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Assessment of Proposals Related to Oil Spill Risk for the South Coast of Newfoundland

**Transport Canada
and
Canadian Coast Guard**

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Canada

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Table of Contents

Background.....	1
Prevention	
1. Line of Control.....	3
2. Vessel Traffic Station in Argentina	4
3. Vessel Location Instrumentation	5
4. Use of Double Hulls.....	6
5. Aerial Surveillance Program.....	7
6. Enforcement of Controls.....	8
7. Additional Radar Monitoring.....	9
8. Pilotage for Long Harbour	10
9. Escort and Rescue Tugs	11
Response	
10. Designation of Places of Refuge.....	12
11. Location of Response Equipment	13
12. Additional Response Capability	15
13. Response Time Standards	15
14. Designation of Waste Handling Sites	16
15. Bird Rescue and Rehabilitation	17
16. Testing of Equipment Cascading	18
17. Training of Fishermen for First Response	20
18. First Responder Equipment.....	21
Research	
19. Research on Ecosystem Effects	22
20. Research on Response Priorities.....	23
21. Representative Oil Spill Scenarios.....	24
22. Emergency Management Plan	25
General	
23. Independent Oversight Committee	26
24. Consultations with Pilots	27
25. Occurrence of Mystery Spills and Bilge Dumps	28

Background

In 2006, Transport Canada (TC) and the Fisheries and Oceans Canada (DFO) (Coast Guard) commissioned a study to quantify the present and future risks of oil pollution in Canadian waters off the south coast of Newfoundland due to marine traffic transiting this area. The study area included but was not limited to Placentia Bay. The approach of the study included assessing both of the key components of risk: the probability of an oil spill occurring and the consequences of the spill should it occur.

The risk study included the following key elements:

- Stakeholder Consultation: relevant organizations and the general public were consulted for their concerns on spill risks in the region;
- Oil Spill Frequency: the likelihood of oil spills within the area was estimated based on historical spill rates and the level of marine traffic within the area;
- Environmental Impact Assessment: the potential effect of oil spills was estimated for key species;
- Economic Impact Assessment: the potential economic consequences of various spill scenarios were estimated;
- Risk Results and Conclusion: the elements of probability and consequence were combined to produce an estimate of the overall risk in the region; and
- Area Specific Factors and Future Trends: potential changes in marine activity over the next 10 years were estimated to assess the likelihood of changes in the spill frequency estimations.

The consultation process was held over the period of June to September 2006, and included: Transport Canada, Fisheries and Oceans Canada / Canadian Coast Guard, Government of Newfoundland and Labrador Department of Environment and Conservation, Environment Canada, and the Regional Advisory Council (RAC), and was open to citizens and organizations in local communities that could be financially harmed by a spill.

One of the key findings of the risk assessment project indicates that the most probable area for a spill is in inner Placentia Bay and a spill in the range of up to 10,000 barrels or 1,590 tonnes is estimated to occur once every 27 to 33 years there. Compared with previous national studies and analysis, this risk has decreased over the years, primarily due to increased preventative measures that have been implemented, including the phase-in of double-hulled tankers, the requirement to have contracts with response organizations and increased monitoring and inspections. The findings also note that while Placentia Bay may be among the busiest ports in Canadian terms, the vessel traffic density is low relative to other areas of the world.

In September 2007, a condensed version of the report was circulated among the above stakeholders and comments solicited on the conclusions and on possible changes to the prevention and response regime. As a result, local and regional interests in the area made some 25 proposals. The following paper is intended to provide background discussion for each proposal and where applicable, a description of the status quo, and a rationale for implementing, or not implementing the proposal in whole or in part. The proposals are grouped into four broad categories of: Prevention, Response, Research, and General. It is intended to use this discussion

paper as a background document for a working group of TC and DFO staff who are tasked with further investigating the feasibility of each proposal.

Prevention

1. Line of Control

Proposal: Tankers entering Placentia Bay are presently permitted to travel no further north than 47°N unless arrangements have been made for pilotage. It is now proposed to move the line of control further south, to approximately 46.5°N, essentially a line across the mouth of Placentia Bay.

The purpose of the “line of control” is to ensure incoming tankers remain in waters that are relatively unrestricted, uncongested, and free of navigational hazards until such time as a pilot is available and the weather and sea conditions are such that the incoming journey can be safely completed. If a pilot is unavailable, or the weather is severe, incoming tankers essentially remain in a holding pattern south of the line of control until arrangements for pilotage are established. Note that there are no rigorous criteria for allowing tanker passage, rather, it is at the discretion of the duty pilot based on wind speed and swell direction and height. The generally agreed limit is 3-metre sea, and 35 knots wind.

The original line of control was to a position near Red Island (approximately 47.5°N), which is where the pilots board incoming vessels. In 2004 the line was moved south to 47°N. The thinking was that this would allow vessels more room for maneuvering and a greater factor for safety in inclement weather or should a vessel become disabled.

The current proposal would extend this line of control even further south, essentially to the mouth of Placentia Bay. This change could likely be implemented without much difficulty as it does not add an unreasonable burden on industry and would seem to offer some potential benefits. There are no known downsides to the proposal, but this should be confirmed through discussions with the Placentia Bay Traffic Committee. Note that this will not change the location for the pilot actually boarding the vessel; this will remain at Red Island.

Finally, it should be noted that the “line of control” and system of traffic lanes are not mandatory, however, there is near full compliance among tankers transiting the Bay. One container ship operator in particular does not comply, and this issue is addressed later in Item #6, Enforcement of Controls.

Action required:

TC agrees with this recommendation and will move line of control to the mouth of Placentia Bay.

2. Vessel Traffic Station in Argentina

Proposal: A vessel traffic station should be established in Argentina for monitoring and emergency response.

Monitoring: There is currently a VTS station in Argentina.

Emergency Response: The proposal to have an emergency response centre in Argentina is discussed in detail in Item 11, Location of Response Equipment.

Action required:

The Argentina waterway defined under the Placentia Bay VTS Zone. MCTS Centre Placentia regulates vessel traffic within or intending to enter Placentia Bay VTS Zone. Vessel movements are monitored through direct VHS radio communications, shore-based radar equipment and the Automated Identification System (AIS) which will be operational in March 2010. Currently, action is taken when appropriate to ensure a safe and orderly flow of marine traffic.

3. Vessel Location Instrumentation

Proposal: All vessels should be equipped with at least minimal technical instruments for location and communication.

All tankers transiting Placentia Bay presently use Automatic Identification Systems (AIS), according to information from Atlantic Pilotage Authority pilots. This has in fact been an international requirement under International Maritime Organization (IMO) regulations: for tankers since 2003, and for all vessels greater than 300 tonnes engaged in international voyages since 2002.

Public awareness should include an understanding of the traffic lane system in the Bay, and that radio equipment should be basic equipment for all fishing vessels working in and around the lanes. This will allow notification of tanker movements to fishing vessels that are in the area.

Action required:

CCG to continue to provide traffic and waterway information via VHF radio frequencies to announce tanker transits within the Bay.

TC and CCG to include in a public information document: description of traffic lane system, importance of fishing vessels being equipped with radio equipment, and specification of radio channels that are used for announcements and warnings.

4. Use of Double Hulls

Proposal: All tank-vessels transiting Placentia Bay should be double-hull rather than single-hull.

The issue of single-hull versus double-hulls for tank vessels is governed by international agreement, of which Canada is a party, under the International Maritime Organization (IMO). In 1992, regulations were established to phase out the use of single-hull tankers; essentially, all tankers would have to be converted or taken out of service when they reached a certain age (up to 30 years old). The measure was phased in over a number of years because shipyard capacity is limited and it was felt that it would be impossible to convert all single-hulled tankers to double hulls without causing immense disruption to world trade and industry.

Following the *Erika* incident off France in 1999, an accelerated phase-out program was adopted. The new stricter timetable has different schedules for different classes of vessels: for the large crude-oil tankers transiting Placentia Bay the phase-out date was brought forward from 2015 to 2010. For smaller tankers, the phase-in period ranges up to the end of 2014 depending on the size and age of the vessel. During the phase-in period, all single-hull tankers are subject to an enhanced inspection program according to guidelines developed by the IMO.

As to the traffic in Placentia Bay, tankers using the IMTT facility have always been double-hulled as a matter of IMTT policy. The Come-By-Chance refinery has, since 2003, had approximately 25 single-hull vessels visit out of a total of 2892 vessels.

Action required:

TC will continue to perform regular inspections to ensure compliance with the regulated phase-in of double-hull tankers.

5. Aerial Surveillance Program

Proposal: Transport Canada's aerial surveillance of vessels and oil handling facilities is commended, and should be continued and increased.

The National Aerial Surveillance Program (NASP) is a viable and highly regarded program, initiated in large part by the series of bird kills from mystery spills off the south coast of Newfoundland in the 1990's.

As the lead department responsible for preventing pollution from ships, TC has enhanced the NASP by increasing the amount of surveillance hours over all waters under Canadian jurisdiction, including the Arctic, and by improving the surveillance capability on each patrol aircraft. By increasing the productivity of the NASP, TC is sending a strong message to the international marine community that our marine environment is a precious and valuable resource. TC will continue to make significant efforts to reduce the adverse effects of shipping on our oceans.

Fiscal Year (FY) 2007/08 was a record year in terms of hours flown for the NASP, as 2,578 hours were conducted. In Newfoundland alone, 794 hours of patrol were recorded, a 70% increase over 2006/07 and a more than doubling compared with 2005/06. The number of vessels overflown had a similar increase: in 2007/08 a total of 2082 vessels were sighted, also more than doubling the figures of those captured 2005/06.

During 2007/08, approximately 13,038 vessels were inspected (visually or by remote sensors), and 153 marine pollution incidents were detected. Of the 153 marine pollution incidents detected, 138 were classified as mystery spills, where no known source could be identified. The 15 remaining spills were reported as having originated from a ship. It was estimated that the NASP crews detected approximately 3130 litres of oil on the ocean surface during the 2,578 hours of patrol. The increase in the number of spills detected last year was likely attributed to the increase in flying hours and better capabilities of detecting smaller quantities of spills. For example, the flying hours in 2007/08 were almost double those flown in previous years. The total volume of oil spills detected showed no increase over previous years; however, statistics indicate that the increased number of sightings was related to increased detection of small spills.

Overall, TC believes the program is acting as a deterrent as the number of offshore spills and the numbers of oiled bird sightings are declining.

The NASP continues to be a viable program, and has a budgetary commitment that has increased from \$1.8M to approximately \$6M for FY 2011/12.

Action required:

TC continues to support the NASP and refine it where needed in a continued effort to reduce illegal discharges to the greatest extent possible.

6. Enforcement of Controls

Proposal: Established controls within Placentia Bay should be stringently enforced.

As noted in Item #1, Line of Control, the traffic scheme in the Bay is not mandatory, however, there is near full compliance among tankers. One particular container vessel company does not respect the voluntary traffic scheme in Placentia Bay. As a result, there is a perceived increased risk to the vessel itself, as well as an increased navigational risk to fishing vessels in the area.

Aside from this one company, compliance with the traffic controls within the Bay has been exceptional.

It is recommended that this issue be raised with the offending company directly to encourage compliance.

Action required:

TC Regional staff has addressed this concern directly with the company in question and they have agreed to respect the traffic scheme.

TC continues to monitor the situation.

7. Additional Radar Monitoring

Proposal: Radar monitoring capabilities should be established from Burin west.

Presently, radar coverage extends to all portions of Placentia Bay through which tanker traffic passes. Three stations along the eastern shore of Placentia Bay provide radar coverage: at Cuslet (near Cape St. Mary's), Pearce Peak (near Argentia), and Arnold's Cove. Radar coverage extends across the entire width of the Bay from Come By Chance to Red Island (approximately the northern half of Placentia Bay) and to mid-way across the Bay south of Red Island. Coverage includes the entirety of the traffic lanes from Cape St. Mary's at the entrance to Placentia Bay, northwards to Come By Chance.

This proposal suggests that the radar coverage should be extended westward to cover the western shore in the southern half of Placentia Bay, i.e., in the vicinity of St. Lawrence, Burin, and Marystown.

However, it should be noted that this area will be covered by the new Automatic Identification System (AIS). This new vessel movement monitoring tool should provide an enhanced common operating picture for the area. This proposal will be revisited if traffic were to increase as a result of industrial developments in Marystown or elsewhere in the vicinity and the AIS surveillance tool proves to be inadequate.

Action required:

CCG will monitor developments in the area and will revisit the issue if warranted by an increase in traffic.

8. Pilotage for Long Harbour

Proposal: Introduce pilotage for the part of the bay extending to Long Harbour.

Presently, compulsory piloting exists only for vessels transiting the waters north of Red Island, approximately 47.5°N (see Item #1, Line of Control). With the potential for increased traffic in and around Long Harbour related to the Vale Inco (VINL) nickel-processing development, a plan for compulsory pilotage area has been formulated in conjunction with the Atlantic Pilotage Authority (APA).

Action required:

Currently, commercial vessels calling at Long Harbour request pilots, although it is not compulsory for them to do so.

The *Atlantic Pilotage Authority Regulations* have been amended and will come into force the end of April. The amendment to the Placentia Bay Compulsory Pilotage Area will ensure that the vessels calling at the proposed nickel-receiving terminal at Long Harbour, Placentia Bay, Newfoundland and Labrador, will have pilots on board.

9. Escort and Rescue Tugs

Proposal: An ocean-going escort and rescue tug (with at least 10,000 horse power) should be available year round to respond in the event of a tanker incident inside Placentia Bay or within 30 to 40 miles of the approach to the Bay.

The present situation is that a tug escort is provided for all laden tankers bound for the Come-By-Chance Refinery or the Whiffen Head Transshipment Terminal (IMTT). (For the Terminal, a tug escort is also provided for the outbound transit, the tug remaining with the vessel until it clears Red Island Shoals, 47°06'N.) It should be noted that the tug does not simply follow in the vicinity of the tanker; the tug is actively secured to the tanker while it is underway.

To provide this capability, there are presently four tugs stationed at the head of Placentia Bay. They each have a rating of 5000 HP, and are on continuous stand-by 24 hours a day, seven days a week. When not actively escorting a tanker they would be available for emergency operations within the Bay.

As noted previously, tankers do not pass the line of control until arrangements have been made for a pilot, which means that the weather and sea conditions are within the limits for safe operation of the tanker and of the tug escort.

The use of escort tugs within Placentia Bay is a good example of good industry practice not requiring additional regulation. The close proximity of tugs at the head of Placentia Bay and their horsepower capabilities are currently sufficient to deal with emergencies within the Bay.

Action required:

No further action required.

Response

10. Designation of Places of Refuge

Proposal: Designated places of refuge for tankers in distress must be established.

In the aftermath of the *Prestige* incident in 2002, there has been a growing recognition worldwide of the importance of designating places of refuge (POR). It is important to distinguish “places of refuge” from “ports of refuge”, the latter referring to a sheltered area where a vessel may wait out a storm, or effect repairs if required. “Places of refuge” refers to areas where a stricken tanker could be anchored or beached to reduce the severity of a pollution incident. The general intent is to identify, prior to an incident, areas that are of relatively low sensitivity or that can be used to contain an oil release such that the area affected by the release is minimized.

Guidelines on how to designate POR’s, pre-spill or during an incident, usually entails documentation of the physical characteristics of potential sites, documentation of their potential sensitivities, and access to spill behaviour and trajectory information. There is a general reluctance to actually designate specific areas as POR’s prior to an incident for reasons that include:

- There are too many variables involved in a tanker incident that would affect POR designation that pre-spill designation would be meaningless. For example, proximity to the stricken vessel, availability of towing assistance, and seasonal variations in local environmental sensitivities are all key factors in site designation.
- The sheer number of potential sites that would need to be evaluated in a given area would make it an unmanageable exercise.

Rather than designating specific sites prior to a spill the preferred approach is to ensure that the required information is available at the time of an incident and that a process is in place to effectively manage various stakeholder inputs. The basic procedures are laid out in the Atlantic Region Places of Refuge Contingency Plan (Transport Canada, PORCP ATL) and the National Places of Refuge Contingency Plan.

It is important that the procedure for site designation be practiced prior to a spill in an exercise or workshop setting to ensure that all required information can be made available on a timely basis and to adapt and refine the decision-making process in a non-emergency setting.

Action required:

TC, with CCG involvement, will commit to including use of the Places of Refuge Contingency Plan in upcoming exercises.

11. Location of Response Equipment

Proposal: Response capabilities for any such emergency be moved into Placentia Bay at a central location closer to risk than the current deployment ability in St. John's.

The proposal is clear in its goal of relocating response equipment from its primary location in Mt. Pearl to a location in Placentia Bay. The thinking is that this would drastically shorten the response time in the event of a spill and would presumably lead to a more effective response.

The rationale for locating the equipment in Mt. Pearl, on the southwest outskirts of St. John's is that the equipment is readily available to all locations within Newfoundland with tractors for moving equipment are readily available.

- Equipment can be easily moved by air through a major airport if needed in a cascading response in other parts of Canada;
- Other industrial infrastructure for equipment maintenance and repair is readily available.

None of these advantages would apply if the equipment were to be stationed at a location in Placentia Bay.

It should also be noted that the response structure, as currently in place, is well within the response regime time standards that apply to all Primary Areas of Response (PAR's) within Canada. The intention is to provide a tiered response structure with an on-site capability for initial spill containment, with skimming, storage, and beach-cleaning equipment brought in from centrally-located depots.

The tiered approach in Placentia Bay starts with an on-site initial response capability, as part of the requirements of the Oil Handling Facility regulations, and equipment is located dock-side at Come-By-Chance and Whiffen Head for this purpose. Additional equipment from Mt. Pearl is used to meet Tier 1 and 2, and cascading of equipment from Response Organizations (RO's) outside Newfoundland to meet Tier 3 and Tier 4 requirements according to the following schedule.

Tiered Response Capability Standards

Tier	Rated response capability	Response Time
1	150 tonnes	6 hours
2	1,000 tonnes	12 hours
3	2,500 tonnes	18 hours
4	10,000 tonnes	72 hours

An alternative that might be considered would be to locate a small cache of equipment in Placentia Bay to shorten response times. Indeed, Eastern Canada Response Corporation (ECRC) presently does this to some extent by locating containment booms and one storage barge at the IMTT facility in Whiffen Head. The barge, in particular, provides an on-site capability of equipment not so easily moved by road. However, the general experience of both ECRC and CCG in locating small equipment depots in isolated locations has not been favourable. Problems with such an approach include equipment not being in good repair when needed, vandalism,

theft, rodent infestation, and not being readily available for response to other locations within the area of responsibility.

Action required:

Coincident with the assignment of the CCGS Louis St. Laurent to the Newfoundland Region, and the intent to locate the vessel in Argentina, the CCG is considering positioning a quantity of response equipment to this location. Similar caches of response equipment are currently located at other sites in the region where the CCG maintains a facility.

12. Additional Response Capability

Proposal: An additional 2500 tonnes of rapid deployment response equipment should be added in strategic locations in Placentia Bay. These locations should be determined through further study of sensitive areas and likely spill trajectory scenarios.

13. Response Time Standards

Proposal: The response time standards set by Transport Canada should be cut in half for all spill categories. To illustrate, for a Tier 4 spill in the Geographic Area of Response (GAR), the response time standard should be 41 hours as opposed to the current 82-hour standard. The Regional Advisory Council (RAC) recommends Transport Canada review and consider response standards similar to those imposed by Norwegian responsible authorities.

The current response regime was established through a negotiated process with response capacity and time standards set through a combination of what was needed for an effective spill response and what could reasonably be achieved given the infrastructure base in potentially affected areas.

The response capacity and time standards could be included in a broader review of the Canadian response regime, but at present, no change to the current response time standards seems warranted. It is also important to note that any review of the Canadian response regime must be done on a national basis, comparing response capacities and response times in the context of comparable spill risk.

Action required:

TC is satisfied that the current RO equipment capabilities and response time standards are being met.

14. Designation of Waste Handling Sites

Proposal: There is an immediate requirement for Provincial responsible authorities to designate areas and capacity for handling collected oil and oiled debris from a major spill.

The province has responded to item #14 with the following information:

The province, through the NL Department of Environment & Conservation (NL DEC), recognizes this as an important issue and has identified a number of sites in the province on a preliminary basis for temporary storage and disposal of oil spill wastes. In general, these have been pre-selected based on their previous use as waste-handling sites, or their proximity to similar industrial activity.

Prior to any of these or other sites being used for oil spill waste disposal, significant work will be required to determine their suitability. This may include hydrogeological testing, soil permeability testing, and other environmental baseline information. This work has been identified as a necessary work item and will be followed through by NL DEC.

A Working Group on Marine Oily Waste Management has been formed by the Atlantic Regional Environmental Emergencies Team (REET), including the four Atlantic Provinces and Environment Canada, to work on standards and guidelines for marine oily waste handling treatment and disposal. The focus is to develop guidance materials on oily waste management that can be adopted on a regional basis. The guidance documents would provide the basis for a coordinated, comprehensive, planning approach for developing plans for large marine oil spill events that meets all requirements of provincial legislation/regulations, and provides for efficient and effective decision-making by responsible parties and response organizations.

(http://www.on.ec.gc.ca/pollution/ecnps/contaminassist_e.html).

Action required:

The planning, evaluation, and initial site selection for areas to be used for storage, handling, and disposal of oily wastes generated in an oil spill cleanup operation will be completed over the next couple of years.

15. Bird Rescue and Rehabilitation

Proposal: Local bird rescue and rehabilitation capacity must be increased and this local capacity must be used first in oil pollution cases. Placentia Bay is a safe haven for many species of seabirds and effective local response capacity will be a necessity in the event of a spill.

Contingency plans for both government and industry are based on the principle of mobilizing equipment and materials for rescue and rehabilitation at the time of a spill, if warranted. It is felt that this can be done effectively at the time of a spill, rather than establishing a rehabilitation capacity on a pre-spill basis. Clearly the planning elements must be in place within the applicable area and national contingency plans, and this will be confirmed.

In particular, advice on bird rescue and rehabilitation will be taken from Environment Canada, Canadian Wildlife Service (CWS), whose procedures are detailed in their Oil Spill Response Plan.

Action required:

TC and CCG will confirm that bird rescue and rehabilitation is adequately addressed in their own and industry's area and national contingency plans.

The CWS will take the lead in providing advice on bird rehabilitation and other wildlife issues.

16. Testing of Equipment Cascading

Proposal: The capability of ECRC to cascade equipment should be tested under conditions as realistic as is possible. This should include the capability to obtain the required amount of equipment from other provinces in all weather and in all Gulf of St. Lawrence ice conditions within the stated time limits, and should be confirmed in an unplanned test.

ECRC is required under current regulations to conduct exercises on an annual basis to simulate management and operational aspects of their contingency plans. As part of these exercises it is a requirement that they demonstrate the capability to deliver equipment from other response depots, aka cascading, to meet their tiered response capability. The demonstration of cascading does not necessarily mean that the equipment must be physically delivered as part of the exercise, but some ability to contact and arrange logistical requirements must be demonstrated. Nonetheless, as part of a major exercise in March 2008, a Current Buster oil recovery system was moved from Quebec City to Dartmouth for deployment to demonstrate the cascading ability. Other examples of equipment cascading by ECRC in actual spill incidents include:

- In 1998, four sea trucks, a GT-185, boom, bird scaring buoys, and a 50-tonne barge were moved from Sept-Iles and Quebec City to Havre St. Pierre.
- In 2005, 20,000 ft of 18-inch boom was air lifted from Montreal to Edmonton/Wabamun, AB plus three sea trucks from Sarnia and Montreal and a belt skimmer from Montreal by road. A boom trailer was moved from Dartmouth to Montreal to backfill the boom requirements at Montreal.
- In 2006, two sea trucks were moved by road to Wabamun from Montreal and Sarnia along with an 18ft workboat, two rock washers, porta-tanks, and miscellaneous pumps.
- In 2007, two sea trucks and a small work boat were moved from Sarnia to Wabamun.

The concern expressed in the above proposal seems to relate specifically to the ability to deliver equipment to Newfoundland under all conditions. It must be accepted that the response time standards and tiered capability were established for planning purposes rather than as performance measurements. It must also be accepted that the delivery and use of equipment in an exercise or actual incident will be subject to weather limitations. It would seem to be of questionable value to actually deliver equipment by truck or ferry as part of an exercise in order to simulate a routine part of the ECRC's operation.

It should also be noted that the amount of equipment stationed in Newfoundland by ECRC is somewhat greater than that maintained by other major Response Organizations (RO's) across Canada, in recognition of the fact that there may be more logistical difficulties in delivering equipment to Newfoundland from mainland depots.

Nonetheless, TC audits the capabilities of Response Organizations through the National Exercise Program, and will consider the use of unscheduled exercises if deemed necessary.

Action required:

TC will continue regular audits of RO capabilities by various means, including the National Exercise Program and unscheduled exercises (if deemed necessary).

ECRC is scheduled to have a Tier 4 exercise in 2010 and has offered to make this a community involved exercise.

17. Training of Fishermen for First Response

Proposal: Provide funding for community-based training of local fishermen.

A program was initiated by One Ocean in 2005 to train 500 fisheries workers in 15 communities. The major objective of the project was to enhance understanding of oil spill countermeasures at a community level. Due to the funding restrictions, One Ocean has not been able to deliver the training program as scheduled. They have a specific request for \$500k funding to train 500 first responders. (They actually refer to unused funds in the Ship-Source Oil Pollution Fund (SOPF) as a potential source.)

CCG has run similar programs in the past but they have been discontinued over concerns of safety and liability of non-CCG personnel being involved in a response.

ECRC maintains a roster of 120 personnel within the province who could be contracted in the event of a spill response. These personnel include local contractors and fishermen who have been trained in ECRC procedures and with ECRC equipment. They do not, however, train a volunteer force for similar safety and liability issues.

Action required:

CCG continues to provide guidance to local authorities on spill issues and concerns, but does not support a volunteer work force in a spill response for safety and liability issues.

18. First Responder Equipment

Proposal: Financial incentives should be available to encourage fishers and aquaculture farmers to acquire first responder kits.

The concept would involve marrying local knowledge and expertise with first-responder equipment. It is expected that this would be limited to a narrow range of tasks such as initial spill containment, protection of aquaculture sites, and possible shoreline protection. Periodic training (annual exercise or refresher course) would ensure knowledge retention and provide opportunity for equipment inspection and maintenance.

A similar program was attempted in the mid-1990s in CCG Maritimes Region. Known as the Community Action Partnership Program (CAPP), it was to generate “self help” with community preparation, and included training and exercising of volunteers from local municipalities. Participants were included in CCG area contingency plans and in the contingency plan of Atlantic Emergency Response Team (ALERT), the spill Response Organization (RO) for facilities in and around Saint John and the Bay of Fundy. The program died due to a lack of funding to support equipment acquisition.

CCG does not support the concept of funding equipment acquisition by local authorities for reasons that include: initial capital costs, ongoing maintenance, and safety and liability issues with non-CCG responders.

Action required:

CCG continues to provide guidance to local authorities on spill issues and concerns. CCG will not provide financial support for first responder kits.

Research

19. Research on Ecosystem Effects

Proposal: Additional research is required to assess potential effects on south coast ecosystems, specifically:

- *Regular, systematic, long-term observation at the breeding and wintering sites of bird and animal species (e.g., areas such as Cape St. Mary's and Lawn Islands)*
- *Continued beached bird surveys and long-term tracking studies along the Cape Shore and elsewhere in the primary risk areas*
- *Independent research on species where data is currently lacking (the assessment indicates there is insufficient knowledge on, for example, caplin, lobster, otters, turtles and various bird species on pages 184-191).*
- *Assessment of cumulative effects in the region and the region's limits to capacity.*

The Canadian Wildlife Service (Environment Canada) performs these functions, and is active in conducting their own surveys as well as providing guidance and auditing of industry-sponsored surveys. They believe that there is sufficient data on important species to do a credible risk assessment and overall damage assessment in the event of a spill.

Action required:

Environment Canada will continue to conduct surveys (within their mandate) of potentially affected species and their habitats, and will continue to assist industry and local interests in performing their own surveys.

20. Research on Response Priorities

Proposal: Research is required on how response efforts should be prioritized in Placentia Bay. This would allow responders to target key areas first in the case of a spill, such as fragile ecosystems and aquaculture sites. This research will also support decisions made with respect to the placement of rapid response equipment.

Sensitivity information has been compiled by Environment Canada and is part of both CCG's and ECRC's area contingency plans. The information is quite extensive, and includes data on shore type, wildlife, fisheries, and human use.

The data is available in a computer-based application, such that users can load it onto laptop computers for use in their office or at the spill scene. The data is regularly updated as additional sensitivity information is provided. The system has been used in actual spill incidents and is used regularly in training programs and exercises.

Action required:

EC will continue to maintain and update the sensitivity databases as appropriate. CCG, TC, and ECRC will continue to use the information contained within the system for training, exercises, and responses.

21. Representative Oil Spill Scenarios

Proposal: The accuracy of trajectory modeling should be quantified for spills in the region.

State-of-the-art models exist and are available through both Environment Canada, as part of the REET function, and through ECRC as a contracted service. Significant trajectory modeling studies have been done for Placentia Bay as part of previous Environmental Assessments and TERMPOL submissions.

The use of trajectory modeling in the risk assessment study was simply to create a representative oiling situation for quantitative analysis of effects, and therefore costs.

For the purposes of spill effect assessment, modeling within Placentia Bay should not be particularly challenging. The relatively tight boundaries mean that oil will be deposited on shorelines fairly quickly, and the predominantly bedrock shorelines mean that oil will likely smear along the shore. The extent of oiling will depend on the size of the spill and on local conditions that exist at the time of the spill.

Action required:

TC and CCG to use Environment Canada expertise in this area in future planning, and particularly in exercises, workshops, and responses.

22. Emergency Management Plan

Proposal: An emergency management plan for Placentia Bay be developed and include prevention, preparedness, response, mitigation, and recovery.

Prevention measures do not exist as a defined plan, but cover a range of issues that are approved in the context of an Environmental Assessment submission or a TERMPOLE review. In particular, procedures such as the tug escort system and the tanker vetting process have been significant in producing the good spill record in Placentia Bay and across Canada..

There are a range of plans to cover preparedness and response. Industry plans are reviewed regularly as part of the RO certification process. These plans are also tested regularly as part of the National Exercise Program.

CCG has a Draft National Response Plan that identifies how it will manage the response to a marine oil spill, including the deployment of personnel and response resources. Similarly, Transport Canada is preparing a National Preparedness Plan that will lay out the overall framework for the national preparedness capacity to combat marine oil pollution incidents in Canada

Some other plans that link with the TC and CCG plans in the event of an oil spill include:

- National Places of Refuge Contingency Plan (PORCP, Transport Canada);
- Regional Environmental Emergencies (REET) Contingency Plan;
- Oil Spill Response Plan (Canadian Wildlife Service, Environment Canada);
- ECRC's Response Organization Plan;
- Oil Handling Facilities Emergency Response Plans.

Nonetheless, there appears to be a need for a concise information document that describes the various plans that are in place, their interactions and dependencies, divisions of responsibility, and key points of contact. The document should cover all aspects of an emergency response, from vessel-in-distress to eco-system recovery. The document would be available to local interests.

Action required:

TC will produce a summary document of all applicable contingency plans with contact information for public use.

General

23. Independent Oversight Committee

Proposal: An Independent Oversight Committee should be established and provided with the fiscal and technical resources to monitor and implement the preceding plan.

The current situation in Placentia Bay includes numerous opportunities for community involvement and oversight. The main avenue for risk management issues in Placentia Bay is the Placentia Bay Traffic Committee, which has a mandate of maintaining the harmonious co-existence of various interests in the Bay. It meets semi-annually and has a regular attendance of CCG, TC, terminal and refinery staff, ECRC, pilots, and fishermen. Other potential avenues for community involvement, depending on the specific issue, include:

- Canadian Maritime Advisory Council (CMAC)
- Regional Advisory Council (RAC)
- Placentia Bay Integrated Management Planning Committee
- One Ocean

Action required:

Several issues in this review have identified the Placentia Bay Traffic Committee as a resource for consultation.

TC and CCG will continue to participate in the Placentia Bay Traffic Committee and will consult with the Committee on issues identified in this report.

24. Consultations with Pilots

Proposal: Consultations should be undertaken with pilots of vessels operating in and around Placentia Bay with regards to spill risks, the most effective prevention and response methods, and use of tugs for rescue and escort.

As part of this study, TC has consulted with the Atlantic Pilotage Authority (APA) on a number of issues related to Placentia Bay oil spill risks and will continue to do so directly as well as through the Placentia Bay Traffic Committee.

Action required:

TC continues to consult with the APA as required.

25. Occurrence of Mystery Spills and Bilge Dumps

Proposal: Documentation is needed on the number of mystery and bilge-dumping incidents versus other oil related incidents in order to measure the effectiveness of the National Aerial Surveillance Program.

During 2007-08, 138 mystery spills were detected nationwide where no known source could be identified. Of these, 12 of the mystery spills were detected in Newfoundland Region.

The 138 mystery spills in 2007-08 is an increase over past years (the number has ranged from 50 to 90 in recent years). This is likely a result of increased flying hours and increased detection of small spills. For example, the flying hours in 2007-08 were almost double those flown in previous years. The total volume of oil spills detected showed no increase over previous years indicating that the increased number of sightings was related to increased detection of small spills.

The Canadian Wildlife Service performs beach surveys in Placentia Bay and elsewhere in Newfoundland and has found that the number of oiled birds has declined significantly over the past 20 years and maybe due, at least in part, to the surveillance program.

Overall, TC believes the program is acting as a deterrent as the number of significant spills is declining and the number of oiled bird sightings has declined significantly.

Action required:

TC will continue the NASP program and the collection of spill statistics to ensure current downward trends continue and to ensure that Canadian and international laws are being respected.