Green Passport: A Ship Owner’s First Impressions and Experience

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Atlantic Towing

• Part of JDI Transportation and Logistics Division
• 50+ year history
• Fleet – 9 OSVs, 12 Harbour tugs, 3 Coastal tugs, 5 barges
  • 4 additional Harbour tugs 2015
• Operations in Eastern Canada, Canadian Arctic, Greenland, North Sea
  • Commence Operations Trinidad & Tobago 2015
• Green Marine participant since 2011
• Latest two OSVs have Green Passports
Atlantic Kestrel – 2012
Atlantic Merlin – 2014

16,000 bhp, >210 t BP
Clean Design
Incinerator, Compactor,
5ppm OWS
Tier II engines, SCR
ready, BWT ready
Green Passport – As it Was

- IMO Resolution A.962(23), IMO Guidelines on Ship Recycling - Principles
  - Ship recycling is generally the best option for “time-expired” tonnage
  - Multiple stakeholders contributing to the health, safety and environmental protection of the ship recyclers and their surroundings
  - Shipowners are a primary stakeholder and have a responsibility to address the issues involved
  - The Green Passport facilitates application of the Guidelines by providing information on potentially hazardous materials on board the ship, to the recycler
Green Passport – Shipowner Obligations

- Ensure Part 1 is originated by the builder
- Maintain Part 1 through refits/modifications over life
- Complete Parts 2 & 3 prior to the final voyage to the recycling facility

- Three parts to the Green Passport:
  1. Inventory of potentially hazardous materials used in construction
  2. Operationally Generated Wastes
  3. Stores
Inventory Categories

- Part 1 – Potentially Hazardous Materials in the Ship’s Structure and Equipment
  - 1A – Asbestos
  - 1B – Paint (on structure) Additives
  - 1C – Plastic Materials
  - 1D – Materials containing PCBs, PCTs, PBBs at levels > 50mg/kg
  - 1E – Gases sealed in ship’s equipment or machinery
  - 1F – Chemicals in ship’s equipment or machinery
  - 1G – Other inherent substances (oils, resins, alcohol, etc.)
# Green Passport Example

## Atlantic Kestrel – new build

### PART 1C. Plastic Materials

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Fire Monitors &amp; FFS Control System</td>
<td>Wheelhouse</td>
<td>GRP</td>
<td>06-559AB</td>
<td>13 kg</td>
<td>Vendor's Dwg 06559G1</td>
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<tr>
<td>2</td>
<td>Intercommunication System</td>
<td>Ship wide</td>
<td>GRP</td>
<td>IRR-3_GP_01; VML-1520_GP_01; VMP-36-PEL_GP_01; VMP-221_GP_01; VMP-430_GP_01; VMP-530_GP_01; VMP-DG19B_GP_01; SPA-M1H-V; SCAS1_GP_01; SCAS2_GP_01; SCAS3_GP_01; SCAS4_GP_01; RL-24-4_GP_01; SPA-WIARD; VML-15T_GP_01; VSP-211-L_GP_01;</td>
<td>1.18 kg</td>
<td>Vendor's Dwg Q10-410-ACM-880-1-B</td>
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</tbody>
</table>

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**Plastics – 10 pages**
# Green Passport Example
## Atlantic Kestrel – new build

**PART 1F. Chemicals in ship’s equipment or machinery**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Sanitary Discharge System</td>
<td>Engine Rm</td>
<td>Sodium hypochlorite liquor 13-16% Chlorine</td>
<td>729708</td>
<td>25 kg</td>
<td>106-001</td>
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<tr>
<td></td>
<td>Sewage Treatment Plant</td>
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<td></td>
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<tr>
<td>2</td>
<td>Towing Pins, Shark Jaw, Centering Device</td>
<td>Steering Gear Rm</td>
<td>Glycerol (1,2,3-propanetriol) and propylene glycol</td>
<td>RRM880 SJ &amp; TP</td>
<td>&lt;1 L.tr</td>
<td>403-001</td>
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<tr>
<td></td>
<td>Manometer, Pressure Gauge</td>
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<td></td>
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</tr>
<tr>
<td>3</td>
<td>LP Winch &amp; Stern Roller System</td>
<td>Steering Gear Rm</td>
<td>Glycerol (1,2,3-propanetriol) and propylene glycol</td>
<td>880 Winch &amp; SR</td>
<td>&lt;1 L.tr</td>
<td>403-001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manometer, Pressure Gauge</td>
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<td></td>
<td></td>
</tr>
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**Chemicals – 10 pages**
PART 1G. Other Substances inherent in ship’s machinery, equipment or fittings

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<tr>
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<tbody>
<tr>
<td>1</td>
<td>Fire Fighting 1 System</td>
<td>Engine Rm</td>
<td>Grease</td>
<td>06-559AB</td>
<td>3.4 Ltr</td>
<td>106-001</td>
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<tr>
<td></td>
<td>Fire Monitors, Fire Pumps, Tooth Coupling, Valves</td>
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<td></td>
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<tr>
<td>2</td>
<td>LP Winch &amp; Stern Roller System</td>
<td>Steering Gear Rm</td>
<td>Grease</td>
<td>880 Winch &amp; SR</td>
<td>3 kg</td>
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<td></td>
<td>Cabel Lifters and Mooring Winches</td>
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</tbody>
</table>

"Other" – 10 pages
Inherent Commitments – through life of vessel

- Green Passport must become a Controlled Document
  - Class Notation implies periodic audit to ensure it’s up to date
  - Regular M & R activities can impact – not just major refits
    - For changes to original outfit
  - Potentially significant level of effort for vessel technical staff and Compliance auditors
Commitments – Green Passport at end of life

- Parts 2 and 3 of the Passport to be completed by the Owner
  - Not onerous – on board survey by crew

- Part 2 – Operationally Generated Wastes
  - 2A – Dry Tank Residues
  - 2B – Bulk (non-oily)
  - 2C – Oily Waste/Residues

- Part 3 – Stores
  - 3A – Gases
  - 3B – Chemicals
  - 3C – Other Packaged Items
IHM – the next step

- Resolution MEPC 197(62), 2011
  Guidelines for the Development of the Inventory of Hazardous Materials
  - Updates/Supersedes MEPC 179(59) which introduced IHM in 2009

- Per Green Passport, 3 part document
- More detailed Part 1
- Visual and sampling checking of materials
- Part 1 for existing ships to be compiled by HazMat Expert
- Designated document owner ashore or on board to maintain IHM
  - Updates not necessary if identical parts/coatings replace initial supply
### IHM Example – MEPC 197(62)

#### Checklist (Step 4 and Step 5)

**ANALYSIS AND DEFINITION OF SCOPE OF ASSESSMENT FOR "SAMPLE SHIP"**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Component</th>
<th>Quantity</th>
<th>Manufacturer/brand name</th>
<th>Result of DOC #2</th>
<th>Procedure of check #3</th>
<th>Result of check #4</th>
<th>Reference/DWG</th>
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<td>A/F paints</td>
<td>0.02</td>
<td>NEL Paints Co./marine P1000</td>
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<td>V</td>
<td>N</td>
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<td>M-300</td>
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<td>V</td>
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<td>Refrigerant (R22)</td>
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<td>Denchi Co.</td>
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<td>V</td>
<td>Y</td>
<td>Maker's dwg</td>
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**Example of location diagram of Hazardous Materials**

![Location Diagram](image-url)
Atlantic Towing – next new builds

- Damen “E3” Design
  - Environmentally Friendly, Efficient in Operation, Economically Viable

- DNV “Recyclable” notation
  - Supersedes previous “GREEN PASSPORT” notation
  - Implements MEPC. 197(62)
  - Compulsory for “Clean Design” notation
  - Adds requirement for a Maintenance Manual (procedures) and surveys
    - Green Passport was documentation review only
Existing Vessels

- IHM required for disposal
  - Wait until end of life?
    - Easiest – no maintenance
    - Difficult to get backup data from vendors, shipyards

- Avoid the rush for HazMat experts

- Be prepared for regional actions
  - Upcoming European rule as an example - do we need it earlier?

- Be a leader?

EU Ship Recycling Regulation

- Entered into force 2013
- Non-EU flagged vessels >500GT will require a verified IHM by end 2020
- 2 extra chemicals to be inventoried relative to IMO requirements
  - Found mostly in fire retardant constituents of flooring, cable sheaths, AFFF, gaskets, seals, etc.
Summary

- IHM *must* have an impact on new build costs
  - Major supply chain effort
- Maintenance of IHM/Green Passport will be a significant effort and tracking challenge
  - Few suppliers are accustomed to providing supporting documentation, particularly distributors/agents
- There will be a major effort to build IHM for existing vessels, now or later
  - Must recognize this requirement when planning for disposals, if, as Owners, we want to be responsible recyclers.