



Australian Government

Department of Defence
Estate and Infrastructure Group

Charles Mangion
Director Land Planning and Regulation
Estate Planning Branch
Brindabella Business Park (BP26-1-A053)
PO Box 7925
Department of Defence
CANBERRA BC ACT 2610
☎: (02) 6266 8291
✉: Charles.mangion@defence.gov.au

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Mandana Mazaheri,
Senior Environmental Assessment Officer
Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam

RE: SSI 9837 ENVIRONMENTAL IMPACT STATEMENT – NEWCASTLE POWER STATION, 1940 PACIFIC HIGHWAY, TOMAGO NSW 2322

Thank you for your email dated 15 November 2019 advising of the Environmental Assessment submitted by AGL Energy Ltd for the Newcastle Power Station (NPS) project to be located at Tomago NSW. Defence understands that the NPS is intended to be operated as a peaking plant, however it would be designed for continuous operation as a dual fuel power station whereby generation units can be supplied by natural gas and/or liquid fuel.

The Environmental Impact Statement (EIS) submitted with the application indicates that the design of the NPS would consist of either reciprocating engines or gas turbines. The decision to install either option would be based on a range of environmental, social, engineering, and economic factors. Defence notes that both options are assessed in this EIS, however, only one type would be constructed. Defence does not support the gas turbine powered option as it would have a significant impact on aircraft operating at RAAF Base Williamtown.

The proposed NPS site is located approximately 12 km west-southwest of the airport at RAAF Base Williamtown / Newcastle Airport. RAAF Base Williamtown is one of Defence's major military airfields providing critical capability for Defence. It is Air Force's intent that RAAF Base Williamtown remain the nation's main fighter pilot training base, and most of the planned F-35A Joint Strike Fighter Lightning II aircraft will be based at the airfield. RAAF Base Williamtown is the home base for the tactical fighter element of the Air Combat Group and the Airborne Early Warning and Control element of Surveillance and Reconnaissance Group.

Defence has assessed the proposal for any possible impact on the safety of aircraft operations at RAAF Base Williamtown and in doing so has considered both the reciprocating engines and gas turbine options that are being considered as part of the EIS.

Due to the NPS proposed location in close proximity to RAAF Base Williamtown, Defence's primary concern is to ensure that plume associated with the operation of the NPS does not impact on Defence operations. The Civil Aviation Safety Authority has recommended using a Critical Plume Velocity (CPV) of 6.1 m/s to assess the exhaust plume against the Obstacle Limitation Surface (OLS) and PANS-OPS surfaces. In addition, based on advice from AGL Defence has used a notional perimeter of 250 metres diameter from the centre of the power plant to define the horizontal extent of the plume. In summary, the CPV for the peak gas turbine option extends to 410m Australian Height Datum (AHD) vertically and for the peak

reciprocating engine 183m AHD. Both options will penetrate the Outer Horizontal Surface of the OLS (156.5m) at a dangerous vertical velocity and the peak gas turbine option will infringe the PANS-OPS Surface.

Gas turbine option

Defence does not support the gas turbine operating option as it would have a significant impact on aircraft operating at RAAF Base Williamtown. As indicated above the CPV for the peak gas turbine option extends to 410m AHD and will infringe both the OLS (by 253.5 metres) and the PANS-OPS Surface. This infringement will have a significant and unacceptable impact on both Military and Civil procedures, including the 10 Nautical Mile Minimum Sector Altitude which under this scenario would need to be increased by 300 feet to 2400 feet. This would have a significant impact on aircraft conducting visual approaches at night and would be in conflict with Defence's noise abatement flying profile.

The Reciprocating Engine option:

As indicated above, the reciprocating engine option with a CPV of 183m AHD will infringe the OLS by around 26 metres, the plume will not infringe the PANS-OPS surface. This option poses less of a risk to aircraft that enter into the planned restricted airspace as its exhaust plume will dissipate and fall to an acceptable velocity at a lower height compared to the Gas Turbine option. It also reduces the flight safety risk of aircraft exposure to the high velocity updraft. Defence's position is that the OLS should not be infringed, and that the project should be designed to ensure that the CPV should be lower than the OLS.

Comments on the proposed development should also be sought from the civil operator of Newcastle Airport Limited.

Should you wish to discuss the content of this advice further, my point of contact is Mr Tim Hogan contactable at land.planning@defence.gov.au or by telephone on (02) 6266 8193. Please also note our new Defence group email address for all land planning matters.

Yours sincerely

Charles Mangion

Director Land Planning & Regulation

16 December 2019

Cc: Ms Arianna Henty, Land and Approvals Manager, AGL