



# URS



## **EIS NEWSLETTER**

#### APRIL 2003

#### Welcome to this first

newsletter about the Environmental Impact Study (EIS) for the Alcan Gove Stage 3 Expansion Project.

This newsletter aims to inform the community about the environmental assessment process that is being undertaken for the proposed Stage 3 expansion of the existing alumina refinery located on the Gove Peninsula in the Northern Territory.

This is the first of three newsletters to be produced during the project's EIS process to update stakeholders and the community on progress of the project.

The newsletter tells you how you can become involved in the EIS process. If you have questions about the proposal, we want to hear from you.



#### ALCAN

Alcan Gove is the operator of the bauxite mine and alumina refinery at Gove. Alcan Gove is wholly owned by Alcan Inc (Alcan). Alcan is the parent company of an international group operating in many aspects of the aluminium and packaging industries. Alcan has 48,000 employees in 38 countries where it successfully operates bauxite mines, alumina refineries, aluminium smelters, and aluminium semi-fabrication and packaging plants.

Alcan operates under a policy which requires excellent environmental performance at all of its operations through continual improvement of awareness, understanding and performance. This policy applies to Alcan Gove and it is expected the environmental performance of the expanded refinery will be an improvement on the current performance.

The existing Alcan Gove operations consist of a bauxite mine and refinery which converts the bauxite into alumina. Alumina is an intermediate product in the manufacture of aluminium. The alumina from Gove is exported from the refinery to aluminium smelters around the world.



## **Existing Operations**

The existing operations consist of the following main components:

- Mine Bauxite is mined from a laterite deposit where it is crushed and conveyed to the refinery
- Refinery The bauxite is processed to produce alumina.
- Residue Disposal Refinery waste consisting mainly of alkaline bauxite residue is disposed of in a dedicated disposal area.
- Port A port from which bauxite and alumina are exported and a variety of bulk materials are imported.

# A process flow diagram of the existing operations.



## **PROPOSED EXPANSION**

The Gove refinery needs to expand in order to maintain its position in the competitive world alumina refining industry and to ensure its long term survival. Alcan is undertaking a feasibility study into the expansion and a decision on whether to proceed with it will be made in mid 2004. The EIS is being prepared in parallel with the feasibility study.

If the expansion proceeds it will add a third stage to the existing two-stage operation. This will increase the refinery's capacity from 2.0 million tonnes per annum (mt/a) to 3.5 mt/a. All new plant and equipment to be installed as part of the expansion will be located within the footprint of the existing refinery. There is no requirement to use any land outside of the existing lease area.

#### Areas Required for Expansion



Increased refinery production will be achieved by installing new process equipment which will integrate into the existing refinery process. As well as the new process equipment, an additional power station boiler will be installed to supply additional steam and electricity. Consideration is also being given to the installation of a liquor purification process designed to reduce the organic impurities in the residue to enable maximum recycling of caustic liquor. This will not go ahead unless all appropriate environmental and health guidelines can be met.

The alkaline residue from the refinery is currently being disposed of in containment ponds at the residue disposal area. Even with the expansion the existing containment ponds have enough capacity until 2015. In the meantime, alternatives for future disposal will be examined. Once a future site is decided, it will be subject to separate studies and Government approvals and there will be further opportunities for the community to comment.

The expansion design will incorporate sufficient flexibility for the refinery to burn either fuel oil or natural gas. Negotiations are currently underway to secure a natural gas supply. Fuel oil will continue to be burned until natural gas becomes available, with appropriate controls to achieve acceptable air quality.

The construction phase will extend for 33 months. At its peak there will be an estimated 1,220 construction workers on-site. These workers will be accommodated in a self-serviced construction camp to be developed in Nhulunbuy near the site of the previous construction camp. If the expansion is approved, construction should begin during the second half of 2004 and first production will commence in 2007.

# BENEFITS OF THE EXPANSION

A number of environmental and economic benefits will occur as a result of the expansion including:

- Improved competitiveness in the alumina refining industry and long term survival of the Gove Refinery.
- Installation of the Alcan double digestion process will ensure the optimum amount of alumina is extracted from the bauxite and that lower grade bauxite can be processed. This will result in a 10% improvement in alumina extraction per tonne of bauxite mined.
- The improved digestion will also result in a 25% reduction in residue produced per tonne of product.
- With liquor purification there will be 25% less caustic soda consumption and a 75% reduction in soluble alkaline waste per tonne of alumina produced.
- There will be a 5% reduction in energy consumption and a reduction in greenhouse gas emissions per tonne of product.
- Once the natural gas supply becomes available, there will be a substantial reduction in sulphur dioxide emissions and combustion particulates as well as a further reduction in greenhouse gas emissions.
- There will be significant economic stimulus from increased employment and production.

# THE ENVIRONMENTAL IMPACT STATEMENT PROCESS

The Northern Territory Government requires the environmental impacts of the project to be assessed before the necessary approvals can be issued. The environmental impact assessment process will be managed in accordance with the Environmental Assessment Act 1982 and Environmental Assessment Administrative Procedures. The authority responsible for managing the project's environmental impact assessment process is the Office of Environment and Heritage within the Department of Infrastructure, Planning and Environment (DIPE).

The project has also been referred to the Commonwealth Government for determination as to whether it is a "controlled activity" under the Environmental Protection and Biodiversity Conservation Act.

To initiate the impact assessment process, Alcan Gove has submitted a Notice of Intent to the NT Government. This document summarises the proposed project and its potential environmental impacts. Part A of the draft Guideline contains a summary of the Notice of Intent submitted to the DIPE. This can be viewed on the Alcan Gove website: <u>www.alcangove.com.au</u>.

Draft Guidelines which outline the issues that the project's EIS must address have been prepared by the NT Government and are available on both the Alcan Gove website and the Department of Infrastructure Planning and Environment website: <u>www.lpe.nt.gov.au/eia</u>. All members of the public are invited to comment on the draft Guidelines. Written comments on the draft Guidelines can be submitted to the DIPE Office of Environment and Heritage at the following address:

#### Project Officer – Alcan Gove EIS, Department of Infrastructure, Planning and Environment Office of Environment and Heritage GPO Box 1680 Darwin NT 0801

Details of the final date that DIPE will accept written submissions on the draft Guidelines, is available on their website. Once the Guidelines for the project are finalised, the environmental studies associated with the preparation of the EIS will be undertaken. During this time there will be further opportunities for community consultation.

The findings of the environmental studies will be summarised in the EIS which will address all the issues listed in the Guidelines. These issues will include:

- air quality

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- water quality
   noise
- marine biology waste management
- land use
- socio-economics infrastructure
- flora and fauna
- aesthetics

The current schedule is to have the EIS prepared by the end of September 2003. A period of government and public review and comment will then follow.

#### The Study Team

The EIS is being prepared by a team of experts led by environmental and engineering consultants, URS. URS together with specialist subconsultants will work with Alcan to ensure that all relevant environmental issues have been addressed. **How you can b** nvolve

# **COMMUNITY CONSULTATION**

The community is invited to become involved in the impact assessment process via a number of means including registering on the stakeholder database, by calling the free call number provided and leaving your contact details, or by returning the enclosed feedback form to the study team. All registered stakeholders will be kept up to date and will be involved in the community consultation process throughout the study.

This first newsletter and the feedback form are also available for viewing on the Alcan Gove website: <u>www.alcangove.com.au</u>.

Meetings will be held with government agencies and special interest groups, including the Regional and Nhulunbuy Community Reference Groups during the EIS process. Please advise the study team if you represent a special interest group, and/or would like to be involved in the meetings. Please provide details of the group you represent including any specific environment and/or social areas of interest relevant to the project.

A second newsletter will be available in July and will provide an update on the EIS progress. It will be distributed to everyone registered on the stakeholder database. The second newsletter will also be available on the Alcan Gove website.

## **FEEDBACK**

The enclosed feedback form is provided if you would like to comment, ask questions or be kept informed of the study process. Please complete the form and send it reply paid to the study team at the following address:

Alcan Gove Expansion EIS Community Affairs Department Reply Paid 21 Nhulunbuy NT 0881

Alternatively you can contact the study team at:







# PROJECT FEEDBACK

This feedback form is designed to give interested people a chance to comment, ask questions or be kept informed on the Alcan Gove Expansion project.

Please take a moment to complete this form, then fold and staple or tape it closed, and drop it into the nearest mailbox.

Postage is free. Please add extra pages if you need more space.

am a resident.	i an a business owner.
Vhich street do you live in?	What is your type of business and its location?
Vhich organisation?	Please identify:
Please keep me informed of the p	progress of the EIS process.
nents:	

Full Name:		
Postal Address:		
Phone:	Fax:	

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Thank you for your time and input.

Your comments will help the Study Team and Alcan ensure that all relevant environmental issues are addressed.



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Delivery Address: PO Box 21 NHULUNBUY NT 0881

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Community Affairs Department Reply Paid 21 NHULUNBUY NT 0881

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# **2** EIS NEWSLETTER

#### SEPTEMBER 2003

# Welcome to this second

newsletter about the Environmental Impact Study (EIS) for the Alcan Gove Third Stage Expansion Project.

This newsletter provides an update about the environmental assessment process that is being undertaken for the proposed expansion of the existing alumina refinery located on the Gove Peninsula in the Northern Territory.

This is the second of three newsletters to be produced during the project's EIS process to update stakeholders and the community on progress of the project.

The newsletter tells you how you can become involved in the EIS process. If you have questions about the proposal, we want to hear from you.

## ALCAN

Alcan Gove is the operator of the bauxite mine and alumina refinery at Gove. Alcan Gove is wholly owned by Alcan Inc (Alcan). Alcan is the parent company of an international group operating in many aspects of the aluminium and packaging industries. Alcan has 48,000 employees in 38 countries where it successfully operates bauxite mines, alumina refineries, aluminium smelters, and aluminium semi-fabrication and packaging plants.

The existing Alcan Gove operations consist of a bauxite mine and refinery which converts the bauxite into alumina. Alumina is an intermediate product in the manufacture of aluminium. The alumina from Gove is exported from the refinery to aluminium smelters around the world.



# **Overview**

Alcan is continuing to investigate the feasibility of expanding the capacity of the Gove refinery from 2.0 million tonnes of alumina per year to 3.5 million tonnes per year.

Since the last newsletter the NT Government guidelines for the Environmental Impact Statement (EIS) have been published and studies addressing each guideline are being undertaken. This will allow Alcan to assess the likely impact of the refinery expansion on the environment.

The objectives of the proposed expansion are:

- Maintenance of Alcan's internationally competitive position;
- Longer term security for the Gove operation; and
- Improvement of environmental performance.

The feasibility study will integrate and co-ordinate the following four areas of upgrade to the operations.

• The main refinery upgrade will involve the installation of new plant and equipment, which will integrate into the existing refinery processes. Infrastructure services will be augmented to meet the demands of the additional refinery capacity.



- Liquor Purification. This is a process designed to reduce the caustic content of the residue and to enable maximum recycling of caustic liquor. Alcan Gove will only commit to this project once it is established that all appropriate environmental and health guidelines can be met.
- Liquor Storage Reduction. One of the options being investigated is the neutralisation of the surplus alkaline liquor and a small proportion of red mud.
- Gas to Gove. Alcan has entered into a Heads of Agreement for the supply of natural gas to Gove in time for the commissioning of the Third Stage Expansion. This will replace the fuel oil which is currently used.

Alcan aim to submit the EIS to the NT Government in early November 2003. The EIS will be put on public display for at least 6 weeks when comments can be made to the NT Government. Alcan will then submit any additional information requested by the NT Government. It is expected the NT Government will then decide whether to approve the EIS in March 2004.

It is expected that the feasibility study will be completed by mid-2004. If the project is approved from Alcan in Montreal, it is expected that construction of the expansion will begin in the third quarter of 2004 with commissioning beginning in the third quarter of 2007.

#### **Overview of Environmental Effects**

Implementation of the expansion project will have the following environmental effects.

Natural gas is a much cleaner fuel than oil and it will result in significantly reduced emissions of sulfur dioxide and particulates from the refinery operations. It is possible that gas may not reach Gove in time for the expansion. Plans are being developed for these possibilities.

- Process equipment will use less electricity, which will reduce greenhouse gas emissions, including carbon dioxide.
- Improved standards of bunding and drainage control at the refinery will reduce the risk of any spills or leaks of contaminants to the natural environment.
- There will be no new discharge points from the site to Melville Bay.
- ▶ The liquor neutralisation process would render the waste water and runoff from the residue disposal area saline and suitable for discharge to the marine environment. This will reduce the volume of waste water stored at the residue disposal area enabling operations to continue within the existing area until 2015.
- There will be no additional heat load discharged to Melville Bay as a result of the third stage expansion.
- Noise modelling has indicated that there will be no noticeable increase in noise levels in surrounding residential areas as a result of the additional plant and equipment.
- The existing residue disposal operations will continue as at present but at a faster rate. The final height of the residue will not be any higher than what has already been approved.
- New bores will be required at the existing borefield to provide additional water supply. Modelling has indicated that the new bores will not have any significant effects on existing water flows in either Yirrkala Lagoon or in the Latram and North Rivers.
- Vegetation clearing will be minimised and disturbed areas not required for operational purposes will be rehabilitated.

- The on-site construction workforce is expected to peak at approximately 1,000. They will be accommodated in specially built temporary accommodation to be established near the army depot on Arnhem Road at the site of the original construction accommodation facilities.
- The additional operation workforce for the expanded refinery is still being investigated.

#### FEEDBACK

The attached feedback form is provided if you would like to comment, ask questions or be kept informed of the study process. Please complete the form and send it reply paid to the study team by Tuesday, 30th September 2003 at the following address:

Alcan Gove Expansion EIS Community Affairs Department Reply Paid 21 Nhulunbuy NT 0881

Alternatively you can contact the study team at:

freecall: 1800 199 283

website: www.alcangove.com.au

MAIL: Alcan Gove Expansion EIS Community Affairs Department PO Box 21 Nhulunbuy NT 0881

#### EMAIL:

communityaffairs@alcangove.com.au



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Please take a moment to complete this form, then fold and staple or tape it closed, and drop it into the nearest mailbox. Postage is free. Please add extra pages if you need more space.

	I am a resident.		I am a business owner.
	I represent a group or organisation. Which organisation?		Another interest. Please identify:
	Please keep me informed of the pr	rogress of the	EIS process.
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Postal Address:		
Phone:	Fax:	

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Thank you for your time and input.

Your comments will help the Study Team and Alcan ensure that all relevant environmental issues are addressed.



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#### Proposal to expand The Alcan Gove Alumina Refinery

Draft Guidelines for the Preparation of an Environmental Impact Statement

#### **Public Comment Invited**

The Northern Territory Government has received from Alcan Gove Pty Ltd a proposal to expand the Alcan Gove Alumina Refinery near Nhulunbuy on the Gove Peninsula.

To assess the nature and extent of environmental impacts arising from the proposed expansion, the NT Minister for the Environment and Heritage has determined that the proposal should be assessed under the Environmental Assessment Act at the level of an Environmental Impact Statement (EIS). Alean Gove is expected to refer the proposal to the Commonwealth for a determination on whether assessment under the Environment Protection and Biodiversity Conservation Act will be necessary.

Draft Guidelines have been developed for the preparation of the EIS and may be obtained from

Northern Territory Government Department of Infrastructure, Planning and Environment Ms Karen Moir of the Office of Environment and Heritage by telephoning (08) 8924 4139. The draft EIS Guidelines will also be available through the Department of Infrastructure, Planning and Environment internet site (www.lpe.nt.gov.au/eia) 1

Interested persons and organisations wishing to comment on the draft EIS Guidelines are invited to make written submissions on or before Tuesday 13 May 2003 to:

Ms Kath Nash Office of Environment and Heritage Department of Infrastructure, Planning and Environment GPO Box 1680 DARWIN NT 0801

Alternatively, submissions will be accepted by fax (08) 8924 4053 or email kathy.nash@nt.gov.au

www.ipe.nt.gov.au