

Environmental and Social Review Summary

Incesa Nicaragua

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed prior to the date on which MIGA's Board of Directors considers the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by MIGA's Board of Directors. Board dates are estimates only.

Any documentation that is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

Country:	Nicaragua
Sector:	Manufacturing – Sanitary Wares
Project Enterprise:	Industria Cerámica Centroamericana S.A.
Environmental Category:	Category B
Date ESRS Disclosed:	July 10, 2014
Status:	Due Diligence

A. Project Description

MIGA has been asked to provide a guarantee for up to ten years for up to US \$12.2 million investment of OC International Holdings of Barbados, a majority owned subsidiary of Organización Corona S.A., which is the parent company of a large ceramics manufacturer group, incorporated in Colombia (“OC” or “Corona”), into Industria Cerámica Centroamericana S.A. of Managua, Nicaragua (“ICC” or “Incesa Nicaragua”). Corona recently acquired Incesa Nicaragua, an existing ceramics manufacturing facility in Managua, Nicaragua (“Project”). Manufactured goods are stored off-site in two warehouses leased by Incesa Nicaragua and then goods are picked up and transported by its customers. One retail store is leased in Managua where goods are showcased to the public. All sites are connected to the municipal services, with process water coming from a ground water well. The sites are zoned for commercial land use in the case of the retail store and for industrial land use in the case of the two warehouses and the manufacturing plant.

The manufacturing plant was established over forty years ago and is approximately 10,700 m². Manufacturing of sanitary ware pieces (e.g., toilets, sinks) consists of preparing the slip (mixture which is poured into the molds to make sanitary ware) and the glaze; pouring the molds; assembling and drying; glazing and firing the pieces; and carrying out quality control inspections before packing the goods for market. The Project will undergo modernization of manufacturing processes over a 2-3 year period. All modernization activities will take place within the existing manufacturing property and comprise of the implementation of formation technologies (casting of pieces) that have been developed by and /or implemented by Corona in several facilities across the Americas to improve quality and competitiveness of the operation. The technological upgrade also includes modifications and upgrade of the drying systems and the upgrade of

spraying and glaze application technologies. Key raw materials (feldspar and silica) are mostly sourced from Guatemala. The plant currently produces about 52,500 pieces per month which are sold mainly in Nicaragua and other countries in Central America.

B. Environmental and Social Categorization

The Project is categorized as a Category B Project because a limited number of specific environmental and social impacts may result which can be avoided or mitigated by adhering to good industry practices and through implementation of an environmental and social management system. Potential environmental and social impacts and risks are related to environmental and social management and monitoring (including of contractors), air emissions, solid and liquid waste management, fire safety and emergency response, worker health and safety practices, labor and workplace conditions, and supply chain management (e.g., source of clays).

C. Applicable Standards

While all Performance Standards are applicable to this investment, based on our current information, the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labor and Working Conditions
- PS3: Resource Efficiency and Pollution Prevention
- PS4: Community Health, Safety and Security

PS 5 (Land Acquisition and Involuntary Resettlement) is not applicable as Incesa Nicaragua has owned the land and buildings at the manufacturing site for several decades, and it leases the warehouses and the showroom on a willing lessor / lessee basis. PS 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resource) is not applicable to the Project as its operations are within an urban setting with little biodiversity. Neither PS 7 (Indigenous Peoples) nor PS 8 (Cultural Heritage) are applicable as the Project is located in an urban setting and there are no plans to carry out soil disturbance / further construction.

The World Bank Group (WBG) Environmental, Health, and Safety (EHS) guidelines applicable to this Project are the General Guidelines, and sector specific Ceramic Tiles and Sanitary Ware Manufacturing.

D. Key Documents and Scope of MIGA Review

The following documents were reviewed by MIGA:

- Summary of Planned Environmental Investments (2014)
- Labor Policies and Contract (2013)

- Environmental Due Diligence report for Nicaragua Plant (2013) (*Due diligence ambiental Incesa Standard Planta, Nicaragua*)
- Health and Safety Risk Assessment (draft) – Incesa Standard (2013) (*Evaluación de riesgos*);
- Minister of Labor Inspections (2013 and 2012) (*Ministerio del Trabajo Inspectoría de higiene y seguridad del trabajo – sector industria y agroindustria*)
- Environmental Management Plan (*Plan de Gestión Ambiental*) for Incesa Standard, Nicaragua, June 2012 and related approval (2012);
- Non hazardous solid waste disposal communication (2012) (*Constancia de no objection depósito de desechos sólidos no peligrosos, en el relleno sanitario de Managua*)
- Contingency and Emergency Control Plan for Incesa Standard (2012) (*Plan de contingencias y control de emergencias*)
- Guide to Emergency Response for Incesa Standard (2012) (*Guía para administración de crisis*)
- Information pertaining to the manufacturing process and to Corona’s supplier selection process.

A MIGA environmental specialist undertook a site visit in February to tour the manufacturing facility, warehouses, and retail store. Meetings were also held with the Ministry of Environment.

E. Key Issues and Mitigation

PS1: Assessment and Management of Environmental and Social Risks and Impacts

Social and Environmental Assessment: As part of Corona’s acquisition of the manufacturing facility, an environmental due diligence study was undertaken to identify areas of environmental concern. Findings from this study included the need to improve the Project’s environmental management plan and practices, to maintain records for the chain of custody of used oil disposal, and documenting procedures for operating the onsite wastewater treatment plant. These deficiencies are being addressed. Corona has represented to MIGA that it is not aware of historical environmental liabilities at the site. Using the findings of the due diligence study and based on Corona’s observations since the acquisition, a two-year investment plan has been developed to improve environmental, health and safety (EHS) practices on site. Corona’s sustainability policies and principles are applicable to all its operations, including Incesa Nicaragua. Corona is currently working with Incesa Nicaragua to ensure that its relevant policies and procedures are integrated into the operations in Nicaragua. An environmental and social action plan will be developed and implemented at the Project.

Management Program and Monitoring: At the corporate level, Corona has an established environmental and social management system (ESMS), and ESMSs at some of its plants are certified to ISO 14001. Corona’s relevant corporate policies will be implemented at Incesa Nicaragua, including an ESMS based on these policies and adjusted to the particularities of the Nicaraguan facility and in line with PS 1. Incesa Nicaragua’s environmental management plan (EMP) (2012) has been approved by the government and Incesa will continue to improve its

ESMS by complementing it with internal procedures and policies based on Corona's environmental, health and safety (EHS) policy; describing the roles and responsibilities related to EHS matters (including training), incorporating investigation of accidents and incidents, and including a section on hazardous materials management. Monitoring at the manufacturing plant is carried out as described in the EMP for air quality, wastewater, sludge, and waste disposal. Incesa Nicaragua has committed to incorporating the applicable WBG effluent and emission limits into its ESMS. Corona has developed an environmental investment program for Incesa Nicaragua for the next 24 months which includes for example, improvements to storage facilities and containment systems, improvements to waste management, and separation of rainwater from waste water. Furthermore, drip trays will be installed, and eye wash stations will be maintained. The production modernization process will also incorporate measures and design to improve environmental performance.

The sites for the warehouse and retail operations are rented, and EHS policies and procedures will be incorporated into the ESMS. As part of Incesa Nicaragua's ESMS, Corona will be implementing its internal policies with respect to suppliers, taking into account PS 1, PS 2 and PS 6.

Organizational Capacity and Training: EHS matters are overseen by the EHS manager onsite at the manufacturing plant. The EHS manager also oversees EHS performance at the warehouse and the retail store. The manager is supported by the various process supervisors in ensuring that mitigation measures are being carried out within the plant. Induction EHS training is provided when new workers (including contractors) join the company. Once a year, refresher training is provided on critical procedures, first aid and fire response, and fork lift operations. In addition, regular supervisor talks and five minute daily talks are used to remind workers of safe work procedures. Workers will be trained related to modernization and upgraded efficiency measures to be implemented.

Emergency Preparedness and Response: An emergency response plan has been prepared for the manufacturing facility. Fire extinguishers and alarms are available and fire fighting water is stored onsite. The Fire Department offered training to the facility's fire brigade in February 2014 on the use of fire extinguishers and basic first aid. This training will continue to be offered on an annual basis. The Fire Department carries out inspections for fire safety, and the Ministry of Labor carries out inspections related to worker health and safety. The latest findings included observations that primary and secondary emergency evacuation routes needed to be maintained, fire exit signage needed to be improved, and additional fire extinguishers needed to be installed. At times, maintaining evacuation routes can be challenging given the limited floor space in the manufacturing facility and current configurations, and limited space in the office corridors. In the meantime, goods and equipment will not block access to electrical panels and fire extinguishers, and goods and equipment will not block marked primary evacuation routes. Evacuation signage at all locations will be reviewed and improved where necessary. Fire drills will be carried out at all locations minimum three times a year.

The company uses LPG as a fuel and all the equipment complies with international industry standards. Gas control systems, and the kiln, furnace and dryer lighting procedures meet industry standards and all equipment will be well maintained. The maintenance of the thermal related equipment (driers, kilns and so on) is performed according to international standards.

PS2: Labor and Working Conditions

Human Resources Policy and Management: Nicaragua has ratified the eight fundamental International Labour Organization (ILO) Conventions addressing forced labour, freedom of association and protection of the right to organize, collective bargaining, equal remuneration, non discrimination, and minimum age.

Incesa Nicaragua has a documented Human Resources (HR) manual defining key responsibilities, procedures covering recruitment, minimum age (18), company rules, ethics, performance evaluation, legal requirements, employment agreements and employment conditions, code of conduct, disciplinary actions and grievance and compensation. There is no discrimination on the basis of personal beliefs, sex or characteristics, and there is no prohibition or discouragement of freedom of association. The Project's Internal Working Regulations was submitted to the Ministry of Labor and it was registered in March 2009.

Incesa employs 350 permanent workers, the majority of which are male and Nicaraguan. The manufacturing plant operates 24 hours a day, with three shifts. No retrenchment of the workforce resulted from the acquisition and none is planned in the near future. Incesa Nicaragua is developing its strategy to address staffing needs so that workers can be reassigned to another area of the production process should automation reduce job opportunities in the various stages of the production process. Should the modernization process lead to retrenchment, Incesa will carry it out consistent with Nicaraguan and PS 2 requirements. The Project is in the process of reviewing its grievance mechanism against that of Corona's and once finalized, Incesa Nicaragua will provide training to workers after it is established. Contractors are obliged to comply with Incesa Nicaragua HR and occupational health and safety policies.

Worker Health and Safety: The Ministry of Labor carried out its most recent inspection at the manufacturing facility in August 2013. As a result of this inspection, the Project has carried out a hazard risk assessment to identify risks. The initial focus has been on higher significance and/or frequency risks within the manufacturing plant. The hazard assessment will be completed by July 2014 and will capture potential health and safety risks related to the warehouse operations and retail store. Other findings from the Ministry inspection included fire brigade training, updating the health and safety plan, improving signage and installing fire extinguishers in the forklifts. These findings have already been addressed by the Project.

Incesa Nicaragua will review its worker health and safety management system as part of its ESMS to ensure it is comprehensive and complies with national requirements and PS 2, including identifying potential hazards to workers, implementing preventive and protective measures, providing worker training, reporting accidents and incidents (including root cause analysis), and implementing emergency preparedness and response procedures.

Currently, the manufacturing process is very labor intensive with molds and pieces being lifted by hand. Ergonomic improvements related to heavy lifting will be identified and applied until alternate processes are implemented such as mechanizing some stages of production. The volume for the back-up beepers on the forklifts will be increased to ensure the alarm is audible for workers.

The EHS manager is certified by the Ministry of Labor to provide H&S training to workers and contractor staff. A mixed H&S committee has been recently established to represent workers and management, independent of the H&S coordinator. This committee meets on a monthly basis and reports to senior management and the H&S coordinator. Drinking water is readily available in the manufacturing facility. Material safety data sheets have been recently updated and will continue to be maintained in Spanish. Personal protective equipment (PPE) is provided to workers, and PPE signage will be reviewed to ensure sufficient and appropriate signage is installed at the various steps in the manufacturing process. Ambient temperatures and high internal heat sometimes makes wearing masks uncomfortable, and the company continues to work with employees to address this. Ventilation in the manufacturing facility near the kilns was recently improved and ceiling fans were installed. This improvement has led to a three degree Celsius temperature reduction near the kiln area. Air quality monitoring in the manufacturing facility will be carried out to monitor particulate levels.

The onsite cafeteria at the manufacturing plant was recently remodeled and food service is provided by a contracted caterer. Bottled water is used for drinking and food preparation areas are kept clean. The company will ensure that windows are screened to minimize flies and pests. Incesa Nicaragua will monitor EHS and food safety aspects in the cafeteria as part of its ESMS.

The onsite medical clinic is only open during the day shift. Common medical conditions reported to the clinic include muscular pain (shoulders and back) and headaches likely caused by heat. Workers who may require medical attention outside the clinic hours are transported to the nearby hospital. Annual medical exams are carried out; and depending on the risks associated to the employee's post these exams include respiratory and auditory testing.

PS3: Resource Efficiency and Pollution Prevention

Resource efficiency: An energy assessment of the operations will be carried out to establish baseline with the goal to identify opportunities to reduce energy consumption per piece of sanitary ware produced. Energy efficiency initiatives will be implemented in 2016-2017 and include plans to re-use heat waste from the tunneling kiln for other uses in the plant such as in the production, and to improve kiln insulation. Other plans include the reengineering of the main core products to reduce the use of materials (weight of pieces) and thus reduce the required energy consumption to process them. An undergoing reformulation of the slip intends among other objectives to increase its density of use, thus reducing the amount of water required in the operation in a per piece basis.

As part of Corona's assessment for resource efficiency and planning, a hydrogeological study will be carried out to determine the recharge rate and capacity of the existing groundwater well providing the process water. The Project will also assess water usage in the Project, including monitoring water usage and establishing control measures to reduce consumption.

Both water and energy (electricity and fuel) consumption will be monitored and reported internally to Corona and Incesa Nicaragua will provide the figures to MIGA through the Annual Monitoring Report, including greenhouse gas reporting.

Air emissions: Sources of air emissions include stack flue gases (SO_x, NO_x, CO, CO₂) and crushing and handling of raw materials (PM). Fine mist water spraying is carried out near the entrance where bulk powder materials are mixed. Glaze spraying is carried out in spray booths. Incesa will establish air quality testing inside the manufacturing facility. Control systems will be installed in critical areas where dust is generated in order to measure quality of air. Air emissions from the stack flue gases for drying and firing kilns and generators will be monitored. Noise monitoring at the perimeter of the site will be carried out.

Solid and liquid waste: High quality standards for the sanitary ware pieces are verified throughout the process; tests and inspections are performed on the pieces to look for defects. The volume of solid ceramic material waste is reduced by in-process recycling. As much as possible, scrap materials are crushed and ground back into the manufacturing process.

Plaster molds which are no longer serviceable are given to concrete plants. Clays are nonhazardous and are disposed in the municipal landfill. Excess slip is recovered and recycled. The storage area for the slip was improved so as to minimize contaminants from other products / wastes. Cardboard used for packaging is recycled and wooden pallets in good shape are reused. Bulk goods bags in good shape are returned to the supplier for reuse, the rest of them are sold. Volumes of excess glaze are captured, reprocessed and reused throughout the process, including glazes which do not pass quality control for colour or other properties.

Water reclaimed during manufacturing is treated onsite for suspended solids using flocculants and a settling pond. Sampling is carried out prior to it being released into the drainage canal located near the manufacturing facility. Parameters sampled once a year include: total suspended solids, BDO, COD, phenols, lead, cadmium, chromo-hexavalent, total chromium, cyanide, copper, nickel, and zinc. Packaging is kept to a minimum. The Project's waste management procedures will be reviewed to ensure that national parameters are met and PS 3 are taken into account as part of the ESMS.

Hazardous materials storage and disposal: Glazes used at this plant do not contain lead. Non hazardous additives are added to the clays or feldspar. Propane is stored onsite for the kilns in a fenced area and signed location. Small quantities of diesel are stored onsite. Improvements to the storage area will be carried out to establish secondary containment and to use compatible materials. Hazardous materials disposal will be reviewed as part of the ESMS.

PS4: Community Health, Safety and Security

Key community health and safety issues are related to traffic management and noise. Natural disasters such as earthquakes are also considered.

The manufacturing plant has been operating for over forty years in the same location. Egress and ingress to the site can be challenging because of the volume of traffic on the main road. The warehouse has adequate space for distributors to arrive and load pallets into their trucks.

Noise will be monitored at the perimeter of the manufacturing facility.

An earthquake affected the manufacturing facility in 1972. Some bent trusses were identified in the administrative section and they were repaired. Earthquake drills are practiced as part of the emergency response exercises.

Security Arrangements: Site security for the Project is provided by a private company that has the permits required by the corresponding regulatory authority (Ministerio de Gobernación). Both the manufacturing plant site and the warehouses are fully fenced with controlled access.

F. Environmental Permitting Process and Community Engagement

The Ministry of Environment and Natural Resources (MARENA) requires an EMP (*Plan de Gestión Ambiental, PGA*) for sanitary ware manufacturing facilities. MARENA approved Incesa Nicaragua's PGA in October 2012. Incesa Nicaragua has been submitting its monitoring data and remains in compliance with MARENA requirements.

Residential houses border the manufacturing plant on one side of the property. Since the acquisition, Incesa Nicaragua has not received grievances from the community. Activities related to stakeholder engagement and an external grievance mechanism will be part of the environmental and social action plan and will form part of the Project's ESMS. The information related to its grievance mechanism will be shared through its internet site and at the Project site.

G. Availability of Documentation

The documentation listed below is available electronically as PDF attachments to this ESRS at www.miga.org:

- Government Approval (2012) of the [Environmental Management Plan](#) (*Plan de Gestión Ambiental*) for Incesa Standard
- [Environmental and Social Action Plan](#).

These documents are also available for viewing at Incesa Nicaragua, km 5 ½ carretera norte, costado oeste de Casa Pellas, Managua.