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Submission on the draft Protection of the Environment Operations (Clean Air) Regulation 2022

Overview

AGL Macquarie Pty Limited (**AGL Macquarie**) welcomes the opportunity to make a submission to the NSW Environment Protection Authority (**EPA**) on the draft *Protection of the Environment Operations (Clean Air) Regulation 2022* (NSW) (**Draft Regulation**).

Annexure A provides an overview of AGL Macquarie and its parent company, AGL Energy Limited (**AGL**).

AGL Macquarie supports the NSW Clean Air Strategy, 2021–2030 (**Clean Air Strategy**) and the intent of the Draft Regulation to:

- improve regional and local air quality by meeting the air quality standards set out in the *National Environment Protection (Ambient Air Quality) Measure*; and
- reduce potential health impacts from air pollution.

However, while AGL Macquarie has had limited time to fully assess the implications, it has serious reservations about the nature and timing some of the changes proposed in the Draft Regulation.

Based on preliminary assessments, AGL Macquarie considers that the changes are likely to require substantial investment within constrained timeframes, and in assets with a limited life span.

AGL Macquarie is of the view that:

- there should be further and more detailed consultation on the provisions of the legislation, noting the lack of clarity in respect of the operation of the 'legacy conditions' aspect in particular;
- the technical solutions available and lead time to procure and implement this equipment has not been adequately considered; and
- the broader implications of this on the energy market need to be better understood before these changes are enacted.

We would welcome the opportunity to work with the EPA to assess and consider the full impacts of the proposed changes before the Draft Regulation is finalised, to ensure that NSW can continue to deliver reliable and affordable electricity to all consumers.

Comments on the Draft Regulation

General

AGL Macquarie considers the proposed reductions in Nitrogen dioxide (**NO₂**) emissions (which based on the current Draft Regulation would apply to all electricity generating plants) present significant challenges as currently proposed.

For clarity, we understand that the proposed changes:

- will not apply to Liddell Power Station (Liddell is scheduled to cease generation by April 2023, which will reduce total air emissions from the AGL Macquarie site by approximately 30%);
- will apply to Bayswater Power Station, and if implemented in its current form, will require NO₂ emissions from Bayswater to be reduced further to 800 mg/m³ by 1 July 2025 and to 500 mg/m³ by 1 July 2030.

AGL Macquarie anticipates that these proposed reductions will not be achievable without either:

- making material changes to the plant at Bayswater, which based on regulatory requirements including planned maintenance and upgrade schedules, may not be feasible in the timeframes proposed; and/or
- substantially curtailing generation capacity at Bayswater.

Bayswater generates approximately 20% of NSW's electricity needs and is a key contributor to NSW's energy security. It is important that Bayswater is able to continue to safely and reliably generate electricity until its scheduled closure between 2030-2033, to support NSW's electricity needs and facilitate an orderly transition.

Current NO₂ Limits Applying to Bayswater and Liddell

The NSW EPA recently undertook a comprehensive review of the site specific air emissions limits applying to Bayswater and Liddell under the environment protection licence (**EPL**), resulting in amended EPLs being issued by the EPA under the *Protection of the Environment Operations Act 1997* (NSW) (**POEO Act**) in July 2020.

The review involved a comprehensive consultation process, which AGL Macquarie actively participated in, with new and reduced emissions limits being imposed by the EPA as an outcome of the review. In particular, the EPLs which currently apply to Bayswater and Liddell require each generating unit at both sites to achieve a 100% NO₂ emissions limit of 1,500 mg/m³ and a 99% NO₂ emissions limit of 1,100 mg/m³.

Impacts of the Revised Draft Regulation NO₂ limits on Bayswater

AGL Macquarie is continuing to assess the potential impacts and costs of the revised NO₂ emissions limits proposed by the Draft Regulation on Bayswater. We recognise that there are technology options, however:

- the feasibility of implementing such options at Bayswater is yet to be fully assessed and costed to ensure that it can be carried out without adversely impacting plant availability and the NSW energy market;
- even if confirmed to be feasible, the more material upgrades may necessitate new or revised planning approvals under the *Environmental Planning and Assessment Act 1979* (NSW) to be obtained including the completion of detailed assessments and public consultation; and

- any upgrades would need to be carefully scheduled and implemented during planned major maintenance outages, that, as an industry standard, are ordinarily several years apart, thus making implementing technology options within the Draft Regulation timeframes currently proposed likely to be unviable.

Accordingly:

- it may not be feasible to implement the technology options available; or
- if feasible, it may not be possible to implement the technology options available in the limited timeframes proposed by the Draft Regulation; or
- if the timeframes proposed were to be imposed, it is possible that the work would not be able to be completed in the shoulder period and would need to be carried out during the higher energy demand winter or summer months. Outages during these peak periods risk placing significant pressure on the energy market.

Ability to apply for Legacy Conditions

AGL Macquarie notes that the Draft Regulation provides an avenue under which a generator can make an application to be considered for 'legacy conditions', which, if granted operate as temporary exemptions and enable varied site specific limits to be imposed on EPLs. AGL Macquarie is supportive of an exemption process being included in the Draft Regulation, however, AGL Macquarie notes that:

- The provision of an avenue of 'exemption' should not be considered as a policy substitute for first determining the feasibility of business compliance with the provisions. AGL Macquarie's observations on the need for further analysis of feasibility and impacts is set out below; and
- There is a lack of clarity in the Draft Regulation as to whether such a condition can be granted for more than one 5 year period. There should be more detail provided in this respect and more opportunity for consultation before finalising any legislative change.

The potential impacts have not been fully and accurately assessed

It is not clear from the information provided in support of the Draft Regulation that the EPA has fully considered or assessed the potential impacts of the Draft Regulation on NSW's energy security or affordability.

Key statements from the EPA's [Frequently Asked Questions](#) prepared in relation to the Draft Regulation are outlined below, with our comments on some of the issues arising are provided below for consideration:

Extract from EPA's Frequently Asked Questions	AGL Macquarie Comments
<p>"What are the total net benefits of the proposed changes?</p> <p><i>The net benefits (benefits less costs) of the proposed changes to Parts 4, 5 and 6 of the existing Regulation are conservatively estimated to be about \$687</i></p>	<p>The EPA's Regulatory Impact Statement clarifies that:</p> <p><i>... there has not been a recent analysis of NOx damage costs suitable for application in the Australian context. The central NOx damage cost estimate applied in this analysis was therefore derived from a recent estimate of the health impacts of NOx</i></p>

Extract from EPA's <u>Frequently Asked Questions</u>	AGL Macquarie Comments
<p><i>Million. These are mostly health benefits from avoided emissions of key air pollutants (particles, oxides of nitrogen (NOx) and volatile organic compounds (VOCs). Other pollutant reductions will occur, with associated health benefits (for example, air toxics like benzene and polycyclic aromatic hydrocarbons (PAHs)) but are not quantified in the Regulatory Impact Statement due to a lack of rigorous health cost data and to avoid double counting of benefits where a key air pollutant contributes to the formation of other pollutants such as secondary particles. ..."</i></p>	<p><i>emissions for the Sydney region. That, in turn, was achieved via an impact pathway study of emissions, air quality and health impacts of motor vehicle emissions in the GMR (MJA 2017; Pacific Environment 2016a, 2016b). ..."</i></p> <p>It is not clear that this approach gives an accurate assessment of the potential health benefits arising from further reductions in NO₂ emissions from power generation activities as opposed to motor vehicles.</p> <p>Further, the studies relied on by the EPA to estimate the net benefits were undertaken between 2002 and 2013. Accordingly, the modelling undertaken does not appear to have regard to the health benefits already achieved as a result of the reduction in NO₂ emissions arising from:</p> <ul style="list-style-type: none"> the revised NO₂ emissions limits already imposed on NSW power stations as part of the EPA's recent NSW coal fired power station review; or the further reductions in NO₂ emissions which will occur as additional power stations are closed in an orderly manner over coming years, starting with Liddell in April 2023 and Eraring Power Station to in 2025. <p>Finally, it is not clear from the EPA's analysis:</p> <ul style="list-style-type: none"> whether NSW's ambient air quality currently experiences any exceedances of the NO₂ air quality standards set out in the <i>National Environment Protection (Ambient Air Quality) Measure</i> which are designed to be protective of the health of all people across Australia; or if so, what further improvements in NO₂ ambient air quality will result from further scheduled power station closures even without the further reductions proposed by the Draft Regulation.
<p>"How much will it cost industry to upgrade their activities and plant to meet the new emission limits?</p> <p><i>The costs to industry of meeting the Group 5 and 6 emission standards are conservatively estimated for those premises needing to upgrade their plant and control equipment on an aggregated basis at \$221.8 million. This includes \$9.0</i></p>	<p>Based on the potential costs for Bayswater alone, without regard to the costs for all other industry activities in NSW, it appears that the economic impacts of the proposed changes are likely to have been materially underestimated. This limits the accuracy of the relative cost benefit assessment of the Draft Regulation, and accordingly, the extent to which the changes are considered to be an appropriate policy approach.</p>

Extract from EPA's <u>Frequently Asked Questions</u>	AGL Macquarie Comments
million to meet PM2.5 standards and \$212.8 million to meet NOx standards.	
<p>"What happens if it isn't economically feasible for industry to meet the new standards?"</p> <p><i>The Regulation allows for a transparent process to set alternative emission limits by way of conditions in environment protection licences. Sections 47 and 48 of the proposed Regulation set out this process. It is up to industry to demonstrate their emissions have acceptable impacts on the community and the environment and to meet their licence limits in a cost-efficient manner."</i></p>	<p>As noted above AGL Macquarie acknowledges that the Draft Regulation enables applications to be made and considered for "legacy conditions" which, if granted, operate as temporary exemptions and enable varied site specific limits to be imposed on EPLs. However, giving the proposed revised standards legislative force without first confirming that they are feasible is not an appropriate policy approach, particularly in the context of the crucial role power stations provide in delivering the electricity to NSW consumers.</p>
<p>"Are power stations that are planned to close in the next five to 15 years expected to comply with the new requirements?"</p> <p><i>The EPA recognises power stations are an important emission source and continues to work with power stations to reduce their emissions in the most cost-efficient manner. The EPA has recently reviewed licence limits and monitoring requirements for all coal-fired power stations. The new limits for a number of pollutants, including particles and toxic substances, are the same or tighter than Group 6 standards."</i></p>	<p>AGL Macquarie appreciates the EPA's acknowledgement of the new limits recently imposed on NSW power stations as part of its Coal Fired Power Station review process. This process included extensive assessment and community consultation and engagement.</p> <p>It is not clear to AGL Macquarie why, given this recent review, the EPA now proposes to make further changes to NO₂ emissions limits which impose materially different limits within short timeframes, and in circumstances where there has been limited assessment of the feasibility of this or in the absence of additional consultation with industry.</p>
<p>"How will the proposed changes affect electricity prices?"</p> <p><i>Wholesale electricity prices have been declining in recent years, due in part to lower operational demand, lower coal and gas prices and lower priced generation such as renewables. [...] the impact, if any, on electricity prices of the proposed changes in the draft Regulation cannot be readily determined."</i></p>	<p>This statement is not consistent with current wholesale electricity market conditions, in which market circumstances, including unexpected outages from coal fired plant in NSW, have led to very significant increases in the spot and forward electricity markets.</p> <p>AGL Macquarie also notes that while it might not be possible for the EPA to exactly determine the impact of these legislative changes (especially given the inaccuracies in its costing assumptions as noted above), it is possible to consider various market scenarios and assess the range of likely outcomes in respect of electricity prices. It is crucial that the EPA consult with industry to ensure that there are</p>

Extract from EPA's <u>Frequently Asked Questions</u>	AGL Macquarie Comments
	no unintended impacts on electricity affordability as a result of the Draft Regulation.

Way forward

AGL Macquarie is committed to continuing to take action to minimise air emissions from Bayswater and Liddell Power Stations and is supportive of the overall aim and intent of the Draft Regulation. However, further assessment and consideration is required of the potential impacts arising from the timing of the revised NO₂ emissions limits proposed for NSW power stations, to avoid potential consequences for NSW's energy security and affordability.

AGL Macquarie would welcome the opportunity to work collaboratively with the EPA to fully assess and consider the potential impacts of the proposed changes before the Draft Regulation is finalised to ensure that NSW can continue to deliver reliable and affordable electricity to all consumers. We look forward to meeting soon and to discussing the Draft Regulation further.

Yours sincerely,



Markus Brokhof
Chief Operating Officer AGL Energy



Annexure A - About AGL and AGL Macquarie

About AGL

With a proud Australian history of more than 180 years, AGL Energy (**AGL**) supplies around 4.5 million energy and telecommunications customer services. AGL operates Australia's largest private electricity generation portfolio within the National Electricity Market, comprising coal and gas-fired generation, renewable energy sources such as wind, hydro and solar, batteries and other firming technology, and gas production and storage assets. We are also Australia's largest ASX-listed investor in renewable energy. AGL Macquarie (Bayswater and Liddell Power Stations) is part of AGL.

As Australia's largest electricity generator and Australia's largest greenhouse gas emitter, AGL can make a meaningful impact on Australia's decarbonisation. Earlier this year, we:

- commenced the orderly closure of the Liddell Power Station by closing its first generation unit. Full closure of Liddell will occur in April 2023; and
- committed to accelerated closure windows for Bayswater Power Station (2030 – 2033) and Loy Yang A Power Station (2040 – 2045).

Until Bayswater and Liddell close, AGL will continue to invest in accordance with all regulatory requirements and the commitments made in the AGL Health Safety and Environmental Policy. This relevantly records our commitment to:

1. Visibly lead our people to promote a strong health safety and environmental (**HSE**) culture across all aspects of our business, taking care in every action to minimise harm to people and the environment.
2. Demonstrate integrity always through prioritisation of HSE considerations in the way we work in order to meet or exceed the requirements of our compliance obligations.
3. Deliver our best by proactively identifying, effectively controlling and monitoring, and ensuring awareness of, the HSE risks that have the potential to harm people and the environment.
4. Consult and work collaboratively with our employees, contractors and the community on HSE issues.
5. Shape tomorrow by setting, measuring, and reviewing our objectives, priorities and targets to demonstrate proactive processes are in place to continuously reduce HSE risk exposure and improve HSE performance.

About AGL Macquarie

AGL Macquarie is one of Australia's major electricity generators and owns and operates Bayswater, Liddell Power Stations. Together, Bayswater, Liddell generate more than 30% of New South Wales power requirements.

AGL Macquarie knows it is important for the community, particularly in the Upper Hunter, to understand the environmental impacts of Bayswater and Liddell and that strong views are held on air emission limits. We take air emissions very seriously and are committed to continuous improvement in the performance of our assets.

Since acquiring Bayswater and Liddell Power Stations from the NSW Government owned Macquarie Generation in September 2014, AGL Macquarie has made very significant investments to deliver continuous improvement in environmental performance across both sites. These include:

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- investing \$200 Million on the Bayswater Turbine Upgrade Project. To date, AGL Macquarie has upgraded two of the turbines at Bayswater. This important project will enable Bayswater to generate more electricity using the same amount of coal, reducing the overall emissions intensity of Bayswater;
 - carrying out a full Asset Environmental Management review to identify appropriate mitigation measures to minimise potential environmental impacts at Bayswater and Liddell. We have expended and committed over \$4 Million to deliver the upgrades identified in this review;
 - committing \$52 Million to implement the Bayswater Water and Other Associated Operational Works Project. This important upgrade project has recently obtained NSW planning approval and includes key upgrades to water and ash management over Bayswater's remaining operating life;
 - planned annual maintenance and outage expenditure of approximately \$150 Million to keep the power stations operating efficiently and according to design;
 - actively engaging with the EPA's recent review of all NSW coal fired power station environment protection licences, including agreeing to new and revised emissions limits in 2020;
 - voluntarily installing and commissioning Continuous Emissions Monitoring Systems (CEMS) on the remaining three generating units at Bayswater;
 - preparing and implementing a range of updated procedures to ensure ongoing good practice in air emissions management and monitoring, including the following procedures for each of Liddell and Bayswater:
 - Site Specific Air Emission Monitoring Plan;
 - air pollution control equipment - maintenance, operation and fault response procedure; and
 - CEMS quality assurance and quality control procedure.