

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.

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.

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

- 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
- PSC Inspection Report

Root Cause

Direct Cause: Lack of Maintenance

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

Contributing Factor: Lack of Awareness of Shipboard Personnel

During the rafting of the vessel, water had been observed to be collected in the starboard fuel tank. It was established after the incident that the source of the water was the ODME discharge pipe, however at the time it was considered to be due to overflow during rafting.

Basic Cause: Inadequate Design

The ODME discharge lines passes 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 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 was further discussed that the scupper drains that also pass through the fuel tanks (both port and starboard) had been identified as hazardous during the vessel's previous dry – docking in 2006 and as a result had been plugged.

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.

Thanking you in advance, Best Regards
Safety and Quality Department / DPA
Ionia Management S.A.

IONIA MANAGEMENT S.A.

CIRCULAR-SAFETY

PIRAEUS: 30/07/2009

CIRCULAR - SFT: 101

To : All vessels

Attention : Master / Chief Officer / Chief Engineer

Subject : Environmental Management Plan

The Quality and Environmental Management Procedures Manual has been significantly amended in order to take into account the terms of probation under which the company has been placed.

The manual has been separated into two manuals:

- Environmental Management Plan
- Quality Procedures Manual

Significant revisions have been made to the procedures related to environmental management while procedures related to quality management have largely remained unchanged.

The changes came into effect on the 1st of July, 2009 and the company is in the process of dispatching the revised manuals and the related filing system to the vessels. In addition to dispatching the revised system to the vessels, the Safety & Quality dept. shall ensure that onboard training is carried out in order to introduce the revisions to all personnel onboard.

Furthermore, a training presentation has been prepared in order to include the revisions in the pre-joining familiarization program carried out at the manning agent in the Philippines and at the company's premises.

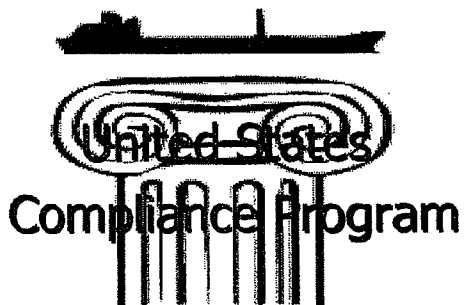
In order to assist you in the implementation of the Environmental Management Plan, please find below the following instructions:

- 1) All forms must be implemented in accordance with the plan as per the matrix included in Section 9 of the Environmental Management Plan.
- 2) The Environmental Policy, Ethics Policy and the Non – Retaliation Policy Posters provided with the EMP are to be posted at the following locations:
 - Master's Office
 - Chief Engineer Office
 - Bridge
 - CCR
 - ECR
- 3) The E/R Seal Log is to be implemented upon receipt of the new seals onboard. Installation of the new seals shall be entered into the E/R Seal Log Book.
- 4) All spare seals available onboard shall be entered into the Spare Seal log book maintained by the Master. The Spare Seal log book shall be supplied to the vessel with the new seals.
- 5) Bilge Main Cross Connections
 - All deck plates above or near bilge main cross connections, valve bodies and associated hand wheels shall be painted with international orange.

- A coloured sign with 3 inch letters stating "Bilge System Piping Cross Over – Emergency Use Only" shall be posted at the bilge main cross connections.
 - The buttons of remotely operated bilge main cross connection valves shall be sealed with a sign stating "Bilge System Piping Cross Over – Emergency Use Only".
- 6) Emergency Bilge Suction valves shall be brightly coloured with a sign posted "Emergency Bilge Suction – For Emergency Use Only".
 - 7) The fresh water flushing line to the OCM and the sampling water line to the OCM shall be painted in orange for their entire lengths.
 - 8) The daily sounding of the tanks related to the stern tube shall be entered into the Engine Room log book. If there is a loss of oil or water ingress, the Chief Engineer must notify the Technical dept.
 - 9) The "List of Critical Pollution Prevention Equipment" shall be posted in the ECR.
 - 10) The "List of Acceptable Chemicals and Cleaning Detergents" shall be posted in the ECR.
 - 11) The "List of Required Manuals related to Pollution Prevention Equipment" shall be posted in the ECR and the manuals shall be available.
 - 12) The Officer that is delegated as responsible for the operation of the OWS, incinerator and sewage treatment plant shall be trained by the Chief Engineer. The delegation of the Officer shall be entered into the Engine Log book stating that he has been trained in the use of the equipment.
 - 13) The following additional entries must be made in the Engine Log Book:
 - OWS and OCM Monthly Tests: An entry stating that "The OWS and OCM were tested according to manufacturer's instructions and SMS requirements. Test results satisfactory" must be recorded.
 - Port Cleaning of the OWS source tank: Entries regarding the cleaning of the OWS source tank should be made in the E/R log book. The tank name, date, quantity of sludge removed and the name of the tank to which the sludge transferred shall be recorded.
 - Oil to Sea Interface Systems: Any breach or incidents involving E/R machinery with a sea water and LO interface resulting in the possible leakage of LO into the sea should be recorded in the Engine Log Book. Each entry must contain records of replenishment oil quantities to head tanks, operating system reservoirs or other associated receivers. Records of water ingress or water drainage quantities from these systems must also be logged. Logbook entries for routine leakages from the stern tube oil system must immediately reported to the Technical dept.
 - 14) In the event of any of the following issues, an entry should be made in the Extraordinary E/R Operations Log Book:
 - The need for frequent draining of fuel oil service and settling tanks and engine lube oil sump tanks of excessive water.
 - Waxing, compatibility, stratification or other contamination problems.
 - Unintended / accidental release of water, fuel oil and lube oil from any engine room machinery.
 - The date, issue and an explanation for the handling of unburned sludges, oils, oily wastes and used filters should be provided.

Thanking you in advance, Best Regards
Safety and Quality Department / DPA
Ionian Management S.A.

IONIA MANAGEMENT S.A.



- M/T Kriton – Detention from the U.S.C.G.
(The 5 'Ws': Who / What / When / Where / Why)
- Terms of Probation (Compliance Program) &
Company's initial activities since thereafter
- Development of EMS (Environmental Management
System)

M/T KRITON The "Incident"

(What and When happened)

On the 20th of March, 2007, the vessel was detained by the USCG on the grounds of suspected violations of MARPOL 73/78. A further report was made on the 3rd of April, 2007 concerning the improper function of the vessel's OWS.

It was established that the reason for the boarding of the USCG was based on a report made by one of the unlicensed crew members alleging that the vessel had been discharging bilge water in by-pass of the vessel's OWS while the vessel was in international waters.

The USCG's investigation resulted in criminal charges against the vessel's 2nd Engineer and the vessel's managing company.

- The slow pumping rate of bilge water through the separator and the time required to complete the operation led the vessel's personnel to develop an abnormal approach to dealing with bilge water.
- A direct pumping overboard system was set up and then used resulting in an easy and speedy operation.
- The accumulated bilge water was pumped overboard through the boiler's water "blow down" piping facility.
- External piping was fabricated and connected in place of the boiler's overboard valve. Discharge from the bilge pump was directed through the external piping and completely by-passed the OWS normal sequence of relevant operation..

- A circular was distributed throughout the fleet informing of the incident and instructing them that such actions are considered completely unacceptable and are strictly forbidden.
- A procedure was prepared to monitor the daily sludge / bilge production and implemented throughout the fleet.
- All vessels were instructed to conduct a safety committee meeting concerning the issue in order to ensure that all personnel were made aware of the situation.
- Company representatives attending the company's vessels conducted safety committee meetings emphasizing Marpol issues and the management's commitment to safeguarding the environment.
- Furthermore investigations were carried out by company superintendents visiting the vessels to ensure a similar situation does not exist on any of the other vessels.

Primary causes of the incident:

The management failed to provide appropriate motivation and incentives to the individuals responsible for the issue.

Contributing causes of the incident:

- Lack of awareness on the part of the individuals responsible for the issue regarding the consequences of their actions.
- Lack of appropriate motivation on the part of the individuals responsible for the issue.
- Lack of reporting on the part of the individuals aware of the situation onboard the vessel.

- Company's procedures and instructions were disregarded.
- An individual's convenience and personal gain was placed above the company's requirements resulting in the compromise of the environment.
- It was established that although other crew members were aware of the situation, they failed to report it to the company.

- Lack of appropriate motivation on the part of the individuals involved in the incident.
- Lack of awareness on the part of the individuals regarding the consequences of their actions.
- In spite of the efforts made and the measures in place up until that point in time, failure on the part of the company to provide appropriate motivation and incentives to the responsible individuals.

Responsible individuals involved in the incident are not re-hirable.

- Installation of unique numerical "tags" in way of all flanges and bolting arrangements of relevant piping.
- Purchasing of high-tech equipment (radar/transmitter oriented) to continuously monitor and record the level of all tanks and bilge wells associated with the TOPP certificate.
- Enhancement of the pre-joining and onboard training program of sea-going personnel in order to further promote the significance of pollution prevention and the management's commitment to pollution prevention.
- Revision of familiarization manuals with a view to promote the company's specific requirements regarding the handling of waste generated onboard.
- Frequent attendance of higher management at manning agent with an aim to promote the management's commitment to safeguarding the environment.
- Enhancement of the vessel attendance procedure by including specific reference to ensuring compliance with environmental procedures.
- Additional personnel has been employed in order to assist in enhancing audit frequency.

- Revision of familiarization manuals with a view to promote the company's specific requirements regarding the handling of waste generated onboard.
- The promotion of the company's no-blame culture.
- Development of an anonymous reporting procedure for notification of environmental violations.
- Development of a company "ethics code".
- The bilge tank capacity of the newbuildings has been adjusted in order to ensure that well above sufficient capacity for the storage of bilges is provided.
- A study has been carried out regarding the ability to increase the bilge tank capacity onboard the exiting vessels.

Following the detention of the M/T Kriton in May, 2007, Ionia Management S.A. has been placed under probation for a period of four years. During the period of probation, any company managed vessel to call at a U.S. port is required to comply with the terms of probation.

Ionia Management S.A. has placed two of her vessels under the terms of probation, the M/T FIDIAS and the M/T THEO T (vessels most likely to call US).

In order to monitor the company's compliance with the terms of probation, a Special Master has been appointed by the U.S. Department of Justice.

The Special Master is assisted by two consultants, the IEC (Independent Environmental Consultant) and the ICC (Independent Corporate Consultant) who provide the necessary technical expertise.

The IEC is responsible for auditing the company's vessels while the ICC is responsible for assessing the company's management system.

IEC: Capt R. Wigger
 ICC: Mr. James Sanborn

The Company has defined and appointed a Corporate Compliance Manager (CCM) who will be responsible to ensure that the Company complies with the requirements of probation.

CCM: (Company's Technical Manager)

CORPORATE COMPLIANCE MANAGER (CCM)

Mr. George Karanidis
(Company's Technical Manager)

The terms of probation include the following requirements:

- The implementation of an environmental tag system.
- Notification to all vessels regarding the prohibition against the use of cross connections from engine room bilge mains to suction piping of larger pumps.
- All other bilge suction valves to be labeled and brightly colored.
- All blank flanges (and removable flanges associated with any piping leading overboard) shall be permanently secured, removed or fitted with seals.
- The coloring of the OWS discharge connection to the sample flush-line control valve.
- Testing of the OCM on a monthly basis and calibration by an authorized technician on an annual basis.
- Cleaning of the OWS source tank every 6 months.
- Tank soundings of all waste, sludge and bilge tanks on a daily basis.
- Development of a procedure for monitoring oil-to-sea interfaces.
- Installation of a
- Development of a procedure where the C/E shall review and compare ORB entries against daily tank soundings and engine alarm print outs.
- Submission of the mentioned records to the company on a monthly basis for review.
- Submission of the mentioned records and the company's review to the U.S. Department of Justice for review.
- Development of procedure where the previously mentioned records are compared to the SWOMS data.

- In July, 2008, the IEC carried out the initial audit on the M/T THEOT.
- Scope of the initial audit is to ascertain and evaluate all aspects of vessel equipment, training and operations affecting oily waste production and management practices.
- Upon completion of the Initial Audit, the IEC reported to the Special Master that the outcome of the audit was encouraging:
 - *The engine spaces were found to be clean;
 - *engine room bilges were found to be free of oil;
 - *waste management equipment was found to be working properly and crew had good knowledge of the probation terms;
 - *The crew was observed to exhibit a positive and receptive attitude towards their obligations.

At the beginning of October 2008, the company was assessed by Mr. Sanborn at its premises. The outcome of the assessment verified the following:

- Good progress was being made towards the effective implementation of the probation terms.
- It was confirmed that Ionia's senior management is committed to properly implementing the requirements of the program.

According to the terms of probation, Bi-annual hearings are required to be held with the Special Master in order to assess the company's progress regarding compliance with the terms of probation.

The first hearing was held on the 10th of December, 2008 in New Haven, Connecticut with the following results:

- Ionia has seriously undertaken to comply with the terms of probation.
- Although the SWOMS on the M/T THEOT is not yet fully in compliance with the terms of the probations, the system is feasible of implementation.
- Ionia has made substantial progress in developing a comprehensive EMS manual that conforms to the terms of Ionia's probation.

Following the Initial Audit performed by the JEC onboard M/T Fidas (end of January, Beginning of February 2009), the following were concluded:

- Confusion in maintaining the seal log book (no proper instructions were provided)
- A form for seal installation should be provided.
- Waste stream management procedures should be developed.
- Training Programs to all crew members for Environmental awareness should be developed.
- The Company to address the 'Management of Change' procedure for new rules and regulations.
- All crew members to become familiarized with the Environmental Compliance Program and Environmental Management System.

(Environmental Management Plan)

The Environmental Management Plan (EMP) has been developed to enhance compliance with ISO 14001 and to ensure compliance with the terms of probation under which the company has been placed.

The existing Quality and Environmental Management Manual has been separated into two manuals:

- a) Environmental Management Plan
- b) Quality Management Manual

The Environmental Management Plan consists of 14 sections.

Each section includes a description of the purpose of the procedure and the duties of personnel responsible for the implementation of the procedure.

No significant changes have been made to the existing procedures included in the Quality Management Manual.

(Environmental Management Plan)

SECTION 1: COMPANY'S POLICIES RELATED TO THE ENVIRONMENT

The purpose of the section is to communicate the company's policies related to the environment to all personnel both onboard and ashore.

The following policies have been developed to meet the company's requirements:

- Environmental Policy
- Ethics Policy
- Non-retaliation Policy

• Above policies are additional to the Company's Safety, Quality and Environmental Protection Policy and Drug & Alcohol Policy

(Environmental Management Plan)

ENVIRONMENTAL POLICY

Ionja Management S.A. is committed to continuous efforts to improve environmental performance throughout its operations and towards a cleaner marine environment. Furthermore the Company is committed to pollution prevention that emphasizes source reduction, including financial and human resources necessary to effectively maintain and repair the systems, equipment and components found in machinery spaces of vessels;

to continuous reduction of environmental risks;

to continuous reduction of waste production as far as practicable;

It is the Company's goal to conduct its business in a manner that balances environmental and economic needs of the communities in which it operates.

The Company's goal is to achieve ZERO incidents and ZERO spills at sea through continuous improvement.

(Environmental Management Plan)

ENVIRONMENTAL POLICY

In order to achieve this goal, the Company will:

- comply with all applicable environmental laws, rules, regulations and requirements and apply responsible standards where laws, rules, regulations and requirements do not exist;*
- respond quickly and effectively to environmental incidents resulting from its operations, in co-operation with industry organizations and authorized government agencies;*
- show concern and respect for the environment, emphasizing every employee's responsibility in environmental performance and implementing appropriate operating practices;*
- ensure that appropriate training in order to enhance environmental awareness is provided for all personnel both onboard and ashore;*
- undertake appropriate reviews and evaluations of its operations to measure progress and to ensure compliance with this Policy;*

(Environmental Management Plan)

ENVIRONMENTAL POLICY

evaluate industry's incidents and accidents and utilize them as case studies in order to prevent future occurrence;

- work to implement timely development of effective environmental laws and regulations in a justifiable manner;*
- manage its business with the goal of preventing environmental incidents and of controlling emissions and wastes to below harmful levels as far as practicable;*
- design, operate and maintain ships and offices to this end;*
- be against any incentive or bonus programs based on minimizing operational costs associated with the operation, maintenance and repair of machinery space systems, equipment and components to ensure that employees do not avoid such costs and thereby sacrifice environmental compliance;*
- share its experience with others to facilitate improvements in industry performance.*

(Environmental Management Plan)

ETHICS POLICY

Ionis Management S.A. is committed to promoting a trustworthy and honest atmosphere to reinforce the vision of ethics within the company. Top management within Ionis Management S.A. shall set a prime example. In any kind of business, honesty and integrity must be the top priority for management.

- Management shall be open to communication with employees and must welcome suggestions and concerns from employees. This will allow employees to feel comfortable discussing any issues and will alert management to concerns within the workforce.*
- Management shall disclose any conflict of interests regarding their position within Ionis Management S.A.*
- Ionis Management S.A. employees shall treat everyone fairly, have mutual respect, provide a team environment and avoid the intent and appearance of unethical or compromising practices.*

(Environmental Management Plan)

ETHICS POLICY

Every employee shall apply effort and intelligence in maintaining ethics values.

- Employees shall disclose any conflict of interest regarding their position within Ionis Management S.A.*
- Employees shall make every effort to increase customer satisfaction by providing quality services and timely responses.*
- Promotion of ethical conduct within interpersonal communications of employees shall be recorded.*

(Environmental Management Plan)

ETHICS POLICY

Tonia Management S.A.'s employees shall:

Act with integrity, competence, dignity and in an ethical manner when dealing with the public, clients, employers and colleagues;

Be proactive;

Practice and encourage others to practice in a professional and ethical manner that will reflect credit on the company's employees and their shipping profession;

Strive to maintain and improve their competence and the competence of others in the profession;

Use reasonable care and exercise independent professional judgment;

The above is more fully described in Tonia's Ethics Code booklet which is distributed to Tonia's shore based and shipboard personnel

(Environmental Management Plan)

NON-RETALIATION POLICY

Tonia Management S.A. is committed to maintaining a culture that provides the prevention, detection and resolution of instances of conduct that do not conform to regulations, requirements, policies and procedures or company requirements and the company Ethics Code.

It is understood that employees both onboard and ashore may not report concerns if they feel they will be subject to retaliation or retribution or harassment for reporting the concern.

Adherence to the company's Ethics Code makes each of us responsible for bringing suspected violations of applicable standards, policies, regulations or requirements to the attention of the responsible person. Raising such concerns is a service to the company and will not jeopardize one's position or employment. No individual reporting any suspected violations shall be disciplined or otherwise retaliated against for such reporting.

(Environmental Management Plan)

NON-RETALIATION POLICY

In this light, a non-retaliation policy has been established to reassure employees who wish to report concerns in accordance with the "Anonymous Reporting Procedure"

Top management, managers or employees are not permitted to engage in retaliation, retribution or any form of harassment directed against an employee who reports a compliance concern. Anyone who is involved in any act of retaliation or retribution against an employee that has reported suspected misconduct in good faith will be subject to disciplinary action or dismissal.

However, it shall not be considered retaliation to take steps to discipline persons who knowingly or intentionally make false claims of misconduct or for the company to take alternative steps to prevent or correct damage to persons when it is determined that allegations of misconduct against them are false.

SECTION 2: LEGAL AND OTHER REQUIREMENTS

Company's Process to identify legal or other industry requirements related to its environmental aspects and description of its action plans to apply these regulations and requirements.

Example: Marpol Annex VI – how this will affect the Company's operations, and what the Company will do (what actions will it take) to implement it.

The Environmental Management Representative (EMR) is responsible for ensuring that the list of legal requirements pertaining to the environment is maintained updated.

The updated list is provided to the vessels on an annual basis or each time it is amended.

SECTION 3: ENVIRONMENTAL PLANNING

The procedure ensures that Company's activities affecting environment (both ashore and onboard) are identified and controlled as far as practicable.

Aspects of the company's activities that are identified to have an impact on the environment are assessed for the level of impact.

Environmental programs are established in order to improve the company's environmental performance.

The company establishes long term objectives. In order to achieve the long term objectives, targets are established.

The Environmental Programs include action plans in order to achieve the established targets.

All personnel onboard should be familiar with the company's Environmental Programs.

SECTION 3: ENVIRONMENTAL PLANNING

The company has established the following environmental programs:

- PROGRAM NO 1: Bilge and Sludge Handling
- PROGRAM NO 2: Cargo handling including transportation and delivery and operational accidents.
- PROGRAM NO 3: Bunkering Operations
- PROGRAM NO 4: Oily rags, plastics, metals, glass, packing materials
- PROGRAM NO 5: Ballast Water Handling
- PROGRAM NO 6: Disposal of batteries/printer cartridges/fluorescent bulbs
- PROGRAM NO 7: Crew Accommodation – Disposal of sewage
- PROGRAM NO 8: Paper Consumption

TOSKA MANAGEMENT S.A.		Prepared by: DPA	Effective Date: 01/01/2002
Environmental Management System		Approved by: MTS	Revision: 0
Section: Environmental Planning		Form: ENV 001	
No 1			
Effective Date: 1 st July, 2000		Responsible date: 30 Days	
Activity: Bilge and sludge handling			
Aspects: Release of oily water into the sea			
Impacts: Sea Pollution			
Related Company and/or Legislative Requirements: -MARPOL 73/78 Annex C			
Related Company Requirement for Control and Monitoring: Shipboard Operations Manual, Section 5			
Objective: Zero discharge of oily water into the sea			
Target: 1) Increase of shipboard personnel's environmental awareness 2) Reduction of bilge and sludge production			
Indicators: 1) % of bilge and sludge production (P/B, T/B, I/B, L/B, M/B, S/B, H/B, J/B, K/B, N/B, O/B, P/B, Q/B, R/B, S/B, T/B, U/B, V/B, W/B, X/B, Y/B, Z/B, AA/B, AB/B, AC/B, AD/B, AE/B, AF/B, AG/B, AH/B, AI/B, AJ/B, AK/B, AL/B, AM/B, AN/B, AO/B, AP/B, AQ/B, AR/B, AS/B, AT/B, AU/B, AV/B, AW/B, AX/B, AY/B, AZ/B, BA/B, BB/B, BC/B, BD/B, BE/B, BF/B, BG/B, BH/B, BI/B, BJ/B, BK/B, BL/B, BM/B, BN/B, BO/B, BP/B, BQ/B, BR/B, BS/B, BT/B, BU/B, BV/B, BW/B, BX/B, BY/B, BZ/B, CA/B, CB/B, CC/B, CD/B, CE/B, CF/B, CG/B, CH/B, CI/B, CJ/B, CK/B, CL/B, CM/B, CN/B, CO/B, CP/B, CQ/B, CR/B, CS/B, CT/B, CU/B, CV/B, CW/B, CX/B, CY/B, CZ/B, DA/B, DB/B, DC/B, DD/B, DE/B, DF/B, DG/B, DH/B, DI/B, DJ/B, DK/B, DL/B, DM/B, DN/B, DO/B, DP/B, DQ/B, DR/B, DS/B, DT/B, DU/B, DV/B, DW/B, DX/B, DY/B, DZ/B, EA/B, EB/B, EC/B, ED/B, EE/B, EF/B, EG/B, EH/B, EI/B, EJ/B, EK/B, EL/B, EM/B, EN/B, EO/B, EP/B, EQ/B, ER/B, ES/B, ET/B, EU/B, EV/B, EW/B, EX/B, EY/B, EZ/B, FA/B, FB/B, FC/B, FD/B, FE/B, FF/B, FG/B, FH/B, FI/B, FJ/B, FK/B, FL/B, FM/B, FN/B, FO/B, FP/B, FQ/B, FR/B, FS/B, FT/B, FU/B, FV/B, FW/B, FX/B, FY/B, FZ/B, GA/B, GB/B, GC/B, GD/B, GE/B, GF/B, GG/B, GH/B, GI/B, GJ/B, GK/B, GL/B, GM/B, GN/B, GO/B, GP/B, GQ/B, GR/B, GS/B, GT/B, GU/B, GV/B, GW/B, GX/B, GY/B, GZ/B, HA/B, HB/B, HC/B, HD/B, HE/B, HF/B, HG/B, HH/B, HI/B, HJ/B, HK/B, HL/B, HM/B, HN/B, HO/B, HP/B, HQ/B, HR/B, HS/B, HT/B, HU/B, HV/B, HW/B, HX/B, HY/B, HZ/B, IA/B, IB/B, IC/B, ID/B, IE/B, IF/B, IG/B, IH/B, II/B, IJ/B, IK/B, IL/B, IM/B, IN/B, IO/B, IP/B, IQ/B, IR/B, IS/B, IT/B, IU/B, IV/B, IW/B, IX/B, IY/B, IZ/B, JA/B, JB/B, JC/B, JD/B, JE/B, JF/B, JG/B, JH/B, JI/B, JJ/B, JK/B, JL/B, JM/B, JN/B, JO/B, JP/B, JQ/B, JR/B, JS/B, JT/B, JU/B, JV/B, JW/B, JX/B, JY/B, JZ/B, KA/B, KB/B, KC/B, KD/B, KE/B, KF/B, KG/B, KH/B, KI/B, KJ/B, KK/B, KL/B, KM/B, KN/B, KO/B, KP/B, KQ/B, KR/B, KS/B, KT/B, KU/B, KV/B, KW/B, KX/B, KY/B, KZ/B, LA/B, LB/B, LC/B, LD/B, LE/B, LF/B, LG/B, LH/B, LI/B, LJ/B, LK/B, LL/B, LM/B, LN/B, LO/B, LP/B, LQ/B, LR/B, LS/B, LT/B, LU/B, LV/B, LW/B, LX/B, LY/B, LZ/B, MA/B, MB/B, MC/B, MD/B, ME/B, MF/B, MG/B, MH/B, MI/B, MJ/B, MK/B, ML/B, MM/B, MN/B, MO/B, MP/B, MQ/B, MR/B, MS/B, MT/B, MU/B, MV/B, MW/B, MX/B, MY/B, MZ/B, NA/B, NB/B, NC/B, ND/B, NE/B, NF/B, NG/B, NH/B, NI/B, NJ/B, NK/B, NL/B, NM/B, NN/B, NO/B, NP/B, NQ/B, NR/B, NS/B, NT/B, NU/B, NV/B, NW/B, NX/B, NY/B, NZ/B, OA/B, OB/B, OC/B, OD/B, OE/B, OF/B, OG/B, OH/B, OI/B, OJ/B, OK/B, OL/B, OM/B, ON/B, OO/B, OP/B, OQ/B, OR/B, OS/B, OT/B, OU/B, OV/B, OW/B, OX/B, OY/B, OZ/B, PA/B, PB/B, PC/B, PD/B, PE/B, PF/B, PG/B, PH/B, PI/B, PJ/B, PK/B, PL/B, PM/B, PN/B, PO/B, PP/B, PQ/B, PR/B, PS/B, PT/B, PU/B, PV/B, PW/B, PX/B, PY/B, PZ/B, QA/B, QB/B, QC/B, QD/B, QE/B, QF/B, QG/B, QH/B, QI/B, QJ/B, QK/B, QL/B, QM/B, QN/B, QO/B, QP/B, QQ/B, QR/B, QS/B, QT/B, QU/B, QV/B, QW/B, QX/B, QY/B, QZ/B, RA/B, RB/B, RC/B, RD/B, RE/B, RF/B, RG/B, RH/B, RI/B, RJ/B, RK/B, RL/B, RM/B, RN/B, RO/B, RP/B, RQ/B, RR/B, RS/B, RT/B, RU/B, RV/B, RW/B, RX/B, RY/B, RZ/B, SA/B, SB/B, SC/B, SD/B, SE/B, SF/B, SG/B, SH/B, SI/B, SJ/B, SK/B, SL/B, SM/B, SN/B, SO/B, SP/B, SQ/B, SR/B, SS/B, ST/B, SU/B, SV/B, SW/B, SX/B, SY/B, SZ/B, TA/B, TB/B, TC/B, TD/B, TE/B, TF/B, TG/B, TH/B, TI/B, TJ/B, TK/B, TL/B, TM/B, TN/B, TO/B, TP/B, TQ/B, TR/B, TS/B, TT/B, TU/B, TV/B, TW/B, TX/B, TY/B, TZ/B, UA/B, UB/B, UC/B, UD/B, UE/B, UF/B, UG/B, UH/B, UI/B, UJ/B, UK/B, UL/B, UM/B, UN/B, UO/B, UP/B, UQ/B, UR/B, US/B, UT/B, UY/B, UZ/B, VA/B, VB/B, VC/B, VD/B, VE/B, VF/B, VG/B, VH/B, VI/B, VJ/B, VK/B, VL/B, VM/B, VN/B, VO/B, VP/B, VQ/B, VR/B, VS/B, VT/B, VU/B, VV/B, VW/B, VX/B, VY/B, VZ/B, WA/B, WB/B, WC/B, WD/B, WE/B, WF/B, WG/B, WH/B, WI/B, WJ/B, WK/B, WL/B, WM/B, WN/B, WO/B, WP/B, WQ/B, WR/B, WS/B, WT/B, WU/B, WV/B, WW/B, WX/B, WY/B, WZ/B, XA/B, XB/B, XC/B, XD/B, XE/B, XF/B, XG/B, XH/B, XI/B, XJ/B, XK/B, XL/B, XM/B, XN/B, XO/B, XP/B, XQ/B, XR/B, XS/B, XT/B, XU/B, XV/B, XW/B, XX/B, XY/B, XZ/B, YA/B, YB/B, YC/B, YD/B, YE/B, YF/B, YG/B, YH/B, YI/B, YJ/B, YK/B, YL/B, YM/B, YN/B, YO/B, YP/B, YQ/B, YR/B, YS/B, YT/B, YU/B, YV/B, YW/B, YX/B, YY/B, YZ/B, ZA/B, ZB/B, ZC/B, ZD/B, ZE/B, ZF/B, ZG/B, ZH/B, ZI/B, ZJ/B, ZK/B, ZL/B, ZM/B, ZN/B, ZO/B, ZP/B, ZQ/B, ZR/B, ZS/B, ZT/B, ZU/B, ZV/B, ZW/B, ZX/B, ZY/B, ZZ/B			

EXAMPLE OF ENVIRONMENTAL PLANNING ON COMPANY'S ASPECT

SECTION 4: COMPANY STRUCTURE AND RESPONSIBILITIES

The Section describes each member of personnel's duties and responsibilities regarding the environment both onboard and ashore.

The company's DPA has been appointed as the ENVIRONMENTAL MANAGEMENT REPRESENTATIVE ashore.

The Chief Officer has been appointed as the ENVIRONMENTAL OFFICER onboard.

SECTION 4: COMPANY STRUCTURE AND RESPONSIBILITIES

The **Environmental Management Representative** is responsible for:
Ensuring that environmental management system requirements are established, implemented and maintained in accordance with the requirements of ISO 14001

Reporting on the performance of the environmental management system to the Managing Director for review and as a basis for improvement of the environmental management system

Ensuring that audit results are brought to the attention of the Managing Director and all personnel having responsibility in the area involved so that the necessary corrective actions can be taken

Maintaining the list of environmental legislation applicable to the company's activities

Maintaining the list of environmental aspects of the company's activities

SECTION 4: COMPANY STRUCTURE AND RESPONSIBILITIES

The **Chief Officer** is the appointed Environmental Officer and he is responsible for:
Implementing the Garbage Management Plan and ensuring that regulations regarding garbage disposal are followed, under Master's supervision

Measuring, monitoring and managing, on a daily basis, shipboard generated wastes. The proper updating of Garbage Record Book and any other logbooks required by the ENVIRONMENTAL MANAGEMENT PLAN or other maritime environmental protection requirements such as the ORB

Supervising Chief Cook regarding his duties & responsibilities related to environmental requirements

The enforcement of pollution prevention measures relating to the transfer of any oil including bunkers

Providing training to shipboard personnel on environmental policies and procedures including but not limited to training on pollution prevention equipment, response in oil spills, completion of any logbooks required by the Environmental Management Plan or other maritime environmental protection requirements, etc.

Ensuring that all adequate anti-pollution measures are in operation as required by MARPOL, Flag State and port regulations

Maintaining the relevant section of the Oil Record Book

Liaising with C/E with regards to stability and stress when bunkering

SECTION 4: COMPANY STRUCTURE AND RESPONSIBILITIES

All other members of **shipboard personnel** are responsible for:

Ensuring that they are aware of all legislation related to the environment

Ensuring that they are familiar with the requirements of the company's environmental management system

Ensuring that his actions onboard the vessel shall not in any way compromise the environment

Each member of personnel must fully understand and accept his responsibilities with regard to the environment

Ensuring that any violation of legislation related to the environment is reported to the Master or directly to the EMR

SECTION 5: OPERATIONAL CONTROLS

The purpose of the section is to describe the operational controls in place for reducing, recycling, reusing, minimizing and preventing waste releases

Environmental Tag Systems

Seals are installed on all flanges in the engine room sludge lines, bilge lines, sewage and grey water overboard lines and boiler blow down lines

The seals are installed in accordance with guidelines provided by the company's Technical Dept.

Each seal has a unique ID number

The Chief Engineer maintains the E/R Seal log book listing the flanges that have seals placed on the end the relevant seal number

Each and every time a seal is broken, the fact is recorded in the E/R Seal Log Book with relevant explanations for the reason that it was broken

A piping diagram indicating the location of the seals is attached to the E/R Seal log book. Only one seal is to be placed on each flange. The use of multiple seals is not recommended

Spare seals are maintained by the Master and placed in a safe location. The Master maintains the Spare Seal log inventory

Each time a spare seal is requested from the Master, this is noted in the Spare Seal log inventory

SECTION 5: OPERATIONAL CONTROLS

The purpose of the section is to describe the operational controls in place for reducing, recycling, reusing, minimizing and preventing waste releases.

Bilge Main Cross Sections

The use of cross connections between the bilge suction piping from E/R bilge wells / bilge tanks and the suction of E/R pumps other than the dedicated bilge pump is prohibited.

Connection of the bilge suction piping to the fire, general service, sea water cooling and ballast pumps via existing permanent piping and valves or via temporary hose connections is strictly prohibited. The connection of such piping is an illegal practice, equivalent to by-passing the Oily Water Separator.

SECTION 5: OPERATIONAL CONTROLS

Where permanent piping interconnections between the bilge system and the sea water system exist, the following measures should be taken:

- The deck plates above or near the cross connections and the valve bodies and associated hand wheels shall be painted with international orange.
- A brightly coloured sign with three inch letters shall be permanently fixed nearby. The sign shall read: "Bilge System Piping Crossover – Emergency Use Only".
- All cross connection valves shall be closed and secured with numbered seals.
- If valves are remotely operated from the ECR, the associated push button must also be sealed and a sign identical to the one mentioned above posted near it.

SECTION 5: OPERATIONAL CONTROLS

Emergency Bilge Suctions

Dedicated emergency bilge suction valves shall be painted brightly. A brightly coloured sign with three inch letters shall be permanently fixed nearby. The sign shall read: "Emergency Bilge Suction – For Emergency Use Only". The emergency suction valve wheels shall also have a seal capable of breakaway during an emergency.

Bilge and Sludge Lines

All other crossover valves, direct suction valves of the bilge line, overboard valves such as boiler blow down and all flanges of the bilge line and the sludge line will be fitted with seals as per the Technical department guidelines.

SECTION 5: OPERATIONAL CONTROLS

Blank Flanges

To prevent unauthorized connections within the engine room and machinery spaces, every blank flange associated with any piping leading overboard on systems such as saltwater service, main engine raw water cooling, or other systems shall be permanently secured, removed, or fitted with a seal as per the Technical department guidelines.

SECTION 5: OPERATIONAL CONTROLS

Extraordinary E/R Operations Monitoring

Any extraordinary operations such as: the need for frequent draining of fuel oil service and settling tanks and engine lube oil sump tanks of excessive water waxing, compatibility, stratification or other contamination problems.

Such operations shall be recorded and explanations provided for the handling of unburned sludges, oils, oily wastes and used filters.

Records shall be maintained in the Extraordinary E/R Operations Log Book.

SECTION 5: OPERATIONAL CONTROLS

Unintended/Accidental Release of Water, Fuel Oil and Lub Oil from any E/R Machinery

In the event that a line or component on a fuel, lube or waste oil system fails, including high pressure lines on diesel engines or due to an operational error, a record shall be made providing details on the quantity of fluid released and an explanation as to how the unintended release of quantity was handled shall also be recorded. Unintended releases of quantities of water, salt or fresh condensate or cooling shall also be recorded in the Extraordinary E/R Operations Log Book. Records shall be made in the Extraordinary E/R Operations Log Book.

SECTION 5: OPERATIONAL CONTROLS

Leakages

In the event that any line or component on a fuel, lube or waste oil system fails, including high pressure lines on diesel engines, a record shall be made in the Extraordinary E/R Operations Log Book.

The quantity released and an explanation on how the unintended release of fluid was handled should be recorded in the Leakage log book.

Unintended releases of abnormal quantities of water (salt, fresh, condensate or cooling) shall also be recorded in a similar manner.

The entry into the Log Book shall include the following information:

- Date of event
- Type of fluid released
- Quantity of fluid released
- Source of released fluid
- Method of disposal of released fluid

SECTION 5: OPERATIONAL CONTROLS

Oil to Sea Interface Management

Tanks of shipboard systems having oil-to-sea interfaces where a leaking component may cause a loss of operating medium into the surrounding waters of the vessel shall be sounded on a daily basis. The performance of the soundings shall be entered into the engine log book.

Any replenishment of oil into such tanks shall be logged regardless of quantity.

Ingress of water into or drainage of water from these systems and routine stern tube lube oil loss shall be logged and reported by the Chief Engineer to the Technical department immediately.

Shipboard systems having oil-to-sea interfaces where a leaking component may cause a loss of operating medium into the surrounding waters of the vessel are defined as the stern tube and the bow thruster where applicable.

SECTION 5: OPERATIONAL CONTROLS

Tank Sounding log

- a Tank soundings of the tanks as per IOPP Form B shall be carried out on a daily basis by the designated engine room officer and recorded in the Tank Sounding Log.
- a All entries in the Tank Sounding log shall be made handwritten in ink. Corrections made to entries shall be crossed out and initialed.
- a Daily entries in the Tank Sounding log shall be initialed by the Engine Officer carrying out the soundings.

SECTION 5: OPERATIONAL CONTROLS

Fuel and Lube Oil Management and Bilge and Sludge Production Monitoring

The Chief Engineer shall maintain the Chief Engineer's Weekly Report. The Chief Engineer's Weekly Report shall be submitted to the Technical dept. on a weekly basis.

The report is reviewed by the responsible Superintendent. In the event that any discrepancies are identified, an investigation shall be initiated in order to establish the root cause of the discrepancy.

Any increase in sludge production due to an automatic change in shoot interval settings must be entered into the Tank Sounding log with the relevant explanation.

Shoot interval settings or any other settings of the purifiers shall not be changed manually.

SECTION 5: OPERATIONAL CONTROLS

Pollution Prevention Equipment Management

The vessel shall maintain:

- a A list of critical pollution prevention equipment.
- a A list of instruction manuals for the defined critical pollution prevention equipment.
- a A list of acceptable chemicals specific to the OWS and OCM installed onboard.

SECTION 5: OPERATIONAL CONTROLS

Inventory of Deck and Engine Room Flexible Hoses

The Chief Engineer and the Chief Officer shall maintain an inventory of all flexible hoses 40mm in diameter or more, in current use or stored aboard the vessel.

Each flexible hose shall be identified by a specific number that shall be in accordance with that listed in the inventory.

The Flexible Hose Inventory shall indicate each hose's location, diameter, type, length, whether it is in use and its usage.

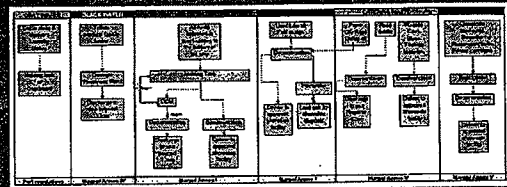
The Flexible Hose Inventory shall be updated every six months and submitted to the Technical department.

SECTION 5: OPERATIONAL CONTROLS

The EMP also provides instructions on the following:

- Operating the Oily Water Separator and Oil Content Meter
- Testing the Oily Water Separator and Oil Content Meter
- Transferring Data from the Oil Content Meter
- Operating the Incinerator
- Operating the Sewage Treatment Plant

SECTION 6: WASTE STREAM MANAGEMENT



SECTION 7: Handling of Non – Conformities, Observations and Incidents Related to the Environment

Reporting and Handling of Non – Conformities and Observations
Upon identification of a non – conformity or observation that may have effect on compliance with environmental compliance, an Environmental Non – Conformity / Observation report shall be issued. The report shall be submitted to the company's EMR for review and analysis in order to establish its root cause.
Corrective and preventive actions shall be established with an aim to eliminate the root cause of the non-conformity/observation and ensure that the issue shall not recur in the future.
A time frame for the implementation of the corrective / preventive actions shall be established and monitored.

SECTION 7: Handling of Non – Conformities, Observations and Incidents Related to the Environment

Reporting and Handling of Incidents
In the event of an incident, all actions shall be taken in accordance with the requirements of the Emergency Response Plan.
Once the situation has been brought under control, the Master shall issue an Environmental Incident report.
The incident shall be entered into all relevant log books as necessary.
The EMR shall initiate and co-ordinate an investigation of the incident in order to establish the root cause.
Corrective and preventive actions shall be established with an aim to eliminate the root cause of the incident and ensure that the issue shall not recur in the future.
A time frame for the implementation of the corrective / preventive actions shall be established and monitored.

SECTION 8: Continuous Evaluation and Improvement

Environmental Management Review

An Environmental Management Review shall be held at the company on an annual basis.

The agenda of the meeting shall include:

The minutes of the previous meeting

Review of targets and objectives

Review and assessment of the Environmental Programs

Feedback provided from Master's Environmental Reviews

Feedback provided from Fleet Engineering Surveys

Incidents, accidents and near misses related to the environment

Results related to the environment from 3rd Party Inspections

Environmental Training

Review of company's Environmental Policies

Review and evaluation of company's environmental performance

Proposal of performance targets for the coming year

SECTION 8: Continuous Evaluation and Improvement

Master's Environmental Management Review

The Master shall complete the Master's Environmental Management Review at least once during his tour of duty.

The Master's Environmental Management Review shall be completed within three months of taking command of the vessel.

The purpose of the Master's Environmental Management Review is to evaluate the effectiveness of the Environmental Management Plan and seek ways in which to improve it.

The Master's Environmental Management Review shall be submitted to the EMR for review.

Feedback shall be provided to the Master following review of the Master's Environmental Management Review.

SECTION 8: Continuous Evaluation and Improvement

Fleet Engineering Survey

Each Engine Officer including the electrician shall complete the company's Fleet Engineering Survey within three months of signing - on onboard.

The Fleet Engineering Survey shall be submitted to the Technical Manager for review.

The purpose of the Fleet Engineering Survey is for each member of personnel to propose effective methods of improving waste stream management onboard the vessel.

SECTION 8: Continuous Evaluation and Improvement

Fleet Engineering Survey

Fleet Engineering Survey	
Engine Officer Name	Signature
Engine Officer Title	Signature
Engine Officer Position	Signature
1. Please provide a brief description of your current waste stream management practices on board the vessel.	
2. Please provide a brief description of your current waste stream management practices on board the vessel.	
3. Please provide a brief description of your current waste stream management practices on board the vessel.	
4. Please provide a brief description of your current waste stream management practices on board the vessel.	
5. Please provide a brief description of your current waste stream management practices on board the vessel.	
6. Please provide a brief description of your current waste stream management practices on board the vessel.	
7. Please provide a brief description of your current waste stream management practices on board the vessel.	
8. Please provide a brief description of your current waste stream management practices on board the vessel.	
9. Please provide a brief description of your current waste stream management practices on board the vessel.	
10. Please provide a brief description of your current waste stream management practices on board the vessel.	

SECTION 8: Continuous Evaluation and Improvement

Internal Audits

Internal Environmental Audits shall be carried out on an annual basis by a qualified auditor from the company.

The aim of the audit is to:

- Verify the effective implementation of planned activities including monitoring, measurement and improvement processes.
- Verify actions taken as results from previous audits.
- Verify the effective and efficient use of resources.
- Identify opportunities for continuous improvement.
- Record identified non-conformities.

SECTION 8: Continuous Evaluation and Improvement

Internal Audits

The audit report shall include the following:

- Area audited
- Date of audit
- Purpose and scope of audit
- Auditor name
- Date/time of opening and closing meetings
- Audit plan
- Summary of audit results
- Non-conformity reports

SECTION 9: Document Control

Environmental Management System Structure

ENVIRONMENTAL MANAGEMENT MANUAL

U.S. COMPLIANCE PROGRAM ANNEX

FORMS

SECTION 9: Document Control

Document Control

All documents and forms indicate the effective date and the revision in the header of each page.

IONIA MANAGEMENT S.A.	Prepared by: DPA	Effective Date:
Issue:	Approved by: MD	Revision:
		Page: 1 of 1

SECTION 9: Document Control

Record Keeping

Guidelines regarding record keeping are provided for the following:

Oil Record Book Part I & II

Tank Sounding Log Book

Bilge and Sludge Receipts

Engine Log Book

Extraordinary E/R Operations Log Book

Engine Room Seal Log and Spare Seal Log Inventory

Garbage Log Book

Vessel Environmental Performance Report

Office Environmental Performance Report

SECTION 9: Document Control

Matrix of Environmental Management System Forms

Form Number	Form Name	Frequency	Responsible Party	Retention Period	Storage Location	Review Frequency	Review Location	Review By	Review Date
ENV-001	Oil Record Book Part I & II	2 years	Master	12	12	12	12	12	12
ENV-002	Tank Sounding Log Book	2 years	Master	12	12	12	12	12	12
ENV-003	Bilge and Sludge Receipts	2 years	Master	12	12	12	12	12	12
ENV-004	Engine Log Book	2 years	Master	12	12	12	12	12	12
ENV-005	Extraordinary E/R Operations Log Book	2 years	Master	12	12	12	12	12	12
ENV-006	Engine Room Seal Log and Spare Seal Log Inventory	2 years	Master	12	12	12	12	12	12
ENV-007	Garbage Log Book	2 years	Master	12	12	12	12	12	12
ENV-008	Vessel Environmental Performance Report	2 years	Master	12	12	12	12	12	12
ENV-009	Office Environmental Performance Report	2 years	Master	12	12	12	12	12	12

SECTION 9: Document Control

Matrix of Environmental Management System Forms

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ENV-002	Tank Sounding Log Book	2 years	Master	12	12	12	12	12	12
ENV-003	Bilge and Sludge Receipts	2 years	Master	12	12	12	12	12	12
ENV-004	Engine Log Book	2 years	Master	12	12	12	12	12	12
ENV-005	Extraordinary E/R Operations Log Book	2 years	Master	12	12	12	12	12	12
ENV-006	Engine Room Seal Log and Spare Seal Log Inventory	2 years	Master	12	12	12	12	12	12
ENV-007	Garbage Log Book	2 years	Master	12	12	12	12	12	12
ENV-008	Vessel Environmental Performance Report	2 years	Master	12	12	12	12	12	12
ENV-009	Office Environmental Performance Report	2 years	Master	12	12	12	12	12	12

SECTION 10: Shipboard Personnel & Non - Crew Members

Pre - joining

Prior to signing - on each seafarer shall be assessed for competency by carrying out a multiple choice test.

The competency assessment shall indicate any areas of weakness that may require to be addressed with the further training.

The seafarer shall also attend external training courses with an aim to enhance his environmental awareness.

Upon satisfactory completion of the pre - joining familiarization program, the seafarer shall sign a "Declaration of Environmental Commitment".

Signing - On

Upon signing - on, the crew member shall be familiarized with the requirements of the Environmental Management Plan.

Engine Officers shall be trained in the use of all pollution prevention equipment in the engine room while Deck Officers shall be trained in the use of pollution prevention equipment related to deck operations.

The Onboard Environmental Familiarization Form shall be completed for all seafarers.

SECTION 10: Shipboard Personnel & Non – Crew Members
Signing – Off

Each seafarer's performance with regard to his environmental awareness shall be evaluated upon completion of his tour of duty.

The Master shall assess deck personnel, while the Chief Engineer shall assess engine personnel.

Prior to signing – off, the Master, Chief Officer, Chief Engineer, 2nd Engineer, Bosun, Electrician and Cook shall hand over the environmental components of their responsibilities to their replacement.

Prior to signing – off the seafarer shall sign a "Declaration of Environmental Compliance."

SECTION 10: Shipboard Personnel & Non – Crew Members

Environmental Meetings

Environmental Meetings shall be held on a monthly basis.

The agenda of the meeting shall include:

- The vessel's environmental performance
- Incidents, observations and non – conformities related to the environment
- Results of environmental audits and inspections held onboard the vessel
- Monthly environmental notices provided by the company
- Training and drills held onboard related to the environment and pollution prevention
- Proposals for improving the vessel's environmental performance

The minutes of the meeting shall be recorded with the minutes of the Safety Committee meeting and forwarded to the company for review.

SECTION 10: Shipboard Personnel & Non – Crew Members

Environmental Protection Procedures for Non – Crew Members

All visitors onboard the vessel who shall either sail with the vessel, carry out works onboard the vessel or attending the vessel shall be briefed regarding the company's environmental policy and requirements upon their arrival onboard.

Upon completion of their briefing, they shall verify their acknowledgement of the briefing and sign the relevant statement accordingly.

SECTION 11: Anonymous Reporting Procedure

Any member of personnel, both ashore and onboard company managed vessels that may become aware of a situation that is detrimental to the company's integrity and reputation is obliged to report the issue to the Technical Manager.

The suspected violation may be reported anonymously, addressed to the Technical Manager, through any one of the following means:

- Toll-free telephone number
- Anonymous reporting email
- Anonymous reporting letter by post mail

The contact details of the above are listed in the company's "Code of Ethics" pamphlet that is provided to all members of personnel prior to signing – on or when joining the company.

SECTION 13: U.S. Compliance Annex

This section applies to the vessels that are under the terms of probation.

- M/T Elias
- M/T Theo T

The Technical Manager is appointed as the Corporate Compliance Manager (CCM).

A copy of the Special Master's Scope of Work must be maintained by the Master and the Chief Engineer.

SECTION 13: U.S. Compliance Annex

The Corporate Compliance Manager is responsible for:

- Co-ordinating with the Special Master in accordance with the terms of probation.
- Ensuring the implementation and assuring compliance with the terms of probation.
- Ensuring that observations resulting from any internal audit, inspection or record review are appropriately documented, tracked and resolved and that such resolutions are thoroughly documented in a format that can be readily audited.
- Ensuring that each covered vessel submits copies of records submitted in accordance with the terms of probation on a monthly basis.
- Ensuring that no duplication of ETS seal numbers occurs and maintaining a master tracking document indicating which series have been supplied to each vessel.
- Selecting an appropriate laboratory in order to carry out an analysis of the bilge samples provided by the covered vessels.
- Evaluating responses provided by shipboard personnel through the Fleet Engineering Survey and establishing a plan to evaluate, test and implement viable tamper - proofing solutions and methods to reduce and handle waste accumulations, cargo slops and address the maintenance concerns suggested by the shipboard engineers.

SECTION 13: U.S. Compliance Annex

Daily Tank Soundings

Daily tank soundings of all tanks related to Form B of the IOPP are to be carried out by the responsible engine watchstander. The tank soundings are to be witnessed by the appointed Deck Officer. Both Officers shall sign the entries in the tank sounding log.

The tank sounding log is to be handwritten in ink.

Bilge Sampling and OWS Performance Analysis

Bilge samples shall be taken from the engine room bilges, the OWS and the bilge holding tank.

The samples shall be forwarded to the appointed laboratory for analysis.

The analysis report shall be forwarded to the OWS makers in order to verify that the bilges are compatible with the OWS installed onboard.

SECTION 13: U.S. Compliance Annex

SWOMS (Envirologger)

The SWOMS has been installed onboard the covered vessels.

The SWOMS monitors the levels of all IOPP Form B tanks in the engine room as well as the operation of the incinerator and the OWS.

Data from the SWOMS is automatically sent electronically to the company's premises.

The SWOMS shall be maintained and inspected in accordance with the Envirologger checklist.

The SWOMS data shall be compared with the engine room alarm printouts, Oil Record Book Part I entries and tank sounding log book entries on a weekly basis by the Chief Engineer.

The above data shall be submitted to the company's Technical dept. on a monthly basis for review.

*"Tell me and I will forget, Show me and I may
remember, **INVOLVE** me and I will learn.."*

THANK YOU

IONIA MANAGEMENT S.A	Prepared by: DPA	Effective Date: 01/07/2009
Environmental Management Manual	Approved by: MD	Revision: 0
	Section: Continuous Evaluation and Improvement	Form:ENV 016

INTERNAL ENVIRONMENTAL AUDIT REPORT

Number: 01/09

Issued:(date): 16th November, 2009

Internal Audit Number: 01/09	Department / Vessel: M/T FIDIAS
<p>A. Internal Audit Purpose:</p> <p>To determine the degree of implementation and effectiveness of the Company's Environmental Management System.</p> <p>A. Scope (functions audited):</p> <ul style="list-style-type: none"> - Policies, Duties / Responsibilities and Authority - Certification and Documentation - Environmental management Procedures - Shipboard personnel familiarization, training and drills - Operational Controls - Pollution Prevention Equipment <p>C. Auditor or Auditors Team (Names and Titles):</p> <p>- Lead Auditor: Aris Dimou</p> <p>- Auditor A:</p> <p>- Auditor B:</p>	
<p>This report is issued by (Name and Title):</p>	
<p style="text-align: center;">Distribution</p> <p>- Environmental Management Representative <input type="checkbox"/></p> <p>- Head(s) of the department(s) being audited <input type="checkbox"/></p> <p>- Master of M/T FIDIAS <input type="checkbox"/></p>	

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INTERNAL AUDIT PLAN:

A. Opening Meeting (date and time):

Members of Personnel Present

- Master
- Chief Engineer

B. Function(s) / Department Audited:

Function / Department	Date - Time
- Policies, Duties / Responsibilities and Authority	10:00 – 11:00
- Certification and Documentation	11:00 – 11:30
- Environmental management Procedures	Throughout the audit
- Shipboard personnel familiarization, training and drills	12:00 – 12:30
- Operational Controls	13:30 – 15:00
- Walk on deck and engine room compartments	13:30 – 15:00
- Pollution Prevention Equipment	13:30 – 15:00

C. Closing Meeting (date and time): 23rd November 2009 / 16:00

Members of Personnel Present

- Master

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Summary of Internal Audit Results

Note: The abbreviation 'EMS' used throughout this report, will mean the Company's Environmental Management System

The first Internal Environmental Audit onboard M/T Fidas took place on the while the vessel was at Piraeus Roads, waiting to receive bunkers and provisions. The purpose of the audit was to verify determine the degree of compliance and effectiveness of the Company's Environmental Management system. The audit was performed by looking into the vessel's records related to the Environmental Management System, by interviewing the related parties and by checking the areas of activity including the engine room compartments.

At the time of the audit it was verified that the Company's Environmental Management System Policies were available onboard and signed by the Company's Managing director. It was also verified that they were posted in the dedicated areas as the EMS requires. It was established that the Environmental Management Manual was available onboard and there were three copies available, one for the Master, one for the Chief Engineer and one for the Chief Officer. All copies were updated.

Upon reviewing vessel's documentation and certificates, the following were observed:

- All statutory certificates were checked and found to be valid, having also the relevant endorsements.
- Approved SMPEP with relevant certificate available, having also the national port contacts updated (September 2009). All SOPEP drills were found to be carried out according to the Company's Drill program and relevant entries were traced in the SMPEP manual. Also, an updated list of the vessel's anti-pollution equipment was traced to be available in the manual. Upon checking it was established that the items stated in that list were the accurate ones.
- The company's emergency response contact details were available and updated reflecting the accurate information.
- A copy of vessel's VRP manual was available onboard, having the latest revisions in place.
- IOPP and IAPP certificates were available with relevant endorsements.
- An environmental Master's review was not available onboard.
- Records were found to be available indicating that non-crew members have been made aware of the requirements of the company's EMS.
- Logs for the 'non-crew members' were available and relevant records were traced. At the time of the audit, the Chief Officer asked the superintendents to read and sign the relevant form as part of the EMS requirements.
- A Copy of the Company's "code of ethics" was available onboard.
- The Garbage Management Plan was available onboard.
- It was established that garbage is being handled in accordance to the requirements of the garbage management plan. Relevant segregation onboard was also verified.

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- Placards for garbage management were found to be posted in several areas within the vessel.

During the discussion with the Master it was verified that he was aware of his responsibilities and authorities with regards to the EMS requirements. Same stands for the Chief engineer who also presented good knowledge for his responsibilities. However, it should be noted that the Master had several questions with regards to the EMS documentation. The issues were discussed on the spot. The Chief officer was not available at the time of the audit.

The operational controls according to the provisions and requirements of the EMS were checked and the following were observed:

- A seal inventory log was available and maintained by the Master.
- The Engine room seal log book was also available and properly kept by the Chief engineer. Seal allocation list was also available and attached to the engine room seal log.
- Several seal replacements that had taken place were found to be entered in the log book.\
- The dedicated emergency bilge suction valves were observed to be painted brightly and there was a colored sign with three inch letters permanently fixed nearby.
- Emergency bilge suction valves were found to be sealed as necessary.
- Bilge system piping cross-over were observed to be painted in orange colour and also having signs prohibiting their use.
- The 'extraordinary engine operations' log was available. At the time of the audit there were no records revealing an extraordinary operation.
- Tank sounding log was available and kept in order. The entries were identical to those of the Oil Record Book.

With regards to the availability and maintenance of pollution prevention equipment, the following were observed:

- The Chief Engineer confirmed that the OWS and OCM were operational. Relevant records of routine test were available; however at the time of the audit relevant on-scene test could not be performed.
- Instructions for the use of OWS and OCM were available and observed to be easily identified near the system.
- OCM monthly tests were traced in the Oil record Book.
- Incinerator was also claimed to be operational. Records of its use were available and also traced into the Oil Record book. Period of its use were in line with the actual system's specifications. Operating instructions were found to be available.

The deck was found to be well maintained and the Engine room was clean and well lit. The galley was also found to be exceptionally clean and same applies to the stores rooms which were in a very good order.