

GALLIUM PLANT - PINJARRA

RHONE - POULENC

REPORT AND RECOMMENDATIONS
OF THE
ENVIRONMENTAL PROTECTION AUTHORITY

Environmental Protection Authority
Perth, Western Australia

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BACKGROUND

Rhone-Poulenc the largest chemical industry group in France and wholly owned by the French Government proposes to construct a Gallium Plant adjacent to and approximately 4 km south of Alcoa of Australia's Alumina Refinery at Pinjarra.

Rhone-Poulenc have also indicated their intention to construct a Rare Earth Plant on the same site.

In examining the proposal for the Gallium Plant the Environmental Protection Authority (EPA) considered that it did not warrant a Public Environmental Report nor an Environmental Review and Management Programme. Accordingly the proponent prepared a detailed Notice of Intent.

This report is the Authority's assessment based on the Notice of Intent.

The proposal for the Gallium Plant does not presuppose any specific outcome to the Environmental Review and Management Programme for the Rare Earth Plant.

PROPOSAL

It is proposed to extract Gallium which occurs in trace quantities in bauxite, from the Bayer process stream at Alcoa's Pinjarra Alumina Refinery.

The Bayer process stream involves dissolving bauxite in caustic soda for the purpose of extracting aluminium. In this process gallium is also extracted from the bauxite and dissolved in the caustic stream (Bayer liquor).

The Bayer liquor will be piped from the alumina refinery to the Gallium Plant, where gallium will be extracted and the Bayer liquor returned to the alumina refinery. The extracted gallium then passes through a series of purification processes before being produced as a solution of gallium chloride. This material will then be concentrated and drummed as the final product.

CONCLUSION

The Authority has considered the Notice of Intent and concludes that the proposal is environmentally acceptable, subject to the following recommendations:

Recommendation 1.

The adherence by the proponent to all commitments given in the Notice of Intent.

Recommendation 2.

The liquid effluent to be ponded in sealed evaporation ponds and a groundwater monitoring programme put in place. The ponds should be separated from the groundwater by provision of underdrainage and be continuously monitored for leakage. Pump-back facilities should be installed to cater for leakage and contingency plans developed in the event of failure.

The groundwater monitoring programme shall include the monitoring of water levels and salt context both upstream and downstream of the evaporation ponds on a monthly basis.

Recommendation 3.

The proponent prepare an annual report on the following environmental management commitments and conditions:

- air emissions
- effluent discharges and evaporation pond performance
- groundwater monitoring
- solid waste disposal
- spills and accidental discharges

from commissioning, for the first five (5) years of operation, whereupon it will be reviewed.

In view of public interest in new industrial developments in the Pinjarra area, the Authority believes that the Notice of Intent should be released as a public document for information. The Authority recognises that it may be necessary for some information of a proprietary nature to be removed from the Notice of Intent.