

## CASE STUDY



# Increasing the potential for recycling in Central America

## The Issue

Used automotive battery recycler, Acumuladores Iberia S.A., of Guatemala City, saw a business opportunity when the company was invited to participate in the implementation of a project to recycle used lead acid batteries from all over Central America. Their plant was processing 120,000 units per annum, but had the capacity to process an additional 1,200,000 units thereby offering a major environmental and commercial boost to the entire Central American region which was previously only served by recycling facilities in northern Mexico.

Whilst the Acumuladores Iberia plant already complied with Guatemalan environmental, health and safety legislation, in order to import and process used lead acid batteries they were also required to comply with the Basel Convention and conform to the Basel Technical Guidelines for the Environmentally Sound Recovery of Used Lead Acid Batteries.

## Interested parties

The International Lead Management Center (ILMC) worked in partnership with the Government of Guatemala, the Basel Convention Secretariat in Geneva and their Regional Centre in El Salvador where responsibility now resides for the implementation of the agreed Regional Strategy for the Environmentally Sound Recycling of used lead acid batteries in Central America.

Sharing knowledge and expertise in the application of the Basel Technical Guidelines and offering practical advice to facilitate improvements in the sound management of lead during all stages of the life cycle, that is, collection, transportation and recycling, is a key function of the ILMC working under the auspices of the International Lead Association's Lead Action 21 program ([http://www.ila-lead.org/21\\_project.html](http://www.ila-lead.org/21_project.html)).

## The Approach

ILMC began working with Acumuladores Iberia S.A. in February 2008. Three working visits were made to the plant, starting with a full environmental assessment of the recycling process to identify any aspect of operations out of conformance with the Technical Guidelines. Over the next 12 months a practical, hands on approach was adopted to achieving full conformance. ILMC worked closely with plant managers and engineers to develop innovative solutions to secure improvements to the facilities, operations and manual working practices. Contact was maintained on a weekly basis through electronic correspondence and video conferencing to monitor and promote progress towards environmental conformance.

## Challenges

Once the Governments of Central America had agreed the Regional Strategy for the Environmentally Sound Recovery of Used Lead Acid Batteries in 2006, the challenge for the Basel Convention Regional Centre and the ILMC was to identify and register the recycling plants in the region that were in compliance with national environmental and occupational health legislation, as well as the relevant international conventions. Initial plant assessments only identified environmentally sound recycling plants in the northern provinces of Mexico.

The Acumuladores Iberia recycling plant had the necessary potential to be environmentally sound, but the materials handling, solid waste management and occupational health and safety procedures did not conform to the requirements of the Basel Technical Guidelines.



ILMC recommended changes to materials handling practices

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### Actions

The Environmental Assessment undertaken on behalf of the Regional Environmental Steering Committee by the ILMC identified specific non-conformance issues that enabled a detailed plan of corrective action to be agreed with the Company that incorporated a set time scale and monthly progress checks.

In respect of materials handling, several practical recommendations were made by ILMC. Working directly with their suppliers Acumuladores Iberia instigated changes to the way used batteries were collected, packaged and transported to minimize the risk of lead contamination or the leakage of battery electrolyte.

ILMC also worked with the plant engineers to design and build a new custom made manual battery breaker based on an approved US Environmental Protection Agency template that was simple and safe to operate.

At the time of the first Assessment, the Company Medical Officer was already working with the Medical experts at the University of Guatemala to set up a Lead in Blood monitoring program for the workers. This “test” program was then brought into line with the Lead Industry’s recommended “Good Practice” for Medical Surveillance to ensure that all workers are below the norms for occupational exposure.

A review of Personal Protection Equipment (PPE) requirements was included in the initial Plant Assessment and as a consequence new PPE was introduced for all operations together with a comprehensive safety training program on the proper use and benefits of the new safety equipment.

The most significant contribution to reducing the risks of occupational lead exposure was the decision by the company to accept the ILMC recommendation to invest in the construction of new plant changing rooms, personal showering facilities and a new fully air-conditioned canteen. Work began in June 2008 and the new facilities were commissioned in February 2009 at an inauguration ceremony attended by the Minister for Environment of Guatemala, the Executive Director of the Basel Convention Regional Center for Central America and Mexico and the leading representative from ILMC.

### Results

Significant environmental benefits result from the elimination of illegal recycling and the project supports this aim.

As the implementation of the Regional Strategy gains momentum and the movement of used batteries from countries in Central America to the Guatemalan recycling plant increases, the operation will move towards its capacity. It is anticipated that 150 new ‘green’ jobs will have been created making an important contribution to the local economy.

All internal processes in the plant are conceived with three basic premises in mind, that is; economically viable, technologically efficient and environmentally sound. The introduction of revised Environmental, Hygiene and Safety Policies and an Environmental Management System based on Life Cycle Analysis has been maintained by Acumuladores Iberia and the Company is now considering ISO 14,001 Certification, and a UNEP Cleaner Production Award.



Following a review new PPE was introduced for all operations