Notice

Environmental Protection Act 1994
Environmental Evaluation

Notice requesting further information

This notice requesting further information in response to receiving an environmental report about an environmental investigation is issued by the administering authority pursuant to section 326F(2) of the Environmental Protection Act 1994.

The Mulgrave Central Mill Company Pty Ltd
47 Gordon Street
Gordonvale QLD 4865

Your reference: EPPR00390613

Our Reference: 101/0009102, C-CPLRC-100008829, E-100072540

Monday, 13 February 2023

Take notice: that under the *Environmental Protection Act 1994* (the Act), a notice requesting further information on an environmental report is issued to The Mulgrave Central Mill Company Pty Ltd (ACN 009 657 032) (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science (the department).

This notice requesting further information is issued in respect of the activities by The Mulgrave Central Mill Company Pty Ltd on land described as Lot 102 on Plan SP279534, Lot 184 on Plan NR5231, Lot 11 on Plan RP835454, and Lot 12 on Plan RP835454 (the licensed place) situated at 47 Gordon Street, Gordonvale.

The further information is required in regard to a report on an environmental investigation submitted by you to the department on Monday, 30 January 2023.

A. Grounds

The notice requesting further information is issued on the following grounds:

1. In response to a notice issued to you by the department to conduct or commission an environmental investigation, you submitted an environmental report to the department 30 January 2023.
2. The department may, within 10 business days after the report is received, ask the recipient of a notice to conduct or commission an environmental report to give further information needed to decide whether to approve the environmental report.
3. The department is satisfied that further information is required to decide whether to approve the environmental report and the department requests that you provide the further information requested.

B. Facts and Circumstances

The facts and circumstances forming the basis for these grounds are:

1. A notice to conduct or commission an environmental investigation was issued to you by the department on 16 December 2020 (ref. E-100022326) on the grounds that an event has happened causing

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environmental harm while an activity was being carried out and an activity or proposed activity is causing, or is likely to cause environmental harm.

2. Following an internal review, a varied notice to conduct or commission an environmental investigation was issued to you by the department on 2 February 2021 (ref. E-100072540).
3. The notice to conduct or commission an environmental investigation (the Notice) was then amended by the department on 9 June 2021 (ref. E-100072540).
4. A draft Air Quality Monitoring Program (AQMP) was submitted to the department on 12 April 2021, in accordance with requirement 1 of the Notice. The department provided comments regarding the draft AQMP on 18 May 2021.
5. A final AQMP was submitted to the department on 11 June 2021. The department provided further comments regarding the final AQMP on 15 June 2021.
6. You responded to these further comments on 22 June 2021 and an updated final AQMP was submitted to the department on 9 July 2021.
7. In accordance with the AQMP, preliminary air dispersion modelling of emissions was undertaken and submitted to the department on 10 September 2021.
8. In accordance with the AQMP, stack testing and meteorological monitoring was undertaken during 2021 and 2022 crushing seasons, and ambient particulate matter monitoring was undertaken in 2022.
9. An Environmental Report was submitted to the department by you on 30 January 2023, in accordance with requirement 4 of the Notice, with the accompanying recipient declaration provided on 2 February 2023.
10. A review of the Environmental Report has identified matters requiring further information to enable the department to assess environmental obligations under the Notice.
11. The Notice requires that the Environmental Report, submitted in accordance with requirement 4 of the Notice, be prepared by a suitably qualified person (SQP). An SQP is further defined in the Notice as a person or persons who has demonstrated professional qualifications and experience relevant to performing the function. The function in this instance being the interpretation of results from the Air Quality Monitoring Program and preparation of an Environmental Report.
12. Preparation of the final report, including interpretation of the various monitoring and investigation activities undertaken, is an important function in holistically reviewing results and presenting recommendations regarding the level of risk for environmental harm. The authorship of the Environmental Report, submitted on 30 January 2023, is not identified and it is not clearly demonstrated as being carried out by an SQP.
13. Requirement 2 of the Notice requires monitoring of ambient air quality, having consideration of sensitive receptors and meteorological variables, and requires monitoring undertaken to be in accordance with relevant Australian or International standards.
14. Review of the Environmental Report identified limitations with the ambient particulate matter monitoring undertaken in relation to the 2022 crushing season.
    a) Siting of air sampling equipment was found to be not in accordance with the relevant Australian standard (AS/NZS 3580.1.1:2016). In particular, at monitoring Location 1, equipment was mounted in very close proximity to a large metal sign measuring approximately 12 metres in length and 0.5 metres in height. This structure is reasonably considered as an impediment to air flow and can influence air turbulence in proximity to the sampling inlet. The department therefore

holds concerns about the validity of ambient monitoring at Location 1 and, noting the apparent unobstructed areas surrounding this location, considers the justification provided within the Environmental Report, including appendix H, to be insufficient.

b) Ambient monitoring data was impacted by considerable data losses resulting from equipment failures, including over 3 months of Optical Particle Counter (OPC) data. Due to the frequency of the Low Volume Air Sampler (LVAS) being run typically once every third day, the continuous OPC data was intended to enable an indicative understanding of short-term particulate matter concentrations and assist in determining the likely cause of elevated concentrations, in conjunction with meteorological data. OPC equipment failures therefore present limitations in the ability to interpret elevated LVAS concentrations that occurred on 24 and 30 July 2022.

c) Departmental review of the elevated LVAS particulate matter concentrations that occurred on 24 and 30 July 2022 identified the following;

   i. Weather station data wind roses for 24 and 30 July 2022 show that the wind direction was within the south-east quadrant (i.e., in the direction of monitoring Location 1) for approximately 35% and 50% of hours, respectively. Review of wind direction within the quadrants more accurately reflects the dispersive nature of air emissions towards sensitive receptors.

   ii. The number of low oxygen boiler alarms recorded on 30 July 2022, more than any other day during the 2022 crushing season, suggests that the 30 July 2022 can be characterised as a period of upset conditions. Upset conditions are typically associated with low air to fuel ratios in the boiler/s (at times triggering low oxygen alarms) and have been known to increase particulate matter emissions (as indicated by colour and density of stack emissions signalling poorer combustion efficiency).

   iii. Mulgrave Mill record keeping checklists note fires observed on the Pyramid landform and to the east of the Mill on 27 July 2022 and 2 August 2022, respectively. LVAS data from these dates did not identify elevated particulate matter. This brings into question the potential contributions of smoke from these reported fires to elevated particulate matter concentrations during that period.

   iv. Lack of OPC data at monitoring Location 1, as discussed above, presents limitations to the conclusions that can be drawn from the elevated LVAS data on 24 and 30 July 2022. It is noted, however that OPC data was obtained for monitoring Location 2 on these dates. It is unclear from the Environmental Report whether the OPC data from monitoring Location 2 was considered when interpreting these elevated results.

   v. It is noted that visual assessments of smoke density (Ringelmann) have not been demonstrated as being in accordance with the relevant Australian Standard and are therefore considered limited in their application. It is further noted that the frequency of these visual assessments limits the ability to capture upset conditions, due to the intermittent nature of visual smoke emissions previously observed.

d) Departmental review of the elevated OPC particulate matter concentrations that occurred on 9 July 2022, during which boiler start-up occurred, identified the following;

   i. Monitoring results suggest that boiler start-up processes, also referred to as upset conditions, continue to be high risk periods for particulate matter emissions with there being three (3) consecutive hours on 9 July 2022 during which particulate matter at monitoring Location 2 was elevated above 250 µg/m³ in the PM10 fraction, and above 150

µg/m³ in the PM2.5 fraction. There is only limited discussion of these results in the Environmental Report, for example, it is unclear whether such results are considered representative of boiler start-up processes, whether this event was reviewed against other dates of boiler start-up/upset conditions, and limited discussion of associated risk to environmental values.

15. Requirement 2 of the Notice requires monitoring of point source air emissions from Mulgrave Sugar Mill, having consideration of sensitive receptors and meteorological variables, and requires analysis and review of monitoring results against applicable environmental and health based guidelines and standards. These requirements were achieved by undertaking stack testing and air dispersion modelling to assess ground level concentrations. Additionally, requirement 4 of the Notice requires the Environmental Report to include results and interpretation of the Air Quality Monitoring Program.
16. Review of the Environmental Report, including appendix E, identified limited discussion or interpretation of air dispersion modelling results in the context of ambient particulate matter monitoring results. This is of particular interest considering that predicted worst-case scenario concentrations indicated no exceedances of the air quality objectives, however ambient particulate matter levels were found to be elevated on several occasions.
    a) The Environmental Report does not include observations about the level of model calibration, or comparison of predicted versus measured particulate matter concentrations (including background concentrations).
    b) There is limited discussion of ambient locations, Mill operating conditions, and/or meteorological conditions of highest risk for impacts to environmental values.
17. Review of the Environmental Report, including appendix E, identified limited discussion or interpretation of modelling results relating to upset conditions. This is of particular interest due to upset conditions historically resulting in the highest risk for environmental nuisance reports.
    a) Analysis of particulate matter concentrations during upset conditions was provided in the preliminary modelling via a sensitivity analysis, examining the effect of reduced exit velocities. This analysis was not revisited following completion of stack testing to incorporate measured emission variables, and has not been discussed in the Environmental Report, or reviewed in relation to ambient monitoring results, including elevated concentrations recorded to the north of the Mill.
    b) The upset conditions considered in the preliminary modelling were described as a short stop, with the boilers continuing to run but at a reduced load. It is not clear from this preliminary analysis how long of a boiler stoppage was assumed (when determining 24-hour average) and whether boiler start-up processes were considered, which may differ from a short stop with regards to duration and emission variables (such as temperature, volume and velocity).
18. The department acknowledges the considerable reductions made in the amounts of fuel oil used and recognises that no community reports of environmental nuisance were received during the 2021 and 2022 crushing seasons.
19. Noting the duration of start-up processes, the inability to capture upset conditions via stack testing, and the associated elevated particulate matter measured in the ambient environment, the preliminary review of the Environmental Report indicates that stack emissions and risk for environmental nuisance during these periods of boiler start-up/upset conditions may not be adequately captured by Environmental Authority conditions.

d) Consideration of boiler start-up processes, which may differ from a short stop with regards to duration and emission variables (such as temperature, volume and velocity).

7. With reference to paragraph 19 of the facts and circumstances listed above, you are requested to respond to the observation made.
8. The further information must be submitted to the department on or before **Monday, 27 March 2023.**

Take notice:

1. The requirements of this Notice to provide further information take effect immediately upon service of this Notice.
2. This Notice remains in force until further notice from the department.
3. You are responsible for meeting the costs of providing the further information to the department.

C. Reviews and appeals

There are no review or appeal rights under the *Environmental Protection Act* for a request for further information made under section 326F(2).

A person whose interests are or would be adversely affected by a decision of the department may be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

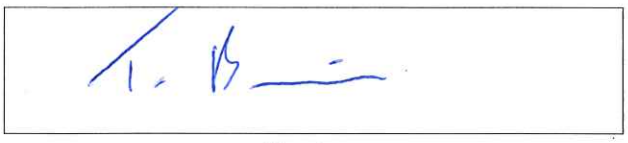
Under the *Judicial Review Act 1991,* a person whose interests are, or would be adversely affected by a decision of the department is able to:

- Request a statement of reasons from the department explaining the decision
- Apply to the Supreme Court for a statutory order of review of the decision if the person is not satisfied with the statement of reasons.

You may have other legal rights or obligations and should seek your own legal advice.

If you fail to provide the further information, the department will make a decision about the environmental report on the information already submitted.

Should you have any queries in relation to this notice, please contact the department on telephone number 07 4222 5161.



Signature

13 February 2023

Date

Tim Brain

Manager (Compliance)

Delegate of the Chief Executive

Department of Environment and Science

Environmental Protection Act 1994

Enquiries:

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20. The department considers that it is reasonable to request that you provide additional information to respond to the issues raised in this notice.

C. Requirements

The further information you are requested to provide is as follows:

1. With reference to paragraphs 11 and 12 of the facts and circumstances listed above, you are requested to clarify the authorship of the Environmental Report (as distinct from appendices) and demonstrate that it was prepared by a SQP with respect to professional qualifications and experience interpreting results of an Air Quality Monitoring Program. If the Environmental Report was not prepared by a SQP, then you are advised to submit an updated Environmental Report following preparation and signed authorship by an SQP.
2. With reference to paragraphs 13, 14 a) and 14 b) of the facts and circumstances listed above, you are requested to provide comments and/or justifications regarding the identified limitations of the ambient particulate matter monitoring and advice regarding the validity of conclusions that can be drawn from ambient monitoring results having consideration of the siting of equipment, the data losses, and ability to interpret elevated results.
3. With reference to paragraphs 13 and 14 c) of the facts and circumstances listed above, and with consideration of the department's comments regarding elevated ambient particulate matter concentrations that occurred on 24 and 30 July 2022 (LVAS), you are requested to provide further discussion and interpretation of these monitoring results. This includes, but is not limited to, consideration of wind roses, potential upset conditions, ambient measurements on or around the time of reported fires, and available OPC data at either monitoring location.
4. With reference to paragraphs 13 and 14 d) of the facts and circumstances listed above, and with consideration of the department's comments regarding elevated ambient particulate matter concentrations that occurred on 9 July 2022 (OPC), you are requested to provide further discussion and interpretation of these monitoring results. This includes, but is not limited to, consideration of the representativeness of this boiler start-up event, review against other dates of boiler start-up/upset conditions, and associated risk to environmental values.
5. With reference to paragraphs 15 and 16 of the facts and circumstances listed above, you are requested to provide further discussion and interpretation of air dispersion modelling results in the context of ambient particulate matter monitoring results. This includes, but is not limited to:
    a) Observations about the level of model calibration and comparison of predicted versus measured particulate matter concentrations (including background concentrations); and
    b) Further discussion of ambient locations, Mill operating conditions, and/or meteorological conditions of highest risk for impacts to environmental values.
6. With reference to paragraphs 15 and 17 of the facts and circumstances listed above, you are requested to provide further discussion and interpretation of modelling results relating to upset conditions. This includes, but is not limited to:
    a) Consideration of measured emission variables obtained from stack testing;
    b) Discussion in relation to ambient monitoring results, including elevated concentrations recorded to the north of the Mill during upset conditions;
    c) Clarification about how long of a boiler stoppage was assumed (when determining 24-hour average); and