



UPDATE

FALL 2004



Mike Hasson and Tom Perlich

Conference Update

Ecochlor presented at the 13th International Conference on Aquatic Invasive Species that was held in Ireland from September 20th - 24th. The title of the paper presented was *Shipboard Demonstration of Chlorine Dioxide as an Effective Ballast Water Treatment on the ACL Atlantic Compass*. The paper was presented by Tom Perlich, Ecochlor President. Mike Hasson, Ecochlor's Technical Manager, also attended the conference in Ireland.

Tom Perlich also attended a conference in Bremen, Germany titled *Ballast Water and Waste Water Treatment Aboard Ships and in Ports*. The conference was held from September 8th - 10th.

Both conferences were well attended by representatives from over 40 countries including many regulators and policy makers.

Successful Start-up of Ecopod™ #1



Electrical installation begins.

THE ECOPOD™ SYSTEM on the Atlantic Compass was successfully run for the first time on July 29, 2004. The operation of the unit was monitored by representatives from Ecochlor, ACL, Proflow, Seaworthy and Eka Chemicals. All signals were verified, chlorine dioxide generation was monitored and the target dosage was achieved. The system correctly identified when the ballasting operation began, determined the ballast water flow and then generated the appropriate amount of chlorine dioxide based on the target dosage set by Ecochlor.

Ballast water was treated in Newark, New Jersey, Baltimore, Maryland and Portsmouth, Virginia in week following the start up. This system is designed to treat up to 2,500 metric tons of ballast water per hour. Other Ecopod designs can treat from 1,000 metric tons per hour to 10,000 metric tons per hour.



Ecopod placed in permanent location on Deck #1.



Ecopod™ prior to loading.

Ecopod™ System's International Installation

The first Ecopod was installed on the M/V Atlantic Compass through a cooperative effort of 5 companies working in 5 different countries. The companies providing critical services to Ecochlor included:

Proflow, Inc. (North Haven, CT – USA)
Fabrication, Electrical Installation

Seaworthy Systems (Essex, CT – USA)
Naval Architecture / Marine Engineering

Ciserv (Gothenburg, Sweden)
Pipe work, Electrical Installation

Lloyd's Register (Gothenburg, Sweden)
Installation Inspection / Approval

Atlantic Container Lines (Gothenburg, Sweden)
Coordination, Electrical Interface

Locations were critical aspects of the installation. They took place in the following:

New Jersey, USA
Liverpool, England
Antwerp, Belgium
Gothenburg, Sweden
Halifax, Nova Scotia



M/V Atlantic Compass

The system was loaded as cargo in New Jersey early April with the actual installation beginning as the ship docked in Antwerp, Belgium two weeks later. The system was completely operational on schedule in June with testing starting as the vessel sailed in US waters in July.

Ecochlor receives US Patent

ECOCHLOR RECEIVED ITS FIRST US PATENT in August (US Patent 6,733,611) for the treatment of ballast water with chlorine dioxide. The patent encompasses the broad use of chlorine dioxide for ballast water as well as the storage, handling, feeding and control of chlorine dioxide for on board treatment. This is the first patent in the US for Ecochlor with others still pending in the US, Australia, Brazil, European Union, Japan, Singapore and South Korea.