# SUSTAINABILITY REPORT

The Company recognizes that irresponsible shipping operations will inevitably lead to catastrophic environmental impact, particularly in terms of air and/or water pollution. Therefore, The Company is firmly committed to the protection and conservation of the environment, and ranks environmental considerations equally with commercial and operational factors.

However, over years of operation the Company has realized that simply complying with regulations is not enough, but what is needed is to go above and beyond the mandatory regulations by developing internal emergency response plans and quality control systems, constantly searching for new technologies to employ to help reduce our environmental impact, and also a firm commitment to reducing CO<sub>2</sub> emissions and waste generation.

This report outlines the most significant environment-related maritime regulations and the Company's compliance therewith; the report also outlines the Company's internal emergency and quality control systems and CO<sub>2</sub> reduction efforts. This report concludes with a statement of goals and objectives set by the Company for the coming year.

## **Compliance with Regulations & Conventions**

In order to have the Company's ships sailing in international waters, the Company is legally required to be fully compliant with the following regulations imposed by the International Maritime Organization (IMO) and other regulatory bodies:

- Maritime Regulations for Prevention of Pollution (MARPOL).
- International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004.
- International Convention on the Control of Harmful Anti-Fouling Systems 2001.
- International Convention on Civil Liability for Bunker Oil Pollution Damage 2001.
- International Maritime Dangerous Goods Code.
- National Regional and Local regulations more stringent than the international requirements like US environment protection acts, European Union air pollution directives etcetera.

In addition to the above, the most significant regulations are outlined below, and the Company's efforts to remain compliant.

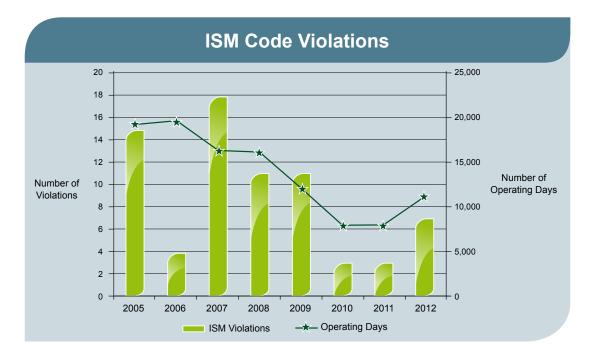
International Safety Management Code (ISM Code): Learning from various marine casualties over the years, "International Safety Management Code" (ISM Code) was introduced by the International Maritime Organization, to enhance the safe operation of ships and pollution prevention. The ISM Code became mandatory on 1<sup>st</sup> July 1998 for passenger ships including passenger high-speed crafts, oil tankers, chemical tankers, gas carriers, bulk carriers and cargo high-speed crafts of 500 gt and upwards, but the Company implemented this in 1995 itself after obtaining due certification.

The Code is implemented on board the vessels and offices ashore in order to provide an international standard for the following objectives:

- 1. Ensure safety at sea.
- 2. Prevent human injury or loss of life.
- 3. Avoid damage to the environment.

Below is a graphical account of the Company's ISM Code violations viewed against Operating days from 2005-2012. For the purpose of this analysis, violations are considered as any incident that results in a fire, explosion, injury or death to crew members, collisions, and groundings. Operating days hit a peak with 19,710 days in 2006, while ISM code violations peaked in 2007 with 18 violations. However, between 2007 and 2011 the code violations declined by 94%; there has been an uptick in 2012, and the Company has analysed each violation in detail and conveyed to all senior employees as a case-study, and to avoid recurrence. On violations per operating day basis,

2006 and 2011 were The Company's best years with the violation at the lowest at 0.02%, while even at worst, in 2007, the violations were a negligible fraction, at only 0.11%. Across the period, the average violation for the whole fleet was only 0.06%.



As per the ISM code requirements, annual internal audits are conducted on board by a dedicated team of qualified and experienced ship auditors reporting directly to the Managing Director. All incidents of non-compliances, accidents and near misses are thoroughly investigated and analyzed, after which procedures are reviewed immediately. Furthermore, all lessons learned from various accidents and near miss incidents are shared with organizations like Marine Accident Reporting Scheme (MARS) for the mutual benefit of the industry and to enhance maritime safety in general. The Nautical Institute, London, which publishes the MARS reports every month, has appreciated the Company's participation in MARS and for promotion and sharing "lessons to learn" incidents and case studies from own fleet for the benefit of the industry. This is in compliance with our highest ideals of quality management and social responsibility.

In addition to the above, the Company is undertaking following initiatives to limit ISM Code violations through preventative action:

- Enhanced staff training: An increasing trend in the industry is that Port State Control inspectors are getting more stringent in their enforcement of the ISM Code. As such our ship staff are given regular checks on their ISM knowledge, sharing of experiences from across the fleet.
- Enhanced maintenance of vessels: The head office has stressed that all machinery checks and
  inspections be carried out with greater frequency, and any difference observed by ship staff are
  immediately reported. Also the Company's management has stressed that internal auditors enforce the
  code more stringently than ordinary inspectors to achieve a higher level of compliance and safety for
  our ships, cargoes and crew.
- Timely warnings and reminders to vessels: Vessels entering North American and Australian waters
  often require additional certificates for compliance with local regulations. As a preventative measure the
  head office gives instructions to the crew well in advance of the vessel's arrival in such waters to ensure
  that all documents are in order and the vessel is in full compliance.
- In 2012, the Company became a member of INTERCARGO, the International Association of Dry Cargo Shipowners. Intercargo, quoting their own words, 'exists in order to link industry stakeholders in a commitment to a safe, efficient and environmentally friendly dry cargo maritime industry, and our vision

is for a safe, efficient and environmentally friendly dry cargo maritime industry where its member's ships serve world trade – operating competitively, safely and profitably'. This perfectly fits in with the Company's philosophy and the Intercargo membership reflects Company's resolve towards sustainability.

 In 2012, the Company also became a member of RightShip, an independent ship-vetting organisation formed by BHP Billiton, Rio Tinto and Cargill, three of the world's largest trans-national corporations and major users of sea transport services. RightShip's ship vetting model is known for its exacting and stringent standards, and focuses on ship safety (including crew and cargo) and marine environmental protection; and the Company's membership is yet another affirmation towards sustainability.

Keeping in line with the declining trend observed in the previous graph, the Company has set an internal target of zero ISM Code violations resulting in injury or death, fire, collisions or groundings or any vessel detentions resulting from an ISM Code violation.

**International Ship and Port Safety (ISPS) Code:** In light of changing security circumstances across the globe, the International Ship and Port Safety Code was adopted in 2004. The code is an amendment to the Safety of Life At Sea (SOLAS) Convention that encompasses a greater level of security arrangements for ships and ports. The code assigns responsibilities to governments, shipping companies, shipboard personnel, and port/facility personnel to "detect security threats and take preventative measures against security incidents affecting ships or port facilities used in international trade" (ISPS Code Part A 1.2.1).

In implementing the ISPS Code the Company has developed standard operating procedures for vessels entering ports prone to drug smuggling, and stowaways. This includes employing sniffer dogs and armed guards where appropriate. Furthermore, standard policies are employed whenever vessels call European, British, American, Australian or Canadian ports, and to date the Company has had only 1 detention from an ISPS violation.

Annual internal reviews are conducted on preventative measures including the performance of the companies providing the sniffer dogs and guards. Like the ISM audits mentioned above, these are carried out by a dedicated team of qualified and experienced ship auditors reporting directly to the Managing Director. All incidents of non-compliance, accidents and near misses are thoroughly investigated and analyzed. In the event of any failures of the standard operating procedures, reviews are immediately conducted.

Below is a graph displaying the number of ISPS Code Violations (left-hand axis) against the number of Operating days (right-hand axis) from 2005-2012. ISPS violations peaked in 2005 with 11 violations occurring that year, while operating days peaked in 2006 with 19,710 days. Both operating and ISPS violations reached their lowest levels in 2011 with 0 code violations during 5,842 operating days. There were no ISPS violations in 2012.



The Company has set an internal target of zero violations for the coming year.

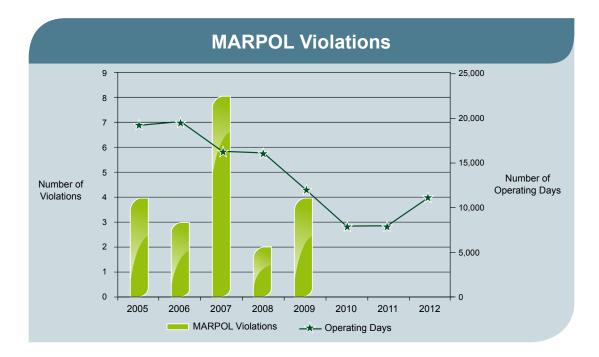
**PIRACY:** As outlined in **the Board of Directors' Report**, piracy is major threat faced by the Company's ships and the officers/crew sailing onboard are under tremendous pressure when sailing through areas where armed pirates are known to attack. This is especially true of the Indian Ocean / Arabian Sea area, extending from the mouth of the Persian Gulf in the north to the south of Madagaskar. The Company takes this threat very seriously and ensures all ships are routed outside these areas and closer to the Indian coast; where this is not possible for any reason, the Company engages security guards to sail with the vessel for the passage through these high risk areas. In any case, all ships transiting through the high risk areas are 'hardened', amongst other things, by rigging barbed razor wire around the ship thereby making it harder for the pirates to climb onboard our ships. The Company is committed to doing everything possible to ensure safety of the ship and officers/crew.

**MARPOL:** is one of the most important environmental regulations in the maritime industry and aims "to preserve the marine environment through the complete elimination of pollution by oil and other harmful substances and the minimization of accidental discharge of such substances." This convention is divided into 6 distinct sub-areas (IMO, 2011):

- 1. Regulations for the Prevention of Pollution by Oil.
- 2. Regulations for the Control of Pollution by Noxious liquid substances in bulk.
- 3. Regulations for the Prevention of Pollution by harmful substances carried by sea in packed forms, or in freight containers, portable tanks or road and rail tank wagons.
- 4. Regulations for the Prevention of Pollution by Sewage from ships.
- 5. Regulations for the Prevention of Pollution by Garbage from ships.
- 6. Regulations for the Prevention of Pollution by Air from ships.

There is a companywide acknowledgment that the risk posed to the marine environment from a marine incident is severe. The Company has adopted a great deal of preventative measures to limit this risk factor. The first is to limit human error, and the second is to maintain the vessel's machinery to the highest possible standard.

In order to limit human error the Company has developed an internal training programme for all seagoing staff. This includes simulator exercises designed to improve navigational skills and awareness by putting officers through various weather, sea and port conditions. Furthermore, the Company also ensures that all engineers employed are put through their own specific rigorous programme aimed at enhancing their ability to maintain engines and avoid any fuel or sludge discharge while the vessel is in port or at sea.



The above graph demonstrates the number of MARPOL violations (left-hand axis) resulting in an insurance claim and Operating days (right-hand axis) from 2005-2012. For the purpose of the analysis, any incident counts as a violation if it is resulted in an insurance claim. MARPOL violations were most numerous in 2007 with 8 violations, while Operating days peaked in 2006. The average number of violations for the period was less than 3, while the average number of operating days was 13,805 days. From 2007 to 2012, the total number of incidents declined by 100% while Operating days declined by 32%. On a per day basis in 2007, the Company violated MARPOL 0.03% of all Operating days, while in 2010, 2011 and 2012, the Company obtained a rate of 0% violations per Operating day. As is the case with the 2 previous codes outlined, the Company aims to have zero MARPOL violations in 2013 and that none of our vessels are detained as a result of a MARPOL violation.

**Upcoming Regulations:** The following regulations are coming into force within the next few years and the Company is already inducting them into our business operations.

## SEEMP (Ship Energy Efficiency Management Plan) - Jan 2013 EEDI (Energy Efficiency Design Index) for new buildings - Jan 2013

#### MLC (Maritime Labour Convention) - Aug 2013

Having successfully outlined and explained the significant maritime regulations that safe guard the environment and those that will soon play a significant role, the next section details the Company's internal environmental control system.

## Protection and conservation of the environment:

**ISO 14001 Certification:** With an increasing demand for environmental conservation the Company has established an "Environment Protection Policy." In addition to minimum requirements based on international conventions and regulations, the Company implements an Environment Management System (EMS) complying with the ISO 14001 standards. ISO 14001:2004 provides a framework for a holistic, strategic approach to the Company's environmental policy, plans and actions, and demonstrates that the Company is an environmentally responsible organization. Upon completion of one year after initial certification, the Company has successfully completed annual audit verification conducted by Class NK, confirming compliance with the standards. The EMS supplements the Quality Management System, meeting ISO 9001 standard, and the International Safety Management (ISM) code. This integrated Management System is known as Safety Quality and Environment Management System (SQEMS). According to the SQEMS, the Technical Manager, who also heads the Management Company, is appointed as the "Management Representative" and is also the "Designated Person" for the purpose of the ISM code. In 2008, ClassNK issued the Company a QMS certificate - the new 2008 version of ISO 9001. In general, dry bulk shipping companies do not go for this certification which is more or less the exclusive preserve of tanker companies where protection of the environment is the paramount issue.

#### **Objectives of the EMS:**

- Minimize pollution caused to the environment.
- Comply with all national, international legislations and other regulations pertaining to pollution of the environment.
- Establish procedures for the efficient use of natural resources.
- · Improve environmental awareness of all employees.
- Ensure effective monitoring of the environmental performance of the Company is carried out.
- Ensure continual improvement of environmental performance and pollution prevention.

Through periodic review and continual improvement of our SQEMS, the Company hopes to elevate environmental performance over the coming years and make significant contribution to conservation of the environment and reducing the Company's carbon footprint. Another tangible effort being made by the Company to reduce the environmental impact of the business is the adoption of new environment friendly technology on new ships acquired.

## **Use of New Technology and Innovations:**

The Company's commitment to protection and conservation of the environment and prevention of pollution is reflected in the new building contracts the Company has signed with ABG Shipyard in India for building 21 vessels (18 bulk carriers and 3 special-purpose cement carriers) out of which 9 bulk carriers were novated and 2 bulk carriers were delivered to the Company during 2011 and 2012 thereby reducing our order to 10 vessels (7 bulk carriers and 3 special-purpose cement carriers) at the end of year 2012. The vessels are being built to comply with all regulations presently in force and also those which are known to be applicable in the foreseeable future. In addition, wherever practical, the vessel's specifications exceed those mandated by regulations, both for ease of operations as well as to enhance the vessels' ability to protect and conserve the environment.

#### Some of the "Green" features of these new ships are:

- 1. Double Hull construction is utilized to minimize environmental pollution in case of accidental hull damage.
- 2. The vessels' hull form has been perfected after several rounds of careful design analysis using the latest technology, with a view to arrive at the most optimal combination of ship-size & shape to achieve the desired speed at minimum fuel consumption.
- 3. Engines fitted will be in compliance with Nitrogen oxide (NOx) emission standards.
- 4. Flush, box-type ship-sides for cargo holds this will reduce accumulation of cargo residues in the holds, thereby reducing the need for harmful cleaning chemicals for removal of the same, since the holds can be cleaned using water only.
- 5. Deep-well sump pumps for Main Engine oil circulating system this will reduce the overall quantity of lubricating oil required for the Main Engines, which will in due course reduce the quantities of waste oil.
- 6. Improved propeller design will reduce fuel consumption: Propeller boss cap fins this is a new propulsion-enhancing technology to improve the efficiency of the propulsion system, which in turn reduces the fuel consumption and the overall emission of exhaust gas waste products.
- 7. Shaft generators will be fitted on all ships which will reduce fuel consumption for on board power generation.
- 8. Large capacity Incinerator compliant with IMO performance standards (capable of incinerating plastics if required).
- 9. The vessels will be fitted with large incinerators, well above the requirements of MEPC.76 (40) Standards, to burn waste and sludge. This will ably supplement the Company's garbage and waste management system which is already in operation on all of the Company's vessels.
- Larger capacity Bilge water/sludge storage tanks these will enable environmentally friendly waste disposal ashore by allowing more flexibility in selecting the best waste disposal facilities ashore separately for oily water and sludge.
- 11. Improved Sewage Treatment Plants are being installed on the ships.
- 12. Ships will be in compliance with IMO's "Ship Recycling Convention": The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, was adopted in May 2009. It is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment. Presently the Convention is open for accession by States. It will enter into force 24 months after the date on which 15 States, representing 40% of world merchant shipping by gross tonnage, have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the Secretary General. Furthermore, the combined maximum annual ship recycling volume of those States must, during the preceding 10 years, constitute not less than 3 percent of their combined merchant shipping tonnage. As it stands, all ships contracted for building before 2015 will need to comply by the year 2020. New ships contracted from 2015 need to comply upon delivery. Our new building contracts will ensure compliance with this requirement. We will also be preparing all existing vessels to meet the requirements before the deadline arrives. Vessels will be maintaining

an inventory of Hazardous material in compliance with the convention recommendation, specifically by prohibiting/restricting the use of hazardous materials at the ship construction stage. If any hazardous materials are used in the construction, a continuous inventory of the same will be maintained, so that all the vessels are eligible to apply for an International Certificate of Inventory of Hazardous Material.

A few significant developments in respect of new ship-design and construction are outlined below. As far as practically possible, the Company will take these into consideration while acquiring new ships in the future.

**Eco-friendly ships:** Shipping is one of the cleanest and greenest industries among all international industries. It is also an environmentally friendly and fuel-efficient industry. It is estimated that shipping carries roughly 90% of world trade, and yet, according to the latest figures from IMO, it is responsible for just 2.7% of global carbon dioxide emissions. Nevertheless, the shipping industry continues to look for ways to reduce that figure still further.

Shipping industry has not yet solved all its green issues; rather it is far from it. Present endeavors of the industry and the IMO are two-fold:

- For existing vessels: Adoption of a number of established "good management practices" to conserve and save fuel burned by ships.
- For new vessels: Use of improved hull designs and more fuel efficient engines and technology.

**Ballast Water Treatment:** Presently mid ocean ballast water exchange is permitted as means to get rid of unwanted species in the ballast water finding its way and damaging local species in another port. However, when the Ballast water management Convention enters into force 12 months after ratification by 30 States, representing 35% of world merchant shipping tonnage, ballast water on board need to be treated to achieve standards specified by IMO. As of Dec 2012, 36 member states comprising 29.07% of world tonnage have ratified the convention. This convention is expected to achieve the ratification status by early 2013, in which case compliance will be enforced after 12 months or in the year 2014.

As per IMO, all new vessels constructed from 1 Jan 2012 are required to comply at the time of the enforcement date in 2014. US environment law has slightly different requirement. Vessels constructed from 31 Dec 2012 need to comply from the time of ships delivery. Treatment equipment also need a separate approval from US coast guard. These tests could be more rigorous than the tests carried out for IMO compliance.

There are more than 70 systems under development or available on the market, giving shipowners a huge headache in selection. It is widely believed that some of these systems will drop out of the market, either because they will not achieve the IMO approval standards or the US ones.

All efforts outlined thus far will have no significant impact unless there is a firm commitment from management to reduce  $CO_2$  emissions. Thus the following sections details what efforts are currently being undertaken to limit the Company's  $CO_2$  and waste output.

#### **Carbon Footprint and Waste Generation:**

The most recognized and constant source of  $CO_2$  comes from the burning of fuel oil onboard ships. In order to reduce  $CO_2$  emission, the only alternative available is to reduce the fossil fuel burnt. But that is not possible without sacrificing growth and development. The need therefore is to achieve higher efficiency while reducing the quantity of fuel oil burnt, and the Company has taken the following steps to achieve this.

- Improved voyage planning with reduced/minimized ballast passage.
- Weather routing.
- Speed Optimization.
- Optimized ship handling by Trim, Ballast condition.
- Hull Maintenance.
- Use of improved Hull coatings like Silicon based anti-fouling that does not release biocides like other anti-fouling paints.
- Improved cargo handling.
- Good Engine Maintenance.

The Company has consciously opted to acquire larger ships, of 54,000 – 57,000 tons deadweight; these ships can carry almost twice the amount of cargo, i.e. 100% more, compared to smaller ships in the fleet. However, more importantly, the larger ships burn just about 40-45% more fuel than the smaller ships per day of sailing. On this basis, the fuel burnt per unit load of cargo reduces drastically; this is yet another example of the Company's efforts towards sustainability and to reduce the carbon footprint.

The Company's stated goal is to own approximately 60-70 ships in the near future, and as such the aim is to endeavor to reduce the fuel and diesel oil consumption on a progressive basis every year. To accomplish this, the Company continuously looks at new technologies available in the market and examines their applicability for our type & size of ships. Ship builders the world-over are actively marketing their vessels as 'eco friendly' and describing them with speed and consumption figures that were previously never achieved. The Company seriously evaluates all new developments, but realized that the builders' claims are often sensationalised to grab attention and when technical parameters such as calorific value of fuel, design and scantling draft and 'sea margins' are taken into consideration, the so-called benefits simply do not exist or they are not cost-effective. In any event, the Company looks very closely at the machinery installed on all new acquisitions, whether new buildings or second hand vessels, and monitor their performance very carefully to arrive at optimum speed and consumption variables, while ensuring that emissions are kept to a minimum.

Another source of harmful substances generated by our ship's consumption of fuel and diesel oil is sludge. Sludge is a product of 'on board' fuel oil purification and as an alternative to incinerating sludge and releasing even more harmful gasses into the environment. The Company has made a substantial effort to dispose of such material to shore based reception facilities. This is a much more expensive way for dealing with this issue but the Company is committed to reducing its carbon footprint and reflects the Company's efforts towards environmental conservation. Between 2011 and 2012, the Company increased the disposal of sludge ashore by 9% from 532 tons to 579 tons of sludge. This accounts for the highest quantity of sludge disposed ashore in recent years. By delivering sludge to a suitable reception facility, this waste can be recycled to make products like grease which is a lubricant widely used in multiple industries.

#### **Conclusion and Environmental Objectives and Goals**

Having explained all facets of the Company's efforts to protect the environment this section concludes with a summary of all objectives put forward and how each will be monitored. Compliance with the ISM, ISPS and MARPOL codes will be monitored by the Company's internal audit team, and all initiatives subsequently employed to minimize violations will be subject to half-yearly reviews by the Company's senior management and technical team. As previously stated the target set by the Company's management is to have zero violations in 2012. Additionally, the Company will also strive to maintain our SQEMS ISO certification. The Company will constantly look for ways to improve the SQEMS and look to incorporate all new regulations into the initiative even before they become effective. Likewise, the Company will also constantly be on the lookout for newer technology that can be employed on our ships to reduce our environmental impact. And finally, given the Company's rapid fleet expansion programme, the Company has set a highly ambitious target of a 3-5 percent reduction for fuel and diesel oil consumption.

We are happy to report that the Company's Annual Report this year is printed on recycled paper, our token contribution to the conservation of the natural environment and in line with our stated desire to reduce our carbon footprint.