

## **UNEP-WCC Mercury Stewardship Workshop**

### **Held at Coatzacoalcos, Veracruz, Mexico on 29-31 March 2006**

**Background:** At the twenty-third session of the Governing Council (GC) of the United Nations Environment Programme (UNEP), Governments agreed, in addition to a number of other activities, to the development and implementation of partnerships as one approach to reducing the risks to human health and the environment from the release of mercury and its compounds to the environment. Governments, intergovernmental and non-governmental organizations and the private sector were urged to develop and implement partnerships, in a clear, transparent and accountable manner. As a result of this UNEP Governing Council decision; UNEP, Governments and interested stakeholders worked to establish a number of partnerships including the Global Partnership on Mercury Reduction in the Chlor-Alkali Sector.

The World Chlorine Council® (WCC<sup>1</sup>) has worked closely with the U.S. Environmental Protection Agency (U.S. EPA) on the Global Mercury Partnership for the Reduction of Mercury in the Chlor-alkali Sector and has been an active contributor to the UNEP Global Mercury Programme. The WCC has a long-standing commitment to sharing globally best practices to promote the safe application of chlorine chemistries and has organized Stewardship Seminars designed to share best practices for reducing the use and release of the mercury from mercury-cell chlor-alkali facilities. WCC workshops have been held in Brazil, India, and Russia. To assist in the logistical and organizational aspects of the Mercury Workshop in Mexico, the WCC asked for assistance from the Research Foundation for Health and Environmental Effects® (RFHEE)<sup>2</sup>.

**Mercury Stewardship Workshop in Mexico:** A working group of member organizations of the WCC, led by ANIQ<sup>3</sup>, Clorosur, The Chlorine Institute, and Euro Chlor, with input from and in collaboration with the U.S. EPA, organized the Mexico Mercury Stewardship Workshop. Funding for this workshop was provided by the US EPA through the United Nations Environment Programme's Global Partnership on Mercury Reduction in the Chlor-Alkali Sector. The World Chlorine Council also provided resources and some Workshop services were supported by Mexichem.



**Ruben Muñoz Garcia, ANIQ**

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<sup>1</sup> The World Chlorine Council (WCC®). Created in 1983, the World Chlorine Council is a global network of national and regional chlor-alkali associations in over 27 countries. The WCC membership includes associations and companies in Africa, Asia, Europe, Latin America, and North America; representing over 80 percent of global chlorine and caustic-soda production. The WCC coordinates international efforts to improve the understanding and awareness of the benefits of chlorine chemistry; further the practice and understanding of responsible stewardship; and respond to relevant public policy issues. Additional information regarding the WCC can be found at [www.worldchlorine.com](http://www.worldchlorine.com).

<sup>2</sup> RFHEE is the Research Foundation for Health and Environmental Effects, a not-for-profit public charity organized under Section 501(c)(3) of the Internal Revenue Code, by the Chlorine Chemistry Council® and the American Chemistry Council. RFHEE works to address the need to address uncertainties and other questions on health and environmental issues related to the production and use of chlorine chemistry. In the conduct of its business, RFHEE works with industry, public agencies, academia and other foundations on projects that will furnish crucial information, peer-reviewed scientific research, expert panels, and workshops that will provide information for public policy makers. See [www.rfhee.org](http://www.rfhee.org).

<sup>3</sup> ANIQ, Asociación Nacional de la Industria Química, is the WCC regional organization in Mexico.

During the opening remarks, all of the industrial speakers reminded the participants of the WCC global commitment to the sharing of information that allows implementation of best available practices and techniques to improve manufacturing operations, including energy efficiencies, reduction of mercury consumption and use, and emissions from chlor-alkali manufacturing processes. The speakers reminded the participants that WCC's participation in the UNEP Global Mercury Partnership is focused on reductions in mercury use, consumption and emissions. Companies can achieve these reductions through a variety of techniques. Specifically, the Partnership and this workshop are technology neutral -- companies and their facilities must make their own independent decisions on the methods to achieve mercury reductions. It is the intent of the WCC to expand the scope of the existing mercury reporting currently being undertaken in some regions and to submit a WCC Global Mercury Report to UNEP as part of the WCC participation in the UNEP Global Mercury Partnership. The reporting format and scope of the WCC Global Mercury Report are being developed by the WCC. The workshop objectives that were presented to the workshop participants are outlined in Figure 1.

**Figure 1. Mercury Workshop Objectives**

Objetivos del Taller	Workshop Objectives
<ul style="list-style-type: none"> <li>• Compartir métodos y lineamientos para la estimación de liberaciones de mercurio.</li> <li>• Compartir las mejores prácticas y las mejores técnicas, para la reducción de liberaciones en las instalaciones de celdas de mercurio.</li> <li>• Promover la adopción de las mejores prácticas administrativas en las instalaciones para reducir el consumo de mercurio.</li> <li>• Mejorar el desempeño ambiental en las instalaciones de celdas de mercurio.</li> <li>• Intercambiar información entre los representantes regionales para solventar los problemas del sector cloro – alcali.</li> </ul>	<ul style="list-style-type: none"> <li>• Share methods and guidelines for calculating mercury releases and consumption.</li> <li>• Share best practices and best techniques for reducing releases from mercury cell facilities.</li> <li>• Encourage adoption of best management practices to facilitate reductions in mercury consumption.</li> <li>• Improve the environmental performance of mercury cell facilities.</li> <li>• Exchange information between regional chlor-alkali representatives.</li> </ul>

The Workshop organizers worked with ANIQ to include Technical Sessions addressing the key topics of importance to the chlor-alkali manufacturers in Mexico. Translators provided simultaneous translation between English and Spanish. The Technical Sessions included:

- Status of mercury plant operations, emissions and challenges from global chlor-alkali regional organizations;
- Mercury balance and measurement techniques;
- Wastewater and brine controls;
- Mercury management and good operating practices;
- Case examples of mercury plant operations, emissions, and challenges;
- Worker safety and exposure; and
- WCC mercury reporting.

Built into the Workshop was time for plenary and one-on-one discussion periods to further exchange information. In addition to the technical sessions, participants visited two chlor-alkali facilities located in Coatzacoalcos, Complejo Industrial Pajaritos: Cydsa/IQUISA, a mercury cell process and Mexichem, a diaphragm cell process. At the Mexichem facility a presentation was made detailing the on-going conversion from mercury cell to membrane technologies at Mexichem's, Santa Clara facility, which is scheduled for completion in early 2007. During the facility visits, participants learned how these facilities were addressing the challenges of mercury emissions, evaluating and installing new techniques and practicing stewardship in keeping with the values of Responsible Care<sup>4</sup>.

<sup>4</sup> Responsible Care is the global chemical industry's environmental, health and safety (EHS) initiative to drive continuous improvement in performance. It achieves this objective by meeting and going beyond legislative and regulatory compliance, and by adopting cooperative and voluntary initiatives with government and other stakeholders. Responsible Care is both an ethic and a commitment that seeks to

**Participants:** Fifty participants<sup>5</sup> attended the Workshop including representatives from chlor-alkali facilities in Mexico (20), chlor-alkali facilities in other Latin American countries (5), global industry experts (US(2), Europe(1), Brazil(2)), and WCC trade organizations (5); equipment and analytical service vendors (6); and governmental representatives (12) from UNEP, Mexico: Centro Nacional de Investigación y Capacitación Ambiental (CENICA) and Secretaría del Medio Ambiente y Recursos Naturales (SEMARNAT); United States: US Environmental Protection Agency (U.S. EPA); India: Ministry of Environment and Forests India; and Argentina: Unidad de Residuos Peligrosos Direccion Nacional de Gestion Ambiental.



### **Conclusions:**

At the end of the Workshop a list of Workshop outcomes was identified discussed and endorsed by the participating representatives from Mexican companies.

- Companies agree to voluntarily report uses, emissions, losses to their respective WCC regional association.
- Workshop attendees agree to keep in touch and develop regular communications.
- WCC agrees to upload all workshop presentations to the chlor-alkali sector's global website/extranet and to maintain website.
- Companies agree to work toward continuous improvement in mercury reductions.
- Mexican companies are developing facility-specific reduction projects. WCC experts (including the Facility Mentor) are available for assistance. The Mexican companies will explore further work on projects under the Global Mercury Partnership.

As part of the sharing of information globally, each participant received paper copies of the presentations. Participants from the chlor-alkali sector were invited to continue the exchange of information using the industry's global extranet. Materials for the public will be up loaded to the WCC public website where these materials can be linked to UNEP's Mercury Partnership website for sharing with other stakeholders.

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build confidence and trust in an industry that is essential to improving living standards and the quality of life. Responsible Care has been adopted in 52 countries. For a status report on some of the global activities see: <http://www.responsiblecare.org> and for the Global Responsible Care Charter see: [http://www.responsiblecaretoolkit.com/pdfs/GLOBAL\\_CHARTER.pdf](http://www.responsiblecaretoolkit.com/pdfs/GLOBAL_CHARTER.pdf)

<sup>5</sup> Note: participants at the workshop fit into more than one category. Thus, the numbers will exceed the 50 participants at the Workshop.



In conclusion, the chlor-alkali sector opened a dialogue with Mexican chlor-alkali manufacturers and started the exchange of information and relationship building that is needed to achieve the WCC goals and the goals of the Global Mercury Partnership.

On the evaluation form, participants judged the Workshop as extremely successful forum to exchange information and to initiate the relationships for continued dialogue and technology sharing to achieve mercury reduction. A copy of this report was sent to all participants.

**Next Steps:** WCC's industrial experts will continue to work with Mexican facilities in collaboration with the U.S. EPA. A Facility Mentor, a retired industry expert, was hired to work with facilities to develop facility-specific projects. Mexican facilities are working to develop company-specific plans and/or develop specific project

proposals for consideration by members of the Global Mercury Partnership.

The WCC will continue to work on the technical and logistical details to compile regional mercury data into a Global Mercury Report for submission to UNEP. Where appropriate, regional chlor-alkali organizations will prepare or continue to prepare and submit annual regional mercury reports to their regional regulatory authorities.

WCC will continue to engage with chlor-alkali manufacturing organizations in other regions to facilitate the exchange of best environmental practices and/or best available techniques toward the goal of reduced mercury use, consumption, emissions and improved worker safety.

