australian Government, 'Australia's emissions projections 2020', Department of Industry, Science, Energy and Resources, December 2020, p13.
[3] Australian Energy Market Operator, '2020 Integrated System Plan', July 2020, p12.
[4] Australian Energy Market Operator, 'Gas Statement of Opportunities', March 2021, p4.
[5] Tony Wood & Guy Dundas, 'Flameout: the future of natural gas', Grattan Institute, 2020, p35.

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