



DOC19/995044-44

Department of Planning, Industry and Environment
Returned via Planning Portal

Attention: Mandana Mazaheri

10 September 2020

Dear Ms Mazaheri

**Planning Referral – Response to Submissions
Newcastle Power Station (SSI-9837)**

I refer to your email to the Environment Protection Authority (EPA) received 27 August 2020, providing opportunity to comment on the *Newcastle Power Station Environmental Impact Statement, Amendment Report* (the Amendment Report) dated August 2020.

The proponent, AGL Energy Limited (AGL), proposed to construct a dual fuel power station, known as the Newcastle Power Station (NPS). The NPS, with gas pipelines, electricity transmission lines, site access and associated ancillary facilities would be built in Tomago in New South Wales (NSW). Together, the NPS, gas pipeline, electricity transmission lines and associated infrastructure form the Proposal.

The EPA has reviewed the Amendment Report and has determined that sufficient information has been provided to adequately assess the environmental impacts of the proposal. The EPA's recommended Conditions of Approval are provided at Attachment A to this letter for consideration by the Department of Planning, Industry & Environment.

Should the Proposal be approved, the proponent will need to apply to the EPA for an environment protection licence.

If you have any questions about this matter, please contact Jenny Lange on 02 4908 6891 or by email to hunter.region@epa.nsw.gov.au

Yours sincerely

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Attachment A: Recommended Conditions

Noise Conditions

Noise Limit Conditions

1. Noise generated at the premises must not exceed the noise limits at the times and locations in the table below.

Location	Noise Limits in dB(A)			
	Day	Evening	Night	Night
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{AFmax}
2171 Pacific Highway Heatherbrae	51	48	43	52
135 Oakfield Road, Woodberry	42	42	38	52
838 Tomago Road, Tomago	57	48	43	52
819 Tomago Road, Tomago	63	53	48	52
47 School Drive, Tomago	57	48	43	52
7 Graham Drive, Tomago	57	48	43	52
18 Homebush Drive, Woodberry	42	42	38	52

2. For the purposes of condition 1:
 - a) Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.
 - b) Evening means the period from 6pm to 10pm.
 - c) Night means the period from 10pm to 7am Monday to Saturday and the period from 10pm to 8am Sunday and public holidays.
3. Noise-enhancing meteorological conditions
 - a) The noise limits set out in condition 1 apply under the following meteorological conditions:

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Evening	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Night	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level; or Stability category E and F with wind speeds up to and including 2m/s at 10m above ground level.

- b) For those meteorological conditions not referred to in condition L6.3(a), the noise limits that apply are the noise limits in condition 1 plus 5dB.
4. For the purposes of condition 3:
 - a) The meteorological conditions are to be determined from meteorological data obtained from a meteorological weather station, located on the premises.

- b) Stability category shall be determined using the following method from Fact Sheet D of the *Noise Policy for Industry* (NSW EPA, 2017):
 - i. Use of sigma-theta data (section D1.4).

5. To assess compliance:

- a) with the $L_{Aeq(15 \text{ minutes})}$ or the L_{Amax} noise limits in condition 1 and 3, the noise measurement equipment must be located:
 - (i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises; or where applicable,
 - (ii) in an area within 30 metres of a residence façade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable,
 - (iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve,
 - (iv) at any other location identified in condition 1
- b) with the $L_{Aeq(15 \text{ minutes})}$ or the L_{Amax} noise limits in condition 1 and 3, the noise measurement equipment must be located:
 - (i) at the reasonably most affected point at a location where there is no residence at the location; or,
 - (ii) at the reasonably most affected point within an area at a location prescribed by condition 5 (a).

6. A non-compliance of conditions 1 and 3 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition 5 (a) or 5 (b).

NOTE to 5 and 6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.

7. For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.
8. Noise measurements must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

Noise Monitoring Conditions

9. The meteorological weather station, at a location on the Premises, to be approved, must be maintained so as to be capable of continuously monitoring the parameters specified in condition 10.
10. For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point for Monitoring Station located on the Premises

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
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Air temperature	°C	Continuous	1 hour	AM-4
Wind direction	°	Continuous	15 minute	AM-2 & AM-4
Wind speed	m/s	Continuous	15 minute	AM-2 & AM-4
Sigma theta	°	Continuous	15 minute	AM-2 & AM-4
Rainfall	mm	Continuous	15 minute	AM-4
Relative humidity	%	Continuous	1 hour	AM-4

Noise Monitoring

11. Within 6 months of full operation a post commissioning attended noise validation monitoring is to be undertaken during a period of full load in accordance with Condition 1 and must
 - a) occur at each receiver location listed in condition 1;
 - b) occur during each day, evening and night period as defined in the *Noise Policy for Industry* for a minimum of:
 - 1.5 hours during the day;
 - 30 minutes during the evening; and
 - 1 hour during the night.
 - c) occur for three consecutive operating days.
12. On completion of post commissioning attended noise validation monitoring required in Condition 11, that shows compliance with Condition 1, ongoing attended noise monitoring must be undertaken in accordance with Condition 1 and must:
 - d) occur at receiver locations agreed to by the NSW Environment Protection Authority.;
 - e) occur annually in a reporting period;
 - f) occur during each day, evening and night period as defined in the *Noise Policy for Industry* for a minimum of:
 - 1.5 hours during the day;
 - 30 minutes during the evening; and
 - 1 hour during the night.
 - g) occur for of a duration agreed to by the Environment Protection Authority.

Noise Monitoring Report

13. A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the post commissioning validation monitoring and any annual monitoring. The assessment must be prepared by a competent person and include:
 - a) an assessment of compliance with noise limits presented in Condition 1 and 3; and
 - b) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition L6.1 and L6.3.

Noise Definitions

- Noise Policy for Industry - the document entitled “*Noise Policy for Industry*” published by the NSW Environment Protection Authority in October 2017.
- Noise – ‘sound pressure levels’ for the purposes of conditions L6.1 to L6.8.
 - $L_{Aeq(15\text{ minute})}$ - the value of the A-weighted sound pressure level of a continuous steady sound that, over a 15 minute time interval, has the same mean square sound pressure level as a sound under consideration with a level that varies with time (Australian Standard AS 1055:2018 *Acoustics: description and measurement of environmental noise*).
 - L_{AFmax} – the maximum sound pressure level of an event measured with a sound level meter satisfying Australian Standard AS IEC 61672.1-2013 *Electroacoustics - Sound level meters - Part 1: Specifications* set to ‘A’ frequency weighting and fast time weighting.

Hours of Construction

14. All construction work at the premises must be conducted between 7am and 6pm Monday to Friday and between 8am and 1pm Saturdays and at no time on Sundays and public holidays, unless inaudible at any residential premises.

Exceptions to construction hours

15. The following activities may be carried out outside the recommended construction hours:
 - a) construction that causes $L_{Aeq(15\text{ minute})}$ noise levels that are:
 - i. no more than 5dB above Rating Background Level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
 - ii. no more than the Noise Management Levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses; or
 - b) for the delivery of materials required by the police or other authorities for safety reasons; or
 - c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
 - d) as approved through the process outlined in “Variation of construction hours” of this approval.

Variation of construction hours

16. The hours of construction activities specified under “Exceptions to construction hours” d) of this approval may be varied with the prior written approval of the Secretary. Any request to alter the hours of construction shall be:
 - a) considered on a case-by-case or activity-specific basis
 - b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours
 - c) accompanied by written evidence that appropriate consultation with potentially affected sensitive receivers and notification of relevant Council(s) (and other relevant agencies) has been and will be undertaken
 - d) all feasible and reasonable noise mitigation measures have been put in place
 - e) accompanied by a noise impact assessment consistent with the requirements of the *Interim Construction Noise Guideline* (DECCW, 2009).

Air Quality Conditions

General operating conditions

17. The proponent must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution.
18. All plant and equipment installed at the premises or used in connection with the licensed activity:
 - a. must be maintained in a proper and efficient condition; and
 - b. must be operated in a proper and efficient manner.
19. The premises must be maintained and operated in a manner that minimises or prevents dust emissions from the premises.
20. All operations and activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the premises.
21. The proponent shall not permit any offensive odour to be emitted beyond the boundary of the site.
22. The power station must be designed and constructed so as not to preclude the retrofit of air pollution controls at the premises.

Fuel requirements and limitations on hours of operation

23. Fuel burning equipment must not be operated for the purpose of generating electrical power at the premises for more than 2200 cumulative hours per calendar year.
24. Fuel burning equipment must not be fired on diesel for the purpose of generating electrical power at the premises for more than 900 cumulative hours per calendar year.
25. Any application to modify the approved operating hours in Conditions 23 and 24 must be accompanied by a revised air quality impact assessment; demonstrate the project is using best available air pollution control technology and a commitment for project operations post modification to be nitrogen oxides (NO_x) emission neutral.
26. Distillate fuel used in the power station must comply with the Australian Government's *Fuel Quality Standards (Automotive Diesel) Determination 2019* made under the *Fuel Quality Standards Act 2000*.
27. The proponent is permitted to exceed the maximum hours specified in Conditions 23 and 24 in the event that operation, or continued operation, is required if:
 - a) the Australian Electricity Market Operator (AEMO), or a person authorised by AEMO, directs the proponent, under the National Electricity Law and the National Electricity Rules, to take relevant actions to maintain or restore the security or reliability of the electricity network; and
 - b) the relevant AEMO direction referred to above remains in force; and
 - c) the licensee takes all practical measures to prevent or minimise air pollution.
28. The proponent must notify the Department and the EPA of any and all limit exceedances due to the activation of Condition 27.

Final design verification and manufacturer's guarantee assessment

29. Prior to construction, the proponent shall provide a revised Air Quality Impact Assessment (AQIA) to DPIE and EPA that is based on the final design of the plant and includes emission specifications based on manufacturer performance guarantees. In addition to thermal power generation, the final AQIA should also consider gas reception infrastructure and emergency generators. Should the plant design and emissions characteristics differ from what was

assessed previously (Newcastle Power Station Air Quality Impact Assessment, ERM, 29 April 2020), the AQIA must include remodelling of emissions based on final design.

30. The final design, installation and operation of the plant must not preclude the ability for air pollution emissions controls to be retrofitted.

Air Quality Verification

31. Within three months of commissioning the plant (or an alternate timeframe agreed to the department in consultation with the EPA) and during a period in which the project is operating under high design loads, the proponent must undertake a monitoring program to confirm the air emission performance of the power station.

The monitoring program must include, as a minimum:

- two rounds of post-commissioning monitoring of the pollutants and parameters in the table below for each discharge point.
- consideration of the dual-fuel and peaking operability of the power station in capturing representative air pollutant emission concentrations and normal operating parameters
- sampling methods as per the NSW EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*

Total solid particles	Milligrams per cubic metre	Special Frequency 1	TM-15
Oxides of nitrogen	Milligrams per cubic metre	Continuous	CEM-2 and USEPA Procedure 1
Sulfur dioxide	Milligrams per cubic metre	Special Frequency 1	TM-4
Volatile organic compounds (VOCs)	Milligrams per cubic metre	Special Frequency 1	TM-34
PAHs (as benzo[a]pyrene)	Milligrams per cubic metre	Special Frequency 1	California Air Resources Board Method 429
Ammonia [#]	Milligrams per cubic metre	Special Frequency 1	ISO 21877
Acrolein [#]	Milligrams per cubic metre	Special Frequency 1	Note 1
Formaldehyde [#]	Milligrams per cubic metre	Special Frequency 1	USEPA Method 323 or USEPA Method 318 or USEPA SW-846 Test Method 0011
Oxygen	Percent	Continuous	CEM-3
Moisture content	percent	Special Frequency 1	TM-22
Molecular weight of stack gases	Grams per gram mole	Special Frequency 1	TM-23
Temperature	Degrees Celsius	Special Frequency 1	TM-2
Velocity	Metres per second	Continuous	CEM-6
Dry gas density	Kilograms per cubic metre	Special Frequency 1	TM-23
Volumetric flow rate	Cubic metres per second	Continuous	CEM-6

Special frequency 1 means two rounds of post commissioning monitoring.

Note 1: Where there is no listed approved method, such as for acrolein, the method used must:

- be based on a recognised, published standard or reference method;
- be demonstrated to be fit for purpose; and
- the facility conducting the analysis should be familiar with, and where practicable, accredited under ISO 17025 for the analytical method.

[#]Ammonia, acrolein and formaldehyde for reciprocating engine option only

32. Within six weeks of completing post-commissioning testing, the applicant must submit a Post Commissioning Verification Report (the Report) to the EPA. The Report must:
- Include all analytical results of post-commissioning monitoring required for all discharge points. Any external report must be reproduced in full.
 - Include all the information listed in section 4 of the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
 - Describe all the operational parameters during post-commissioning testing.
 - Compare analytical results from post commissioning monitoring against final design emission specifications and modelled emission parameters in the AQIA required under condition 29 (final design verification assessment).
 - Should any comparison under (d) identify monitored discharge concentrations or emission rates above the emissions characteristics in the revised AQIA or the *Protection of the Environment Operations (Clean Air) Regulation 2010* standards of concentration, actions and measures to be implemented to reduce emissions of air pollutants to no greater than those predicted in the AQIA must be identified. Details of the actions and measures and a timetable for implementation shall be submitted to the Department and the EPA for approval.

Monitoring/discharge points

33. The following points referred to in the table below are identified for the purposes of monitoring and/or setting of limits for the emission of pollutants to the air from the point.

For adoption of the gas turbine option:

Emission point	Type of Monitoring Point	Type of Discharge Point	Description of Location
All gas turbine stacks	Air emissions monitoring	Discharge to Air	At each gas turbine location in accordance with the final design.

For adoption of the reciprocating engine option:

Emission point	Type of Monitoring Point	Type of Discharge Point	Description of Locations
All reciprocating engine stacks	Air emissions monitoring	Discharge to Air	At each engine location in accordance with the final design.

Discharge Limits

34. For each monitoring/discharge point specified by the tables below, the concentration of a pollutant discharged at that point, must not exceed the concentration limits specified for that pollutant in the table.

POINTS - all gas turbine stacks

Pollutant	Fuel type	100 percentile limit (mg/m ³)	Reference Conditions	Averaging Period
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	Natural gas	51	Dry, 273K, 101.3kPa, 15% O ₂	1 hour
	Diesel	86		

POINTS - all reciprocating engine stacks

Pollutant	Fuel type	100 percentile limit (mg/m ³)	Reference Conditions	Averaging Period
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	Natural gas	450	Dry, 273K, 101.3kPa, 3% O ₂	1 hour
	Diesel	450		

Monitoring Conditions

35. The proponent shall, for each air monitoring/discharge point, determine the pollutant concentrations and emission parameters specified in Table M below. Monitoring must be undertaken during maximum load. For each pollutant, the proponent must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns. Sampling methods as per the NSW EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Table M

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	mg/m ³	Continuous	CEM-2 and US EPA Procedure 1
Carbon Monoxide (CO)	mg/m ³	Continuous	CEM-4 and US EPA Procedure 1
Moisture	%	Continuous	Special Method 1 and US EPA Procedure 1
Oxygen	%	Continuous	CEM-3 and US EPA Procedure 1
Temperature	°C	Continuous	TM-2 and US EPA Procedure 1
Velocity	m/s	Continuous	CEM-6 and US EPA Procedure 1
Volumetric flow rate	m ³ /s	Continuous	CEM-6 and US EPA Procedure 1
Selection of sampling positions	-	-	TM-1

For the purpose of the Table above, Special Method 1 means any moisture monitoring method approved in writing by the EPA, and USEPA Procedure 1.

Water Quality

36. All process operational wastewater generated by the activity must be captured and stored at the premises and must only be disposed of by tanker transport to a licensed wastewater facility.

37. The development must comply with Section 120 of the *Protection of the Environment Operations Act 1997*. (POEO Act) which prohibits the pollution of waters
38. Prior to the commencement of any construction or other surface disturbance the applicant must install and maintain suitable sediment and erosion controls onsite, in accordance with the relevant requirements of the *Managing Urban Stormwater: Soils and Construction – Volume 2A Installation of Services* (DECC 2008).

Waste Management

39. Any waste materials exposed or created in association with the constructions works, and proposed to be disposed of to an offsite location, must be classified in accordance with the EPA's Waste Classification Guidelines.

Chemicals including emerging chemicals

40. Chemicals, fuels and oils used on-site must be kept in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's Storing and Handling of Liquids: Environment Protection- Participants Manual (Department of Environment and Climate change, 2007.).