

UNCTAD & ILMC Propose Integration of Formal and Informal Recyclers

For over three years the ILMC has been working in compliance with the OECD Declaration on Lead Risk Reduction to reduce environmental and population lead exposure. The Lead Industry has supported Pilot Programs and capacity building in Africa, the Far East, Mexico and the Russian Federation. In addition significant progress has been made towards the publication of consensus materials for the introduction of unleaded gasoline and information relating to minimizing lead exposure in the crystal and ceramics industries.

Nevertheless, it has become apparent that while the ILMC initiatives are providing valuable demonstration models in lead risk reduction across a wide range of industry sectors, the work of the ILMC could be undermined by the unregulated activities of unlicensed backyard battery reconditioners and recyclers. These unregulated recycling operations have attracted much criticism over the years from environmental groups for poor work practices and a disregard for the environment.

In an effort to eliminate these unregulated activities the joint United Nations Conference on Trade and Development (UNCTAD) / ILMC Pilot Program in the Philippines included a study of the activities of these unregulated recyclers and reconditioners

UNCTAD Economics Officer, Ulrich Hoffmann and ILMC Program Manager Brian Wilson outlined the preliminary findings of the study to Government Environmental Officers of the Philippines in April this year. In September the final paper, including recommendations to eliminate the adverse environmental impact of unregulated battery recycling activities were presented to representatives from Filipino Environmental Non-Governmental Organizations (NGO) in Manila and industry delegates attending the 8th Asian Battery Conference in Bangkok.

Despite a well spread and well managed collection infrastructure by the licensed formal battery recycling sector, logistical efforts and transport costs for used battery scrap are high and the informal sector is syphoning off a significant share of the domestic battery scrap supply. This undermines efforts by licensed recyclers to increase collection of domestically generated scrap batteries and drives more and more battery scrap into the informal sector, resulting in increasing environmental lead contamination and greater human

exposure to lead as well as the spillage of battery electrolyte. ILMC and UNCTAD concluded that without a profound restructuring of the Philippine battery recycling industry, there will be insufficient access to domestic sources of scrap supply to the formal recycling sector and unabated lead contamination in the informal sector.



Ulrich Hoffmann, UNCTAD Economics Officer, answers questions from a group of Filipino environmental NGO's at the briefing Session at the Manila Stock exchange in September.

From a medium and long-term point of view, the study investigated a number of restructuring options for the informal used battery collection and recycling sector. The objective is to make the smaller battery recyclers and reconditioners in the informal sector part of an effective and efficient collection infrastructure supporting an existing environmentally sound and licensed secondary lead sector. With such an approach the uncontrolled, inefficient and environmentally unsound methods of secondary lead recovery would be gradually phased out.

As a priority, any restructuring of the lead recycling industry in the Philippines has to be environmentally sound and economically viable. Therefore, environmentally sound management of lead battery waste has to be seen in the context of sustainable management of lead as important commodity.

The study does not consider the imposition of further regulatory methods to remove the informal sector. Such measures would impose another enforcement burden on

ICF Technical Conference



Above, from left to right, Etienne Himpens, Michael Wilcock, Joel Amary, Craig Boreiko and Jean Savigny during the opening session's panel discussion.

The 11th International Crystal Federation Technical Exchange Conference was convened in La Petite Pierre, France during September. Over 150 delegates from 17 different countries attended the conference hosted by the French Crystal Federation and Verrerie Cristallerie D'Arques. There was a broad array of technical papers presented over the course of five plenary sessions.

The opening technical session, chaired by Joel Amary (Cristallerie St. Louis) focused upon recent regulatory and environmental trends. Etienne Himpens (Verrerie Cristallerie d'Arques) reviewed implementation of the European Directive on Integrated Pollution Prevention and Control and the principles of operating permits that would be required for significant installations. Recent regulatory initiatives proposed in Denmark that might impact upon the crystal industry were reviewed by Jean Savigny (Keller and Heckman). Craig Boreiko (ILMC) provided the conference with an overview of the results of the recent OECD Survey of Lead Risk Reduction initiatives and updated the delegates on the activities of the ILMC. Finally, Michael Wilcock (Waterford Crystal) described the measures required to obtain ISO 14001 certification and noted the fashion in which it could improve both environmental performance and increase corporate efficiency.

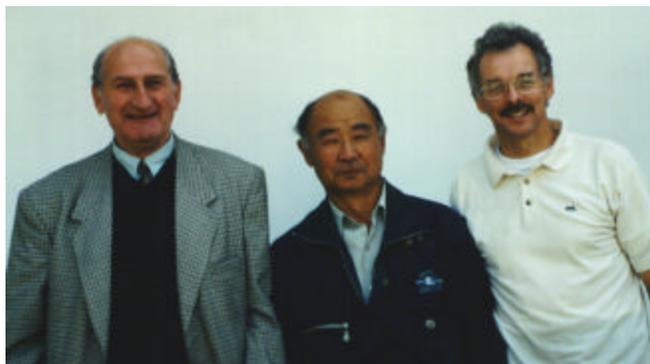
Subsequent sessions focused upon the latest technical innovations and materials science research effective in ensuring the safe use of lead crystal by consumers,

health and safety issues associated with the manufacture of crystal, opportunities for optimizing glass recycling, and methods for assessing and predicting product performance in the marketplace. Each session provided opportunities for the exchange of technical information between the conference delegates as they shared their experiences in the manufacture and use of crystal products. The final afternoon of the conference featured a tour and reception at Cristallerie St. Louis, one of the oldest manufacturers of traditional crystalware in Europe.

The conference also provided an opportunity to finalize plans for the cooperative generation of informational materials by ICF and the ILMC. Under a contract awarded to the Center for Ceramic Research of Rutgers University, technical manuals are being compiled pertaining to the safe production and use of crystal products. These materials describe present technology for the production of crystal, occupational health issues associated with crystal manufacture, leach test methods and standards, and the complete range of consumer issues. In addition to the preparation of technical manuals, Rutgers University is also preparing an annotated bibliography describing information resources pertaining to crystal. The technical manuals and annotated bibliography will be posted at the ILMC web site in a fashion similar to the Information Clearing House recently established by ILMC for other products. The Inn Crystal and Riedel Glass Companies will host the 12th Technical Exchange Conference to be convened in Salzburg in September next year.

ILMC Goes East and West

The Dalpollimetals Int. Co. primary lead smelter is located on the East Coast of the Russian Federation in the Rudnaya Valley in the Primorsky region, about 400 kilometers north of Vladivostok. The Dalpollimetals Group owns and operates a lead and zinc mine in Dalnegorsk, which is about 400 kilometers north of Vladivostok.



Above from left to right: Juri Orshansky, Technical Director, AOZT Electroziariad, Pavel Aleksandrovitch Lee, Director, Dalpollimetals Lead Smelter and Brian Wilson, ILMC.

The Rudnaya valley is situated in an area of outstanding natural beauty. The gently sloping hills are covered in a wide variety of dense deciduous forests. The University of Vladivostok and the Tihokeansky Institute of Geography of the Russian Academy of Sciences have been monitoring the bio-diversity and unique geology of the valley for over 25 years. Since 1996 the University of Vladivostok has been working with the University of Idaho, USA in an effort to widen the scope of the research and provide exchange opportunities for undergraduate students.

The plant managers are aware that the future development of the Dalpollimetals smelter means that the technology currently employed has to be upgraded and re-designed in such a way that the new smelter can accommodate both primary and secondary feedstock materials.

Accompanying ILMC on the visit to Dalpollimetals in September were Juri Orshansky, Technical Director of AOZT Electroziariad, and Yevgeniy Valentinovitch Vysotin, Assistant Director, Komsomolsk-na-Amure Battery Manufacturing Plant. Both Juri Orshansky and Yevgeniy Valentinovitch Vysotin are interested in promoting the recycling of automotive batteries in the East of the Russian Federation and explored the possibility of introducing collection and smelting regimes.

ILMC and the Universities of Vladivostok and Idaho are now preparing a joint proposal for lead risk reduction activities around the Rudnaya Pristan Lead Smelter.

ILMC and the Center for Russian Environmental Policy (CREP) recently visited the Baltelectro Battery Manufacturing Plant in St. Petersburg. The enterprise is located in the Southwest district of the city close to the Gulf of Finland and is one of the largest in the Russian Federation and has 1,300 employees.



Boris Popov, Baltelectro Environmental and Occupational Health Manager and Brian Wilson, ILMC, pictured in front of the Company locomotive at the St. Petersburg Site.

During the visit to the plant the Management of the Battery Plant, the ILMC and CREP reached Agreement to proceed with the implementation of a Pilot Lead Risk Reduction Program.

The Pilot Program objectives to promote lead risk reduction are to:

- Reduce lead exposure in the battery plant
- Implement procedures to ensure that waste effluent is within state discharge limits
- Introduce internationally recognized exposure methodologies and measurements to determine the levels of environmental contamination and population exposure.

This first field trip was designed to identify possible cost effective improvements to the existing waste water treatment plant. After two days of observing, sampling and testing the waste water treatment process a revised monitoring regime was introduced to identify specific contamination sources. The revised monitoring regime should enable the Plant Management, ILMC and CREP to prepare an improvement plan to improve the quality of liquid effluent discharged from the plant.

It was also agreed that next year two Baltelectro staff will visit the MIM (Mount Isa Mines) Lead Refinery and Secondary Lead Smelting Plant in Kent to familiarize themselves with occupational lead monitoring and lead in blood analytical methodologies used in Western European countries.

Integration

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the Government that would be difficult to administer in a country where the unregulated sector exists because of economic necessity. Furthermore experience has shown that the struggling self employed truck, or taxi driver, with little or no financing, is only too ready to rent or lease discounted reconditioned commercial batteries from the informal sector.

Practical, feasible and affordable options for upgrading of environmental and occupational health performance were assessed as follows to:

- Increase collection of domestically generated scrap for the licensed battery recyclers.
- Reduce uncontrolled, partial lead recovery in a socially tolerable way.

The study showed, however, that the two distinct lead recycling sectors in the Philippines could work together if the informal sector were to collect lead scrap on behalf of the licensed sector.

UNCTAD and ILMC also envisage that any major restructuring in the informal sector would be in conjunction with the introduction of longer life batteries that provide up to 5 years of reliable life in a hot climate. Longer life batteries would reduce the number of used batteries in the recycle loop and render the reconditioned battery poor value for money. Such a battery is not yet available in the Philippines, although improvements in battery quality and technology are gradually increasing battery life. It is anticipated that this process of change will be sufficiently slow, as the necessary research and development will take time, to allow the thousands of people engaged in the battery reconditioning trade to seek new business ventures and alternative employment.

There are virtually no small battery recyclers in OECD countries, because over the last twenty years the cost of complying with environmental and occupational health standards could only be met by those companies with high capacity plants. New technologies developed in the last 10 years has, however, improved the prospects for small recyclers, because environmentally sound battery reprocessing plants can be designed on a smaller scale. This is important in the Philippines with over 7,000 islands in the Republic. The logistics and economics of scrap collection are difficult and often uneconomic. It is therefore entirely feasible for small scale environmentally sound recyclers to find a niche market in compliance with the operating and licensing requirements of the Philippine Environmental Management Bureau.

The smaller recyclers would, therefore have a role in the future growth of the secondary lead industry and would be more receptive to cooperating with the Government in the implementation of environmentally sound secondary lead processing plants.

PRI Managers Tour UK & US Facilities



From left to right, Edmundo Esguerra, Environmental Engineer Philippine Recyclers Inc. (PRI), Jacob Tagorda, PRI President, Jerry Hyatt, General Manager Doe Run Boss Secondary Smelter, Irving Guerrero, PRI VP & General Manager Bulacan Secondary Smelter

Over the last two years Philippine Recyclers Inc. (PRI) have made considerable improvements in environmental management and raised the Company's standards of occupational health and hygiene.

Nevertheless, in accordance with their philosophy of continuous improvement the PRI Management is always seeking new ideas and processes that will raise the Company's overall operating performance.

To this end Jacob Tagorda, PRI President, Irving Guerrero, PRI Vice President and General Manager of the Bulacan Secondary Smelter in Manila, and Edmundo Esguerra, Environmental Engineer at the PRI Secondary Smelter toured two ILMC members' secondary lead facilities in the United Kingdom (UK) and the United States of America (USA).

Of particular interest to the PRI Management were the secondary lead recycling technologies employed by the Mount Isa Mines subsidiary Britannia Refined Metals in the UK. In the USA the PRI team studied the used battery scrap handling, environmentally sound by-product reprocessing procedures and the solid waste residue encapsulation adopted by the Doe Run Secondary Smelter in Boss, Missouri.

<http://www.bulacan.net.ph/phirec/pri.htm>

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