

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. During project appraisal the following environmental and social issues were analyzed: legislation, liquid effluents, atmospheric emissions, solid and hazardous waste, use and storage of materials, occupational safety and health, and other labor issues.

Legislation: CARDIQUE (Corporación Autónoma Regional del Canal del Dique), a regional entity created by Law 99 of 1993, is the environmental authority responsible for environmental management and natural resources in the District of Cartagena, where Lamitech is located, and twenty municipalities in the northern and central regions of the Department of Bolívar, pursuant to provisions of Colombian law and the policies of the Ministerio del Medio Ambiente [Ministry of the Environment]. On October 5, 2004, Lamitech asked CARDIQUE to pay a technical visit as part of the procedure for obtaining a permit to build its warehouses, install a new press line, and carry out the project. Lamitech is in the process of implementing ISO 14001 certification and has scheduled a certification audit for May 2005.

One of the action programs included in the 1994-1998 National Environmental Plan is Clean Production, and the strategy to implement Clean Production has focused on the drafting of consensus agreements beginning with the execution (on June 5, 1995) of the "Clean Production Framework Consensus Agreement" by the Ministerio del Medio Ambiente, as coordinator of SINA, the government-owned mining and energy sector companies, and the twenty-five leading trade associations in Colombia.

In this context, on September 25, 1995, a "Clean Production Consensus Agreement with the Mamonal Industrial Sector" was executed by the Ministerio del Medio Ambiente, CARDIQUE, DAMARENA (Environmental Management Department of Cartagena), and Fundación Mamonal, representing the Mamonal Industrial Zone companies affiliated with Fundación, including Lamitech.

In 1996 and 1997, terms of reference for drafting Environmental Management Plans were agreed to for eight sectors of the Mamonal Industrial Zone, including the plastics sector, which includes Lamitech.

In order to comply with the Clean Production Agreement, on July 30, 1998, Lamitech submitted to CARDIQUE its Environmental Management Plan (EMA) for operating its laminates production plant. In March 2000, Lamitech submitted to CARDIQUE a Supplement to its PMA and obtained a permit to operate the industrial plant.

Liquid Effluents: The industrial zone has no sewer system. Waste water generated is discharged into septic tanks located at the plant, with a capacity of 18 m³. There is a separate rainwater drainage system, which runs into Cartagena Bay.

The industrial wastewater generated is minimal and flows into a pool. After the pH is adjusted, it is used to water green spaces. There are liquid effluents from purging the boilers as well as from the resin production process at the chemical plant (water with traces of phenol). Liquid effluents are also generated during equipment maintenance work, including residues from cleaning the impregnating machines and resin preparation tanks. In compliance with local environmental regulations (Article 3, Resolution 0216 of April, 1996), the quality of the liquid effluents is monitored periodically; the local environmental authority (CARDIQUE) issues four ratings each year through its Environmental Quality Laboratory. The IIC will ensure that Lamitech continues to monitor the quality of its effluents and complies with any resolution issued by the environmental authorities.

Atmospheric Emissions: The principal sources of gaseous emissions are the steam boilers, thermal oil heaters, and a solid waste incinerator. However, the impact on the atmosphere is mitigated by the use of natural gas as fuel for the combustion processes, because natural gas is a relatively clean fuel. All the boilers and heaters run on natural gas. There is a gauge to monitor how efficiently the boilers are operating. There is also control equipment that burns any residual gases discharged by the incinerator in order to control gaseous emissions. Lamitech periodically monitors emissions of particulate matter and other pollutants discharged in incinerator operation, as required by local environmental regulations (Resolution 0058 of January 21, 2002).

The principal emissions of particulates in suspension into the atmosphere result from the cutting and sanding processes. The emission of particulates is controlled by a dust collection system using ducts connected to the sources of dust. The dust collected is piped to a machine that compacts the dust into logs, which are then sold to brick-making companies for boiler fuel. Lamitech thus achieves savings on final disposal of this dust, which would otherwise involve a cost for disposal in a sanitary landfill. Lamitech periodically monitors emissions of particulate matter, as required by local environmental regulations (Resolution 0674 of November 20, 1996).

The company periodically brings in a specialized consulting firm to assess work environment noise levels. In some areas of the plant, there is a high noise level. In order to mitigate its effect, workers use the required ear protection equipment.

Solid and Hazardous Waste: The Company does not generate hazardous solid waste. The solid waste that Lamitech generates is divided into recyclable and nonrecyclable waste. The nonrecyclable waste (industrial solid waste) is hauled away by a private company that has the permits required by law to provide this service. The recyclable waste primarily consists of plastic, cardboard, pvc, paper, and wood, and these materials are donated to a foundation that sells them. Impregnated paper waste is also generated, and it is turned over to a local firm for final disposal. Domestic solid waste is disposed of by a sanitation company.

Use and Storage of Materials: There are no polychlorinated biphenyls (PCBs) in the electrical equipment. The transformers use naphthene oils, which are hauled away by the supplier when the oil is changed. There are two lithium bromide cooling units and no chlorofluorocarbon (CFC) cooling units. No solvents are used. There are phenol and formol and other substance storage tanks at the facilities. There are no underground tanks, they are aboveground and have appropriate containment walls to handle spills.

Occupational Safety and Health: Lamitech has an individual responsible for occupational safety and health issues and has written worker safety and hygiene procedures. It also has a complete emergency prevention and control program and participates in a program to handle technological emergencies (APELL Manual) that may occur in the Mamonal Industrial Zone. The community training and preparation work the companies belonging to Fundación Mamonal have carried out in a village bordering the industrial zone (Pasacaballos) has been recognized by the United Nations Development Programme (UNDP) Environmental Management Programme.

All machines have guards on moving parts in order to prevent accidents. Work areas have adequate illumination, and fans are used to bring in fresh air. There are fire extinguishers and fire cabinets with hoses, foggers, a hydrant, and other necessary fire fighting equipment on the premises. Lamitech is, however, improving its fire fighting system with advice from a specialized local firm. It has made several investments, including building a small fire station that will have two pumps, and it has added a firefighting water line, installed fire alarms in industrial services areas, and two fire monitors for dust collectors and raw materials storage tanks, and has installed an automatic spark extinction system in the dust collector. Other improvements are scheduled for completion in early

2005; they include the installation of sprinklers in the raw materials warehouse, improvements to the ventilation system, relocation of changing rooms, and updated signage at the facilities. The signage project includes work areas, hallways, storage areas, evacuation routes and other safety signage and is underway, with about 60% of the plant signage updated.

In certain areas of the plant the noise levels exceed those recommended by the Ministry of Labor, Social Security, and Health pursuant to Resolutions 08321 of 1983 and 1792 of 1990. In these areas, workers have ear protection equipment that reduces noise levels by the equivalent of 23 db. Lamitech performs periodic work environment noise level assessments and ensures that workers use the ear protection provided.

The IIC will require that Lamitech continue to make any necessary improvements to its fire fighting system and complete the scheduled improvements to its facilities.

Labor Considerations: The Company complies with Colombian labor laws, and its internal work rules have been approved by the Ministry of Social Protection. The Company's labor policy includes freedom of association and the right to form a union, and bars child and forced labor. All workers are over the age of eighteen, as established by Colombian law, and they participate in decisions regarding working conditions. There are a cafeteria, changing rooms, and bathroom facilities on the premises. There is a training program, and participation is recorded in the attendance control records of the staff development area.

Oversight and Compliance: The IIC will verify that the Company continues to implement the environmental management plan in a manner consistent with IIC standards. The plan must include at least (1) obtaining the requisite environmental license; monitoring industrial effluents and atmospheric emissions; taking measures to preserve occupational health and workplace safety; (2) setting up a timeline for implementing all of the environmental, safety, and labor standards measures cited herein; and (3) determining the issues that are to be monitored yearly. Throughout the project, the IIC will ensure compliance with its own environmental and labor review policies, review the verification reports that the Company submits each year, and make regular field visits as part of the project supervision process.