

Environmental Classification: This is a category III project according to the IIC's environmental and labor review procedure because specific impacts may result that can be avoided or mitigated by adhering to generally recognized performance standards, guidelines, and design criteria. The environmental and labor considerations related to the Project include the following: atmospheric emissions, liquid effluents, solid waste, hazardous materials management, fire safety and firefighting, and labor issues.

Environmental and Labor Considerations: The Oro Negro refinery is located in the town of Tundy, 40 km from the city of Santa Cruz, next to the La Peña oilfield (Empresa Petrolera Andina), which is its main source of crude oil for refining and to which it is connected by crude oil and gas pipelines. The refinery stands on two hectares of land; approximately 50% of the area is green space. The crude oil is processed by heating in two fractioning stages to obtain light gases, naptha, diesel fuel, and reduced crude.

An "Environmental Impact Assessment" (EIA) for the Oro Negro refinery construction project was prepared and submitted to the Bolivian environmental authorities in October 2000; it includes a Prevention and Mitigation Plan (PMP) and an Environmental Action and Monitoring Plan (EAMP). The Oro Negro refinery obtained an environmental license issued by the environmental authorities on 13 December 2000 and an operating license issued by Bolivia's Superintendencia de Hidrocarburos on 30 April 2002. The Company also holds a certificate of registration with the Dirección General de Sustancias Controladas, the federal regulatory authority, issued on 31 July 2002.

Pursuant to current Bolivian environmental regulations, in October 2002 the Company engaged a local consulting firm to carry out an Initial Environmental Survey of its operations to verify implementation of preventive and environmental impact mitigation measures in the various areas and during each hydrocarbon refining, storage, and transport process. At the camp for refinery workers, the Company inspects for appropriate management of solid waste and sewage, as well as healthy conditions.

Water for basic cleaning purposes at the camp is the same water that is stored in the fire pumping room, and water for direct human consumption is brought in jugs from Santa Cruz.

Atmospheric Emissions: The operation of heavy construction equipment such as tractors, power graders, compactors, back hoes, cranes, and welders can temporarily impact air quality by increasing atmospheric emissions (combustion gases and particles) and generating noise during the civil works and mechanical construction phases of the refinery expansion project. This effect will be mitigated by maintaining the equipment properly and wetting the soil to reduce the amount of dust that is raised.

The operating phase uses equipment run on natural gas, which is a relatively clean fuel. At the refinery, natural gas is used as a fuel for the DFS (Distillate Fuel System) distilling unit thermal oil heater and to run the 195 KW electrical generator at 13,000 Btu/KW-hr. The diesel engines will be inspected and maintained to mitigate air and noise pollution. The Company will engage an authorized, specialized laboratory to monitor these emissions.

Preventive and mitigation measures are planned for volatile hydrocarbons during operation, fugitive emissions from valve and fitting leaks, tanks for storing crude and other products, and accidental hydrocarbon spills, as well as spills when filling tanks. These measures include using tanks that meet the standards for the substance they will contain, maintaining facilities and equipment properly, and following good operating procedures for filling tanks.

Liquid Effluents: In compliance with applicable regulations, all of the refinery processes have liquid industrial waste spill containment areas connected to each other and to canals leading to an API pond (oil-water separation system to separate hydrocarbons from water). Effluent from the API pond will meet the required quality standards. Process water with hydrocarbons also flows to the API pond for treatment. Rainwater drainage ditches line the perimeter of the refinery. An open sewer system catches rainwater from the central area of the refinery, and pipes lead to the API pond where the rainwater works as a solids trap and recovers hydrocarbon residue; only the water gets through, and it subsequently empties into a drain at the northern end of the pond. Human sewage from the refinery is treated in septic systems and an absorption well.

Solid Waste: Solid domestic waste is collected in trash bins located throughout the refinery that should be marked for trash classification.

At the workers' camp there is an area for collecting non biodegradable trash. An authorized company regularly trucks this trash to a municipal dump for appropriate disposal.

Handling of Hazardous Materials: On 6 February 2001, the pertinent federal authority granted the refinery a registration and license for working with hazardous materials. The crude oil is supplied from the La Peña (Empresa Petrolera Andina) field through a 3-inch, 500-meter pipeline under international ANSI B31.4 specifications for pipelines that carry liquids, with an operating license issued on 3 May 2002 by the Superintendencia de Hidrocarburos de la Paz. The crude oil received is stored in a 5,000-barrel tank that meets safety specifications. On 3 May 2002, the Superintendencia de Hidrocarburos de la Paz also granted the refinery a license to operate the gas pipeline from the La Peña field to the Oro Negro refinery.

The hydrocarbon storage tanks are adequately maintained (covered with anticorrosion paint) and bear a hazmat sign that identifies the safety measures required for these materials. The entire perimeter of the area is protected by containment walls that can contain 110% of the capacity of the largest volume tank, according to applicable regulations. There are "No Smoking" signs in the areas where fuel and other inflammable materials are stored.

The lubricant tank between the administrative area and the electrical generators has a shed and a cement base in conformity with required safety measures, and a containment wall is being built.

Fire Safety and Firefighting: The entrance to the Oro Negro refinery has a guardhouse, security signs, and signs identifying the meeting point in the event of an emergency. The perimeter floor of the central area of the refinery where the refining processes take place is covered with gravel and stone to protect the soil, and at the entrance to this area there are signs requiring the use of personal protection equipment. The motors that generate electricity for the refinery (two run on gas and one on diesel fuel) are in a shed. The perimeter is kept free of trash and has safety signs.

The company and its workers are governed by the 2 August 1979 Decreto Ley de Higiene y Seguridad Ocupacional (Occupational Health and Safety Act). The Company provides its employees with supplies and personal protection equipment according to the type of work they perform. The Company will make sure that all of the workers use the equipment, especially the ear protectors in the noisiest areas (heater, cooler, and electrical generators).

The Company has a contingency plan, a communication protocol in the event of accident or incidents, and a refinery evacuation plan with information and contact data. There are portable class A, B, and C extinguishers at specific points throughout the facilities and buildings, in keeping with the location map prepared by the company pursuant to applicable regulations.

There is a complete firefighting water system for use in the process plant, the heating plant, the power plant, the tank yard, the tanker loader, and in the control, laboratory, administrative, and maintenance-warehouse buildings. The system consists of a 2,000-barrel water tank sufficient to fight fires for more than 2.5 hours at 500 gpm. The main pump has a capacity of 500 gpm at 125 psig, sufficient to operate two or three hydrants/monitors at a time. The facilities seem to be well maintained, and they are identified with signs. The fire curtains are in good condition. All of the fire hydrants in the refinery are connected to the water storage tank on the western perimeter. The design of the electrical installations and the selection of the equipment and materials used in the process areas and the stationary tanks are planned in conformity with API RP 500 standards and specifications established by specialized agencies. There are grounding circuits for grounding the plant equipment and lightning rod.

When the facilities are abandoned at the end of the Project's useful life, the demolition of structures and buildings and the disassembly of tanks, pipelines, and equipment, etc., will no doubt have impacts the prevention or mitigation of which will be provided for when planning the subsequent use of the land.

Labor Considerations: As part of its labor policy, the Company is committed to complying with national and international labor regulations at all times. There are internal regulations that are binding for the company and for the employees, who receive a copy as part of the employment contract when they begin work. The effective workday is eight hours a day, forty-eight hours a week. Wages are based on a set scale of categories and include a base salary plus the benefits established by law (seniority bonus, health care, and vacation time, among others). The employees are hired in conformity with the minimum working age established by law, and they are free to join labor unions. There is a camp for refinery workers. It has new facilities that meet the basic requirements for housing the workers.

Oversight and Compliance: The Company will be required to implement an Environmental Management Plan acceptable to the IIC. The plan must include (1) a description of planned improvements to the company's safety and environmental protection systems; (2) a schedule for implementing all of the environmental and safety measures mentioned herein; and (3) the components that are subject to yearly oversight. Throughout the project, the IIC will ensure compliance with its own environmental and labor policies, review the verification reports that the Company submits regularly, and make field visits as part of the project supervision process.