



# Car Carriers—Cross Trade

MOL was the first shipping company in Japan to launch a car carrier service in 1965. Since then, we have developed a safe and stable car transport service backed by one of the world's largest fleets. One of the pillars of our current midterm management plan is to accelerate business development in growing markets. The Car Carrier Division is actively developing cross trade with this theme in mind.

## HISTORY OF CROSS TRADE

In the 1980s, Japan grew into the world's largest vehicle exporter. Indeed, by 1989, exports from Japan accounted for 85% of global vehicle exports. However, at the dawn of the 1990s, an appreciating yen and trade friction were catalysts for Japanese automakers to increase local production in the U.S. and Europe. Furthermore, as vehicle sales globally have slowly shifted to emerging markets such as Asia, Latin America and Eastern Europe, Japanese automakers have also ramped up local output in these locations. As a result, in 1995 vehicle exports from Japan fell to 50% of the global total.

Amid the aforementioned moves in the 1990s by automakers, seaborne trade of vehicles has diversified. Vehicles are now shipped from production bases around the world to a multitude of broadly scattered consumption regions. MOL was quick to spot this changing current in trade, and responded by launching a strategy to strengthen cross trade, that is, business in loading and discharging locations outside of Japan. In 1995, we established a section whose brief was to spearhead these efforts. In 1998, we opened a direct route from Thailand to Australia. Then in 2001, we

launched the "4 Continents Express Service," which does an anti-clockwise loop around the Atlantic Ocean, calling in at major ports on four continents (Africa, Europe, North America and South America).

As of March 2011, MOL operated 114 car carriers. Of these, approximately 30 vessels don't call ports in Japan at all. Furthermore, our loading volume in Japan and Far East Asia fell to 53% of the total in the year ended March 2011; in the first half of the 1990s it represented roughly 90% of the total.



The Car Carrier *SWALLOW ACE* at sea off the coast of Malta.

## MOL'S CROSS TRADE SERVICES

MOL has developed cross trade services on various routes in step with the dispersion and expansion of auto production and consumption, centered on the Atlantic.

The standout feature of our service is that it centers on regular services using dedicated vessels, resembling the containership business. Past cross trade services mainly entailed fully laden vessels sailing out from Japan to the U.S. or Europe, and then picking up cargo on the way during the return voyage to Japan. When cargo volume from Japan fell, the number of vessels headed for the U.S. or Europe declined, resulting in fewer vessels providing cross trade services. Furthermore, as the shipping schedule also hinged on departures from Japan, it became difficult to offer stable cross trade services.

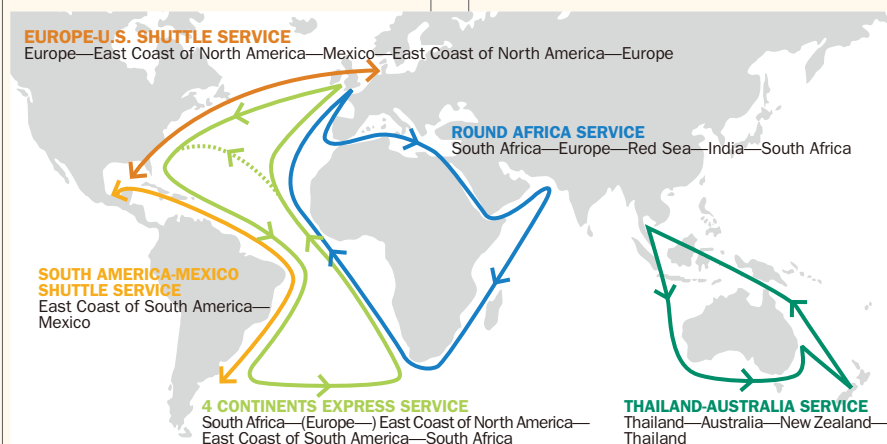
In order to provide stable, regular services, we introduced vessels dedicated to cross trade. We thus began an independent service that wasn't affected by trade volume from Japan. To promote greater efficiency in vessel allocation, we integrated several routes that were operated separately and minimized where possible voyages with

empty vessels. These actions have created the various cross trade networks we have today.

We have also strengthened sales activities in each region as the foothold for stable, regular services. As a result, the loading volume of new cargoes other

than passenger vehicles, such as construction machinery and agricultural machinery that were previously transported mainly by containerships and conventional vessels, has increased. Today, these cargoes account for a significant proportion of cargo on cross trade routes.

### CROSS TRADE SERVICES NETWORK



New types of cargo other than passenger cars such as construction equipment and agricultural machinery are increasing.

## PROVIDING EVEN BETTER SERVICES

Keeping to schedule is the most important aspect in providing regular services with dedicated vessels. For instance, with the 4 Continents Express Service, we plan voyages to return 75 days after departing from South Africa and sailing in a loop via ports in Europe, North America and South America. Port congestion, bad weather or other circumstances can make it difficult for us to keep to schedule and provide regular services. In these cases, staff in charge of trade management stationed in London and New York as well as staff in charge of vessel allocation in Tokyo come into their own. In order to get schedules back on track, these staff arrange



Staff in London work closely with their colleagues in Tokyo.

alternate vessels and take other steps to ensure we provide stable services.

When selecting the type of vessel for dedicated services, we also take care so as to use the most suitable type of vessel according to the characteristics of the particular route, such as whether there are many tall vehicles, or lots of construction machinery, or buses and trucks. To avoid losing business from not offering a vessel that matches a customer's needs, local salespeople, operators and Tokyo-based staff in charge of vessel allocation work closely together to determine the most suitable type of vessel for each route.

Unlike Japan, the U.S. and countries in Europe, developing countries often lack the port facilities and loading/discharging systems to keep up with rapidly increasing exports and imports, meaning there is also a high risk of congestion. Furthermore, stevedores in those countries are often less skilled. To address these challenging issues, MOL stations port captains at major ports in Brazil, India and other emerging countries so that it is able to

provide high-quality services on a par with those in industrialized countries. These port captains provide technical instructions to stevedores. At other ports in developing nations, captains based in New York and London fly in to directly supervise loading and discharging work. In these and other ways, we take the utmost care to prevent damage to cargo.

As a result of these various initiatives, MOL commands a more than 50% share of vehicles exported from South Africa. And we have also captured a high market share in terms of exports and imports of vehicles in developing nations such as Thailand, India, Brazil and Mexico.

We have amassed a wealth of sophisticated transportation expertise since launching Japan's first car carrier. We have combined this know-how with swift business development that anticipates car market trends, and a large fleet to offer high-quality cross trade services. These services have won us high marks from customers. Now, eyeing the development of these services in growth markets, we will expand and enhance our cross trade services going forward.





# Cai Mep Project

Vietnam has experienced rapid growth in recent years. For MOL, the country is one of its most important regions. MOL is making steady gains bolstering its business base in Vietnam. Efforts are centered on a container terminal project at Cai Mep Port, Vietnam's first deep-water container terminal.

## LOCAL SUBSIDIARY ESTABLISHED WITH 100% INVESTMENT BY MOL

To establish a beachhead in Vietnam, MOL formed Mitsui O.S.K. Lines (Vietnam) Ltd. in October 2006 as the only local company wholly owned by a Japanese shipping firm.

Under Vietnam's foreign investment law, foreign companies were not allowed to hold more than a 49% equity interest in an ocean shipping agent. However, one Japanese shipping company was permitted to establish a

wholly owned local company as a result of bilateral discussions in December 2005 between the Vietnamese and Japanese governments. MOL was that Japanese company to acquire permission.



The containership *MOL MODERN* being loaded at Cai Mep Port, Vietnam.

## PARTICIPATION IN CONTAINER TERMINAL PROJECT

After establishing the local subsidiary, MOL began considering a container terminal project at Cai Mep Port, Vietnam's first deep-water port. MOL envisaged a direct route for large vessels using the port becoming an important logistics hub in the future due to its

geographical location between Hong Kong and Singapore. MOL's goal was to build a base for opening a direct link. In March 2007, MOL inked a memorandum of understanding with Saigon Newport Corporation (SNP), Vietnam's largest container terminal

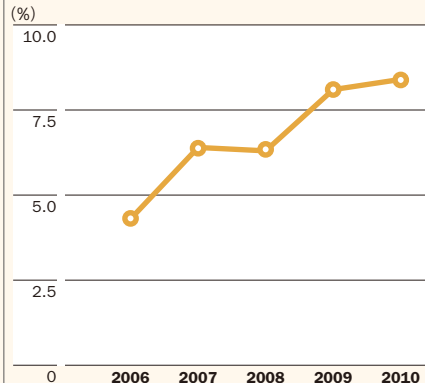
operator, to conduct a joint study regarding the construction and operation of a container terminal.

In September 2009, MOL, SNP, Hanjin Shipping Co., Ltd. and Wan Hai Lines Ltd. established a joint venture, Tan Cang – Cai Mep International Terminal

Co., Ltd. (TCIT), which commenced operations in January 2011. As of April 30, 2011, a total of 5 services were using TCIT: 3 services on the North America route, and 2 services on the Europe route. In the short space of only four months from commencing operations, TCIT had already obtained the top rank among the container terminals at the port in terms of volume.

Prior to the launch of TCIT, in June 2009, in an industry first, MOL began offering a direct service from Vietnam to the U.S. West Coast, using Cai Mep\*. The direct service has been well received by customers, with MOL

#### MOL'S SHARE—VIETNAM CARGO BOUND FOR NORTH AMERICA (%)



volume to North America having steadily increased, especially for furniture and apparel, the main exports from Vietnam. After the onset of the global financial crisis precipitated by the collapse of Lehman Brothers, exports from Vietnam to North America dropped approximately 1% year on year in 2009. However, that same year MOL registered volume growth of 28%.

MOL currently offers 4 services a week using Cai Mep combined with North America and Europe routes—the most in the industry. Since 2009, it has held top spot in volume at the port.

Along with the opening of a direct

service, MOL has begun offering a new route for transporting cargo destined for North America from Cambodia directly from Cai Mep. This service takes advantage of barges to transport cargo from Cambodia, which borders Vietnam, from Phnom Penh along the Mekong River to Cai Mep. High-quality services underpinned by meticulous preparations have garnered a strong response, and now almost all cargo bound for North America from Cambodia travels via Cai Mep.

\* Tan Cang – Cai Mep Container Terminal. SNP opened this terminal before other companies.

#### TCIT LOCATION AND TCTS OPERATION AREA



### DEVELOPING ASSOCIATED BUSINESSES—LAUNCH OF TUGBOAT OPERATIONS

Cai Mep is expected to see an increase in port calls by large vessels. Anticipating that a stable tugboat service would be essential to ensure safe operations, MOL conducted a feasibility study over two and a half years, culminating in the August 2010 establishment of Tan Cang-Cai Mep Towage Services Co., Ltd. (TCTS) and launch of tugboat operations in October that year. TCTS is a joint venture with SNP and Haivan Shipping-Services Corporation, which offers agency, tugboat and barge services at the port. High-performance, large tugboats, with top-class horsepower, have been deployed at the port, enabling it to provide safe, high-quality services to customers to their satisfaction.

In addition to the establishment of the 100%-owned local subsidiary and a series of initiatives at Cai Mep, we have established “MOL Class” at Vietnam Maritime University to educate seafarers and enhance practical training. We also

provide support through a scholarship program. Moreover, as a safe operation initiative unique to MOL, we offer escorting services from pilot stations. These efforts have won kudos from the port authority and pilots.

Looking ahead, MOL aims to raise its presence further in fast-growing Vietnam, while working to develop services for Cai Mep as a hub, as MOL aims to expand in Cambodia and neighboring growth regions.



Two tugboats of TCTS in operation—KAMIYA and HAIVANSHIP 6, near the containership MOL PARTNER.



# Transporting LNG to China

In March 2010, MOL signed two Heads of Agreement, with the intention for MOL to construct and charter a total of four LNG vessels to projects involving ExxonMobil affiliates. This marked MOL's first successful participation in an LNG transport project where China is the destination. What will be its impact?

## LNG CARRIERS

Demand for liquefied natural gas (LNG) is growing in countries across the world as a clean form of energy. MOL participated in its first LNG transportation business in 1983. We have since gained

substantial experience and expertise in the operation and management of LNG carriers. MOL now accounts for about 25% of global LNG transportation.

The LNG carrier *BEN BADIS* is part of the Papua New Guinea LNG project with ExxonMobil.



## PROJECT OVERVIEW

Chinese shipyards have built six LNG carriers since 2008 (one carrier remains under construction.) up to the present day, but none of these vessels was ordered by an overseas shipping firm. MOL was the first overseas shipping company to place an order for an LNG carrier with a Chinese shipyard.

LNG shipping contracts are typically for at least 20 years. Transporting a substance that freezes at  $-160^{\circ}\text{C}$  reliably and safely over long periods of time requires exceptionally advanced shipbuilding technology and related

supervision of the carrier construction process, together with extensive experience in safe and stable LNG shipping operations. ExxonMobil approved MOL as a designated bidder for this project

because we could fulfill such rigorous conditions. We were also supported by our strong track record of cooperation in other ExxonMobil-led LNG projects over many years.

### LNG CARRIERS TO BE BUILT IN CHINA

Transportation Route	Shipbuilder	No. of Vessels	Scheduled Launch of Service
Papua New Guinea ⇒China (SINOPEC)	Hudong*	2	2015–2016
Australia (Gorgon Project) ⇒China (PetroChina)		2	2015

\*Hudong-Zhonghua Shipbuilding (Group) Co., Ltd.



## PARTNERING FOR SUCCESS WITH A CHINESE SHIPBUILDER

The LNG Carrier Division and Technical Division set up a special joint taskforce in March 2010 with the mission of providing the charterer with safe, stable long-term LNG transportation capabilities based on first-class supervision of the carrier construction process. After a selection process among leading

Chinese shipyards, we chose Hudong as the partner for this project in December 2010. We would normally expect to assign a technical team of 2-6 engineers to the shipyard to supervise LNG carrier construction. In this case, since it marked the first order of LNG carriers by an overseas shipping

firm in China, we decided to institute special guidance and supervision systems to ensure that the shipyard would operate to stricter-than-usual quality and safety standards. At peak construction, we expect to have a team of about 50 engineers on site in China.

## THE MAJOR SIGNIFICANCE OF THIS PROJECT

China has been increasing imports of LNG in recent years as demand for the fuel has risen. Chinese LNG imports are anticipated to grow from 9 million tons in 2010 to 25 million tons in 2015 and 40 million tons in 2020. MOL's success

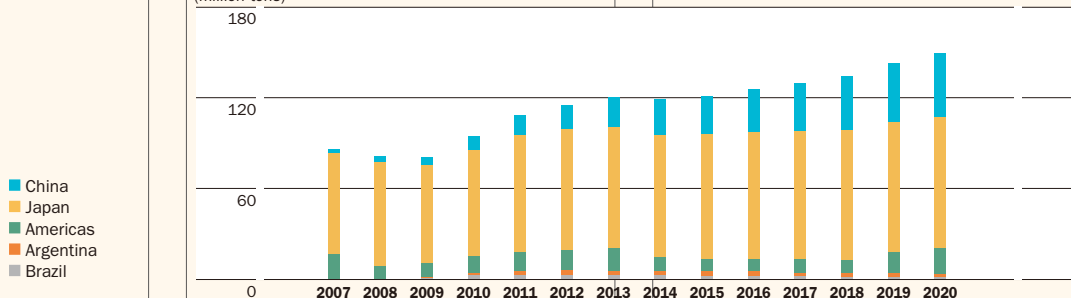
in gaining entry into the Chinese market is highly significant due to the massive growth potential. We are set to become the only non-Chinese shipping company with a foothold in the rapidly expanding market for transporting LNG

to China. We expect this growing differentiation to provide us with a sharper competitive edge in the LNG sector. This is expected to make a substantial contribution to our LNG transportation business going forward.

### LNG DEMAND FORECAST FOR MAJOR COUNTRIES AND REGIONS

(as of April 2011)

(million tons)



Source: MOL calculations based on Poten & Partners, etc.

## TARGETING BUSINESS EXPANSION OPPORTUNITIES IN GROWING MARKETS

Besides China, volumes of LNG imports are expected to grow in the future in India, Brazil, Southeast Asia, Eastern Europe, and other parts of the world. We are continuing to expand MOL's international organization so that we can tender for other cross-trade LNG transportation projects, especially through expansion of our London operations. The LNG Carrier Division has about 40 staff based in MOL's Tokyo head office, who mainly focus on projects to transport LNG to Japan or other countries in Asia. Our London-based LNG Division employs about 20 people, mostly from Europe. Rather than stationing managers in each country in Europe, which would probably prove inefficient, we believe that the LNG transportation business requires a team-based approach. This is why we have centralized operations in London.

### [PERSONS INSTRUMENTAL TO WINNING THE PROJECT FROM EXXONMOBIL]

The director of our London office played a big part in the project tender process.

Mike Rowley,  
Director of LNG Division,  
Mitsui O.S.K. Bulk Shipping (Europe) Ltd.  
London, United Kingdom



After joining MOL in October 2007 my vision was to help grow MOL's LNG business in the expanding Atlantic basin and to support Tokyo to capture new business globally using my 30 years of major oil and gas shipping industry experience. It was extremely gratifying to participate in the rigorous and extremely competitive China bid process. I think MOL's success was due to a combination of good team work and being able to leverage its many years of LNG shipping experience and global resources to put together the winning bid. MOL has now added another significant chapter to its relationship with ExxonMobil in working together on major LNG projects and has marked MOL's entry into an exciting and growing new market in China.



# A Core Competence and a Key to Growth in the Marine Transport Industry

Safe operation is a social mission for MOL as a marine transport company, not to mention a theme of the utmost importance for winning over customers and other stakeholders. Our previous midterm management plan saw us put priority on refining our safe operation system. Under our current plan “GEAR UP! MOL,” we are building from this base with the aim of making our safe operation processes more visible, and becoming the world leader in safe operation.

## CORE COMPETENCE—MAKING SAFE OPERATIONS EVEN SAFER

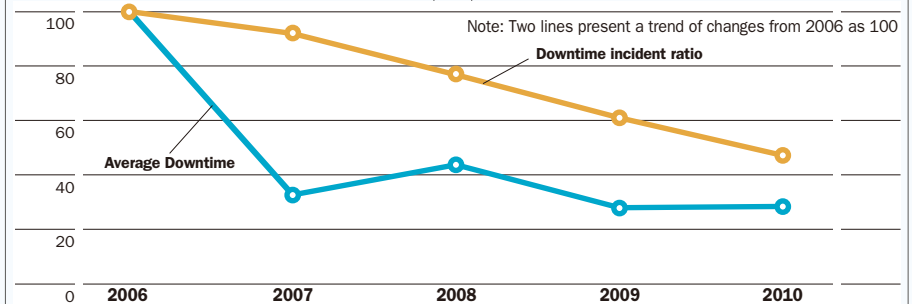
Ensuring safe operations is a core competence of the shipping business. This is part of the MOL Group’s corporate principles, and also one of the three pillars of the midterm management plan GEAR UP! MOL (FY2010–FY2012). An accident with environmental consequences can threaten the sustainability of our relationship with society, not to mention the environment and economies. The massive oil leak in the Gulf of Mexico and the loss of cooling functions of the nuclear power plants in Japan are recent events that have brought this notion into sharp focus.

Safe operation is not simply about the outcome. Every single process for maintaining safety must be ensured by

planning and executing in detail, as well as making those processes visible and objectively evaluated. In 2007, MOL established the *Safety Operation Supporting Center* (SOSC) in the Head Office. SOSC monitors all vessels

operated by MOL around the world on a 24hrs/7days basis, and directly supports masters on-site. MOL continues to develop and upgrade the functions of SOSC as a symbol of how it is making the process of safe operations visible.

### RESULTS OF OPERATIONAL SAFETY MEASURES



The SOSC in MOL’s headquarters watches over the safety of company-operated vessels 24 hours a day.





Seafarers conduct safe operations with the aim of achieving the “4 zeroes.”

- 1) Having a strong mind-set to prevent minor troubles from escalating into major incidents.
- 2) Enhancing the ability to perceive danger and taking the right actions to break the link in a chain of errors.

It is essential to know and share information about the lessons learned from past failures, such as how trouble occurred, and how damage was contained. Communicating such information to personnel is the only way to realize that. Therefore, MOL continues to implement safety initiatives such as producing training videos for seafarers on-site, holding operational safety workshops for office staff, and holding annual Safety Conferences where past accidents are looked at in detail and attendees participate in group discussions. Every person listens to the voices and opinions from employees in every meeting from Safety Operations Headquarters to the Operational Safety Committee. Office staff process such information into useful notices or countermeasures, then pass it on to operational staff to prevent further accidents. The goal of being the world leader in safe operation will be achieved if every staff member in the MOL Group performs their daily work in the right manner with a commitment to continuous improvement.

\* Crew Overlapping: When key staff (captains and chief engineers) are relieved by newcomers, MOL arranges an overlapping period for familiarization with the vessel and the safety management system.

\*\* KPI: Key performance indicators to evaluate achievement of organizational goals.

Learning from the serious marine incidents in 2006, MOL reviewed and checked its safety management structure based on the slogan “returning to the basics.” A range of safety initiatives was launched, including restructuring the organization in the midterm management plan MOL ADVANCE (FY2007–FY2009). The key initiatives were: (1) to improve facilities and equipment of vessels by implementing MOL Safety Standard Specifications; (2) to arrange crew overlapping\* for familiarization and additional crew members for relieving on-site workload; (3) to appropriately distribute timely safety and weather information; and (4) to review and implement safety initiatives according to seafarers’ opinions from safety conferences and ship visitations. As a result of safety initiatives in terms of vessels and equipment, services, management structures and other aspects of

operations, a reduction in the accident rate has been observed and the main theme of MOL ADVANCE, “Ensuring safe operation is the highest priority,” was successfully achieved.

MOL is now working tirelessly to improve the quality of its operations to reach the next goal of becoming “the world leader in safe operations” under GEAR UP! MOL. World leader stands for an uncompromising focus on achieving “4 zeroes”—that is to prevent serious marine incidents, oil pollution, fatal accidents, and cargo damage. In addition to this index, Key Performance Indicators (KPIs\*\*) and evaluations by external organizations are monitored and enable us to check the effectiveness of our actions.

In order to become the world leader in safe operation, the following two imperatives are important for all staff in the MOL Group.



Executive officer Masaaki Nemoto explains MOL's safe operation measures.



## EXAMPLES OF INITIATIVES AT THE DIVISIONAL LEVEL: TANKER DIVISION

The tanker business is a richly diverse business. We operate many different types of tankers, including crude oil tankers, product tankers, methanol tankers, LPG tankers, and chemical tankers. These vessels transport a variety of cargoes from crude oil to petroleum products and chemical products. And we operate our fleet under a mixture of contracts such as long-term time charters and spot contracts. The wide variety of vessel types, cargoes and contracts forms different markets in the tanker business. However, there is still one theme common to all vessels for ensuring the continuity of business: scrupulously practicing safe and efficient operation. Customers such as oil majors have a social responsibility to properly and safely handle dangerous goods like oil. To fulfill this duty, they are scrutinizing shipping companies more and more every year in terms of their safe operation management systems. When oil majors sign a charter agreement, they impose certain conditions. For instance, they will only sign with shipping companies that manage vessels in-house, and vessels must not be older than 15 years. Furthermore, senior officers onboard vessels must have worked together at the same shipping company for a number of years.

In the oil business, oil majors command an extremely large presence. That's because they are deeply involved

at all stages from oil exploration and production to refining, transportation and retail sales. In transporting oil, oil majors have determined industry standards about procedures, contract forms and other aspects over many years. Accordingly, whether the contract is a spot agreement or a long-time charter, oil majors will be involved somehow. With the increasing requirements for safe operation and greater calls for consideration of the environment in recent years, the standards demanded by oil majors have become stricter and are now the industry standard. For example, even a domestic oil company demands that the condition of the vessel must be approved by oil majors.

MOL has responded proactively to these developments requiring vessels to meet high safety and quality standards. We have long developed engineers and experts as a strategic initiative. With our 100% owned in-house ship management companies in Singapore and London, we have been employing and training our own foreign national seafarers for more than two decades. With VLCCs, we have an in-house ship management system for all vessels. Moreover, in June 2010, we established the Tanker Safety Management Office (MTANK) as an internal organization staffed by tanker specialists. As a section that holds experts in forefront tanker operations, MTANK

provides technical support for vessels, vessel operation managers, sales managers and ship management companies. At the same time, it enables MOL's tanker fleet to respond quickly to customers' requirements. We also dispatch inspectors, and cargo and technical superintendents, to provide safe, high-quality services. What's more, all data reported by our entire fleet is centralized and analyzed in MTANK and fed back to all vessels to continuously improve their operations. At the same time, we set KPIs as a means of making performance visible, as we work to ensure safe and efficient operations.

Our fleet expansion plans also reflect the top priority we give to safety and efficiency. Amid increasing global interest in environmental protection, we have made it our basic policy to actively replace vessels in our fleet. We have led the industry in introducing a Ship Energy Efficiency Management Plan\* at in-house tanker management companies. In accordance with this plan, we are making efforts to use fuel oil efficiently and to reduce CO<sub>2</sub> emissions. On top of that, we actively employ new technologies so as to make our fleet environmentally friendly.

\* Ship Energy Efficiency Management Plan: A plan to ensure efficient operations to help prevent global warming and reduce CO<sub>2</sub> emissions. The International Maritime Organization (IMO) is considering making these plans compulsory.



A high level of safe and efficient operation is required in the tanker business. The VLCC AZUMASAN transports crude oil.

**[Vessel]****We give clear instructions and ensure that they are properly understood**

Valery V. Nekhrasov  
Captain

We give clear instructions to our crew members and ensure that they are properly understood. Taking the Bridge Watch Organization as an example, it is very important to give clear instructions to the officers by standing orders and/or night orders, and so on. Detailed discussion with each deck officer about the standing orders, to ensure that they are properly understood, is essential.

Of course, voyage planning is a basic of safe navigation. It provides me an opportunity for dialogue with the watch-keeping officers concerning allowances and errors. I give practice exercises to encourage the duty officers to think ahead. I try to act in a supporting role, which can strengthen the team and give the officers more confidence.

**[Vessel]****Never get injured, Never cause an injury**

Takuya Otsuka  
Second Engineer

As an engineer responsible for onboard operations, I am acutely aware of the need to prevent injuries to my partners or myself.

The other day, I had an opportunity to assist with compiling and analyzing the near-miss reports from vessels. There were many cases in which a tiny problem could have led to a serious accident or major injury. We always remember to wear protective equipment, which is the basis of Health-Safety-Environment-Quality (HSEQ). In addition, when making a maintenance work plan for the equipment I am responsible for, I do a thorough risk assessment. It is also important to take advice from my boss, from a different viewpoint. The safety of every seafarer is an indispensable element of safe operation for the entire vessel.

**[Ship Allocation Staff]****Think from the standpoint of the vessel**

Asuka Tsubaki  
Crude Oil Tanker Group A,  
Tanker Division

As a person responsible for vessel operation, I always try to think about things from the other person's standpoint. Particularly when delivering an order to a vessel, I take into account what the vessel is doing at the time, and how my direction will affect the vessel. When I consider that seafarers onboard move the vessel based on directions from the operator, I once again realize my responsibility. Sometimes I have to give an urgent order to vessels, but I take care not to give excessive requirements from shore to burden an already busy vessel. In addition, I strive to maintain close communication not only with vessels, but also with ship management companies and other parties concerned to achieve safe operation.