



Environmental Activities in All Phases of Business

Showa Shell incorporates environmental activities in every phase of its operations, from the import of crude oil to the shipment of finished products.

Initiatives in the Marine and Overland Transportation Phases

Most petroleum products are transported from oil refineries to tank yards by tanker or railway, and from there to service stations or plants by tank lorry.

Environmental and social problems associated with the transport phase include the consumption of fuel by tank lorries and tankers, and the question of reducing the volume of their CO₂ emissions. Showa Shell is also engaged with the issue of eliminating the risk of pollution or disaster resulting from accidents during transport, and understands the urgency of establishing a more efficient transport system and network. Showa Shell has set a goal of reducing fuel consumed during transport by 9% from its

1990 levels by 2010, while reducing to zero the number of incidents leading to pollution of oceans, rivers, or land.

As a step toward the reduction of exhaust gases, larger tankers and tank trucks have made high-volume transport a reality for Showa Shell. The company recovers gasoline vapor emitted from gasoline tanks at oil refineries and tank yards, and when discharging cargo gasoline. To prevent pollution of the sea, Showa Shell has instituted a system of periodic checks of tanker safety equipment and the level of crew training. In addition, the company has established education and training aimed at preventing tank truck accidents and disasters.

Tanker Transport

● Increased Tanker Size

The average tanker capacity in 1995 was 2,400 kl, but steady progress in efforts to use larger ships had increased average tanker capacity to 3,955 kl by 2005. Showa Shell has worked to reduce the number and shorten the distance of transport voyages, which will curtail tanker fuel consumption through optimization of the transport plan and adjustments in response to the supply-and-demand balance.

● Ship Inspections

Ship Inspections is a system developed by Shell International Trading and Shipping Co., Ltd., to prevent pollution of the sea and ensure the safe operation of ships. Showa Shell Sempaku employs the company's Japan Flag Tanker Checklist, which follows Japanese procedure. This is a screening system that assists the ship's captain, chief engineer, and cargo handling supervisors in checking the operating status of facilities and equipment, including safety equipment, verifying the ship's navigation and cargo logs and other documents, and ascertaining the level of



crew training through oral boards.

Since 2004, Showa Shell has conducted ship inspections on Japanese flag tankers carrying Showa Shell products and tankers moored in the group's terminals. Showa Shell verifies the data on tankers registered in the Ship Inspection Report Programme (SIRE) system*1 of the Oil Companies International Marine Forum (OCIMF). Since 2005, the company has been conducting the data verification for almost all tankers.

*1 SIRE system: Oil companies conduct inspections of tankers (primarily flag ships from outside Japan) and file a report with OCIMF's SIRE system. Other oil companies can then pull and consult that report.

Tank Lorry Transport

● Operation of Large Tank Lorries

The ratio of large trucks with a capacity of 20 kl or more has increased from 52% in 1995 to 73% in 2005. The company dispatches large trucks to all consignees capable of handling them. This increase in ratio is fueling the adoption of ultra-large trucks with a capacity of 24 kl or more. In 2005, there were 68 in operation. Orders from service stations and factories are handled by the NEU PLANET automatic transport system, which utilizes trucks that have the latest computer technology installed.



● Increased Night Delivery

In the past, truck drivers working alone could not unload their cargo at customers' facilities. Now, though, the installation of safety equipment on trucks and at service stations enables drivers to safely and single-handedly unload their cargo, making night deliveries at closed service stations possible. Progress in the installation of this safety equipment has allowed Showa Shell to escape

daytime road congestion and make night deliveries at 620 service stations in the Higashi Meihan region.

● Electronic Toll Collection

The installation of electronic toll collection equipment on trucks cuts down on stop-and-go driving and reduces exhaust-gas emissions.

