

Strict Safety Management

Safety Initiatives

The Cosmo Oil Group prioritizes strict safety management as part of the CSR Initiative Policy for fiscal 2013–2017. Under the Consolidated Medium-Term Safety Plans (Fiscal 2013–2017), the Refinery Safety Reform Committee concentrates on safety management at refineries, with the Group Safety Promotion Committee advancing safety management at the group-wide level. The committees strive to eliminate work-related accidents and incidents in each division and to secure safe operations and stable supply.

Safety Management Systems of the Cosmo Oil Group

Group Safety Promotion Committee

The Cosmo Oil Group operates the Group Safety Promotion Committee, which meets twice a year to implement and expand initiatives for safety management. The Committee conducts inspections at the Group’s work sites (listed at right) to verify and supervise initiatives for safety management.

Number of Work-Related Accidents in Fiscal 2014 ✓

	Accidents requiring time off from work	Accidents not requiring time off from work	Total
Cosmo Oil	6	16	22
Affiliated companies ¹	18	64	82

Safety and Environmental Inspections Conducted in Fiscal 2014

Cosmo Oil	Affiliated Companies
● Refineries (Chiba, Yokkaichi, Sakai)	● Cosmo Matsuyama Oil
● Sakaide Distribution Terminal	● Cosmo Oil Lubricants
● Hakodate Distribution Terminal	● Cosmo Engineering
● Supply Department, Head Office	● Cosmo Trade & Service
	● Cosmo Delivery Service
	● EcoPower
	● Cosmo ALA

1. Affiliated companies: Cosmo Oil Lubricants, Cosmo Oil Sales, Cosmo Trade & Service, EcoPower, Cosmo Energy Exploration & Production, Cosmo Techno Yokkaichi, Cosmo Matsuyama Oil, Kansai Cosmo Logistics, Sakaide Cosmo Kosan, Hokuto Kogyo, Cosmo Engineering, Sogo Energy.

COSMO Code of Safety Awareness

The Cosmo Oil Group pursues safety by involving all employees, not just those at production sites. The COSMO Code of Safety Awareness directs all employees to share the same commitment to safety and action

regardless of the type of work or workplace, helping to establish better and safer working conditions and foster a culture of safety.

COSMO Code of Safety Awareness

	Slogan	Specific Actions (Example)
C	Compliance Comply with the rules that must be observed.	Comply with laws and regulations, company regulations and in-house rules.
O	Open Open your heart and be considerate of other people and property.	Greet people you pass inside and outside the company worksite.
S	5S Practice the 5S basics of safety— <i>seiri</i> (sorting), <i>seiton</i> (standardizing), <i>seiso</i> (sweeping), <i>seiketsu</i> (sanitizing), and <i>shitsuke</i> (self-discipline).	Don't leave documents out on your desk when you go home.
M	Maintenance Maintain your equipment and your mind.	Take care of equipment and prevent falls. Remove obstacles from evacuation routes.
O	Oval Spread awareness of safety from yourself to the colleagues around you.	Start action yourself and call on the colleagues around you. Correct unsafe conditions through checking and double-checking by multiple organizations and group companies.

Refinery Safety Reform Committee

The Cosmo Oil Group established the Refinery Safety Reform Committee headed by the president in March 2013 to enhance safety at refineries and secure stable operations, which are major management priorities. The Committee implements management based on PDCA cycles to identify and address weaknesses at refineries and secure continuous improvement.

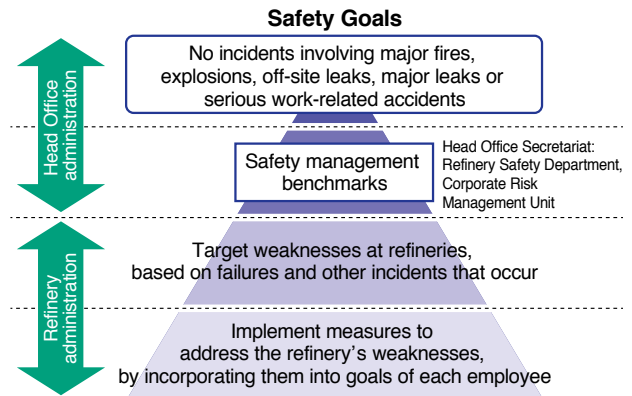
Unsafe and Failure Incidents

Fiscal Year	2009	2010	2011	2012	2013	2014
Change from previous fiscal year	-10%	-2%	-9%	-8%	-15%	-22%

→ Significant reduction in unsafe and failure incidents, from systematic application of PDCA cycles

Operation of Refinery Safety Reform Committee

Safety Benchmarks



Example Initiatives for Safety Management

Refineries

Machinery operators and maintenance staff at refineries work together to conduct inspections for external corrosion. Refineries have more than 100 kilometers of piping, which makes it difficult for maintenance staff to perform all maintenance work. Since there are many machinery operators who are frequently on site, they are entrusted with the critical task of conducting inspections for external corrosion of piping. Maintenance staff prepare inspection checklists and train operators so that they are able to identify irregularities, which maintenance staff rapidly address. These efforts have significantly reduced the number of incidents at refineries in fiscal 2014.



Training machinery operators to conduct inspections for external corrosion.

Sales

To comply with Japan's revised Fire Service Act, the Group has finished mandatory repairs on underground storage tanks that were installed more than 40 years ago at directly-owned service stations. The Group is also supporting dealer-owned service stations to ensure they conduct the repairs within the expected timeframe in order to prevent leaks from underground tanks.



Highlight Top Managers Visit the Production Floor for Dialogue

President Keizo Morikawa and officers in charge of refineries visited the frontlines to dialogue with employees. The personal interaction between senior management and the people on the production floor helps to foster unity, show management's strong commitment to safety, and highlight the challenges employees are facing and overcoming. The Group is united in its mission to secure safe refinery operations.



President Keizo Morikawa (far left) speaking with employees.

Stakeholder Dialogue

Securing Petroleum Supplies: Group-Wide, Industry-Coordinated Business Continuity Planning

The Cosmo Oil Group's business continuity plan (BCP) aims to secure the rapid supply of petroleum products in the event of a large-scale disaster. The Group is always working to improve its disaster response. Dr. Tomohisa Sashida, Executive Chief Consultant, Tokio Marine & Nichido Risk Consulting Co., Ltd., joined us to discuss business continuity planning.

Expectations for the Petroleum Industry in a Disaster

Yoshimochi: We would like to ask your expert advice on business continuity planning. As you know, Cosmo Oil first assembled an earthquake BCP in 2006, in response to guidance from the Cabinet Office issued in 2005, and later prepared a BCP for a flu pandemic in 2009.

Sashida: Business continuity planning has become more prevalent globally, sparked by events such as the year 2000 computer problem and the 2001 terrorist attacks in the U.S. In fact, some U.S. corporations triggered their BCPs to

secure business continuity when the World Trade Center towers were destroyed.

Yoshimochi: Some elements of our BCP did not operate properly when one of our refineries was damaged in the Great East Japan Earthquake. We then spent two years comprehensively reviewing our risk management, and formulated a new earthquake BCP in 2013.

Sashida: Cosmo Oil's BCP focuses on a large-scale earthquake. A good BCP will include disaster mitigation measures to protect residents from fires and explosions. I'm glad that Cosmo Oil is addressing this with measures such as seismic reinforcement at refineries. The next critical aspect is to fulfill supply responsibilities; in your case, reopening service stations quickly, restarting shipments from refineries and oil depots, and securing the logistics network, in order to ensure fuel supply to disaster areas.

Other critical aspects include identifying the priorities for restoring operations, including outside of disaster areas, and predicting the time needed to restore operations and the level of operation that can be secured. And it is vital to consider earnings and costs when setting these targets.

Meeting National and Public Expectations

Yoshimochi: One core element of our BCP is the plan for coordinating petroleum supply in a disaster. We are ready to work with the Petroleum Association of Japan and wholesalers to fulfill fuel supply requests from the Japanese government in a disaster.

Sashida: The Great East Japan Earthquake reminded all of us of the importance of lifeline infrastructure, including petroleum supply. A good BCP also needs to include frameworks for mutual support and cooperation in a disaster.

Yoshimochi: We established a business tie-up with Hyundai Oilbank of South Korea in 2013, and signed a mutual supply agreement for petroleum products in an emergency. In April 2015, Cosmo Oil and other petroleum wholesalers became designated public institutions based on Japan's



Tomohisa Sashida, Ph.D.

Executive Chief Consultant,
Tokio Marine & Nichido Risk Consulting Co., Ltd.

Joined Tokio Marine Fire Insurance Co., Ltd. in 1979. Worked as a consultant on information security and risk management including earthquake measures. In 1996, was assigned to work at Tokio Marine & Nichido Risk Consulting Co., Ltd., where he consulted on risk management, information security, business continuity, and internal control. Has served on advisory committees on disaster mitigation and business continuity planning for small and medium-sized enterprises organized by the Cabinet Office of Japan and the Small and Medium Enterprise Agency.

Basic Act on Disaster Control Measures.

Sashida: This is welcome, because it allows Cosmo Oil to pre-register emergency vehicles like tanker trucks and to use the government's anti-disaster radio communication system. These measures should speed up disaster recovery and help secure stable supplies. At the same time, the public institution designation means Cosmo Oil must act as a national public servant, so it must do a solid job in protecting the citizenry.

Alternative Strategies Essential for the BCP to Operate

Yoshimochi: Our next task is to make sure we are fully prepared for actual BCP implementation in an emergency. It has to be more than a guidance document.

Sashida: In the face of the Great East Japan Earthquake, BCPs in some companies did not function at all. The companies that were able to operate their BCPs were those that regularly conducted drills and were able to execute alternative strategies. It is better to repeat drills and exercises—even if they are short. This way, problems can be identified each time and addressed to improve the BCP. Alternative strategies involve either temporarily relocating operations outside of disaster areas, or getting support from partner companies to overcome the emergency, and during this time restoring operations at impacted facilities.

In my view, business continuity planning at the level of the single company is not sufficient; it should be pursued by each industry as a whole. Alternative strategies are needed, which encompass collaboration among companies in the same sector, as well as internal collaboration across business locations.

Yoshimochi: In 2014, we held a drill based on the scenario of a major earthquake in Tokyo, on top of the refinery and divisional drills. Going forward, we will conduct drills in coordination with service stations and business partners. Also, Cosmo Oil will adopt a holding company structure in October 2015, which gives us an opportunity to enhance our Group management. We have made a renewed commitment to stepping up our efforts group-wide to ensure that our BCP operates effectively.



Atsuhito Yoshimochi

General Manager, CSR Management Department,
Corporate Risk Management Unit, Cosmo Oil Co., Ltd.

Highlight BCP Drills in Fiscal 2014

In June 2014, Cosmo Oil implemented a joint petroleum supply drill at the Sakai Refinery in collaboration with the Japan Self-Defense Forces, Agency for Natural Resources and Energy, and Petroleum Association of Japan, as part of the FY2014 Joint Exercise for Rescue by the Ministry of Defense. At the same time, the Company conducted a drill for the Cooperation Plan for Oil Supplies during a Disaster¹ of the Nankai Trough earthquake scenario.



The Cosmo Oil Head Office also conducted a BCP drill using a scenario of a major earthquake in Tokyo and focusing on (1) behavior based on BCP manual, (2) centralized information management and countermeasures by the Crisis Response Headquarters, and (3) group-wide coordination of information. The Cosmo Oil Group will keep holding BCP drills at various divisions to enhance the level of execution.



1. **The Cooperation Plan for Oil Supplies during a Disaster** is mandated under Japan's Oil Stockpiling Act to secure stable petroleum supplies in a disaster.

Industry Collaboration on Industrial Safety

Representing the petroleum refining and wholesaling industry, the Petroleum Association of Japan formulates voluntary action plans to secure industrial safety in Japan. Cosmo Oil helps to implement these industry plans while taking the initiative to fulfill its social responsibility as a petroleum company.

Highlights of Initiatives Implemented by Cosmo Oil

Period: April 1, 2014 to March 31, 2015

Management Commitment to Industrial Safety

The Cosmo Oil Group is determined to ensure safe refinery operation and stable supply of petroleum products. The Group is also reinforcing its broader CSR efforts to earn public trust as a responsible energy company. In fiscal 2014, the Group stepped up dialogue with frontline employees to convey senior management's firm resolve about safety. For instance, top management spent time discussing safety in person with frontline employees.

Implementation Plan for Industrial Safety Measures

A. Concrete measures to reduce accidents

1. Facility management (corrosion, etc.)

Facilities maintenance staff from different sites met to discuss ways to enhance the precision of maintenance planning (launched in fiscal 2014).

2. Preventing human errors, implementing risk assessments

While conducting hazard prediction training for irregular operations and having employees use the point-and-call method before starting each task, in fiscal 2014, the Group also extended its zero accident campaigns to involve on-site employees of business partners. In addition, it implemented a risk assessment methodology developed based on past critical accidents from irregular operations at its industrial complexes.

3. Preparation of procedures and manuals

In fiscal 2014, the Group started preparing reference schedules for everyday construction management to ensure safe work cycles in all construction projects. This effort resulted in a major reduction in problems during construction management.

B. Training and drills

The Group conducts hands-on drills and disaster mitigation drills to raise hazard awareness as well as study meetings to learn from past accidents. In fiscal 2014, a training device was introduced to teach employees, including business partner staff, to use the point-and-call method of confirming safety of tasks.

Safety Management by Cosmo Oil Head Office

Launched in March 2013, the Refinery Safety Reform Committee is responsible for ensuring the execution of PDCA cycles, including assessment and review of refinery safety measures and their progress, in order to secure operational safety and stable supply. Starting in fiscal 2014, regular newsletters have been posted as a visible safety reminder to employees.

Setting Targets for Industrial Safety

- Fiscal 2014 Cosmo Oil Group Safety Policy: Establish "a culture of safety" for compliance in good faith
- Fiscal 2014 Safety Goal for Refineries: Maintain a record of zero major fires, explosions, off-site leaks, major leaks, and serious work-related accidents

Survey and Assessment of Target Achievement and Execution of Measures

The Refinery Safety Reform Committee sets safety benchmarks on a quarterly basis, monitoring achievement levels and discussing measures. These efforts have made safety measures more effective, enabling refineries to keep meeting the fiscal 2014 safety goal.

Group-wide Voluntary Safety Initiatives

The Group continues to conduct corporate ethics workshops for all employees. In fiscal 2014, all employees were required to take a correspondence course on compliance.

Preventing Industrial Accidents Related to Natural Disasters

- The Group prepared a BCP manual for the entire supply network, implemented BCP drills, and improved the manual based on the issues identified. The Group is also improving refinery facilities to strengthen their supply-side resilience.
- High-pressure gas facilities and other equipment were assessed in order of priority for preparedness against damage from a major earthquake, based on experiences in the Great East Japan Earthquake. The needed seismic upgrades are being made systematically.