CHALLENGES IN THE COLLECTION AND TREATMENT OF “NEW” TYPES OF WASTE

Piraeus, 28th March 2014

ECO PORTS WORKSHOP
WHAT IS “EUROSHORE”?  
GOALS  
RECEPTION STORAGE AND TREATMENT  
- SCRUBBERS  
- BALLAST WATER  
- CARGO RESIDUES  
CONCLUSIONS
ABOUT EUROSHORE

- EUROSHORE IS AN ASSOCIATION COMPRISING OF TWO TYPES OF MEMBERS:
  - NATIONAL ASSOCIATIONS (BELGIUM, ITALY, THE NETHERLANDS)
  - INDIVIDUAL COMPANIES: BELGIUM, ESTONIA, FRANCE, GERMANY, GIBRALTAR, GREECE, ITALY, NIGERIA, POLAND, ROMANIA, SPAIN, THE NETHERLANDS, TURKEY, UK....
- EUROSHORE IS ALSO PRESENT VIA THE BRANCHES OF ITS MEMBERS IN THE USA, LATIN AMERICA AND THE MIDDLE EAST.
- EUROSHORE REPRESENTS CA 70% OF THE EUROPEAN MARKET.
GOALS

- Perform the service needed within a given timeframe (within 24 hours)
- Use adequate and qualified equipment and personnel to carry out the service (ISO certification)
- Be transparent in procedures and invoicing
- Establish a good partnership between the ship/agent and the service provider
- Respect all laws applicable on our activities
- Take into account the life cycle of products in order to maximize re-use and recycling
AIR POLLUTION-SCRUBBERS
### SULPHUR LIMITS

<table>
<thead>
<tr>
<th>Date</th>
<th>GLOBAL</th>
<th>ECA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial limits</td>
<td>4.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>1 July 2010</td>
<td>4.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>1 Jan. 2012</td>
<td>3.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>1 Jan. 2015</td>
<td>3.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>1 Jan. 2020</td>
<td>0.5%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>
SULPHUR LIMITS

- SCRUBBERS CAN BE USED IN COMBINATION WITH HIGH SULPHUR FUELS WHICH ARE CHEAPER

<table>
<thead>
<tr>
<th></th>
<th>IFO380</th>
<th>MGO 0,1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIRAEUS</td>
<td>595$</td>
<td>910$</td>
</tr>
<tr>
<td>R’DAM</td>
<td>572$</td>
<td>865$</td>
</tr>
</tbody>
</table>

SOURCE: Hellenic Shipping News 17th March 2014
SCRUBBERS

-SCRUBBERS REMOVE > 97% OF THE SULPHUR OUT OF THE EXHAUST GAS. SHIPS THAT ARE EQUIPPED WITH A SCRUBBER ON THE MAIN ENGINE CAN MEET THE 0.1% LIMIT IF THEY BURN HFO OF 3% SULPHUR.

-THERE ARE TWO TYPES OF SCRUBBERS: A DRY AND A WET SCRUBBER.

-THE WET SCRUBBERS CAN OPERATE IN ‘OPEN LOOP’ OR ‘CLOSED LOOP’ OR AS AN HYBRID SYSTEM.

-TECHNOLOGY IS STILL UNDER DEVELOPMENT.

-THE NUMBER OF SCRUBBERS INSTALLED IS LIMITED.
SPECIAL AREAS IN THE EU

Figure 1: Baltic and North Sea/English Channel SECA
SPECIAL AREAS WORLDWIDE
SCRUBBERS
EXHAUST GAS CLEANING APPROVAL

Figure 7: EGCS Statutory Approval

- Statutory MARPOL Performance
  - IMO Resolution MEPC.184(59)

- Flag-Specific Requirements
  - Washwater discharge criteria?
EXAMPLE OF A SCRUBBER
CONCLUSION ON SCRUBBERS

- SCRUBBER TECHNOLOGY IS STILL UNDER DEVELOPMENT

- A WET/ HYBRID SCRUBBER GENERATES:
  - slurry that can be stored in a sludge tank
  - bleed off water can be stored in a sludge tank
  - water that is discharged in the surface water

- The waste generated by a scrubber contains heavy metals....Full details on the generated waste are not yet available and depending on the quality of the HFO.

- The ‘automatic discharge’ can be in conflict with port regulations that forbid the dump of waste water or with the water quality standards.
BALLASTWATER

- INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT OF SHIPS’ BALLAST WATER AND SEDIMENTS

- ADOPTION: 13 FEBRUARY 2004. ENTRY INTO FORCE: 12 MONTHS AFTER RATIFICATION BY 30 STATES, REPRESENTING 35% OF WORLD MERCHANT SHIPPING TONNAGE

- SITUATION 01.01.2014: 38 COUNTRIES REPRESENTING 30,38% OF WORLD FLEET

- REGIONAL IMPLEMENTATION (SOMETIMES WITH MORE STRINGENT PARAMETERS) ALREADY IN PLACE IN USA-CANADA-AUSTRALIA-MEDITERRANEAN SEA....

- CRITERIA FOR SEDIMENTS ARE RATHER VAGUE AND DEPENDING ON NATIONAL LEGISLATION.
Ballastwater
AN EXAMPLE OF AN INVASIVE SPECIE

A Chinese Mitten Crab, one of many invasive species thought to have been introduced in ships’ ballast water
65,000 SHIPS NEED RETROFITTING

<table>
<thead>
<tr>
<th>Ballast capacity</th>
<th>Year of ship construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1,500 m³</td>
<td>BWE or BWT until 2016; BWT only from 2016</td>
</tr>
<tr>
<td>1,500 – 5,000 m³</td>
<td>BWE or BWT until 2014; BWT only from 2014</td>
</tr>
<tr>
<td>&gt; 5,000 m³</td>
<td>BWE or BWT until 2016; BWT only from 2016</td>
</tr>
</tbody>
</table>

*These ships need to comply at the first intermediate or renewal survey after the anniversary of the date of delivery in the year of compliance.

BWE – ballast water exchange
BWT – ballast water treatment
BALLAST WATER DISCHARGE
Removal of Mud / Sediment

- Dangerous Confined Space
- Impractical / Unsafe
- Not allowed at many terminals
CONCLUSION BALLASTWATER

-IMPLEMENTATION OF THE CONVENTION WILL BE SUBJECT TO NATIONAL LEGISLATION

-STANDARDS CAN DIFFER WITHIN THE EU-COUNTRIES

-AT PRESENT THERE ARE NO QUALITY STANDARDS FOR BALLASTWATER SEDIMENTS

-AT THIS MOMENT IT IS UNCLEAR IF PRF’S ARE NEEDED, SHIPS CAN BE EXEMPTED TO USE THEM IF THE BWT SYSTEM FAILS

-WE SEE THAT PRF’S ARE OFFERING BALLAST WATER TREATMENT FACILITIES SOMETIMES BY USING A BARGE OR PONTOON.
CARGO RESIDUES

CARGO RESIDUES ARE DEFINED AS: THE REMNANTS OF CARGO REMAINING ON DECK OR IN HOLDS FOLLOWING LOADING AND UNLOADING, INCLUDING:

- SPILLAGE
- WET AND DRY CARGO RESIDUES
- RESIDUES ENTRAINED IN WASH WATER

THE DELIVERY TO A PORT RECEPTION FACILITY DEPENDS ON THE TOXICITY OF THE PRODUCT OR CLEANING AGENT USED FOR THE CLEANING OF TANKS OR HOLDS. SINCE 01.01.2013 THE MARPOL RULES BECAME MORE STRICT.
CARGO RESIDUES
CARGO RESIDUES
CARGO RESIDUES
CARGO RESIDUES
CARGO RESIDUES

- ACTUAL PRACTICES
CARGO RESIDUES
CARGO RESIDUES
Hold washdown - by crew members at sea

Hold bilge suction cannot handle heavy solids – residue is filtered through strum box
VAPOUR RECOVERY UNIT
MOBILE VAPOUR RECOVERY UNIT
CONCLUSION CARGO RESIDUES

-REVISED MARPOL ANNEX V:

-ANY CARGO RESIDUE OR HOLD WATER HARMFUL TO THE MARINE ENVIRONMENT
  -CANNOT BE DISCHARGED IN THE SEA
  -MUST BE DISCHARGED INTO A PORT RECEPTION FACILITY
  -MEMBER STATES SHOULD ENSURE (ADEQUATE) GARBAGE RECEPTION FACILITIES WITHOUT CAUSING UNDUE DELAY.

-IF NO RECEPTION FACILITIES ARE PROVIDED IN THE PORT OF UNLOADING AND PORT OF DESTINATION, THE DISCHARGE IN SEA CAN BE PERMITTED.
Thank You

Euroshore International VZW

Buro & Design Center

Esplanade 1 box 87

1020 BRUSSELS

http://www.euroshore.com

info@euroshore.com