



Appeals Committee

Environmental Protection Act 1986

REPORT TO THE MINISTER FOR ENVIRONMENT

**APPEAL IN OBJECTION TO THE CONDITIONS APPLIED TO LICENCE
L8174/2007/4**

**WAGERUP COGENERATION PLANT, WILLOWDALE ROAD,
WAGERUP**

LICENCE HOLDER: ALCOA OF AUSTRALIA LIMITED

Appeal Number 195 of 2014

March 2015

Appeal Summary

This report concerns an appeal in objection to a decision of the Department of Environment Regulation (DER) to renew a licence for a cogeneration plant in Wagerup.

The appellant raised concerns related to the production of particulate emissions and discharges to water from the operation of the plant. The issue of buffer zones was also raised, as well as referral of the plant to the EPA.

The DER was of the view that these concerns fall outside of the scope of the current licence, noting that the plant is also subject to Ministerial Statement 729 and the *Contaminated Sites Act 2003*. The DER also advised that the operation of the plant has not changed since commissioning in 2007.

In relation to wastewater, the DER advised that groundwater contamination is regulated in accordance with the *Contaminated Sites Act* and not the conditions of the current licence.

Recommendation

After considering the issues raised by the appeal, as well as the information provided by the DER, appellant and licence holder, it was recommended that the appeal be dismissed.

INTRODUCTION

Alcoa operates an alumina refinery in Willowdale Road, Shire of Waroona, the location of which is shown in Figure 1. The cogeneration plant is located on the same site as the Wagerup refinery, and the stack locations are depicted in Figure 2.

Figure 1 – Proposal location

(source: whereis.com)

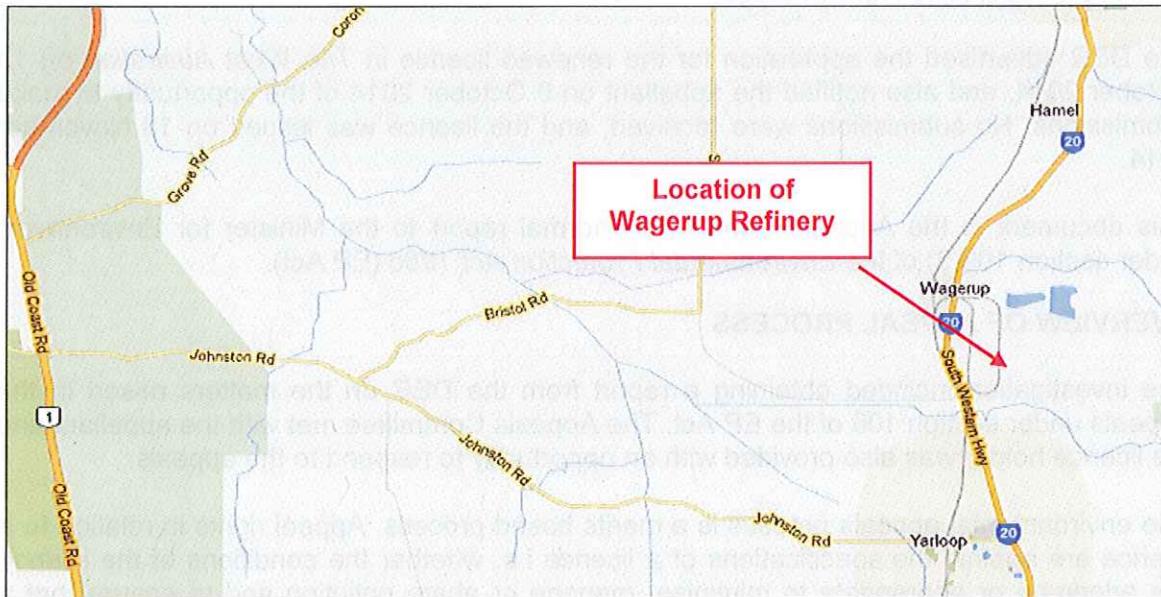
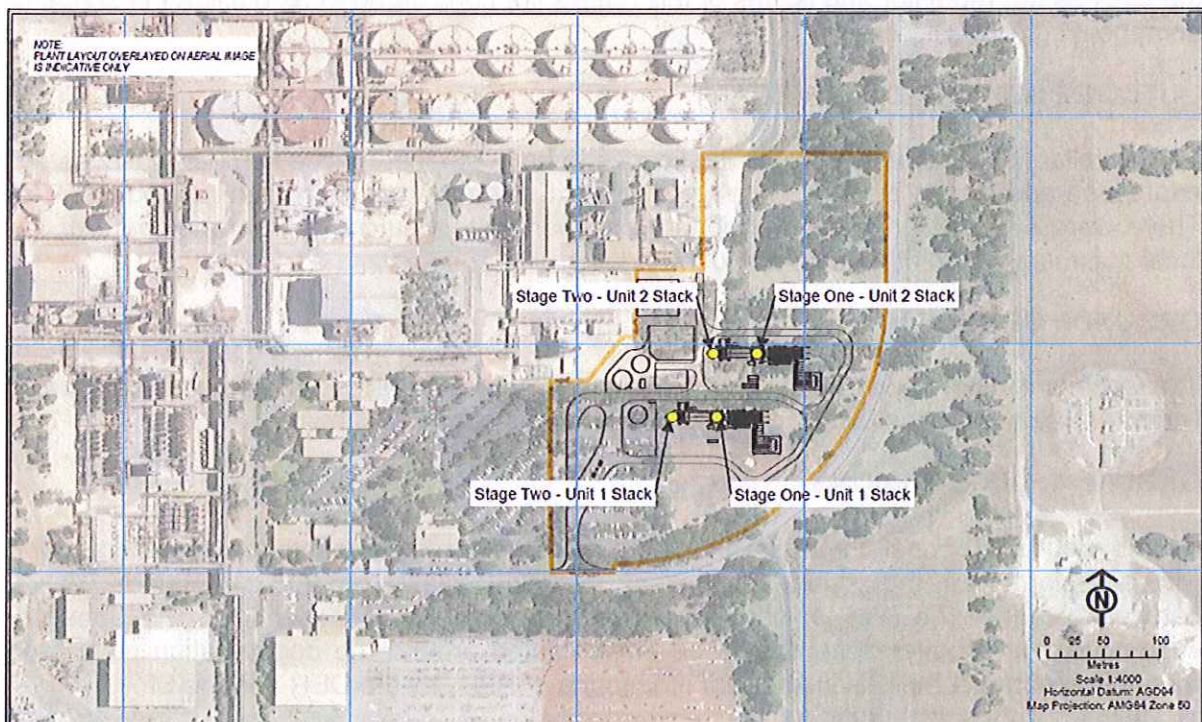


Figure 2: Wagerup cogeneration plant – stack locations

(Source: SKM 2006)



The cogeneration plant is prescribed as category 52 (Electric power generation) under the *Environmental Protection Regulations 1987*. The plant is regulated under the current licence as well as Ministerial Statement 729.

Each cogeneration unit comprises a gas turbine generator (GTG), which generates electricity, and a heat recovery steam generator (HRSG), which utilises hot exhaust gases from the GTG to produce high-pressure steam.¹ The first stage of the plant is complete, and was approved under Ministerial Statement 729. Stage two is approved under Ministerial Statement 729, including the construction and operation of the HRSGs. The DER has not received an application for this stage.

The DER advertised the application for the renewed licence in *The West Australian* on 13 October 2014, and also notified the appellant on 9 October 2014 of the opportunity to make submissions. No submissions were received, and the licence was issued on 13 November 2014.

This document is the Appeals Committee's formal report to the Minister for Environment under section 109(3) of the *Environmental Protection Act 1986* (EP Act).

OVERVIEW OF APPEAL PROCESS

The investigation included obtaining a report from the DER on the matters raised in the appeals under section 106 of the EP Act. The Appeals Committee met with the appellant and the licence holder was also provided with an opportunity to respond to the appeals.

The environmental appeals process is a merits based process. Appeal rights in relation to a licence are against the specifications of a licence i.e. whether the conditions of the licence are adequate or appropriate to minimise, manage or abate pollution and to ensure that a premises is operated in an environmentally acceptable manner. Consistency with any conditions set under Part IV of the EP Act and previous Ministerial appeal determinations is also relevant, subject to new information or evidence being presented not previously considered. Enforcement and compliance with the conditions of the licence is a matter for the DER as the regulator and issues of this nature are considered to be outside the scope of an appeal against a licence.

OUTCOME SOUGHT BY APPELLANT

The appellant sought for renewal of the licence to be postponed until a number of issues are addressed and for the plant to be referred to the Environmental Protection Authority (EPA). There were 58 signatories to the appeal in support of this outcome, from members of the local community, and other concerned individuals.

GROUND OF APPEAL

The appellant raised several issues, including emissions to air, buffer zone, emissions to water, and referral to the EPA. Each of these issues is considered below.

GROUND 1: AIR EMISSIONS

By this ground of appeal, the appellant raised issues regarding impacts to health associated with emissions from the cogeneration plant, including volatile organic compounds (VOC), particulate matter 2.5 (PM_{2.5}), and emissions from the use of diesel fuel. The appellant suggested that a buffer zone should be implemented around the cogeneration plant, and was concerned that there is insufficient monitoring of PM_{2.5} by the DER and the EPA.

¹ Alinta Cogeneration (Wagerup) 2006. Stack Emissions Management Plan, p. 3.

In this regard, the appellant noted that under the EPA Guidance Statement No. 3 *Separation Distances between Industrial and Sensitive Land Uses* (EPA Guidance Statement No. 3), any power generation plant that exceeds 20 MW requires a buffer of 3 to 5 kilometres (km). The appellant was also concerned that the Department of Planning has failed to enforce this requirement as there is currently no buffer zone for the cogeneration plant. The appellant compared this to Alcoa's operations in Pinjarra and Worsley, which operate with 6 km and 15 km buffer zones, respectively. The appellant also raised the refusal of planning permission to a piggery within the industrial buffer zone at Kemerton because it did not meet adequate buffer zone requirements.

The appellant also queried why the plant operated solely on diesel fuel in 2008, and whether monitoring was conducted at this time.

Consideration

The DER noted that the issue of distillate (diesel) operating hours is relevant to the requirements of Ministerial Statement 729, and is not addressed under the conditions of licence. The DER noted that the establishment of buffers is a land use planning matter, and suggested that the appellant direct any queries on land use planning decisions to either the Department of Planning or the relevant local government. The DER also noted that concerns regarding air emissions from the plant were raised against the conditions of the previous licence. In this respect, the DER advised that the operation of the plant has not changed since commissioning in 2007 and that air emissions continue to be regulated by Ministerial Statement 729 and the current licence.

Responding to the appellant's query regarding the operation of the plant in 2008, the DER noted that Ministerial Statement 729 permitted the plant to operate on distillate in 2008, and for a maximum of 100 hours per year from 2009 onwards. The DER advised that the appellant can contact the Office of the EPA for further information on this issue.

The licence holder noted that monitoring undertaken as part of the site Environmental Impact Assessment in 2006 stated that ground level concentrations for all gaseous pollutants were well below relevant assessment criteria, with the potential health risk from air quality impacts being negligible. The licence holder also noted that the proposal was referred to the EPA and was the subject of Report 1223.

The EPA recommended that the proponent be required to design and implement a stack emissions monitoring strategy which included characterisation of all constituents in the stack emissions in accordance with Report 1223. This recommendation was incorporated into condition 7 of Ministerial Statement 729, which requires, among other things:

7-1(3) on going monitoring of key air emissions identified in the stack testing...

Under condition 7-1(2), 'key air emissions' include formaldehyde, acetaldehyde, toluene and benzene.

As noted in Appeals Convenor's report 331-337 of 2012, the EPA previously advised that having regard the modeling that was conducted, the installation of dry low-NO_x burners, and the requirement for Alcoa to characterise stack air emissions, it was of the opinion that the cogeneration plant could be managed to meet the EPA's environmental objectives regarding adverse impacts of emissions on environmental values, the health, welfare and amenity of the people and land uses by meeting statutory requirements and acceptable standards.²

² EPA, Bulletin 1223, 2006. Report and Recommendations: Wagerup Cogeneration Project, p. 8.

Referring to its earlier advice on Appeal Numbers 331-337 of 2012, the DER specifically advised that '[v]erification monitoring conducted during commissioning confirmed air emissions are not greater than those predicted prior to construction'. As advised by the DER, it is noted that the agency issued the current licence with no changes to the conditions from the previous licence, and that the operation of the plant has not changed since commissioning in 2007.

Given these factors, the advice of the DER regarding the results of verification monitoring, the EPA's initial assessment of the plant, along with requirements under Ministerial Statement 729, it is considered that the current licence conditions are justified. Accordingly, it is recommended that this ground of appeal be dismissed.

GROUND 2: EMISSIONS TO WATER

By this ground of appeal, the appellant expressed concern regarding water usage and the levels of salt water waste discharged from the plant to the Residual Storage Areas (RSA) of the nearby Wagerup Alumina refinery.

Consideration

The DER reiterated advice from the then Department of Environment Conservation (DEC) that the generation of wastewater was assessed as insignificant in granting works approval W4219 for construction of the plant. The DER noted that this assessment of wastewater did not change for the issue of the current licence.

The DER advised that the environmental risk of wastewater produced by the operation of gas turbines is low and its discharge to the RSAs is regulated by licence L6217/1983/15. In this respect, the DER noted that storing wastewater produced by the plant in the RSAs does not significantly increase the potential for additional emissions above the risks associated with the operation of the Wagerup Alumina Refinery.

More generally, the DER advised that the Wagerup Alumina Refinery is classified under the *Contaminated Sites Act 2003* (Contaminated Sites Act) as 'contaminated – remediation required' and that alkalinity impacts in groundwater are evident in the vicinity of the refinery and RSAs. As noted by the DER, it is considered that groundwater contamination is regulated in accordance with the Contaminated Sites Act.

The licence holder noted that the cogeneration plant operates on potable water from the Alcoa Wagerup water treatment plant. The licence holder also noted that this plant discharges excess neutralised water to the residue drying areas, which is then recycled back into the refinery.

In the context of this appeal the issue of contamination and remediation is considered to fall outside the scope of the current licence and its conditions. It is therefore recommended that this ground of appeal be dismissed.

OTHER MATTERS: REFERRAL TO EPA

The appellant queried why the cogeneration plant was not referred to the EPA under Part IV of the EP Act. It is noted that the plant was referred to the EPA in 2006 and was subject to assessment. Ministerial Statement 729 was subsequently issued on 27 September 2006.

It is considered that should the licence holder seek to implement stage 2 of the plant, this application will be subject to further review by the DER. If the DER grants approval, then stage 2 will also be subject to the conditions under Ministerial Statement 729.

CONCLUSION AND RECOMMENDATION

After considering the information presented in the appeals, it is considered that Ground 2 of the appeal is invalid because it concerns impacts associated with salt waste water, which is not regulated under the cogeneration plant licence.

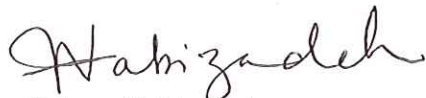
With regard to emissions to air, it is noted that the operation of the plant must comply with the requirements of Ministerial Statement 729, particularly with regard to the Stack Emissions Management Plan, as well as the conditions of the current licence.

Given the above it is recommended that the appeals are dismissed.

A number of issues raised by this appeal reflect broader concerns held by the appellant and its members into operations at the refinery generally. By the nature of the appeals process, which is directed at the specific element of the refinery site that is the subject of the appeal, these broader concerns can often fall outside the ambit of an appeal. To assist the appellant understand the scope of the appeals process, the committee met with it and its members in January 2015 to discuss alternative approaches for its consideration.



Jean-Pierre Clement
CHAIRMAN



Golnar Nabizadeh
COMMITTEE MEMBER