

## Dam the Environment: The Case Against Noranda's Proposed Aluminum Smelter in Patagonia, Chile<sup>1</sup>

by

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*This article provides an overview of the issues covered in a March 6, 2003, event of the same title, co-sponsored by CERLAC and the Halifax Initiative, featuring Peter Hartmann of CODEFF- Aysén in Patagonia, Chile, who is also the Coordinator of the Citizens' Committee for the Defense of the Aysen Life Reserve and spokesperson for the Aysen Life Reserve Alliance.*

The Aysén region of Chile is thought to be one of the three least contaminated areas on the planet. Residents of the region have declared Aysén a "Life Reserve." Yet Noranda has proposed an aluminum smelter in the region that would produce more than 1.5 million tonnes of solid and gaseous waste per year.<sup>i</sup>

### Introduction

The Alumysa aluminum smelter is a \$2.75 billion (US) project proposed by the Canadian giant, Noranda.<sup>ii</sup> Alumysa has been met with great opposition by a large number of Chilean and international organizations who are concerned about the devastating impacts this project will have on the fragile ecosystem and the people of Patagonia.

The proposed site for the Alumysa aluminum smelter is in Chacabuco Bay, Aysén in the southern Region XI of Patagonia in Chile. This location is 4 km from Puerto Chacabuco and 15 km from the town of Puerto Aysén.

The Alumysa project includes the construction of an aluminum smelter in Chacabuco Bay. As aluminum production is

an extremely energy-intensive process (Noranda estimates that the Alumysa smelter will require 758 MW of energy<sup>iii</sup>), the Alumysa project will require the construction of six dams to feed three hydroelectric installations, on the Cuervo, the Blanco, and the Condor Rivers. The project also involves the construction of a new port on the southeast coast of Chacabuco Bay with docking platforms 185 m long and 40 m wide, a wharf west of the mouth of the Cuervo River, 95 km of access roads, and 79.2 km of power lines of 220 KV with 40 m towers.

The smelter will have a capacity of approximately 440,000 tonnes of aluminum ingots per year, making it one of the highest producing aluminum smelters in the world. Noranda proposes production of aluminum from alumina imported from Jamaica, Brazil and/or Australia.<sup>iv</sup> The smelter is estimated to have a 50-year life span.<sup>v</sup>

### The environmental risks of Alumysa

The Aysén region of Chile is thought to be one of the three least contaminated areas on the planet. Residents of the region have declared Aysén a "Life Reserve". It is an area that is rich in native forests and pristine water resources.<sup>vi</sup> Since the glaciers retreated less than 12,000 years ago, Aysén has unique, recent, and fragile life. If the Alumysa project is approved, this pristine area will be destroyed by the continuous toxic emissions to the atmosphere. The smelter will generate emissions of polycyclic aromatic hydrocarbons (PAHs), fluorides, carbon coke powder, pitch, sulphur anhydrides (precursor to acid rain), carbon dioxides,

and nitric acids 24 hours a day for 365 days a year.<sup>vii</sup> Particulate fluorides and particulate organic matter are highly carcinogenic. These emissions total over 1.4 million tonnes per year<sup>viii</sup> and would contribute to greenhouse gas effects and climate change, destroy vegetation and wildlife habitat, inhibit vegetation growth, accumulation of toxics in the food chain, osteoporosis in animals and humans, and acid rain.<sup>ix</sup> Although Noranda claims it will install filters and take other measures to reduce the levels of contaminants within the range required by Chilean environmental legislation, it has broken promises like these before. For example, its dioxins and furan emissions at the Magnolia magnesium smelter in Canada are 57.7 - 32.2 times higher than predicted.<sup>x</sup> Furthermore, while it is still unclear the type of technology, Noranda proposes to use, the projected carbon dioxide emissions indicate that it may not be the best technology available.

The smelter would produce approximately 1.5 million tonnes of gaseous and solid waste per year.<sup>xi</sup> Solid waste products would contain fluorides, cyanide, and other toxic elements such as arsenic, depending on the origin of the raw materials.<sup>xii</sup> Putting toxic smelter wastes such as fluorine, enriched alumina, cyanide, arsenic, heavy metals, tires, used motor oils, and industrial lubricants and solvents in landfill will be permanently damaging to the flora and fauna in this fragile ecosystem.<sup>xiii</sup> The principal problem is a potential filtration or leaching of subterranean water into the bay.

<sup>1</sup> This case study first appeared in "Seven Deadly Secrets: What EDC does not want you to know", a publication of the NGO Working Group on the EDC, a Working Group of the Halifax Initiative, January 2003. The full publication is available on-line at <http://www.halifaxinitiative.org/hi.php/EDC-pub/>

The Medical Association of Chile released a report on the effects of aluminum smelters in November 2001.<sup>xiv</sup> Fluor, aluminum and petcoke are some of the polluting elements that bring with them great health costs. An increase in sulfates and sulfuric anhydrides provokes acid rain and consequently damages agriculture and vegetation. Methods for reducing aluminum may also liberate potentially carcinogenic elements. The Medical Association's report also includes other health problems such as electromagnetism, heavy metal contamination, ozone layer and greenhouse effects.

The hydroelectric plants will flood 9,598 hectares and damage another 602 hectares. The Blanco River dam will be 116 metres high or more and will be situated only a few kilometres upriver from the town of Puerto Aysén. The dams at the Cuervo River will be 70 and 62 metres high and the water levels of the lakes will rise 60 metres. There is risk that they will filter water from the Tabo River valley, tributary of the Los Palos River which flows to Puerto Aysén. There is also the risk that the level of water will rise and that the moraine dike will not resist, which threatens to flood the entire valley below and especially the town of Puerto Aysén.

According to CONAF, the Chilean Forest Service, a total of 10,200 hectares of native forest and farmland will be devastated by the Alumysa project.

Finally, the Aysén area is geologically fragile and unstable. It is prone to landslides, and there are traces of tidal waves. There are three active volcanoes in the area - one of which last erupted in 1991. The proposed aluminum smelter will be situated close to the Lipingue-Ofqui fault - where the intense 1960 Valdivia earthquake originated.<sup>xv</sup>

#### **Social risks of Alumysa**

Chile, known internationally for its salmon, risks losing a billion-dollar industry with the construction of this aluminum smelter. Hake fisheries also constitutes an important export to Spain. In addition to the questions around liquid and solid waste disposal, there is fear that increased traffic in Chacabuco Port could disrupt the many salmon and trout farms and destroy the tourism and fishery industry.

Although Noranda says that the Alumysa project will create 8,100 construction jobs at its peak, employ 5,000 people indirectly throughout the life of the project, and

provide 1,100 direct permanent jobs<sup>xvi</sup>, there is no firm commitment made to hire members of the local population. Although Noranda has stated that they will carry out a training program to strengthen the local qualified labour supply, it has also publicly stated that it plans to contract labour from outside the region if sufficient skilled labour cannot be found from within.

The Environmental Impact Study (EIS) states that Noranda expects 16,000 new inhabitants to arrive in the Aysén region, which could have serious social impacts on the local population. The town of Puerto Aysén currently, has a Population of 18,000 people. Over 5 years, an average of 3,100 unemployed people will be expected to descend upon the region. In particular, the demand for 8,000 temporary construction workers during one quarter of the third year of the construction phase could bring social problems, including alcoholism, drug addiction, and prostitution.<sup>xvii</sup>

The dams will submerge 44 farms. Noranda has not consulted the majority of the owners of these farms who will be directly affected (displaced) by the Alumysa project in the preparation of its EIS.<sup>xviii</sup>

Noranda filed an EIS before COREMA, the Regional Environmental Commission of Chile in August 2001. The EIS is a series of 24 documents weighing 1,200 kg (2640 pounds), to which Chilean citizens and the Chilean government had only 60 days and 120 days respectively to respond.

Despite the short time period for review, more than 1,400 criticisms of this EIS were presented by a number of different groups to COREMA. Noranda's EIS is vague, lacks detail and rigorous technical analysis. For example, there is no exhaustive chemical profile of liquid and solid wastes and the resulting contamination from landfill runoff and waste contact with rainwater runoff. Baseline flora and fauna data collection methods are vague and not inclusive of the entire area. There are no mitigation and follow-up plans, no emergency or contingency plans in the case of accidents or unexpected high levels of contamination, no water contamination estimates, no potable water supply contamination risk estimates for the towns of Chacabuco and Aysén, no accumulative air quality contamination estimate, no plan or detail on the proposed spent cathode treatment plant, and no

environmental impact estimate for the salmon culture activity.<sup>xix</sup>

Chilean environmental authorities noted their serious concerns with the EIS to Noranda and asked that more information be made available. Noranda was given 180 days (until the end of August 2002) to produce this information, at the end of which it requested a 2-month extension. A 9-volume response was finally filed at the end of October 2002, to which the government had 20 working days to respond. There remain serious concerns about this project. According to Alumysa's general manager Robert Biehl, COREMA will submit a new document with observations at the end of December 2002, to which Noranda will respond within 5 months. CONAMA (Chile's national environmental commission) says that the public service has 20 days to answer, but that COREMA has not released its schedule.

The Alumysa project has been met with strong Chilean and international opposition. The Aysén Life Reserve Alliance, made of more than 20 environmental, community, and law groups and formed in response to the Alumysa project, is the most important environmental coalition in Chile. In addition to this alliance, the campaign has been joined by the Salmon and Trout Producers Association, the Terram Foundation and the tourism chambers of Coyhaique and Puyuhapi.

Constramet, the union of metallurgical workers in Chile that represents Noranda workers, has opposed building the smelter arguing that the creation of a few hundred short-term jobs does not warrant the destruction of the environment and the livelihood of the local inhabitants. Internationally, this campaign is supported by a growing number of organizations such as the International Rivers Network, Greenpeace, NRDC, Futafriends, Coalición Rios Vivos, Patagonia leaders of Avina.

#### **The financial risks of investing in Alumysa**

Noranda is in the process of securing financing for this \$2.75 billion (US) project.

Noranda admits the company is vulnerable to "fines, penalties, liability for clean up costs, damages, and the loss of 'important permits' as a result of 'failure to comply with environmental legislation' and that they "cannot assure you that we will at all times be in compliance with all environmental regulations or that steps to bring us into compliance would not mate-

rially adversely affect our business, financial condition, liquidity and results of operations".<sup>xx</sup> They link their vulnerability to "how stringently the regulations are implemented by the permitting authority."<sup>xxi</sup> Noranda says that insurance coverage for "property, business interruption and liability" "may not provide sufficient coverage for losses related to these or other risks or hazards, and our insurance coverage may not continue to be available at economically feasible premiums, or at all."<sup>xxii</sup> Noranda maintains that "insurance against certain risks, including, certain liabilities for environmental pollution, may not be available to the Company or to other companies within the industry."<sup>xxiii</sup> The company should be encouraged to provide shareholders and stakeholders information on the level of insurance held at its operations and the gap between independently assessed risks and the level of insurance held.

In August 2002, a Chilean environmental law group called FIMA filed a lawsuit before the courts to annul the water rights for the development of the Alumysa project. Noranda had obtained the water rights for the Cuervo River, the site of one of the three electrical plants which will power the smelter, but the water code regulations governing the assessment of the total river flow were not complied with during the granting of these rights. In filing for the water rights, "Proyectos de Aysén", Alumysa's predecessor, claimed that the Cuervo River originates in the Yulton Lake, but in fact it originates in Muellin Lake, several kilometres south of Yulton Lake.

Finally, the Alumysa project is in the heart of Noranda's overall investment strategy in South America. Noranda has aggressively moved into Chile (20% of its holdings are in Chile, second only after their 53% holdings in Canada<sup>xxiv</sup>), with interests mostly in copper mining and smelting. For example, the expansion of Noranda's Chilean Altonorte smelter will allow Noranda to double its concentrate treatment capacity from 400,000 tonnes to 820,000 tonnes per year.<sup>xxv</sup>

This expansion in South America comes at a challenging time where Noranda is shutting down its smelters in Canada and is lethargic in its negotiations with Canadian workers.

### Epilogue

On two occasions, the NGO Working Group on the EDC wrote Export Devel-

opment Canada to inquire as to whether plans are underway for EDC to fund the project, or whether it proposes to do so in the future.

On both occasions, EDC replied that its obligations of confidentiality to its clients prevented it from discussing transactions, proposed or rejected.

According to representatives at Noranda, EDC is not (yet) involved with its Alumysa project in Southern Chile. The project is still in the EIS process and Noranda has stated that before proceeding to the development stage it will require the necessary environmental permits, and will need to secure one or more partners in the project. Until those two important criteria are met, Noranda will not seek financing from any credit agencies including the EDC.<sup>xxvi</sup>

While this sheds light on the status of EDC's current involvement, it does not preclude their later funding of this controversial project.



### Relevant CERLAC publication:

*Canadian Mining Companies in Latin America: Community Rights and Corporate Responsibility* Report prepared by Tim Clark. January 2003.

[http://www.yorku.ca/cerlac/ABSTRACT\\_S.htm#MINING](http://www.yorku.ca/cerlac/ABSTRACT_S.htm#MINING)

CERLAC also has a video on Alumysa titled "Corazon Verde."

### Websites of interest on the Alumysa campaign:

<http://www.noalumysa.cl>

[http://www.nativeforest.org/action\\_alerts/alumysa\\_8\\_29\\_02.htm](http://www.nativeforest.org/action_alerts/alumysa_8_29_02.htm)

<http://www.halifaxinitiative.org/updir/secrets.pdf> (Halifax Initiative report; includes a case study on Alumysa)

### To join the Yahoo Group listserve on the Alumysa campaign, email:

[aysen-reservadevida@gruposyahoo.com](mailto:aysen-reservadevida@gruposyahoo.com)

### The CERLAC Bulletin

is a publication series of the Centre for Research on Latin America and the Caribbean at York University, that disseminates, in concise format, the principal content of informational presentations hosted by the Centre.

### Contact CERLAC

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### Endnotes

<sup>i</sup> 'CH2MILL, Environmental Impact Assessment of Alumysa Project – Executive Summary'.

<sup>ii</sup> Ibid.

<sup>iii</sup> Ibid.

<sup>iv</sup> Ibid.

<sup>v</sup> Citizen Committee for the Defence of Aysén, Life Reserve, Patagonia under heavy attack by Noranda.

<sup>vi</sup> Citizen Committee for the Defence of Aysén, Life Reserve, Alumysa Project Brief.

<sup>vii</sup> Alliance for the Aysén Reserve of Life, International Campaign against the Destruction of the Aysén Region.

<sup>viii</sup> 'CH2MILL, Environmental Impact Assessment of Alumysa Project – Executive Summary'.

<sup>ix</sup> Alliance for the Aysén Reserve of Life, The Alumysa Mega Project.

<sup>x</sup> Catherine Coumans, December 2002. Magnola Metallurgy Inc.

<sup>xi</sup> 'CH2MILL, Environmental Impact Assessment of Alumysa Project – Executive Summary'.

<sup>xii</sup> Alliance for the Aysén Reserve of Life, The Alumysa Mega Project.

<sup>xiii</sup> Citizen Committee for the Defence of Aysén, Life Reserve, Patagonia under heavy attack by Noranda.

<sup>xiv</sup> Colegio Médico de Chile, Posibles efectos sobre la salud del funcionamiento de la Planta Alumysa en la XI Región.

<sup>xv</sup> Peter Hartmann, personal communication.

<sup>xvi</sup> 'CH2MILL, Environmental Impact Assessment of Alumysa Project – Executive Summary', 27 pages.

<sup>xvii</sup> Citizen Committee for the Defence of Aysén, Life Reserve, Patagonia under heavy attack by Noranda.

<sup>xviii</sup> Ibid.

<sup>xix</sup> Ibid.

<sup>xx</sup> Noranda, Prospectus Supplement, June 18 2002.

<sup>xxi</sup> Noranda, Annual Information Form, May 3 2002.

<sup>xxii</sup> Noranda, Prospectus Supplement, June 18 2002.

<sup>xxiii</sup> Noranda, Annual Information Form, May 3 2002.

<sup>xxiv</sup> Noranda Website.

<sup>xxv</sup> Ibid.

<sup>xxvi</sup> Personal Communication with Dale Coffin, Director, External Communications, Noranda Inc.