

SARA reference: 2002-15561 SRA
Council reference: DA221920

23 March 2020

Waratah Coal Pty Ltd
C/- C J Feltham Town Planning
GPO Box 1538
BRISBANE QLD 4001
cjfeltham@bigpond.com

Attention: Mr Cameron Feltham

Dear Mr Feltham

SARA information request - Monklands Road, Alpha

(Given under section 12 of the Development Assessment Rules)

This notice has been issued because the State Assessment and Referral Agency (SARA) has identified that information necessary to assess your application against the relevant provisions of the State Development Assessment Provisions (SDAP) and the *Environmental Protection Act 1994* (EP Act) has not been provided.

Environmentally relevant activities	
1.	<p>Issue: The application material does not address the legislative requirements for applying for site-specific environmental authority (EA) under section 125(l) of the EP Act.</p> <p>Action: To demonstrate compliance with the EP Act, provide further information to address:</p> <ul style="list-style-type: none"> a. section 125(l)(i) of the EP Act - an assessment of the likely impact of each relevant activity on the environmental values, namely subsections: <ul style="list-style-type: none"> i. s125(l)(i)(D) details of the management practices proposed to be implemented to prevent or minimise adverse impacts ii. s125(l)(i)(E) details of how the land the subject of the application will be rehabilitated after each relevant activity ceases b. section 125(l)(ii) of the EP Act - a description of the proposed measures for minimising and managing waste generated by each relevant activity, specifically in relation to the ash disposal facility.
2.	<p>Issue:</p>

	<p>The application material does not adequately address the relevant regulatory requirements of section 176 of the EP Act.</p> <p>Action: To demonstrate compliance with the EP Act:</p> <ol style="list-style-type: none"> provide a detailed assessment that addresses the criteria outlined in section 176 of the EP Act.
3.	<p>Issue: There is a lack of clarity and/or inconsistencies on the relevant environmentally relevant activities (ERAs), associated thresholds and maximum operational levels for each ERA.</p> <p>Whether the threshold for the ERA is concurrent or not, all ERAs required for the construction and operation of the proposed development are to be applied for at this stage.</p> <p>Action: Provide clarification on the following:</p> <ol style="list-style-type: none"> clarify expected ash production in tonnes per annum (ERA 60) provide details of what quantity extraction and screening activities will occur and which threshold for extraction and screening will be triggered (ERA 16) clarify if thresholds are required for the following ERAs and why these thresholds apply: ERA 14(2), ERA 16(2), ERA 16(3), ERA 50(1), ERA 60(1) and ERA 63(1)(a) confirm whether the ERAs applied for reflect the construction phase of the development, expected to last up to three years, particularly for ERA 63.
4.	<p>Issue: The application material does not provide adequate justification as to why ERA 8 (chemical storage), ERA 31 (mineral processing - coal handling and processing plant), ERA 64 (water treatment - on site reverse osmosis plant) and ERA 57 (regulated waste transport) are not required for the proposed development:</p> <p>Action: Provide clarification on the relevance of the above ERAs or alternatively further information to address these activities.</p>
Air Quality	
Legislative framework for air quality	
5.	<p>Issue: The air quality assessment (table 1) does not provide adequate information on the ambient air quality objective.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> provide an amended air quality assessment that specifies PM₁₀ annual average air quality objective and models the impact on the receiving environment. update the air quality assessment to provide the PM₁₀ maximum 24-hour average ground level concentration and compare against the EPP (Air) objective.
6.	<p>Issue: The submitted air quality report (table 1) does not adequately address the potential impacts of dust from the proposed stacks and fugitive emission sources on nearby vegetation, commercial premises and residential properties.</p> <p>Action:</p>

	<p>To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> a. provide an amended air quality assessment report with additional information on dust deposition in accordance with the Department of Environment and Science's (DES) criterion of 120 mg/m²/day.
Ambient background levels	
7.	<p>Issue: The background concentration as indicated in the air quality assessment (table 7) appears to be low.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> a. provide clarification on ambient background levels or otherwise amend the air quality assessment to ensure the appropriate PM_{2.5} background concentration for the cumulative impact assessment. b. demonstrate the appropriateness of Pimlico / North Ward monitoring stations given their proximity from the project site.
Standards of emission concentrations	
8.	<p>Issue: The air quality assessment does not consider some air quality impurities and the applicable best practice air emission standards.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> a. provide an amended air quality assessment that demonstrates that the proposed development would meet the applicable emission standards of other contaminants including heavy metals, fluorine, CO or VOC, dioxins and SO₂ as specified in: <ol style="list-style-type: none"> i. New South Wales (NSW) Protection of the Environment Operations (Clean Air) Regulation 1010 at 7% oxygen reference level for Electricity Generation (see http://www.legislation.nsw.gov.au/sessionalview/sessional/sr/2010-428.pdf). ii. the European Union Directive 2001 for a large combustion plant (see https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0080&from=EN).
Operations – 1400 MW (2x700MW) coal fired power station	
9.	<p>Issue: The data used for the estimation of mass emissions is not correct. The following issues have been identified:</p> <ol style="list-style-type: none"> a. the stack exhaust oxygen content of 3.3% was specified for all loads. The flue gas oxygen content is one of the most important factors that affects boiler efficiency, and other parameters such as flue gas temperature, unburned carbon in fly ash (or particulate emissions) and coal consumption of power supply. It is a key parameter to optimise the combustion process of fuel in utility boiler through combustion control system. The data presented in the literature indicates that for ultra-supercritical coal-fired power plants operating from 100% to 50% load, the flue gas oxygen concentration can vary from 3.3% to 5.3%. It is not clear how the power plant can operate at the same oxygen rate under all operating conditions b. the flue gas normalised volume flow rate and NO_x concentration were presented at 15% O₂ reference level. For comparison against the coal fired power station standards, these parameters must be presented at 7% O₂ reference level. Pollutant concentration at 7% O₂ will be considerably different compared to the 15% O₂ reference level c. PM₁₀ concentration was presented without any reference level. It is not clear what this concentration represents

	<p>d. it is understood that the mass emissions presented in the table provided represent the total mass emissions from the two stacks. However, it is not clear whether the mass emissions and the concentration data are compatible. In order to check the mass emissions, both volume flow rate and concentrations must be presented at 7% O₂</p> <p>e. ash content of coal used at the power station was not provided. This may have some impact on the generation of solid particles from the boiler, efficiency of fabric filters and PM₁₀ emissions.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <p>a. provide further detail on the flue gas oxygen reference level under different operating conditions (e.g. loads). This should be based on the expert advice from the boiler manufactures or a consultant who has experience in this field. It should be noted that a licence condition will be specified to monitor flue gas oxygen level continuously</p> <p>b. provide, the flue gas normalised volume flow rate and pollutant concentrations at 7% O₂ reference level and compare against the best practice emission standards of coal fired power station as specified in NSW Protection of the Environment Operations Regulation and European Union Directive of 2001. All the pollutants listed in the above standards for electricity generation using coal fired boilers must be considered</p> <p>c. check the mass emissions data and make sure that the concentrations and the mass emissions are comparable for all the pollutants</p> <p>d. provide the pollutants mass emissions and stack parameters as entered in the dispersion model</p> <p>e. clarify the ash content of coal used at the power station and its impact on the generation of solid particles from the boiler, efficiency of fabric filters and PM₁₀ emissions.</p>
Operations – ash storage facility	
10.	<p>Issue: Dust emission sources such as ash dam, coal stockpile area and coal preparation plant were not included in the impact assessment of the air quality assessment. These dust emission sources must be considered based on the worst-case scenarios. For the boiler coal to be crushed to the size of less than ¼ inch (<0.6 cm), this requires a coal preparation plant on site. Dust generated from this plant can be controlled using fabric filters. Air emissions from the coal preparation plant were not discussed in the report.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019:</p> <p>a. Provided an amended air quality assessment that addresses dust emissions from ash dam, coal stockpile area and coal preparation plant and include them in the impact assessment.</p>
11.	<p>Issue: The air quality assessment report does not provide sufficient detail on the pollution control systems and stack monitoring program for the proposed development. Monitoring of other contaminants including heavy metals, fluorine, CO, VOC and dioxins has also not been considered.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019, provide an amended Air quality assessment report that:</p> <p>a. specifies the proposed pollution control system designed for the power station</p> <p>b. outlines the point source monitoring regime including the continuous emission monitoring system (CEMS) and isokinetic stack monitoring for relevant pollutants including SO_x, NO_x, particulates (or opacity) and oxygen. The CEMS monitoring</p>

	<p>program should be able to meet the Western Australian EPA's "CEMS Code for Stationary Source Air Emissions" and relevant US EPA's standards</p> <p>c. addresses the monitoring of other relevant contaminants including heavy metals, fluorine, CO, VOC and dioxins as required by EA conditions.</p>
Air quality assessment results	
12.	<p>Issue: The Air quality dispersion modelling results in the Air quality assessment report do not include the 24-hour average ground level concentration, maximum or average ground level concentration for PM₁₀ or dust deposition.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2 of State code 22 of SDAP, the EP Act and the Environmental Protection (Air) Policy 2019, provide an amended Air quality assessment report that includes:</p> <ol style="list-style-type: none"> PM₁₀ maximum 24-hour average ground level concentrations at the sensitive receptors and compare against the EPP (Air) objectives PM₁₀ annual average ground level concentrations at the sensitive receptors compared against the EPP (Air) objectives dust deposition at the sensitive receptors compared against the required criterion of 120 mg/m²/day.
Water (Stormwater and surface waters)	
13.	<p>Issue: The Concept stormwater management plan does not describe the potential waterborne contaminants.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <ol style="list-style-type: none"> identify the potential contaminants and describe the properties that makes them a potential contaminant that may impact the environment if released e.g. heavy metals, total suspended solids.
14.	<p>Issue: There are inconsistencies between the town planning report and the concept stormwater plan on the management and release of contaminants from site.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <ol style="list-style-type: none"> given the amount of water to be stored on site, provide details of stormwater management practices for the release of contaminants from the site.
15.	<p>Issue: The application material indicates a reliance on settling and sediment ponds to remove contaminants. However, there is limited information on how other dissolved and other physio-chemical contaminants of any waters will be removed or treated.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <ol style="list-style-type: none"> provide details to demonstrate that any dissolved and other physio-chemical contaminants (including dissolved metals, pH, conductivity, dissolved oxygen) will be

	removed or treated to levels that will not cause environmental harm to the receiving environment.
16.	<p><u>Issue:</u> The town planning report states, on page 55, that the site has been designed with the appropriate erosion and sediment controls and chemical storage facilities. However, little detail of these proposed controls has been provided.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide further details of the proposed erosion and sediment controls.</p>
17.	<p><u>Issue:</u> The application material does not provide adequate detail regarding runoff from the heavy vehicle roads that are used for ash haulage.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide further information regarding runoff from the heavy vehicle roads that are used for ash haulage, including flow pathways, and management of contaminated water.</p>
18.	<p><u>Issue:</u> Notwithstanding information provided in the town planning report, QLD Globe mapping indicates that parts of the site to be developed would be affected by 1:100 ARI and extreme basin event flood levels.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide further information to address the potential impacts of flooding on site.</p>
Groundwater	
19.	<p><u>Issue:</u> The town planning report states, on page 56, that the groundwater values of the area are considered to be well understood, however, no assessment of the environmental values in relation to groundwater has been provided.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide an assessment of the environmental values in relation to groundwater in accordance with the s125 requirements of the EP Act.</p>

20.	<p>Issue: The town planning report appears inconsistent regarding the take of groundwater. Part (f) of the report, on page 45, discusses the potential to take groundwater in the absence of waters obtained from dewatering activities associated with the adjacent mine, but part (k)(i), on page 48, states: <i>"There will be no impact to groundwater quantity as a result of the project as no take of groundwater to support construction or operation is required"</i>.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <ol style="list-style-type: none"> a. confirm whether groundwater is proposed to be taken at any point during the construction or operational period of the development. If groundwater is to be taken, provide an assessment of these impacts.
Dams	
21.	<p>Issue: The town planning report states that a consequence category assessment will be undertaken for the power station dams (ash runoff water dam, sedimentation dam 1, drains reclaim dam and sedimentation dam 2). However, the report is silent on whether a consequence category assessment will be undertaken for the ash containment facility (Refer the Department of Environment and Science's (DES) 'Manual for assessing consequence categories and hydraulic performance of structures).</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <ol style="list-style-type: none"> a. confirm whether the ash containment facility would or would not be considered a regulated structure and provide justification to support this statement b. confirm whether a consequence category assessment will be undertaken for the ash containment facility.
Biodiversity	
22.	<p>Issue: The proposed site is located close to remnant vegetation. The management and mitigation measures have not been addressed in relation to these areas of remnant vegetation, as required under section 125 of the EP Act.</p> <p>Action: To address section 125 of the EP Act:</p> <ol style="list-style-type: none"> a. provide an assessment of the areas of remnant vegetation, including any potential indirect impacts resulting from the proposed construction and operational activities, the management of these impacts and recommended mitigation measures.
Waste	
Ash containment facility	
23.	<p>Issue: Page 24 of the Town planning report indicates that around fifty to one hundred meters of exposed ash surface will lead the progressive rehabilitation of the Waste Containment Facility.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2, PO4, PO5 & PO6 of State</p>

	<p>code 22 of SDAP, the EP Act, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Environmental Protection (Air) Policy 2019:</p> <p>a. Provide further details of the progressive rehabilitation of the waste containment facility and confirm the duration before fifty to one hundred meters of exposed ash surface will be in place.</p>
24.	<p><u>Issue:</u> Further clarification is required around the logistics and management of the waste containment facility.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO2, PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Environmental Protection (Air) Policy 2019, provide further clarification and detailed information on the logistics and management of the waste containment facility, addressing the following matters:</p> <p>a. the anticipated percentage of water content for each type of ash that will be disposed of to the waste containment facility</p> <p>b. how long is it anticipated to take before the ash will be sufficiently dewatered and sufficiently stable (i.e. not prone to slumping or subsiding) to allow rehabilitation</p> <p>c. if water sprays are being used to manage dust from the stockpile, details of how this will impact the dewatering process</p> <p>d. management practices for prolonged periods of rainfall to ensure that dewatering of the exposed areas will continue and will not interrupt the placement of additional material</p> <p>e. details of how the ash will be moved into position after it is deposited by vehicle within the containment facility</p> <p>f. details of dust management practices and measures during this process.</p>
25.	<p><u>Issue:</u> There is inconsistent information provided on the lining of the ash cells in the ash containment facility and the proposed clay lining is not considered to be best practice.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide further details of the proposed lining for ash containment facility and the dimensions of the following:</p> <p>i. entire ash disposal dam</p> <p>ii. each of the ash disposal cells</p> <p>iii. sedimentation dam</p> <p>iv. ash runoff water dam.</p>
26.	<p><u>Issue:</u> Given the proximity of the activity to the proposed mining activity, it is unclear how/whether the ash containment facility has been designed to ensure that any subsidence or other movement of underlying geological structures caused by the mining activity will not compromise the integrity of the proposed lining of the disposal cells or any proposed capping.</p> <p><u>Action:</u> To demonstrate compliance with Purpose Statement 1 and PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019:</p> <p>a. provide further information about the design of the ash containment facility to ensure that any subsidence or other movement of underlying geological structures caused by</p>

	the mining activity will not compromise the integrity of the proposed lining of the disposal cells or any proposed capping.
27.	<p>Issue: The application material states that between 500,000t and 850,000t of ash will be produced per year. It is unclear what provisions and management measures will be put in place during prolonged wet weather. It is also unclear what dust management practices are proposed during the loading and unloading of vehicles.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2, PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Environmental Protection (Air) Policy 2019, provide further information on the following:</p> <ol style="list-style-type: none"> provisions for ensuring any wet weather, especially prolonged wet weather storage will not disrupt the ash disposal process if the process is disrupted, the measures that will be implemented to ensure that the ash will be stored in locations where it will not contaminate surface waters or land the dust management practices during the loading and unloading of these vehicles.
28.	<p>Issue: Reverse osmosis is proposed to treat waters obtained from dewatering of the neighbouring coal mine. The expected quality of the waste stream generated by this process is unclear and no detail has been provided on how this material will be managed/disposed.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2, PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> provide further information on the expected quality of the waste stream generated by this process and how this material will be managed and disposed.
Rehabilitation	
29.	<p>Issue: The town planning report makes various references to rehabilitation and final landform, however, no information has been provided regarding processes, timing, success criteria and final landform design.</p> <p>Action: To demonstrate compliance with Purpose Statement 1 and PO2, PO4, PO5 & PO6 of State code 22 of SDAP, the EP Act, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Environmental Protection (Air) Policy 2019:</p> <ol style="list-style-type: none"> provide further information on the proposed rehabilitation and final landform, regarding processes, timing, success criteria and final landform design. This is required to ascertain the ongoing risk of the activity.
Sewage treatment	
30.	<p>Issue: Insufficient detail has been provided for the sewage treatment proposed onsite.</p> <p>Action: To demonstrate compliance with the EP Act and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019, provide the following information about the sewage treatment proposed:</p> <ol style="list-style-type: none"> a description of treatment process, design details including size/volumes, peak design capacity of the sewage treatment system

	<ul style="list-style-type: none"> b. quantity, description of average and maximum wastewater flows. Include details of dry versus wet weather period over time c. quality (key contaminants of concern) - describe and quantify the concentrations of key contaminants including total nitrogen, total phosphorous, electrical conductivity/total dissolved salts and sodium/sodium absorption ratio. Include average and maximum concentrations of treated effluent generated at the site d. proposed irrigation area boundary, the location of any wet weather storage infrastructure, sampling and discharge points including GPS Co-ordinates (Latitude, Longitude) and elevation e. wet weather and storage management options.
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How to respond

You have three months to respond to this request and the due date to SARA is 23 June 2020.

You may respond by providing either: (a) all of the information requested; (b) part of the information requested; or (c) a notice that none of the information will be provided. Further guidance on responding to an information request is provided in section 13 of the [Development Assessment Rules](#) (DA Rules).

It is recommended that you provide all the information requested above. If you decide not to provide all the information requested, your application will be assessed and decided based on the information provided to date.

You are requested to upload your response and complete the relevant tasks in [MyDAS2](#).

As SARA is a referral agency for this application, a copy of this information request will be provided to the assessment manager in accordance with section 12.4 of the DA Rules.

If you require further information or have any questions about the above, please contact Andrew Finch, Principal Planner, on 34527680 or via email DAAT@dsmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Phil Joyce
Director Development Assessment

cc Barcaldine Regional Council, council@barc.qld.gov.au

Development details	
Description:	Development permit Material change of use for public utility (1,400MW power station and associated infrastructure including access roads and substation)
SARA role:	Referral agency
SARA trigger:	Schedule 10, part 5, division 4, table 2, item 1 (Planning Regulation 2017) – Non-devolved environmentally relevant activities Schedule 10, part 7, division 3, table 1, item 1 (Planning Regulation 2017) – Hazardous chemical facilities
SARA reference:	2002-15561 SRA
Assessment criteria:	State code 21: Hazardous chemical facilities State code 22: Environmentally relevant activities