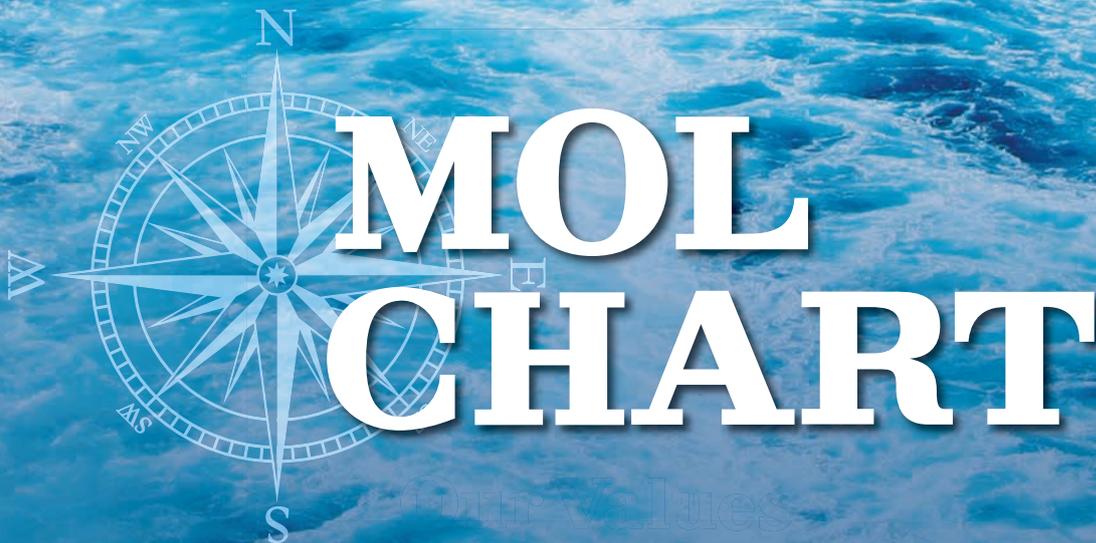
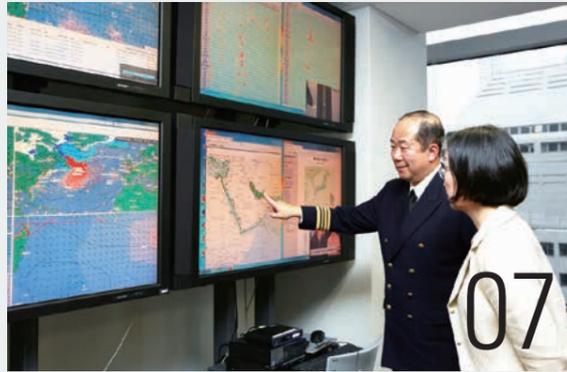


MOL Group
Safety, Environmental and Social Report
2015

Bluer Oceans, Cleaner Environment and Sustainable Future





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Business Summary

The business of the MOL Group centers on international ocean shipping, and supports people's livelihood and industries around the world through the transport of resources, energy, raw materials, finished products, and other goods. Playing an indispensable role in the sustainable growth of the world economy, the MOL Group meets the needs of the times while carefully addressing environmental issues and social needs in its business activities.

Bulkships



Dry Bulkers
 Dry bulkers transport large quantities of ore, coal, grain, wood chips (raw material for paper), etc., as bulk cargoes without any kind of packaging. The MOL Group, as one of the largest dry bulker operators in the world, provides safe, reliable transport of these essential resources, which connect countries around the world.



Tankers
 The very large crude oil carriers (VLCCs) that transport crude oil, the product tankers that carry petroleum products, the chemical tankers that carry liquid chemical products, the LPG tankers that carry liquefied petroleum gas, and so on, are all part of our tanker fleet, which is one of the largest in the world. The MOL Group, as an expert in carrying energy, serves as a global lifeline to keep the world moving.



LNG Carriers (including offshore business)
 Liquefied natural gas (LNG) is drawing considerable huge attention as a clean energy source, and the MOL Group, as a leading LNG carrier operator, ensures the safe transport of this vital commodity based on advanced technology and expertise built up over decades of successful operation. The MOL Group is also proactively engaged in offshore business projects such as crude oil and LNG offshore production facilities and receiving terminals.



Car Carriers
 Ever since MOL launched the first domestic car carrier in Japan, our group has continued to strengthen its position as the world leader in car carrier operation. We meet the diversifying, global needs of automakers by providing safe and stable transport services and introducing environmental technologies in a proactive manner.

Containerships (including port and logistics businesses)



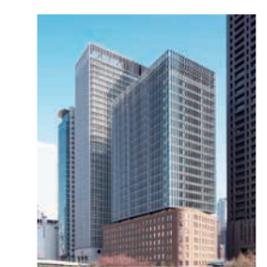
The MOL Group carries electronic products, car components, furniture, food products, and more, all shipped in containers on the routes that crisscross the world, including the major East-West routes linking Asia/North America and Asia/Europe as well as South-North routes and Intra Asia routes. We tie our global network together with advanced IT systems, offer detailed logistics services that meet our customers' needs, and periodically disclose targets and results of service indicators such as vessel on-time performance, reduced environmental impact, and safe operation.

Ferries and Coastal Liners



Domestically, the MOL Group contributes to the reduction of CO₂ emissions in Japan's overall logistics industry, not only by supporting livelihoods and industries, but also by taking a proactive stance in meeting the needs of the "Modal Shift," promotes the use of transport modes that offer a reduced environmental burden, through Japan's largest network of car ferry and coastal services.

Associated Businesses



Cruise ships, tugboats, land transport, warehousing, and maritime consulting are just a few of the ocean-shipping related business fields the MOL Group is engaged in. Still other MOL businesses include travel, marine/civil engineering, office building leasing, property management, finance, trading, insurance, IT systems and telecommunications, staffing, and supporting a national program to build an emergency oil stockpile. Our group has developed a wide variety of associated businesses that support our group-wide comprehensive strength, centering on ocean shipping.



MOL Group Safety, Environmental, and Social Report 2015 (Editorial Policy)

MOL decided to rename its former Environmental and Social Report, changing its title to the Safety, Environmental, and Social Report to more accurately reflect that its contents more clearly demonstrate the MOL Group's worldwide leadership in safe operation. The report specifies and introduces five of our highest-priority issues, explains details of the actions taken on those issues, the data on results, as well as background information on the role of ocean shipping and the issues it faces.

The Annual Report, which is published at the same time, is aimed mostly for shareholders and other investors, and has a different focus than the information in the Report on Safety, Environmental, and Social Report, which is for customers and other stakeholders. QR codes in this report's printed version or URLs in the PDF version link to related topics in the Annual Report for your reference.

Period
 FY2014 (April 1, 2014 to March 31, 2015). (Some information is from outside the report period and as such will be denoted with asterisks and footnotes.)

Scope
 In principle, all MOL Group companies that do business in Japan and overseas. (Activities and data that are limited in scope are reported with asterisks and footnotes.)

* The MOL Group
 Mitsui O.S.K. Lines, Ltd., 371 consolidated subsidiaries, 70 equity method affiliates and other affiliated companies.

* "The company" in this report refers to Mitsui O.S.K. Lines, Ltd. (MOL).

Reference Guidelines

- Environmental Report Guidelines 2012, Japanese Ministry of the Environment
- Environmental Accounting Guidelines 2005, Japanese Ministry of the Environment
- GRI (Global Reporting Initiative) (GRI Guidelines Version 4)

Please visit the "CSR/Environment" section of our Web site to view comparison charts with the GRI Guidelines and UN Global Compact.

Issue Date
 Issued July 2015 (Previous issue: July 2014; next issue: July 2016 (scheduled))

The MOL Group's CSR and the environment information are disclosed in:

Safety, Environmental, and Social Report 2015

"CSR/Environment" section (Web site)

"CSR/Environment" section (Web site)
<http://www.mol.co.jp/csr-e/>

More detailed information not included in this report can be found on our Web site.

Other communication tools

- Annual Report**
 Explains detailed investor relations information such as management strategy, business environment, financial reports, and financial data, primarily for shareholders and other investors.
- MOL Investor Guidebook**
 Explains the MOL Group's management plans, key financial indicators, characteristics of business activities, market position, and operating environment by business division, primarily for shareholders and other investors, with charts and figures in an easy-to-understand way.
- Corporate Brochure**
 Explains MOL business activities in a clear, concise manner, primarily for customers, business partners, communities, students and professionals who are seeking jobs, and the general public.
- Web site (http://www.mol.co.jp/en)**
 Provides an overview of businesses and the latest information through press releases for all stakeholders. The Web site also has links to the sites of MOL Group companies.



130 Years of History, Underscored by Our Never-ending Spirit of Challenge

In the more than 130 years since MOL was founded, we have continued to expand by our never-ending spirit of challenge.

MOL generates added value to the goods we transport via our main business, international ocean shipping. Through ocean shipping, we contribute to the development of regional industry and to more prosperous communities, which is part of our corporate social responsibility (CSR). Still, this has been inherited as the spirit of our company from its founding, and we are proud to say that we continue in that vein.

MOL History: The 1st 130 Years

1884

Osaka Shosen Kaisha (OSK Lines) is founded.



The Head Office building at the time of OSK Lines' founding

1942

Mitsui Steamship Co., Ltd. founded.



The Mitsui Head Office building at the time Mitsui Steamship Company was founded. (Nihombashi, Tokyo)

1964

OSK Lines and Mitsui Steamship Co. Ltd merge to form Mitsui O.S.K. Lines, Ltd (MOL). Nitto Shosen and Daido Kaiun merge to form Japan Line, Ltd. (JL). Yamashita Kisen and Shinnihon Kisen merge to form Yamashita-Shinnihon Steamship Co., Ltd. (YSL)

1989

Japan Line and Yamashita-Shinnihon Steamship merge to form Navix Line (NL).

1993

Crew training school established in Manila.



MOL Training Center (the Philippines)

1999

MOL and Navix merge, establish new Mitsui O.S.K. Lines, Ltd.



MOL Head Office building (Toranomon, Tokyo)

2000

MOL Environmental Policy Statement established.

2001

MOL Group Corporate Principles established.

2003

MOL Head Office and MOL-operated vessels earn ISO14001 certification.

2005

MOL participates in UN-backed Global Compact.

2006

Major marine incident occurs.

2007

Safety Operation Supporting Center established at Head Office.



Safety Operation Supporting Center (SOSC)

MOL Group logomark introduced.



2014

130th Anniversary



2015

MOL CHART introduced.



Challenge

Honesty

Accountability

Reliability

Teamwork

[For details: >> Pg.15]

MOL Ships in History

1930

The high-speed cargo ship *Kinai Maru* is launched, and covers the Yokohama-New York route in 25 days and 17.5 hours, well below the industry average of 35 days.



Kinai Maru

1939

The *Argentina Maru* and *Brasil Maru* are built and launched as cargo/passenger liners on the South America route. These vessels represent the state-of-the-art in Japanese shipbuilding at the time.



Argentina Maru

1961

The *Kinkasan Maru*, the world's first automated ship, is launched, and for the first time, the engine room is operated entirely from the bridge.



The Kinkasan Maru

1965

The *Oppama Maru*, Japan's first specialized car carrier, joins the fleet.



The Oppama Maru

1968

MOL, JL, and YSL launch the full containerships *America Maru*, *Japan Ace*, and *Kashu Maru* to ply the Japan-California route.



The America Maru

1983

Japan's first methanol carrier, the *Kosan Maru*, goes into service.



The Kosan Maru

1984

The LNG tanker *Senshu Maru* is launched.



The Senshu Maru

1990

The cruise ship *Nippon Maru* is launched.



The Nippon Maru

1995

First double-hull VLCC, the *Atlantic Liberty*, goes into service.



The Atlantic Liberty

2007

The *Brazil Maru*, largest iron ore carrier at the time, is launched.



The Brazil Maru

2009

Next-generation vessel concept Senpaku Ishin project announced.



Ishin I (upper) Ishin II (center) Ishin III (lower)

2012

The *Emerald Ace*, which represents a significant step forward in realizing ISHIN-I, is delivered.



EMERALD ACE

2016

Uruguay FSRU Project

Project to build facilities and terminal to store LNG offshore, gasify it, and send it into city pipelines



2017

Russia Yamal LNG Project

Meeting the challenge of an Arctic Ocean route



[For details: >> Pg.23-24]

2017

20,000 TEU containerships

the world's largest containerships will be delivered from 2017.



[For details: >> Pg.37-38]

The Big Picture: Worldwide Events Since MOL's Founding

1912 Passenger Liner *Titanic* sinks in the North Atlantic.

1914 Panama Canal opens. SOLAS Treaty ratified

1918 WWI ends.

1929 U.S. stock market crashes.

1945 WWII ends,

1947 Japan Shipowners Association established.

1949 Foreign exchange rate pegged at \$1 = ¥360.

1963 Two laws enacted to rebuild Japan's ocean shipping industry.

1967 3rd Middle East War starts. Suez Canal closes.

1973 Japan moves toward fluctuating exchange rates. 1st oil crisis

1975 Suez Canal reopens.

1985 Plaza Accords

1989 Exxon Valdez oil spill occurs in Prince William Sound, Alaska.

1990 East and West Germany reunite.

1991 1st Gulf War begins.

1995 Great Hanshin Awaaji Earthquake occurs.

2001 Ministry of Land, Infrastructure, Transport, and Tourism established. 9/11 terrorist attack in the U.S.

2003 Iraq War begins.

2004 Huge earthquake off Sumatra. Tsunami in Indian Ocean

2008 Financial crisis and Lehman Bros. bankruptcy

Increased piracy off the coast of Somalia. Crude oil prices skyrocket.

2009 Japanese Maritime Self Defense Force deploys support vessels to anti-piracy force. Action in the Gulf of Aden begins.

2011 Great Eastern Japan Earthquake and Tsunami occurs.

Yen hits all-time high of \$1 = ¥75.

2012 Passenger ship *Costa Concordia* runs aground in the Tyrrhenian Sea.

2014 The ferry *Seoul* capsizes in Korean waters.

The MOL Group: An Excellent and Resilient Organization That Leads the World Shipping Industry

MOL Group's Roles and Accountability in Society Contribute to the Growth of the World Economy as a Multi-modal Transport Group

The MOL Group, whose main business is global ocean shipping, supports the prosperity of people around the world through the safe, reliable transport of goods that are indispensable for human life— food-, clothing-, home-related products, energy resources, raw materials, components, and parts for industry, and so many other items — as the lifeline of the global economy and communities around the world. At the same time, the group has contributed to growth of local industries. Currently, the world population is about 7 billion, and annual international seaborne trade totals around 10 billion tons. By 2050, population is expected to reach 9.6 billion, with annual seaborne trade growing to some 16 billion tons. And as worldwide population growth and economic expansion in emerging nations fuel new demand for transport services, the role of global ocean shipping is bound to grow in both scale and importance. Added value generated by ocean shipping contributes significantly to the growth of the world economy. The shipping industry's key role naturally brings with it great responsibility, making corporate social responsibility (CSR) a core issue for our management.

Addressing Global Risks, Responding to Social Issues

Solve Social Issues in Cooperation with Stakeholders

As the world economy has grown and become increasingly borderless, systemic, interconnected, and complicated global risks are coming to light – for example, climate change, depletion of various resources, economic disparity, human rights, and political instability. The MOL Group cannot shut its eyes to these issues. For example, piracy issue resulting from economic and political strife and the greater frequency of natural disasters brought about by global warming threaten the safety of our operation and affect the continuity of our business. Not only our group, but also the entire shipping industry, must address such global risks. Therefore, we will focus on preventing incidents and problems and disclosing information that will contribute to global environment protection. We will share issues with customers and suppliers through information disclosure, cooperate with the industry, governments, and international institutes, and solve issues surrounding ocean shipping in a proactive way. Our group has demonstrated its commitment to solving issues in cooperation with international society and stakeholders, such as

providing humanitarian assistance to address the root causes of piracy in Somalia, making proposals to the government through industrial institutes, sharing intelligence on pirate activity and marine weather conditions with governmental bodies, and becoming the first shipping company to join the Global Compact proposed by the United Nations. The group continually steps up its efforts in these areas. Every executive and employee takes a proactive stance in addressing issues that affect our vessels and our customers and is committed to playing a role in realizing a sustainable society.

MOL Group's Key Priorities

Safe Operation is the Top Priority

As the impact of corporate activities on society becomes more pronounced, corporate social and environmental initiatives have a greater effect on corporate value every year. In its report called "A Concept of a Sustainable Maritime Transportation System," the International Maritime Organization (IMO) lays out tasks that must be addressed, as well as action plans covering 10 items including safe operation, environmental conservation, human resources development, corporate governance, improvement of energy efficiency, and responses to piracy and terrorism, to ensure "sustainable ocean shipping." The MOL Group promotes corporate activities specific to the five key issues of "safe operation," "environmental conservation," "governance," "compliance," and "human resources development." Among them "safe operation" is the highest priority because a serious marine incident can have a significant impact on society and the natural environment. We cannot win the trust of our customers and expect society to let us do business unless we can operate vessels safely. In that spirit, we added the word "Safety" to the name of the "Environmental and Social Report" this year to clearly convey our safety-first stance to readers.

Forge Ahead to Become the World Leader in Safe Operation

Safe operation is the major premise in the group's business activities. To forge ahead to become the world leader in safe operation, we set various key performance indicators (KPIs) to objectively measure safety, in addition to the must-achieve goal of "Four Zeroes" (zero serious marine accident, zero oil pollution, zero fatal accident, zero serious cargo damage), and make continual improvements by "visualizing" safe operation and enhanced transport quality. In addition, we introduced the new concept of Behavior Based Safety (BBS) in fiscal 2014 to intensify our initiatives toward eradication of human errors.

Make the Difference by Proactively Adopting Excellent Environmental Technologies

In light of customers' demands for reducing the environmental impact of our activities, the MOL Group continues to reinforce its environmental initiatives by drawing upon its exclusive technologies and know-how, and in a way that brings us closer to our customers. Ocean shipping is the most environment-friendly means of transport, particularly from the standpoint of energy efficiency. But considering both the growth of the world economy and the greater importance of global environmental protection, we must do more in terms of reducing our environmental impact and improving energy efficiency. In this situation, the group chooses to respond to environmental regulations as a business opportunity and a strategy to differentiate itself from competitors, and proactively adopts environmental technologies and other advances as the challenges of a new era.

Etch Compliance into the Minds of Executives and Employees Alike

In March 2014, the MOL Group was found to have violated the Antimonopoly Act in its car carrier service. The group took this misconduct very seriously and strengthened its measures to prevent a reoccurrence. Compliance must be deeply etched into the minds of all executives and employees until it becomes reflexive behavior. I personally put compliance into practice with stubborn determination. I will continue to raise awareness of this issue among group executives and employees until "walking the straight and narrow path" becomes deeply rooted as MOL Group corporate culture, and earns us the ongoing respect of society as a trustworthy organization. We will never let up in our efforts to maintain the highest standards of corporate governance as we strive to meet the needs of the times and retain the trust of our stakeholders.

Ensuring the Growth of MOL Group MOL CHART Reflects Our Shared Values

Fiscal year 2014 marked the 130th anniversary of the MOL Group's founding. Throughout our long history, we have come together with tremendous effort and creativity to overcome various hardships although we've been hit by wave after monstrous wave. And now we have grown into a corporate group with a diverse workforce of some 20,000 people (including seafares) in 36 nations and regions of the world.

The MOL Group has already set a course for its future growth under the midterm management plan STEER FOR 2020 formulated in 2014. And effective April 2015, we introduced MOL CHART to express the values our employees will inherit and pass down to future generations to ensure sustainable growth and success.

The C in CHART stands for "Challenge" (Innovate through insight), the H for "Honesty" (Do the right thing), the A for "Accountability" (Commit to acting with a sense of ownership), the R for "Reliability" (Gain the trust of customers), and the T for

"Teamwork" (Build a strong team). While we must be conscious of every element, I want myself to be especially cognizant of Reliability. In customer relations, it means doing our utmost to meet their needs, no matter how difficult that may be. And we must accumulate mutual trust by walking the straight and narrow path while doing our very best in compliance, and always providing safe, stable, reliable transport service. Then, we must trust our partners to build mutually successful relationships. It all begins with reliability.

People make the difference

Our qualities all come down to human qualities. As we work to set ourselves apart from the competition, while dealing with a host of social issues that must be addressed on a global scale, the driving force behind the growth of our group and our inspiration for the source for creation of new value will be nothing more than human qualities. I recognize that my most critical mission is the establishment of an environment that allows employees to maximize their own abilities and experience personal growth, set the stage for corporate growth, increase the company's contribution to society, and focus on the development of global employees. On that basis, MOL CHART must be instilled in everyone at every level. I will make MOL CHART the key to our culture, and develop personnel who are aware of our social responsibility and can create new shared value along with society. The MOL Group Corporate Principles clearly direct us: 'as a multi-modal transport group, contribute to global economic growth and development by meeting and responding to our customers' needs and to this new era.' We will never lose sight of our principles as we work to create new value and sustainably grow with society by leading the world shipping industry.



Forging Ahead to Become the World Leader in Safe Operation:



Masaaki Nemoto

Senior Managing Executive Officer
General Manager,
Safety Operations Headquarters

Mariko Kawaguchi

Chief Researcher,
Research Department
Daiwa Institute of Research, Ltd.

The MOL Group positions safe operation as the highest priority, forming the foundation of its business, as the company states in its motto, “Forging ahead to become the world leader in safe operation. On the other hand, as society diversifies and global risks change, we must develop a system and organization that helps us prepare for unexpected risks that are beyond our experience. We always take the concerns of our stakeholders very seriously, and make wide-ranging efforts to further improve our operating safety. In this report, we invited Mariko Kawaguchi, a Daiwa Institute of Research expert on safety, to take part in a dialogue with an MOL executive responsible for safe operation and share her evaluation of MOL Group initiatives on safety from the standpoint of a third party.

Recognize the Scale of Social Impact and Responsibilities as a Multi-modal Transport Group, Forging Ahead to Become the World Leader in Safe Operation

Kawaguchi: Three core innovations—innovation of business portfolio, innovation of business model, and innovation of business domain—were set out in the midterm management plan STEER FOR 2020 established in 2014. Then you took the helm to drive further growth. Today I want to ask you about measures for safe operation, which is considered the foundation of your plan’s success.

Nemoto: Currently (as of March 31, 2015), the MOL group operates 947 vessels totaling about 68 million DWT, one of the largest fleets in the world. While this gives our group a competitive edge, we must also recognize the immense social impact of our operations, and our responsibilities as a multi-modal transport group that continually supports the daily lives of people and the growth of industries all over the world through transport of resources, energy, and various other commodities including finished products. Therefore, our group positions safe operation as the highest priority, forming the foundation of our business as we forge ahead to become the world leader in safe operation. We promote various, specific approaches from the aspects of both hardware (vessel facilities and equipment) and software (seafarers, ship management, and a safety culture). We also set various key performance indicators (KPIs) to objectively measure safety, in addition to the must-achieve goal of “Four Zeroes” (zero

serious marine accident, zero oil pollution, zero fatal accident, zero serious cargo damage), and make continual improvements by “visualizing” safe operation and enhanced transport quality.

Inspections Target All Operated Vessels, No Compromise When it Comes to Meeting Our Responsibilities

Kawaguchi: I assume that the figure of 947 vessels includes chartered ships. Does the “Four Zeroes” target apply to all your operated vessels?

Nemoto: The “Four Zeroes” target covers all operated vessels including chartered ones. Let me explain the ways we own and manage our group-operated vessels. We own 312 vessels and charter 635 vessels. The group ship management companies manage 216 vessels, and we entrust external ship management companies to manage 96 vessels. Further, among our managed vessels, we allocate MOL Group crewmembers on 166 vessels, and manning agencies provide crewmembers on 50 vessels. Details of safety measures differ along each horizontal line, but regardless of whether the vessels are owned or chartered, we inspect and verify all of them concerning problems, failures or malfunctions, in other words, to ensure that every vessel meets our standards for service quality and safety.

Kawaguchi: The risk is much higher when your responsibilities cover all operated vessels. With chartered vessels, in particular, your level of involvement and responsibilities can be critical.

Nemoto: Basically, shipowners have the prime responsibility to prevent accidents and other safety-related incidents. That means, as the interested party of owned vessels, we can make decisions and control safety measures and costs under our responsibilities. On the other hand, in case of chartered vessels, we get engaged in those vessels as we investigate situations, precisely point out risks, and urge improvement, because shipowners of chartered vessels have the prime responsibility. Another way to look at it is that we do business with a consistent brand using our own “cars” and “chauffeur-driven cars.” We keep a watchful eye not only on our own cars as a matter of course, but also others’ cars to ensure safety, so we sometimes face difficulties. However, when it comes to the customers who rely on our vessels, there is no room for compromise – we bear all responsibilities for transport quality. Naturally, we conduct thorough inspections on vessels and closely share information with shipowners of chartered vessels and entrusted ship management companies so they will have a full understanding of the safety standards we expect, enhancing safety measures in cooperation with them while building mutually trusting relationships.

Kawaguchi: Let me ask you about specific vessel inspections.

Nemoto: Currently, 34 marine officers in our group are dedicated as vessel inspectors. A team of two officers who have a thorough knowledge of our safety standards through experience as captains or chief engineers actually board a vessel, and does a thorough inspection based on about 900 check lists including qualifications and career experience of crewmembers, the status of hull maintenance, and records of engine inspections and maintenance. In the rare event they find a problem, they point out it in writing, explain what must be done to meet our safety standards, and conduct a follow-up survey to confirm that appropriate measures were taken. Then, a report of their response with photos will be circulated among concerned divisions including the responsible business division to make the final confirmation. That is, with professional eyes, we thoroughly check the status of our vessels, which are our products, to identify problems, and make sure the necessary improvements are made.

Kawaguchi: You entrust external companies to manage vessels. Is there any difference in the management system?

Nemoto: The ISM Code contains international ship management standards, which basic managerial role is same as our standards. One advantage of entrusting external companies is that we can perform comparative analyses of the appropriateness for our own safety standards and costs by using specialized ship management companies as a benchmark, while at the same time generating synergy and benefiting from each other’s expertise.

Let me explain a bit more about why we use external resources such as chartered vessels, ship management companies, and manning agencies. Vessels are divided into various categories according to cargo and service, and the number of vessels and ship types needed for our company vary depending on changes in each market and shifts in trade. So realistically, it is impossible to own vessels and employ crewmembers that meet all characteristics and situations, because we don’t have the flexibility to address these changes by adding or subtracting ships. Using outside resources allows us to meet the needs of our customers and society at large, while giving us greater tolerance for market fluctuations. This is one of the strengths we have developed over our 130-year history as a multimodal transport group.

Kawaguchi: The midterm management plan’s approach to innovation in business domains says “Create value chains by expanding business domains both upstream and downstream of ocean shipping transport.” Customers such as oil majors are requesting higher safety standards than ever. What are your thoughts on this?

Nemoto: That’s right. The vessel inspections I explained serve as a check-up on our side only. Actually, we undergo severe check-ups from customers. Particularly, tankers and LNG carriers need to meet extremely high safety standards set by customers. Incidents involving tankers and LNG carriers pose huge risks of damage and danger. Even looking at past serious incidents, customers themselves, who are the cargo owners, are subject to more intense criticism from society than are shipping companies. Therefore, we set very strict safety standards for transport services as part of our quality management and risk management efforts. We have done business with oil majors from early on, and have gained a deep understanding of what they expect. We are continually responding to their requests for stricter safety. I think these efforts have helped us achieve our current competitiveness.

Kawaguchi: In the U.S., the Coalition for Environmentally Responsible Economies (CERES) set forth the CSR system after *Exxon Valdez* oil spill in 1989, initially calling it the Valdez Principles. The spill from this tanker actually led to the birth of CSR in the shipping industry. Thus, considering the huge social impact, it is inevitable that safety standards will become stricter.

Prepare for Various Risks Surrounding Ocean Shipping, with Comprehensive Safety Measures Covering Both Hardware and Software Aspects

Kawaguchi: In the employee training DVD, which I watched in advance, the CEO himself repeatedly stressed that we must not forget natural threats at sea. It was very impressive for me. I got the impression that the company takes natural threats very seriously. Weather and sea conditions can shift rapidly due to climate changes, more so than ever before. I would like to ask you about initiatives cope with the unpredictable forces of nature.

Nemoto: Ships might seem to be very solidly built, but they are still fragile against natural forces. For example, hundreds of containers fall off of ships into the seas around the globe every year. Some get swept overboard by huge waves and others fall off when the ship lists heavily to one side. On lumber carriers, the lumber is piled high and strapped down tightly with cables, but some of it is carried away by waves every year. What I am trying to say is, there is no vessel that can withstand all bad weather or rough sea conditions, and it is an absolute must to avoid foul weather in advance. Thanks to the rapid advancement of technologies such as satellite communication and supercomputers, the accuracy of weather forecasting has improved. This makes it easier for us to take countermeasures. For example, when the vessel is on a voyage, it can make a major course change in advance, or evacuate and anchor in a safe place until conditions improve. I think marine incidents caused by bad weather have decreased steadily in recent years.

Kawaguchi: Still, typhoons are obviously becoming more powerful, and we now face many rapidly growing low pressure systems. These must be considered threats.

Nemoto: In 2006, one of our operated iron ore carriers ran aground off Kashima Port, after we could not foresee a rapidly growing low pressure and missed the opportunity to evacuate. This was very unfortunate. Using difficult lessons like that, we have continually taken measures to improve on both hardware and software sides. From the hardware aspect, we established unique MOL Safety Standards Specifications, which cover the concept called "fail safe" needed to ensure safety, in the vessel design and construction stages. We don't have the space here to go into detail, but the idea is to add backup equipment for critical systems. Normally, specifications and estimates presented by shipyards are standard, but when it comes to safety, we go beyond their standard specifications even if it adds 2% to 3% to the cost. This is an internal understanding. It costs several billion yen more per vessel, but all of our ships feature MOL Safety Standard Specifications.

Kawaguchi: This is a very important expenditure. Even if safety costs increase the price of a vessel by 2% or 3%, you don't really convey the importance of that. After I watched that DVD, I can understand how important it is and the reasons why you spend that much extra and I have a better appreciation for the harsh environments your ships operate in.

Nemoto: Some equipment may never have to be used, if no incident occurs. But if we face a serious risk, in an emergency, it is unacceptable not to take whatever steps are necessary. We always keep our eyes peeled and not let ourselves fall into the safety myth that "this could never happen to us." We are also sometimes asked "Did you sacrifice safety to cut costs?" But we make the final check on quality at vessel inspections, and can say with confidence that we never cut costs when it comes to safety. As I mentioned a little earlier, in case an incident occurs there's a risk of damaging not only the vessel, but also a risk of seriously damag-

ing the environment, depending on the time and place. It is especially critical to prevent oil leakage. Compared to other transport modes, the world of ocean shipping requires a flexible response to a broad range of risks. We make ongoing efforts to eliminate weak points one by one.

Kawaguchi: This is the basis of risk management. I think your comprehensive efforts are excellent.

Nemoto: A highlight of the second measure, from the aspect of software, is the initiatives by the Safety Operation Supporting Center (SOSC). It provides immediate shoreside support to avoid risks to vessels including weather and sea conditions and measures against pirate and terrorist attacks. With the slogan, "Never let the captain feel isolated," the SOSC is staffed with marine specialists including those have experience as captains of MOL-operated vessels, to provide the information needed to ensure the safety of every vessel 24/7, 365 days a year, supporting captains in their decision-making. More specifically, SOSC monitors the positions and movements of about 950 vessels on voyages around the world, sends detailed information about forecasts of adverse weather and tsunamis, problems or obstacles that could disrupt a voyage, incidents of piracy and terrorism, and so on to vessels and concerned parties on shore, alert them to take necessary measures, and give advices from the viewpoint of the captain.

Kawaguchi: Do pirate attacks still happen frequently in the Gulf of Aden and off Somalia?

Nemoto: Armed robberies and heinous crimes, which subject crewmembers to serious danger, show no sign of significant decline all over the world. The primary measure is avoiding dangerous sea areas as much as possible, but still, in waters where pirates are active, we increase the number of crewmembers on watch, reinforce the monitoring of surroundings by fully using utilizing night vision devices, radar, and search lights, and bring aboard armed security guards from private companies. In the Gulf of Aden and off Somalia, fortunately, patrols by ships and aircraft from various navies, including the Japan Maritime Self-Defense Force, have helped suppress pirate activity. However, armed pirates are also aggressively attacking ships in West Africa and the in Strait of Malacca near Singapore. Since merchant ships are not allowed to carry weapons, we take self-defense measures by using water cannons and sprouting razor wire and protect ourselves by wearing body armor and helmets. In case pirates actually board one of our ships, the crew can barricade themselves in a protective zone until help arrives. In 2011, pirates raided an MOL-operated tanker in the western Indian Ocean. Fortunately, crewmembers took refuge in the protective zone, which they had prepared in advance, and U.S. and Turkish navy ships rushed to rescue them 19 hours later. The pirates were arrested, and none of the crewmembers was harmed.

Kawaguchi: But crewmembers on site put their lives in danger. By the way, what happens to the pirates after they are arrested?

Nemoto: Four pirates arrested on our vessel were tried, convicted, and are still serving prison time in Japan. But, the prison sentences are limited to 10 years, and when they are released, they are sent back to their countries. We don't know what they will do after that. Since ancient times, pirates have been defined as "a common enemy to all humanity," they could be arrested when found in international waters, and brought to justice in the nation whose forces captured them. And usually the punishment was death by hanging. This was the international law. Only the most heinous crimes are subjected to such harsh punishment. However, there is no death penalty for piracy now. And right from the start, it seems that coastal nations are more lacking in the interest, rather than the capability, of cracking down on pirates. Further, I find it very frustrating that the public isn't more concerned about this state of affairs.

'Seamanship' Is What Makes it Possible to Cope with Unpredictable Nature

Kawaguchi: The safety of products and the safety of employees are required in various industries and types of business. I have gained a new recognition that the ocean shipping industry needs a broader range of risk management to address problems such as pirates and political instability as well as unpredictable natural threats. I have a lot of respect for the efforts you make in the face of such risks. However, it's unfortunate that the general public does not fully appreciate the situation you are in.

Nemoto: We have not taken a proactive stance to show efforts that are out of sight as we could say they are like the rudder of the ship. I think part of the reasons is that Japan, which depends on imports for foods and energy, cannot exist without ships. Our industry has started initiatives to build social awareness of such facts in a small way.

Kawaguchi: Finally, I would like to talk about climate changes and what we can expect in the future. I have researched climate changes because of my expertise. In Japan, it is understood that we can take steps to mitigate climate changes and we can reduce global warming by reducing CO₂ emissions through energy saving. However,



this is not enough; on a global scale, we must focus on how we adapt to the climate changes that have already occurred. In reality, Japan's initiatives on adapting to climate changes are behind those of Europe and the U.S. I think you need to discuss measures to adapt to climate changes and take the necessary actions.

Nemoto: Thank you very much for your insights and advice. We are going to have such discussions as soon as possible. Today, I explained about the MOL Group's safety measures from various viewpoints. Finally, I want to talk about one more important matter in conjunction with our commitment to safety in the future. Weather lore has it that fishermen and seafarers have learned to forecast weather from natural phenomena behaviors of animals since ancient times. Watching with our own eyes to spot abnormal changes is the basis of our operations. In the world of vessels, self-sufficiency is sometimes required in unpredictable nature. No manual or technology can perfectly respond to rapid changes and sudden phenomenon of weather and sea conditions. What gives full play to our ability to cope with such dangerous situations is "seamanship." Long ago, mariners went to sea without depending on technology, but making full use of their five human senses, wisdom, and instinct. We are returning to the basics of seamanship such as the ability to foresee dangers, the judgment to overcome a crisis, mental strength, physical strength, and teamwork, and continually make efforts to instill our diverse, multinational crewmembers with the concepts of MOL seamanship.

After the Dialogue | ~ Kawaguchi's evaluation of MOL Group's safety measures ~

Delivering cargo safely and on schedule is the principal business itself. However, from the DVD and this dialogue, I found various invisible risks such as weather, terrorism, and pirates, at sea, which are hard to imagine on land. In contrast, I feel sympathy with MOL's sincere management stance that is willing to make the required investments in safety and has explained its stance to customers. Safe ocean transport is a matter of life and death, particularly for Japan, which depends on imports for food and energy. But I heard that Japanese vessels, which are exposed to the threats of terrorism and piracy, have no choice but to depend not on forces from their own nation, but on private security companies, except in sea areas where the Japan Self-Defense Forces are dispatched. I have great respect for the company's management, which is willing to bear the costs of safety — which may seem to be wasteful if nothing occurs, as it manages teams of multi-national crewmembers while maintaining global competitiveness under such circumstances. In the business world, efficiency always seems to be the top priority, but I expect MOL will lead the ocean shipping industry with high-quality transport that makes safety its top priority.



About Mariko Kawaguchi: Chief Researcher of Daiwa Institute of Research. CSR and sustainable investment expert. Her father was then General Manager of the Kobe Branch of MOL, Hirotsugu Kawaguchi, who wrote a thank you note and last will saying "It was truly a wonderful life" to his family in the waning minutes before the JAL Jumbo jet crashed into a mountain in 1985.

Working Closely with Captains to Ensure Safety

– Safety Operation Supporting Center (SOSC) on duty, supporting safety 24hours/365days –

An Unshakeable Commitment to Safe Operation

In 2006, four major maritime incidents involving MOL vessels occurred. After the incidents, we did everything possible to clarify what caused them, and in 2007, we established the SOSC, with the motto “Never let the captain get isolated.” The MOL Group executives and employees working together, took the lessons learned from those incidents to heart, and developed measures “forging ahead to become the world leader in safe operation.”

This section shows how the SOSC works to keep our vessels out of harm’s way, reflecting our commitment to safe operation.

Risks Are Present Everywhere in the World

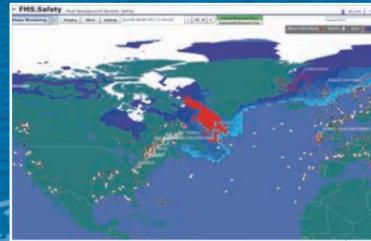
Our group vessels navigate the oceans of the world.

Not only in bad weather situations such as winter storms, hurricanes and typhoons, and frozen river port, but also in places like the Middle East and Ukraine, where political situations can be volatile, we must always be ready to take appropriate measures. We also go where there is a chance of piracy. In other words, we must appropriately address myriad situations on a daily basis.

Global warming is upon us, and that serves to increase the power of tropical depressions – winds are stronger and accompanying rains are fiercer, so the linkage between vessels and shore becomes even more important.

Our SOSC grasps these risks in real time, confirming that communications between vessels, ship management companies, the Marine Technical Group, and personnel responsible for vessel operation is clear and constant. The SOSC’s motto is “Never let the captain get isolated,” and its initiatives are built on that premise.

Icy seas, icebergs
(Newfoundland region, Okhotsk Sea)



Red denotes areas where icy seas and icebergs have been observed.

Frozen river port
(Great Lakes, Baltic Sea, Yamal, Nakhodka)

Unstable political situations
(Ukraine, Middle East, etc.)



Identify ships headed for areas where the political situation is unstable

Missile test ranges
(North Korea, India)

EVALUATION
BASED ON AVAILABLE DATA A DESTRUCTIVE PACIFIC-WIDE TSUNAMI IS NOT

THIS WILL BE THE ONLY STATEMENT ISSUED FOR THIS EVENT UNLESS ADDITIONAL

Best regards,
SOSC(24x7x365) Duty Capt.

Earthquakes and tsunamis

Advise vessels to evacuate from tsunami areas based on tsunami predictions following an earthquake.

Hurricanes
(Northeast Pacific and Atlantic Oceans)
Determine the course necessary to avoid a hurricane by plotting the storm’s anticipated movement and the vessel’s current sea conditions.

Violent winter storms
(North Pacific, North Atlantic, etc., in the high latitudes)

Ebola virus outbreak
(Western Africa)

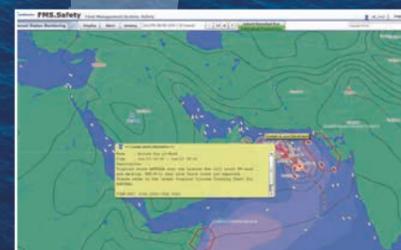
Cyclones
(Indian Ocean, South Pacific)
Determine the course necessary to avoid a cyclone by plotting the storm’s anticipated movement and the vessel’s current sea conditions.

Seasonal rough weather
(Indian Ocean, Western Pacific Ocean)

Typhoons
(Northwest Pacific Ocean)
Determine the course necessary to avoid a typhoon by plotting the storm’s anticipated movement and the vessel’s current sea conditions.



Rough weather (all seas and oceans)



The red borders mark areas where rough weather is expected, and vessels expected to encounter rough weather are marked in red as well.

Pirates
(Malacca-Singapore straits, Gulf of Aden off Somalia, Indian Ocean, off western Africa (Gulf of Guinea))
Advise vessels in piracy-prone areas to stay at least 100 miles offshore.



Areas in the Malacca Straits where incidents of piracy have taken place between April 2014 and March 2015.



365days

TO : Master of concerned vessel
FM : SOSC duty

Dear Captains,
Regarding the subject, we have received following information.
This information is based on PTWCI(Pacific Tsunami Warning Center).

TSUNAMI INFORMATION
NWS PACIFIC TSUNAMI V
144 AM HST SUN DEC 21 2

TO - EMERGENCY MANAG
SUBJECT - TSUNAMI INFORMATION STATEMENT

THIS STATEMENT IS FOR INFORMATION ONLY. NO ACTION REQUIRED.
AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY
PARAMETERS
ORIGIN TIME - 0134 AM HST 21 DEC 2014 (1134UTC 21 DEC 2014)
COORDINATES - 2.2 NORTH 126.8 EAST

Working Closely with Captains to Ensure Safety

– Safety Operation Supporting Center (SOSC) on duty, supporting safety 24hours/365days –

24hours

24 Hours at SOSC

There are always two people on watch at the SOSC, one of whom has experience as a captain of a vessel. They use FMS.Safety^{*1}, which was developed in cooperation with Weathernews Inc., to check on the weather, sea conditions, and other conditions surrounding the approximately 950 vessels operated by MOL Group companies, 365 days a year, 24 hours a day. There is always someone available if a ship captain needs assistance. Information on weather, reports from international media, and other things that might have something to bear on vessels under way is gathered so that the SOSC is always ready to offer timely information and advice, and help prevent serious accidents before they happen.

^{*1} FMS.Safety: Monitoring system for weather information and conditions surrounding vessels in operation.

Gathering Information



Watch coming on apprised of current situation

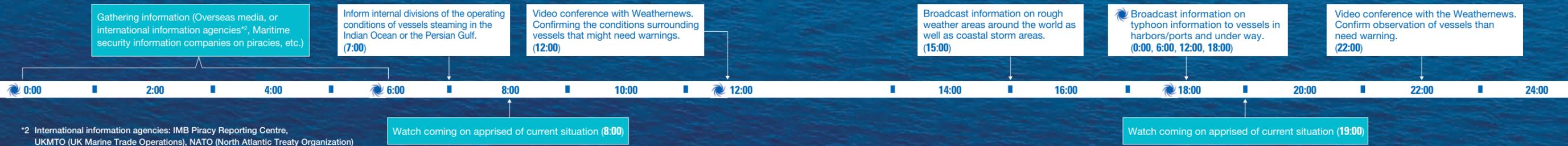


Comment

SOSC from the Captain's point of view

The *MOL Dominance*, which serves routes linking Japan, Southeast Asia, and China, always runs the possibility of encountering typhoons, especially during the summer. SOSC is very helpful because vessels get weather and ocean condition information from SOSC four times a day, but if a typhoon is approaching, information is supplied more frequently if necessary, and in advance of the actual path of the storm, so the vessel can take evasive maneuvers.

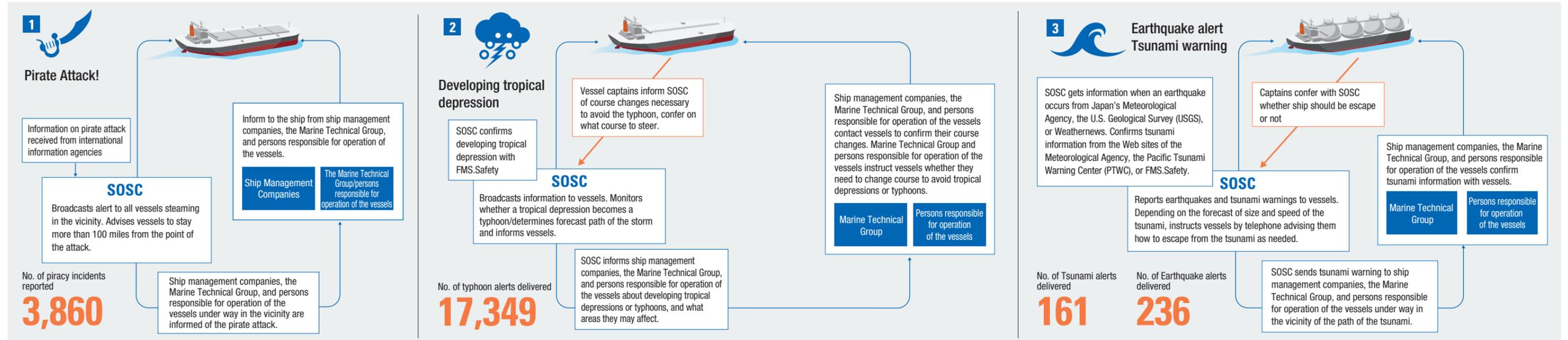
MOL Dominance Captain
Capt Than Htut



^{*2} International information agencies: IMB Piracy Reporting Centre, UKMT0 (UK Marine Trade Operations), NATO (North Atlantic Treaty Organization)

Case Studies

Confirmation System between Vessels and Shore Helps Avoid Danger



MOL Group's Management and CSR Initiatives

MOL's basic stance toward corporate social responsibility (CSR) is expressed in the MOL Group Corporate Principles.

To put the principles into concrete form, the MOL Group meets global transport demand through its daily business activities. We strive to become a company that grows sustainably in harmony with society by moving forward on CSR initiatives to strengthen the business base.

In April 2015, to ensure our sustainable growth, we introduced "MOL CHART," expressing the core values embraced by all MOL Group employees.

MOL Group Corporate Principles

1. As a multi-modal transport group, we will actively seize opportunities that contribute to global economic growth and development by meeting and responding to our customers' needs and to this new era
2. We will strive to maximize corporate value by always being creative, continually pursuing higher operating efficiency and promoting an open and visible management style that is guided by the highest ethical and social standards
3. We will promote and protect our environment by maintaining strict, safe operation and navigation standards

Long-term Vision

To make the MOL Group an excellent and resilient organization that leads the world shipping industry

"MOL CHART," expressing the core values embraced by all MOL Group employees.



Challenge
Innovate through insight

Honesty
Do the right thing

Accountability
Commit to acting with a sense of ownership

Reliability
Gain the trust of customers

Teamwork
Build a strong team

"CHART" stands for five words that express the company's shared values – "Challenge," "Honesty," "Accountability," "Reliability," and "Teamwork." It also calls to mind a sea chart, which sets the course for our future.

The word "Challenge" means creation of new values from a macro-view, with a wide perspective and sense of history, and taking on new challenges after thoroughly analyzing the risks.

The word "Honesty" incorporates a sincere examination of MOL Group's past infringements regarding compliance, reflecting the importance of compliance with social norms and high expectations to do business fairly.

The word "Accountability" is an attitude of always having a sense of ownership even when confronting a difficult problem, and solving it while cooperating with everyone involved.

The word "Reliability" is our core competency — offering the world's highest standards of safety and service to gain the trust of our customers.

The word "Teamwork" expresses the importance of properly sharing technologies, know-how, and relationships with customers, which we have inherited from our predecessors and will in turn pass on to the next generation.

The introduction of MOL CHART is aimed at achieving the company's long-term vision — To make the MOL Group an excellent and resilient organization that leads the world shipping industry — and enhance its corporate value by strengthening and concentrating its comprehensive group-wide efforts. At the same time, we will encourage MOL Group employees to keep the MOL CHART values foremost in mind as they execute their day-to-day business operations.

CSR Overview



Objectives and Organizational Structure of CSR Initiatives

The MOL Group has a wide variety of stakeholders around the world, since it does business on a global scale, centered on its core business of ocean shipping. CSR focuses on conducting business management that appropriately takes into account laws and regulations, social ethics, safety and environmental issues, human rights, and other considerations. We believe we can develop our business sustainably, in step with society, benefiting all or stakeholders and earning their support and trust.

In addition, the MOL Group Corporate Principles state that the Group will contribute to global economic growth as multi-modal transport group. Realizing these principles is the foundation of all MOL Group CSR activities.

Three committees under the control of the Executive Committee — with the president as the chief executive officer — play a central role in setting CSR-related policies and measures.

Committees Setting CSR-related Policies and Measures

Name	Function
CSR and Environment Committee	Identify priority issues related to MOL Group's overall CSR (materiality assessment), discuss those policies, set targets, and review achievements
Operational Safety Committee	Study and discuss basic policies and measures to ensure the thoroughness of safe operation on MOL- and MOL Group-operated vessels
Compliance Committee	Develop the group's compliance system and take action on compliance violations, and discuss related policies and measures related to as well as basic policies and measures covering the protection of personal information.

Identifying Key Issues

As the impact of corporate activities on society becomes more pronounced, corporate social and environmental initiatives have a greater effect on corporate value every year.

The MOL Group identifies "safe operation," "environmental conservation," "governance," "compliance," and "human resources development" as five key issues as it moves ahead with its corporate activities.

We identified those issues based on international CSR-related guidelines, the opinions of stakeholders inside and outside the company, and the results of a customer questionnaire survey, among others, and then through meetings with relevant divisions. Finally, those issues were discussed at the CSR and Environment Committee, and selected after approval by top management.

Corporate Governance

The basic philosophy of our corporate governance is summarized as "We will strive to maximize corporate value by always being creative, continually pursuing higher operating

efficiency and promoting an open and visible management style that is guided by the highest ethical and social standards" in the Corporate Principles.

To establish the ideal corporate governance structure for our company, we have implemented a series of management reforms, focusing on inviting outside directors to join the board, separating management and execution of operations, accountability, and risk management and compliance. These measures are aimed at realizing the philosophy outlined above.



[Please refer to the annual report for corporate governance and risk management.]

Initiatives on Human Rights

To build consciousness of human rights, we organize workshops and training sessions about human rights-related issues, distribute information about human rights, participate in lectures inside and outside the company, and seek employees' ideas for human rights slogans. In addition, we participate in the United Nations Global Compact, supporting universal principles regarding human rights and labor and putting them into practice.

[Please refer to the Web site for information about the Global Compact.]

<http://www.mol.co.jp/csr-e/csrpolicy/molcsr/globalcompact>

In addition, the treaty concerning the Maritime Labor Convention in 2006 (MLC2006), which stipulates the basic rights of crewmembers, sets forth the following four acts regarding human rights:

1. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
2. The elimination of all forms of forced and compulsory labor;
3. The effective abolition of child labor; and
4. The elimination of discrimination in respect of employment and occupation.

Our vessels adhere to onboard compliance guidelines, respect the four human rights as mentioned above, prohibit discrimination by religion, nationality, age, and sex, and establish procedures to address complaints of harassment. They also hold monthly onboard compliance committee meetings to implement and evaluate efforts on human rights issues, discrimination, and harassment through dialogues between crewmembers and onboard compliance officers.

Basic Procurement Policy

To fulfill our responsibility as a corporate group that plays a part in our customers' supply chains, we formulated the "MOL Group Basic Procurement Policy" in 2012.

[Please refer to the Web site for the more information on the basic procurement policy.]

<http://www.mol.co.jp/csr-e/csrpolicy/molcsr/procurement>

CSR Activities Targets and Results (FY 2014/2015)

The Midterm Management Plan:

Aiming to achieve sustainable growth together with society and to respond to stakeholders' trust by making all MOL Group executives and employees aware of our social responsibility and putting it into practice.

Legend: ● Achieved ○ Generally achieved △ Partially achieved ● Did not achieve (target period/content changes)

CSR Targets in the Midterm Management Plan (High Priority)		FY2014 Targets	FY2014 Results	Achievement	FY2015 Targets	reference	
Critical issues	1. Thoroughly implement safe operation and provide safe, secure, stable, high-quality services.	<p>1. Achieve "Four Zeroes," i.e., an unblemished record in terms of serious marine incidents, oil pollution, fatal accidents, and cargo damage.</p> <p>2. Further reduce operational stoppage time per vessel (achieve operational stoppage time per vessel of 24 hours/year or less).</p> <p>3. Further reduce operational stoppage accident rate per vessel (achieve target operational stoppage accident rate of 1.00 incident per vessel/year or less).</p> <p>4. Improve occupational safety and health for seafarers (achieve LTIF* 0.25 or less)</p> <p>5. Reorganize operational safety system to prevent the reoccurrence of serious marine incidents.</p> <p>6. Strengthen business continuity plan (BCP) system by implementing practical drill exercises along with continuous education to all executives and employees.</p> <p>7. Promote a stable supply of high quality services by meeting and responding to our customers' needs and to this new era.</p>	<p>Achieved "Four Zeroes."</p> <p>28.45 hours/year — Did not achieve.</p> <p>0.51 incidents per vessel/year — Achieved.</p> <p>LTIF results: 0.30 — Did not achieve</p> <p>Restructured the organization with the objective of enhancing safe operation.</p> <p>1) Raised the awareness of executives and employees through BCP-related articles on the in-house intranet, e-mail, and in-house magazine.</p> <p>2) Established the disaster task force organized mainly by the task force committee members and Head Office divisions; Conducted the initial response drill.</p> <p>1) Won projects that anticipate the demands of the times, and they are under way. These projects include shale gas-derived LNG transport, the world's first regular LNG transport service on Arctic Ocean routes by ice class carriers, the world's first large-scale ethane carrier, and development and construction of methanol-fueled vessels.</p> <p>2) MOL-operated coal carrier Soma Maru named "Bulk Ship of the Year."</p> <p>3) Obtained high evaluation such as selection of four MOL-operated/managed vessels in "Best Quality Ship Awards" by the Japan Federation of Pilots' Associations.</p> <p>4) Made proactive investments, which will contribute to stable services, such as automation of a container terminal in North America and establishment of a joint ship management company with a local firm in India.</p> <p>5) Containership schedule delayed due to congestion at ports on the North America West Coast; Off-hire on LNG carriers occurred 10 times, which was higher than average for the year (an item to be improved).</p>	<p>●</p> <p>●</p> <p>○</p> <p>●</p> <p>○</p> <p>○</p> <p>○</p> <p>○</p> <p>○</p>	<p>1. Achieve "Four Zeroes," i.e., an unblemished record in terms of serious marine incidents, oil pollution, fatal accidents, and cargo damage.</p> <p>2. Further reduce operational stoppage time per vessel (achieve operational stoppage time per vessel of 24 hours/year or less).</p> <p>3. Further reduce operational stoppage accident rate per vessel (achieve target operational stoppage accident rate of 1.00 incident per vessel/year or less).</p> <p>4. Improve seafarers' occupational safety and health. Achieve LTIF* 0.7 or less after making LTIF standards more stringent.</p> <p>5. Share near-miss and incident information using IT tools. Develop measures to prevent incidents by analyzing near-miss information.</p> <p>6. Extend targets of the safety campaign to MOL Group ship management and manning companies. Through visits by vessel inspectors and marine superintendents, explain the background and reasoning behind operation manuals and seafarers' responsibility to prevent incidents by thoroughly following onboard operating procedures.</p> <p>7. Strengthen business continuity plan (BCP) system by implementing practical drill exercises along with continuous education to all executives and employees.</p> <p>8. Promote services by meeting and responding to our customers' needs and to this new era.</p> <p>9. Provide high-quality services.</p>	P.7-14 P.19-24	
	2. Deepen initiatives to ensure thorough compliance.	<p>Each of the MOL Group executives and employees values compliance as a corporate social responsibility, and fosters a company culture that demonstrates compliance in business activities.</p>	<p>1. Rebuild the system for completely complying with laws and regulations, including the appointment of an executive member in charge of compliance.</p> <p>2. All executives and employees of the MOL Group are to help achieve compliance with laws and regulations. Continue implementation of various measures including internal training and E-learning covering antimonopoly laws, anti-corruption laws, and insider trading laws.</p>	<p>Based on the measures to prevent reoccurrence, set forth by the Review Committee of Reoccurrence Prevention Measures for Anti-competitive Practice,</p> <p>1) Revised the basic policy of establishing the internal control system, 2) Established the position of Chief Compliance Officer (CCO), 3) Informed executives and employees about guidance related to important laws, 4) Reviewed the personnel evaluation system, 5) Conducted the company culture survey and monitoring of the action plan. 6) Held seminars and roundtable talks in Japan and overseas, 7) Management of legal documents is under a company-wide review.</p> <p>1) Held antitrust law seminars and roundtable talks for Head Office management class and all divisions and offices, and Group companies in Japan and overseas.</p> <p>2) Presented antitrust law seminars for all group executives and employees including Group companies in Japan and overseas, using E-Learning.</p> <p>3) Presented a briefing session about insider trading, anti-corruption, and antitrust law for Head Office executives and employees.</p> <p>4) Presented antitrust seminars in level-specific required training programs.</p>	<p>○</p> <p>○</p>	<p>1. Fully appreciate the seriousness of the Japan Fair Trade Commission's March 2014 ruling that MOL violated the Japanese Antimonopoly Act in certain car carrier shipping trades, and continue through compliance with antimonopoly laws on a global scale.</p> <p>2. In addition to complying with antimonopoly laws, build a more thorough compliance structure for anti-corruption, protecting the confidentiality of customer and company information, and prohibiting discrimination and harassment, and continue implementation of various measures including internal training and E-learning.</p> <p>3. Foster an open and free corporate culture through roundtable talks, etc., and observe changes by regular and extensive surveys of the organization culture.</p>	P.25-26
	3. Strengthen initiatives on corporate governance	<p>Further enhance corporate governance to ensure that MOL gains the trust of stakeholders and achieves sustainable growth.</p>	<p>Enhance corporate governance to meet the needs of the times and study the advancement of governance structure.</p>	<p>1) Reviewed the company rules and regulations</p> <p>2) Set forth the employee code of conduct MOL CHART</p> <p>3) Decided to develop total risk control indicators to more effectively focus management resources and conduct periodic checks starting in FY2015.</p> <p>4) Matters concerning the approval of quarterly financial results and the external submission of annual securities report to be resolved by the Board of Directors, with initial report submission slated for FY2015.</p>	<p>○</p>	<p>1. Enhance corporate governance to meet the needs of the times and study the advancement of governance structure.</p> <p>2. Comply with and put into practice of the revised Corporate Law in FY2014 — the basic policy of establishing an organization to ensure the appropriateness of business operations (internal control system)—to prevent illegal activities and corruptions and operate the organization in sound, effective, and efficient manner.</p> <p>3. Provide comprehensive risk management to ensure appropriate investment in management resources.</p>	P.16
	4. Promote personnel training and diversity to strengthen comprehensive Group capabilities.	<p>Further strengthen human resources development of the entire MOL Group globally. Improve the comprehensive capabilities of the MOL Group by facilitating work environment where multinational and diverse human resources including women can demonstrate their abilities.</p>	<p>1. Upgrade training for enhancing management capabilities of MOL Group personnel (domestic and overseas).</p> <p>2. To promote diversity, continue to support the performance of female employees and their career development by creating work environments in which diverse human resources can demonstrate their abilities.</p> <p>3. To improve work-life balance, discuss and investigate the possibility of introducing a system to meet the needs of each individual's stage of life and lifestyle.</p> <p>4. Enhance working conditions for crewmembers with improvements such as introducing and expanding onboard broadband service.</p>	<p>Re-opened management school. Renewed the global management school (frequency of classes increased from annually to three times a year).</p> <p>1) Appointed two women as senior executives, two women as first officers (four in total).</p> <p>2) Implemented safe motherhood initiatives (improved the company's response to early pregnancy).</p> <p>3) The first woman officer used maternity leave and childcare leave, which are provided for on-board employees.</p> <p>4) Presented a lecture by a woman executive from another company on the theme of building women's careers.</p> <p>5) To establish awareness of human rights, presented seminars, distributed human rights information, called for participation in an outside lecture, solicited ideas for human rights slogans, and conducted other initiatives.</p> <p>Introduced the re-employment system for those who retired due to the overseas transfer of a spouse.</p> <p>Promoting initiative to introduce broadband on MOL Group ships and chartered vessels.</p>	<p>○</p> <p>○</p> <p>○</p> <p>○</p>	<p>1. Further enhance training programs to strengthen management capabilities of MOL Group personnel (executives and employees, seafarers in Japan and overseas).</p> <p>2. Instill the concepts of MOL CHART, which reflect ideal MOL Group employees, throughout MOL and MOL Group companies. Foster a corporate environment that allows diverse personnel to play active roles with shared values.</p> <p>3. Continue to support women employees to encourage their success and career development.</p> <p>4. Promote use of systems that flexibly meet changes in employees' life stages and lifestyles to improve work life balance.</p> <p>5. Further improve onboard welfare programs.</p>	P.27-30 P.44
	5. Make further progress on solving social issues and promoting environment initiatives as an environmentally advanced company.	<p>Further enhance initiatives to reduce environmental impact as an "Environmentally Advanced Company" with full awareness of the environmental impact of the business activities of the MOL Group, and protect the global environment, which is an issue common to the whole world.</p>	<p>Please refer to page 33.</p>	<p>Please refer to page 33.</p>	<p>○</p>	<p>Please refer to page 34.</p>	P.31-39 P.43
Issues	6. Proactively disclose sustainability data.	<p>Foster stakeholders' trust by proactively disclosing information to show the sustainability of MOL businesses</p>	<p>1) Proactively disclosed information on LNG carriers and offshore business, which are positioned as the pillars of growth in the midterm management plan, through interviews with media, press releases, and briefing sessions for stock analysts.</p> <p>2) Disclosed the company's business strategies to overseas media. 3) Explained the new midterm management plan, and strategies for sustainable growth through the plan, which go beyond innovative changes, in the Annual Report and other media.</p> <p>1) Communicated thoughts on the company's corporate governance on the Web site, Environmental and Social Report, Annual Report, and other media.</p> <p>2) Continually earned high ratings for disclosure of environmental, social, and governance (ESG) information by the third-party institute.</p> <p>3) Began posting the minutes of the financial results briefing session and Q&A on the Web site in January 2014.</p> <p>4) Redesigned the Investor Guidebook to make it easier to read.</p> <p>Zero serious marine incidents. Disclosed information on two incidents in a timely and appropriate manner.</p>	<p>○</p> <p>○</p> <p>○</p>	<p>1. Proactively disclose information demanded by stakeholders regarding MOL's solid growth through the execution of the new midterm management plan "STEER FOR 2020".</p> <p>2. Earn stakeholders' trust by proactively disclosing information based on KPI and achievements on the Web site, Environmental and Social Report, Annual Report, etc.</p> <p>3. Further increase the transparency of corporate information including negative information, and disclose it in a timely and appropriate manner, as a company trusted by customers and society.</p>	All pages	
	7. Promote social contribution activities related to MOL's businesses.	<p>Promote social contribution activities that are highly relevant to MOL's businesses, and continue our efforts to solve social issues as a corporate citizen</p>	<p>1. Encourage activities that use the company resources and know-how accumulated in the main business (ocean shipping), and activities in which executives and employees in Japan and overseas and crewmembers participate.</p> <p>2. Promote initiatives that will help address social issues, meet the MOL Group's social responsibilities, and foster sustainable growth.</p> <p>3. Swiftly respond to disaster-stricken areas and continue support for areas affected by typhoon Haiyan (No.30) in the Philippines and reconstruction from the Great East Japan Earthquake.</p> <p>4. Continue to assist with funding of the Somalia Support Project, which contributes to the safety of international ocean shipping.</p>	<p>Conducted educational support activities in the areas affected by the Great East Japan Earthquake, after soliciting ideas for social contribution activities from an extensive cross-section of executives and employees. As a part of the social contribution activities marking the 130th anniversary of the founding, donated purchased books, which were funded by the sale of used books donated by MOL Group employees, to junior high schools in the affected areas. In addition, marine officers presented a career education lecture about the ocean shipping industry at junior high schools. Contributed to United Nations Millennium Development Goals through transport of children's books to South Africa and transport of used wheelchairs to Paraguay.</p> <p>Received a letter of appreciation from the South African ambassador.</p> <p>Please refer to section 7.1 above for activities to support reconstruction after the Great East Japan Earthquake. Conducted research on local needs for support of reconstruction of the areas affected by typhoon Haiyan (No.30), but did not provide support.</p> <p>Responded quickly in a private sector emergency effort to combat the spread of Ebola. Provided a monetary donation of US\$10,000 to help the Republic of Liberia cope with the rapid spread of the Ebola virus. The donation paid for the transport of medical supplies (surgical gloves, face masks, antibiotics, etc.). Received a letter of appreciation from the CEO of the Liberian International Ship & Corporate Registry (LISCR LLC).</p> <p>Progressing nearly as planned.</p>	<p>○</p> <p>○</p> <p>○</p> <p>○</p>	<p>1. Address social issues using know-how accumulated in the company's main business and drawing upon the company's resources.</p> <p>2. Further enhance social contribution activities by executives and employees in Japan and overseas.</p> <p>3. Further enhance support of seafarer supply areas.</p> <p>4. Respond quickly to disaster-affected areas, and continue activities to support reconstruction after the Great East Japan Earthquake.</p>	P.40-42

* LTIF: Lost Time Injury Frequency. The number of industrial accidents occurring per 1 million man-hours. Conventionally, occupational injuries and illnesses, which forced seafarers to disembark vessels, were counted. But starting in FY2015, the total includes cases in which seafarers did not have to disembark, but were unable to return to work, including light duty.

Initiatives on Safe Operation

The MOL Group positions safe operation as the highest priority because incidents will pose huge risks of damage and danger to society, stakeholders and the natural environment. In 2006, we set out the goals including "Four Zeros" based on lessons of a serious incident that occurred in that year. We can sum up our approach to safety as follows: "The MOL Group forges ahead to become the world leader in safe operation."

Safe Operation Management Structure

MOL reorganized the division responsible for safe operation in February 2015. This move was aimed at integrating and horizontally disseminating information among different types of vessels while maintaining a structure that focuses on the front-line operation of every vessel type, reinforcing company-wide operational safety measures, and developing an organizational structure that focuses all the authority necessary to be responsible for the entire Group's safe vessel operations into the Marine Safety Division. Under the new structure, all land-based and ocean-going personnel are united to strive to maximize operating safety, with the goal of becoming the world leader in safe operation.

Committees Related to Safe Operation



* MOL Ship Management Co., Ltd., and MOL Energy Transport Co., Ltd.

Measures to Ensure Safe Operation

Human Resources Development

In order to achieve safe operation, we must have highly qualified crewmembers, which means recruiting and developing the very best people we can find. MOL employs the best personnel, regardless of nationality, and gives them the high level of education and training required to cultivate high morale, technical skills, and knowledge. The MOL Training Center provides not only the basic skills necessary for vessel operation, but also operational techniques specific to ship types, so the center holds a wide variety of training programs from theoretical studies in the classroom to practical training that uses actual equipment and various types of simulators.



[For details on crewmember training, please refer to the Annual Report.]

Crewmembers Receiving Instruction at MOL Training Centers

(unit: persons)

Nation/Region	2012	2013	2014
The Philippines	5,905	7,983	8,511
India	3,461	3,004	2,067
Europe	557	508	1,046

Safety Conference

As a part of the MOL Group's measures to ensure safe operation, we have held Safety Conferences every year since 2007.

In February and March 2015, Safety Conferences were held in Tokyo, Manila, Croatia, and India and attended by 530 crewmembers who were on leave. They actively exchanged opinions during presentations and group discussions focusing on two main themes: "safety behaviors to prevent fires and injuries" and "passing on marine technology to inexperienced crewmembers."

Safety Campaign

MOL conducts a biannual Safety Campaign with a different theme each time, during which executives and employees conduct an extensive series of visits to MOL-operated vessels and exchange information and opinions about ways to prevent safety-related incidents. Proposals and ideas gained through this campaign are shared throughout the MOL Group and among group-operated vessels to further enhance the group's safe-operation structure.

The theme of our FY2014 Safety Campaign was Behavior-Based Safety (BBS).

Safety Campaign attendance	(unit: persons)
2013	584
2014	464

MOL Safety Standard Specifications (Measures from the Hardware Aspect)

Based on an earlier serious marine incident, we formulated the first edition of the MOL Safety Standards Specifications in 2006, aiming to effectively maintain the safety of our operated vessels.

Serious incidents such as collisions and groundings, fires, sinking and loss of hull stability, oil spills, and other environmental pollution can have a huge impact on both society at large and the group's profitability, not to mention the loss of trust from customers and other stakeholders. We drafted these specifications to minimize the risk of such incidents, and apply them to our vessels.

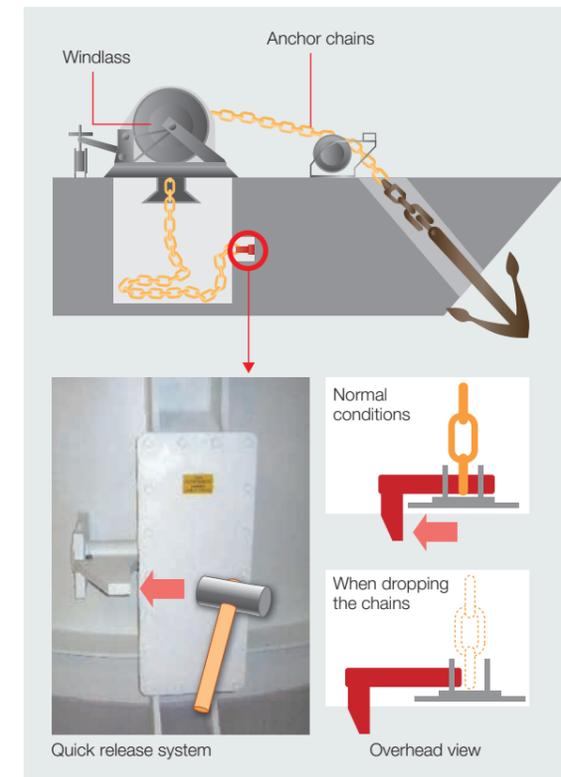
Some of the measures set out in the MOL Standard Safety Specifications are introduced below.

Quick Release System for Anchor Chain

MOL experienced a serious marine incident in 2006 involving the iron ore carrier Giant Step, which went aground and sank. In the midst of the process that led to the incident, the anchor chain connecting to the hull was underwater and could not be released quickly. This was one of the factors that greatly worsened the situation.

Based on this bitter experience, we introduced a quick release system for our vessels' anchor chains. When the anchor cannot be winched aboard by the windlass, or when there is no time to winch the anchor and anchor chain aboard, the quick release system lets the vessel drop the anchor chain by quickly releasing the connection between the anchor chain and the hull to free the vessel, ensuring the safety of the ship and saving lives.

Quick Release System for Dropping Anchor Chains



Security Cameras in the Engine Room

Security cameras in the engine room are set to monitor the equipment that supplies the main engine and generator with fuel. They are also placed along the evacuation route from the engine room. The cameras help us accurately assess the situation when a fire occurs, secure the safety of crewmembers during fire extinguishing operations and evacuation, and ensure early detection of oil leakage or equipment failure to prevent incidents from occurring. And, by reviewing the security camera footage after the fact, we can determine the reasons and causes of the incident and develop measures to prevent a recurrence.



Engine Room: High Expansion Foam Fire Extinguishing System

The foam extinguisher is a system that fills the engine room with a massive amount of foam to put out fires. In the past,

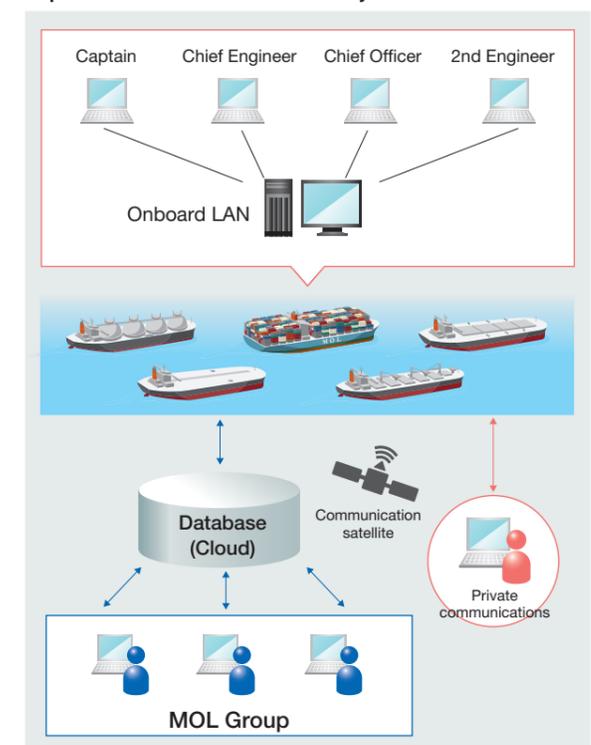
engine rooms were filled with CO₂ gas to fully extinguish fires, but if there are any crewmembers in the engine room, they may not be able to exit quickly enough and run the risk of oxygen deprivation. Or air could be pumped back into the engine room if the air vent for the engine room is not closed properly, and the fire will not be extinguished as quickly. To eliminate such risks, the engine rooms of all MOL Group vessels have foam fire extinguishing systems as standard equipment.

Use of Information and Communications Technology (ICT)

The MOL Group companies strive to provide each vessel with the necessary ICT equipment that will allow the onboard crewmembers to concentrate on keeping watch and effectively monitoring equipment.

Digital transmission of notices, public announcements, and safety alerts, from shore side; and reports, equipment maintenance records, and so on, from vessels, the distance between vessel and shore is greatly reduced and the accuracy of information is significantly enhanced. And to make it easier for crewmembers of various nationalities to receive information in a form they can understand quickly and accurately, we have focused efforts on providing visual-based information. We are also working to facilitate a satellite-vessel-shore ICT system that will support those information systems. By enhancing the onboard work environment with the use of ICT, we can make it easier for crewmembers to contact and speak with their families and friends on a regular basis. The current satellite-vessel-shore ICT does not offer the same performance as land-based systems, but we constantly monitor updates and improvements and will add new technology when it proves reliable.

Ship-to-Shore Information Transmission System



Objective Safe Operation Indices

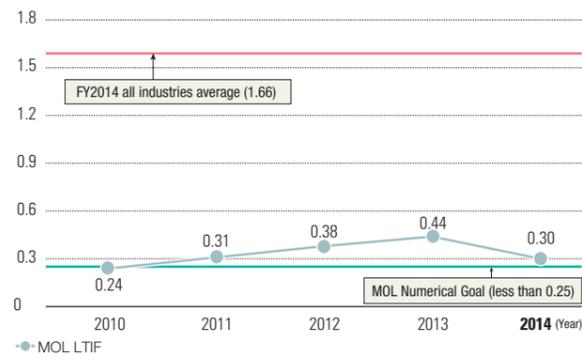
We set the following objective indices including "Four Zeroes" to measure safety:

- (1) "Four Zeroes" (zero fatal accidents, zero serious marine incidents, zero oil pollution, and zero cargo damage)
- (2) Less than 0.25(till FY2014), Less than 0.70(from FY2015) LTIF (Lost Time Injury Frequency)*1
- (3) Less than 24 hours of downtime per ship per year*2
- (4) Less than 1.00 incidents per ship per year that require stopping the ship.*3



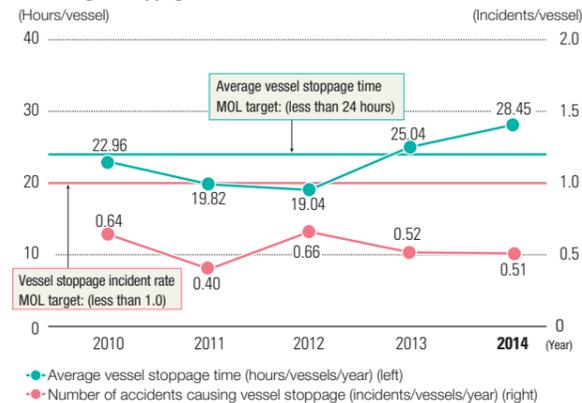
In FY2014, several important goals were set that aimed to root out trouble in advance. (1) Eliminate industrial incidents resulting in death, reduce industrial incidents resulting in injury. (2) Eliminate collisions and stranding/running aground. (3) Eliminate engine and other mechanical or equipment trouble that results in the vessel's inability to maintain way under its own power.

LTIF (Lost Time Injury Frequency)



*1 Conventionally, occupational injuries and illnesses that forced seafarers to disembark vessels were counted. But starting in FY2015, the total includes cases in which seafarers did not have to disembark, but were unable to return to work, including light duty.
Reference: Overall industry average (2014): 1.66, water transportation industry: 1.33, transportation machinery and equipment manufacturing industry: 0.51 (source: Ministry of Health, Labour and Welfare "Outline of 2014 Survey on Industrial Accidents")

Vessel Stoppage, Average Hours Stopped, and Percentage of Incidents Resulting in Stoppage



*2 Annual stoppage hours per vessel, caused by incidents

*3 Annual number of incidents per vessel resulting in vessel stoppage

Cutting the Error Chain

- Humans make mistakes
- Humans can't pay attention to everything
- Mistakes are the result, not the cause

Be aware of the above, look directly at the results of the mistake, and think "How can we build an environment that reduces mistakes?" or, "How can we make it so that even if we make a mistake, it won't result in a maritime accident?" Thus from these viewpoints, we think about what is necessary to prevent an incident from reoccurrence, or to prevent one before it occurs.

By analyzing objective indicators such as the LTIF and vessel down time and incidents occurred, we found that many incidents are caused by human error. Humans make mistakes, and those humans build ships and they operate them, so it is probably impossible to eliminate 100% of mistakes. Actually, there is something lacking in the human thought process, and we must humbly admit it. So when something unexpected happens, it's not enough just to keep the effects from getting worse. In case of an incident, it is critical to minimize the damage by cutting the error chain—that is a key point in safe ship operation.

Behavior Based Safety (BBS)

To break "error chains" aboard its vessels, the MOL Group focuses on a program called Behavior Based Safety (BBS), which increases "safe behavior" and ensures the safety of the vessel by thinking of background factors when people select "safe behavior" or "unsafe behavior" and working on the factors behind the selection process. For example, drivers' fastening their seatbelts after they get behind the wheel is "safe behavior." Use of a mobile phone while driving a car is "unsafe behavior." Why does someone use a mobile phone while driving? The background issues may be "I was in a hurry," or overconfidence, for example, I'm accustomed to driving a car."

The team categorizes "safe behaviors" or "unsafe behaviors" in onboard activities, and proactively discusses what the team can do to make sure everyone is choosing "safe behaviors." Crewmembers pointing out "safe behavior" to their colleagues is in itself a "safe behavior" and accumulating such examples will lead to safer operation.

MOL Comfort

(Measures to Prevent Similar Incidents on Sister Ships, and Mental Health Follow-up for Crewmembers)

Incident Summary

While the 8,000TEU containership *MOL Comfort* (launched in 2008) was under way from Singapore to Jeddah on the Indian Ocean, on June 17, 2013, a hull crack developed amidships, and the vessel became unable to proceed under its own power. Later, the ship broke in half. The aft half sank on June 27 and the forward half sank on July 11.

Immediately after the incident, crewmembers inspected the hull to assess the damage, and when their information was passed on to the ship management company, the decision was made for the crew to take to the lifeboats. All 26 crewmembers were rescued by a containership that was steaming nearby.

Part of the reason all crewmembers escaped unharmed was the high level of awareness onboard various types of vessels and the high level of training done at the training center.

As soon as news of the incident arrived, the Emergency Control Headquarters was set up at MOL Head Office, and working with the vessel and its management company, the headquarters discussed the situation, made and implemented the decisions necessary to ensure the crew's safety, as well as salvaging the cargo and the vessel.

Measures Taken after the Incident

After the incident, MOL did its utmost to discover the causes, and at the same time introduced a number of safety measures.

MOL-operated sister ships (seven in all) had their hulls strengthened to twice the level stipulated by Nihon Kaiji Kyokai (ClassNK), which conforms to the International Association of Container Ships (IACS), as a preventative measure to enhance safety. We have also taken various measures to reduce the load on the hull during operation. In addition, we inspected the ship bottom shell plates of all large MOL containerships — not just those in the same class as the *MOL Comfort* — and found no problems from a safety viewpoint.

Crewmembers affected by the accident, along with those serving aboard containerships of the same class, were given detailed briefings on the measures taken to prevent the recurrence of similar accidents so as to allay their fears of working on those vessels. And crewmembers who still felt uneasy about boarding those ships could immediately report to the ship management company in writing to receive proper psychological counseling.

The MOL Group, of course, is committed to ensuring the safe operation of every vessel we operate, not just containerships.

Ref: A Message from the Chief Engineer Mr.Oleg Zaitcev at the Time of the Incident (excerpt)

During an emergency or unexpected incident at sea, there is not so much time to think what to do, who will do it, or how it will be get done. Therefore, it is important to prepare the correct and quick response action in advance. The essential part of preparation for emergency response is the emergency plan. The system of emergency response created on MOL managed ships makes provisions for constant education, training, and instruction of the crew on board.

Well trained seamen, operating under the command of highly qualified officers, can easily and quickly determine the nature and extent of the emergency and expertly carry out emergency-scene activities to ensure maximum possible safety measures for the ship and the environment.

At the top of team to response to emergency on the ship is the Master, who must be a self-reliant, competent specialist and able to quickly and properly assess the current situation, make

effective decisions under possibly difficult circumstances, supervise emergency-scene activities, maintain reliable communication with the shore staff or other ships around and finally determine in time if an evacuation is necessary. Just below the Master are heads of departments, the Chief Engineer and Chief Officer, who are responsible for coordinating all emergency teams' activities and for emergency response tasks for which they must be adequately qualified and trained.

All crew on the ship should clearly understand the key elements of the ship's Emergency Muster List and be well trained and ready to carry out not only their direct duties from the Emergency Muster List but also possible related duties of other crew members. Scheduled ship's drills with various scenarios should be practiced regularly, but not only formally, so that all seamen can be trained well. Results of the ship's drills should be scrupulously evaluated to identify activities that need strengthening.

Ref: Ministry of Land, Infrastructure, Transport, and Tourism Press Release

Cause estimation and measures to prevent recurrence of large ship's breaking (press release on March 3, 2015)

Taking heed of the major accident involving the large containership *MOL Comfort* that occurred in June 2013, in which the ship broke in half and sank, MLIT established the Committee on Large Container Ship Safety, which included experts in the field and representatives of the industry, in August 2013 to investigate large containership operations and the measures being taken to ensure safe operations. Recently, the committee issued its final report on the incident, which contained the assumed cause of the incident and measures to be taken to prevent reoccurrence, as detailed below.

Assumed Cause of the Accident

After detailed analysis of the conditions leading to the incident, the committee found that the current safety regulations did not take into account additional stresses placed on the hull plates due to "hull vibration caused by wave action," or whipping loads, which increased

the forces brought to bear on the hull. Further, "effects of lateral loads on the hull" reduced the hull strength. As a result, the committee concluded that loads bearing on the hull were greater than the hull's structural strength and caused it to buckle and fracture.

Measures to Prevent Reoccurrence

As for vessel safety standards, the committee recommended amending classification requirements for large containership structural strength, as follows: The effects of lateral loads that induce bi-axial stresses on bottom shell plates and the effects of whipping responses should be explicitly considered in the requirements for the ultimate strength of hull girders, taking into account the relationship of lateral loads and hull girder strength. As similar standards are required internationally, the International Maritime Organization (IMO) and international inspection organizations are being urged to consider such revisions.

Safety Measures Supporting the YAMAL LNG Project

In the Arctic regions, vast reserves of natural resources such as gas and oil lie dormant and undeveloped. By supporting the logistics to develop these new frontiers, MOL will play a critical role in slaking the world's ever-growing demand for energy.

YAMAL LNG PROJECT



Potential of Arctic Ocean Routes

The new Arctic Ocean route that starts along the Russian coast through the Bering Straits has gained a lot of attention internationally. This project is aimed at transporting LNG to East Asia via the route during the summer seasons.

By taking this northern route, based on the calculation at 15 knots ship speed, cargo can reach East Asia in 15 days, which is significantly less than the 35 days that is usually needed via the Suez Canal. The northern voyage can be accomplished with approximately 30% less fuel as well. In addition, on the Arctic Ocean route, there is no need to worry about pirates because we can transport LNG without going near the coast of Somalia or through the Malacca Straits. By moving ahead with the development of the Arctic Ocean route, we can contribute to a more stable supply of resources.

Project Details

The Yamal LNG terminal faces the Kara Sea, which become completely frozen during the winter. The average temperature is about minus 30°C in winter, and in some situations dips below minus 40°C. Our crewmembers are the most critical link in ensuring safe operation, so it is important to develop an environment where they can fully demonstrate their skills and abilities under a harsh natural environment.

The ice-class carriers, which will be launched to serve this project, are designed with every possible preparation for safety in such a harsh operating environment.

The Yamal LNG project is the world's first to use ice-class LNG carriers with independent ice-breaking capabilities that enable them to sail in areas where the ice is up to 2.1m thick.

The vessels will transport LNG from the Yamal LNG terminal at the Sabetta, on Russia's Yamal Peninsula, to markets all over the world, throughout the year.

(Please watch the video introducing the Yamal LNG project.)



CG provided by Daewoo Shipbuilding & Marine Engineering Co., Ltd.

Highest Safe and Robust Ship Designs against Heavy Ice and Severely Cold Environments

Yamal Arc-7 project has been thoroughly studied a variety of risk analysis and deep reviews of ice-strengthen design, ice navigation and winterization specification for a long time, with involving many ice specialist parties in Russia and Northern Europe, majorities of Classification societies, Russian authorities, ice model test basin companies, Building Shipyard, etc. Besides that, Sovcomflot a well-known most experienced ship-owner in ice operations has deeply reviewed the specifications. Ship is designed at the highest safety and robust redundancy philosophy based on rich experiences.

1 Double-Acting LNG Carrier

Yamal Arc-7 ship is a Double-Acting LNG Carrier with three sets of diesel-electrically driven Azipod propulsion units. The ship is designed to run ahead in open water and under thin ice, but turn around and proceed astern in heavy ice condition. Hull bow form is designed so called as "Moderate ice bow", which the optimized smoothly-shaped hull form without bulbous bow is capable to break ice efficiently up to 150cm thickness first year ice. Moderate ice bow region is specially strengthened in accordance with Arc7 ice-class requirement. While under thicker ice condition, the ship turns around to astern operation. The developed stern hull form brakes thicker ice directly and three sets of stainless-made Azipod propellers sweep away broken ice pieces to the side directions, capable to icebreaking up to 210cm thickness first year ice.

2 Ice-strengthened Hull Structure

Arc-7 ice-class merchant ship is indeed the highest ice-class, with only a few ships existing in the world. Speaking with limited to LNG Carrier, Arc-7 ice-class LNG Carrier is a brand-new first application in the world. The underwater hull structure is fully strengthened in overall hull

regions and protected by special low friction ice-breaking paint. It is estimated that hull steel total weight is approximately 25% increased than equal-sized non-ice class LNG Carrier. Hull structure at the height of sea surface level is one of the most strengthened special region, so called as "ice belt", where in this region E-grade high tensile special steel is selected in order to withstand under estimated ice pressure and minus 50degC cold air temperature.

3 Engine Room Design

- 1) Double-hull engine room
Standard LNG Carrier designs double-hull structure only applicable to cargo holds space. Yamal Arc-7 LNG Carrier expands double-hull structure in engine room space in addition to cargo hold spaces. The increased safety design is adopted considering of astern ice-breaking operation in heavy ice condition, which to mitigate the worst scenario risk caused by damage of hull structure.
- 2) Center bulkhead dividing two engine rooms
Engine room space is segregated into two spaces, as port and starboard sections being divided by fire proof center bulkhead. Vital machineries are fitted at both port and starboard sections, in order to aim the ship capable to keep alive ship's machineries without total blackout, even under the worst scenarios of fire or seawater flooding into either of engine room section.
- 3) Ice Sea chest
Any ships, constantly during navigation, intake cold seawater via pumping from outside, cooling down ship's main engines and other machineries, and then hot seawater discharged overboard. Sea chests with relatively small box are normally fitted at the bottom of engine room, where the inlet of seawater into ship. During ice operation, it is widely known that sea chests inboard piping, especially a suction strainer, often clogs because of small ice chips being accumulated into a strainer, and this is a headache for ice ship operators. Accumulated ice chips must be removed off by crew hands in order to recover seawater intake. During this maintenance work, ship's propulsion engines have to reduce ship speed or stop if cooling seawater is not sufficient or totally lost. In order to prevent such scenario, Yamal Arc-7 ship adopts a special designed huge sea chest boxes, so called as "Ice Sea

chest". Ice sea chest is designed to have a large mesh of grids on the inlet hull shell and also a couple of internal buffer plates in the box in order to prevent small ice chips unable to easily flow into ship inboard. Ice sea chest is designed a huge size and indeed top of the box reaches at upper than ship's laden draft height, which design is aimed that some of ice chips finally floating up to top section of ice sea chest however stay trapped in this position. Recirculated hot seawater is splashed in the top region, which have an effect to melt floating ice chips. The exit of ice sea chest tunnel is located at downwards at the ship's bottom, which design enables pumping only seawater without ice chips.

4 Navigation Bridge

Yamal Arc-7 ship has dual wheelhouse stations, one facing forward and the other aft. The two wheelhouse stations each have enough kinds of navigational and radio equipment with a highest redundancy designs. Two wheelhouse stations are connected via a corridor space with easily access to each other, and the whole wheelhouse spaces including bridge wings and corridor in between are totally enclosed, and protected from cold outside air. A variety of special navigational and radio equipment are fitted in wheelhouse sections, as aimed for ice operation at polar high latitude zone. For example, Ice radar (additional X-band radar on foremast), Night vision cameras, Xenon search lights, etc. aimed to early detection of ices in the forward ship's route, hull stress monitoring system which to measure ice pressures, GMDSS radio equipment covering A4 polar latitude zone, etc..

5 Winterization in Living Quarters

For the purpose of crew safety during ice navigation under extreme cold environment, living quarter is carefully designed to the highest protection from cold air outside. Heating systems are robust with different heat sources, consisting of a traditional central-controlled air heating system, thermal oil heating system and electric heating system in each cabins and public spaces. Living quarter structure is made of thermal protection by thicker glass-wool insulations than standard design. Windows in living quarters are made of toughened safety triple glass. In addition, sauna and hot water swimming pool are also fitted for crew's good health.

6 Winterization on Deck

Winterization specification on exposed deck area is one of the most outstanding designs. Electric driven equipment are majority selected on exposed deck, because of most reliability system against cold environment. Hydraulic oil driven system is limitedly adopted only where electric system is not applicable technically, and in such case a shorter length of oil recirculation line with a suitable space heating system is well designed. Air driven system is very exceptional case with only applicable to a very minor equipment, because air system is relatively easier to clog the system by frozen air moisture. All the deck equipment are severely being selected upon the system is verified to work good under -50degC ambient condition.

Piping network are mostly placed inside enclosed space (side passageway, etc.), and piping on exposed area is minimum length in general. Piping network for water medium is paid special attention. In order to avoid freezing water in the piping, an electric or steam heat trace is surrounded on the surface of piping and properly insulated, in addition to provide an enough numbers of drain valves and air purging connections in the piping network. Ballast tanks are protected by duplicated steam heating coils and being placed in the top sections of tanks, in order to maintain the hull structure above sea water surface to keep a suitable temperature.

De-icing devices are also well designed to provide an enough number of steam injection nozzles at each places. Additionally, fire and wash seawater line is able to supply hot sea water through a sea water heating system via steam medium.

For crew safety who are working in exposed area, watchman shelters with thermal oil heaters are provided on deck majority watch spaces. Forward mooring deck is semi-closed area protected by dome-shaped roof, in order to reduce snow accumulation on deck and to reduce icing deck equipment by a splashed seawater from the ship ahead. Shipside handrails on upper deck are designed with more heights than standard design.

7 Life Saving Equipment

Considering of an emergency case, as just one example, Survival kits for maximum onboard personnel are stocked onboard in a safety locker. Survival kits consist of special winter cloths, tent, air mattress and sleeping bags, stoves, etc. Indeed a variety of special life-saving designs are implemented in ship design.

* Russian classification society ranks ice-class vessels into 9 ranks from Ice1-3 to Arc 4-9. Because Arc 8 and 9 classified vessels do not exist in the world until today, so Arc 7 is the highest ice-class at present. It is the first application to adopt Arc-7 ice class for LNG carriers.

Compliance Initiatives

On March 18, 2014, the Japan Fair Trade Commission (JFTC) found that the MOL Group had violated Article 3 of the Japanese Antimonopoly Act in certain car carrier shipping trades. The MOL Group has taken measures to reinforce its compliance efforts, including reform of its corporate culture to ensure that the importance of compliance – as the major premise of all corporate activities – is etched deeply into the minds of all executives and employees. In September 2014, we revised the Compliance Policy, adding the following statement: “Compliance is the highest priority for executives and employees to carry out their duties. Each one of them must not only uphold compliance as a corporate citizen, but also to recognize that compliance is the major premise of continual corporate activities and is essential to ensure earnings.” We believe the MOL Group must focus on compliance not only with the antimonopoly and competition laws of various nations, of course, but also with regulations covering anti-corruption (bribery), confidentiality of customer, corporate, and other information, and non-discrimination and harassment. The MOL Group also established Rules of Conduct for its executives and employees in the Compliance Policy.

[Please refer to the Web site for the Rules of Conduct.] <http://www.mol.co.jp/csr-e/governance/compliance>

Compliance Structure

Compliance Structure (As of July 2015)



New Organizational Structure for Initiatives on Compliance

In July 2014, MOL revised the Rules of Conduct for compliance with the antimonopoly act, established the new position of Chief Compliance Officer to chair the committee and oversee the planning and promotion of compliance-related measures. The committee also supervises the compliance officers in maintaining and enhancing the organizational structure.

Compliance Advisory Service Desks

MOL has two Compliance Advisory Service Desks – internal and external – for group company employees. Outside attorneys are responsible for the external desk, providing consultation and reporting issues to the Compliance Committee Office, and then handling follow-up contacts between persons reporting or seeking consultation on various issues related to the company. The desks also accept anonymous reports, strictly maintaining the confidentiality of anyone reporting an issue. In addition, those who report a breach of compliance, and those who cooperate in related investigations are fully protected from any reprisal.

We also accept reports online for those outside the group companies, such as business partners in Japan and overseas.

Introduction of MOL CHART

As a global company, MOL introduced MOL CHART, expressing five shared values embraced by the group executives and employees. “Honesty (Do the right thing)” is one of the five. “Honesty” means “Maintain compliance as a top priority. Ensure that actions comply with social norms and the highest ethical standards,” upon which to rely when judging on doing their duties. We will instill the values of MOL CHART throughout all group companies to help them recognize anew the importance of compliance.

[For details of MOL CHART >> P.15]

Initiatives on Compliance with the Antimonopoly Act

Review Committee on Measures to Prevent Reoccurrence of Anti-competitive Practices

MOL takes the violation of the Antimonopoly Law very seriously, and in April 2014 established the Review Committee on Measures to Prevent Reoccurrence of Anti-competitive Practices, chaired by the CEO. The committee has discussed various specific measures to prevent the reoccurrence of anti-competitive practices including reviews of the compliance structure and reform of corporate culture. The Compliance Committee has followed up on the measures established by the committee since October 2014.

Antimonopoly Act Dialogue Workshops in Japan and Overseas

MOL presented a video with an overview of the cartel scandal in certain car carrier shipping trades to its group executives and employees around the world, and delivered a message from the CEO saying, “Compliance is the highest priority of all management issues, and the major premise of the company’s sustainable growth.” The dialogue workshops were also held for all divisions and offices of the Head Office, explaining measures to prevent the reoccurrence of violations of the Antimonopoly Act and building their awareness of those measures. During the workshops, executives and employees had the opportunity to discuss measures to prevent future violations.

Similar dialogue workshops were held at three overseas subsidiaries (Hong Kong, Singapore, the U.K.).

Initiatives on Reform of Corporate Culture, Training/E-learning

While investigating the cause of the Antimonopoly Act violations, it became apparent that we needed to revamp the group’s corporate culture. To analyze the group’s current corporate culture, we conducted a questionnaire survey of the employees.

As a result of the survey, we developed a program under which the division GMs will foster a corporate culture aimed at eliminating compliance violations. The program includes planning and executing improvement measures such as building awareness of compliance within the divisions under their management and monitoring achievements.

MOL also held E-learning sessions about the Antimonopoly Act and Competition Law to provide distance learning targeting overseas group companies. About 9,700 employees in Japan and overseas took the E-learning session. We made the Antimonopoly Act course mandatory for all personnel assigned to a new career level, thus continually providing added programs for executives and employees every year.

FY2014 E-learning Participation Rate

	Head Office/ On Loan	Group Companies in Japan	Group Companies Overseas
Antimonopoly Act or Competition Law	99.9%	98.6%	99.5%
Anti-corruption (Anti-bribery)	99.9%	-	-
Prevention of Insider Trading	99.9%	-	-
Internal Control	97.5%	-	-
Information Security	95.9%		-

Cross Talk Wednesday

The Review Committee on Measures to Prevent Reoccurrence of Anti-competitive Practices says poor communication across divisions/offices and job positions is one of the causes on noncompliance, and saw the need for a venue where employees can freely exchange opinions and think about ways to prevent noncompliance problems.

In July 2014, to help create a more open organization, we began holding bimonthly dialogue meetings in the employee cafeteria, bringing together personnel from all levels – from the CEO to young employees. This aims to provide opportunities for free discussions that transcend the borders between divisions and generations.

Feedback from a Participant

Feel a sense of unity of MOL group

I participated in Cross Talk Wednesday for the first time. Soon after the meeting started, conversation came into bloom everywhere. I felt a sense of the group’s unity. This was a perfect place for people who normally have no opportunity to hold face-to-face conversations with executives and people from other MOL Group companies. Events like this are great from the viewpoint of group exchange.



Noriyuki Suzuki
Manager, Product Planning Group,
Mitsui O.S.K. Passenger Line, Ltd.

Initiatives on Anti-corruption

Anti-corruption was added as a new E-learning course in FY2014 for all executives and employees to help them acquire essential knowledge, adapt to changes in the business environment, and manage potential legal and economic risks in business activities, as Japan and nations around the world are becoming stricter in enforcement of anti-corruption (bribery) laws. MOL also held a new session featuring an overview of anti-bribery laws and regulations in Japan and overseas for executives and employees.

Information Security Measures

The MOL Group Rules of Conduct clearly state: “Protect confidential information and respect intellectual property rights,” and the MOL Group Electronic Information Security Rules are aimed at putting this into practice. The rules set standards for managing electronic information handled by the group, protecting various types of confidential information, and so on, reinforcing security to prevent leaks of corporate information and unauthorized access from inside and outside the company. In addition, we regularly offer E-learning sessions to increase awareness of this issue among group executives and employees.

Human Resources Development, Diversity, Development of Work Environment

The MOL Group aims to establish an environment where multinational, diversified personnel can fulfill their social responsibilities, maximize their personal development, and create shared value with society by weaving "MOL CHART" – which was introduced in April 2015 to expressing the core values embraced by all group employees – into the corporate culture.

Global Human Resources Development

To strengthen and concentrate the MOL Group's comprehensive efforts, we are pushing forward with group-wide initiatives on development of independent-spirited personnel who are committed to acting with a sense of ownership and playing an active role in global markets. In April 2015, we introduced MOL CHART to express the core values that all group executives and employees continually pass on to new generations as the group's business globalizes and diversifies. MOL CHART was created to incorporate the MOL Group's history and reflect the vision of management, the demands of society, the expectations of customers, and the voices of employees.



[For details of MOL CHART >> Page 15]

We provide separate training programs for land-based employees and ocean going personnel. This page introduces our initiatives on development of global land-based employees.

[For details on the development of seagoing employees, please refer to the Special Feature "Development of LNG Carrier Crewmembers" in the Annual Report and "Initiatives on Safe Operation" on page 19 of this report.]



MOL Global Management College

We held the MOL Global Management College in August, October, and December 2014 to improve management skills in our cross-cultural work environment and cultivate the next-generation of executives. Twenty foreign and Japanese employees from MOL Group companies took part in the program to share awareness of issues and senses of values across their, nationalities, and cultures.



A scene of the MOL Global Management College

Comments from the Participants

I was not only trained to become a good leader, but also learned how I can make plans with a positive attitude and in a prepared, disciplined manner. It was very interesting to work with colleagues from different divisions and hear their ideas. For me, the most lasting impression came from the words "Working happily and efficiently is key to success."

Zoe Hung
MOL Liner, Ltd.



The lecturer was wonderful, and I found this program lively but relaxing at the same time. I took a lot of what I learned about management, leadership, and self-development back to my job, and I am personally experiencing the results. This program will help me contribute more to the growth of the MOL Group.

Rajeev Bhatt
MOL Ship Management
(Singapore) Pte. Ltd.



Global Human Resources Meeting

Since December 2014, we have held a regular global human resources meeting to share information on local situations, problems, and issues through global human resources networks with overseas major subsidiaries, and to support local recruitment and human resources development.

Comments from the Participants

The main target of global human resources meeting is to train global leaders who can create new value in global markets, regardless of nationality. We discussed MOL CHART, which expresses our sense of value, and exchanged information about training programs held locally.

We will work to ensure suitable assignment of personnel and support training by clearly evaluating our core personnel around the world, while developing succession plans for major positions. In addition, we continue to support and expand personnel exchanges among subsidiaries, which are already under way locally, and training programs held at the Tokyo Head Office.

Naoto Umehara
Human Resources Division
Assistant General Manager responsible
for global human resources development

Onboard Training Programs

We provide onboard training programs aimed at helping young employees deepen their knowledge of vessels and operations through hands-on experience and further increase their consciousness of safe operation. At the same time, the programs are intended to foster an awareness of working at a global company through communication with crewmembers of many different nationalities.

Comments from the Participants

"While rocking, crewmembers operate specialized equipment and machinery, work in high places, and handle heavy loads." "Sometimes they work on extremely hot days, extremely cold days, in thunderstorms, heavy rain or snowfall." "The temperature in the engine room will be amazingly high while under way around the Equator." Every crewmember's concentration and patience, as well as close teamwork, are essential when it comes to safe and stable cargo transport. This idea was embedded deeply in my mind after I went on a vessel that was in operation and saw it all with my own eyes. I was able to accumulate knowledge about ship operation, loading/unloading, and maintenance work. And I got a sense of the crewmembers' professionalism by staying with them for several weeks, and coming to appreciate their extraordinary efforts through firsthand experience. This was one of my most valuable experiences.

I'm currently studying specifications, equipment and machinery, and the organizational structure for manning in the business division. Every day I recall "the vessel" I experienced with my five senses through the training program.

Azusa Nakajima
(right)
Offshore & LNG Project Division,
Offshore Business Group B



Promotion of Diversity, Initiatives on Work-life Balance

Promotion of Diversity

The MOL Group, which develops businesses globally, has about 20,000 employees and crewmembers of various nationalities. We have worked to develop an environment that will increase our group-wide comprehensive strength and allow multi-national, diversified personnel including women to play more active roles.

Employment by Region



Promoting Women's Initiatives

To encourage women to play more active roles in the company, we have worked not only to fulfill systems centering on childcare support, but also to expand support for female personnel in pursuing their career paths. In addition, female managers are supported from various aspects as they take part in a voluntary activity called "Women's Initiatives," which include holding seminars to increase motivation and provide networking opportunities for women managers from MOL and its group companies.

[For details of Interview: Executive Officer Responsible for Human Resources Development ~ Helping Women Advance in Their Careers ~: >> Page 29-30]

Continued Employment System

MOL has a reemployment system for workers who have reached mandatory retirement age, and re-hires retirees who desire to work.

Creating Opportunities for Disabled Workers

Disabled employees accounted for 2.0% of the MOL workforce as of March 31, 2015. We continue our efforts to promote the hiring of disabled workers by cultivating job fields where they can make the most of their abilities and cooperating closely with social welfare organizations.

Measures for Work-life Balance

In consideration of changes in life stages and lifestyles of employees and crewmembers, MOL has promoted efforts to enhance the work-life balance.

Starting from April 2015, to meet requirement of employees who are in the middle of childcare and/or nursing care, we have introduced options allowing employees to partly work at home instead of fully working in the office.

As of fiscal 2014, we also introduced a new system under which female personnel can be reemployed with the company even if they had to resign to follow their spouse to an overseas posting. We strive to provide opportunities for employees to continue their career paths. In FY2014, MOL acquired "Kurumin" Certification under the Act on Advancement Measures to Support Raising Next-Generation Children.

[For details of Employee Support System (Mitsui O.S.K. Lines, Ltd.): >> P.44]



Development of Working Environment

MOL recognizes that employees and crewmembers must be in excellent health, both mentally and physically, to do their jobs effectively. We strive to help them manage their health and to provide working environments that comply with laws, regulations, and treaties.

Improving the Working Environment for Land-based Employees

- Introduce personnel responsible for promotion of health management
- Hold periodic health advisory desks at major workplaces in Japan
- Introduce on-line mental health self-assessment tools
- Implement "no overtime" days and days for all employees to leave the office on time
- Provide a range of consultation services at the Consultation Office in the Personnel Division
- Implement casual days

Improving the Working Environment for Ocean-going Employees

Initiatives on Eliminating Industrial Accidents

With the aim of eliminating industrial accidents (deaths, lost-time injuries), MOL strives to increase individual safety awareness by providing audiovisual



MOL Body FIT Exercise

educational materials and practical training, and pushes ahead with continual improvements in safety education and working conditions. And as of fiscal 2014, we introduced a unique exercise program called the "MOL Body Functional Improvement (FIT) Exercise" that aims to help prevent industrial accidents such as falls, and encouraged its adoption aboard MOL Group vessels.

Family Day for Crewmembers

In consideration of crewmembers who are separated from their families for long periods of time, and their families who must cope with their absence, MOL worked to develop an onboard Internet environment, and took various other measures including holding Family Day events. We placed consultation service desks for crewmembers and their families in our local offices, providing detailed services reflecting regional cultures and needs.

In the Philippines, our main source nation for crewmembers, annual Family Day events are held throughout the nation. Particularly in Manila, this is a major event – an entire theme park is reserved for the enjoyment of some 4,000 participants.

The purpose of this event is to build bonds between MOL and its crewmembers and their families. Through this activity, the dedicated seafarers can head out to sea with peace of mind, knowing that their families are supported and cared for. These bonds are made even more solid as they are key factors behind MOL's safe operations.

FOCUS Interview: Executive Officer Responsible for Human Resources Development
~ Helping women advance in their careers ~



Middle: **Koichi Yashima** Executive Officer responsible for Human Resources Division
[Interviewers]
Right: **Yayoi Koriyama**, Assistant General Manager of General Affairs Division, (Representative for "Women's Initiatives")
Left: **Ayako Ioka**, Senior Assistant of CSR and Environment Office, Corporate Planning Division

Before diversity emerged as a major social concern, we had already taken a proactive stance in hiring and promoting the best-qualified personnel, regardless of nationality, gender, and age, and pursuing diversity all the while. We have renewed our understanding of the importance of women employees' desire to advance in the company, and are working to accelerate their career development.

This year's report examines this issue from the viewpoint of women, with two women – one in management and one at the junior level – interviewing the executive officer responsible for human resources development, who talked about the necessity of female employees playing active roles in the workplace and future directions of the company's initiatives.

Koriyama: Please tell us about your understanding of the current situation concerning diversity in the MOL Group work force, including our initiatives related to women in the company.



Yashima: First of all, let me emphasize that our current recruiting standards, training policies, and transfer and job posting regulations, make no differentiation regarding gender. Within our corporate group of companies, our employees and crewmembers hail from more than 50 different countries, and they are about fifty-fifty, male and female. I think we can confidently say that our group is definitely anchored in diversity. Looking at MOL alone, we see that women account for 27% of our employees and about 6% of our management. We realize these numbers put us in the emerging bracket when compared with the global level. We started hiring female new graduates for shoreside management positions in 1997, and those who entered the company then have grown and pursued career paths that have now led them into management positions. Of course they are excellent role models

for the women who came after them, and we are now finding women on the very front lines of our business. At headquarters, there are currently 11 women seafarers, and there are 12 taking overseas posts, so you can see more and more places where women can play active roles.

Ioka: Please tell us about the necessity and significance of female personnel playing active roles in the MOL Group.



Yashima: Speaking of the group overall, personnel are the most important management resource. Further, diversity of personnel means there can be no limitation on personnel due either to nationality or to gender. In fact, the source of our competitiveness is the ability to put together organizations of people who have moved ahead due to their capabilities and personalities. Especially in Japan, where over the mid-to-long term, a shortage of personnel will become an increasingly serious problem, we must make sure that each employee can make full use of his or her capabilities, and that will help us win in this extremely competitive business environment. And, from that point of view, women working to their full capabilities are very important to our management strategies.

Another important point I would like to bring up is our risk management portfolio. It is much more valuable to come to an agreement after listening to people of various backgrounds and cultures than to make agreements among people who share the same background and same thoughts. This kind of decision-making is best at dealing with fluctuations in markets or

tolerance for risks. And, from this viewpoint as well, we can see how important the contributions from women really are.

Ioka: Women have life events such as marriage, giving birth, and raising children. What is your opinion about such events?

Yashima: We really must continually retain our essential human resources, so our maternity and child-care benefits must exceed the legal requirements. In other words, we want to make it easy for women to continue their careers. We understand that a woman who has been with the company for several years and is really advancing quickly can have a life event that will require her to take a leave of absence of two or three years, so we strive to ensure a wide choice of possible career paths for female personnel when they return.

Further, as of fiscal 2014, we introduced a new system that gives female personnel to be reemployed with the company within four years even if they have to leave the company to follow their spouse to an overseas posting. Another important program is the "Women's Initiatives (WI)", which are administrated by our female executives. WI has carried forward activities aimed at promoting active roles for women, such as planning and presenting seminars and setting up networking opportunities for female executives among group companies. Of course the company continues to support these movements.

Koriyama: Finally, looking forward toward more active roles for females, what specifically does management expect of our employees?

Yashima: First of all, in line with our robust policies on human resources development, we hope each employee will commit to working with a sense of ownership. That means an attitude of always having a sense of ownership even when confronting a difficult problem, and solving it while cooperating with everyone involved. That's the sense we need and want, and it applies to male and female employees alike.

It doesn't matter whether an employee is male or female, we still want them to have that sense of ownership; we don't want someone who just does what he or she is told to do. Instead, the

employee should always be aware of how his or her job is positioned, whether there is anything else that could be added to it, and we hope all employees will keep these things in mind as they go about their daily jobs.

Managers with women on their teams have to keep in mind the historical background of their active roles as well as the life events unique to females. With that in mind, old-fashioned hesitance to assign women to certain tasks should no longer be an issue. By the same token, first we will educate managers about the idea that they should not consider their female employees for special training and business assignments, though they are required to make a certain considerations for female employees.

Last year, when I visited companies in Sweden and Norway, both known as advanced countries in the realm of female rights and progress, everyone I talked to said basically the same thing: Awareness (understanding that women have all the skills and capabilities of men) is most important. That's why they do "awareness" seminars on a regular basis, and I was able to learn many of the things they do. In our group as well, we should proactively communicate our expectations to their female employees through managers, and in training programs. We will make our best endeavors to help nurture the "awareness" of each female employee and to build the proper work environment that allows them to fully demonstrate all of their skills.



Comments from Female Workers

I loved ships from the time I was a little girl, so I enrolled in the Kobe University of Mercantile Marine (now Kobe University). I honed my English skills by studying abroad, and joined the company in 2004 as a female officer. I have encountered no disadvantages and things have not been inconvenient at all. Onboard ship, we have a tiered society, an officer serves in a management post, and actual operations are done mostly by non-Japanese crewmembers. It is important to speak to them about even the small things, and making it easy for crewmembers to come and talk is very much a part of safe operation. The greatest sense of accomplishment we get on our vessel is arriving and leaving harbors at precisely the scheduled time.

Kayo Sugai First Officer



MOL Liner, Ltd., based in Hong Kong, serves as headquarters and handles Asian area management of MOL's s liner business. Many of its important strategic decisions are made by the managers there. In all, 26 women are managers or above, and the percentage of women among all managers has reached 20%.

Also, a female manager at MOL (HK) Agency Ltd., which does agency work out of Hong Kong, organized "Women in MOL." This is a network involving female employees who work in Hong Kong and southern mainland China. "Women in MOL" provides various activities such as training programs that help women gain a better understanding of themselves and those around them while helping them improve their skills.

Connie Or Director, MOL Liner, Ltd./General Manager, MOL (Asia) Ltd.



Initiatives on the Environment

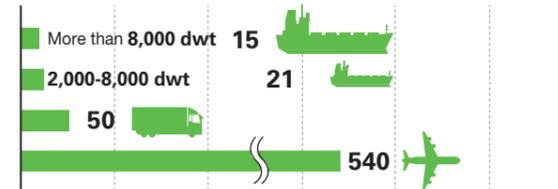
The MOL Group seeks to offer more environmentally-friendly services through various environmental protection measures—development and introduction of environmental technologies, ship operation with the minimum environmental impact, and measures to protect the air and ocean environments—to meet worldwide demand for shipping.

Ocean Shipping's Impact on the Environment

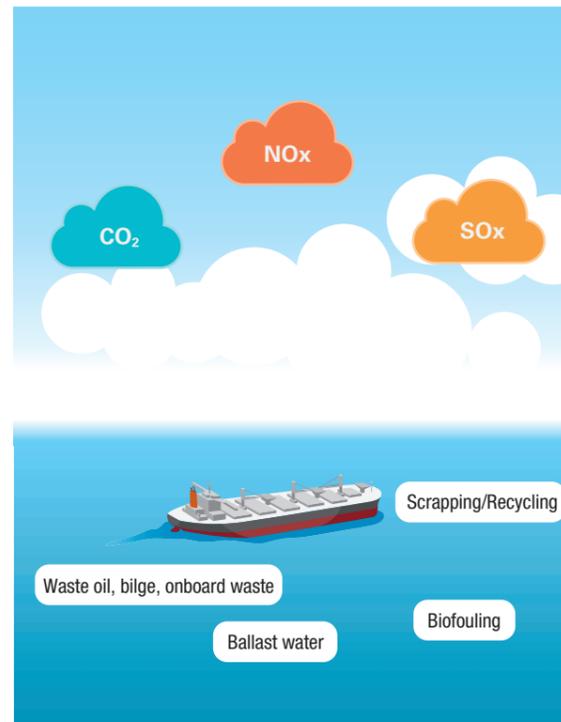
Compared to other modes of transport, ocean shipping can transport larger volumes of cargo at once and is an environmentally-friendly mode, with lower emissions per ton-mile of CO₂ and other air pollutants.

However, with growth of the world economy spurred by the development of emerging markets, the overall world ocean cargo traffic continues to increase. Seaborne trade has exceeded 10 billion tons, and we anticipate further increases in the future. As seaborne trade increases, CO₂ emissions will rise in step with growing energy consumption. This can exacerbate pressing environmental issues. CO₂ emissions from merchant vessels account for about 2% of global emissions, and the shipping industry must do more to protect the environment.

Comparison of CO₂ Emissions from Aircraft, Trucks, and Ocean Vessels (Unit: grams/ton-km)



Source: ICS & NTM, Sweden



Environmental Policy

We are thoroughly aware of the environmental impact created by our group's business activities, and issued the MOL Group Environmental Policy Statement in 2000.

MOL Group Environmental Policy Statement

Philosophy

As one of the world's leading multi-modal transport groups, the MOL Group is committed to protecting the health of our marine/global environment and therefore promotes and supports the following policies.

Policies

1. Protect all aspects of the marine/global environment and foster safe operation;
2. Comply with all environmental legislation and regulations required by law, and all relevant standards and other requirements that we subscribe to. And, whenever possible, further reduce the burden on the environment by setting and achieving even tougher voluntary standards;
3. Periodically review and revise our environmental protection measures on the basis of our framework for setting and reviewing environmental objectives and targets;
4. Conserve energy and materials through recycling and waste reduction programs;
5. Purchase and use environmentally safe goods and materials;
6. Promote the development and use of environmentally safe technology;
7. Educate and encourage group employees to increase their focus on protection of the environment through enhanced publicity efforts, and communicate our Environmental Policy to group employees;
8. Publish our Environmental Policy Statement and disclose our environmental information on a regular basis;
9. Always strive to ensure that our business activities contribute to and adequately support worthy environmental protection activities

Key Environmental Issues

In March 2014, we identified the highest-priority environmental issues and set about addressing those issues in a proactive manner. To identify these priorities, we analyzed issues from international conditions regarding about environmental issues, the opinions of stakeholders including customers, investors, and so on, as well as our own internal viewpoints. Finally, through discussions in the CSR and Environment Committee, we identified the following five issues.

- 1 Comply with environmental regulations
- 2 Utilization of technologies to reduce environmental impact
- 3 Disclose environmental data
- 4 Ensure safe operation
- 5 Contribute to conservation of biodiversity

Organizational Structure for Environmental Initiatives

To effectively promote environmental initiatives based on the MOL Environmental Policy, the CSR and Environment Committee, a sub-committee of the Executive Committee, oversees planning and promotion of environment-related measures under the direction of the CEO. The CSR and Environment Committee assesses environment-related risks and opportunities involving MOL, identifies the highest-priority issues in the group's environmental management, and sets environmental targets, striving to achieve environment-friendly business activities. In March 2014, we set new environmental targets in the midterm management plan STEER FOR 2020 for three years starting from FY2014.

[For details on the environmental targets: >> Page 33]

Organizational Structure to Promote the Environmental Management



Environmental Management System

To precisely grasp and manage the environmental risks and opportunities in our businesses, we established the environmental management system MOL EMS21 in April 2001, and since then we have made ongoing efforts to improve it. Every year, the CSR and Environment Office conducts an

internal audit based on MOL EMS21. The chairman, who is responsible for environmental management, receives the results of the internal audit and confirms whether the system is functioning effectively.

We also have a third-party audit by DNV GL Business Assurance Japan KK every year, and a renewal audit every three years, and have earned ISO14001 certification for our environmental management system. The results of our FY2014 audit showed no non-conformity.

The MOL Group Environmental Target System

We have implemented the Group Environmental Target System, targeting major group companies in Japan and overseas. Every year, each company sets environmental targets to reduce the environmental impact of our business activities based on specific guidelines that are in line with midterm management plan, and establishes action plans to achieve those targets. Along with those targets, we collect each company's data on its own environmental impact (fuel consumption, electric power consumption, paper usage, waste, and so on).

Number of target companies	52 in Japan	20 overseas
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Please refer to the Web site for MOL Group companies' environmental initiatives.

Comment from Executive Officer Responsible for Environmental Technologies

Environmental regulations serve as very important guides for our introduction of environmental technologies. We determine where the regulations are pointing us, and then it's important that we proactively and precisely comply with them.

We have worked voluntarily to reduce our environmental burden and improve fuel efficiency. In cooperation with the business divisions, shipyards, and equipment and machinery manufacturers, we realize a competitive advantage through differentiating technologies, meeting the needs of customers who have especially high standards regarding environmental performance.

There are still many things we can do from both hardware and software aspects. We will continue to aggressively adopt new technologies, gain feedback and knowledge seafarers on the front lines, and direct our research and development activities to proactively develop the technologies of the future.

Yoshikazu Kawagoe
Executive Officer



Environmental Activities Targets and Results (FY 2014/2015)

New Midterm Management Plan: Fully aware of the environmental impact of its business activities, the MOL Group will lead the world shipping industry by proactively responding to environmental regulations and differentiating our performance by actively adopting superior environmental technologies for protecting the global environment.

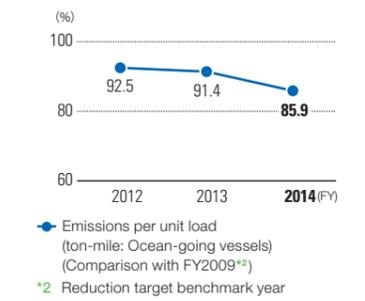
Legend: ● Achieved ○ Generally achieved △ Partially achieved
● Did not achieve (target period/content changes)

	FY2014 Environmental Targets	FY2014 Environmental Activities and Results	Achievement	FY2015 Environmental Targets	reference
1. Comply with Environmental Regulations	Reduce environmental impact through overall optimization and protect the global environment by engaging in company-wide efforts including ballast water management, ship recycling, prevention of global warming, prevention of atmospheric pollution, and response to diverse environmental regulations.				
	1. Promote installation of the ballast water treatment system prior to the enforcement of new regulations	Established a company-wide policy to install ballast water treatment systems on vessels prior to enforcement of new regulations set out in the Ballast Water Management Convention, selected target vessels for installation, and started the preparation (determined to install the ballast water treatment system to 28 vessels and completed installing to 15 vessels in FY2014). In addition, tested the effectiveness of the system installed on a vessel. Provided feedback on defects/malfunctions/failures to the manufacturer to improve future installations.	●	1. Further promote installation of the ballast water treatment system prior to the enforcement of new regulations, while monitoring developments in the ballast water convention. Test the effectiveness of the ballast water treatment system installed on a vessel, and provide the manufacturer with feedback on defects/malfunctions/failures and requests for improvements.	P.35
	2. Consider installation of SOx emission reduction systems	Jointly tested the effectiveness of the SOx scrubber system with the manufacturer and shipyard. Also, conducted a demonstration test of the system installed on a vessel. Requesting installation cost estimates from the manufacturer and shipyard. Informed all group companies about the new ECA regulation, which started in January 2015. Purchased low-sulfur fuels to comply with the new regulations.	●	2. Continue to consider installation of SOx emission reduction systems. Comply with SOx Emission Control Area (ECA) rules, which took effect in January 2015. Collect information on supplies of low-sulfur fuels, which produce fewer SOx emissions.	
	3. Evaluate and verify SCR (NOx reducing system)	Conducted a demonstration test of SCR using low-sulfur marine diesel fuel, and confirmed an 80% denitrification rate. Continuing demonstration testing on the system's effectiveness using heavy fuel oil.	○	3. Continue to verify NOx reducing system (Selective Catalytic Reduction; SCR), and make a final evaluation.	
	4. Develop and implement specific reduction measures for complying with domestic environmental regulations such as the Amended Energy Conservation Act and Tokyo Metropolitan Environmental Security Ordinance	Developed and implemented specific reduction measures to comply with domestic environmental regulations such as the Amended Energy Conservation Act and Tokyo Metropolitan Environmental Security Ordinance, in cooperation with MOL Engineering Co., Ltd. Has reduced unit energy consumption by 15.5%, compared to FY2009.	●	4. Develop and implement specific reduction measures for complying with domestic environmental regulations such as the Amended Energy Conservation Act and Tokyo Metropolitan Environmental Security Ordinance	
5. Review the selection criteria for scrapping yards in preparation for the enforcement of the Hong Kong International Convention	Conducted a wide range of inspections in scrapping yards. Discussed the scrapping yard selection criteria based on international interpretation of the Hong Kong International Convention.	○	5. Establish the selection criteria for environment-friendly scrapping yards in preparation for the enforcement of the Hong Kong International Convention.		
2. Proactively Utilize Technologies to Reduce Environmental Impacts	Promote energy-saving innovations for ships and eco-sailing through active utilization of refined energy-saving technology that MOL acquired in the ISHIN project for the next-generation vessel concept. Reduce CO ₂ emissions 11.5%* per ton-mile by FY2016 compared to FY2009.				
	1. Reduce CO ₂ , NOx, SOx by 1% in FY2014 compared to FY2013	Continued efforts by business divisions on further enhancement and increased use of slow steaming operation. Installed systems to improve propeller efficiency such as PBCF on all 22 newbuilding vessels delivered during FY2014. Studied adoption of the optimal trim system and vessel operation support system and conducted demonstration tests on the vessels in operation (Reduced CO ₂ by 6.0% compared to FY2013 (Reduced by 14.1% compared to FY2009, Reduced NOx by 6.0% compared to FY2013, Reduced SOx by 4.8% compared to FY2013)	●	1. Reduce environmental impact (1) Reduce CO ₂ by 1% in FY2015 compared to FY2014. (2) Reduce NOx by 1% in FY2015 compared to FY2014. (3) Reduce SOx by 1% in FY2015 compared to FY2014.	P.36-38
	2. Build vessels with high-efficiency waste heat energy recovery systems	Installed a waste heat energy recovery system on a large-scale coal carrier (delivered in January 2014) and a large-scale bulkship (delivered in June 2014). Verified the 5.5-7.0% energy-saving effect in sea trials.	●	2. Install and verify the low-temperature waste heat recovery system (Variable Phase Cycle : VPC) on an actual vessel.	
	3. Develop methanol-fueled vessels	Developed the engine for a methanol carrier. Held monthly meetings to confirm progress of vessel construction processes.	○	3. Develop and build methanol-fueled vessels.	
	4. Consider LNG fueled-vessels	Carried out study for the possibility of changing the specifications of newbuilding containerships to allow the use of LNG as fuel. Launched a project with a shipyard and manufacturer to examine the possibility of using LNG to fuel tugboats. Power Assist Sail: A joint R&D, targeting tankers, with Mitsui Engineering & Shipbuilding Co., Ltd. and Akishima Laboratories (Mitsui Zosen) Inc. was held. Started preparation for safety evaluation and verification by a third-party institute. Wind Challenger Project: Conducted demonstration test of an on-land test machine. Developed high-aspect ratio sail and sailing vessel automatic pilot, and began reviewing conformity to regulations and safe operation technologies.	●	4. Conduct feasibility study of positioning the engine room for installing LNG fuel and SOx scrubbers for the new building containership. 5. Begin planning and design of an LNG-fueled tugboat.	
	5. Promote projects for utilizing wind, such as Power Assist Sail, Wind Challenger Project, reduction of wind resistance for PCCs and containerships, etc.	Project to reduce wind resistance: Worked with Miraminippon Shipbuilding Co., Ltd. to verify loading capacity, construction cost, and effect on design and process of the car carrier with teardrop-shaped stern. Continued design work on wind resistance reducing bow and bulwark of the containership. Selected a candidate vessel and started preparations for the installation.	○	6. Promote projects that use wind power, such as Power Assist Sail and Wind Challenger Project. 7. Verify feasibility of a car carrier with teardrop-shaped stern (design a smoother stern shape). 8. Verify wind pressure reducing technologies on containerships.	
	6. Develop DPF <PM (particulate matter) removal system> (Continue verification and evaluation on ocean-going vessels)	Conducted durability test of heavy fuel oil on a vessel that is already installed with Diesel Particulate Filter (DPF). Tests to verify the effectiveness are under way and will continue in the next fiscal year.	△	9. Continue to verify and develop DPF <PM (particulate matter) removal system> installed on a vessel.	
	7. Promote the development of special revolving nozzles to reduce CO ₂ and NOx using test engines at the MOL Technology Research Center	Continued joint R&D on a special spray nozzle with a manufacturer, university, and research institute. Verified fuel saving and emission gas reduction effects, using the test engine at the MOL Technology Research Center. Verification tests will continue in the next fiscal year. Further enhanced and increased the adoption of slow steaming operation. Started preparation for operations with minimal fuel with real-time routing service by installing ocean broadband and monitoring system.	○	10. Develop technologies to improve combustibility of vessel fuels at the MOL Technology Research Center.	
	8. Fully practice Eco-Sailing and pursue efficient operations	In addition, MOL Ship Management Co., Ltd., the MOL Group's core ship management company, acquired ISO50001 certification, which contributes to improve energy efficiency. Decided to launch a 20,000 TEU containership, one of the world's largest, which will greatly reduce CO ₂ emissions per ton-mile.	●	11. Thoroughly implement Eco-Sailing and promote development of an advanced operation supporting system that improves operation efficiency.	
	9. Examine environmental concept vessels in consideration of internal needs and seeds	Held in-house meetings among relevant divisions to select the next concept ship. Conducted joint research with a shipyard and manufacturers and produced the draft.	○	12. Continue to examine environmental concept vessels in consideration of internal needs and seeds and refine the concept of the environmental business.	
10. Reduce unit energy consumption at offices and on domestic coastal vessels for the medium to long term. Reduce by 1% in FY2014 compared to FY2013	Reduce unit energy consumption at offices by 1.3% compared to FY2013 but on the domestic coastal vessels side increased 0.5% due to less cargo coming from the slump of Japanese domestic economy.	△	13. Reduce unit energy consumption at offices and on domestic coastal vessels for the medium to long term. Reduce by 1% in FY2015 compared to FY2014 14. Consider introduction of a wide variety of leading-edge environmental impact-reducing technologies on the world's largest 20,000 TEU containership. 15. Begin preparations to build two ferries that feature both high speed and excellent environmental performance.		
3. Actively Disclose Environmental Data	Respond to stakeholders' interests in MOL's environmental policy by disclosing KPI for transport with low environmental impact and various environmental data using the Web site and Safety, Environmental and Social Reports.				
	Proactively promote calculation, analysis, and disclosure of following data and disclosure of reduction effects 1. Energy consumption volume 2. GHG emission volume (Including Scope 1-3) 3. SOx, NOx emission volume 4. Consumption volume of other resources	Disclosed environmental data through the Environmental and Social Report, the company Web site, and other various external media. Recognized in the Climate Disclosure Leadership Index (CDLI). In addition, MOL Liner made its own disclosure of CO ₂ , NOx, and SOx emissions on its Web site and <i>Environmental and Social Activity Overview 2015</i> .	●	1. Proactively promote calculation, analysis, and disclosure of following data and disclosure of reduction effects through the Safety, Environmental and Social Report, Web site, and questionnaires from outside the company. (1) Energy consumption volume (2) GHG emission volume (Including Scope 1-3) (3) SOx, NOx emission volume (4) Consumption volume of other resources 2. Accept third-party verification of CO ₂ emissions to improve accuracy and transparency.	P.39 P.43 P.46
4. Ensure Safe Operations	Ensure safe operations to prevent unexpected environmental impacts, and pursue zero ocean pollution caused by marine incidents.				
	1. Prevent serious marine incidents by improving MOL's safe operation system	Held the company-wide biannual safety campaign twice, and held division-by-division safety operation meetings to enhance safe operation. In addition, regularly visited vessels, raising safety awareness of employees both on land and at sea, and achieved zero serious marine incidents. Reported problems to manufacturers/held information exchange meetings with them a total of 49 times (14 times about main engines, 9 times about power generators, 18 times about ballast water treatment systems, and 8 times about paints). MOL and its group companies conducted six shipyard assessment visits. Checked the shipyards' HSE manuals to share safety standards among MOL and shipyards. Validated health/hygiene/safety management methods of workers and superintendents.	●	1. Prevent serious marine incidents by reliably operating MOL's safe operation system.	P.11-14 P.19-24
	2. Further improve the quality of new vessel design and construction	Adopted for all 22 delivered newbuilding vessels.	●	2. Further improve the quality of new vessel design and construction	
3. Further improve the MOL Safety Standard Specifications, and promote the application of newly built vessels		●	3. Continue to adopt the MOL Safety Standard Specifications on newbuilding vessels.		
5. Contribute to Conservation of Biodiversity	Raise awareness of biodiversity protection, promote waste reduction from vessels, and participate in volunteer activities for conserving biodiversity on a company-wide level.				
	1. Further reduce waste from vessels such as on-board waste, waste oil, and bilge	Collected the latest legal information on the Oil Record Book, and included the latest relevant laws in revisions to the book. Continued use of the food waste cleanup system, which was installed on some vessels. Established and introduced a recycling program for lashing belts (used to hold vehicles in place aboard car carriers) that have reached the end of their useful lives. Promoted effective use of resources.	●	1. Continue to reduce waste from vessels such as on-board waste, waste oil, and bilge.	P.39
	2. Prevent cross-border transportation of foreign marine organisms through ballast water exchange in the open sea, and implement planned vessel cleaning to remove organisms on vessels to help conserve biodiversity	Strived to prevent cross-border transportation of foreign marine organisms by exchanging ballast water in regulated sea areas to promote conservation of biodiversity. MOL, one of its group companies, and Mitsubishi Corporation conducted a joint experiment with a ship bottom cleaning robot for periodic ship bottom cleaning. In addition, adopted highly ductile steel plate NSafe®-Hull, developed by Nippon Steel & Sumitomo Metal Corporation, for fuel tanks and other areas where hull strength is especially critical, striving to prevent marine environmental pollution.	●	2. Prevent cross-border transportation of foreign marine organisms through ballast water exchange in the open sea, and implement vessel cleaning to remove organisms on vessels to help conserve biodiversity	
	3. Support volunteer activities to help conserve biodiversity in Japan and overseas, such as mangrove planting	Conducted beach cleanup in Kamakura and Kashima in Japan and at Butterfly Beach in Hong Kong.	●	3. Support volunteer activities to help conserve biodiversity in Japan and overseas, such as tree planting.	
4. Navigate with special consideration in the areas with high populations of large-sized marine life	Circulated the information about sea areas with high populations of large marine, on the Port and Navigation Information. Especially Containerships, which frequently sail in sea areas with high populations of large marine life, continued to operate along the North America East Coast and in other areas in conformity with laws and regulations.	●	4. Promote navigation with special consideration in the areas with high populations of large-sized marine life.		
6. Advocate Transport Policies and Measures Aimed at Contributing to Reduction of Environmental Impact	Proactively make recommendations so that environmental policy promotes utilization and reinforcement of the high environmental efficiency of shipping as transport mode, and contribute to environmental impact reduction and sustainable growth.				
	1. Make the following recommendations and requests to industry groups, government agencies, and relevant ministries: Promote modal shift to reduce environmental impact. Establish rules for realizing next-generation fuel vessels 2. Actively participate in energy-saving policies	Promoted the Modal Shift, which aims at reducing the environmental impact of transportation, in cooperation with Japan's Ministry of Land, Infrastructure, Transport and Tourism and Ministry of Economy, Trade and Industry. Proactively made recommendations through the Japanese Shipowners' Association and Ministry of Economy, Trade and Industry to develop a more feasible Monitoring, Reporting, and Verification (MRV) system, which is to be introduced in the near future.	○	1. Make various efforts to encourage the modal shift, which has a low environmental impact, to industry groups, government agencies, and relevant ministries. 2. Actively participate in energy-saving policies	—
7. Environmental Investment	Make environmental investment of 20 billion yen in 3 years, 60 billion yen in 6 years to respond to environmental regulations and to promote energy-saving innovation for vessels.				
	1. Research and develop new environmental technologies such as methanol-fueled vessels 2. Further improve waste heat energy recovery systems for vessel main engines 3. Promote installation of ballast water treatment systems prior to the enforcement of new regulations, and respond to environmental regulations	Environmental Investments in 2014 was 4.29 billion yen. (Details) Environment-related R&D activities: ISHIN related technology such as waste heat energy recovery system, Methanol fueled vessel etc. 0.7 billion yen Utilization and expansion of existing environmental technologies: PBCF, Low-friction hull paint, Onshore power supply system, electronically controlled engine, etc. 2.1 billion yen Compliance with environmental regulations: Ballast Water Treatment System, Ship Recycling Regulation and SOx Regulation related etc. 0.5 billion yen Initiatives to save bunker fuel: Fuel additives, optimal trim, vessel operation support system 0.9 billion yen Initiatives of Group companies: International Ocean Shipping group companies' environment investments 0.2 billion yen	●	1. Make proactive investments in new environmental technologies such as methanol-fueled vessels 2. Develop a low-temperature waste heat recovery system (VPC) 3. Proactively comply with environmental regulations, such as promoting the installation of ballast water treatment systems prior to the enforcement of new standards.	P.35-39

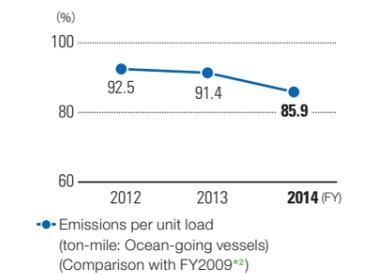
* Reduction target for CO₂ emissions per ton-mile in the former midterm management plan was 10% by FY2015 compared to FY2009. MOL is currently making steady progress toward achieving that goal. Targets in the new midterm management plan were set through the final year based on the assumption that MOL will maintain the same reduction speed

Major Environmental Indicators

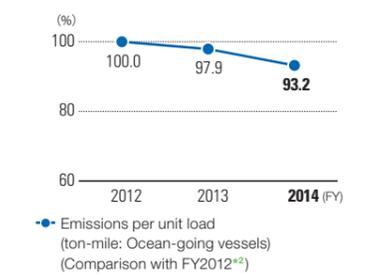
MOL Group CO₂ Emissions



MOL Group NOx Emissions



MOL Group SOx Emissions



Reduction of CO₂ Emissions by CO₂ Measures

	FY2010	FY2011	FY2012	FY2013	FY2014
(Unit: thousand tons)	838	432	303	280	348

Cost Reduction by CO₂ Measures

	FY2010	FY2011	FY2012	FY2013	FY2014
(Unit: ¥ billion)	11.4	7.3	5.3	5.5	5.5

- The amounts are estimated with reduced CO₂ emissions and reduced cost based mainly on enhanced slow steaming, installation of PBCFs, and the fuel-saving effects of low-friction paint.
- The cases in which it is difficult to measure the effects are not included in the calculation.

Environment Investment Amount

	FY2014 (Results)	FY2014-2016 (Plan)
Environment-related R&D activities	0.7	
Utilization and expansion of existing environmental technologies	2.1	
Compliance with environmental regulations	0.5	
Initiatives to save bunker fuel	0.9	
Initiatives of Group companies	0.2	
Total	4.3	20.0

The Highest-priority Environmental Issues

Comply with Environmental Regulations

It is not really possible for a single nation to regulate merchant vessels, because they move all over the world, so international initiatives are indispensable. The United Nations Framework Convention on Climate Change (UNFCCC) in the Kyoto Protocol directs the International Maritime Organization (IMO) to study measures to control greenhouse gas (GHG) emissions in international ocean shipping. Currently, IMO studies, adopts, and issues various international conventions and regulations.

MOL continues its company-wide efforts to ensure compliance with a wide variety of environmental regulations.

(Please refer to the Web site and other pages of this report for details of the environmental initiatives.)

Regulations to prevent global warming	2014	2015	2016	2017	2018	2019	2020	2025
EEDI	Phase 0	Phase 1					Phase 2	Phase 3
SEEMP	Mandatory							
MRV, MBM (under consideration)								

In 2013, conventions related to energy efficiency (EEDI and SEEMP) were adopted as measures to reduce GHG emissions from international ocean shipping. **CO₂**

EEDI: Energy Efficiency Design Index. Requires that CO₂ emissions in theory conform to the regulations at the design stage of a newbuilding vessel. Target of reduction rate in each phase: Phase 0 = 0; Phase 1 = 10%; Phase 2 = 20%; and Phase 3 = 30%.

SEEMP: Ship Energy Efficiency Management Plan. Requires the selection of an operational method for each vessel to improve energy efficiency, documentation of the action plan, and adoption of method aboard the vessel. It targets newbuilding vessels and existing vessels.

In addition, MRV and MBM have been studied for adoption as measures to further reduce emissions.

MRV: Monitoring-Reporting-Verification system. Preceding the Market-Based Method (MBM), MRV is a system to monitor, report, and verify operational data concerning actual fuel consumption.

Regulations to prevent air pollution	2014	2015	2016	2017	2018	2019	2020	
SOx (sulfur oxides)	General sea area	Sulfur content 3.5%					Sulfur content 0.5%	
	ECA	Sulfur content 1.0%		Sulfur content 0.1%				
NOx (nitrogen oxides)	General sea area	Tier II regulation						
	ECA	Tier II regulation			Tier III regulation			

SOx emissions regulations:

Regulate the sulfur content in fuel oil to control SOx volume in exhaust emissions. From 2015, the ratio level in the Emission Control Areas (ECAs) was reduced to 0.1%. Another regulation soon to be introduced will limit fuel sulfur content in general sea areas to 0.5% or less. The year of adoption, either 2020 or 2025, will be decided by 2018 after a survey of demand and supply for relevant fuel oil. **SOx**

NOx emissions regulations:

Regulate NOx in exhaust gas from engines in a step-by-step manner. Tier 1 regulates emission levels by rated engine rpm, targeting the vessels built between 2000 and 2010. Tier 2 requires the vessels built in 2011 or later to reduce a further 15.5-21.8% from the Tier 1 level. Tier 3 applies to vessels built in 2016 or later, in specific Emission Control Areas (ECAs), requiring a reduction of 80% from Tier 1. **NOx**

* ECA-designated sea areas.

- (1) North America Coast – within 200 nautical miles (NOx/SOx)
- (2) United States Caribbean Sea (NOx/SOx)
- (3) Baltic Sea and North Sea (SOx)

Regulations to protect the marine environment	2014	2015	2016	2017	2018	2019	2020
Ballast Water Management Convention	General sea area	Adopted in 2004; yet to take effect		Expected to be mandatory			
	USCG regulations	Enforced in 2012		Mandatory			
Ship Recycling Convention	Adopted in 2009; yet to take effect, effective year undetermined						
Convention on Biofouling on hulls	Adopted guidelines in 2011						

Ballast Water Management Convention:

A convention to prevent cross-border transfer of foreign marine organisms through ballast water of vessels. It was adopted in 2004 and there is an increasing possibility to be effective in 2016. Vessels are mandated to install ballast water treatment systems by the stipulated year, depending on the age of the vessel and ballast water capacity.

USCG Ballast Water Management regulations:

United States Coast Guard ballast water regulations took effect in 2012. The regulations for the relevant sea areas cover the same level as the BWM Convention. However, the USCG regulations require a specific type of ballast water treatment system approved by the USCG. In 2016 and later, all vessels calling at ports in the U.S. are required to use ballast water treatment systems within 12 miles of the coast. **Ballast Water**

Ship Recycling Convention:

A convention to prevent workplace accidents in ship recycling and minimize environmental pollution. It was adopted in 2009, and will be issued 24 months after the requirements for the issues are satisfied. It stipulates rules for ship recycling facilities and recycling procedures, and requires recyclers to create, maintain, and update a list of hazardous substances (inventory list) for existing vessels. **Ship Recycling**

Convention on Biofouling on hulls:

As marine organisms attached to the bottoms of ships and crossing national borders has emerged as an environmental issue, IMO is holding discussions on formulating guidelines to address this problem. The "Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species," which was adopted in 2011, was voluntarily implemented during the review period (five years). It may become a convention after a comprehensive review in 2017.

Proactively Utilize of Technologies to Reduce Environmental Impact

Compared to other modes ocean shipping is an environmentally friendly means of transport with lower CO₂ emissions per unit load. MOL Group continually takes a proactive approach to technological innovation aimed at further reducing the environmental impact of its operations.

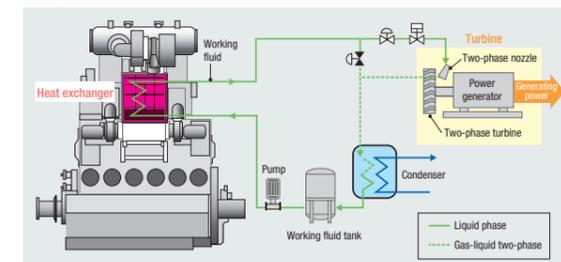
Variable Phase Cycle (VPC) **CO₂**

VPC is a system that recovers waste heat from sources of low-temperature heat, which has not been utilized before. Use of a low-boiling-point fluid allows the recovery of motive power from sources of low-temperature heat of the engine scavenging air coolant.

MOL, in cooperation with Nippon Kaiji Kyokai (ClassNK) and Mitsui Engineering & Shipbuilding Co., Ltd., plans to select a test vessel, equip with a VPC system on it, and conduct a demonstration test to determine its effectiveness in reducing CO₂ emissions.

VPC allows the recovery of heat without evaporating the working fluid in the heat exchanger equipped with the engine scavenge air coolant. This mechanism relies on a two-phase flow nozzle and turbine. The working fluid turns into a gas-liquid two-phase flow when passing through the nozzle. When the gas flow is accelerated, the momentum is simultaneously transmitted from a gas phase to a liquid phase to become a two-phase jet, which rotates the turbine wheel to recover the motive power. Heat is exchanged directly from the liquid phase, simplifying the equipment configuration.

VPC



Other Measures to Reduce CO₂

- From technological aspect
 - Improve transport efficiency by adopting larger vessels
 - Introduction of Propeller Boss Cap Fins (PBCF)
 - Introduction of low-friction ship bottom paint
 - Introduction of high-efficiency waste heat recovery system
 - Research of special rotation nozzles
 - Adoption of wind-pressure resistance-reducing design
 - From vessel operation
 - Expansion of Eco Sailing
 - Use of optimal operation support system
 - Use of optimal trim calculation system
 - Use of renewable energy
 - Introduction of hybrid car carriers
 - Research on Power Assist Sail
 - Participation in Wind Challenger Project
- Please refer to the Web site for details.

Word First—Successful Methanol Combustion in Low-speed Diesel Engine **SOx**

A 50,000 DWT methanol carrier now under construction at Minaminippon Shipbuilding Co., Ltd. will be the first in the world equipped with a dual-fuel engine that can run on either methanol or heavy fuel oil. The vessel is planned to be chartered by Waterfront Shipping Company Limited (The shipping arm of the world largest Methanol trader, Methanex Corporation). MAN Diesel & Turbo of Denmark developed the main engine, the first low-speed diesel engine ever to run on methanol. Since methanol contains no sulfur, it is more environmentally friendly than conventional diesel fuel, and can reduce sulfur oxide (SOx) emissions. Also, compared to the conventional engine, it will reduce CO₂ and NOx.

MAN Diesel & Turbo's test engine ran successfully on methanol fuel. This photo was taken when the engine was officially introduced.



Other Measures to Address Air Pollution

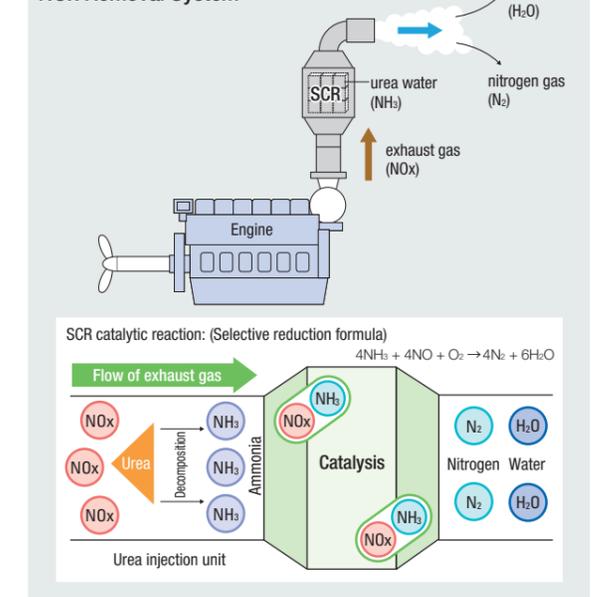
- Study of SOx scrubber
 - Use of low-sulfur fuel
 - Consideration of LNG fuel
- Please refer to the Web site for details.

Selective Catalytic Reduction (SCR) **NOx**

NOx is generated by bonding nitrogen in fuel oil and the oxygen in the air under high temperature during combustion in the engine. We equipped SCR systems, which eliminate NOx emissions from vessels, to three power generators on the MOL-owned/operated large-scale iron ore carrier. We confirmed that its denitration performance for diesel oil conforms to IMO's NOx Tier III regulations, which will take effect in 2016.

MOL, in cooperation with ClassNK and Yanmar Co., Ltd., has been operating the system since the vessel was delivered in December 2013. Its verification using marine diesel oil (MDO) as fuel and about 3,100 hours of operation (total operation hours of three SCR systems) have been completed. Verification using heavy fuel oil (HFO) is now in progress.

NOx Removal System



Initiatives on Ship Recycling **Ship Recycling**

Aged vessels need to be scrapped from the viewpoints of both safe operation and marine environmental protection. In May 2009, the IMO adopted the Hong Kong International Convention, which sets objectives for solving issues related to vessel scrapping, and is moving toward ratification. This convention prohibits and limits the content of stipulated harmful substances aboard throughout the life of the vessel and requires to create, maintain, and update an inventory list including the amounts of harmful substances and their locations aboard, and to provide that list when handing the vessel over to a recycling yard. The MOL Group was one of the first to start providing these inventory lists to ensure a smoother response to the requirements of the convention. It also thoroughly informs the convention, and shares information related to recycling as well as conditions in recycling yards. Meanwhile, when selling a vessel on the assumption of scrapping, based on the international interpretation of Hong Kong International Convention, we select a recycling yard after checking a broad range of list items including the yard's ISO certification status, conducting site inspections, confirming that the yard's environmental measures conform with ISO 14001 or its equivalent, and whether scrapping methods and procedures meet acceptable standards for environmental protection, occupational safety, and human rights.

FOCUS World's Largest Containerships: 20,000 TEU

MOL will lead the shipping industries in terms of environmental protection by differentiating by adopting advanced environmentally-friendly technologies to one of the world largest class containerships, with capacities of 20,000 TEU.

From the energy efficiency improvement by becoming larger and the technologies to reduce environment load, these vessels can reduce CO₂ emissions per container moved by about 50% compared to 8,000 TEU containerships, which are the mainstream size today.

* Comparison with MOL-operated latest type 8,000 TEU containerships

Technological Initiatives

50% reduction in CO₂

Technological Initiatives

1 Auxiliary Equipment

Inverter control is adopted for the air conditioning system in the living areas, seawater cooling pump, and engine room ventilation fan. Improved control of the large-capacity fan motor rpm minimizes electric power consumption and reduces fuel consumption.

CO₂

2 Diesel Generators

Exhaust gas economizers are installed on two of four diesel generators. They recover exhaust gas energy from the generator engines, contributing to higher fuel efficiency.

CO₂

3 High-efficient Propellers

Optimize the angle of the propeller blade tips increases propeller efficiency by about 1%.

CO₂

4 Energy-saving Device Attached to the Hull (SAVER STATOR)

A rectifier Fin is mounted on the underwater portion of the hull in front of the propeller. This is expected to generate an energy-saving effect of 1.5-2% by optimizing the flow of the water coming into the propellers.

CO₂

5 Full Spade Twisted Rudder (with Rudder Bulb)

To ensure vortex energy recovery of the propeller slipstream, adopted a twisted leading edge and set a bulb with round-shaped center front, in front of the rudder. In addition, the hanging-type rudder improves maneuverability and reduces damage to the rudder caused by propeller cavitation erosion.

CO₂

6 For Shifting to LNG Fuel

MOL is carrying out feasibility study to allow the ship to run on LNG fuel as a measure to comply with stricter environmental regulations limiting SOx emissions.

CO₂ NOx SOx

7 Easy-to-Retrofit SOx Scrubber

Other than allowing the option of using LNG as a fuel, MOL is carrying out feasibility study to allow retrofitting of an SOx scrubber, providing more flexibility in coping with the fuel supply situation in the coming years.

SOx

Ship Operation/Other Initiatives

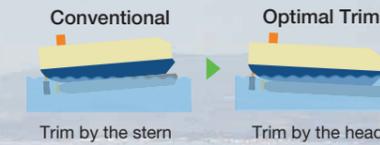
Comprehensive Eco Sailing

CO₂

"Eco Sailing" is MOL's term for promoting energy saving by fully grasping the energy flow of the vessel, limiting energy loss to make the most effective use of energy, thus saving fuel and reducing emissions. Specifically, we take measures such as: ① put slow steaming into practice in an appropriate manner, ② pay close attention to forecasts of weather and ocean conditions and maintain optimal trim, ③ select the optimal route, ④ optimize operation and maintenance of machinery and equipment.

Optimal Trim Operation

MOL pays attention to propulsion resistance by changes in trim and verifies the minimum resistance trim in vessel operation by water tank tests, helping to ensure energy-saving operation.



Hazardous Substance Inventory List

In advance of the Ship Recycling Convention coming into effect, MOL acquired ship class notation LR-ECO (IHM) by creating and maintaining the inventory lists. Ship Recycling

Ship Recycling

CG provided by Samsung Heavy Industries Co., Ltd.

8 Low-load Tuning with Exhaust Gas Bypass (EGB)

Low-load tuning (LLT), optimizes performance and fuel efficiency in low load ranges.

CO₂

9 PMI Auto Tuning

This equipment optimizes the maximum pressure in a cylinder's combustion chamber by monitoring pressure in each engine cylinder and automatically adjusting the fuel injection timing. This auto-tuning optimizes fuel combustion and improves fuel efficiency.

CO₂

10 Optimized hull form

Design refinements in the bow and stern of the hull, and the optimized bulbous bow shape are expected to realize a 4.5% boost in fuel efficiency.

CO₂

11 Low-friction Hull Paint

Special low-friction paint on the underwater portion of the hull has the potential to significantly reduce drag and improve fuel efficiency.

CO₂

12 Ballast Water Treatment System

The system will meet the requirements of the Ballast Water Management Convention.

Ballast Water

Actively Disclose Environmental Data

Demand for proactive disclosure of environmental data is increasing. Customers have raised their awareness of the importance of calculating and reducing the environmental impact such as CO₂ emissions generated in transport activities because their efforts on reducing the environmental load on their supply chains contribute to improving their social evaluations and positions. At the same time investors recognize that businesses whose activities produce GHG emissions may be imperiling their corporate value more than ever due to various policies and regulations to address the environmental issues such as escalation of global warming, and growing concern among consumers.

Clean Shipping Index (CSI)

The Clean Shipping Index is an environmental assessment tool for ships and shipowners, used by a network of cargo owners (customers) when buying sea transport. Ship owners present the environmental performance on CO₂, SOx, NOx, Chemicals and Waste and Water management, of their fleet to CSI. Ships are then ranked from 'low performance' to 'good performance'. With the information collected, the cargo owners will evaluate the ship owner in the procurement process. In line with MOL's target to "Actively Disclose Environmental Data", MOL started reporting in CSI in 2013.

Clean Cargo Working Group (CCWG)

Global nonprofit organization "Business for Social Responsibility (BSR)" that works with Container Ship owner, customers of Container and Non-Vessel Operating Common Carrier, has established Clean Cargo Working Group (CCWG) in 2003. CCWG measures, evaluates, and reports the Ship owner environmental performance including CO₂, NOx, SOx and Environmental Management System. MOL has been participating since 2012.

CDP

CDP is a U.K.-based non-profit organization that represents 767 institutional investors all over the world, whose holdings total about \$92 trillion (about one-third of the total invested capital in the world). CDP sends specific questionnaires asking about strategies on climate change and on greenhouse gas emissions to companies. Answers and scores of the results are publicly announced, and the scores are becoming a key indicator in measuring corporate value. MOL has responded to CDP's inquiries every year, and was recognized for Climate Disclosure Leadership Index (CDLI) and Climate Performance Leadership Index (CPLI) in FY2014.

[For details of CDLI, CPLI: >> Page 46]

[For details of third-party verification of CO₂ emissions: >> Page 43]

Contribute to Conservation of Biodiversity

MOL employees raise awareness of biodiversity conservation and nature protection, and participate in volunteer activities in a proactive manner.

[For details on volunteer activities contributing to biodiversity preservation: >> Page 42]

Participating in 'Declaration of Biodiversity Promotion Partners'

MOL endorsed the purpose and aim of the "Biodiversity Preservation Declaration" by Nippon Keidanren, and participated as one of its declaration promotion partners to show our practices both inside and outside the company.

 Please refer to the Web site for details.

World-first to Adopt "NSafe®-HULL" to Ensure Superior Collision Safety

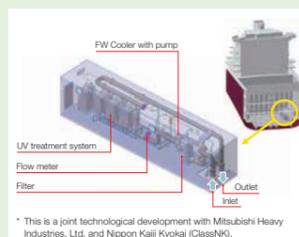
In a world-first, MOL adopted highly ductile steel plate NSafe®-HULL, developed by Nippon Steel & Sumitomo Metal Corporation, for a newbuilding vessel. NSafe®-HULL plates absorb side impact to the hull three times more effectively than conventional steel plates, thereby reducing the risk of cracks in the hull and significantly increasing the safety of the vessel. For the new vessel, use of NSafe®-HULL for the sections such as the side plates of cargo holds and fuel tanks, where hull strength is especially critical, will improve puncture resistance to help prevent flooding, protect cargo, and prevent serious oil leakage damage to the marine environment.

Ballast Water

Ballast water, which is discharged while loading cargo, carries marine organisms around the world and can have a negative impact on marine ecosystems and biodiversity. Accordingly, IMO adopted the Ballast Water Management Convention in February 2004, and its ratification is under way. MOL developed a ballast water treatment system in cooperation with manufacturers. And in FY2014, we set a company-wide policy to install the system on our vessels before the convention took effect, and began the process of selecting target vessels and preparing them for system installation. The same year, we decided to install the system on 28 Group vessels before the convention took effect, and since then have been testing them.

Ballast Water Treatment System

MOL developed the technology to install a packaged container ballast water treatment system that can fit in the cargo hold of a containership, and acquired approval in concept from ClassNK for the first time in Japan. The system is packaged in a 40-foot container (about 12m long) with all necessary equipment, and designed for easy accessibility and maintenance. Installation time is reduced by about seven days, compared to installing a system in the engine room. We installed the system on some of our containerships, and are conducting demonstration tests.



FOCUS MOL Group Social Contribution Activities – Highlights

Educational Support in Communities Affected by the Great East Japan Earthquake

Even though four years have passed since the Great East Japan Earthquake, the affected areas are still only partway through the reconstruction process and various measures have been taken to improve the situation. Upon the 130th anniversary of our company's founding, we asked our executives and employees both in and out of Japan for ideas and proposals of social contribution activities. This page introduced the MOL Group's educational support in the affected areas, which we implemented based on the above ideas.

Donation of Book Coupons and Maritime-related Books to Junior High Schools in Affected Areas — Group Employees Donate 6,900 Books

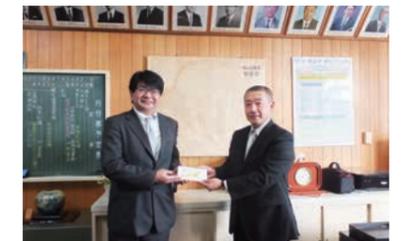
A month-long book drive, from August to September 2014, solicited donations of used books from group executives and employees. In all, we received about 6,900 books. We purchased book coupons and books about vessels and the sea, which were funded by the sale of used books and donations from the company, and then donated those coupons and books to the following schools in the affected areas, upon recommendation of the boards of education in three cities—Ofunato, Kamaishi, and Miyako — where the *Fuji Maru* called to provide aid and support shortly after the earthquake.

- Akasaki Junior High School in Ofunato City
- Kamaishi Junior High School in Kamaishi City
- Sakiyama Junior High School in Miyako City

Group Employees Donate
6,900 Books



Books donated by group companies



Presenting book coupons at Sakiyama Junior High School. MOL Cooperate Planning Division CSR and Environment Office General Manager Junichi Nagata (left) and Principal of Sakiyama Junior high school Kazuyuki Onodera (right)

Marine Officers Present Career Education Lecture at Junior High Schools in Affected Areas — Attended by 327 Students at 3 Schools

In November 2014, MOL presented a career education lecture titled "Experience the Job of Ocean Shipping" for students at the three schools listed above.

While junior high schools in Japan offer "career education," encouraging students to think about their future jobs by listening to workers' stories and experiencing corporate activities, there are few companies in the quake-stricken areas, so in reality, those schools offer limited opportunities in this regard. To address this issue, many companies went to the affected areas and presented various programs about different careers – what the jobs entail and the satisfaction the workers gain from them. We took a similar approach, presenting a lecture about the ocean shipping industry and the jobs of crewmembers, with the goal of helping students expand their career horizons.

Before the lecture, we visited the Japan Red Cross and received advice the emotional state of the children in the quake-damaged communities. The lecture helped students understand the structure of the ocean shipping industry through a quiz that had them connect ship types, cargoes, and routes, and with various photos that conveyed seafarers' joy in their day-to-day work aboard MOL Group vessels.

Attended by
327 Students
at 3 Schools



Lecture at Kamaishi Junior High School



Students' comments posted at the Tokyo Head Office

Teachers and Students Share their Impressions After the Lecture

- There are so many jobs in the world. I will search out my favorite things and find a job that lets me do those things. (Student at Akasaki Junior High School)
- I didn't know how deeply ships are involved in our livelihood. I don't yet know what my dream job is, so I am going to think about my career based on today's lecture. (Student at Sakiyama Junior High School)
- Some students have decided to work in their hometowns, but I think the lecture motivated some of them to think about connecting with the world through the sea. (Kazuyuki Onodera, Principal of Sakiyama Junior High School)

The MOL Group continues its proactive approach to supporting the recovery of the people and communities affected by the Great East Japan Earthquake.

MOL Group's Global Social Contribution Activities

The MOL Group engages in social contribution activities with three principles, as a company sustainably growing with society. We take a proactive stance in social contribution activities specific to an ocean shipping company with a global network.



Principles of MOL's Social Contribution Activities

Principle I
Contribute to the United Nations Millennium Development Goals*¹
 As a company growing in step with the global economy and social development

Principle II
Contribute to Protecting Biodiversity and Preserving Nature
 As a company that impacts the environment to an extent and as a company that does business on the ocean, a rich repository of living organisms

Principle III
Contribute to Local Communities
 As a good corporate citizen

*¹ The common framework that integrates the Millennium Declaration adopted at the United Nations Millennium Summit held in September 2000, and the International Development Goals that were adopted at major international conferences and summits in the 1990s. The Millennium Development Goals consist of specific numerical targets to be achieved by 2015 in eight fields, including "achieve universal primary education" and "reduce child mortality."

2 In-house Blood Drive (Ghana) <Principle 1,3>

A shortage of blood for transfusions has become a serious issue in the Republic of Ghana. MOL Ghana Ltd. held an in-house blood drive in cooperation with the West African Rescue Association (WARA). Many employees volunteered to donate blood for this worthy cause.

1 Pledging Emergency Support to Combat Spread of Ebola (Liberia) <Principle 1,3>

In September 2014, we provided a monetary donation to help the Republic of Liberia cope with the rapid spread of the Ebola virus. We arranged for Liberian ship registry companies LISCR Japan and LISCR LLC to allocate the donation towards much-needed materials and medical equipment, such as surgical gloves, face masks, soap, chlorine, and antibiotics, to be air transported from the U.S. to Liberia.

***2 LISCR LLC:**
 The Liberian International Ship & Corporate Registry (CEO: Scott Bergeron; headquarters: Virginia, U.S.)

3 Transporting Used Wheelchairs for Children (Paraguay) <Principle 1>

As an activity unique to a shipping company, MOL Group provides free ocean transport to all over the world. In Oct 2014, we provided ocean transport of used wheelchairs from Japan to Paraguay, where they were delivered to needy children. Paraguayan Ambassador to Japan Naoyuki Toyotoshi presented MOL with a letter of appreciation from Secretaria Nacional por los Derechos Humanos de las Personas con Discapacidad (SENADIS) Minister Rocio Florentin Gomez.

Other cases of free ocean transport

- To Zambia (Used child shoes)
- To South Africa (Used books)
- To Cambodia (Medical equipment)
- To Myanmar (Medical equipment)

Paraguayan Ambassador to Japan Naoyuki Toyotoshi (left) and MOL President Koichi Muto(right)

4 Supporting an Orphanage (India) <Principle 1,3>

MOL-Information Processing Services (India) Pvt. Ltd. [MOL-IPS (India)] provided support for an orphanage in Mumbai, donating books, stationery, and clothes, and setting up a playground where the youngsters can play safely after school. The employees visited the orphanage in person to help set up the ground, sharing the joy with children.

5 Somalia support project (Somalia) <Principle 1,3>

Seven companies including MOL³, provide financial assistance for the United Nations Development Programme (UNDP) Somalia Project to help eradicate piracy by strengthening community resilience through local economic development, job creation and support for entrepreneurs.

The project provided Somalia's youth with vocational skills training and micro grants to improve their livelihood. They also built market facilities and a business service center aimed at revitalizing the regional economy. The project helps ensure safe operations off the coast of Somalia and neighboring nations.

*3 *Shell, BP, Maersk, Stena, NYK, K Line and MOL

6 Coastal Cleanup (Hong Kong/Malaysia/Japan) <Principle 2,3>

A group of 78 enthusiastic colleagues from MOL Liner Ltd. and their family members pitched in for the International Coastal Cleanup 2014. Our group has participated in volunteer beach cleanup activities since 2000, starting in Japan and this activity has now spread overseas. In FY 2014, 144 colleagues took part in a beach cleanup in Japan, while 40 colleagues took part in Malaysia.

The beach cleanup increases environmental awareness among employees, and helps foster a culture of safety among group executives and employees.

7 Donating Vessel Photos to Maritime Educational Institutes (Japan) <Principle 3>

In commemoration of the 130th anniversary of our company's foundation, we donated vessel photographs to nine maritime educational institutes in Japan.

Presentation Ceremony at Kobe University
 (left) MOL Managing Executive Officer Takaaki Inoue
 (right) Dean, Faculty of Maritime Sciences, Kobe University Yuji Hayashi

8 Establishing a Recycling Program for Lashing Belts Used in Car Carriers (Japan) <Principle 2,3>

Until now, when lashing belts used to secure vehicles in car carriers reached the end of their useful lives, they were treated as industrial waste, but we planned and established a unique new recycling program. We entrust the work of preparing the belts for recycling to a non-profit organization in Oita Prefecture that creates employment opportunities for disabled workers.

Comment

Yoshiharu Hanamiya,
 Chairman of the Oita City Conference of Support for Disabled Employment

Employees can enthusiastically engage in this work, so their productivity increases as they get used to doing the job. At present, they can separate more than 1,000 belts per day. And their wages have increased, so they are more motivated than ever to work. I want to thank everyone who helped create this program, which provides such a great opportunity.

Beach Cleanup in Japan and Hong Kong

Please visit MOL's website for activity details and information about other activities

<http://www.mol.co.jp/csr-j>

Special Feature
 CSR
 Safe Operation
 Compliance
 Human Resources Development
 The Environment
 Society
 Data

MOL Group's Environmental Data (As of March 31, 2015)

Energy Consumption	Unit	FY2012	FY2013	FY2014
Fuel oil (C oil)	thousand tons	5,942	5,895	5,837
MOL vessels	thousand tons	5,175	4,797	4,546
Group company vessels	thousand tons	767	1,099	1,290
Diesel oil (A oil)	thousand tons	114	108	157
MOL vessels	thousand tons	72	59	93
Group company vessels	thousand tons	42	48	64
Electricity	thousand kWh	94,027	92,672	107,383
Municipal gas	thousand m ³	1,530	1,542	1,545
Energy consumption (equivalent)	thousand GJ	263,729	260,967	259,996

Greenhouse Gas Emissions	Unit	FY2012	FY2013	FY2014
Scope 1: CO ₂ emissions	thousand tons	19,053	18,860	18,803
MOL vessels	thousand tons	16,499	15,268	14,547
Group company vessels	thousand tons	2,516	3,570	4,215
others	thousand tons	38	23	40
Scope 2: CO ₂ emissions	thousand tons	52	53	62
Scope 3: CO ₂ emissions	thousand tons	10,900	9,960	8,038

NOx and SOx Emissions	Unit	FY2012	FY2013	FY2014
NOx emissions	thousand tons	509	504	503
MOL vessels	thousand tons	441	408	390
Group company vessels	thousand tons	68	96	114
SOx emissions	thousand tons	340	332	335
MOL vessels	thousand tons	295	269	261
Group company vessels	thousand tons	45	63	75

Waste and Other Resources	Unit	FY2012	FY2013	FY2014
Waste	tons	247,494	135,597	114,576
Recycled	tons	246,537	134,601	113,940
Non-recycled	tons	957	995	637
Recycling rate (MOL Head Office Building)	%	68	67	66
Water	m ³	801,845	857,468	637,694
Tap water	m ³	801,845	857,468	637,694
River water	m ³	-	-	-
Seawater tons (cyclic usage)	m ³	-	-	-
Office paper	thousand sheets	78,364	77,887	72,075

Eco Sailing Initiatives	Unit	FY2012	FY2013	FY2014
Ocean-going vessels				
CO ₂ emissions per unit load (ton-mile)	FY2009=100	92.5	91.4	85.9
MOL	FY2009=100	92.7	94.0	88.7
Domestic coastal vessels				
Unit energy consumption	FY2009=100	99.4	101.2	

Onshore Initiatives	Unit	FY2012	FY2013	FY2014
Unit energy consumption (MOL, Daibiru, Shosen Koun)	FY2009=100	83.4	83.6	
Solar power generation	thousand kWh	255	257	252

Data scope • MOL Group consolidated subsidiaries in Japan and overseas. Excludes some small offices
• Noted areas such as "(MOL)" are limited to that scope

Third-party Verification of CO₂ Emission Data

MOL acquired third-party verification by SGS Japan, Co., Ltd. to ensure the fairness, accuracy, and transparency of FY2014 CO₂ emission data included in this report. The verification was conducted based on ISO14064-3:2006.

Through the third party verification, we will identify issues and enhance our efforts to further reduce CO₂ emissions.

Verification target: • Scope 1, 2 (energy originated carbon dioxide emissions) and Scope 3 (downstream leased assets).

C oil/A oil:
Used mainly for vessel fuel.
* The amounts in the chart were revised retroactive to past years because the MOL non-consolidated calculation method of heavy oil was changed.

Energy consumption:
The energy equivalent of heat originated from C oil, A oil, electricity, municipal gas and other energy consumed

Scope 1:
CO₂ emissions originating mainly from A oil and C oil used as fuel in vessels

Scope 2:
CO₂ emissions originating mainly from electricity consumption

Scope 3:
Estimated value of CO₂ emissions originating mainly from A oil and C oil used as fuel in vessels MOL has chartered out to other companies; calculated from fiscal 2012

Waste:
Mainly vessels sold to be scrapped; recycled at scrapping yards

Water:
The volume of water used in offices. Most of the water used in vessels is made from seawater and recycled



MOL Human Resource Data (as of March 31, 2015)

Employees

Number of employees		FY2012		FY2013		FY2014		
		Land	Sea	Land	Sea	Land	Sea	
Excludes expatriate employees, loaned employees, contract employees and part-timers, etc.	Male	469	283	444	269	438	277	
	Female	168	6	162	7	168	7	
	Total	637	289	606	276	606	284	
Number of employees by position	Group leaders and above	Male	203	122	201	114	192	123
		Female	7	0	8	0	8	0
		Subtotal	210	122	209	114	200	123
	Managers	Male	174	106	162	108	150	101
		Female	10	0	9	0	12	0
		Subtotal	184	106	171	108	162	101
	Below manager level	Male	280	254	278	259	289	262
		Female	194	8	200	9	196	11
		Subtotal	474	262	478	268	485	273
	Ratio of females in managerial positions*1 (%)	Male	657	482	641	481	631	486
Female		211	8	217	9	216	11	
Total		868	490	858	490	847	497	
New hires	Male	19	21	19	22	19	20	
	Female	7	1	7	1	6	2	
	Total	26	22	26	23	25	22	
Ratio of employees with disabilities (%)		1.9		1.9*3		2.0*3		
Average years of continuous service*2		15.5	11.7	16.0	11.0	16.0	11.0	
Job turnover rate within three years of continuous service*2 (%)		0.0	0.0	1.3	3.0	2.6	1.5	

*1 Excludes loaned employees, contract employees and part-timers, etc. *2 Excludes expatriate employees, loaned employees, contract employees and part-timers, etc.
*3 The number of employees with disabilities meets the statutory employment number of employees with disabilities

Employee Support Systems

	FY2012	FY2013	FY2014	
Number of annual leave days taken*4 (including summer vacation)	Days	11.5	11.6	12.8
	Percentage (%)	43.3	43.7	47.4
Maternity leave (pre- and post-childbirth)*5	Number of employees	2	3	7
	Ratio (%)	100	100	100
Paternity leave usage*4	Number of takers	26	23	21
	Ratio (%)	70	45	100
Child-care leave system*5	Number of users (males shown in brackets)	2(0)	9(0)	9(0)
	Usage rate (%)	100	100	100
Short-time Shift	Number of users	1	1	1
Retirement reemployment system after spouse transfer Introduced in FY2014	Number of users	-	-	0
Working mothers*5	Number	42	39	43
Nursing care leave system	Number of users	0	0	0
Re-employment system for mandatory retirees	Number of employees	2	1	2

Care Support Systems	System	Application Period and Details
Childbirth	Pre-and Post-Childbirth Leave	8 weeks of leave before and after childbirth (Of those weeks, 6 weeks are paid)
	Child-care Leave	Until a child becomes 2 years old
Child-care	Short-time Shift	1 hour shorter work day
	Overtime Work Exemption	Until a child becomes 3 years old
	System for partial work at home	Can work at home for 6 hours
Nursing Care	Nursing Care Leave	Up to 2 years leave
	Short-time Shift	1 hour shorter work day
	Special Working Arrangements	Flexible working hours

*4 Excludes personnel working onboard, loaned employees, contract employees and part-timers, etc.
*5 Excludes expatriate employees, loaned employees, contract employees and part-timers, etc.

Number of MOL Group Employees

Number of Employees (person)	FY2012	FY2013	FY2014
Bulkships	1,277 (129)	1,307 (118)	1,342 (121)
Containerships	4,484 (385)	5,348 (348)	5,534 (350)
Ferry & Domestic Transport	919 (112)	878 (89)	858 (86)
Associated Businesses	2,103 (1,504)	2,099 (1,503)	2,123 (1,468)
Others	384 (67)	364 (81)	351 (78)
Company-wide (common)	298 (74)	293 (65)	300 (71)
Total	9,465 (2,271)	10,289 (2,204)	10,508 (2,174)

(1) The number of employees includes the entire labor force, and the approximate average number of temporary employees is indicated in parentheses.
(2) The employees indicated as Company-wide (common) belong to administrative departments, which cannot be classified in any specific segment.

Other Support System

"Refresh" Leave: Employees are allocated extra holidays after 15 years and 25 years of continuous service.

Industrial Accidents (land)

Industrial Accidents (land)	FY2012	FY2013	FY2014	
Industrial accidents (excludes commuting accidents)	Number	2	0	6
Industrial accident leave	Number of days	1	0	55

* Days of Industrial accident leave has increased due to an employee's injury during a business trip.

Employee Education

	FY2012	FY2013	FY2014	
Education/ Training cost	Land-based ¥/person	120,000	80,000	130,000
	Ocean-going ¥/person	365,000	374,000	327,000

(Note 1) The cost to the Human Resources Division (including part of the costs for English language training programs taken by ocean-going employees)
(Note 2) Education and training costs for ocean-going employees do not include travel and accommodation expenses.

Third-party Opinion



Eiichiro Adachi

Director
The Japan Research Institute,
Limited

Biography

Currently serves as Head of ESG Research Center, via Corporate Strategy Research and Technology and Research divisions. Engages mainly in industrial research and corporate assessment from the viewpoint of corporate social responsibility (CSR).

The editorial policy on page 1 covers the change of the report name to "Safety, Environmental and Social Report" to clearly express the corporate stance – "Forging ahead to become the world leader in safe operation." After reading the report in its entirety, my impression was that this intent was fulfilled.

The Top Management Commitment clearly conveys that "the piracy issue caused by disparity and unstable political situations, and the greater frequency and larger scale of natural disasters brought about by global warming, threaten safe operation and affect the continuity of the business." It also clearly expresses that "safe operation" is MOL's highest priority issue. Those points were persuasive. Actually, reference to the fact that the company could not predict the rapid occurrence of a suddenly-developed low pressure in 2006 when the incident occurred off Kashima, and the frequency of alerts to warn vessels of typhoons and incidents of piracy, as disclosed on the page that introduces the Safety Operation Supporting Center (SOSC), are very specific. The report also gave me a clear understanding of the company's multilayered approach to ensuring safe operation by concentrating hardware and software while drawing upon various experiences.

I paid particular attention to two points: (1) you take additional safety measures even if it means increasing the cost of a vessel by 2% to 3% compared to standard specifications, and (2) you are engaging in comprehensive personnel development including the newly introduced MOL CHART as you recognize the importance of attracting and training top-quality cadets to achieve safe operation. The ocean shipping industry seems to look like the apparatus industry at a glance, but I recognized anew that the human element also plays an essential role.

The "Yamal LNG Project" in Special feature 3 gives a detailed explanation of your stance on safe operation, and at the same time I read with great interest about the introduction of a new business opportunity as merchant vessel operator on the Arctic Ocean route. This shows your group's leadership in that field, and I felt it symbolizes your DNA of "continued growth, with an untiring spirit of challenge" since your founding.

Speaking of environmental issues, I appreciate your honest recognition that increasing seaborne trade has escalated various environmental issues into serious problems. Reporting your disclosure of the environmental data in a proactive manner as well as multilateral efforts to reduce the environmental burden of your operation reminded me once again that your group businesses are involved, directly and indirectly, in the supply chains of numerous customer companies.

At the G7 Elmau Summit held in June 2015, one item "responsible supply chain" was added to the leaders' declaration, declaring the urgency of taking measures to address "unsafe, poor labor conditions that lead to serious social and economic losses and are related to environmental damage." Your group makes specific efforts to protect crewmembers' human rights. In the future, I expect you will demonstrate leadership in correcting "unsafe, poor labor conditions," which are seen in logistics overall, including cargo loading/unloading operations and on-land transport, particularly in developing nations.

In conclusion, you explained in this year's editorial policy on page 1 that "the Annual Report targets mainly shareholders and investors, but this report was produced by separating the content and targeting other stakeholders including customers." This might be taken as going backwards against a series of efforts to integrate the reports. But I felt this report is valuable for non-financial information analyzers, because it explains very specific priority issues and explains measures to address those issues from the standpoints of both risk and opportunity. I express my deep respect for your choice of that unique challenge after probing the true essence of the matter. At the same time, I appreciate how this report lets me realize that thinking about the role non-financial information plays in building your group's corporate value is a part of our responsibility as information analyzers.

After Receiving Your Opinion

We appreciate your unearned words of praise for the Safety, Environmental, and Social Report, which was renamed this year to include the word "safety." The CSR & Environment Committee has discussed our essential corporate value based on requests from customers and suppliers, and opinions of the group company employees, particularly crewmembers. And then the committee reached the conclusion that clear communication of our safety-first stance will lead to winning stakeholders' trust. And we took to heart the comments Mr. Adachi made in his Third-party Opinion on last year's report. We believe that efforts to disclose negative information such as marine incidents, compliance issues, and environmental effects in a proactive manner will contribute not only to our company, but also to the ocean shipping industry, and consequently to the benefit of society.

We will demonstrate our leadership and strive to make corrective actions to improve labor conditions throughout the logistics business, as you pointed out. We will continue to push forward to win stakeholders' trust by following MOL CHART, which is the sea chart we are using to set our course for the future.



Kenichi Nagata

Executive Vice President
and Executive Officer
Chairman of CSR and
Environment Committee

External Recognition

Overall, CSR Related (Including Socially Responsible Investment (SRI) Index)

Earns inclusion in Dow Jones Sustainability Indices ▶ A

MOL has been included in the Dow Jones Sustainability Index (DJSI) Asia Pacific thanks to its highly regarded efforts in the areas of environmental protection, CSR, and IR activities. The DJSI identifies companies expected to show long-term sustainable growth. (Since 2013)

Earns inclusion in FTSE4Good Index ▶ B

FTSE is a global index company owned by the London Stock Exchange. FTSE has included MOL in one of its major socially responsible investment indices, the FTSE4Good Global Index. (Since 2003)

Morningstar Socially Responsible Investment Index (MS-SRI) ▶ C

MOL has been included in the MS-SRI for its superior CSR efforts. The MS-SRI is composed of stocks that have been selected by Morningstar Japan K.K. on the basis of their superior performance in CSR. (Since 2003)

MSCI Global Sustainability Index

MOL has been included in the MSCI Global Sustainability Index for its superior efforts on measures taken for risks and opportunities related to environmental, social, and governance (ESG). (Since 2010)

Environmental and Social Report 2014 Honored at Environmental Communication Awards ▶ D

The MOL Group Environmental and Social Report 2014 took home the prize for excellence in the environmental report category of the 18th Environmental Communication Awards, jointly organized by Japan's Ministry of Environment and the Global Environmental Forum, and earned praise as an easy-to-understand report. (February 2015)



IR Related

Internet IR Commendation Award ▶ E

MOL received the Internet IR Commendation Award from Daiwa Investor Relations Co., Ltd. (2014)



Safe Operation (Including Recognition of Seafarer Training)

Certification from DNV GL AS for LNG Carrier Seafarer Training ▶ F

MOL's LNG carrier seafarer training program, held in Japan and overseas, has earned certification from DNV GL AS, as a program that satisfies the LNG carrier crew competency standards advocated by SIGTTO*. (Since 2007)
* Society of International Gas Tanker & Terminal Operators Ltd.

Certification from DNV GL AS for Seafarer Education and Training Management Program ▶ G

MOL's tanker and LNG carrier divisions have acquired certification from DNV GL AS, in recognition of the effectiveness of its unique seafarer training and education management program and its conformance with the Competence Management System (CMS). (Since 2012)

LNG Carrier *Energy Frontier*, Containership *MOL Majesty*, Tanker *Gassan*, and Car Carrier *Swift Ace* Receive Best Quality Ship Awards ▶ H

The awards are presented to "vessels considered superior by pilots," and our vessels were evaluated for effective cooperation with pilots by the captains and crew members of the vessels, and their high levels of onboard equipment and boarding/disembarking facilities.



Environment Related

ISO 14001 Certification ▶ I

MOL has used its own environmental management system MOL EMS21 since April 2001, and it holds ISO 14001 certification, an International standard for environmental management. (Since 2003)

ISO50001 Certification

MOL acquired ISO50001 certification for its energy management system and ISO14001 certification for its environmental management system. (2014)
Certified companies: MOL Ship Management Co., Ltd. (2014),
MOL Ship Management (Singapore) Pte.Ltd.(2014), MOL Ship Management (Hong Kong) Company Ltd.(2014)
and Magsaysay MOL Ship Management, Inc.(2015)

Recognized by CDP as leader in Climate Change Transparency and in Corporate Action on Climate Change ▶ J, K

MOL was recognized as a leader for the depth and quality of the climate change data it has disclosed for independent assessment through CDP, and international non-profit organization.

At the same time, MOL earned a spot on the CDP Climate Performance Leadership Index (CPLI) for its actions to reduce carbon emissions and mitigate the business risks of climate change. (2014)

Coal Carrier *Soma Maru* Honored as 'Bulk Ship of the Year' ▶ L

The vessel was named the "Bulk Ship of the Year" at the IEB Awards 2014 for its versatility and environmental performance as a state-of-the-art coal carrier with a wide-beam/shallow-draft design, various safety features and energy-saving specifications. (2014)

Commendations from the Port Authorities of Los Angeles and Long Beach, U.S.A. ▶ M

MOL received the Green Flag Award and Vessel Speed Reduction Award from the ports of Long Beach and Los Angeles, respectively, for its efforts to ensure compliance with standards that call for vessels to slow down within 40 nautical miles (nm) of the shore. (2013)

2015 Frost & Sullivan Japan Green Shipping Liner of the Year ▶ N

In 2015, for its environmentally friendly technology, MOL was awarded as 2015 Japan Green Shipping Liner of the Year by Frost & Sullivan, a Growth Partnership Company headquartered in Mountain View, USA





Mitsui O.S.K. Lines
<http://www.mol.co.jp>



20,000 TEU containerships (Please refer to P.37-38)

Corporate Profile (As of March 31, 2015)

Name:	Mitsui O.S.K. Lines, Ltd.
President:	Junichiro Ikeda (Assumed on June 23 rd , 2015)
Shareholders' equity:	¥782.6 billion
Number of shares issued:	1,206,286,115
Number of shareholders:	104,192
Share listings:	Tokyo and Nagoya stock exchanges
Business:	Multi-modal transport mainly by ocean-going vessels
Number of MOL Group employees:	10,508 (The parent company and consolidated subsidiaries)
Number of Group companies:	441 (The parent company and consolidated subsidiaries)
Group fleet:	947 vessels, 67,780 thousand DWT
Consolidated subsidiaries in Japan:	60
Overseas network:	36 nations and regions
Head Office:	1-1, Toranomon 2-chome, Minato-ku, Tokyo 105-8688, Japan
Branches and offices in Japan:	Nagoya, Kansai, Hiroshima, Kyushu

For inquiries

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