



Environmental
Justice Australia

Submission

in response to

Maxwell Underground Coal Mine Project (SSD-9526)

prepared by

Environmental Justice Australia

20 November 2020

About Environmental Justice Australia

Environmental Justice Australia (formerly the Environment Defenders Office, Victoria) is a not-for-profit public interest legal practice. We are independent of government and corporate funding. Our legal team combines technical expertise and a practical understanding of the legal system to protect our environment.

We act as advisers and legal representatives to community-based environment groups, regional and state environmental organisations, and larger environmental NGOs, representing them in court when needed. We also provide strategic and legal support to their campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

We also pursue new and innovative solutions to fill the gaps and fix the failures in our legal system to clear a path for a more just and sustainable world.

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20 November 2020

1. **Objection to the Project**

- 1.1 Environmental Justice Australia (**EJA**) submits that the proposed Maxwell Underground Coal Mine (**the Project**) should be rejected on the basis of air pollution impacts and the associated health impacts arising from the Project's air pollution burden.
- 1.2 In the event that the Project is approved, EJA makes a number of recommendation in relation to consent conditions that should be imposed by the Department of Planning, Industry and Environment (**DPIE**) on the approval. These are covered at paragraphs [5.2(a)] to [5.2(g)].

2. **The Project**

- 2.1 Maxwell Ventures (Management) Pty Ltd (**the Applicant**), a wholly owned subsidiary of Malabar Coal Limited, has applied to underground mine the former Drayton Mine open cut operation and use existing infrastructure associated with the former Drayton Mine. The proposed Maxwell Underground Coal Mine will extract approximately 148 million tonnes of Run of Mine (**ROM**) coal over 26 years, using "bord and pillar" and "longwall" mining methods. It will operate continuously 24/7. The location of the proposal is on Wonnarua Country, within Muswellbrook Local Government Area (**LGA**) and adjacent to Singleton LGA. According to 2016 data, the Upper Hunter has a population of 30,658.

3. **Air quality**

- 3.1 The cumulative impact on air quality that the approval of an additional mine in the Upper Hunter will have on the community is a significant concern. There is extensive existing industry throughout the Upper Hunter and a significant burden of existing pollutants, including particulate matter. Existing sources of particulate matter in the area surrounding the Project include mining, agriculture, coal-burning power stations and their associated operations, motor vehicle exhaust and domestic wood heaters.
- 3.2 We understand that the Project will result in air quality impacts caused by particulate matter arising from trucking of ROM coal to infrastructure and movement of cut and fill material generated in construction, wind erosion of exposed areas, dozers on the ROM coal and product coal stockpiles, transport emissions, handling of ROM coal and product coal, wind erosion of ROM coal and product coal stockpiles and mine ventilation shafts.¹
- 3.3 In addition to the above sources of air pollution, we note that for the first two to three years of the Project's operations, coal will be hauled 24/7 from the mine entry by 40-tonne capacity trucks to the Maxwell Infrastructure Area. The road that the trucks will use is unsealed, with plans for progressive sealing in the first year of mining operations.² The construction of a covered conveyor to transport the coal is not proposed until the fourth year of mine

¹ Maxwell Project, Section 6, Environmental Assessment, 6.10.4, p.6-103.

² Maxwell Project, Section 1, Executive Summary, ES2.11, p.ES-11.

operations.³ The proposed staging of sealing the road and delayed construction of a covered conveyor belt is particularly concerning, as particulate pollution arises from dirt roads and uncovered coal loads.

Monitoring in the Upper Hunter is inadequate and in breach of the National Protection Measure (Ambient Air Quality) Measure (NEPM AAQ)⁴.

- 3.4 Section 3 of the NEPM AAQ requires New South Wales to monitor, assess and report a range of indicators in accordance with the protocol contained in the NEPM AAQ. Section 3 of the NEPM AAQ prescribes a mandatory requirement.
- 3.5 Section 14 of the NEPM AAQ specifies the number of performance monitoring stations that are required for each region with a population of 25,000 or more. Section 14 of the NEPM AAQ prescribes a mandatory requirement.
- 3.6 The Upper Hunter region contains population centres the total population of which, as at the 2016 Urban Centre and Locality statistical level (**the UCL statistical level**), totalled 30,658 people as follows:
- a) Scone (4,956);
 - b) Aberdeen (2,084);
 - c) Muswellbrook (10,404); and
 - d) Singleton (13,214)
- 3.7 The UCL statistical level excludes non-urbanised persons. Consequently, the population of the Upper Hunter significantly exceeds the 25,000 population threshold to trigger the mandatory monitoring, assessment and reporting of carbon monoxide, nitrogen dioxide, ozone, sulphur dioxide, lead, particles as PM_{2.5} (**PM_{2.5}**) and particles as PM₁₀ (**PM₁₀**).
- 3.8 Notwithstanding the New South Wales Government's obligations, this monitoring, assessment and reporting is currently not occurring in the Upper Hunter in compliance with the NEPM AAQ and consequently, it is unclear the extent to which the Upper Hunter population is being exposed to air pollution, and in particular PM_{2.5}.

Integrity and limited extent of the data

- 3.9 We note that the Applicant has reviewed monitoring data from 16 air quality monitoring sites in the Upper Hunter: Appendix J – Air Quality and Greenhouse Gas Assessment (**Air Quality Assessment**). Only three of the 16 monitoring sites form part of the Upper Hunter Air Quality Monitoring Network (**UHAQMN**). These three sites are located at Wybong Road,

³ Maxwell Project, Section 6, Environmental Assessment, 6.10.4, p.6-103.

⁴ Made under s 14 of the *National Environment Protection Council (New South Wales) Act 1995 No 4*.

Muswellbrook (**Muswellbrook Monitoring Station**), Kayuga/Wybung Road, Muswellbrook and Coolmore Stud, Jerrys Plains (**Jerrys Plains Monitoring Station**). Because 13 of the monitoring sites do not form part of the UHAQMN, exceedances of the relevant air pollutant standards at those 13 sites are not available for download and interrogation through DPIE's publicly accessible data platform.⁵

- 3.10 Of the three UHAQMN sites, only the Muswellbrook Monitoring Station qualifies as being compliant with the NEPM-AAQ monitoring requirements and is therefore required to monitor PM₁₀, PM_{2.5}, nitrogen dioxide (**NO₂**) and sulphur dioxide (**SO₂**).⁶
- 3.11 Whilst the Muswellbrook Monitoring Station is compliant with respect to the NEPM AAQ in regards to the pollutants it monitors, we submit that per our submissions at paragraphs [3.4] to [3.8], its compliance with other aspects of the NEPM AAQ are limited to the extent that monitoring, assessment and reporting is currently not occurring in the Upper Hunter in accordance with the NEPM AAQ. The conclusion that can be drawn from this, is that there is a lack of rigorous air quality monitoring in the Upper Hunter, leading to inadequate protection of human health and well-being.
- 3.12 It is our submission that because there is only one monitoring station in the vicinity of the Project that monitors pollutants required by the NEPM AAQ, the monitoring data relied on by the Applicant collects only a fraction of air pollutants in the Project area because the full suite of pollutants in the Upper Hunter is not adequately monitored. This undermines the ability to adequately assess cumulative air quality impacts in the region. The lack of assessable PM_{2.5} air quality monitoring data for the Project area makes the Applicant's Air Quality Assessment unreliable. The most toxic particulates for people's health are PM_{2.5}. PM₁₀ also causes human health impacts. Further information on the impact of air pollutants on health is examined below at paragraphs [4.1] to [4.2].
- 3.13 We also note that the Applicant's Air Quality Assessment only analyses data from 2013 to December 2017. The lack of data from January 2018 to the present is a significant deficit in the air quality monitoring data, particularly given that:
- (a) a number of additional major projects have been approved in the Hunter and Upper Hunter region since January 2018; and
 - (b) there has been a significant number of PM₁₀ and PM_{2.5} NEPM AAQ exceedances since January 2018 (which are not included in the analysed data).
- 3.14 In relation to paragraph [3.13(a)] above, since January 2018 to November 2020, two State Significant Development (**SSD**) mine projects and 13 SSD mine modification projects have been approved in the Singleton and Muswellbrook Local Government Areas. This signals a

⁵ Data for UHAQMN monitoring sites can be accessed here: <<https://www.dpie.nsw.gov.au/air-quality/air-quality-data-services/data-download-facility>>.

⁶ Made under s 14 of the *National Environment Protection Council (New South Wales) Act 1995 No 4*.

change to, and expansion of, extractive operations in the Hunter region. The cumulative air quality impacts of the expansion of industry in the Upper Hunter since January 2018 has not been considered by the Applicant in its assessment of ambient air quality. We submit that the data used by the Applicant is therefore unreliable, deficient and not representative of the current air pollution burden in the Upper Hunter.

Exceedances of NEPM AAQ limits

- 3.15 In relation to paragraph [3.13(b)] above, we have considered exceedances of air quality limits at two of the UHAQMN sites used by the Applicant. At the Muswellbrook Monitoring Station, from 1 January 2018 to 31 October 2020, based on 24 hour averages, there was a total of 85 monthly exceedances of PM₁₀ and a total of 37 monthly exceedances of PM_{2.5} recorded. This means that for the 24 hour average where an exceedance was recorded, PM₁₀ exceeded the NEPM AAQ limit of 50µm and PM_{2.5} exceeded the NEPM AAQ limit of 25µm.⁷ At the Jerrys Plains Monitoring Station, from 31 January 2018 to 31 October 2020, based on 24 hour averages, there was a total of 80 monthly exceedances of PM₁₀. These figures are provided in **Annexure A**. Whilst we do note that a portion of the exceedances at the monitoring stations occurred during the bushfire season of 2019-2020, bushfire smoke during the fire season is a relevant background air quality condition that must be accounted for in the cumulative assessment of the Project on air quality, particularly given the Project's intention to operate year round, 24 hours a day for a life of 26 years. It should also be noted that the exceedances in Annexure A are the number of monthly exceedances over a 24 hour average, as opposed to hourly air quality exceedances, for which an alert is issued. As was reported in June this year, by June there had been more than 250 air quality alerts in the Upper Hunter and in 2019, there were 1000 alerts issued for the region.⁸
- 3.16 We further note that Schedule 2, Table 2 of the NEPM AAQ provides a 'Goal for Particles as PM_{2.5} by 2025'⁹ as being 20µm for a 24 hour averaging period and 7µm for a 1 year averaging period. Based on the Applicant's summary of ambient PM_{2.5} levels in the vicinity of the Project for 2013-2017,¹⁰ it is evident that both the 1 year averaging period and 24 hour averaging period data frequently exceeded the PM_{2.5} NEPM AAQ 2025 goal. From this, it can be inferred that further cumulative emissions from the Project, during construction and once operational, will likely exceed the PM_{2.5} NEPM AAQ 2025 goal. We note the life of the Project is 26 years and submit that over this time, the Project will contribute to an air pollution burden that impinges the ability of Upper Hunter to attain the NEPM AAQ goals, as indicated by the current air quality monitoring data.

⁷ *National Protection Measure (Ambient Air Quality) Measure*, Schedule 2, Table 1: Standards for Pollutants.

⁸ Louise Nichols, 'Record air quality alerts for the Upper Hunter in 2019 prompt renewed calls for a clean air strategy', *The Singleton Argus* (Singleton), 13 June 2020.

⁹ *National Protection Measure (Ambient Air Quality) Measure*, Schedule 2, Table 2: Goal for Particles as PM_{2.5} by 2025.

¹⁰ Maxwell Project Appendix J Air Quality and Greenhouse Gas Assessment, 6.3.2, Table 6-6: Summary of ambient PM_{2.5} level (µm/m³), p.19.

4. Human health

4.1 We note that the Applicant has undertaken a Human Health Risk Assessment to assess the potential impacts to community health in relation to the community's exposure to suspended particulate matter, deposited dust and nitrogen oxides. The Applicant reviewed data published in 2010 and concluded that population in the vicinity of the Project may be more vulnerable to health-related impacts resulting from the Project but that the risk of health effects for individual receivers would be 'negligible'. It concluded that there would be no health impacts of concern in relation to potential emissions of PM_{2.5} and PM₁₀ from the Project.¹¹ In relation to the human health impacts of air quality, we raise the following:

- (a) there is no safe threshold for exposure to air pollution. Health impacts have been studied and reported at concentrations well below the current and proposed NEPM standards;¹²
- (b) there is no threshold below which particle pollution does not contribute to cardiovascular and respiratory ailments. Short-term exposure to elevated concentrations of PM₁₀ trigger health responses that lead to hospital admissions. Every 10µm/m³ increase in PM₁₀ concentrations, even at levels below the national standard, causes a 1% increase in hospital admissions for respiratory disease;¹³
- (c) exposure to particle pollution from coal mining imposes a burden of \$47 million on the town of Singleton each year and \$18.3 million each year on Muswellbrook and communities most affected and at risk from poor air quality are the larger regional

¹¹ Maxwell Project, Section 6, Environmental Assessment, 6.18.2, p.6-166.

¹² Australian Government, Australian Institute of Health and Welfare, Australian Burden of Disease study: Impact and causes of illness and death in Australia, 2011 (Revised 2016).

¹³ Climate and Health Alliance, *Coal and Health in the Hunter: Lessons from one valley for the world* (2015) p.20, available at <https://d3n8a8pro7vhm.cloudfront.net/caha/legacy_url/53/Climate-and-Health-Alliance_Report_Layout_PRINTv2.pdf?1439938112>.

towns of Singleton and Muswellbrook, and the smaller towns of Camberwell, Warkworth, Maison Dieu, Jerrys Plains and Wybong; and¹⁴

- (d) Singleton General Practitioner, Dr Bob Vickers, on behalf of Doctors for the Environment Australia, has used World Health Organisation figures to calculate that over the last five years, pollution from PM₁₀ has caused at least 160 more deaths in the Upper Hunter.¹⁵

4.2 The unfair health burden of air pollution in the Upper Hunter is shouldered by the community. The Project will further contribute to the air pollution burden and the health impacts associated with it.

5. Recommendations

5.1 EJA objects to the Project.

5.2 In the event that the Project is approved, we recommend the following conditions of consent:

- (a) that the access road proposed to be used by haul trucks, as described above at paragraph [3.3], be required to be sealed as a priority and before first workings, construction works and mining operations commence, so as to reduce particle pollution from dust. We note that DPIE's Recommended Condition A9 provides that the access road should be sealed no later than 12 months after the date of commencement of first workings and submit that this timeframe for sealing should be reduced.
- (b) that the proposed overland conveyor for coal transportation be constructed before mining operations commence, so as to reduce particle pollution and emissions from haul trucks;
- (c) that comprehensive air quality monitoring and assessment be undertaken in the Upper Hunter to adequately assess the Project's contribution to cumulative emissions, given the existing limitations and unreliability of the Applicant's Air Quality Assessment;
- (d) that stricter Air Quality Criteria than that proposed at Recommended Condition B16 apply to the Project, including to reflect the NEPM AAQ 'Goal for Particles as PM_{2.5} by 2025;
- (e) that air quality monitoring in compliance with NEPM AAQ be implemented in the Upper Hunter;
- (f) that Recommended Condition B19 include conditions requiring that the real-time air quality monitoring data collected by the Applicant be published in real time on a

¹⁴ Ibid, p.21.

¹⁵ World Health Organisation, Regional Office for Europe, Air quality guidelines global update 2005: particulate matter, ozone, nitrogen dioxide and sulphur dioxide – Summary of risk assessment (2005), p.12, available at <https://apps.who.int/iris/bitstream/handle/10665/69477/WHO_SDE_PHE_OEH_06.02_eng.pdf?sequence=1>.

publicly accessible website. This will improve transparency for the community around air quality monitoring undertaken by industry;

- (g) that Recommended Condition D5 be expanded to require the Applicant to publish notifiable exceedances on a publicly accessible website on a monthly basis to ensure the broader community has access to air quality exceedances.

Environmental Justice Australia

Monthly Exceedences				
Time Range:				
01/01/2018 00:00 to				
01/11/2020 00:00				
Initial Data	MUSWELLBROOK SO2 1h average	MUSWELLBROOK NO2 1h average	MUSWELLBROO K PM10 24h average	MUSWELLBROOK PM2.5 24h average
Date	MUSWELLBROOK SO2 monthly exceedance () [count]	MUSWELLBROOK NO2 monthly exceedance () [count]	MUSWELLBROO K PM10 monthly exceedance () [count]	MUSWELLBROOK PM2.5 monthly exceedance () [count]
31/01/2018	0	0	1	0
28/02/2018	0	0	1	0
31/03/2018	0	0	1	0
30/04/2018	0	0	2	0
31/05/2018	0	0	1	0
30/06/2018	0	0	0	2
31/07/2018	0	0	2	0
31/08/2018	0	0	2	0
30/09/2018	0	0	0	0
31/10/2018	0	0	0	0
30/11/2018	0	0	2	0
31/12/2018	0	0	1	0
31/01/2019	0	0	2	0
28/02/2019	0	0	3	0
31/03/2019	0	0	2	0
30/04/2019	0	0	0	0
31/05/2019	0	0	1	
30/06/2019	0	0	0	2
31/07/2019	0	0	0	0
31/08/2019	0	0	2	0
30/09/2019	0	0	1	0
31/10/2019	0	0	8	3
30/11/2019	0	0	17	9
31/12/2019	0	0	22	12
31/01/2020	0	0	12	7
29/02/2020	0	0	1	0
31/03/2020	0	0	0	0
30/04/2020			0	0
31/05/2020	0	0	0	0
30/06/2020	0	0	0	2
31/07/2020	0	0	0	0
31/08/2020	0	0	1	0
30/09/2020	0	0	0	0
31/10/2020	0	0	0	0
			85	37

Monthly Exceedences Time Range: 01/01/2018 00:00 to 01/11/2020 00:00

Initial Data

JERRYS PLAINS PM10 24h average

Date

JERRYS PLAINS PM10 monthly exceedance () [count]

31/01/2018	1
28/02/2018	2
31/03/2018	2
30/04/2018	1
31/05/2018	0
30/06/2018	0
31/07/2018	0
31/08/2018	0
30/09/2018	0
31/10/2018	1
30/11/2018	4
31/12/2018	
31/01/2019	2
28/02/2019	2
31/03/2019	2
30/04/2019	0
31/05/2019	0
30/06/2019	0
31/07/2019	0
31/08/2019	1
30/09/2019	2
31/10/2019	4
30/11/2019	17
31/12/2019	24
31/01/2020	12
29/02/2020	2
31/03/2020	0
30/04/2020	0
31/05/2020	0
30/06/2020	0
31/07/2020	0
31/08/2020	1
30/09/2020	0
31/10/2020	0
	80