

## **The *Nakhodka* Incident and Subsequent Changes in Japan's Oil-spill Response System**

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### **I. Outline of the Wreck of the *Nakhodka* and Resulting Oil Spill**

#### 1. Date and place

January 2, 1997

Approximately 106 kilometers north-northeast of the Oki Islands in Shimane Prefecture

#### 2. Overview of ship

- (1) Name: *Nakhodka*
- (2) Type: Oil tanker
- (3) Total tonnage: 13,157 gross tonnage
- (4) Cargo: Approximately 19,000 kl of fuel oil C
- (5) Number of crew: 32
- (6) Owner: Prisco Traffic (Russia)

#### 3. Outline of Incident

- (1) On January 2, 1997, while en route to Petropavlovsk, the ship broke in two; the stern sank, while the bow drifted. An estimated 6,240 kl of fuel oil C leaked from a broken tank, and part of that oil reached the Japanese coast on January 7. The presence of oil was confirmed in a total of nine Japanese prefectures.
- (2) [1] The bow portion drifted with an estimated 2,800 kl of fuel oil C still on board and arrived at the town of Mikuni in Fukui Prefecture on January 7, 1997.  
  
[2] The stern portion sank immediately at the site of the shipwreck.

#### 4. Status of Clean-up Operations

- (1) The Japan Coast Guard, the Maritime Self Defense Force, the Ports and Harbor Construction Bureau of the Ministry of Transport, the Maritime Disaster Prevention Center, and other organizations implemented oil clean-up measures and essentially completed recovery operations by February 18, 1997.
- (2) Concerning the oil still left in the floating bow section, the Maritime Disaster Prevention Center, working under the supervision of the Commandant of the Japan Coast Guard, engaged in oil-transfer and recovery operations using a temporary road, completing recovery on February 25, 1997.

Work on removing the temporary road was begun on June 7, 1997, and restoration work was essentially completed by January 1998.

- (3) The bow section was removed by a crane-equipped salvage barge on April 20, 1997, in an operation that was completed in a single day.

#### 5. Instructions and Orders Received by Related Organizations

- (1) The Maritime Disaster Prevention Center received a commission from the agent of the ship's owner (Inchcape PI Japan (?)) on January 5, 1997 to initiate oil clean-up procedures. After the Commandant of the Japan Coast Guard had confirmed that the bow section had drifted into Japanese waters (off the coast of Mikuni town in Fukui Prefecture), and that oil was leaking, he ordered the Maritime Disaster Prevention Center to commence oil clean-up procedures on January 14.
- (2) The 8<sup>th</sup> Regional Coast Guard Headquarters, working through Ports and Harbor Construction Bureau No. 3, requested that Ports and Harbor Construction Bureau No. 5 dispatch its large oil-recovery ship on January 4. The division also asked the Maritime Self Defense Force to dispatch emergency personnel on January 6.

## II. Japan's Oil-spill Response System Since the *Nakhodka* Incident

The *Nakhodka* incident prompted a great deal of reflection and training that resulted in changes in the way that Japan handles oil spills, such as the following:

- \* Strengthening the rapid-response system by clarifying how information should be communicated and how related organizations should maintain contact.

- \* Strengthening oil clean-up capabilities by acquiring more materials and equipment for dealing with large quantities of viscous oil on the open seas.
- \* Strengthening the system of the Maritime Disaster Prevention Center, which is the core private-sector organization that undertakes maritime disaster prevention activities.
- \* Strengthening cooperation and contact systems with foreign countries.
- \* Strengthening preventive policies.

1. Revising the Law relating to the Prevention of Marine Pollution and Maritime Disaster

In May 1998, the Law was revised to: expand the scope of directions given to the Maritime Disaster Prevention Center by the Commandant of the Japan Coast Guard; enhance the system by which the Commandant makes requests to the heads of other related administrative organizations; and effect other measures.

Previous to the revision, foreign ship owners were under no obligation to clean up spills that occurred outside of Japanese waters. This meant not only that the ship owner in question did not make adequate emergency preparations, but also that the clean-up directions could not be quickly sent to the Maritime Disaster Prevention Center because they were premised on the responsibility of the ship owner to engage in clean up. Furthermore, no one had anticipated a spill of the magnitude of the *Nakhodka* on the open seas, and therefore the rapid response system, the contact with related organizations, the division of labor, and other matters were not clearly enough defined.

With the lessons learned from the *Nakhodka* incident, officials concerned studied these issues together and the following policy designed to provide an appropriate response to large-scale oil spills that occur outside Japanese waters was incorporated into the law.

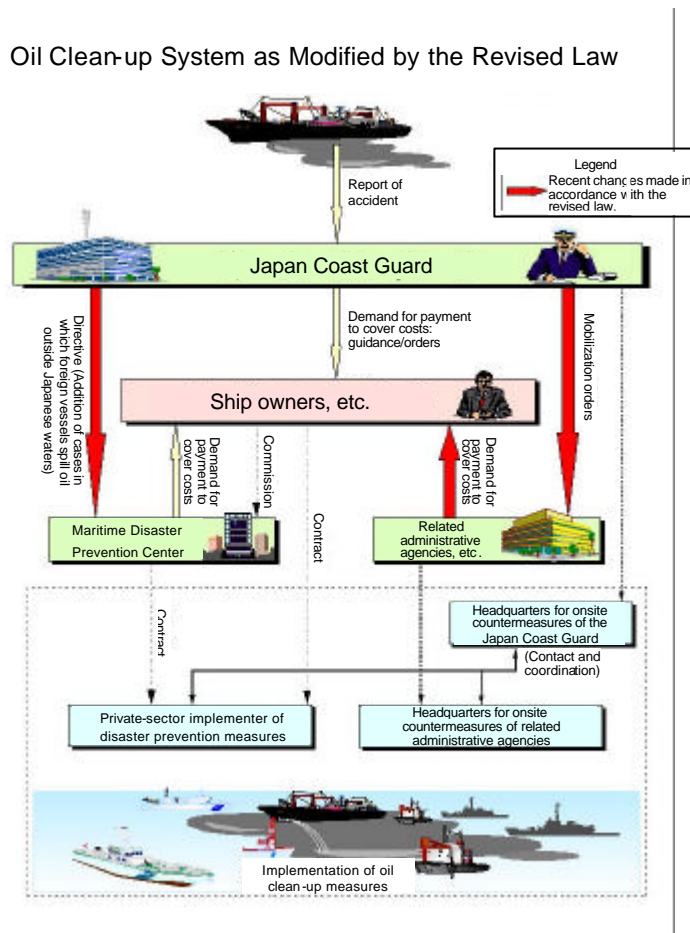
- \* The Commandant of the Japan Coast Guard can direct the Maritime Disaster Prevention Center to implement the necessary clean-up measures even when oil is leaking from a foreign-owned ship outside Japanese waters. The funds for these operations are to be provided by the Japanese government.

In addition, in view of the measures that must be taken by related organizations when a large-scale oil spill occurs, communication is indispensable between different administrative organs that have specific functions. In recognition of this, it is necessary to make systemic clarifications and further strengthen connections among related organizations. Therefore, the following was incorporated into the revised law.

- \* The Commandant of the Japan Coast Guard has the power to request the heads of related administrative agencies to implement the necessary clean-up measures.

Furthermore, the parties who caused the spill must take full responsibility, and there must be a collateral system to ensure that the burden borne by the responsible parties is both appropriate and limited to what is necessary. Therefore, the following was incorporated into the revised law.

- \* The Law gives the authority to require related administrative agencies, etc., to pay the costs associated with clean up on a mandatory basis.



## 2. Systemic Organization of the Japan Coast Guard

- (1) Establishing a base in Yokohama for mobilizing a clean-up task force

Using the national strike team of the US Coast Guard as a model, a clean-up task force was created in April 1995 comprised of eight people in two squads, under the jurisdiction of the Search and Rescue Division, Guard and Rescue Department, 3<sup>rd</sup> Regional Coast Guard Headquarters. This task force is a specialized group that is ready to provide guidance,

advice, and coordination services in cases of maritime disasters where oil, harmful liquids, and other hazardous materials are spilled or otherwise released at sea.

In the aftermath of the *Nakhodka* incident, this task force was strengthened by creating Yokohama National Strike Team Station as an office of the 3<sup>rd</sup> Regional Coast Guard Headquarters, and adding a third squad of four additional people.

(2) Procuring materials and equipment

In December 1997, the Committee for Comprehensive Study of Oil-spill Response Systems of the Ministry of Transport's Council for Transport Technology examined the question of how to procure materials and equipment for clean-up efforts. The Committee found that materials and equipment were inadequate for mounting clean-up missions in waters outside Japan, and that there was a difference in quality between the clean-up systems in the Japan Sea as compared with systems in the Pacific. The Committee went on to recommend that the following materials and equipment should be procured: large oil-recovery equipment; large oil recovery vessels; oil recovery equipment for use with viscous oil; equipment for the aerial spraying of dispersants; dispersants for use with viscous oil; recovery nets, etc.

To date, the Japan Coast Guard has procured the following materials and equipment for cleaning up oil spills.

- \* Oil recovery equipment (LORI Side Collector (?) LSC) that can handle viscous oil (10 units)

Mikuni, Fushiki, Yokohama, Wakkanai, Monbetsu, Shiogama, Kochi, Fukuoka, Kagoshima, Naha

- \* Large vacuum-type oil recovery equipment (1 unit)

Abashiri

- \* Oil boom for use on the open sea (3 units)

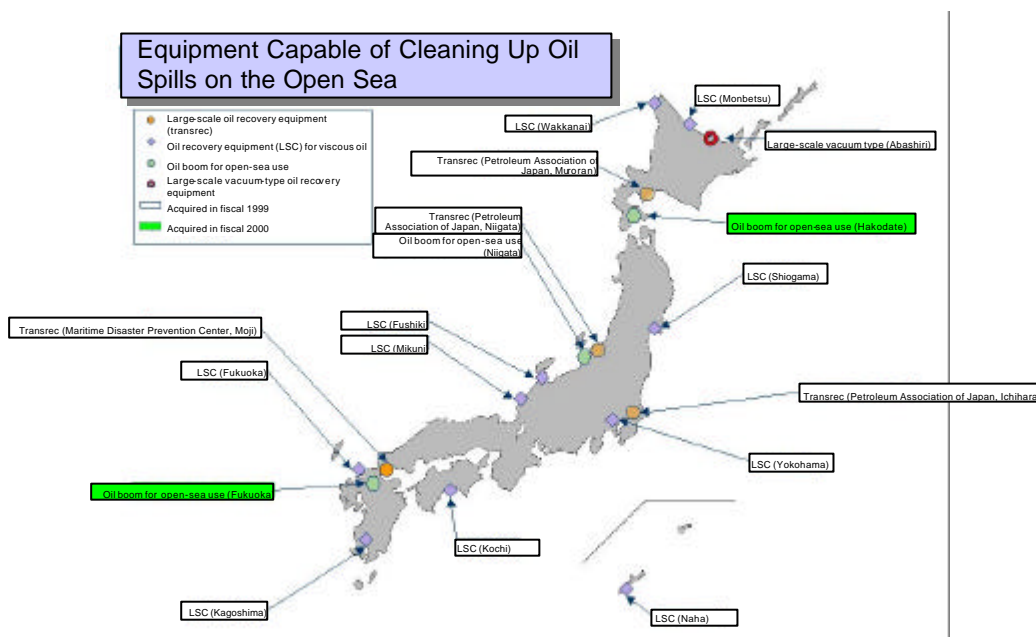
Niigata, Hakodate, Fukuoka

- \* Recovery nets for viscous oil (119 units)

- \* Dispersant for viscous oil in 18-liter drums (4,111 drums)

- \* Self-mixing dispersant in 18-liter drums (540 drums)

In addition to the items listed above, Ports and Harbor Construction Bureau No. 4 of the Ministry of Transport (now the Kyushu Regional Development Bureau of the Ministry of Land, Infrastructure and Transport) has commissioned the Kaishomaru, a vessel capable of both dredging and oil recovery operations berthed in Kita-Kyushu. Similarly, the Petroleum Association of Japan operates three large oil recovery units (transrec in Ichihara (Chiba), Niigata, and Muroran, and the Maritime Disaster Prevention Center operates a fourth unit in Moji.



### 3. Review of Oil Spill Response Program

According to Article 43-2 of the Law relating to the Prevention of Marine Pollution and Maritime Disaster, the Commandant of the Japan Coast Guard is required to formulate an oil spill response program that supports the aims of the national contingency plan. It must contain all necessary items for the implementation of rapid and accurate oil clean-up measures, as well as methods of ensuring safety during the implementation of those measures, in the event that a major oil spill occurs in designated waters.

The oil spill response program was formulated for the following six designated marine areas in 1978: Tokyo Bay; Ise Bay; Osaka & Harimanada Bay; and the east, central, and western regions of and Seto Inland Seas. In 1996, the program was revised to include all waters immediately surrounding Japan, divided into 16 districts.

Then, in the wake of the *Nakhodka* incident in 1998, the program was revised a third time to include international waters that are contiguous with Japanese coastal waters where Japan has exclusive economic interests, with countermeasures to clean up any large oil spills that occur.

4. Promoting Exchanges with Foreign Clean-up Organizations

Japan has held several meetings of specialists with South Korea, Russia, and the U.S., respectively. In past meetings, the focus has been on creating common recognition of each other's oil clean-up systems. Little has been done, however, to improve Japan's clean-up technologies and knowledge through the sharing of on-site oil clean-up technologies and joint operations with other countries. Steps are therefore being taken to remedy this situation.

To take some examples from the current fiscal year, a joint clean-up operations drill using a transrec was performed with South Korea at Moji in October 2000, based on a scenario of a major oil spill. At the meeting of clean-up specialists held in February this year in Tokyo, in which the head of the State Marine Pollution Control, Salvage and Rescue Administration of Russia (SMPCSRA), the head of the Far East Basin Salvage & Rescue Company (BASU), and the head of Sakhalin BASU participated, the program included a role-play exercise based on a scenario in which a tanker runs aground in the Soya Strait.

5. Acquiring Information on Coastal Environmental Protection

To efficiently implement clean-up operations and minimize damage when oil drifts near or onto shore, we began gathering information concerning coastal environmental protection in fiscal 1997, and developed a database that includes the most important coastal areas requiring protection. Using the database, we then created a "management system for coastal area information," which presents an electronic display that also contains status reports about oil diffusion and predicted drifting patterns. This system began operating in April 1999 and is updated as necessary.

6. Other

In addition to the measures cited above, the Ministry of Land, Infrastructure and Transport is working diligently to establish an international cooperative system in ways such as the following: strengthening regulations on tanker construction, including the promotion of double-hulled ships; strengthening "port state control" oversight to ensure that foreign vessels conform with treaty standards; and providing support for the establishment of a regional coordinating unit (RCU) in the Northwest Pacific Region Action Plan as proposed by the United Nations Environment Programme (UNEP).

### III. Responding to the Development of Sakhalin's Offshore Oil Fields

In July 1999, commercial oil production began in part of the Sakhalin II oil field development project located off of the Sakhalin coast north of Hokkaido. Because of concerns that a large oil spill could be generated from this development project, a conference was held among 22 related ministries and agencies of the Japanese government, with secretariat duties performed by the Cabinet Office for National Security Affairs and Crisis Management of the Cabinet Secretariat in conjunction with the Japan Coast Guard. In February 2000, the items discussed and the conclusions reached concerning safety assurance in oil-field development and measures to be taken in response to an accident were compiled in final form.

In addition, the Japan Coast Guard has selectively placed large-scale oil recovery materials and equipment (made for use on open seas in rough weather) and formulated a mobilization plan for deploying the said materials and equipment, as well as patrol boats, in the event that an accident occurs, and has revised its oil spill response program for the Hokkaido coastal region.

#### 1. Selective Deployment of Large Oil Clean-up Materials and Equipment in Hokkaido

- \* Large oil recovery equipment (transrec) Muroan (Petroleum Association of Japan)
  - For recovering large oil spills on the open sea in rough weather (2.5m waves)
  - Can be mounted on a 1,000-ton PL type patrol vessel with helicopter deck
  - Recovery capacity of 250m<sup>3</sup>/h
  - Total of 4 units in Japan (3 owned by the Petroleum Association of Japan and 1 owned by the Maritime Disaster Prevention Center)
  
- \* Large vacuum-type oil recovery equipment Abashiri
  - For recovering large quantities of viscous oil
  - Can be mounted on a 1,000-ton PL type patrol vessel with helicopter deck
  - Recovery capacity of 90m<sup>3</sup>/h
  - One unit in Japan
  
- \* Recovery equipment (LSC) for viscous oil Wakkanai, Monbetsu
  - Equipment designed to recover viscous oil
  - Can be mounted on a 1,000-ton PL type patrol vessel



- Recovery capacity of 25m<sup>3</sup>/h
- Total of 10 units in Japan
- \* Oil booms for open sea operations Hakodate
  - Can be used on open seas in rough weather (length: 300 meters)
  - Can be mounted on a 1,000-ton PL type patrol vessel with helicopter deck
  - Can be deployed and retracted very quickly in rough weather on open seas
  - Total of 3 units in Japan

2. Revision of the Oil Spill Response Program Along the Hokkaido Coast

The program was revised to ensure a rapid and appropriate response in case oil accidentally spills from the Sakhalin offshore oil fields or from tankers that are transporting crude oil from those fields, and when the spill threatens to have an effect on the waters surrounding Hokkaido.

[Content of Revisions]

- \* Countermeasures against an accidental spill from the Sakhalin offshore oil fields
  - The fourth edition of the program includes newly formulated “Countermeasures Against Oil Spills from the Sakhalin Oil Fields” that were added to deal with any spills that might occur at the offshore oil production facilities off Sakhalin.
  - The newly formulated measures include the following provision: “In the event that an oil spill occurs at the Sakhalin offshore oil fields, a plan has been formulated to mobilize patrol boats that can be fitted with large oil recovery equipment capable of recovering all of the oil from the surface of the sea. The plan is based on the scenario of a large spill of approximately 8,000 to 13,000 kl that is drifting in mousse condition.”

- \* Countermeasures against spills from tankers carrying crude oil from the Sakhalin offshore oil fields

A response system has been set in place to deal with crude-oil tanker accidents occurring in the Tsugaru and Soya Straits.

