

SMALL CRAFT HARBOURS
MARITIMES AND GULF REGIONS

ENVIRONMENTAL
MANAGEMENT
SYSTEM



SCH - HARBOUR AUTHORITY ENVIRONMENTAL MANAGEMENT SYSTEM

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INTRODUCTION

SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT

In 1995, the Government of Canada established a Commissioner of the Environment and Sustainable Development. As a result, Federal government departments were required to establish sustainable development strategies that are subject to audit by the Commissioner. To meet the environment component of the DFO Sustainable Development Strategy, Small Craft Harbours - Maritimes Region and Gulf Regions (SCH) has developed an **Environmental Management System (EMS)** to facilitate environmental management of its harbour properties. The EMS is a tool that provides a framework for practices, procedures and processes to manage the environmental agenda and documentation. It facilitates the communication and evaluation of environmental performance in a systematic way and provides an audit system for tracking, managing and improving environmental performance.

The SCH - EMS is intended to be a user-friendly guide to assist Harbour Authorities (HA's) in dealing with the most common and important aspects of environmental management of properties leased from SCH. The following sections are included as part of the EMS:

- Environmental Policies (SCH and HA)
- Environmental Management Plan
- Emergency Procedures
- Environmental Harbour Inspection Checklist
- Environmental Audit Report
- Appendix A – Fuel Delivery and Waste Oil Systems Guidelines
- Appendix B – Fuel Storage and Dispensing Licence
- Appendix C - General Licence

Although an EMS is a legislative requirement, it can also be shown to have many positive features which should lead to savings in time and money for the HA's, as well as limiting liabilities for their Boards of Directors. Some of the benefits of an EMS being endorsed and followed in the harbour include the following:

- It will help both SCH and HA's to protect the marine environment and provide a cleaner and healthier workplace for fishers and other harbour users;
- It will lower HA's operational costs in the event of fuel leaks, spills or other accidents impacting on the environment;
- It will become a valuable communication tool for encouraging all harbour users to follow environmentally friendly procedures;
- It will reflect the commitment by the HA's to protect the environment and therefore provide a "due diligence" defence in cases where violations or emergencies occur;
- It will exemplify a well managed public resource and help build community pride;
- For individual harbour users, it will provide clear guidance and states the conditions under which various activities can be undertaken;
- It is expected that it will lower future HA's insurance premiums.

CONCEPTS OF ENVIRONMENTAL MANAGEMENT

Sustainable Development/Resource Conservation

The concept of Sustainable Development is based on the understanding that development can continue to occur, but that it must not occur in a vacuum. Sustainable Development ensures that the environment is not “consumed” by the development process. It requires that we look at the broader implications of our actions and try to maintain environmental integrity as a priority. An integral aspect of Sustainable Development is resource conservation. It involves thinking about and assessing the impact on the environment of certain products and services before we use them. Recycling is now very common in our communities - reusing products instead of discarding them and reducing our use of "non friendly" products or services are the other two cornerstones of the three R's that make up resource conservation – **reduce, reuse and recycle**.

Pollution Prevention

Pollution occurs when a foreign substance enters an environment (water, soil, and/or air) and makes that environment unfit for living creatures. It is far less expensive to prevent pollution than to deal with its effects. For example, cleanup tends to be very expensive and in many cases is too little, too late. The concept of pollution prevention requires that we ask the question, "Is there some other way that I could do this and cause less or no damage to the environment?" Pollution prevention can be as simple as using a biodegradable product, such as latex paint instead of oil-based paint. By taking a pollution prevention approach, we can save money, safeguard the environment and reduce the risk of environmental non-compliance.

Polluter Pays

A clean and healthy environment is necessary to support our high quality of life. As a public resource, it is in everyone's best interest that the environment be protected. Most environmental regulations recognize that pollution is caused by people and, as such, they can be held accountable for damage to the environment. Liable parties are responsible for cleanup and the payment of fines, which serve to cover costs and to act as a disincentive against further negligence.

Due Diligence

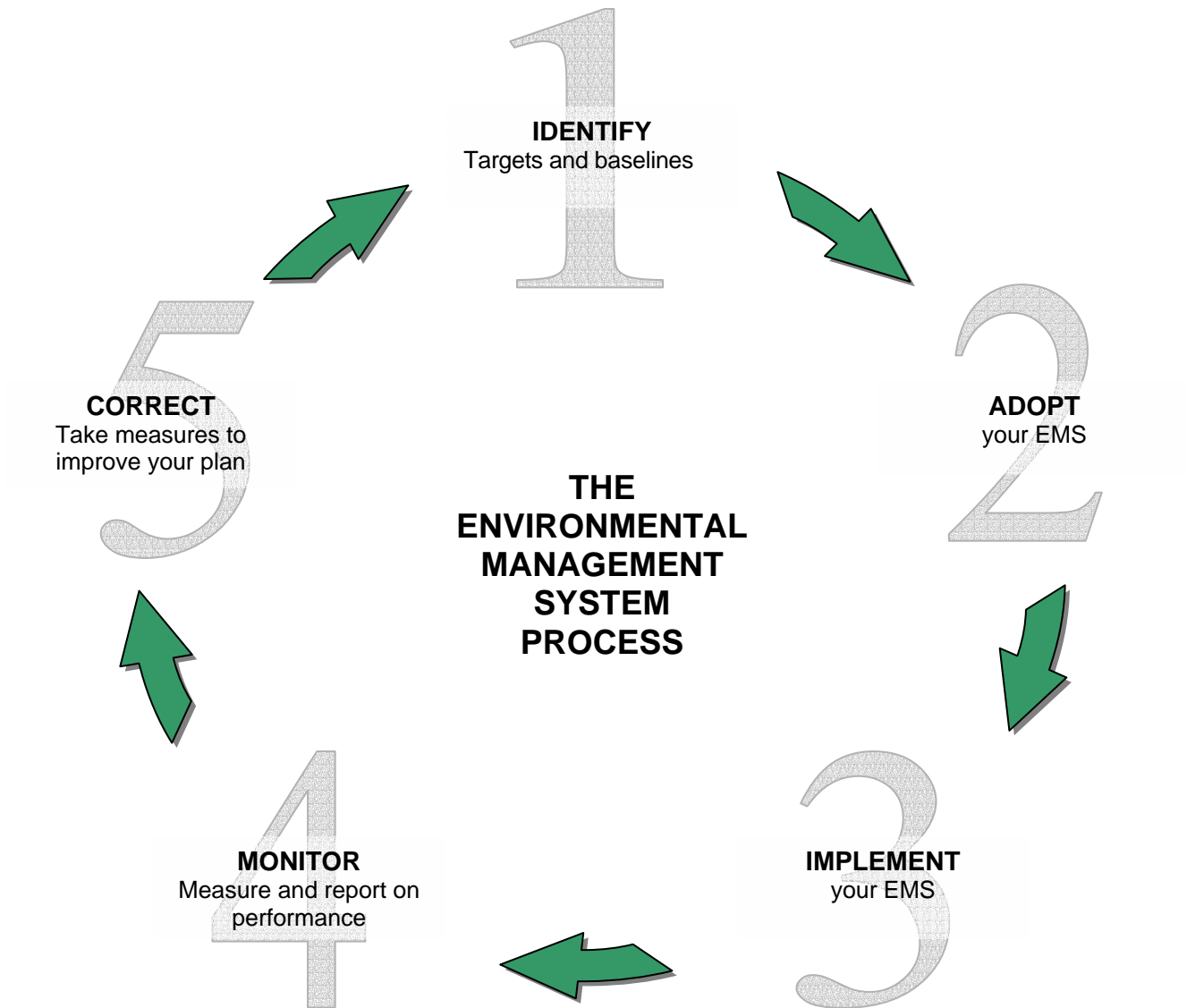
Accidents happen, but it is important to be aware that if damage is done to the environment, even if it's done accidentally, individuals can be held legally responsible. In the event of an accident, (e.g. a spill of oil or fuel into the water), the most effective way to avoid prosecution is to prove that “all necessary and appropriate precautions were undertaken under the circumstances.” This is called the "due diligence" defence and the most important consideration in building a due diligence defence is to start now! The use of an EMS by Harbour Authorities represents a significant commitment toward the establishment of a due diligence defence. By passing on their commitment to develop “due diligence” throughout the harbour, the HA is serving its users and members. It is minimizing the likelihood of prosecution for environmental infractions, while at the same time fostering an awareness that will reduce the impact, should an accident occur.

Continuous Improvement

The concept of continuous improvement means that we take stock of where we are now and set targets for improvement over time. When an HA implements its EMS, a baseline of environmental issues and potential impacts is created, (e.g. how much garbage is created, how much sewage is generated, how many spills happen, etc.) Once this baseline is established, measures can be taken to improve environmental performance year by year.

Monitoring, Reporting and Corrective Action

Monitoring, reporting and corrective action "go hand in hand" with continuous improvement. Once the baseline is created, the Harbour Manager can observe, through inspections, - whether the targets set in the EMS are being met. Periodically, the Manager can report to the HA Directors, who in turn can make decisions on new rules or procedures which will act as "course corrections" to help reach the EMS targets.



ENVIRONMENTAL POLICY

SMALL CRAFT HARBOURS BRANCH

FISHERIES AND OCEANS CANADA

Small Craft Harbours (SCH) will adhere to the Department of Fisheries and Oceans Sustainable Development Strategy and the Operational Guiding Principles listed below. Senior management and every employee of SCH, are responsible for ensuring that these principles are integrated into their day-to-day activities.

Environmental Management Principles

These principles are intended to guide the incorporation of an Environmental Management System (EMS) within the existing SCH program management structure, thereby ensuring the Program conducts its activities in an environmentally responsible manner.

The following principles are applicable to the entire inventory of harbours, whether they are managed by SCH or by others. This policy is dynamic in nature and is kept up-to-date with changes in environmental legislation and policies.

1. The SCH Program will develop and maintain appropriate environmental management techniques including planning, co-ordinating, monitoring and reporting. These techniques will be incorporated into the regular SCH management process.
2. The SCH Program will aim to develop and implement environmental management plans (EMP) at all its core fishing harbours by the year 2001.
3. The SCH Program will ensure the prioritization, reporting and handling of environmental risks and liabilities.
4. The SCH Program will employ procedures for ensuring that potential concerns and effects arising from its operations are identified on an ongoing basis and properly dealt with in a timely manner. These include, but are not limited to, the proper handling, storage and disposal of wastes and the prevention, reporting and remediation of pollution.
5. All realty management documents (leases, licences, management agreements, etc.) will contain clauses that incorporate environmental provisions.
6. Records pertaining to environmental matters will be kept in an appropriate management information system.
7. Budgets appropriate for addressing environmental concerns will be allocated and implementation reported upon.
8. Periodic EMS audits will be conducted at SCH facilities and offices and actions will be taken to ensure that non-conformances are prioritized and addressed.
9. Periodic compliance audits will be conducted at harbours and action will be taken to ensure that non-compliance situations are prioritized and addressed.
10. Performance in achieving specific environmental objectives will be monitored and measured.
11. SCH will support environmental awareness training of SCH personnel and strive to employ human resources with the required skills and experience in support of environmental functions.

Original document was signed by Mr. Robert Bergeron, Director General, Small Craft Harbours, Ottawa on July 14th, 1998.

HARBOUR AUTHORITY ENVIRONMENTAL MANAGEMENT POLICY

Each Harbour Authority can create its own environmental management policy as long as it is consistent with the overall environmental policy of Small Craft Harbours. The harbour's environmental policy should be posted on signs and/or listed in berthing agreements.

A Harbour Authority environmental management policy should include, but is not limited to, the following clauses:

1. The Harbour Authority will strive to keep the harbour environment clean for all Harbour Authority members, users and the general public.
2. The Harbour Authority, is committed to preventing pollution of the harbour environment through effective communication as well as by educating, raising awareness, and by setting an example for Harbour Authority members and harbour users.
3. The Harbour Authority, will identify, document, prioritize, and attempt to address potential environmental hazards associated with its operations. This includes regular monitoring of activities which may have a negative impact on the environment.
4. The Harbour Authority is committed to the concept of "continuous improvement" of the harbour environment.
5. The Harbour Authority will work with SCH and all harbour users to ensure compliance with all applicable environmental rules and regulations.
6. The Harbour Authority will give full consideration to the expectations of interested parties that contact the Authority on environmental issues.

GENERAL INTRODUCTION

All Canadian citizens and corporations must comply with the environmental laws of this country. In the context of harbour operations at the harbours managed by Harbour Authorities (HA's), this specifically includes all operations on lands and facilities leased by Small Craft Harbours (SCH) to the HA's, and the many users who operate on the leased premises. In addition, the property owner (SCH), the property managers (HA's), and every user has an obligation to follow the Best Management Practices (BMP's) as defined in this document and endorsed by the HA's. Although not all these practices are directly related to statutory requirements, all are provided in support of sound environmental management. They are considered to constitute a reasonable approach to the prevention of adverse environmental impacts associated with normal day to day harbour operations at the harbours managed by HA's.

This **Environmental Management Plan (EMP)** also defines the specific roles and responsibilities of SCH, HA directors, harbour managers, employees and the harbour users, and provides all parties with the basic knowledge necessary to contribute to the overall environmental management of public harbours. The EMP also introduces guidelines with respect to environmental management concepts and their application to typical harbour activities.

Although an EMP is a legislative requirement, it can also be shown to have many positive features which should lead to savings in time and money for the HA's, as well as limiting liabilities for their Boards of Directors.

The EMP should be distributed to HA employees, harbour users, sub-lessees and local interest groups to develop an awareness of the HA's commitment to environmental management, as well as to assist in building links to the community.

ROLES AND RESPONSIBILITIES

Small Craft Harbours

SCH staff at both the Area and Regional levels are available to provide ongoing assistance on environmental issues as required by HA's. Although daily administration and operation of SCH properties has been delegated to HA's, the ultimate responsibility for ensuring due diligence in all issues related to harbour operations remains with the owner. For this reason, SCH is responsible for ensuring that HA's deliver their environmental management program in a competent and timely manner, and requires an ongoing commitment by HA's to work with SCH in achieving this goal.

SCH will work with the HA Boards of Directors to implement EMP's and, when and if possible, SCH will provide both technical and financial assistance, to assist HA's in achieving its environmental objectives and improving the local harbour environment. The Boards of Directors, with support from SCH, are expected to ensure that the appropriate enforcement action is undertaken to correct environmental problems.

Harbour Authority Board of Directors

HA's, as represented by their Boards of Directors, are the delivery model for environmental management of property and facilities leased by SCH, and as such have the overall responsibility for developing, endorsing and encouraging good environmental practices for all harbour operations. HA's are also responsible for developing an improved state of harbour environmental awareness, thereby encouraging all harbour users to endorse and follow the established concepts of the EMP. Every effort should be made by HA's to ensure that the purpose, intent and objectives of these concepts are communicated and understood by all harbour users.

As a guide for HA's, the following table outlines types of projects which pose the potential for environmental damage, and provides advice on how the HA can proceed on certain types of projects and activities.

Activity	When	Description of Board of Directors' Role
Construction Projects	During the planning phase of any construction project	When planning major repair and construction work, do the following: a) Contact SCH to discuss scope, engineering, and public liability issues. b) Determine what technical expertise is required. c) Obtain written approval from SCH before beginning any work since it is a requirement of the HA lease with SCH, and because all projects must be reviewed in accordance with the Canadian Environmental Assessment Act (CEAA) prior to implementation.
Dredging Projects	During the planning phase of any dredging project	When planning a project involving dredging: a) Contact SCH to discuss scope, engineering, and public liability issues. b) Determine what technical expertise is required. c) Ensure an environmental assessment pursuant to the Canadian Environmental Assessment Act is conducted to SCH standards prior to implementation. d) Ensure special permits are obtained, as required, for both ocean and land based disposal of marine sediments.
Cleanup of Contaminated Soil	While contaminated soil is at the harbour	If contaminated soil is encountered: a) Immediately contact SCH to inform and discuss contamination issue. b) Examine soil and/or groundwater in order to define the extent of contamination. c) Advise any party that could be affected by the contamination. d) Ensure clean-up activities are undertaken and monitor progress until completed. e) Ensure that proper follow-up reporting is done.
Emergency Response	Ongoing	a) Review harbour operations and inspection reports for potential hazards. b) Conduct training and awareness programs. c) Carry out field testing and practice emergency response drills as required. d) Build relationships with other emergency responders. e) Review emergency procedures yearly.
Environmental Awareness Program	Ongoing	a) Post and maintain the following signs at strategic locations: ♦ HA Environmental Policy and environmental rules; ♦ Emergency response procedures; ♦ Waste disposal instructions.
Environmental Audits	Yearly	a) Assist SCH in the completion of the annual Environmental Audit by providing and verifying all relevant information.

Harbour Manager

The Harbour Manager, who is normally an employee of the HA and the primary day-to-day contact between the HA and all harbour users, serves an important role in the communication of the EMP concepts, and in obtaining endorsement of the plan by all harbour users. The best way for the Harbour Manager to achieve this goal is by setting a good example, and thus encouraging and expecting all harbour users to follow that example. Listed below are examples where the Harbour Manager must take clearly defined actions to protect the environment. If the HA does not have the services of a Harbour Manager then the HA, as a corporate body, must assume these additional responsibilities. In such a case, SCH strongly recommends that one individual of the HA Board of Directors be assigned these tasks.

Activity	When	Description of Harbour Manager's Role
Waste Management	Hazardous Wastes and Materials - Ongoing	Identify all hazardous materials and wastes on Harbour Authority property: a) Make certain that hazardous waste and materials storage complies with applicable regulations e.g. waste oil, combustible materials, compressed gas cylinders, etc. b) For hazardous materials, maintain a binder with all required Material Safety Data Sheets (MSDS) as per the Workplace Hazardous Material Information System (WHMIS). c) Identify all hazardous wastes and materials with appropriate signs. d) Ensure that new products are screened and if necessary, obtain MSDS sheets for them.
	Non Hazardous Waste - Ongoing	a) Review the BMP's and ensure waste management practices are being followed and that solid and liquid waste is being handled according to regulations.
Environmental Inspections	Routinely	a) Conduct routine environmental inspections of the harbour property and buildings and inform both the Board of Directors and SCH of any concerns. b) Look for patterns and chronic problems that keep occurring, and address these as part of the Environmental inspection program (Harbour Inspection Checklist).
Environmental Audits	Yearly	a) Assist the HA and SCH in the completion of the annual Environmental Audit by summarizing the results of environmental inspections, and providing any other relevant information.
Receiving, Documenting and Responding to Communications	Ongoing	When phone calls or other correspondence regarding environmental matters are received: a) Contact the Board immediately if the call involves a non-compliance or potential non-compliance incident. It is the Board's responsibility to contact legal counsel, if necessary. b) Do not provide environmental documents (e.g. inspections, audits, etc.) to any external party without the advice of the Board. c) Return all phone calls promptly and document phone conversations. d) Investigate matters thoroughly before offering opinions.
Best Management Practices	Ongoing	a) Read and know the Best Management Practices (BMP's). b) Educate harbour users as much as possible in the use of BMP's. c) Show harbour users what to do and explain why it is important to do it.
Emergency Response	Ongoing	a) Read and understand emergency procedures. b) Monitor harbour operations for potential hazards and report them to the Board of Directors when noticed. c) Educate harbour users as much as possible on emergency procedures.

Harbour Users

Every harbour user of properties administered by HA's is expected to comply with regulations and operating practices endorsed by the HA. HA's and SCH are committed to jointly undertake the necessary communications and/or informal training required to make all users more environmentally aware. In return, all users will be expected to:

1. Familiarize themselves and understand all practices and procedures outlined in this EMS document;
2. Follow all practices and procedures defined in the EMS;
3. Follow all practices and procedures described on signs and notices posted on harbour property, or as directed by the HA.

Licensees / Sublessees

All licensees / sublessees must conduct their business in a manner which does not conflict with the HA's environmental policy. It should be the HA's practice with respect to licences and subleases that:

1. All licencees / sublessees are expected to be aware of existing environmental legislation pertaining to business operations covered by the licence or sublease and are required to comply with these regulations.
2. From an environmental perspective, licencees and/or sublessees will be treated the same as any other harbour user and all statements included in this EMS document apply.
3. Licences / subleases will be issued for only those activities which are consistent with the environmental condition of the property.
4. Renewal applications for existing licences and/or subleases will be evaluated as to the environmental implications of the proposed continuation of the activity.
5. The National Fire Code of Canada and other federal and provincial standards and commonly endorsed codes are applicable to all commercial user operations and assets within harbour boundaries.
6. The licensee / sublessee will clean up, to current federal requirements, any real property assets that are contaminated due to their activities during the term of the licence / sublease.

BEST MANAGEMENT PRACTICES

The following section summarizes environmental Best Management Practices (BMP's) or environmental rules that apply to HA's and all users of the property under lease to the HA's. Managing activities that could have a negative influence on the environment requires consideration of the direct impact of various activities on the property. It also requires that appropriate steps are taken to avoid or minimize the potential for damage to the environment that will enable HA's to comply with environmental regulations, minimize environmental costs and liabilities, and ensure good relations with the public.

Listed below are some of the negative impacts that harbour activities can have on the terrestrial environment and marine ecosystem. Also listed for each impact are a number of "DO's & DON'T's" that are intended to assist harbour users in becoming more environmentally aware and to guide them in their actions. They refer to techniques and good management practices for reducing and preventing pollution.

BMP 1 - PETROLEUM WASTE MANAGEMENT

1.1 Waste Oil and Lubricants

Waste oil, grease, hydraulic fluids and other petrochemical products are commonplace in the harbour. Handling them properly is an important aspect of environmental management. In many harbours, waste oil tanks have been installed and harbour users are encouraged to become knowledgeable about their use. It is important to use these facilities properly to avoid contaminating the recovered products and to make sure that waste oil does not leak into the environment. Mixing oil with other liquids (e.g. antifreeze, gasoline, paint, solvents, etc.) will drastically increase the cost of collection services. The law in most provinces also requires sellers of motor oil to take back used oil free of charge. Alternatively, waste lubricants can be reused (e.g. chainsaw bar oil is a particularly good use of used crankcase oil).

DO...

- ✓ Use the approved waste oil storage tank (if there is one on site), or take used oil back to the seller.
- ✓ Use approved catch drip trays while doing maintenance or repairs.
- ✓ Use precautions when transporting waste oil.
- ✓ Use absorbent swabs to keep bilge clean.
- ✓ Keep wipe cloths or absorbent pads on hand to clean up small spills.
- ✓ Store lubricants in a secure location, away from heat sources.
- ✓ Make sure to close lid on the waste oil tank when finished.
- ✓ Always place lids on empty pails and storage drums.
- ✓ Notify the Harbour Manager when the waste oil tank is 3/4 full.
- ✓ Use recycled or synthetic oils and lubricants when available.
- ✓ Clean up your work area so oil does not get into bilge water or the environment.

DON'T...

- ✗ Drain lubricants into the bilge.
- ✗ Leave open containers of used oil anywhere.
- ✗ Permit any leaks into the harbour or onto harbour property.
- ✗ Mix waste oil, fuel, antifreeze or solvents.
- ✗ Clog the spill box with oily rags and empty containers.

1.2 Used Oil Filters

Spilling oil into the marine environment has a devastating impact on fish, birds and sea mammals. Used oil filters can contain up to a liter of oil, therefore, it is important that this oil be drained off and that the filter be disposed of properly either at the harbour or at proper facilities away from the harbour. If disposed of improperly, even after the filter is in the landfill, residual oil can leach into ground water.

DO...

- ✓ Properly drain used filters in the waste oil tank before disposal.
- ✓ Deposit oil filters into the appropriate collection container (if there is one on site).
- ✓ Close lid on the collection container when finished.

DON'T...

- ✗ Put used oil filters in the garbage
- ✗ Leave used oil filters in the waste oil tank spill box.
- ✗ Leave used oil filters on harbour property if an appropriate collection container is not available.

BMP 2 - FUELING GUIDELINES

2.1 Fueling

Fuel and the marine environment do not mix well as small releases of fuel can contaminate very large volumes of water. Handling fuel at the water's edge is potentially the most harmful operation to the marine environment. There are two dangers 1) a major spill of many liters of gasoline or diesel fuel, or 2) many small spills over time. Neither hazard is greater than the other; in fact, with major spills there is likely to be a response, but small spills often go unattended and the accumulated impact of many small spills can have a devastating impact on the marine environment. The SCH OPERATIONAL AND CONSTRUCTION GUIDELINES FOR FUEL DELIVERY AND WASTE OIL STORAGE SYSTEM LOCATED ON HARBOUR AUTHORITY CONTROLLED PROPERTIES IN THE MARITIME PROVINCES (refer to Appendix "A") provides specific details for all fueling operations on properties administered by HA's. Vessel captains, or trained crew members should always oversee the fueling operation, including the ventilation of the bilge and all safety checks and should know approximately how many gallons of fuel are needed when refueling, to avoid possible overfilling.

DO...

- ✓ Become familiar with proper fueling and emergency response procedures.
- ✓ Fuel at commercial fueling facilities with trained attendants where possible.
- ✓ Handle all gasoline containers (empty or with product inside) with extreme care.
- ✓ Have a cloth or absorbent pad at the fueling site to wipe up small spills.
- ✓ Be sure that the fuel gauge works and is visible while fueling.
- ✓ Have an anti-surge valve in the filler line.
- ✓ Report any damaged or leaking fuel system components to the Harbour Authority.

DON'T...

- ✗ Dump fouled fuel overboard. It is illegal and harmful.
- ✗ Leave nozzle unattended while fueling.
- ✗ Transport fuel in unapproved containers.
- ✗ Fuel portable tanks on board – instead fill these tanks at the fueling site.
- ✗ Fuel from truck to vessel if the fuel supplier is not licenced by the HA.
- ✗ Leave fuel containers (empty or full) on site unattended.
- ✗ Conduct fueling operations near fishing gear or any fish products destined for human consumption.

BMP 3 – SEWAGE, GREYWATER AND BILGE WATER

3.1 Sewage and Greywater

Sewage is a natural by-product of domestic and commercial activities and, properly managed, its impact on the environment can be minimized. Grey and black water from harbour buildings and boat operations is a significant environmental, health and safety problem. Sewage can cause contamination of shellfish resources, close down tourist facilities (beaches), and create unhealthy work conditions for harbour users.

DO...

- ✓ Use harbour washroom and shower facilities where available.
- ✓ Use a pump-out or porta potty dump station where available.
- ✓ Use environmentally safe cleaners in on-board heads, showers or sinks.

DON'T...

- ✗ Discharge sewage while in the harbour.
- ✗ Dispose of fats, solvents, oils, emulsifiers, paints, poisons or other toxins in harbour drains or heads.

3.2 Bilge Water

Bilge water can contain combinations of oil, fuel, solvents and other products. The use of bilge cleaners often only makes matters worse, as they tend to break down oils into smaller droplets and spread the contamination over a greater volume and into harbour sediments. Pumping untreated bilge water into the harbour or offshore should be avoided and could constitute a violation of the *Fisheries Act*. Bilge water pump-out facilities or oil water separators should be used, where available, to capture badly contaminated bilge water so that it can be properly treated. Bilge water should be handled and stored separately from sewage pumpouts. By far, the easiest and cheapest remedy is simply to take care in fueling and engine maintenance, so that pollutants don't make their way down into the bilge. This preventative approach is best, not only because it is cheaper, but also because it avoids possible contamination of fishing gear and fish products.

DO...

- ✓ Use absorbent pads or booms to soak up oil and fuel in the bilge compartment.
- ✓ Pump severely contaminated bilge water into a holding tank for appropriate disposal.
- ✓ Fit the bilge pump with an "oil-absorbent" filter.
- ✓ Properly dispose of oily contaminated materials.

DON'T...

- ✗ Pump contaminated bilge water into the harbour.

BMP 4 - VESSEL SURFACE MAINTENANCE

4.1 Hull Maintenance and Repair

Hull maintenance usually involves the removal and reapplication of materials to protect and seal a boat's hull. The problem is that many of these finishing materials are toxic to living organisms. For example, many of the marine paints on vessels today contain high concentrations of lead, arsenic, and even PCB's. Removal of these materials can be harmful to human health and to the environment. It is important that these operations be carried out in a carefully controlled environment.

DO...

- ✓ Work over reuseable tarps or disposable drop sheets whenever possible.
- ✓ Dispose of drop sheets in a proper waste receptacle.
- ✓ Allow paint and solvent cans to dry before disposal as hazardous waste.
- ✓ Use brushes and rollers for all alongside jobs.
- ✓ Use only small quantities of paints and solvents to avoid major spills, and seal larger containers to avoid major spills.
- ✓ Rethink materials and their use. If it's better for the environment then it's usually less expensive in the long run as well.
- ✓ Reuse thinners and solvents by allowing particles to settle out as sludge – dispose of sludge as hazardous waste.

DON'T...

- ✗ Sandblast or spray paint in the harbour.
- ✗ Use the tidal grid as a work space for mechanical repairs or hull maintenance.
- ✗ Use an abrasive to remove old finishes.
- ✗ Mix paint or clean applicators on-board or on the wharves / docks or floats.

4.2 Washing Vessels

Cleanliness is an important aspect of operations for fishing vessels, however abrasive or caustic cleansers can be toxic if they find their way into the marine environment. Power washing and steam blasting are popular cleaning methods because they are relatively inexpensive and effective. Careless use of these machines, however, can mean that oily residues and other toxins are regularly introduced into the marine environment.

DO...

- ✓ Use environmentally safe cleaners or degreasers (lemon juice, vinegar, baking soda, steam, etc.).
- ✓ Cover catch basins during big jobs to prevent waste from entering the harbour through storm drains.
- ✓ Plug scuppers and self-bailers to prevent pollution of the harbour.
- ✓ Remove and dispose loose and flaking paint and finishes before pressure washing on the tidal grid.

DON'T...

- ✗ Power wash or steam blast wastewater into the harbour.
- ✗ Use cleaners with bleach, phosphate, sodium hydroxide, butoxyethanol and/or butylcellulose.

BMP 5 - SOLID AND LIQUID WASTE DISPOSAL

5.1 Solid and Liquid Waste (Non-Hazardous Type)

Garbage (solid waste) is also a by-product of commercial and domestic activities. Costs for garbage disposal have been rising steadily over the past decade. Since waste disposal is a contracted operation, the HA pays for this service with funds collected through user fees. One way to keep costs down is to think about reducing packaging when bringing materials and supplies into the harbour.

DO...

- ✓ Separate waste and use the proper recycling containers for cardboard, tin and glass, where available.
- ✓ Use the garbage containers placed around the harbour or take garbage home.
- ✓ Pick up and dispose any litter floating in the harbour, on harbour structures or on the upland.
- ✓ Inform the Harbour Manager if waste containers are near full.
- ✓ Properly package hazardous waste such as paints, varnish, solvents, batteries, etc. and place them in the hazardous waste storage area or take them home.

DON'T...

- ✗ Ever throw any type of waste into the water! It is illegal.
- ✗ Bring household waste to the harbour for disposal.
- ✗ Throw cigarette or cigar butts into the harbour.
- ✗ Throw old nets, traps, lines, or other gear overboard.
- ✗ Bring unnecessary packaging onboard.
- ✗ Overfill waste containers.

5.2 Surface Water Run-Off

Surface water is rainwater that falls onto upland properties and eventually into the harbour basin. As this water travels across the surface of buildings, roads, parking lots and soil, it can pick up oily residues and sediment that can contaminate the harbour basin. Over time, deposits of sediment can build up and increase dredging costs or, more significantly, can harm the ocean environment. The Federal *Fisheries Act* states that placing any substance into water, which is "deleterious to fish or fish habitat" is a criminal violation. Thus, it is important to be aware of surface water's potential affect on the basin and to manage it properly.

DO...

- ✓ Repair leaks in vehicles parked at the harbour and clean up any leaked material.
- ✓ Report to the Harbour Manager immediately if a spill or discoloration is noticed.
- ✓ Report to the Harbour Manager any areas of excessive erosion.
- ✓ Report to the Harbour Manager any strange effluents of storm water or sewage outfalls.

DON'T...

- ✗ Deposit any contaminated or hazardous liquid wastes into sewage systems or storm water drains.

5.3 Solid and Liquid Wastes (Hazardous Type)

Hazardous wastes, which need special disposal, include oils and fuels, paints, varnish, solvents, detergents, antifreeze, fibreglass resin, strong acid and alkaline compounds, flammable materials, boat and flashlight batteries.

5.3.1 Waste Lead-Acid Batteries

Both marine and automotive type batteries contain lead and sulphuric acid, which are harmful to the environment. Lead (particularly toxic to humans), is linked to brain and kidney dysfunction and can cause nervous, blood, digestive and reproductive ailments. Children are especially vulnerable, even to very low levels. Improper handling of batteries in the marine environment can have damaging consequences. Battery vendors will generally take back out-of-service batteries and most times provide a small "casing" discount on the new battery. However, even where there is no financial incentive to return out-of-service batteries, they should be stockpiled in a warm dry place, out of the elements and returned to a vendor.

DO...

- ✓ Leave batteries only in battery collection area (if they is one designated) or take off site.
- ✓ Clean up leaks with lime, baking soda, washing soda or soda ash.
- ✓ Maintain batteries properly to ensure maximum life span.
- ✓ Use recycled batteries or battery components.
- ✓ Take advantage of recycling services when purchasing new batteries. (The vendor usually provides a credit for the old casing.)
- ✓ Properly package and remove leaky batteries from service.

DON'T...

- ✗ Ever discard spent batteries into the harbour or overboard.

5.3.2 Creosote-Treated Timber

Creosote is a heavy-duty wood preservative containing complex chemical compounds. Most creosoted materials are a source of polycyclic aromatic hydrocarbons (PAH's). Creosote preservatives are a dual edged sword because on the one hand they ensure the longevity of harbour structures and are less resource intensive than alternatives such as steel and concrete. On the other hand, however, excessive leaching or physical abrading of creosote preservatives constitutes a PAH pollution source.

The use of creosote-treated material should be carefully managed in the marine environment. Furthermore, when decommissioning facilities constructed with creosote-treated materials, these materials are considered hazardous waste.

DO...

- ✓ Consider alternative pressure-treated materials where creosote is not essential for durability, particularly for above water structures repairs or construction.
- ✓ Specify that all creosote timbers be treated to modern industry Best Management Practice standards, which call for lower levels of saturation than have been used in the past.
- ✓ Take measures to avoid direct contact with creosote treated materials in the water column (i.e. rub strips).
- ✓ Recognize that the solar heating and cooling of creosote fosters physical bleeding. Shading and covering will reduce such bleeding.

DON'T...

- ✗ Place creosote-treated materials in with regular garbage, as it is hazardous waste - instead, try to reuse the timber in a suitable way.
- ✗ Burn materials treated with creosote.

5.3.3 Liquid Waste

In the marine environment, antifreeze and other liquid wastes can be very harmful to all living organisms. After use, they can contain heavy metals that can be extremely toxic to marine organisms. Some waste products such as antifreeze can be valuable, and in many parts of the country major garages collect and recycle them. In all parts of the country, it is illegal to release products such as antifreeze into the environment. Proper waste disposal is not a free service, but it is required by law. As such, the expense of waste disposal is a cost of doing business and will be reflected in the service rates charged to the harbour user.

DO...

- ✓ Avoid spills but, should spills occur, clean up immediately.
- ✓ Collect and label waste separately from other liquid wastes.
- ✓ Return wastes to local recycling depots or collection centres, where possible.
- ✓ Fix any leaks promptly.
- ✓ Store only in properly labeled containers.

DON'T...

- ✗ Mix liquid wastes.
- ✗ Empty into the waste oil tank.
- ✗ Empty into any storm drains, onboard drains, or the environment.

BMP 6 - CHEMICAL STORAGE

6.1 Hazardous Chemicals

It is possible for certain chemicals to be stored in vessels, buildings, and vehicles located on property leased to the HA. All chemicals must be labelled properly and in accordance with the Workplace Hazardous Material Information System (WHMIS) and chemicals should not be stored on HA property unless absolutely necessary.

DO...

- ✓ Ensure all chemical storage complies with applicable regulations.
- ✓ Keep all chemical storage areas clean and tidy and have the Material Safety Data Sheets (MSDS) available.
- ✓ Keep chemicals on shelves or in fireproof cabinets.
- ✓ Report to the Harbour Manager immediately if a spill or discoloration is noticed.

DON'T...

- ✗ Store chemicals on harbour property, except with written permission from the HA, and when the storage method meets all regulations.
- ✗ Leave chemical products out in the open and unattended.
- ✗ Dispose or remove chemicals in an unapproved manner.

BMP 7 - HARBOUR CLEANLINESS

7.1 Upland Property

All upland property should be kept in a neat and tidy condition at all times and excessive noise and dust levels should be properly controlled.

DO...

- ✓ Pick up and properly dispose of any litter floating in the harbour, on harbour structures or on the upland.
- ✓ Schedule time to tidy up during the season and to conduct major clean ups at the end of the season
- ✓ Store fishing gear and equipment in a neat and tidy condition in designated storage areas only.
- ✓ Minimize vehicle speed on gravel surfaces and apply dust control as required.
- ✓ Keep engines in good working condition to minimize noise and atmospheric pollution.
- ✓ Contact the nearest SCH office if any problems are noted and the response is unclear.

DON'T...

- ✗ Conduct noisy activities outside normal working hours (7:00 a.m. – 7:00 p.m.).
- ✗ Burn wastes in open areas.
- ✗ Leave old bait or other organic matter on the harbour property to decompose.
- ✗ Leave old, unwanted fishing equipment on harbour property.

EMERGENCY PROCEDURES

It is the requirement of Small Craft Harbours (SCH) to have an **Environmental Management System (EMS)** established at all harbours leased to Harbour Authorities. The EMS provides for the establishment of management procedures and the installation of facilities that are aimed at reducing the likelihood of environmental emergencies. Nonetheless, accidents sometimes happen, due to human error, weather conditions and / or equipment failure. When accidents do occur, it is important that harbour personnel and the users know how to deal with these emergencies. **The primary objective in handling emergencies is to safeguard human health.** Secondary objectives are the protection of the environment and property.

Harbour Authority directors and employees should read and fully understand emergency procedures and as well, harbour users should also have knowledge of emergency procedures. These emergency procedures are intended for both first responders to an emergency, and in addition they identify the specific roles of the Harbour Authority and Harbour Manager in emergency response and follow-up situations.

SCH and the Canadian Coast Guard (CCG) offer advice and training in handling oil spills and other emergency situations. In addition, local fire departments will frequently provide advice and are often interested in conducting on-site practice activities. Practice drills to rehearse emergency procedures identifies missing information and familiarizes all individuals involved with contingency planning.

After an emergency occurrence, there are requirements to complete various types of incident reports for the authorities having jurisdiction. The Harbour Authority representative and /or Harbour Manager are expected to provide all applicable information and assist in completing incident reports. The reporting requirements may include the following information:

- date and time of the occurrence;
- weather conditions at the time of the occurrence and during the response phase;
- cause of occurrence;
- nature of any release;
- products involved (fuel, oil, other pollutants);
- quantities involved;
- harbour and other areas affected by the release;
- people involved in the response or exposed to the products released;
- any health treatment or tests conducted on individuals;
- containment and method used;
- clean-up techniques employed;
- volume recovered;
- site remediation completed and planned;
- short- and long-term impacts of the release;
- a log of the actions taken and at what time;
- measures to be implemented to try to prevent another occurrence.

This section summarizes emergency response procedures for:

1) Minor Pollutant Spills	2
2) Major Pollutant Spills	3
3) Fire and/or Explosion	4
4) Vessel Sinking and/or Collision	5
5) Severe Weather and Damage to Harbour Structures	6

Important Emergency Phone Numbers

MINOR POLLUTANT SPILLS

Minor Spills

Spills of hazardous materials or hazardous waste such as fuel, waste oil, paints, solvents, etc. are considered small scale only if they can be controlled, absorbed and cleaned up using equipment available on site such as spill response kits.

The following actions should be taken when a small scale spill occurs:

First Responders should:

1. Quickly identify the type and source of the spill.
2. Take immediate action to control the leak and stop the spill at its source.
3. Contain the spill by:
 - Quickly controlling any spill from reaching the water by blocking the flow of the spilled product to prevent it from reaching sensitive areas such as marine or sensitive habitat, wells, intakes, drainage systems, etc.
 - Using absorbent materials to soak it up off the ground.
4. Contact the Harbour Manager or Harbour Authority representative and provide full details.
5. Provide witness report to the Harbour Authority and any authorities after incident.

Once the Harbour Manager (or Harbour Authority representative) is notified and arrives on site he/she should:

1. Ensure First Response steps 1-3 above have been carried out.
2. Assemble manpower and equipment necessary for the clean-up.
3. Recover the contaminated material and properly clean up and remediate the site.
4. Record all events immediately, complete an incident report and forward a copy to SCH and the appropriate authorities.

MAJOR POLLUTANT SPILLS

Spills of hazardous materials or hazardous waste such as fuel, waste oil, paints, solvents, or any toxic material are considered large scale when they are spreading on the water, rapidly seeping into the ground, or they cannot be contained using equipment available on site.

The following actions should be taken when a large scale spill occurs:

The First Responder should:

1. Quickly determine the type and source of the spill.
2. Take immediate action to try to control or stop the leak at its source. Try to contain the spill if oil spill pads or oil booms available. **NEVER EXPOSE YOURSELF TO DANGER.**
3. Report the spill to the Canadian Coast Guard (CCG) Oil and Chemical Spill Reporting Center at **(1-800-565-1633)**.
 - Describe the situation and the product spilled,
 - Give the exact location of the spill,
 - Give your name.
4. Contact the local Fire department.
5. Contact the Harbour Manager or Harbour Authority representative and provide full details.
6. Follow the instructions given by the CCG Spill Reporting Centre concerning securing the site and the recovery of the spilled product(s).
7. Provide witness report to the Harbour Authority and any authorities after incident.

Once the Harbour Manager (or Harbour Authority representative) is notified and arrives on site he/she should:

1. Ensure First Response steps 1-4 above have been carried out.
2. Set up a security perimeter to limit access to the affected area.
3. Keep all approach routes to the area clear for the emergency response team(s). **NEVER PLACE YOURSELF OR ALLOW OTHERS TO PLACE THEMSELVES AT RISK.**
4. Use an oil boom (if available) to contain the spill. Use oil spill pads to soak up any surface pollutants.
5. Wait for the emergency responders to arrive and direct them to the proper location. Let the professionals take charge of the situation as they arrive.
6. Assist the CCG Spill Response Team, Environment Canada, SCH and/or other agencies in dealing with the spill and clean-up.
7. Recover the contaminated material and clean-up and remediate the site as required.
8. Record all events immediately, complete an incident report and forward a copy to SCH and the appropriate authorities.

FIRE AND / OR EXPLOSION

In the event of a fire or an explosion:

First Responders should:

1. **Immediately evacuate** the affected area to ensure the safety of all persons.
2. If the fire is small, try to put it out with a fire extinguisher. In the event of a large fire, leave the immediate area. **NEVER EXPOSE YOURSELF TO DANGER.**
3. Call the Emergency Numbers including the Fire Department:
 - Describe the nature of the emergency;
 - Give the exact location of the fire;
 - Give your name.
4. Contact the Harbour Manager or Harbour Authority representative and provide full details.
5. Follow the instructions given by the Fire Department and emergency personnel.
6. Keep all approach routes to the fire scene clear for the emergency response team(s).
7. Wait for the HA representative or emergency response team to arrive and direct them to the proper location. **NEVER PLACE YOURSELF OR ALLOW OTHERS TO PLACE THEMSELVES AT RISK.** Let the professionals take charge of the situation as they arrive.
8. Provide witness report to the Harbour Authority and any authorities after the incident.

Once the Harbour Manager (or Harbour Authority representative) is notified and arrives on site he/she should:

1. Ensure that applicable First Response steps 1-3 above have been carried out.
2. Take control of the situation from the First Responder and keep all approach routes to the fire scene clear for emergency personnel.
3. Provide the necessary assistance to facilitate the work of the emergency response team.
4. Ensure that all hazards to the environment have been controlled or removed after the fire has been completely extinguished.
5. Take proper measures to clean-up and or remediate the site.
6. Record all events immediately, complete an incident report and forward a copy to SCH and the appropriate authorities.

VESSEL SINKING AND / OR COLLISIONS

The First Responder should:

1. Call the Canadian Coast Guard (**1-800-565-1582**):
 - Describe the situation,
 - Give the exact location of the vessel,
 - Give your name.
2. Call other applicable emergency numbers if there are any injuries or situations requiring emergency services and report full details.
3. Contact the Harbour Manager or Harbour Authority representative and provide full details.
4. Follow the instructions given by the Canadian Coast Guard and emergency personnel.
5. Designate a person or persons to make sure that vessels entering the harbour are aware of the sunken vessel.
6. Provide witness report to the Harbour Authority and any authorities after incident.

Once the Harbour Manager (or Harbour Authority representative) is notified and arrives on site he/she should:

1. Ensure that applicable First Response steps 1-2 above have been carried out.
2. Contact the vessel owner and have owner come to the site, if he/she is not already present.
3. Make sure the vessel is stable and will not sink, but if sinking try to keep it afloat or beach the vessel. **NEVER PLACE YOURSELF OR ALLOW OTHERS TO PLACE THEMSELVES AT RISK.**
4. Check for release of fuel or other pollutants. If there is a spill, immediately report it to the CCG Oil and Chemical Spill Reporting Center (**1-800-565-1633**).
5. Keep all approach routes to the area clear for the emergency response team.
6. Use an oil boom (if available) to contain the spill. Use oil spill pads to soak up any surface pollutants etc.
7. Wait for the emergency responders to arrive and direct them to the proper location. Let the professionals take charge of the situation.
8. Assist the Canadian Coast Guard, Environment Canada, SCH and/or other agencies in dealing with the situation.
9. Recover the contaminated material and clean and remediate the site as required.
10. Record all events immediately, complete an incident report and forward a copy to SCH and the appropriate authorities.

SEVERE WEATHER AND / OR DAMAGE TO HARBOUR STRUCTURES

Severe weather, a vessel collision, or a vehicle that exceeds the load capacity of a structure can cause serious damage to harbour facilities.

Harbour Managers, Harbour Authority representatives and harbour users should:

1. Monitor weather forecasts to determine what weather is expected.
2. If weather conditions are likely to cause damage or injury, vessel owners should remain at the harbour during the storm event to check on the condition of their vessels.
3. If any damages, injury or complaints are received, follow the appropriate emergency steps outlined in previous procedures.
4. If any harbour structures are damaged, erect the necessary barricades immediately and take alternate actions to minimize property damage or injury.
5. Contact the local SCH office or call the SCH toll free number 1-800-983-6161 after the occurrence to report any damages.
6. Record all events immediately, complete an incident report and forward a copy to SCH and the appropriate authorities.

IMPORTANT EMERGENCY PHONE NUMBERS

Primary Response Numbers

Fire Department	911
RCMP	911
Ambulance	911
Oil and Chemical Spill Reporting Center	1-800-565-1633
Coast Guard- Search and Rescue	1-800-565-1582

Secondary Response Numbers

Harbour Manager (office hours)	() -
Harbour Manager (after hours).....	() -
Harbour Authority President	() -
Harbour Authority Secretary	() -

SCH Resource Phone Numbers (as of September 2003)

Small Craft Harbours Area Office Staff	1-800-983-6161
Area Chief, Shediac, NB.....	1-506-533-5044
Business Manager, Richibucto, NB.....	1-506-523-8388
Business Manager, Tracadie-Sheila, NB.....	1-506-395-7709
Area Chief, St. Andrews, NB	1-506-529-5984
Business Manager, St. Andrews, NB	1-506-529-5857
Area Chief and Business Manager, Antigonish, NS	1-902-863-5670
Business Manager, Cheticamp, NS.....	1-902-224-4224
Area Chief, Sydney, NS.....	1-902-564-2596
Business Manager, Sydney, NS.....	1-902-564-7332
Business Manager, Sherbrooke, NS	1-902-522-2226
Area Chief, Yarmouth, NS	1-902-742-6452
Business Manager, Liverpool, NS	1-902-354-6519
Business Manager, Shelburne, NS	1-902-875-3391
Business Manager, Yarmouth, NS	1-902-742-6451
Business Manager, Cornwallis, NS	1-902-638-3050
Area Chief, Charlottetown, PEI.....	1-902-566-7838
Business Manager, Charlottetown, PEI.....	1-902-566-7835
Business Manager, Summerside, PEI.....	1-902-888-4007
Small Craft Harbours Regional Staff (Moncton)	1-800-983-6161
Regional Director	1-506-851-6581
Chief, Operations.....	1-506-851-2404
Regional Engineer	1-506-851-6586

SMALL CRAFT HARBOURS ENVIRONMENTAL HARBOUR INSPECTION CHECKLIST

The following checklist summarizes the on-going implementation of environmental Best Management Practices (BMP's) which apply to the property under lease to a Harbour Authority. The checklist defines specific issues and techniques for reducing and preventing pollution and is intended to assist the Harbour Authority in complying with environmental regulations, minimizing environmental costs and liabilities, and ensuring good relations with the public.

Harbour _____

Date _____

WASTE OIL SITE (BMP 1)

Does waste oil site exist at the harbour? _____ (Yes or No). If no, proceed to next section; if yes, inspect the waste oil containment site and consider the following:

ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Is there any evidence of a leaking tank? * (Refer to Note 1)			If Yes , immediately determine the source of the leak and take immediate action to contain and report any spills.	
Does the waste oil tank require a service call to be emptied soon?			If Yes , arrange for service to pick up waste oil prior to tank being completely full.	
Is there stained soil around the site?			If Yes , determine the extent of the contamination and remove applicable material in accordance with local standards.	
Are there containers of waste oil that have not been dumped into the tank?			If Yes , take appropriate action to dump the waste oil into the tank and dispose if the containers in accordance with local standards.	
Is the site generally clean and tidy?			If No , take necessary action to clean-up the site.	
Are there disposal containers in place for filters and other petroleum products (oily rags)?			If No , take action to install applicable disposal containers, if available.	
Is the emergency spill response number clearly posted?			If No , immediately take the appropriate action to have the number posted.	
Are waste-oil procedure signs posted?			If No , immediately take the appropriate action to have the signs posted.	
Is the internal space between the double walled tanks being monitored (eg. dip stick, vacuum gauge, visual check, electronic device)?			If No , immediately take the appropriate action to have the tank monitored.	
If applicable, is vacuum gauge on tank reading "0 Hg"			If Yes , arrange to call a certified petroleum tank installer, or SCH.	
Are suitable vehicle barricades in place to protect the tank?			If No , immediately take the appropriate action to have suitable barricades installed.	
Is the spill containment kit available and used materials replenished?			If No , take action to install spill containment kit and or to replenish absorbent materials.	
Is there a containment boom available for use at the harbour for larger spills?			If No , check into availability with local fire departments.	

Note 1: All petroleum storage systems must be visually inspected for leaks on a daily basis.

FUEL STORAGE AND DELIVERY SYSTEMS (BMP 2)

Does a fuel storage and delivery system exist? ____ (Yes or No). If no, proceed to next section; if yes, inspect the fuel sites and fuelling practices and consider the following:

ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Is fuel system licenced and approved by the Harbour Authority?			If No , advise owner / operator accordingly. If compliance persist, contact the local SCH office.	
Are storage tanks properly labelled?			If No , advise owner / operator accordingly. If compliance persist, contact the local SCH office.	
Have any changes been made to the fuelling system since that last inspection?			If Yes , immediately contact the local SCH office.	
Is there any evidence of a leaking tank or any of its components (piping, dispensers, hoses, etc.) * (Refer to Note 1 on previous page)			If Yes , immediately determine the source of the leak and take immediate action to contain and report any spills.	
Are there any hold-open devices on the nozzle of the fuel dispensers?			If Yes , immediately advise the owner / operator accordingly to remove devices. If compliance persist, contact the local SCH office.	
Is there stained soil around the site?			If Yes , determine the extent of the contamination and remove applicable material.	
Is the site generally clean and tidy?			If No , take necessary action to clean-up the site.	
Is the emergency spill response number clearly posted?			If No , immediately take the appropriate action to have the number posted.	
Are fuelling procedure signs posted?			If No , immediately take the appropriate action to have the signs posted.	
Is the internal space between the double walled tanks being monitored (eg. dip stick, vacuum guage, visual check, electronic device)?			If No , immediately take the appropriate action to have the tank monitored.	
Are suitable barricades in place to protect the entire system from vehicle damage?			If No , take action to install adequate vehicle barricades.	
Is the spill containment kit available and used materials replenished?			If No , take action to install spill containment kit and or to replenish absorbent materials.	
Is there a containment boom available for use at the harbour for larger spills?			If No , check into availability with local fire departments.	

Is fuel delivered by truck to the harbour? ____ (Yes or No). If no, proceed to next section; if yes, consider the following:

Is fuel delivery by fuel truck licenced and approved by the Harbour Authority?			If No , advise fuel truck operator accordingly. . If compliance persist, contact the local SCH office.	
Is fuel delivery by fuel truck occurring in a location approved by the Harbour Authority?			If No , advise fuel truck operator accordingly. . If compliance persist, contact the local SCH office.	
Is fuel truck delivery taking place in accordance with the SCH operational standards for fuelling?			If No , advise fuel truck operator of the appropriate standards. If compliance persist, contact the local SCH office.	
Is fuel truck delivery being undertaken by a trained operator with an additional person present at the site to shut down dispensing operation in cases of an emergency?			If No , advise fuel truck operator accordingly. . If compliance persist, contact the local SCH office.	

SEWAGE AND GREYWATER (BMP 3)

Check the water quality in the harbours for evidence of contamination or any other effluents in the discharge water.

ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Is there any evidence that vessels are discharging sanitary sewage in the harbour?			If Yes , determine the source of the problem and advise owner / operator accordingly.	
Is there any evidence that vessels are discharging greywater in the harbour?			If Yes , determine the source of the problem and advise owner / operator accordingly.	
Is there any indication that surface water may contain contaminants that flow into the harbour?			If Yes , determine the source of the problem and contact the local SCH office.	
Is there any debris floating in the harbour or visible on the harbour bottom?			If Yes , determine the source of the problem and clean up the debris.	

BOAT STORAGE AND MAINTENANCE SITES (BMP 4)

Inspect boat repair and storage areas, as well as maintenance activities.

ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Is a travel lift or haulout facility being used for sandblasting, scraping, and spray painting vessels?			If Yes , special approval is required for these activities.	
Are there any containers of paints, solvents, and other materials located at the site?			If Yes , ensure that the users dispose of materials appropriately.	
Is there any evidence of paints, solvents or other materials spilled on the ground?			If Yes , determine the source of the problem and take appropriate action to clean-up the waste.	
Are there any catch basins located at the site?			If Yes , determine the location and ensure that waste products do not enter the storm sewer system.	

SOLID WASTE MANAGEMENT (BMP 5 & 6)

Inspect the harbour property and facilities for the following:

SOLID WASTE COLLECTION FACILITIES				
ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Are there sufficient garbage containers for non-hazardous solid waste?			If No , install additional garbage containers.	
Are the garbage containers covered?			If No , install container covers.	
Are garbage containers emptied before they are full?			If No , empty containers more frequently.	
Is area around the garbage containers free of debris?			If No , clean up debris.	
Are garbage and recyclable materials separated?			If No , install separate containers if required by local Municipality waste collection facility.	
Do recycling bins contain what they should? Are plastics, metals, paper, and cardboard separated from each other?			If No , take action to have users separate recyclable materials.	
Are there any hazardous materials stored on the site?			If Yes , determine the location of the materials and contact the local SCH office.	

FISH PLANTS, GEAR SHEDS, BAIT SHEDS AND OTHER BUILDINGS				
ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Are there strong odors at or near any buildings on the property?			If Yes , determine the source of the problem and take appropriate action to have odors suppressed.	
Are there containers of fish waste stored outside? Are they uncovered and open? Are they leaking?			If Yes , determine the source of the problem and take appropriate action to clean up the site.	
Are there any refrigeration units on the property that may have ozone depleting substances (ODS)?			If Yes , identify owner and contact local SCH office.	
Are there any fuel storage tanks or compressed gas cylinders located adjacent to or inside buildings?			If Yes , identify the owner and ensure that tanks and cylinders meet current environmental and safety standards.	
Is there any indication that there is any improper storage of materials in or around any buildings such as oil, paints, solvents, antifreeze, detergents, fiberglass resin, batteries, strong acid or alkaline products, flammable materials, etc.?			If Yes , determine the source of the problem and advise owner / operator to clean up the site. If problems persist, contact the local SCH office.	
Are there floor drains from the buildings that discharge into the harbour?			If Yes , determine the source of the drains, determine the discharge location, and monitor effluent.	

GENERAL SITE INSPECTION (BMP 7)

Examine the harbour property and adjacent properties and consider what would you think if you were a visitor who is not familiar with the harbour.

ISSUE	YES	NO	SUGGESTED ACTION	IF APPLICABLE - DATE AND ACTION TAKEN
Is the harbour property generally messy and untidy?			If Yes , take the appropriate action to clean-up the property.	
Is there any evidence of oil slicks on the water, oil coating in the shoreline, floating debris etc.?			If Yes , determine the source of the problem and take appropriate action to contain or clean-up the problem and/or report it to the local SCH office.	
Is much dust being produced from vehicles travelling on gravel surfaces? Is dust being blown towards neighbouring houses and businesses?			If Yes , consider environmentally friendly dust suppressant on applicable surfaces.	
Is there noise being generated at the harbour that is affecting neighbouring residents or businesses?			If Yes , determine the source of the problem and take appropriate action to reduce noise levels or report it to the local SCH office.	
Is there any indication that any land use of adjacent property is, or will have, a negative impact on the harbour property (such as storage of materials, garbage, fuel tanks etc.)?			If Yes , determine the source and extent of the problem and report it to the local SCH office.	

REPORT COMPLETED BY (name): _____

(title): _____

SMALL CRAFT HARBOURS ANNUAL ENVIRONMENTAL AUDIT REPORT

Reporting Year: from _____ to _____

Harbour Authority: _____

Harbour: _____

Harbour Authority Representative: _____

Small Craft Harbours Representative : _____

Date of audit: _____

Objective: This report, once completed for each harbour managed by the Harbour Authority, will summarize the **environmental performance** at their harbour(s) over the current reporting year. This report will also assist the Harbour Authority and Small Craft Harbours in evaluating the existing Environmental Management Plan, and the state of environmental awareness at the Harbour Authority managed harbours.

Instructions:

Each year, as part of the annual environmental audit, each Harbour Authority is required to submit an annual environmental report for each managed harbour, consisting of the following information:

- SECTION 1. An updated checklist of environmental materials, equipment, signage / posters and any other new installations on the harbour property.
- SECTION 2. A confirmation of fuel and waste oil tanks on the harbour property.
- SECTION 3. A list of any spills or releases or any other incidents during the reporting year that may have had a negative impact on the harbour property.
- SECTION 4. Use of the SCH Environmental Harbour Inspection Checklist.
- SECTION 5. A list of any new environmental policies, procedures, rules or guidelines that were adopted or amended during the year.
- SECTION 6. A list of any environmental accomplishments during the past year.
- SECTION 7. Details where solid waste was disposed for the past year.
- SECTION 8. An updated Environmental Impacts Table.
- SECTION 9. Additional miscellaneous information (if applicable).

SECTION 1 The following is a list of **equipment and materials that is considered to be a benefit in protecting the coastal and marine environment** in and adjacent to harbours. Please indicate if environmental materials, equipment, signage and/or posters are available at the harbour:

Type of Environmental Protection Equipment or Materials	Is Equipment or Materials Available at the harbour? (Y or N)	Is the Type, Number, Size and the way they are operated adequate? (Y or N)
Garbage Barrels		
Garbage Dumpsters		
No Littering Signs		
Recycling Containers		
Recycling Signs		
Waste Oil Tank		
Waste Oil Filter Barrels		
Waste Oil Building		
Waste Oil Procedure Signs		
Oily Rag Barrels		
Oil Filter Crusher		
Spill Response Kit		
Absorbent Materials		
Floating Oil Booms		
Bilge Swabs for Vessels		
Emergency Spill Response Signs		
No Dumping in Harbour Signs		
Fueling Procedure Signs		
Other (Specify)		

SECTION 2 Petroleum storage and waste oil storage tanks located on SCH / Harbour Authority property.

Are there fuel storage and dispensing units at the harbour? If yes, please fill in the table below indicating the product (gas, diesel, kerosene, heating oil), the owner of the tank, and the capacity of the storage tank (in approximate litres or gallons).

PRODUCT	OWNER	CAPACITY (indicate litres or gallons)

Are all fuel storage and dispensing units listed above shown on the most recent site plan provided from Small Craft Harbours? Yes ___ No ___

If a waste oil tank is present on the property, complete the following:

How is the waste oil collected and disposed? _____

Approximately how many liters of waste oil were collected last year? _____

How are petroleum waste by-products (oil containers, filters, rags) disposed?

Are all waste oil tanks and/or waste oil buildings at the harbour shown on the most recent site plan provided from Small Craft Harbours? Yes ___ No ___

SECTION 3 Were there any **oil spills / releases or incidents** on SCH/ Harbour Authority property in the past year?

Yes _____ No _____

If Yes, complete the following table:

DATE OF SPILL	PRODUCT INVOLVED	APPROXIMATE AMOUNT (litres)	ACTION TAKEN

SECTION 4 Has the Harbour Authority used the **SCH Environmental Harbour Inspection Checklist** to help with implementation of the EMP?

Yes _____ No _____

If yes, were there any issues identified in the checklist that required action and went unresolved?

Explain _____

If yes, how often was the checklist filled out? (circle one)

monthly / every 3 months / every 6 months / only once

SECTION 5 Has the Harbour Authority **amended** any environmental policies, procedures, rules, or guidelines that are not included in the standard SCH EMP?

Yes _____ No _____

If Yes, describe: _____

SECTION 6 Has the Harbour Authority had any **environmental accomplishments** during the past year (new equipment installed, harbour clean-up project, etc.)

Yes _____ No _____

If Yes, describe: _____

SECTION 7 Where does the Harbour Authority dispose of **non-hazardous solid waste**?

- _____ Municipal Landfill
- _____ Municipal Incinerator
- _____ Other (specify) _____

SECTION 8 Assign a level to each of the individual harbour operational aspects indicated below, in terms of the **potential for having a negative impact on the environment** at the harbour. Consider how these aspects are presently handled at the harbour.

The scale to be used is described below:

Level 1 – for aspects having no or minor potential for impacts

Level 2 – for aspects having some or moderate potential for impacts

Level 3 – for aspects having major potential for impacts

ENVIRONMENTAL IMPACTS TABLE	
ASPECTS	POTENTIAL IMPACT LEVEL
Fuel Storage and Dispensing	
Waste Oil Storage and Collection	
Solid Waste Generation (Non Hazardous Materials)	
Storage and Handling Hazardous Materials *	
Ozone Depleting Substances	
Construction Projects	
General Maintenance and Repair	
Vessel Maintenance and Repair	
Effluent and Sewage from Buildings	
Activities on Adjacent Properties	
Storm Water Runoff	
Air Emissions	
Dust	
Noise	
Other (specify)	

* Hazardous materials includes oil, paints, solvents, antifreeze, detergents, Fiberglas resin, batteries, strong acid or alkaline products, flammable materials.

SECTION 9 Please include any **additional information** on a separate page(s), and include it with this report.

**OPERATIONAL AND CONSTRUCTION GUIDELINES FOR
FUEL DELIVERY AND WASTE OIL STORAGE SYSTEMS
LOCATED ON
HARBOUR AUTHORITY CONTROLLED PROPERTIES*
IN THE MARITIME PROVINCES**

**Includes all Small Craft Harbours properties leased and / or
managed by incorporated Harbour Authorities*

REVISED - JANUARY 1997, OCTOBER 1997, SEPTEMBER 2003

DEPARTMENT OF FISHERIES AND OCEANS

SMALL CRAFT HARBOURS BRANCH

MARITIMES AND GULF REGIONS

EDITION: FUEL-V3-SEP03

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A. FOREWORD

A.1 GENERAL

All former Small Craft Harbours (SCH) harbour locations in the Maritime Provinces now leased to incorporated Harbour Authorities (HA's) are considered to be environmentally sensitive sites due to the proximity of surface water bodies and the handling and storage of fish products which normally occur at these sites. The following document is prepared in an effort to minimize any negative impacts on that environment due to the storage or dispensing of fuel products essential to the day to day operations of all fishing vessels.

It is the practice of SCH in the Maritime Provinces, and is now recommended to all HA's, to allow for the provision of petroleum services on an equitable basis to all harbour clients. Fixed systems (either above or below ground) are normally preferred over fuel delivery trucks from a safety and operational perspective. In a harbour where there is a demonstrated need for a fuel delivery system, but there are no fuel companies willing to install a fixed system, or where the HA feels a fixed system is not feasible, SCH suggests that the HA consider a fuel truck delivery system. Other options for meeting fueling requirements should always be considered if in the best interest of the harbour clients.

Every effort should be made to control the dispensing of fuels on HA administered property and it is recommended that there normally be one general fueling location per harbour unless otherwise directed or allowed by the HA. SCH would like to be involved in any discussions which might result in more than one fueling location at any harbour.

The requirements outlined in this document in no way releases a fuel system owner, operator or licensee from being knowledgeable of and conforming to all relevant standards, regulations and codes of practice.

All new systems proposed for installation on HA leased property must meet all applicable codes and regulations at the time of installation. All existing systems where possible should be upgraded to these new standards and SCH is committed to work with each HA to meet these requirements.

Each fuel system owner is strongly encouraged to discuss the operations of their system with local HA officials to ensure both parties are aware of each others position on all aspects of the delivery of fuel products on HA administered property.

Over the next year or so, SCH will be working closely with all HA's in reviewing all proposed works to fuel delivery systems and will provide each HA with the required technical expertise and recommendations on all aspects of new and existing systems. In the following document this relationship is demonstrated by the incidents where a joint review or approval by the HA and SCH is recommended. In future years it is anticipated that individual HA's will be more than capable to accept a greater responsibility in this environmentally sensitive field.

A.2 ABBREVIATIONS

NFC - refers to the National Fire Code of Canada, 1995 and all revisions and errata thereafter.

ECP/AG - refers to the Environmental Code of Practice for Aboveground Petroleum Storage Tanks Containing Petroleum Products, latest edition/ draft, as published by the National Task Force on Leaking Storage Tanks for the Canadian Council of Ministers for the Environment.

ECP/UG - refers to the Environmental Code of Practice for Underground Petroleum Storage Tanks Containing Petroleum Products, latest edition/ draft, as published by the National Task Force on Leaking Storage Tanks for the Canadian Council of Ministers for the Environment.

ULC - refers to Underwriters' Laboratories of Canada.

Units of measure shall be abbreviated as follows:

- mm** - millimetres
- m** - metres
- ft** - feet
- kg** - kilogram

B. GENERAL REQUIREMENTS FOR ALL FUEL DELIVERY SYSTEMS

This section refers to all fuel delivery systems (fixed or moveable, aboveground or underground) for the purpose of storing and/or dispensing petroleum products, on property leased by the Small Craft Harbours Branch to an incorporated Harbour Authority. Additional requirements for each type of system are in the following sections.

B.1 OPERATIONAL REQUIREMENTS

It is recommended by SCH that all fuel delivery systems should have a valid operating licence issued by the HA. Before such a license is issued, an inspection of the site should be conducted by SCH and the HA to ensure that all standards and requirements are met as outlined in this document. At the discretion of SCH and the HA, supplementary conditions may be added to the licence on a site specific basis.

The owner of a fuel delivery system is solely responsible to ensure that the tank and/or dispensing unit is installed where approved by SCH/HA and maintained (including but not limited to sandblasting, sludge removal, painting, pressure testing, upgrading, inspecting and record keeping). Any costs incurred to maintain the system shall be borne by the facility owner.

The owner of a fuel delivery system is solely responsible to ensure that the system is operated in a safe manner, according to all applicable standards, codes and regulations.

The owner of a fuel delivery truck is solely responsible for the fuel delivery truck and is to ensure that the truck proceeds **only** to the approved dispensing area (along a pre-approved route); and is operated in a safe manner to all applicable standards, codes and regulations.

No person shall alter or cause to alter a *fixed system* on HA leased property without prior written approval from the HA, which will be granted after a combined HA/SCH review of both technical and operational aspects of each proposal.

Fuel storage and dispensing areas shall be kept clear of all debris and all structures, equipment, materials and vehicles. These areas shall not be used by any persons for any purpose other than storage and/or dispensing of petroleum products, unless prior written consent HA's been obtained from the HA.

Should any unsafe conditions exist for a fuel delivery system, the operator of the system, shall stop all dispensing and attempt to remedy the situation. Where this is impossible, the operator shall report the situation as soon as possible to the HA and discontinue operation of the system until HA approval is given to begin operation again. The HA should report all such incidents to the appropriate SCH Area office.

B.2 EMERGENCY RESPONSE

The owner of a fuel delivery system is responsible for having a SCH/HA approved emergency response contingency plan prepared and maintained. The owner must ensure that the operator of the system has knowledge of the contingency plan.

Every effort shall be made by the operator of a petroleum dispensing system to contain any leaks or spills as much as possible (refer to ECP/AG and ECP/UG).

In the event of a suspected or known leak, spill or fire the operator of the storage system must:

- (1) call the Environmental Emergency Response number (**1-800-565-1633** in New Brunswick, Nova Scotia and Prince Edward Island); and
- (2) follow the steps as outlined in both the ECP/AG and ECP/UG; and
- (3) call the HA Office that issued the operating licence.

B.3 SYSTEM ALTERATIONS

All *fixed system* alterations (installations, repairs, upgrades and removals) shall **only** be done by installers who are licensed or certified with the applicable provincial regulatory agency in that province. In addition all proposed alterations must be submitted in writing to the HA for review and approval prior to any work commencing. SCH will work with the HA in reviewing all technical aspects of all proposals.

B.4 SIGNAGE

The owner or licensee of a fuel delivery system shall be responsible to have on site all signs required by the HA to be manufactured and installed. All signs shall be on the licensed site and be maintained in good condition for as long as the system is operational. All signs manufactured and installed are at the owner's or licensee's expense.

Signs at dispensing sites shall be posted so that they are visible to approaching vessels (harbour side) and to approaching vehicles/pedestrians (land side). A sign meeting or exceeding HA requirements shall be posted at the dispensing site. An "Ignition Off During Fueling" sign or the international glyph shall also be installed where it will be clearly visible to the vessels using the fuel dispensing site. Clearly legible operating instructions in both official languages where deemed appropriate, shall also be posted at every dispensing area.

Signs at dispensing sites for fuel delivery trucks shall also include the owner's name and telephone number, operator's name and telephone number, HA office telephone number, type of fuel dispensed, and hours of operation.

Signs at storage tank sites shall be posted so that they are visible to vehicles and pedestrians. A sign meeting or exceeding the requirements of the HA shall be posted at the storage tank site.

B.5 TANK FILLING AND/OR DISPENSING REQUIREMENTS

Petroleum storage tanks shall only be filled by persons trained in tank filling procedures.

Hose nozzles conforming to ULC-S620M, "Standard for Valves for Flammable and Combustible Liquids" must be used for filling and/or dispensing.

Dispensing nozzles shall not be of the automatic closing type and must not use a hold-open device.

B.6 SYSTEM RECORDS

The owner of a fixed fuel delivery system is responsible for establishing and maintaining records as per both the ECP/AG and the ECP/UG.

Records shall be maintained (and retained for a period of at least five years) for:

- (1) Annual cathodic protection voltage measurements (sacrificial anode and/or impressed current systems) as per section C.11.
- (2) Annual mechanical line leak detection device checks (on existing submersible pump systems) as per section C.10.
- (3) Periodic checks on continuous electronic monitoring systems for double wall tanks and piping leakage. Periodic checks on other non-electronic system monitoring devices.
- (4) Leak test results.
- (5) System inspections, tests, or maintenance checks.

The owner of a fixed fuel delivery system shall maintain a record for **the life of the system** for:

- (1) All alterations and upgrading done on the system;
- (2) All excavations or nearby construction that could affect the integrity of the system.

Where there is a change in the fuel delivery system owner, all above mentioned records shall be transferred to the new owner.

Except where stated above, all other records required by the NFC shall be maintained for a period of at least two years by the owner or a designated representative. This will include inventory control records and reconciliation data. If there is a change in the owner or designated representative of the system, all other records required by the NFC shall be transferred to the incoming owner.

C. SPECIFIC REQUIREMENTS FOR FIXED FUEL DELIVERY SYSTEMS

This section refers to all fixed systems installed for the purpose of storing and dispensing fuels, on property administered by an HA. The preceding Section B requirements are also applicable. Systems being upgraded or replaced shall meet the requirements of a new system (Section D).

C.1 INSPECTIONS

Fuel delivery systems will be inspected by SCH/HA on a regular basis (usually annually, May to August). These inspections are undertaken to ensure that the systems are being operated and maintained in an acceptable manner. If the system does not meet the required standards, a time schedule (mutually agreed upon between SCH/HA and the system owner) shall be developed to remedy the facility discrepancies.

At the discretion of the HA (taking into account advice given by SCH), partial or complete repair or replacement of the system may be required immediately. All required upgrading (or facility removal if discrepancies are not remedied as agreed upon) shall be at the owner's expense and shall proceed according to applicable codes and regulations.

C.2 BARRICADES

Dispensing sites and storage tanks that are exposed to any type of vehicular traffic or any other sources of impact must be barricaded as deemed acceptable by the HA/SCH.

C.3 DISPENSING UNITS

Dispensing units shall be equipped with dispenser sumps and approved traffic protection. Dispenser sumps that are constructed of combustible material (NFC 4.5.3.3) shall be encased in concrete. If a concrete island is used as traffic protection, it shall be a minimum of 100 mm high and have a minimum clearance of 300 mm from each side of the dispenser to the face of the island.

An emergency device to shut off electrical power to the dispensing unit shall be provided at a location remote from the dispensing unit and acceptable to the HA. The device shall be clearly identified.

The dispensing unit shall be located not less than 7.5 m (25 ft) from the vent pipe of any storage tank containing flammable liquids.

The flexible hose used for the dispensing process, when over 4.5m in length, shall have a retraction device such as a hose reel or retraction pole which will contain either the entire length of hose or will keep it clear of the wharf surface in a manner acceptable to the HA/SCH.

The flexible hose used to transfer product from the dispensing unit to the vessel shall be connected to the unit with an emergency break-away connection that will automatically stop the flow of fuel from the dispensing unit and prevent any product remaining in the severed hose from spilling into the environment in the event of accidental separation. This connection shall be located in such a way as to not be compromised by any hose retraction systems.

C.4 FIRE EXTINGUISHERS

At least two (2) portable extinguishers, each having a rating of not less than 10 kilograms BC-rated, shall be installed at the licensed fuel dispensing site. The extinguishers shall be maintained in good working condition as per the NFC and shall be installed in an area determined between the HA and the owner. The fire extinguishers shall be at the licensed site, in good working order, at all times that the dispensing system is capable of being operated.

The fire extinguishers shall be located at least 5m from the dispensing unit. The extinguishers shall be kept in a high impact, flame retardant cabinet which will not rust or dent. The front panel of the cabinet shall be clear and breakable but should not shatter on impact. Alternatives may be considered by the HA where it can be demonstrated that safety will not be compromised.

Note: When two pumps (normally one gas and one diesel) are located on the same dispensing island, this shall be considered as one dispensing site as far as fire extinguishers are concerned, thus needing only two extinguishers as a minimum.

C.5 VENT PIPE REQUIREMENTS

All tanks at SCH harbours leased to a Harbour Authority shall have normal and emergency venting conforming to NFC Part 4.

Vent pipes shall be labeled as to the type of petroleum product being stored. The top of the label shall be 1.5m above the point of intersection between the tank's outermost shell and the vent pipe in the case of an aboveground tank or 1.5 m above adjacent ground level in the case of an underground tank.

Vent pipes for gasoline shall be a minimum of 3.5m above adjacent ground level and shall vent a minimum of 7.5m away from any fuel dispensing units and 1.5m away from any building openings.

Vent pipes for diesel fuel shall be a minimum of 2m above adjacent ground level.

C.6 FILL PIPE REQUIREMENTS

These requirements are in addition to those found in sections C.7 and C.8 of this document.

Fill pipes shall be covered and locked when not in use for filling, inventory or testing purposes by persons authorized to have access to the system.

A permanent tag labeling the type of product shall be attached to the fill pipe.

All systems shall be fitted with an acceptable overfill prevention device. Existing systems shall be upgraded with overfill prevention by April 1, 1996.

A spill containment device shall be fitted around the fill pipe. Existing systems shall be retrofitted with spill containment by April 1, 1996.

C.7 UNDERGROUND STORAGE TANKS

Underground fuel storage tanks shall be anchored by a reinforced concrete slab of sufficient size and weight to resist the total uplift force of the tank when it is empty and completely submerged in water. The tank shall not be in direct contact with the reinforced concrete slab but shall be separated by not less than 150 mm of sand or other suitable material to evenly distribute the weight of the tank on the supporting base. When a storage tank manufacturer specifies a greater separation between the tank and the slab, the greater distance of separation shall be required.

The lowest point of any underground petroleum storage tank shall be located at a distance of at least 4.5m, measured horizontally, above the high water ordinary spring tide.

Every new or proposed underground storage tank at all HA leased locations shall be designed and installed with the following ULC approved devices:

- (a) secondary containment of tanks and all product pipelines;
- (b) an overfill-prevention device;
- (c) a spill-containment device around the fill pipe;
- (d) a dispenser sump;
- (e) continuous electronic leak monitoring of tank and pipeline interstitial spaces, complete with alarm and power interruption capabilities in conformance to Section 4.11 of ECP/UG.

C.8 ABOVEGROUND STORAGE TANKS

FEDERAL REGULATIONS require, as a minimum, ULC listing on the entire aboveground storage tank system including the containment dyke as an integral part of the storage tank system. This type of system is referred to as a "contained steel aboveground tank assembly".

All shop fabricated aboveground storage tanks shall have an acceptable secondary containment system. The secondary containment area shall be monitored in a manner acceptable to the HA /SCH (refer to the ECP/AG). All dyke drains must be of the indicating valve type and locked when not in use and drained only in a manner approved by the HA/SCH.

The following standards shall apply for storage tank assemblies having secondary containment:

- (1) ULC-S653 "Standard for Contained Steel Aboveground Tank Assemblies for Flammable and Combustible Liquids";
- (2) ULC/ORD-C142.5 "Encased Steel Aboveground Tank Assemblies for Flammable Liquids";
- (3) CAN/ULC-S601 Part B "Double Wall Aboveground Storage Tanks"; and
- (4) ULC-S652 "Standard for Tank Assemblies for Collection of Used Oil"

All other secondary containment shall meet the requirements of the NFC, Section 4.3 and to the ECP/AG Section 3.8.

Where the secondary containment is such that liquids could potentially accumulate within the secondary containment area, a permanent oil/water separator shall be installed and be operational with the system unless other alternatives of draining liquids are approved by the HA/SCH. Every aboveground petroleum storage tank shall be marked to identify clearly its contents on at least two (2) sides in lettering of a size sufficient to ensure legibility from at least 4.5 metres or from outside a dyked area, whichever is greater (NFC subsection 4.3.15).

Permanent aboveground tanks shall be located above the highest high water mark on record for the area. The tank system shall be located and protected from damage due to ice and debris.

When aboveground tanks are located in an area that may be subjected to flooding, the tanks shall be securely anchored to prevent floating.

The distance between any two aboveground storage tanks shall be one (1) metre. They shall be spaced so that each tank is accessible for fire fighting purposes.

Dyke floors shall be constructed and sloped to allow for the drainage of liquids away from the storage tank and its supports.

Aboveground tanks shall normally be contained within a secure fenced area with vehicular barricades if deemed necessary by the HA.

C.9 PIPING REQUIREMENTS

C.9.1 General

These requirements are in addition to any related requirements in section C.7 and C.8 of this document.

All piping and related systems for petroleum storage tanks shall be constructed, tested and installed in conformance to NFC Sections 4.5 and 4.7 and to the ECP/UG and ECP/AG. This implies that all underground piping must be double walled.

Where storage tanks are at an elevation above the dispensing unit, an electrically operated solenoid valve, designed to open only when the dispensing apparatus is being operated, and to prevent gravity draining of the tank in the event of a rupture of the supply line to the dispensing unit, shall be provided at the storage tank outlet, as close as practical to the tank shell.

Piping for flammable and combustible liquids shall not be painted red (NFC 4.4.4.1.(2)).

Plans of the piping layout, including tank and pumping arrangements, shall be available from the owner/operator to the local fire department on request (NFC 4.4.4.2.(1)).

Where piping is located on or above the wharf surface, it shall be protected from impact, excessive vibration or other damage in a manner acceptable to the HA/SCH. Piping shall be properly supported and arranged to prevent excessive vibration or strain on equipment connected to it.

Piping supports shall consist of wood having no dimension less than 150 mm or shall consist of steel or concrete.

Where piping changes from underground to aboveground or vice versa, the transition shall be through a suitable flexible joint system to allow for any differential movement between the two segments of piping.

C.9.2 Aboveground Storage Tank System Piping

Buried primary piping 75 mm nominal pipe size or smaller shall have secondary containment with interstitial leak detection.

Buried primary piping larger than 75 mm nominal pipe size shall have either:

- (1) secondary containment with interstitial leak detection; or
- (2) a cathodic protection system, with the piping being pressure tested for integrity every year beginning in the fifth year of operation.

Thermal relief valves shall discharge back into the low pressure side of the piping.

Piping shall be upgraded whenever the associated tanks are upgraded.

C.9.3 Underground Storage Tank System Piping

At all harbour sites piping shall be installed with:

- (1) secondary containment with interstitial leak detection for any underground product piping and transfer lines between connected storage tanks;
- (2) line leak detection on pressure piping;
- (3) leak detection systems shall be alarmed and interlocked to stop product flow and sound an audible alarm. The leak detection system shall be interlocked to shut off power to the pump(s) if it is turned off or bypassed for more than one minute.

C.10 LEAK TESTING AND UPGRADING

These requirements are in addition to any other leak tests or upgrading required by any applicable codes, regulations and governing bodies.

Upon installation, all buried components of an aboveground or underground system shall be precision leak tested by a person qualified to conduct these tests in the province in which the test is conducted. Results of these tests shall be sent to the HA within ten (10) days of the test by the person/company completing the test.

The testing shall include precision leak testing prior to backfilling (while the piping and piping -to-tank connections are exposed) and after backfilling and surface preparations have been completed.

Leak testing for new shop fabricated aboveground storage tanks is not required.

Whenever the inventory reconciliation conducted on the storage tank system indicates a leak according to ECP/AG and ECP/UG standards, a precision leak test shall be conducted and the necessary action taken.

A schedule for leak testing and upgrading of existing underground storage tanks systems shall be arrived at in consultation between the HA/SCH and the system owners.

All S603 tanks (unprotected) must have been removed by March 1994. All existing S603.1 tanks (protected) are allowed to remain in use provided they exhibit acceptable cathodic protection values each year. Tanks with low CP readings will require protection upgrade or removal. This will be determined on a "tank by tank" basis.

Associated piping shall be precision leak tested in a time frame agreed upon by the HA/SCH and the system owners. Copies of precision leak tests shall be sent to the HA within ten (10) days of the test by the company completing the test. Where tests show a system to be leaking, immediate remedial action shall take place. This may include further site testing or removal of the piping.

Refer to NFC 4.3.16 and the ECP/AG and ECP/UG for various approved methods of leak testing.

C.11 CATHODIC PROTECTION

Refer to the NFC and ECP/AG and ECP/UG for additional requirements concerning cathodic protection.

Cathodic protection systems shall be tested annually at the owner/operator's expense and the test results kept in accordance with Section B.6. Where the protection systems are not tested this shall be considered to be inactive and providing no protection to the buried component.

Where not otherwise regulated, any buried steel component of a *fixed system* in contact with soil shall be cathodically protected. Cathodic protection for buried steel tanks or lines shall conform to CAN/ULC

S603.1M or good engineering practice, based upon tests and the corrosion history of the area and acceptance by the HA and SCH.

Any buried components of a *fixed system* that are cathodically protected shall be isolated from each other and any other existing facilities that could interfere with the cathodic protection of the tank.

Components cathodically protected by sacrificial anode, shall be installed with test wires brought to the surface and fastened at an acceptable location, or a zinc reference electrode and monitoring station such that the system may be easily tested.

Components cathodically protected by impressed current, shall be continuously protected (i.e. continuous power supply) all year round regardless of the operating season of the system.

D. REQUIREMENTS FOR PROPOSED FIXED FUEL DELIVERY SYSTEMS

This section refers to all proposed fixed systems (aboveground or underground) for the purpose of storing and dispensing gasoline or diesel fuel, on property administered by a Harbour Authority.

These requirements are in addition to those in Section B and Section C.

D.1 REQUIREMENTS TO OBTAIN PERMISSION TO CONSTRUCT A NEW FUELING FACILITY

The initial process for any proposed new system is to request, fill out and return the required application form *Application to Install a Fuel Delivery System on Property Administered by a Harbour Authority* to the applicable HA office.

If a decision is made to allow for the new system, the proponent must then prepare engineering drawings by an engineer licensed to practice in that province, and return the drawings to the HA which will work with SCH in reviewing and recommending possible changes. No work is to be started until final approval is received from the HA in writing on the proposed system.

NOTE: This initial approval is based on the proposal only and is not to be considered the final necessary system approval to commence operations of the system.

D.2 REQUIREMENTS TO OBTAIN LICENCE TO OPERATE

Before a licence to operate a newly installed fuel delivery system will be issued by a Harbour Authority, the owner must provide the HA/SCH with the following:

- (1) a copy of all inspections undertaken during system installation
- (2) as-built construction drawings of the system
- (3) for systems installed in Prince Edward Island, a copy of the completed provincial registration form, indicating the tank registration number.

D.2.1 Inspections

When a proposed system HA's been reviewed by the HA/SCH and approved the HA for a specific site, the system owner shall arrange, in conjunction with the HA/SCH, for the system to be inspected throughout the installation project. This may be done by the Provincial Department of Environment or by an engineering consulting firm hired for the project. Any costs incurred shall be borne by the proponent and may be included in the general terms of the operational licence.

One copy of the inspection report is to be forwarded by the inspector to HA/SCH. The inspection report must contain the following:

- (1) Certification that the system meets all applicable codes, regulations and standards for petroleum storage tank systems in the applicable province and that the system is up to standard for the specific site sensitivity assessment.
- (2) Certification that acceptable corrosion protection HA's been achieved.
- (3) Certification that leak testing was performed before *and* after backfilling.

D.2.2 As-Built Construction Drawings

The as-built construction drawings must include a scaled site drawing indicating locations of storage tank, dispensing area, system pipelines, barricades, wharves, breakwaters, shoreline, buildings, etc. Underground elements of the system must be included on the drawing, as well as overfill protection devices, spill prevention devices, methods of protecting pipes, leak detection methods used on or in the tank and pipes, hose retraction devices, and type of cathodic protection used.

D.2.3 Provincial Tank Registration Number

On Prince Edward Island, the Provincial Department of Environment (DOE) requires all underground petroleum storage tanks and aboveground storage tanks 4000 litres or greater, to be registered with their agency. The owner of the storage tank must forward a completed provincial registration application form to DOE. Once the tank is registered, a copy of the provincial registration complete with the provincial tank registration number must be provided to the HA.

D.3 CONSTRUCTION AND INSTALLATION OF TANKS

Petroleum storage tanks shall be a minimum of 15 metres from the wharf face except where the following conditions are met:

- (1) the storage tank does not exceed 2500 litres aggregate capacity;
- (2) the product stored is not flammable;
- (3) the wharf is of the solid-fill type or is of non-combustible construction;
- (4) the wharf's structural integrity will not be compromised; and
- (5) the location is acceptable to the HA.

Underground steel storage tanks shall be installed in conformance with Appendix B of CAN/ULC-S603.1, "Galvanic Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids."

Fiberglass Reinforced Plastic underground petroleum storage tanks and piping shall be constructed and shop tested in conformance with CAN/ULC-615, "Standard for Reinforced Plastic Underground Tanks for Petroleum Products." All Fiberglass Reinforced Plastic storage tanks shall be installed in conformance with Appendix A, of this same standard.

If an aboveground petroleum storage tank is to be placed on a marine structure, the HA/SCH will investigate the structural integrity and the load bearing capacity of the structure. This must be completed before any system installation or placement of equipment may occur on the marine structure.

D.4 LEAK TESTING

Refer to Section C.10, the NFC and the ECP/UG or ECP/AG (whichever is relevant).

Leak testing for new shop fabricated aboveground tanks is not required.

D.5 CATHODIC PROTECTION

Refer to Section C.11.

D.6 PIPING

Refer to Section C.9.

E. REQUIREMENTS FOR FUEL DELIVERY TRUCKS

This section refers to all fuel delivery trucks used for the purpose of dispensing fuel products on property administered by a Harbour Authority.

These requirements are in addition to those in Section B.

E.1 OPERATIONAL REQUIREMENTS

All fuel dispensing vehicles entering on property administered by a Harbour Authority must meet Section 4.11 of the NFC and must conform to the Shipping Container Specifications 5, 5A, 5B, 5C, 5L or 5M of the Canadian Transport Commission.

A fuel dispensing vehicle shall proceed **only** to the approved dispensing area along a pre-approved route as outlined as part of the operating licence. The operator of the fuel dispensing vehicle shall not, in any circumstance, dispense fuel at any other location other than is designated on the operational licence.

Before a dispensing area is designated, the Harbour Authority and SCH shall investigate the structural integrity and the load bearing capacity of the structure. The fuel delivery truck may proceed only after this HA's been completed to the satisfaction of the HA/SCH.

Where a fuel delivery truck is in operation, the operator shall remain in close proximity to the discharge control valve to shut off the flow of liquid in an emergency.

Absorbent material to soak up liquid spillage shall be provided by the owner for use by the operator in case of a leak or spill. It shall be available at the dispensing site whenever fuel is being dispensed by the owner/operator.

E.2 FIRE EXTINGUISHERS

Fuel delivery trucks shall be provided with at least one portable extinguisher having not less than a 20-BC rating and when more than one is provided, each extinguisher shall have not less than a 10-BC rating (NFC 4.11.9.).

The extinguisher(s) must be within easy reach by the operator, at all times that the fueling operation is in progress.

F. REQUIREMENTS FOR USED OIL STORAGE SYSTEMS

Refer to Section B and Section C for additional requirements.

Used oils often contain both oil and more volatile flammable liquids, such as gasoline and solvents. The hazard presented by such a mixture is governed by the more volatile component. Since there is no way to ensure that the more volatile liquids are not mixed with the oil, waste oils should be treated as flammable liquids.

F.1 USED OIL STORAGE TANK STANDARDS

F.1.1 Underground Tanks

Underground used oil tanks shall meet the most stringent of requirements for underground tanks. This shall include double wall storage tanks.

Refer to the ECP/UG for a complete description of additional requirements.

F.1.2 Aboveground Tanks

Refer to the ECP/AG for a complete description of additional requirements.

Aboveground tanks shall meet ULC-S652 "Standard for Tank Assemblies for Collection of Used Oil", as well as the following:

- (a) All used oil storage tanks shall be provided with secondary containment.
- (b) Tank interior's shall be protected with a material resistant to the corrosive effects of salt water.
- (c) The system's overall design shall be user friendly and environmentally conscious.
- (d) The finish to all surfaces exposed to external conditions, shall be a high build epoxy paint applied as per manufacturer's specifications over a sandblasted surface and capable of withstanding constant exposure to harsh marine conditions or an approved equivalent.
- (e) The fill funnel shall have a means to facilitate the use of a locking device to secure the system from being used without undermining the emergency venting capabilities of the fill funnel system.
- (f) The system, when sitting on a level surface, shall have a 2° (two degree) slope toward the area where the tank is emptied to facilitate maximum emptying of the system.

The following labeling is required in addition to those required by ULC:

- (1) Set-up and operating instructions label in both official languages;
- (2) Area under the funnel cover shall have an area to affix the appropriate Environmental Emergency response telephone number;
- (3) The aforementioned emergency response number shall be shown at another area designated on the tank separate from the funnel area and in a location that is easily visible by persons using the system;
- (4) A WHMIS warning and product identification label printed in both official languages shall be affixed on the top side of the funnel cover (minimum 30mm letters);
- (5) WHMIS warning, product identification, and fire ignition warning labels in both official languages and meeting NFC standards shall be affixed on the outside of the tank system and be located 90°(ninety degrees) apart such as to be easily visible by users of the system. Letters shall be a minimum of 75 mm high.

F.2 USED OIL COLLECTION AND DISPOSAL

Used oil shall be collected and disposed of in a manner acceptable to the applicable provincial environmental agency or department responsible for regulating this action on a provincial level.

FUEL STORAGE AND DISPENSING LICENSE

LICENSE No: _____

This license is hereby granted this _____ day of _____, 20____, to _____ (the "Licensee") by the Harbour Authority of _____ (the "Licensor").

WHEREAS the Licensee has made application to operate a fuel storage and dispensing system on properties administered by the Licensor and owned by Her Majesty the Queen in right of Canada.

WHEREAS the Licensor has agreed to provide an area on their administered lands, such area shown outlined in red on the attached schedule "A" (the "Site"), for the operation of a fuel storage and dispensing system.

IN CONSIDERATION of the receipt of this License and other good and valuable consideration, the parties covenant and agree as follows:

1. In this License,

"Certified Firm" means a corporation with specialization in petroleum engineering that is certified by the Province (as defined herein) or the Government of Canada to inspect a Fuel System (as defined herein);

"Fuel" means any product of petroleum, gas fuel, liquid fuel, crude oil, propane, diesel, coal or natural gas, by whatever name known or sold, containing any derivative of petroleum, gas fuel, liquid fuel, crude oil, propane, diesel, coal or natural gas, and includes benzol and any benzol mixture;

"Fuel System" means any tanks, fuelling pumps or any other equipment whatsoever associated in any manner with the storage and dispensing of Fuel (as defined herein) or in any other manner in relation to this License;

"License to Operate" means a license obtained from the appropriate governmental authority within the Province (as defined herein) in order to comply with any and all provincial laws, regulations or rules applicable to the ownership, operation or usage of a Fuel System (as defined herein);

"Province" means the Province in which the Harbour Authority, the Licensor, is located.

2. This License is granted for the term from the _____ day of _____, 20____ up to and including the _____ day of _____, 20____ (the "Term").

3. The present License is granted in consideration of the sum of \$_____ per annum (the "Annual Fee"), which the Licensee promises and obliges to pay yearly in advance of the commencement of the Term. The Licensor reserves the right to change the Annual Fee on 15 days written notice.

4. If the Licensee defaults in the payment of the Annual Fee, such Annual Fee shall bear interest equal to the Prime Lending Rate of the Bank of Canada to Chartered Banks at the date of the default plus 5% (simple interest) calculated from the date of the default to the date of the final payment.

5. The Licensee must comply with all applicable federal and provincial laws, regulations and rules as well as all municipal by-laws associated with the storage and dispensing of Fuel as amended from time to time, and this includes but is not limited to the most recent version of the "National Fire Code of Canada", the "Environmental Code of Practice for Fuel Storage and Dispensing on Federal Properties" and the latest version of the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada "Operational and Construction Guidelines for Fuel Delivery and Waste Oil Systems".

6. On an annual basis for an underground tank system, or every three years for an aboveground tank system, the Licensee must provide to the Licensor written documentation from a Certified Firm that an inspection has been undertaken and that the Fuel System is in compliance with all applicable federal and provincial laws, regulations and rules as well as all municipal by-laws associated with the storage and dispensing of fuel as amended from time to time, and this includes but is not limited to the most recent version of the "National Fire Code of Canada", the "Environmental Code of Practice for Fuel Storage and Dispensing on Federal Properties" and the latest version of the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada "Operational and Construction Guidelines for Fuel Delivery and Waste Oil Systems".
7. The Licensee must obtain a License to Operate from the Province and provide a copy prior to the commencement of the Term to the Licensor.
8. The Licensee is not permitted to make any changes to the Fuel System, or the operation or usage thereof, without having obtained the prior written consent of the Licensor and the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada. .
9. The Licensee shall obtain at its expense a comprehensive general liability insurance policy that is satisfactory to the Licensor covering all damages and loss resulting from the Licensee's use and occupation of the Site. The policy is to be effective during the term of this License, and any renewal thereof. The insurance policy must include the licensor as an additional insured and must be for at least two million dollars (\$2,000,000.00) for personal and bodily injury, property damage and environmental contamination, including but not limited to the loss of use of property for any one occurrence or series of occurrences arising out of any cause of action.
10. The Licensee shall provide to the Licensor, who will in turn forward a copy to the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada, a certified copy of the insurance policy with proof of payment thereof. The Licensee shall immediately notify the Licensor of any cancellation or intended cancellation of the policy or any changes to the policy.
11. The Licensee shall at all times indemnify and save the Licensor and Her Majesty the Queen in right of Canada harmless from and against any and all claims, demands, losses, costs, charges, expenses, actions and other proceedings, including but not limited to those in connection with workplace safety and insurance compensation or any similar or successor arrangement, made, brought against, suffered by or imposed on the Licensor or in relation to the properties administered by the Licensor in respect of any failure by the Licensee to fulfill any of its obligations under this License or caused by any type of environmental contaminants found on the Site or properties administered by the Licensor which have escaped or been discharged as a result of the Licensee's operations or in respect of any loss, damage or injury, including injury resulting in death:
 - (a) to any person or property, directly arising out of, resulting from or sustained by reason of the Licensee's occupation, use or remediation of the Site, or any operation in connection therewith or any fixtures or chattels thereon, or,
 - (b) to any person in the course of that person's entry onto or exit from the Site.
12. In the event of a leak or spill of the Fuel or any other event which can or could cause damage to the environment or pose a risk to the health or safety of any individual, the Licensee shall report the incident immediately to the Licensor, who in turn will report the incident to the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada for determination of an appropriate response. The Licensor will be required to report any leak or spill of the fuel or any other event that can or could cause damage to the environment or pose a risk to the health or safety of any individual by immediately calling: **Canadian Coast Guard – Regional Operations Centre (Maritimes) at 1-800-565-1633.**
13. Nothing shall be done or permitted to be done by the Licensee which may damage or injure the Site or any access or exit area from the Site, and the Licensee shall, at the Licensee's own expense, maintain and repair all or any part of the Site or any access or exit area from the Site, which may at any time during

the Term of this License be damaged as a result of the License hereby granted, other than ordinary wear and tear as determined by the Licensor.

14. The Licensee is at all times material hereto responsible for the operation or usage of the Fuel System and the Site. If the Licensor becomes aware of any problem with the operation or usage of the Fuel System or the Site, the Licensor shall inform the Licensee in writing of any and all problems, including but not limited to any structural or operational deficiencies, arising out of the operation or usage of the Fuel System or the Site. At no time, is the Licensor responsible in any manner for these problems.
15. The Licensee, at its expense, shall immediately after having been notified by the Licensor of any problems, including but not limited to any structural or operational deficiencies, arising out of the operation or usage of the Fuel System or the Site, take action to rectify the problems, including but not limited to any structural or operational deficiencies, arising out of the operation or usage of the Fuel System or the Site.
16. This License may be terminated by written notice by either party at any time.
17. Upon termination of this License;
 - (a) the Licensee shall remove from the Site the Fuel System and any and all structures that it has erected thereon within _____ days at the Licensee's expense, and the Licensee shall restore the Site to a neat and tidy condition satisfactory to the Licensor;
 - (b) the Site and the properties administered by the Licensor will be inspected by the Licensor and the Small Craft Harbours branch of the Department of Fisheries and Oceans Canada to determine the extent of any environmental contaminants found on the Site or properties administered by the Licensor which have escaped or been discharged as a result of the Licensee's operations, and the costs and expenses associated with the cleanup of the Site or the properties administered by the Licensor will be the responsibility of the Licensee.
18. If the Licensee fails to remove the Fuel System and any structure that it has erected on the Site, the Fuel System and any and all structures erected on the Site by the Licensee shall become the property of the Licensor without any right to compensation on the part of the Licensee.
19. The Licensee will be responsible for any and all costs and expenses incurred by the Licensor if the Fuel System and any structure erected by the Licensee on the Site are removed by Licensor, and the Licensee shall immediately upon demand reimburse the Licensor for these removal costs and expenses, including but not limited to any and all administrative expenses, storage costs and environmental cleanups of the Site or the properties administered by the Licensor.
20. The Licensee cannot transfer or assign this License or any of its rights under this License.
21. The operation and use of the Fuel System and the Site by the Licensee must not interfere with the public use of the Site.
22. The Licensee is responsible for all taxes, rates and assessments arising out of the granting of this License.
23. This License does not create an interest in land.
24. The Licensee will not hold the Licensor accountable or responsible for any of the actions taken by any of the Fuel System users or any resulting impact on the harbour facilities, upland or water lots.
25. This License is the entire License between the Licensor and the Licensee regarding the subject of this License and it can be amended or supplemented only by a document executed in writing by both the Licensor and the Licensee.

26. Any notices or other communications required or permitted to be given under this License shall be in writing and shall be forwarded in the manner prescribed herein to the respective party at the address designated as follows or at such revised address as such party may from time to time designate by giving notice in writing to the other party in the prescribed manner:

To the Licensor: _____

To the Licensee: _____

Notice may be given by (i) delivery, effective at the time of actual delivery, (ii) telex, telecopier or any form of optical or electronic communication that generates a permanent record of the information transmitted which is capable of being displayed as alpha numeric characters, effective at the time of completion of such transmission if transmitted during the recipient's regular business hours, and alternatively effective at the commencement of the recipient's regular business hours on the next business day following such transmission or (iii) registered mail, effective on the third business day following the deposit of a properly addressed form of notice in the mail; provided however, that in the event of an actual or threatened disruption of regular postal service, notice shall not be effective if given by mail.

IN WITNESS WHEREOF the parties have hereunder executed this License in duplicate by their duly authorized representatives the day and year which appear under their signatures.

LICENSOR - HARBOUR AUTHORITY

(printed name of person signing)

(position of person signing)

DATE: _____

LICENSEE -

(printed name of person signing)

(position of person signing if applicable)

DATE: _____