

Fri 3/06/2022 3:38 PM

John Seed [REDACTED]

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

Dear Mr James Griffin MP and EPA NSW

Re: Submission to the Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022

Sir, we wish to submit our response for consideration by the EPA and Minister for Environment, Mr James Griffin MP, to the Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022 as exhibited on [POEO \(Clean Air\) Regulation 2022 | NSW Environment Protection Authority](#)

We wish the EPA and the Minister to consider the attached power point slides showing undisputed evidence based data for significantly high multiple complex comorbidity rates; significantly high head & neck/lung/kidney/colorectal cancer rates; and significantly lower NAPLAN achievement in local communities affected by airborne pollution from Group 2 industries such as Vales Point Coal Power Station.

Sadly, we note that in January this year the EPA granted Vales Point Power Station exemption to extend the period of time the power station remains within Group 2 to at least 2025.

We are extremely concerned to read section 44 (1) Phasing out of Groups 1–4 of the Draft Regulation proposing “*An activity or plant belonging to Group 1 or Group 2 on the commencement of this Regulation remains in the Group if the licence for the activity or plant continues to include a legacy condition stating the activity or plant is taken to belong to the Group*”

We are also extremely concerned to note this Draft Protection of the Environment Operations (Clean Air) Regulation 2022 makes no reference to the ongoing toxic air born pollution from the millions of tons coal ash dams in open unlined dams generated by and deposited around Group 2 industries such as Vales Point, Eraring, and Munmorah Power stations.

Clearly the Draft Protection of the Environment Operations (Clean Air) Regulation 2022 lacks any cognisance and reference to *NSW Government Response Inquiry into costs for remediation of sites containing coal ash repositories*

(<https://www.parliament.nsw.gov.au/tp/files/80392/NSW%20Government%20r>

[esponse%20Inquiry%20into%20costs%20for%20remediation%20of%20sites%20containing%20coal%20ash.pdf](https://www.parliament.nsw.gov.au/tp/files/79377/Final%20Report%20-%20Costs%20for%20remediation%20of%20sites%20containing%20coal%20ash.pdf)); and to the NSW Legislative Council Public Works Committee Report 4 March 2021 (<https://www.parliament.nsw.gov.au/tp/files/79377/Final%20Report%20-%20Costs%20for%20remediation%20of%20sites%20containing%20coal%20ash%20repositories%20-%202022%20March%202021.pdf>)

The evidence-based data presented in the attached power point slides demonstrate that continued emission and pollution rates with standards in place for decades for Group 2 industries will continue to cause unnecessary generational community suffering dealing with significant health burden than the general population. This lack of social justice is even more extreme for children in their developing years, the sick and elderly residing in close proximity to these Group 2 industries.

Given the reported high profitability of these power generation industries surely it is time they were required to operate at a standard comparable to those set in other developed nations.

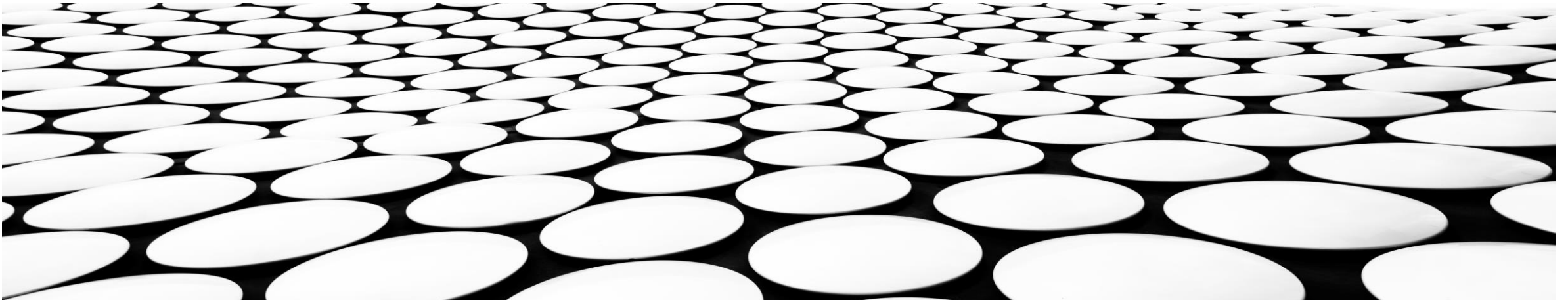
We would welcome the opportunity to appear in person to present this data in the hope of assisting in the process of transitioning our local environment into an ecologically sustainable one, which is, of course, the *raison d'être* and primary objective of our Environment Protection laws.


Yours Sincerely

Rainforest Information Centre – John Seed OAM

**SUBMISSION TO THE NSW EPA & THE MINISTER FOR ENVIRONMENT ON THE
IMPACT OF COAL POWER STATIONS ON LOCAL ENVIRONMENT & THE HEALTH
OF PEOPLE WITHIN THE WYONG LGA
A SUBMISSION IN RESPONSE TO THE PUBLIC CONSULTATION DRAFT
PROTECTION OF THE ENVIRONMENT OPERATIONS (CLEAN AIR)
REGULATION 2022**

GARRY BLASCHKE OAM; PROF. GILL HALE BOEHRINGER LL.M; TOM WILSON;
JOSEPH HALWAGY B.PHARM, FSHP, MBA; DE BRIERLEY NEWTON (NATURE CONSERVATION COUNCIL
NSW); DR. MERLENE THRIFT MB BS FACNEM





**WE WOULD LIKE TO ACKNOWLEDGE THE TRADITIONAL
CUSTODIANS OF THE LAND ON WHICH WE STAND,
AND PAY OUR RESPECT TO ALL FIRST NATION ELDERS
PAST AND PRESENT**

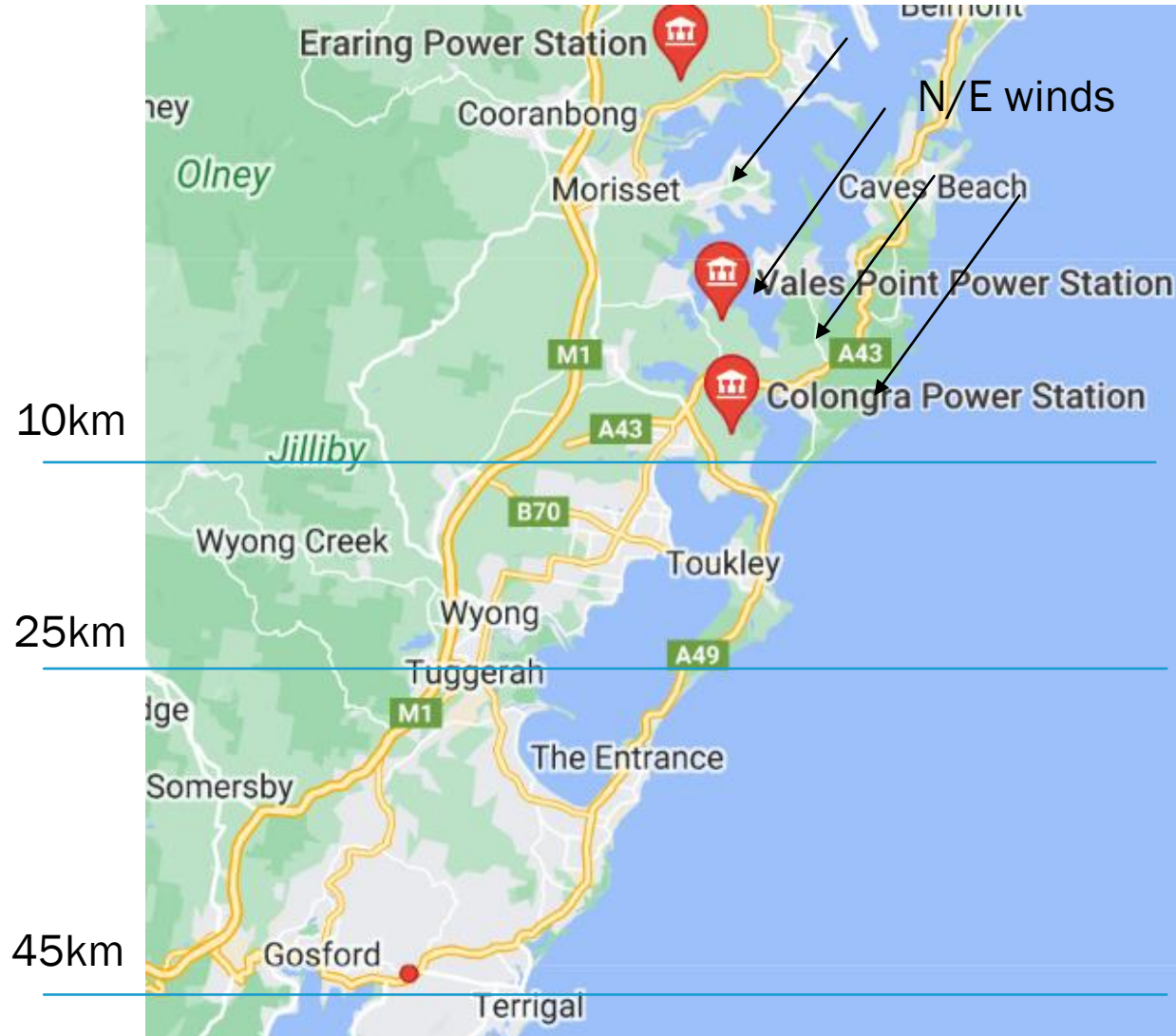
**WE RECOGNISE THE QUALITY OF THEIR SUSTAINABLE
LANDCARE OVER THE PAST MILLENNIA**

ORDER OF THE SUBMISSION

- Zone of Influence by Coal Fired Power Stations on the Wyong LGA
- Estimates of Heavy Metals in Unlined Coal Ash Dams in the Wyong LGA and the Lower Hunter
- Incidence of Statistically Significant Rates of Cancers in Hornsby vs. Gosford vs. Wyong vs. National 2010-2015 (AIHW)
- Prevalence Rates for >3 Comorbidities in Hornsby vs. Gosford vs. Wyong 2017 (ABS)
- Comparison of Local vs. Overseas Air Pollution from Coal Fired Power Stations
- Decades long Impact of these Statistically Significant Rates of Cancers & comorbidities in the Wyong LGA
- Impact of Coal Fired Powered Stations on School Performance in AU is >4 times greater than in the US rate
- NAPLAN School Performances Central Coast 2019
- Estimate of Impact of Vales Point Power Station on Lake Munmorah Public School NAPLAN Results in 2019
- Recommendations

ZONE OF INFLUENCE BY COAL POWER STATIONS ON THE WYONG LGA

Distance from V.P.P.S



E.P.S



V.P.P.S



C.P.S: formally
Munmorah

ESTIMATES OF HEAVY METALS IN UNLINED COAL ASH DAMS ON THE CENTRAL COAST & LOWER HUNTER

Tons of stored coal ash in unlined dams Munmorah, Vales Point and Eraring	heavy metal in stored coal ash dams in TONS	% of heavy metals in coal ash (link.springer.com/article/10.1007/BF00282962)		Types of Heavy Metals		
70,000,000						
	73	0.00010381%		Mercury		
	5,256	0.00750857%		Arsenic		
	778	0.00111143%		Beryllium		
	500	0.00071429%		Cadmium		
	5,873	0.00839048%		Chromium		
	6,226	0.00889429%		Nickel		
	1,725	0.00246381%		Selenium		
	1,063	0.00151900%		Lead		
	61,770	(Pond 4 Vales Point Ash Dam)		Special waste Asbestos		

INCIDENCE OF STATISTICALLY SIGNIFICANT RATES OF CANCERS IN HORNSBY VS. GOSFORD VS. WYONG VS. NATIONAL 2010-2015 (AIHW)

	Hornsby LGA				Gosford LGA				Wyong LGA		
	Aged Standardised incidence ratio				Aged Standardised incidence ratio				Aged Standardised incidence ratio		
	95% CI lower bound	Ratio	95% CI upper bound		95% CI lower bound	Ratio	95% CI upper bound		95% CI lower bound	Ratio	95% CI upper bound
Head & Neck	0.64	0.83	1.07		0.98	1.13	1.29		1.18	1.35	1.53
Kidney	0.57	0.79	1.06		0.85	1.01	1.19		1.02	1.20	1.41
Lung	0.76	0.89	1.04		0.99	1.08	1.17		1.23	1.33	1.44
Colorectal	0.82	0.94	1.07		0.98	1.05	1.13		1.06	1.14	1.23
								>150 annual extra cancer cases in Wyong LGA			
Crow Flies Distance to Vales Point											
	88km				43km				25km		

PREVALENCE RATES FOR >3 COMORBIDITIES IN HORNSBY VS. GOSFORD VS. WYONG 2017 (ABS)

	Prevalence Rates for =>3 Morbidities	Crow Fly Distance to Vales Point
Hornsby	5.80%	88km
Gosford	11.70%	40km
Wyong	15.10%	17km
Lake Munmorah	16.90%	7km

<https://absstats.maps.arcgis.com/apps/MapSeries/index.html?appid=bacd58f73b554c329f431ceb02ef9ab8>
Morbidities included, CV, Respiratory and Diabetes

DECADES LONG IMPACT OF THESE STATISTICALLY SIGNIFICANT RATES OF CANCERS & COMORBIDITIES IN THE WYONG LGA

Continued emission and pollution rates with standards in place for decades for Group 2 industries in high density population areas such as that observed by Vales Point, Eraring and Munmorah power stations will continue to cause unnecessary generational community suffering dealing with significant health burden than the general population.

Clearly this lack of social justice and equality to basic clean environment is even more extreme for children in the developing years, the sick and elderly residing in close proximity to these Group 2 industries.

COMPARISON OF LOCAL VS OVERSEAS AIR POLLUTION FROM COAL FIRED POWER STATIONS

- Emission licence limits for our local Coal fired power stations are **decades out of date**
- The EPA permit Vales Point power station to emit up to 850mg of NO_x/m³, 99% of the time, and emit up to 980mg/m³ for 1% of the time
- **This is 6 times the EU** annual average limit for existing coal power stations of just 150mg/m³ **AND > 4 times the US** annual average limit
- Even at the lower EU limits, a cross-sectional study from 220,000 adults (18–69 years) showed significantly decrease in cognitive function with increased in No_x, PM and black carbon emission from nearby polluting industries
- More concerning, a Jan 2022 Federal Government report showed Vales Point power station emissions for pollutant particles PM_{2.5} **tripled** and PM₁₀ **more than doubled** during the 2019-20 financial year, even though it had an 8 per cent reduction in energy generation
- Ongoing heavy metals toxicities from the air born particles from the stacks of these coal power stations are also medically known to affect kids' asthma rates, **IQ, school performances and juvenile criminal reoffending**

https://www.nature.org.au/vales_point_submission_guide#:~:text=Vales%20Point%20is%20allowed%20to,are%20decades%20out%20of%20date; <https://reneweconomy.com.au/new-data-shows-big-jump-in-toxic-coal-plant-pollution-even-as-output-falls/> ; [https://www.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196\(22\)00001-8.pdf](https://www.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196(22)00001-8.pdf)

THE IMPACT OF LOCAL COAL FIRED POWER STATIONS ON SCHOOL PERFORMANCE IS > FOUR TIMES GREATER THAN IN THE USA

- In 2019 Vales Points Coal fired Power Station produced a little over 8 million megawatt hours of electricity, and emitted 21 million kilogram of NOx.
<http://www.npi.gov.au/npidata/action/load/browse-search> . This represents an emission rate by Vales Point of 2.6 Kilograms of NOx per produced megawatt hour.
- By comparison, the US coal power generation emission rate of NOx in 2017 was 1.4 pound (0.6 kg) of NOx per megawatt hour, **less than quarter of Vales Point emission rate!!**
<https://www.eia.gov/todayinenergy/detail.php?id=37752>
- An August 2022 published seminal research by Sydney and NY universities of 2.5m grade 2-8 students (9.5m students years between 2001-16) in North Carolina showed a rate reduction of - 0.02σ in school students performance /million megawatt hour in the US
https://www.edworkingpapers.com/sites/default/files/Duque_Gilraine_2020.pdf
- This is likely to be a **SIGNIFICANT UNDERESTIMATE** for Australia's excessively high NOx emission from our local power stations and given the established linear relationship between emission rate of NOx/megawatt hour and school student performances.
- The impact of Vales Point Power Station alone on school students performance within 10km is likely to be in the vicinity of an average -0.08σ per million megawatt hours

NAPLAN SCHOOL PERFORMANCES CENTRAL COAST 2019

“ For every one million megawatt hours of coal-fired power production decreases student performance in schools within ten kilometers by 0.02σ [undisputed US evidence-based data]” Coal Use and Student Performance* Valentina

Duque University of Sydney Michael Gilraine New York University, August 2020

Local NAPLAN results is consistent with US data:-

The closer the distance to coal power stations, the lower the NPALAN ranking.....

Gosford High School: **654** (1st rank on the Coast)

Central Coast Grammar School: 606.9 (Rank 2nd)

Tuggerah Lakes Secondary College Berkeley Vale Campus: 540.8 (Rank 18)

Wadalba Community School: 528.6 (Rank 26)

Northlakes High School: 516 (Rank 29)

Lake Munmorah High School: **504.3** (last rank 30)

https://www.edworkingpapers.com/sites/default/files/Duque_Gilraine_2020.pdf

ESTIMATE OF THE IMPACT OF VALES POINT POWER STATION ON LAKE MUNMORAH PUBLIC SCHOOL NAPLAN RESULTS IN 2019

Munmorah public high school is one of the closest school to Vales Point power station being <6km downwind as the crow flies

In 2019, the national NAPLAN data for year 9 in reading was 581.3 (67.2); in writing 548.8 (78.7); in spelling 582.2 (66.8); in grammar and punctuation 573.6 (69.4); and in numeracy 592.1 (63.9)

In 2019, average national standard deviation (σ) across the 5 NAPLAN domains is 69.2

In 2019, Vales Points Coal fired Power Station produced a little over 8 million megawatt hours

Applying Dugue and Gilraine formula of -0.08σ per million megawatt hour x 8 million megawatt hours from Vales Point Power station in 2019 = **0.64σ**

Applying = 0.64σ to NAPLAN's 2019 average standard deviation of 69.2 = - 44.3 points

The impact on lake Munmorah Public School's NAPLAN results for 2019 likely to be > -44.3 point

RECOMMENDATIONS

- **The current Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022 is manifestly inadequate to residents nearby Group 1 and 2 industries from an environmental social justice and equality perspectives.**
- **The EPA and the NSW Government has a moral responsibility to legislate and enforce laws that protect its citizens from the known deleterious effects of:-**
 - **Air pollution rates from power stations that are 4-6 times modern standards; and the**
 - **Toxic heavy metal leaching from open and unlined coal ash dams; and**
 - **PREVENTING further residential developments within 10-15km of existing power stations until their NOx, PM emission rates and coal ash dams management is comparable to modern world standards**