

AUSTRALIAN REFRACTORY CERAMICS PTY LTD

Report and Recommendations
of the
Environmental Protection Authority

Environmental Protection Authority
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1. INTRODUCTION

Australian Refractory Ceramics Pty Ltd has submitted a Notice of Intent (NOI) to the EPA for a ceramics plant at Malaga, approximately 12 km north of Perth. The EPA has examined the NOI, assessed the environmental impacts of the project, and makes its recommendations in this assessment report.

2. PROPOSAL

The proposal involves using up to 7000 tonnes/annum of clay, schist, talc, feldspar and quartz for the production of assay crucibles, cups, and possibly tableware. The proposed site for the plant is in Victoria Road, in the Malaga industrial area. The site is surrounded by industrial, land. The distance from the site to the closest residential area is over 800 m.

In considering the proposal the EPA gave particular consideration to the following environmental issues:

- . the effect of air emission of fluoride on the surrounding areas;
- . the effect of noise emissions from the plant on the surrounding residential areas;
- . disposal of solid wastes;
- . disposal of liquid wastes; and
- . the impact of the transport of raw materials to, and product from, the site.

3. ENVIRONMENTAL IMPACTS AND MANAGEMENT

Potential environmental impacts are identified and discussed below:

- (a) Fluoride emissions. The proposal requires the use of relatively small amounts of raw materials compared with other clay -kiln operations around Perth. The raw materials also contain, on average, much lower levels of fluoride than those used for other clay-kiln operations around Perth. As a result, the potential fluoride emissions are relatively low. The EPA considers that a fluoride ground level concentration of 1 mg/m^3 at a distance of 600 m from the plant should not cause unacceptable environmental impacts (EPA Bulletin 292). This correlates with a mass fluoride emission rate of 0.14 grams per second (g/s) for a 35 m stack (EPA Bulletin 292). The proponent proposes to discharge fluoride at the rate of 0.0145 g/s in the worst possible situation. Even though a high stack is not required in this case, the environmental impact will be negligible.

The proponent considers that the emission rate will be even lower as close control and minimisation of air flow in the kiln results in less fluoride being exhausted.

In addition, retention of fluoride in the products is expected to constrain emissions even further, resulting in an emission rate of 0.01 g/s on a 260 day per year operating basis.

- (b) Noise: Noise emissions from the plant are expected to conform with statutory requirements.

- (c) Solid Waste: All solid waste will be disposed of at a waste disposal site in a manner approved by the EPA.
- (d) Liquid Waste: Liquid wastes, essentially water, entering the stormwater system are expected to meet with the requirements of the Authority and of the Water Authority of WA.
- (e) There will be a small increase in the number of trucks using the access routes to and from the plant in the industrial area. Up to sixteen trucks per week are expected when the plant is at full capacity. The roads will be able to cope with the additional traffic.

4. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

The Environmental Protection Authority concludes that the project is environmentally acceptable and recommends that it could proceed subject to the commitments given in the Notice of Intent and the recommendations below.

RECOMMENDATION 1

The Environmental Protection Authority recommends that:

- . the fluoride mass emission rate should never exceed 0.05 gram per second from the whole of the plant;
- . the proponent will carry out gaseous emission testing as and when required by the Authority;
- . the disposal of solid wastes will be to an approved landfill site;
- . the disposal of aqueous wastes will be in a manner acceptable to the Authority and to the Water Authority of Western Australia; and
- . noise emissions are to conform with statutory requirements.

RECOMMENDATION 2

The Environmental Protection Authority recommends that if the operations of the plant cause detrimental impacts on the surrounding area, the Authority will require, as a condition of licence, that the proponent modify the operation to the satisfaction of the Authority.

PROPONENT'S COMMITMENTS MADE IN THE NOTICE OF INTENT

1. Hours of operation will be 6.00 am to 10.00 pm for manufacturing, with 24 hour kiln operation.
2. The forklift and bobcat will not be used between 10.00 pm and 6.00 am.
3. All the operations (including use of forklift and bobcat) take place inside the factory building.
4. An insulated house around the ball mills will be provided to minimise noise from this operation to 85 dB or less at one metre.
5. The design criteria for noise levels for this project call (for) readings of less than 85 dB at a distance not more than one metre from any equipment in the plant.
6. Because the manufacturing process uses what is termed a "Wet Mixing Method", manufacturing does not generate dust. All raw materials will be stockpiled inside the main building.
7. Rejected products will be disposed of at an approved landfill site.
8. The only liquid discharge from the manufacturing plant will originate from the clay washing process. The discharge will consist of water and sand which will be directed into a series of settlement tanks and filter pressed for recycling.
9. Solid wastes will be disposed of in an approved landfill site.