



# NewsCasting

## Roundtables in Peru

by Graham Kenyon

The mining industry, government agencies, and other interests are collaborating in a unique "Roundtable" process to address lead contamination within the city of Callao in Peru. Blood lead studies conducted in 1998 and 1999 by the Peruvian Health Directorate (DIGESA), with assistance from the US Agency for International Development (US AID) and Centers for Disease Control (CDC), surveyed the metropolis of Lima and Callao and discovered elevated lead exposures amongst children living or attending school in the vicinity of concentrate storage warehouses in Callao.

The warehouses are used as transfer and short-term storage depots for zinc and lead concentrates from all over Peru for shipment through the nearby Port of Callao. The warehouses are owned by mining and trading companies that annually ship about 1.4 million tonnes of concentrates to destinations all over the world. These mining concentrate exports represent a vital contribution to the economy of Peru.



Left to right representing ILMC: Dan Vornberg, Graham Kenyon and Craig Boreiko

ILMC was contacted by DIGESA late last year and was asked to provide technical assistance in dealing with this situation. In January this year Craig Boreiko (ILMC Executive Director), Graham Kenyon (ILMC Program Advisor) and Dan Vornberg (Doe Run Vice President and ILMC Vice-Chair) traveled to Lima to assess the situation. They visited the Port area, held discussions with DIGESA and industry representatives and discovered that much work was already in progress through a number of different agencies to reduce lead exposures.

The warehouse owners had taken action to contain fugitive dusts and had commissioned an Environmental Impact Study. The Peruvian Ministry of Energy and Mines (PMEM), with assistance of the Canadian International Development Agency (CIDA), through the British Columbia Ministry of Energy and Mines were developing guidelines for the operation of concentrate handling facilities and had requested formal management plans from each of the warehouses.



Left to right: Juan Proaño of El Brocal S.A., Julio Bonelli, Director General of Environmental Affairs at the Peruvian Ministry of Energy and Mines, and Juan Narciso Adjunct Director General of DIGESA at the second "Roundtable".

DIGESA had expanded their studies and was initiating health intervention programs. The Municipality of Callao was developing by-laws to govern the administration of permits for the storage facilities; and the Port Authority was establishing environmental and occupational health requirements for the handling of concentrates on the wharf.

Notwithstanding all this activity, community concerns were increasing. Residents were anxious about the health implications of the blood lead studies. Media articles further sensitized the situation, reflecting a perception of inaction and potential risk. Lines of responsibility were somewhat unclear at that time, communications defensive, and relations between different groups strained.

ILMC therefore proposed a process to coordinate exposure reduction efforts, to share information and

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# ILMC Raises Social Consciousness

**U**nder the auspices of the United Nations Economic Commission For Europe (UN ECE) 34 Parties to the Convention on Long-range Transboundary Air Pollution adopted the Protocols on Heavy Metals (HMs) and Persistent Organic Pollutants (POPs) in June 1998. The aim of the protocols is to reduce emissions of selected HMs, cadmium, lead and mercury, and POPs and requires the signatories to apply Best Available Technology (BAT) and Limit Values (LV) for emissions.

However, the implementation of such extensive and far-reaching protocols requires coordinated national strategies, well thought out policies and the application of effective control regimes. Accordingly and at the invitation of the Government of the Czech Republic, a workshop on "Control Options/Technologies to Abate HMs and POP Emissions from Stationary Sources and Products" was held in Pruhonice, near Prague in April.

Mr. Jiri Hlavacek, Deputy Minister for the Ministry of the Environment of the Czech Republic welcomed more than 40 technical experts representing government agencies, research institutes, industry, NGOs from eighteen Parties to the Convention and representatives of the United Nations Environment Program (UNEP) - Chemicals and UNECE.

The aim of the workshop was to review the approach of the Parties to control emissions of HMs and POPs from stationary sources and products, and to identify suitable control options and technologies taking into account the related economic aspects. The workshop also served as a forum to exchange information on the impact of various technologies, their use and the experiences of different countries. Mr. Andrzej Jagusiewicz, from the United Nations Commission for Europe, chaired the six sessions of the workshop.

One of the early speakers from industry was David Wilson, the Director of the Lead Development Association International (LDAI). David discussed the many options available to reduce lead emissions from labeling through to the application of concentration and extraction limits, recycling, economic instruments and even the prohibition of certain specific uses, although he emphasized that this should always be a last resort. David explained that whilst certain recyclable applications, such as lead sheathed cables, have been in decline, it has been the decline in dispersible applications, such as leaded gasoline, to less than 2%, that has helped to accentuate the increasing proportion of recyclable products, in particular lead acid batteries. In addition David stated that the industry was now involved in a range of voluntary programs designed to put into practice the principles established through risk assessment and the application of appropriate measures to improve environmental performance.



*Mr. Jiri Hlavacek, Deputy Minister for the Ministry of the Environment of the Czech Republic welcomes the workshop delegates*

The Environment Manager for Metaleurop, France, Paolo Fossi, drew two conclusions from the company's experience with a new liquid bath smelting technology at Nordenham. Firstly that lead emissions from a secondary process are manageable and conform to high environmental standards. Secondly, that emissions from point sources, such as lead processing plants using BAT, are now one order of magnitude lower than the total diffused emissions from collection, transport, handling and storage.

ILMC Program Manager, Brian Wilson, raised the social consciousness of the workshop as he outlined the "Socio-Economic Factors in the Control Strategies and Policies for the Recycling of Automotive Batteries in the Republic of the Philippines in the Informal and Formal Industrial Sectors." Using the Philippines' study by the United Nations Conference on Trade and Development (UNCTAD) and the ILMC into the restructuring of the secondary lead industry, Brian explained how easy it is to overlook the social impacts of decisions taken to improve environmental performance and reduce population exposure. The presentation emphasized the importance of taking into account the social needs, priorities and aspirations of those people directly affected by government policies, national legislation, new technologies and changes in trading patterns.

One conclusion of the workshop with particular relevance to the lead industry was that a number of delegations had difficulty comparing emission data where the sampling and testing methods varied between countries. It was therefore recognized by the Chairman that "measurement methods as well as determination of emission factors and the methods to establish emission inventories are often not harmonized, and this leads to a lack of transparency and comparability of reported results". All the conclusions and recommendations from this workshop are being collated and will be published by the UN ECE in September.

# Britannia Hosts Russian Visitors

Last year the International Lead Management Center (ILMC) and the Center for Russian Environmental Policy (CREP) signed a Memorandum of Understanding with the Management of the JSC Baltelectro Battery Manufacturing Plant in St. Petersburg. The agreed objectives were to reduce the levels of lead exposure and instigate an effective environmental management system to sample and monitor emissions and discharges from the manufacturing site.



*Frank Boyes, BRM (left) and Boris Popov, Baltelectro, inspect the new solar and wind powered perimeter air quality monitoring station*

Following a visit by the ILMC and CREP to the battery manufacturing site in St. Petersburg last year Boris Popov, the Manager of the Industrial Ecology Department, and Dr. Ekaterina Balabyuk, the Company Medical Officer, visited the Mount Isa Mines (MIM) lead refining and secondary lead smelter at Britannia Refined Metals at Northfleet in the United Kingdom. Accompanying them were Marina Soldatenko, Assistant Technical Manager with AOZT Electrozariad and Elena Labanova, the Director of the Center for Environmental and Economic Research and Information in Moscow.

The site visit enabled Boris Popov to study British methods of environmental sampling, monitoring, testing and analysis. Frank Boyes, the BRM Senior Environmental Officer was able to demonstrate the company's latest equipment including personal air samplers to determine levels of occupational exposure and a new solar and wind powered remote perimeter air quality monitoring station for determining boundary lead-in-air levels.

ILMC recently took delivery of an ESA portable "LeadCare" System for the determination of lead in blood. This hand-held analyzer requires neither calibration nor refrigeration. The LeadCare system was developed with a grant from the United States' Centers for Disease Control and Prevention (CDC) and is now endorsed by the US Environmental Protection Agency (US EPA). It's a diagnostic tool that performs blood lead measurements using a finger stick or venous sample and computes the result in just three minutes.

On behalf of the ILMC the BRM Occupational Health Nurse, Maureen Bey, presented Dr. Balabyuk with the portable LeadCare kit for use at the St. Petersburg site. The portable analyzer would enable Dr. Balabyuk to sample those employees at the Baltelectro plant who work in the manufacturing departments and determine the levels of occupational exposure. The results of the sampling program would enable the management of the battery manufacturing plant to ascertain the effectiveness of the company's lead risk reduction program and address any process areas that might need further attention.



*Dr. Katerina Balabyuk analyzes the first blood sample using the ESA LeadCare System*



## Tungstone visit ...

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It was not long before Dr. Balabyuk had taken a blood sample from the ILMC Program Manager, Brian Wilson, followed by all the other Russian visitors and the BRM personnel in order to validate the ESA LeadCare analyzer and familiarize herself with the analytical procedures.



*From left to right, Frank Boyes (ILMC), Ekaterina Balabyuk (Baltelectro), Marina Soldatenko (Electrozariad), Boris Popov (Baltelectro), Elena Labanova (Russian Center for Environmental and Economic Research and Information) and Neil Loach (Tungstone)*

Elena Labanova was interested in the design and implementation of Environmental Management Systems (EMS) and the relevance of an EMS in meeting the criteria for the ISO 14000 series. In this respect BRM Quality Manager, Bob Mendes and Environmental and QA Officer, David Jowett were able to describe how BRM had designed their EMS to ensure that the company's environmental monitoring and control procedures conformed to the principles set out in the ISO standards.

Of particular interest to Marina Soldatenko were the regimes adopted by BRM for the use of personal protective equipment (PPE) by employees working in the lead processing departments. BRM were able to demonstrate a wide range of PPE including the new extremely lightweight series of half and full-face masks made of hypo-allergenic materials and featuring dual cartridge systems.

In order to view PPE regimes in operation in a battery manufacturing plant the Russians visited Tungstone Batteries in Market Harborough, Leicestershire. Neil Loach, the Medical and Hygiene Manager for Tungstone, was able to explain how the company had implemented a hygiene regime that combined effective ventilation and PPE to minimize the risk of occupational lead exposure. A computer based biological monitoring system provides feedback to the employees and exposure data for the plant management.

## Roundtables ...

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capitalize on the experience of other communities that have successfully dealt with problems of lead contamination. ILMC facilitated the establishment of a "Roundtable" involving a consortium of industry, government and other interests committed to cooperatively resolving the exposure problems in Callao. The ILMC firmly believes in the value of multi-stakeholder cooperative, joint processes; but also believes that such a process must evolve within the local culture if it is to be effective.

It was agreed by all concerned that the Roundtable will be jointly chaired by Julio Bonelli, Director General of Environmental Affairs at the PMEM, Juan Narciso, Adjunct Director General of DIGESA, and Juan Proaño, Chair of the National Society of Mining Petroleum and Energy. This joint leadership emphasizes the cooperative focus on problem solving that is at the heart of successful community programs elsewhere, but with a uniquely Peruvian approach suited to the local circumstances and adaptable to change as future needs dictate.

At the June meeting of the Roundtable, all parties provided information on work that was ongoing or planned. Cross-sectional sub-committees were appointed and charged to review and develop joint plans on source reduction, exposure monitoring, community education and intervention. This collaboration will identify any gaps or weaknesses in the overall program and establish clear, measurable objectives as lead exposure reduction is effected.

ILMC is committed to supporting this Roundtable process. There is consensus on the need for urgency, and for a comprehensive program of coordinated action to deal with the problem.

Moreover, the experiences of other countries provide guidance with respect to technical solutions. However, such solutions cannot be simply "imported" and implemented. ILMC is thus aiding experts in Peru in the development of solutions appropriately tailored to the Peruvian social and cultural context.

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