

Excerpt from ODME Piping Diagram

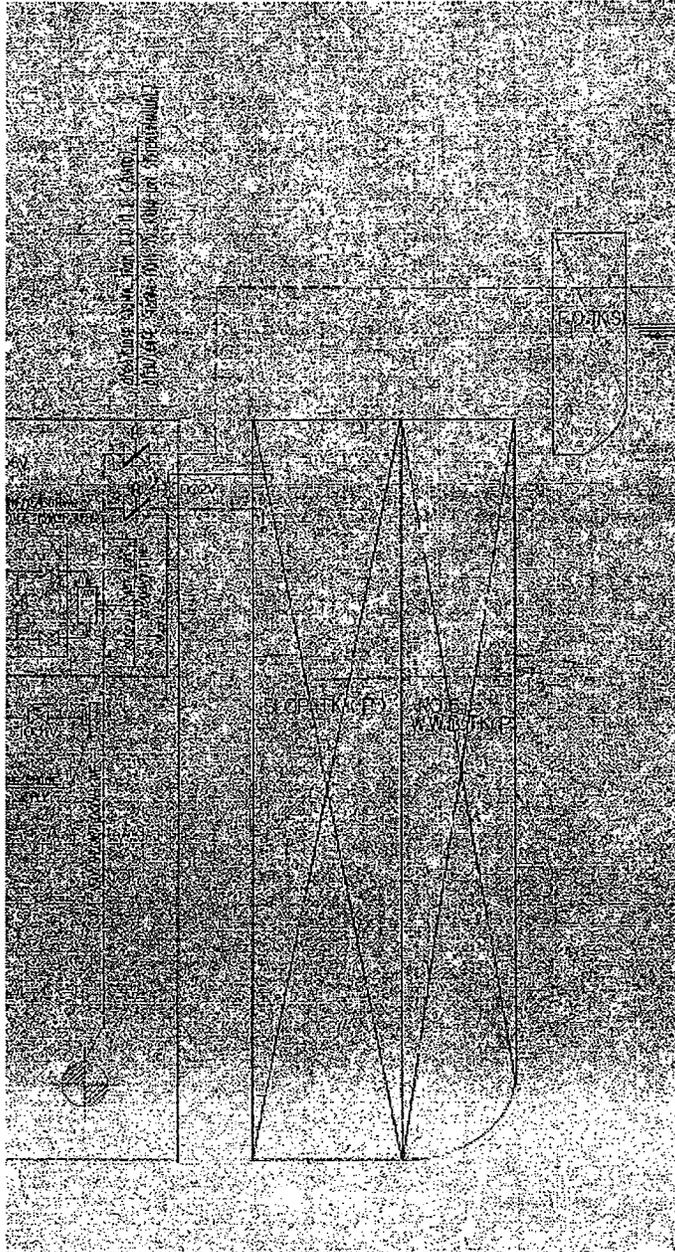


Figure 27 ODME Piping Diagram



Incident Investigation

The Technical Manager, Mr. George Karagiorgis, was appointed by the company's Safety & Quality Manager to carry out the on – site incident investigation. The Technical Manager boarded the vessel with the Operations Manager, Capt. Christos Maggiras on the evening of 17th of September, 2009.

Witness statements were provided by all personnel involved in the presence of the Technical Manager.

The incident investigation verified that the ODME discharge pipe that passes through the vessel's starboard fuel oil tank became holed. As the vessel was carrying out bunkering operations, the level of the fuel oil reached the location of the hole and passed through the hole into the ODME discharge pipe and then into the dock water through the ODME overboard.

It was established that the vessel responded effectively and timely to the pollution incident thus minimizing the extent of the pollution.

It was further observed that the shore – side response was effective and immediate and all actions were carried out in accordance with local and international requirements.

Inspection reports prepared during the vessel's dry – docking were reviewed by the Technical Manager and found to be in order. Although there is no requirement for the vessel's fuel tanks to be inspected during the intermediate survey, the attending superintendent engineer and Classification Surveyor had entered the starboard fuel tank during the repair period in order to carry out a cursory inspection. However, nothing unusual had been observed during the inspections carried out during the dry – docking.

In order to determine the root cause of the incident, interviews of all personnel involved were carried out.

Upon review of the work/rest hours and the drug and alcohol test records, it was further verified that all personnel were well rested and fit for duty. Appropriate manning was available for the operations being carried out at the time of the incident. Interviews of personnel indicated that all personnel carrying out duties were well aware of their responsibilities in responding to an oil spill.

Upon the return of the shore – based personnel who attended the vessel during the incident, an unscheduled Management Review Meeting was held at the company. The purpose of the Management Review Meeting was to identify the root cause of the incident and establish the appropriate preventive actions in order to ensure that no similar incident shall recur in the future onboard any of the vessels in the fleet. All heads of departments, the company's Managing Director, the Marine Superintendent and the Technical Superintendent who attended the vessel participated in the Management Review Meeting.



Material Collected From Vessel during the Course of the Investigation

- Crew List
- Witness Statements
- Master's Accident Report and Investigation Report
- Initial and Follow – Up Notification Reports
- Copy of Bridge Log Book
- Copy of Official Log Book
- Copy of Oil Record Book Part I
- Copy of Engine Log Book
- Work / rest hours
- Alcohol Test Records
- Watch Arrangements
- Inventory of anti – pollution equipment available onboard
- Clean – up Service Provider's Report
- Bunker Plan
- Bunker Safety Checklist
- Bunker Operation Checklist
- Bunker Supplier's Instructions and Delivery Note
- Bunker Sounding Log
- Inspection Records of Starboard Fuel Tank
- Records of pollution drills and training sessions
- Records of safety committee meetings
- Records of near misses and accidents that occurred onboard
- Port State Control Inspection Report



Root Cause of Incident

Direct Cause: Lack of Maintenance

The ODME discharge line that passes through the starboard fuel tank became holed.

Basic Cause: Inadequate Design

The ODME discharge lines pass through the starboard fuel tank, allowing for fuel oil to pass directly overboard in the event that the integrity of the discharge line is breached.

Root Cause: Inadequate Procedure

Although the attending Superintendent and Class Surveyor had entered the starboard fuel tank during the vessel's dry – docking, the ODME discharge pipe had not been closely inspected.

The company's procedure regarding preparation for dry – docking does not provide for a formal risk assessment to be carried out in order to identify hazardous arrangements with a purpose to implement solutions that shall mitigate any such hazardous situations.

It is worth noting that an informal risk assessment had been carried out prior to the vessel's previous dry – docking in 2006 and it had been identified that the scupper drains pass through the fuel tanks (both port and starboard). As a result the scupper drains had been plugged to prevent discharge of oil from these drains.

- b) Any remedial action taken by the company, including changes to procedures;**

Corrective Actions

- ✓ The spilled oil was cleaned up.
- ✓ The fuel tank was emptied of fuel oil and cleaned to hot work standard.
- ✓ The entire length of the ODME discharge pipe that passes through the fuel tank was replaced.

Lessons Learned

Prior to the dry – docking of a vessel, a risk assessment should be carried out in order to identify any arrangements that may exist on the vessel that may pose a risk to the vessel's safety or the environment.

Any arrangements identified during the risk assessment should be assessed in order to evaluate the level of risk that the arrangement may pose and establish mitigation measures to be implemented in order to minimize the risk.



Preventive Actions

- ✓ The Technical Manager shall provide instructions to the vessel requiring that the port fuel tank is thoroughly inspected at the first convenient opportunity, taking into account all necessary safety precautions.
- ✓ The Technical Manager shall carry out a study of the company's fleet in order to identify whether any similar arrangements exist on any of the other vessels. Similar arrangements are considered to be those that allow for direct interface between a fuel oil / cargo oil system and the sea.
- ✓ The Technical Manager shall provide a proposed inspection and maintenance schedule for all such arrangements as identified in the technical study mentioned above, including for the existing arrangements on the M/T Kriton.
- ✓ The Technical Manager was requested to provide a proposed procedure requiring a risk assessment to be carried out prior to a vessel's dry-docking in order for the procedure to be considered to be incorporated into the company's Safety Management System.

c) Manner in which results of the company's investigation were disseminated to the fleet;

The issue was distributed throughout the fleet in the form of a company circular. Please see Appendix III.

Furthermore, the incident has been included in the pre – joining familiarization of shipboard personnel.

d) Any changes to training programs or materials resulting from the incident;

A presentation has been prepared for inclusion in the pre – joining familiarization of shipboard personnel. Furthermore, the presentation shall be included in onboard training carried out during the company's Safety & Quality department attendances.

The company is further considering carrying out training of shore – based personnel in risk assessment techniques in order to enhance their awareness of the significance of effective risk assessment prior to activities that may have consequences to the safety of personnel or the environment.

e) Proposals to monitor the long term effectiveness of any changes to procedures resulting from the company's investigation;

The company shall monitor its performance through defined Key Performance Indicators concerning environmental incidents.

The incident shall be included in the company's next annual Management Review Meeting in order to discuss the corrective / preventive actions that have been implemented with a purpose to establish whether those actions have improved the company's overall performance.



Status of Ionia's Environmental Management Plan

a) Status of EMP implementation

The newly developed Environmental Management Plan came into effect on the 1st of July, 2009. However, onboard implementation has been carried out on a vessel specific basis in an effort to carry out onboard training prior to implementing the Environmental Management Plan on each vessel. This has resulted in the implementation of the Environmental Management Plan on each vessel at a different time following the 1st of July, 2009. (See below table).

Some difficulties have been encountered in several instances in carrying out the implementation of the Environmental Management Plan due to vessels' trading patterns. In an attempt to address the difficulties encountered, vessels that have not been accessible in order to carry out onboard training have been instructed to begin implementation without the planned attendance of a company superintendent. In order to ensure to the best of our ability that the plan is properly implemented in such cases, training is carried out with a senior Officer scheduled to join the vessel. The training is carried out with a purpose to place the Officer in a position to effectively present the Environmental Management Plan to the personnel onboard. Please see Appendix IV.

Furthermore, all crew joining our managed vessels, both in the Philippines and in Greece attend a training session that covers all the elements of the Environmental Management Plan during their pre – joining familiarization.

The environmental elements that are included for discussion during the candidate's pre – joining familiarization are:

- Description of the M/T KRITON incident
- Root Cause of the M/T KRITON incident
- The terms of probation (Special Master's Appointment and Scope of Work)
- Appointment of the Corporate Compliance Manager
- Development of the Environmental Management Plan
- Company's Environmental Policies
- Legal and Other Requirements related to the Environment
- Environmental Planning
- Company Structure and Responsibilities
- Environmental Operational Controls
- Waste Stream Management
- Handling of Non – Conformities, Observations and Incidents related to the Environment
- Continuous Evaluation and Improvement
- Document Control
- Shipboard Personnel and Non – Crew Members: Assessment, Familiarization and Training
- Anonymous Reporting
- U.S. Compliance – Terms Applicable to the Covered Vessels
- SWOMS



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The Crew Manager carried out training at the manning agent in the Philippines in order to ensure that the in – house trainers employed by the company are made fully familiar with the revised procedures. A power point presentation was carried out consisting of the elements that are included in the pre – joining familiarization as described previously. Furthermore, copies of the Environmental Management Plan were provided to all attendees for study and the Crew Manager answered all questions posed to him.



Figure 28 In – House Training Seminar at Manning Agent in Manila

In addition, the vessel is provided with a power point presentation in order for onboard training to be carried out with the vessel's personnel. Please see Appendix V.

As of December 1, 2009, the Environmental Management Plan has been implemented onboard 66% of the company's managed fleet.



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Please see below a table of the status of implementation.

Vessel	Training Carried Out Onboard	Implemented Onboard	Internal Audit to be carried out after
Estia	Pending	Scheduled for within December 2009	
Fidias	14-Jul-09	14-Jul-09	14-Jan-10
Gea	3-Jul-09	1-Aug-09	1-Feb-10
Kriton	Pending	Scheduled for within December 2009	
Ploutos	12-Sep-09	13-Sep-09	13-Mar-10
Theo T	Pending	1-Dec-09	1-Jun-10

Table 4 Status of Implementation of EMP Onboard Managed Vessels

The M/T Estia is presently off the coast of West Africa where it is not possible for a company representative to attend. We have provided instructions to the vessel to begin training and familiarization with the terms and conditions of the Environmental Management Plan.

The M/T Kriton carried out her repairs during August and September of 2009 and was then involved in the spill incident at Antwerp mentioned above. Taking into consideration the incident, the on – the – spot training given as a result of the incident and the extreme pressure that the vessel's crew underwent during that period, we decided to slightly delay the implementation of the Environmental Management Plan onboard the vessel. Implementation has been scheduled for the vessel's next call at a convenient port expected within the next month.

Ionia has also encountered difficulties in attending the M/T Theo T due to her recent trading pattern in the Far East. Ionia has requested that the vessel proceed with the implementation of the Environmental Management Plan as mentioned above.

b) Reports of feedback from the fleet, including suggestions for improvement

Upon six months of implementation of the plan onboard each vessel, an internal audit shall be carried out by a company representative in order to ensure that the plan is being properly implemented and evaluate its effectiveness. However, at every given opportunity, a company representative attending a vessel is requested to verify that the plan's requirements are in place where the EMP has been implemented and are being adhered to and followed by the crew.



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Unscheduled internal audits have been carried out on the M/T Gea and the M/T Fidias. Although the audits have been carried out early in the implementation of the plans on the vessel, we have been provided with constructive feedback.

An Environmental Internal Audit was carried out on the M/T FIDIAS on the 16th of November, 2009. The results of the audit indicate that shipboard personnel are familiar with the requirements of the Environmental Management Plan. The company's policies and posters as required by the plan have been posted appropriately and operational controls have been implemented. However, weaknesses have been identified as to the completion of documentation related to training and familiarization of shipboard personnel. Please see Appendix VI.

Similar results were observed following the Environmental Internal Audit carried out on the M/T GEA on the 23rd of November, 2009. Please see Appendix VII.

As it is early in the implementation of the plan, the Safety & Quality department is monitoring the accurate completion of documentation. Attendances shall be carried out on both of the mentioned vessels within the first quarter of 2010 in order to verify improved performance.

Furthermore, feedback has been provided through the Master's Environmental Management Reviews and Fleet Engineering surveys that have been submitted from the vessels upon which the plan has been implemented so far. (See below chart).

Finally, in an effort to gain some insight as to the degree to which vessels have accepted the implementation of the plan, a questionnaire was distributed to the vessels that was designed to request personnel to evaluate the requirements of the Environmental Management Plan and their implementation onboard.

A summary of feedback that has been provided to the Safety & Quality department regarding the implementation of the revised Environmental Management Plan can be reviewed below.



<u>a/a</u>	<u>Comment</u>	<u>Source</u>	<u>Action</u>
1	The colours of the garbage bins to be clarified.	Environmental Master's Review	The colour of garbage bins shall be corrected in the Form ENV022.
2	Consistency in monitoring of all EMP documentations and the implementation of the system to be carried out diligently	Environmental Master's Review	The Safety & Quality department is monitoring the implementation of the plan.
3	Vessel to be supplied with a garbage compactor	Environmental Master's Review	The Technical department is monitoring the issue.
7	Pollution prevention equipment to be checked or calibrated and follow company's procedures.	Fleet engineering Survey	The Technical department is monitoring the issue.
8	Engine crew must be trained and familiar with the onboard systems	Fleet engineering Survey	The company is in the process of implementing the newly enforced training program.
10	Garbage as papers & aluminium can be delivered for recycling	EMP Questionnaires	The Safety & Quality department is investigating the issue.
11	To increase storage capacity for the materials that can be recycled	EMP Questionnaires	The Technical department is investigating the issue.

Table 5 Feedback from Shipboard Personnel regarding Implementation of EMP



c) The costs Ionia has incurred in drafting and implementing the EMP

In order to calculate the costs incurred in drafting and implementing the Environmental Management Plan, two categories have been defined:

- i) **Development of the Environmental Management Plan:** Development of the plan takes into account the time spent by members of the Safety & Quality department and any other relevant members of personnel. It is based on the number of hours consumed by each member of personnel and their respective charge per working hour.
- ii) **Implementation of the Environmental Management Plan:** Implementation of the plan takes into account the attendance of a member of personnel in order to carry out onboard training followed by an internal audit. This is an estimated cost based on the hypothesis that each attendance costs the company approximately \$3,500.

Instances where onboard training has not been carried out have been included regardless as we shall ensure that onboard training will be carried out at the first convenient opportunity.

Please find below a table indicating the incurred expenses. Please note that the expenses have been calculated for the whole fleet as the plan has been implemented throughout the fleet and has not been limited to the two covered vessels.

<i>Environmental Management Plan</i>	
Development	\$9.600,00
Implementation	\$42.000,00

Table 6 Costs Incurred concerning Development and Implementation of EMP



Status of Ionia's training program issues include

a) Overall status of implementation of training program;

The revised training program that is currently being implemented as reported during the Special Master's Hearing in July, 2009 comprises of three stages:

- i) Pre – joining assessment and training
- ii) Onboard Training
- iii) Superintendent Onboard Training

Pre – joining assessment and training

Competency Assessment software has been purchased from Seagull. The competency assessment software has pre – loaded multiple choice questionnaires that test the candidate's knowledge as per STCW requirements according to his department and rank. In addition, the software allows for the development of company specific questionnaires.

The software was installed at the company's premises and at the manning agent in November, 2009. Initially, the pre – loaded questionnaires shall be used in order to evaluate each candidate's area of weakness that may require to be addressed.

Currently, company specific questionnaires are being prepared in order to be uploaded to the software's database. Once the Environmental Management Plan has been implemented for an adequate period of time in order to consider testing candidate's knowledge of the requirements therein viable, the use of the company specific questionnaires concerning the Environmental Management Plan shall be implemented.

Pre – joining training continues as reported in the Special Master's hearing of July, 2009.

All seafarers participate in a ten day pre – joining familiarization and training program prior to signing on the vessel. The program includes the following elements concerning the environment:

- Environmental Awareness
- Auxiliary Machinery Systems
- Bilge Water / Waste Oil Operational Management
- Cargo Handling and Safe Operation for Oil Tankers
- Marpol Annex I
- Marpol Annex II
- Marpol Annex VI
- Shipboard Environmental Management System



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In July, 2009 a course was carried out at the manning agent titled “Shipboard Environmental Management System” by Exact, a well – known training organization in the Philippines. Twenty – five seafarers attended the training in addition to the company’s Crew Manager.

The course covered the following elements:

- The Earth and its Environment
- Threats to the Environment
- Protection of the Environment Onboard the Vessel
- Port State Control Inspections
- General Procedures and Guidelines for Port State Control
- More Detailed Port State Control Inspections
- Contravention and detection during Port State Control Inspections
- Vetting Inspections – Inspection Process
- Typical Deficiencies during Vetting Inspections

Furthermore, the manning agents instructors were trained in order to carry out an in – house training course regarding environmental management. The in – house training course is carried out once a month with all available seafarers.

The course covers the following elements:

- Brief History of MARPOL 73/78
- MARPOL Annex I – Prevention of Pollution by oil
- MARPOL Annex II – Control of Pollution by Noxious Liquid Substances
- MARPOL Annex III – Prevention of Pollution by Harmful Substances in Package Form
- MARPOL Annex IV – Prevention of Pollution by Sewage
- MARPOL Annex V – Prevention of Pollution by Garbage
- MARPOL Annex VI – Prevention of Air Pollution from Ships
- Principles of Environmental Management
- Environmental Aspects and Impact
- Initial Environmental Review
- Setting Environmental Objectives
- Environmental Control and Documentation
- Port State Control Inspection



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Onboard Training

The existing procedures required that weekly training sessions are carried out onboard in accordance with the training program that is issued by the company annually.

The training program requires that issues related to the environment are addressed during the weekly training sessions at least once a month. Each managed vessel is provided with publications and DVDs in order to assist with the training that is carried out.

In addition to the above, the company has purchased computer based training units that provide interactive training on a one – on – one basis. The units are currently being supplied to the vessels and implemented. Please see Appendix VIII.

Furthermore, monthly environmental meetings are held onboard. The purpose of the meetings is to allow discussion between shipboard personnel concerning issues related to the environment and the vessel's environmental performance.

The company distributes environmental news on a monthly basis with current issues regarding the environment. The environmental news is circulated to the vessels to provide material for discussion during the environmental meetings and enhance awareness of current environmental concerns in the shipping industry. Please see Appendix IX.



Figure 29 Implementation of Computer Based Training onboard M/T PLOUTOS



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JANUARY – JULY	
<p><u>WEEK 1: Personal Protective Equipment</u> Types of PPE, Head Protection, Hearing Protection, Face and Eye protection, Respiratory protective equipment, Hand and foot protection, Protection from falls, Body Protection, Protection against drowning.</p> <p><u>WEEK 2: Pollution Prevention</u> Oil record books Part I & Part II, Oily bilge water management, sludge treatment, Garbage log book</p>	<p><u>WEEK 3: Security Measures</u> Security levels, security duties, security threats and patterns, Recognition and detection of weapons, dangerous substances and devices, Recognition of characteristics and behavioral patterns of persons who are likely to threaten security</p> <p><u>WEEK 4: Use of Critical Equipment</u> Emergency and main fire pumps, lifeboat engines, fire dampers, emergency generator, quick closing valves, pollution prevention equipment</p>
FEBRUARY – AUGUST	
<p><u>WEEK 4: Entering Enclosed or confined spaces</u> Precautions on entering enclosed spaces, Identifying potential Hazards, Preparing and securing the space for entry, Testing the atmosphere of the space, Procedures before and during entry, B.A. and resuscitation , Calibration of gas monitoring equipment.</p> <p><u>WEEK 2: Pollution Prevention</u> Pollution response, Response to spills of hazardous materials onboard, SOPEP/SMPEP, VRP, Spill clean up equipment onboard</p>	<p><u>WEEK 3: Safety Management System</u> Company's Policies, Company Procedures Manual, Shipboard Operations Manual, Safety Manual</p> <p><u>WEEK 4: Life Saving Appliances</u> Lifejackets, Immersion suits, Thermal protective aids, Lifebuoys, Launching lifeboats and liferafts, Lifeboat/liferaft emergency equipment, Line throwing appliances, Pyrotechnics, SCBA, EEBDs</p>
MARCH - SEPTEMBER	
<p><u>WEEK 1: Personal Health and Safety</u> Accidents and medical emergencies, housekeeping, occupational health and safety, health and hygiene, first aid (including CPR), smoking onboard</p> <p><u>WEEK 2: – Pollution Prevention</u> ISO 14001 requirements, Quality and Environmental Management Manual, Environmental duties and responsibilities, Waste/garbage management</p>	<p><u>WEEK 3: Security Measures</u> Techniques used to bypass security measures, security related communications, emergency procedures and systems, methods of physical searches of persons, personal effects and baggage</p> <p><u>WEEK 4: Fire Fighting</u> Fixed fire extinguishing, fire main/fire fighting, how to fight a fire onboard this ship, portable fire extinguishers, CO2, SOLAS/Fire training manuals</p>
APRIL - OCTOBER	
<p><u>WEEK 1: Permit – to – Work Systems</u> Hot Work permits, Cold Work Permits, Enclosed Space Entry permits, Working Aloft, Risk assessment prior to carrying out work, safety precautions prior to work</p> <p><u>WEEK 2: Pollution Prevention</u> Ballast water exchange, transfer of aquatic organisms, Vessel General Permit, Ballast Water Management Manual, Heavy Weather Ballasting</p>	<p><u>WEEK 3: Emergency procedures</u> Actions in the event of a fire, man overboard, vessel collision or grounding response, loss of steering, search and rescue, loss of propulsion, confined space rescue</p> <p><u>WEEK 4: Emergency equipment</u> Flares and other emergency signals, EPIRB and other emergency equipment, two-way VHF, radar transponders</p>
MAY - NOVEMBER	
<p><u>WEEK 1: Use of Work Equipment</u> Use of tools and equipment, Hand tools, Portable power operated tools and equipment, Workshop and bench machines (fixed installations), Abrasive wheels</p> <p><u>WEEK 2: Pollution Prevention</u> Marpol Annex I, Marpol Annex IV, Marpol Annex V, Marpol Annex VI</p>	<p><u>WEEK 3: Security Measures</u> Measures per security level, monitoring restricted areas, gangway watch, ID check, screening procedures, roving patrols, responding to security emergencies</p> <p><u>WEEK 4 – Vessel Access</u> Safe access to vessel, transfer by using the STS basket, pilot access, lifting an unconscious person, helicopter operations</p>
JUNE - DECEMBER	
<p><u>WEEK 1: Living Onboard</u> Health and hygiene, working in a hot climate, working clothes, shipboard housekeeping, substances dangerous to health, common personal injuries</p> <p><u>WEEK 2: Pollution Prevention</u> Tank sounding in the E/R, Incinerator operation, OWS and OCM operation, ODME</p>	<p><u>WEEK 3: Pollution Prevention</u> Oil record books, Treatment of sludges, Bilge waters, Other Oil Residues, Oil Water Separator – operation 15ppm test - auto stop devise, Incinerator – Operation – maintenance. SOPEP/SMPEP - VRP</p> <p><u>WEEK 4: Anchoring, Mooring and Towing Operations</u> Anchoring and Weighing Anchor, Making fast and casting off, Mooring to buoys, emergency towing operations</p>

Table 7 Annual Onboard Weekly Training Program



Superintendent Onboard Training

Onboard training by superintendents has been carried out onboard the fleet as below. The onboard training that is currently being carried out is focused on the implementation of the Environmental Management Plan.

However, issues such as maintenance of life – saving appliances and fire – fighting equipment as well as navigational safety have also been carried out.

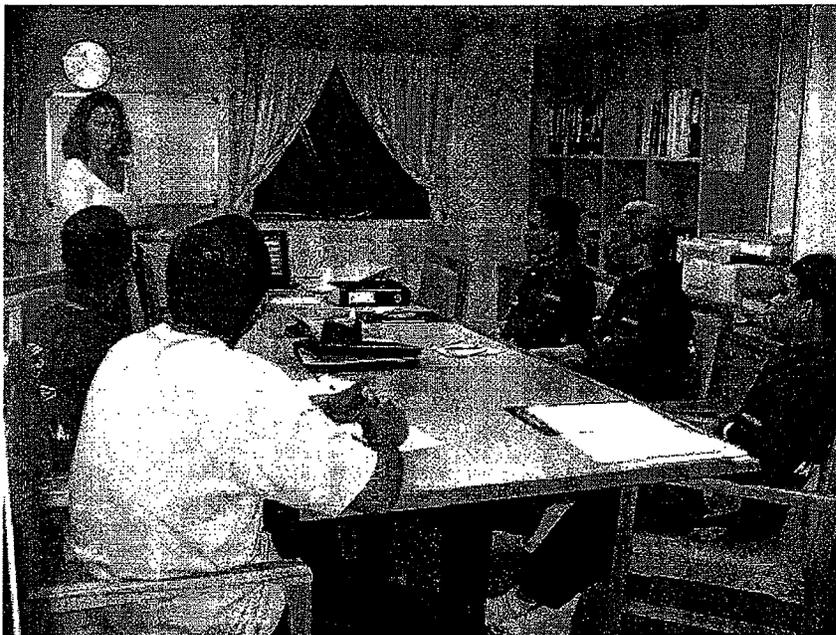


Figure 30 Onboard Superintendent Training on M/T PLOUTOS



b) Modifications to original program based on experience and new issues arising in the industry;

Significant modifications have not been made to the original program as it is still early in implementation.

However, additional issues are currently being developed to be included for training in the coming year due to the implementation of forthcoming regulations such as:

- Fuel Management Change Over Procedures: The implementation of the California CARB regulation and the EU Low Sulphur Regulation.
- Ballast Water Management
- Vessel General Permit

c) Specific progress and implementation of training program at the Philippines training centres;

More fully set forth above in paragraph (a).

d) Status of implementation of the computer based training initiative, including a list of the subjects included in the training and feedback from the fleet and shore side users;

Computer based training units have been purchased from Videotel and have been supplied to the fleet, the company and the manning agent. The units have been installed at the company premises and at the manning agent.

Onboard

The status of implementation of the units onboard the vessels may be seen in the below table:

Vessel	Date of Onboard Training	Date Received Onboard	Date of Implementation
Estia	Pending	7-Aug-09	Pending
Fidias	14-Jul-09	14-Jul-09	30-Oct-09
Gea	24-Sep-09	24-Sep-09	26-Sep-09
Kriton	30-Sep-09	18-Aug-09	29-Sep-09
Ploutos	11-Sep-09	18-Aug-09	13-Sep-09
Theo T	Pending	14-Aug-09	1-Nov-09

Table 8 Status of Implementation of Computer Based Training Onboard Managed Vessels



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Please find below the list of titles included in the computer – based training units that have been installed onboard the vessels:

Part 5. Emergency Procedures
Navigational Charts & Associated Publications
The Safe Use of Electronic Charts
Part 1. Voyage Planning
Part 7. Working with VTS
Accident Prevention
Anchoring Safely
Bridge Watchkeeping
Over & Under Pressurization of Tanks
Rescue Boat Operations
Minimizing Fatigue, Maximizing Performance
Recognising Proper Forms of Identification
Recognising Suspicious Behaviour
Search Techniques
Good Bunkering Practice
Entering into Enclosed Spaces
Fire Fighting Part 1
Fire Fighting Part 2
Fire Fighting Part 3
Fire Fighting Part 4
Fire Fighting Part 5
Making the ISM Code Work for you
Maintenance of Lifeboat On - Load Release Systems
The Shipboard Management Role
Crew Resource Management
Personal Survival Part 2
Personal Survival Part 4
Say No to Bullying - Say No to Harassment
Shipboard Familiarization
Working at Height
Personal Safety in the Accommodation
Personal Safety in the Engine Room
Personal Safety in the Galley
Personal Safety on Deck
Personal Safety on Tankers
Safe Air to Breathe (Edition 2)
Safe Mooring Practice (Edition 2)
Preventing Pollution at Sea (Edition 3)
Waste and Garbage Management
MARPOL Annex VI
It's Not Worth It - Maritime Pollution Offences
Holding Effective Drills
Keeping Up Standards: Ship Vetting for Bulk Oil Carriers
Sewage & Waste Water Treatment
Sludge & the Incinerator
The Oil Record Book

Table 9 Computer Based Training Titles



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It is early in the implementation of the computer based units onboard the vessels for results regarding the program's performance to be observed or analyzed. In an effort to establish the extent to which shipboard personnel find the computer - based training units contribute to their improvement of knowledge, a questionnaire was distributed throughout the fleet.

The questionnaire required that personnel evaluate the implementation of the units in the following areas:

- The training titles are interesting and relevant to their duties
- The training sessions are informative
- The training sessions ability to improve the seafarer's knowledge

The feedback provided by the fleet indicates that shipboard personnel find the training sessions on the units informative and interesting.

Company superintendents that have attended the vessel have found that shipboard personnel are enthusiastic about the installation of the computer based training units onboard.

Ashore

The units have been installed both at the manning agent and at the company's premises. The units ashore include the titles as listed in Appendix I

Both shore side personnel and shipboard personnel ashore have begun using the computer based training units.

e) Ionia's costs to date in preparing and implementing the training program;

<i>Training</i>	
Onboard	\$14.400,00
Seafarers	\$32.720,00
Shore Based Personnel	\$2.500,00

Table 10 Costs Incurred for Environmental Training

49 620
Prepared by:
Krystyna Tsochlas


Safety & Quality Manager
For and On Behalf Of
Ionia Management S.A.



List of Appendices

- Appendix I: M/T FIDIAS – SWOMS Technician Attendance Report
- Appendix II: M/T THEO T – SWOMS Technician Attendance Report
- Appendix III: Company Circular – M/T KRITON – Pollution Incident at Antwerp
- Appendix IV: Company Circular – Environmental Management Plan Implementation
- Appendix V: Environmental Management Plan Power Point Presentation
- Appendix VI: M/T FIDIAS – Internal Environmental Audit Report
- Appendix VII: M/T GEA – Internal Environmental Audit Report
- Appendix VIII: Computer Based Training Onboard Records
- Appendix IX: Monthly Environmental News

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FSR

** Revised - Destroy Original **

** Revised - Destroy Original **

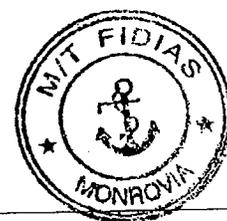
Vessel : 41555 A13B FIDIAS LIB **TRK#:** 003-100419-0
Port of Delivery : 0734 FSR-NETHERLANDS ENVIROLOGGER **WK#:** 052-007958
 ROTTERDAM ENVIROLOGGER NETHERLANDS **RON#:** 022-000000
DR#: 0734-000044

Bill To: 33659000 IONIA MANAGEMENT SA **Ship To:** A13B FIDIAS LIB
 20 AKTI THEMISTOKLEOUS & LASKOU 12
 PIRAEUS, 185 36 GREECE

Purchase Order#: FID-SRV-0509
Customer Auth# : George. N. Karagiorgis

Delivery Date: 13-Nov-2009
ETA: 13-Nov-2009 0:00
ETD: 13-Nov-2009 0:00

Product Code	Qty	Units	Description
1AA9691	1	1-EACH	INSPECTION ENVIROLOGGER PER HOUR
0143990	1	1-EACH	TRAVEL EXPENSES GREECE



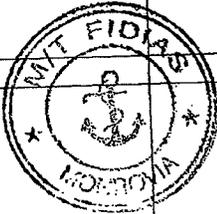
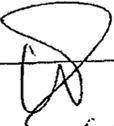
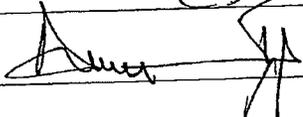
Notwithstanding anything to the contrary in any purchase order or other communication received by Drew Marine, the standard terms and conditions of Drew Marine, shall apply to all orders. To obtain a copy, please contact your Drew Marine Account Executive.

Questions? Call Olga Don

Page 1 of 1

ASHLAND ENVIRO-LOGGER SERVICE REPORT

Vessel Information											
Name of Vessel:	MT Fidias				Attending Technician(s)	Marcel Rijnveldshoek					
Vessel Class	PRODUCT				Date joined/diseembarked	16-11-2009					
Year Built					Port joined/Diseembarked						
Purpose of attendance	SERVICE CALL				Date Enviro-logger Commissioned / Tech Attended						
Vessel Operation	BUNKERING				Date of Last attendance / Tech. Attended						
Environmental Equipment:					Enviro-logger Associated Equipment						
OWS Maker/Type	DVZ SERVICES GMBH OILCHIEF DVZ 5000PC				Dedicated GPS fitted?	YES					
OCM Maker/Type	DECKMA OMD 2005				BHT Transmitter Type	ROSEMOUNT RIGID TWIN					
Incinerator Maker/Type					BHT Trans. Position	Near sounding pipe					
3Way valve type	SINGLE ACTING (SPRING RETURN)				Program Version on PLC	8.05	Ship Auto Email	YES			
3Way valve Model/Maker											
Polishing Filter Type					Voltage	SHIP: 110 V OWS: 110 V INCI: 110 V OCM: 24V					
Pre-Commissioning Checklist											
Following Equipment Mounted				Yes	No	Following cables laid			Yes	No	
1. Enviro-logger Panel in ECR				<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Power cable for Enviro-logger Panel			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Enviro-logger Lock Box with correct Bracket				<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. GPS to Enviro-logger Panel			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. BHT Level Transmitter and Amplifier				<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Enviro-logger Lockbox to Enviro-logger Panel			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Incinerator Interface Relay Block				<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Incinerator Panel to Enviro-logger Panel			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Stand alone GPS connection box				<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. BHT level Transmitter to Enviro-logger Lockbox			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remarks:							6. Network Cable from ECR PC to Enviro-logger Panel			<input checked="" type="checkbox"/>	<input type="checkbox"/>
							7. Network cable for HUB to ECR			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Actual Commissioning Checklist											
1. Wire Termination				Yes	No	3. Logger Panel/BHT level Transmitter/OCM Checks			Yes	No	
a. Enviro-logger Panel Incl. Network Cable				<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Calibrated BHT level Transmitter			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. GPS Junction Box				<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Set OCM signal output to 4-20 mA			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Incinerator Interface Relay Box				<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Upload software to PLC			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Lock box				<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Checked Dip Switch settings			ON	OFF	
e. BHT Level Transmitter Amplifier Box				<input checked="" type="checkbox"/>	<input type="checkbox"/>	On S1- 3. Oil Purge Valve 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Operational Test				Yes	No	4. Oil Purge Valve 2			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
a. Test Run OWS using recirculation				<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. PPM Value			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Test Incinerator Operation				<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Bilge Tank LVL			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Test 3-way Ovbd/Recirc. Valve Operation				<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Sample/FW Valve			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d. Test Local and ECR Alarm				<input checked="" type="checkbox"/>	<input type="checkbox"/>	On S2- 1. GPS			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e. Test all Enviro-logger Print-out				<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Incinerator Run			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f. Test GPS communication				<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Incinerator W/O Valve			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g. Test Network Connectivity				<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. PPM in 4-20 mA			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remarks:											
Post Commissioning Checklist											
Check the following				Yes	No	Tamper proof Seals					
1. Check all wire labels				<input checked="" type="checkbox"/>	<input type="checkbox"/>	Detached					
2. Check for leaks				<input checked="" type="checkbox"/>	<input type="checkbox"/>						
3. Mounting of tube locks and seal rings				<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fitted					
4. Mounting of Tamper proof Seals				<input checked="" type="checkbox"/>	<input type="checkbox"/>						

Remarks:		Service Call	
1. Reported Faults	Calibrate the level transmitters		
2. Possible Cause (s)			
3. Remedy / Solution (s)			
Technician's Remarks		Instructions by Technician to vessel Staff	
<p>I came on board for calibrated the level transmitter:</p> <p>Level transmitter for the bilge holding tank manual sounding 0.48 cm Enviro logger readings 0.85cm</p> <p>I have tried to calibrate the level transmitter but I had a problem with my modem there was no communication between the Enviro logger and my laptop</p> <p>I will order a new hard modem and will come back at the new port</p>			
Master's Remarks		Chief Engineer Remarks	
			
Report Acknowledgement			
Attending Technician(s)	Marcel Rijnveldshoek	Date: 16-11-2009	
Chief Engineer	WAKOS F. 	Date:	
Master		Date:	

Form: EL-SR-001 (rev.8)
 Originator: Karl Radam / 20 July 2007

Note: Please include electrical drawings when submitting the report. One acknowledged copy to be left onboard and another copy to be sent via email to DMSEnvirologger@ashland.com



Vessel Information								
Name of Vessel:	MT THEO T IONIA MANAGEMENT S.A.		Attending Technician(s)	Tee Kiaw Ann				
Vessel Class	OIL/CHEM		Date joined/disembarked	08 JULY 2009 / 08 JULY 2009				
Year Built	2003		Port joined/Disembarked	SINGAPORE				
Purpose of attendance	UPGRADE		Date Enviro-logger Commissioned / Tech Attended	23 Oct 2008 / IVAN LAU				
Vessel Operation	ANCHORAGE		Date of Last attendance / Tech. Attended	IVAN LAU / 23 MAY 2009				
Environmental Equipment:			Enviro-logger Associated Equipment					
OWS Maker/Type	DVZ SERVICES GMBH OILCHIEF DVZ 5000PC		Dedicated GPS fitted?	YES				
OCM Maker/Type	DECKMA OMD 2005		BHT Transmitter Type	ROSEMOUNT FLEX. SINGLE				
Incinerator Maker/Type	HYUNDAI ATLAS / MAXI 50SL-1		BHT Trans. Position	Near sounding pipe				
3Way valve type	SINGLE ACTING (SPRING RETURN)		Program Version on PLC	V8.04	Ship Auto Email	YES		
3Way valve Model/Maker	ASSURED AUTOMATION / BM-257280-1							
Polishing Filter Type	NOT INSTALLED		Voltage	SHIP: 220 V OWS: 220 V INCI: 220 V OCM: 220 V				
Pre-Commissioning Checklist								
Following Equipment Mounted			Yes	No	Following cables laid			
			Yes	No	Yes	No		
1. Enviro-logger Panel in ECR			<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Power cable for Enviro-logger Panel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Enviro-logger Lock Box with correct Bracket			<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. GPS to Enviro-logger Panel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. BHT Level Transmitter and Amplifier			<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Enviro-logger Lockbox to Enviro-logger Panel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Incinerator Interface Relay Block			<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Incinerator Panel to Enviro-logger Panel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Stand alone GPS connection box			<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. BHT level Transmitter to Enviro-logger Lockbox	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remarks:					6. Network Cable from ECR PC to Enviro-logger Panel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					7. Network cable for HUB to ECR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Actual Commissioning Checklist								
1. Wire Termination			Yes	No	3. Logger Panel/BHT level Transmitter/OCM Checks		Yes	No
			Yes	No			Yes	No
a. Enviro-logger Panel Incl. Network Cable			<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Calibrated BHT level Transmitter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. GPS Junction Box			<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Set OCM signal output to 4-20 mA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Incinerator Interface Relay Box			<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Upload software to PLC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d. Lock box			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
e. BHT Level Transmitter Amplifier Box			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
2. Operational Test			Yes	No				
			Yes	No				
a. Test Run OWS using recirculation			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
b. Test Incinerator Operation			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
c. Test 3-way Ovb/Recirc. Valve Operation			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
d. Test Local and ECR Alarm			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
e. Test all Enviro-logger Print-out			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
f. Test GPS communication			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
g. Test Network Connectivity			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Remarks:								
Post Commissioning Checklist								
Check the following			Yes	No	Tamper proof Seals			
			Yes	No				
1. Check all wire labels			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Detached	N/A		
2. Check for leaks			<input checked="" type="checkbox"/>	<input type="checkbox"/>				
3. Mounting of tube locks and seal rings			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fitted	N/A		
4. Mounting of Tamper proof Seals			<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Remarks:

Service Call

1. Reported Faults	In Generator waste oil tank level discrepancy.
2. Possible Cause (s)	The data lost in EL
3. Remedy / Solution (s)	Recalibration.

Technician's Remarks	Instructions by Technician to vessel Staff
<p>Recalibrate on W.O. tank</p> <p>EL Reading 0.45m ~ Manual Sounding 0.42m</p> <p>Verify on following tank;</p> <p>BHT Reading 0.26m ~ Manual Sounding 0.23m</p> <p>Sludge tank 0.27m ~ Manual Sounding 0.29m</p> <p>Oily Bilge tank 0.09m ~ Manual Sounding 0.12m</p> <p>Note: ① Due to ship rolling reading will slightly different.</p> <p>② And all reading in specification.</p> <p>③ GFS position was displayed on EL screen, & printed on Autoemail.</p>	

Master's Remarks	Chief Engineer Remarks

Report Acknowledgement:

Attending Technician(s)	Date:
TEG KIM ANNA	8/7/2009
PETRITIS	08/07/2009
NINIFORAKIS	8/7/2009

Form: EL-SR-001 (rev.8)
Originator: Karl Radam / 20 July 2007

Note: Please include electrical drawings when submitting the report. One acknowledged copy to be left onboard and another copy to be sent via email to DMSEnvirologger@ashland.com.

IONIA MANAGEMENT S.A.

CIRCULAR-SAFETY

PIRAEUS: 30/10/2009
CIRCULAR - SFT: 109

To : All vessels
Attention : Master / Chief Officer / Chief Engineer
Subject : M/T KRITON – POLLUTION INCIDENT AT ANTWERP – SEPTEMBER 2009

Dear All,

Description of Incident

The M/T Kriton, a double sided, single bottom oil tanker built in 1991, completed her dry-docking repairs at Gibraltar on the 10th of September, 2009. She sailed from Gibraltar on the 11th of September, 2009 in order to load at Antwerp.

On the evening of the 16th of September, 2009, the vessel arrived at Antwerp. Arrangements had been made for her to take bunkers at a lay berth in Antwerp prior to going alongside for loading operations. The local authorities had been invited to attend the vessel in order to carry out an expanded PSC inspection as per requirements and attendance had been confirmed for during the bunkering operations.

The vessel moored at lay berth 245, Noordnatie for bunkering operations on the morning of the 17th of September, 2009.

Bunkering operations commenced taking into account all safety measures as per company's procedures and industry guidelines.

At 08:30 LT, the 3rd Officer observed oil in the dock water on the starboard side of the vessel between the dock and the vessel. The gangway watch notified the Chief Officer immediately who sounded the alarm. Bunkering operations were ceased immediately and the oil pollution squad was activated.

The oil pollution squad placed booms around the fore and aft the vessel in order to contain the oil sheen.

The Master notified the company's Operations department and the vessel's agents. The local authorities were notified immediately as well as the vessel's Flag Administration and the vessel's Classification Society.

It was verified that fuel oil was leaking from the ODME discharge pipe's overboard that passes through the vessel's fuel oil tank.

The Chief Officer began to transfer ballast from the vessel's starboard side to the port side, while the Chief Engineer began transferring fuel oil from the starboard fuel oil tank to the port fuel oil tank.

The vessel's agents arranged for a clean – up service provider to attend the vessel and assist in clean – up operations.

PSC Officers boarded the vessel in order to carry out an investigation of the incident and the vessel was consequently detained.

Vessel Particulars

Name: M/T KRITON
Call Sign: C6IF5
Flag: BAHAMAS
IMO No: 8904264
Loa: 184,74m
Draft: 12,106m
Deadweight: 44,999mt

Location of Incident

Berth 245, Noordnatie, Antwerp, Belgium

Weather Conditions

Wind: North East, 3 knots
Sea: Slight sea
Current: Southerly
Visibility: Good

Facts – Time Sheets (UTC)

17-Sep-2009	06:30	Gangway watch observed oil leakage. C/O informed, alarm sounded and oil pollution squad activated. Bunkering terminal notified.
17-Sep-2009	06:45	Operations Manager notified by Master.
17-Sep-2009	06:45	Vessel's agents notified
17-Sep-2009	06:53	Classification Society notified.
17-Sep-2009	07:10	Boarding of PSC Inspectors
17-Sep-2009	07:12	P&I Club notified.
17-Sep-2009	07:36	BOS Clean – Up Service Club notified.
17-Sep-2009	07:45	Departure of Operations Manager and Technical Manager for Antwerp
17-Sep-2009	08:00	BOS clean – up service arrived on – site.
17-Sep-2009	08:05	Boarding of P&I Club and Classification Society surveyor
17-Sep-2009	08:05	Notification of MTI
17-Sep-2009	11:38	Departure of PSC Inspectors – Vessel detained
17-Sep-2009	12:00	Departure of Classification Society surveyor
17-Sep-2009	18:00	Arrival of Operations Manager and Technical Manager onboard
17-Sep-2009	08:05	Notification of MTI
18-Sep-2009	03:00	Completion of clean – up
18-Sep-2009	10:00	Completion of debunkering

Personnel Involved

Master: Nikolaos Tsolakos

Nationality: Greek
Age: 62
Experience: 39 yrs

Chief Officer: Donguines Allan Roy

Nationality: Philippino
Age: 34 yrs
Experience: 12 yrs

3rd Officer: Aspilla Simeon

Nationality: Philippino
Age: 46 yrs
Experience: 7 yrs

Chief Engineer: Theologitis Michail

Nationality: Greek
Age: 57yrs
Experience: 38 yrs

2nd Engineer: Zolina Johnito

Nationality: Philippino
Age: 49 yrs
Experience: 13 yrs

Damages

It was verified that the ODME discharge pipe that passes through the vessel's starboard fuel oil tank became holed, allowing fuel oil to pass through the ODME overboard into the dock water. Approximately 1,0m³ of fuel oil spilled into the dock water.

Excerpt from ODME Piping Diagram

