SPILL CONTINGENCY PLANS: FOR INTERNATIONAL REGIONAL COOPERATION

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ABSTRACT

Offshore oil and gas developing projects have been started on the Sakhalin shelf and the sea of Okhotsk. These large scale developing projects require multi-national cooperative spill response, then agreements for emergency occasions have to be ratified between neighbor countries under international schemes such as North-West Pacific Action Plan (NOWPAP) initiated by United Nations' Environmental Progamme.

As of the moment, there are no diplomatic agreements concerning with oil spill response between stakeholder counties, then custom clearance and other international migration procedure will be an obstacle for exchanging both materials and professionals. A comparative analysis of oil spill contingency plans of Russia, Korea and Japan resulted in some clear differences in these countries' approaches. The Korean National Contingency Plan explicitly determines the roles of an 'on-scene coordinator' who is a unique organizer for oil spill response. On the other hands, the same kind of Japanese plan does not even contain a word of such 'on-scene coordinator'. For the Russian case, they have U. S. like Federal Emergency Management Agency, but allocation of roles between this agency and Ministry of Transport are still ambiguous.

PROGRESS OF SAKHALIN-1 AND SAKHALIN-2

Among nine Sakhalin and other REF (Russian Far East) energy developing projects, Sakhalin-1 and Sakhalin-2 have already started or close to start oil and gas production. The first 81,000 tons of oil produced by Sakhalin-2 (named Vityaz Crude) was exported to Ulsan Korea on September 21, 1999 by Japanese trading company Mitsui Bussan Co. ltd. Sakhalin-2 project is generally divided into the early stage of Phase-1 and total exploitation stage of Phase-2. As of October 2004, Phase-1 project for developing oil has been almost completed and Phase-2 for natural gas and construction of pipeline has become under way in earnest.

Recent international circumstances such as political unstably of Middle East counties and escalating price of crude oil are boosting up Sakhalin projects. As for Japan, one of the biggest energy suppliers Tokyo Gas Co. Ltd. has decided to purchase Sakhalin-2 LNG in February, 2003 (Nihon Keizai Shinbun, 2003). After the decision of Tokyo Gas, Osaka Gas Co Ltd. has also decided to import Sakhalin-2 LNG from the year 2009. For the Sakhalin-2 crude oil, U.S. Exxon Mobile has started to import three million barrels a year since July 2003.

As for Sakhalin-1, in December 2003, Exxon Neftegas Limited (ENL) announced that it has awarded the first major on-site contracts for construction of the DeKastri crude oil terminal. Along with the construction of the terminal, pipelines are planed to convey crude oil directly to Japan from the production facilities in Chayvo and Oduputu in northern part of Sakhalin Island from the end of 2005; actual construction has already started in 2003. Recently, in June 2004, ENL also announced that they concluded an agreement for LNG supply to the Russian domestic electric and power companies in Khabarovsk region.

CONCERNS FOR OIL SPILL

With the progress of developing projects, local citizens in Sakhalin and Hokkaido (northern island of Japan), NGO groups and fishery associations started to express their concerns of oil spill and environmental harmful influences. These are mostly depending on the site specialties of Sakhalin and the Sea of Okhotsk; weather conditions are thought to be more 'inhospitable' than many other places where oil companies have ever tried drilling with unique combination of ice-covered waters called '*Ryuhyo*'.

Beside natural conditions, the Sea of Okhotsk and off the coast of Sakhalin is one of the most productive fisheries in the world; they actually provide over 60% of Russian total annual catch. The fishing industry dominates local economy of Sakhalin, employing over 50,000 of the island's 700,000 residents (Newell, 2004). This 'fisheries condition' is also true to the side of Japan. According to the Hokkaido Educational Fishery Union, total fish catch along the coastline of the Sea of Okhotsk, from Wakkanai to Shiretoko, is more than four times as much as whole coastline of the Sea of Japan. The annual total sum is close to 300 billion JPY (1,400 million USD) and this only represents the economic benefit of primary fish production. The direct income from the fishery sustains numerous seafood fabricating companies and thus the total income that also includes the companion industries should be twice or more that of the fishery itself. Just like Sakhalin Island, the Hokkaido local economy is strictly underpinned by the fishery of the Sea of Okhotsk.

SPILL RESPONSE SYSTEMS OF RUSSIA, KOREA AND JAPAN

For facing tier-3 oil spill, international cooperation has to be indispensable. As of the moment, neighbor countries of Sakhalin such as Korea, China, Japan and Russia have joined North-West Pacific Action Plan (NOWPAP) but they do not have a comprehensive agreement for spill response. There are should be some disincentives but the differences of each country's legal basis for spill response and preparedness have to be pointed out as one the major factors.

Case of Russia

Initial response for oil spill will be executed by two different organizations: in a case of off-shore, Sakhalin Basin Emergency Salvage Department (SakhBASU) will respond, meanwhile, a case of on-shore, Department of Civil Defense and Emergency Situation (DCDES) will have responsibilities. Russian National Committee of Environmental Protection is responsible for environmental monitoring and damage assessment for oil pollution. This committee was under the authorities of federal government, but on April 1, 2000, it has moved to the Ministry of Natural Resources. This ministry has responsibilities for monitoring overall marine environment and its protection, but they do not have any direct responsibilities for 'oil spill response' and preparedness (Murakami, 2003).

Both Sakhalin-1 and Sakhalin-2 projects have been developed under Production Shearing Agreements (PSA); the Russian law for the PSA was enacted as of December 1995. This law regulates the relationship between the government and investors during the exploration and production of mineral resources and it also contains the provisions for environmental protection. But the actual PSA agreements between project participants of Sakhlin-1 and Sakhalin-2 and the Russian Federation were concluded prior to the enactment of Russian PSA law. And then, these agreements are thought to lie outside today's normal Russian legal framework (Wilson, 2004).

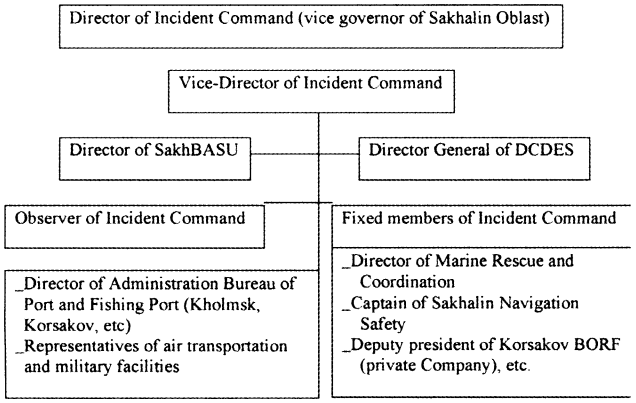

FIGURE 1. INCIDENT COMMAND SYSTEM SET UP BY RUSSIAN GOVERNMENTAL FOR SAKHALIN-2

Concerning with the spill response, dispersant application guidelines should be a typical problem derived from the social confusion of changing the regime from Soviet Union to Russia Federation. Regulations for three types of Russian dispersants such as OM-6, OM-8, COREXIT 9527 came into effect in January 1987 while Soviet Union's regime, and Sakhalin-2 project automatically employed this regulation. This means, these there types of dispersants would be used regardless of any physical and chemical character of spilled oil.

Local and international NGOs in Sakhalin and Japan have been pointing out that the deployment of environmental protection measures such as Environmental Sensitivity Index Maps (ESI maps) and impact assessment researches always delay comparing with the rapid pace of the construction of production facilities. These problems are also true to the delay of the establishment of relating laws and regulations under new Russian regime (Murakami, 2003).

Case of Korea

Before the Korean biggest oil spill of 'Sea Prince' in 1995, responsibilities of oil spill had been distributed among Marine Transport Bureau, prefecture and local governments and National Marine Police Agency (NMPA) (Lee, 1997). Under these situations, as many as five hundred ships were engaged in oil recovery per one day; their collection performance was remained very poor because of a lack of unified incident command system (Lee, 2001). Reflecting the lessons of the accident, Korea has started to change their Marine Pollution Prevention Law from November 1998. Their main revisions should be summarized as to centralize response authorities and responsibilities into the hands of on-scene coordinators like United States and United Kingdom. Main characteristics except for the on-scene coordination should be:

1) accidents are classified into three levels of tiers with regard to the anticipated spill volume, and tier based approaches are applied to the actual spill response and response planning;
2) scientific support coordinators' (SSCs) group has been organized by the central government to support the on-scene coordinator for effective spill response.

To focus on the legal basis, Korean laws for disaster have introduced a unique system. There are two types of Korean laws for disaster prevention and management; one is for the 'natural disaster' such as earthquake and flood and the other is for the 'human originated disaster' such as fire, explosion and large scale environmental pollution accident. They are based on the provision of 'Human Disaster Management Law' (Korean law No. 5982). According to this definition, oil pollution prevention and response have to be regulated by this Human Disaster Management Law, but this law does not contain explicit statements for spill response. Moreover, Korea has already established both National Contingency Plan (NCP) and Regional Contingency Plans (RCPs) but neither Human Disaster Management Law nor Marine Pollution Prevention Law does not require preparing these plans but to regulate to prepare emergency plans for marine facilities and vessels. Mok (1999) points out that provisions for legal basis of establishment of contingency plans (both national and regional) have to be put on Marine Pollution Prevention Law, and responsibility for establishment has to be regulated in Human Disaster Management Law.

It is certain that Korean legal basis for oil spill response contains a little defectiveness and confusion but it could be concluded that they have already established sufficient functional approaches for spill response. Figure 2 shows the system for the incident command which will be organized for tier-2 or 3 spill responses.

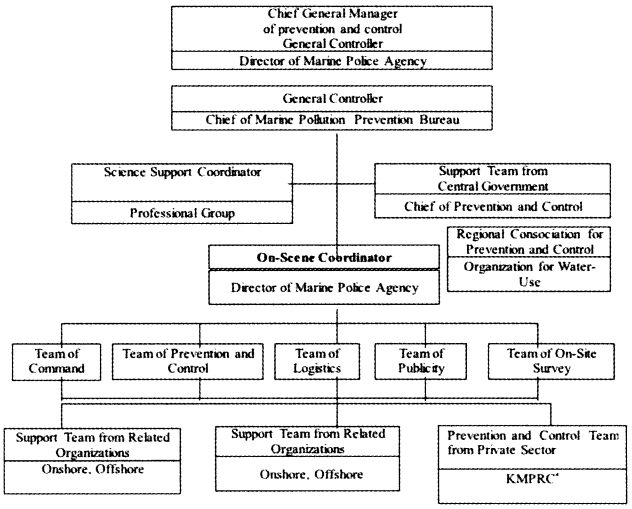

FIGURE 2. SPILL CONTROL SYSTEM OF KOREA (BASED ON NATIONAL CONTINGENCY PLAN)

Case of Japan

On January 2, 1997, Japanese people faced a big scale oil spill by the Russian tanker Nakhodka navigating from Shanghai to Petropavlovsk-Kamchatski in the Sea of Japan (East Sea). At that time, the tanker was carrying 19,221 kiloliters of heavy C oil and according to Sao (1998), 8,660 kL was spilled into the ocean. By this accident, oil affected more than 1,300 km of shoreline including over 9 prefectures and 88 cities and towns. At the time, Japanese National Contingency Plans and laws did not assume that oil spill happened outside the Japan waters, then so many inappropriate on-site countermeasures were done without little effective planning nor unified incident command (Sawano, 1998). Reflecting Nakhodka Spill, some provisions have been added to the laws relating to the marine pollution and natural disaster. Main points of revision should be concluded as follows:

1) The director of Japan Coast Guard (JCG) has become to be able to order spill response to the relating organizations in case of accident happened outside of Japan waters. (Chapter 41 section 2, added in 1998).
2) Director of JCG or other response directors (local governors are assumed) can make advances for spill response such as oil recovery and shoreline cleanup, then ask polluters to reimburse such costs. (Chapter 41 section 3, added in 1998).

In spite of the revision of Marine Pollution and Disaster Prevention Law, one of the principles laws for spill response, it is still disputable that Japan has introduced a reliable response system. Like the example of Korea, centralizing the magnificent authorities and power of command responsibilities into the hands of one person of on-scene-coordinator is the world trends, every Japanese new system has to say that they are against this trend. Table 1 shows groups of headquarter offices which will be temporally established for spill response based on the Chapter 6 of 'Master Plan for Disaster Prevention' (*Bousai Kihon Keikaku*). A number of 'coordination headquarters' will be set up in each district branch of JCG, only this could even illustrate the lack of ideas for the importance of 'unified' command system.

Japanese legal basis for oil spill prevention, preparedness and response are generally complicated and ambiguous. Actually, following four laws are concerning with disaster including oil spill and marine pollution.

1) Disaster Countermeasure Principle Law
2) Marine Pollution and Disaster Prevention Law
3) Petroleum Combinat Disaster Prevention Law
4) Basic Environment Law

Based on the provision of Disaster Countermeasure Principle Law, Master plan for Disaster Prevention has been enacted and chapter 6 of this plan has been added in June 1997 for oil spill response of Nakhodka. This chapter contains provisions with regard to the role of JCG and other administrative bodies for oil spill; however, it does not contain any prescriptions relating with National and Regional Contingency Plans; in other words, 'who has responsibilities or rights to command oil response' has not been regulated in any laws and regulations in Japan as of the moment.

Basic Environment Law has prescriptions for marine environment protection but it does not even contain a word of neither 'oil pollution' (*abura osen*) nor 'oil spill' (*abura ryuushutu*). In fact, Japanese government ratified OPRC 1990 Convention in May 1995, and formulated National Contingency Plan prior to most Asian countries, however, every law, regulation and plan should have to be concluded that they have no mutual correlations with each other.

CONCLUSION

FOR DEVELOPING INTERNATIONAL 'REGIONAL' COOPERATION

In March 2004, an international workshop for oil spill prevention and preparedness was held in Kanazawa Japan with participants from United Sates, Korea, Taiwan and Russia (http://ristex.seiryo.ac.jp/sympo00/). Main focused points of the workshops are as follows:

1) Improving oil spill response capacity of each country,
2) Identify Oil Spill Response resources and organizations within the NOWPAP region,

Table 1. Group of Headquarters Regulated by Master Plan for Disaster Prevention

Control Office	Place	Body	Director	Staff	Legal Basis
Emergency Counter-measure Headquarter	Tokyo (Central Gov.)	Central Gov.	Each Minister	Director General level-officers in MLIT.	Disaster Measure Basic Law Chap. 25 Sec.1
On-site Emergency Counter-measure Headquarter	On-site	Central Gov.	MLIT.	Division Chief level-offices in Central Gov.	Disaster Measure Basic Law Chap. 25 Sec.6
On-site Reporting Center	On-site	Central Gov.	Director of JCG	—	Master Plan for Disaster Prevention
Coordination Headquarter	Each Branch of JCG	—	—	—	Master Plan for Disaster Prevention
Countermeasure Headquarter	On-site	each relating company	—	—	—
Countermeasure Headquarter	On-site	Designated local . gov	—	—	Disaster Measure Basic Law Chap. 23

MLIT: Ministry of Land, Infrastructure and Transportation
JCG: Japan Coast Guard
— : Not precisely defined

3) Customs clearance for rapid migration of oil combating personnel and material,
4) Notification procedure for accidents,
5) Setting up cooperation between regional stakeholders,
6) Investigations to response plans and regulations within stakeholder countries.

To achieve these goals and set up international 'regional' co-operation framework covering the sea of Okhotsk and the Sea of Japan (East Sea), following five items have to be taken for major oil spills responses.

1) Russian and Japan could learn from the process of Korea for their establishment of legal system for spill response;
2) concerning with the Sakhalin oil and gas developing projects, Japan could start negotiations for making agreement with regard to customs clearance and notification procedure for oil spill with Russia and Korea;
3) Japan could take an initiative to set up a mechanism to encourage information disclosure on all resource development projects offshore of Sakhalin, and to ensure full implementation of environmental protection measures that include oil spill response actions including pre-boring studies because Japan is one the biggest investor for the developing projects;
4) every stakeholder country that might be affected by accidents not only caused by the oil and gas production facilities but also tanker transportation should develop emergency response plans which contain provisions of international cooperation under the schemes of North-West Pacific Action (NOWPAP) or Asian Pacific Economic Co-operation (AEPC). APEC scheme is important for considering involvement of Taiwan because Taiwan is outside of the United Nations;
5) Russia and Japan could enhance opportunities to train personnel for organizing scientific support coordinators and initiate official contacts with experts in countries that already have such systems.

ACKNOWLEDGEMENT

This research has been supported "Study on Development for Oil Spill Crisis Manage System" promoted by "Social Technology" research projects of Japan Science and Technology Agency (JST). The author would like to express sincere thanks to related people and parties.

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BIOGRAPHY

Prof. Sawano has been engaging in oil spill studies since 1997 and has been a member of national ESI project of Japan Coast Guard. He is also a committee member of environmental safety for national stock piles of petroleum. In September 2004, he visited Sakhalin to observe present status oil and gas production facilities. Twenty-two points, plus triple-word-score, plus fifty points for using all my letters. Game's over. I'm outta here.