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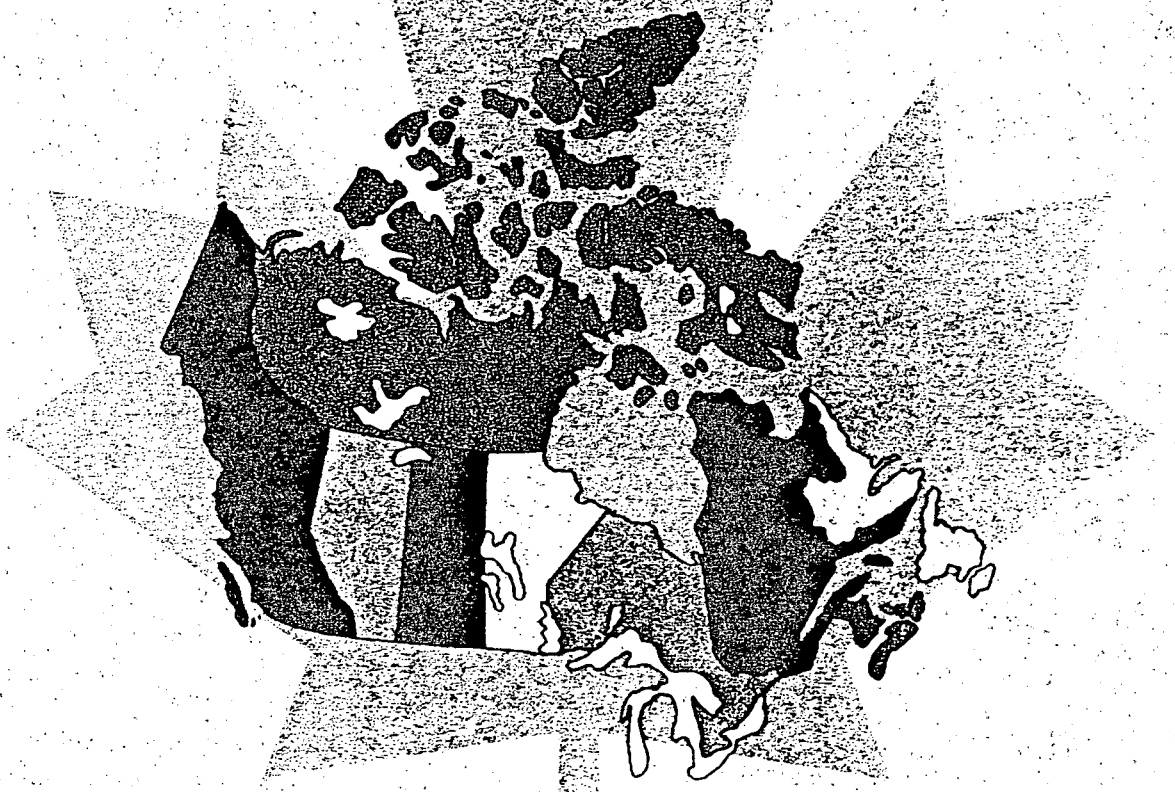

AN ACTION PLAN FOR MANAGING HAZARDOUS SUBSTANCES AT FEDERAL SITES

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Prevention, Preparedness & Response
An Action Plan for
Managing Hazardous Substances
at Federal Sites

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TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

Federal government departments have significant stewardship responsibilities related to the efficient management of hazardous substances, particularly in the areas of emergency prevention, preparedness and response. These responsibilities have developed over the years as a result of a number of important federal government initiatives, both voluntary and regulated. One of the most important was the Government of Canada's Green Plan for a Healthy Environment, published in 1990. The Plan recognized and built upon an ongoing government commitment to environmental protection and enhancement, and set out an ambitious national program to achieve sustainable development in Canada. It was a government-wide initiative and detailed a comprehensive environmental plan of action for all federal departments. In addressing emergency preparedness and response, the Plan focussed on preventive measures and committed the federal government to working in consultation with provinces and the private sector to promote measures to effectively prevent and adequately respond to emergency events. Specifically, the Green Plan stipulated that the federal government would continue to support the Major Industrial Accidents Council of Canada (MIACC) in its efforts to develop programs on spill prevention, emergency preparedness and public education.

The Green Plan also included a commitment to develop and adopt an extensive Code of Environmental Stewardship covering all aspects of federal operations and activities. The Code, completed in 1992, committed federal departments to the principle of sustainable development and to the application of environmentally responsible management practices for hazardous substances used in their operations and activities. This stewardship policy evolved into a government-wide process to "green government". With the amendments to the Auditor General Act in 1995 and the establishment of a Commissioner of the Environment and Sustainable Development, the integration of environmental

considerations into **all** aspects of federal operations has become an obligation. and not just a voluntary undertaking. A significant aspect of the Auditor General Act amendments is the requirement that all departments prepare a Sustainable Development Strategy and an Environmental Management System within two years, that is, by the end of 1997.

Federal department activities will also be influenced by the requirements of the proposed amendments to the Canadian Environmental Protection Act (CEPA). These amendments will provide Environment Canada with the authority to adopt appropriate standards, guidelines and codes of practice developed by MIACC and other organizations for the environmental aspects of emergencies. The new CEPA also recognizes that federal departments and agencies might use hazardous substances which could be released to the environment, and that these facilities should therefore be subject to the same requirements for prevention, preparedness, response and recovery activities as those facilities regulated by other levels of government.

In the context of their responsibilities under the amended Auditor General Act, the revised CEPA, and other significant "greening government" initiatives, federal facilities will be required to be more fiscally and environmentally responsible and responsive. Custodial departments will now be responsible for the life-cycle management of hazardous substances, emphasizing the prevention of, the preparation for, and the improvement of the response to accidental releases of hazardous substances. In addition, they will be required to report real progress in this regard.

In order for federal facilities to successfully implement a consistent life-cycle management approach to hazardous substances at their sites, a number of activities must be undertaken. Initially, a list of substances of concern must be developed; priority areas must be identified on-site where substances of concern

could be in use, and the management systems in place at these facilities to control such substances must be described and evaluated. As a result of these activities, data gaps in the life-cycle management of substances can be identified, and an action plan to ensure proper life-cycle management can be developed.

Prevention, preparedness and emergency response activities are, by their very nature, site specific, and it is recognized that individual facilities must develop their own action plans relating specifically to their own situation and priorities. However, general guidance and recommendations on protocols, standards and codes of practice can assist individual managers in the development of their own plans. It is in this area of technical advice and assistance that Environment Canada can focus much of its efforts and help to significantly enhance the ability of federal facilities to effectively manage hazardous substances.

In that respect, and in accordance with Green Plan and CEPA commitments and responsibilities, Environment Canada promotes the use of MIACC tools for the development of effective emergency management systems. MIACC is a partnership of interested parties formed primarily to reduce the frequency and severity of major industrial accidents. Federal, provincial and municipal governments, industry, labour, emergency response groups, public interest groups and academia all cooperate and consult through the MIACC process to develop standards, guidelines and tools to assist in emergency prevention, preparedness and response activities undertaken across the country. MIACC has compiled Lists of Hazardous Substances and the threshold quantities (on-site at any given time) above which the substances can present hazards to workers, to the general public, to property and to the environment if not properly handled. The presence of these substances above the threshold quantities does not necessarily mean there is an unacceptable risk to the community: only if measures are not taken to manage the substances properly would there be a

high probability of an accident. The substances on MIACC's List One are those which, if improperly handled, the Council has determined could lead to major incidents. These substances are identified in Table 1.

MIACC has undertaken an initiative across the country to identify private sector and municipal sites where substances on this List are present above the specified threshold levels. To date, there have been no similar initiatives relating to federal facilities, and one of the objectives of the current study was to identify federal sites where the MIACC substances are used and/or stored, and to assess the management actions that individual departments have instituted in the areas of accident prevention, preparedness and emergency response. The study was not necessarily designed to elicit accurate and detailed inventory information. Rather, general information related to the quantities of specific substances used and/or stored; storage and handling practices; risk identification activities; emergency plans and procedures in place; emergency exercises conducted; personnel training plans, and communications / public relations was compiled.

In addition, the study served to highlight those areas where the federal government is demonstrating exemplary stewardship in managing hazardous substances, and to identify those areas where added effort is needed. An Action Plan was developed to identify key areas where Environment Canada might concentrate its efforts over the next few years in order to effectively fulfill its responsibilities in promoting federal stewardship.

This report summarizes the results of the study to identify the management of the MIACC List One Hazardous Substances at federal sites, and to develop an Action Plan to identify priority areas where assistance is most required by federal departments, and where Environment Canada efforts might be most effective.

Table 1 MIACC List One

CHEMICAL	THRESHOLD LEVEL (TONNES)
Acetaldehyde	200
Acetylene	50
Ammonia, Anhydrous	100
Ammonia, Solutions	100
Arsine	0.5
Benzene	100
Bromine & Bromine Solutions	200
Butane & Butane Mixtures	100
Chlorine	10
Cyclohexane	200
Ethylbenzene	200
Ethylene	100
Ethylene Dichloride	200
Ethylene Oxide	50
Fluorine	10
Gasoline	200
Hydrogen Chloride / Acid	50
Hydrogen Fluoride / Acid	50
Hydrogen Sulphide	10
Liquefied Petroleum Gases	100
Mercury	100
Methane	100
Naptha, Petroleum Naptha, Naptha Solvent	200
Nitric Acid, Fuming or Red Fuming	10
Propane & Propane Mixtures	100
Propylene Oxide	50
Sodium Chlorate	200
Sulphur Dioxide	100
Sulphuric Acid, Fuming	10
Tetraethyl Lead	1
Toluene	100
Vinyl Chloride	200
Xylene	200

APPROACH

In designing a methodology for the study, and after examining several possible processes, an interview approach was chosen as the most effective technique for achieving the objectives of the project. In order to ensure that all facility representatives were asked essentially the same questions, a questionnaire was developed for use at each facility. A copy of the questionnaire is included at the end of this section. Recognizing the time constraints at this typically busy time of year (February / March), the questionnaires were not designed to be mailed out and completed by the federal facility managers. Rather, interviews were arranged with appropriate personnel, and the questionnaires were completed by the interviewers during the course of the discussions.

Early in the project, after a careful evaluation of the MIACC Lists of Hazardous Substances, a decision was made to concentrate on the List One Substances but not on the List One Threshold Values. This decision was based on a knowledge of the common operational activities at federal sites where the threshold values identified by MIACC are generally too high to be applicable. The study therefore focussed on the presence or absence of MIACC List One Substances at individual federal facilities.

Because time constraints did not allow a statistically valid number of federal facilities to be included for evaluation, a representative cross section of federal departments was selected and interviews conducted to determine the status of hazardous substances management at those selected facilities. The selection process was facilitated through discussions with members of the Federal Committee on Environmental Management Systems (FCEMS). A presentation was made to the Committee in which the purpose of the study and the potential benefits accruing from it were outlined. Representatives on the FCEMS were then asked to suggest sites where prevention, preparedness and response

awareness would be high and also where it might not be as advanced. In this way, a cross-section of facilities could be surveyed and a range of needs identified.

In addition, the report of the Federal Council Workshops on Greening Government held in the Atlantic Region was evaluated to determine the status of Environmental Management System development at federal sites in the Region. Consideration was given to sites in varying stages of the development and implementation of such systems.

In total, 20 federal facilities were selected for inclusion in the interview phase of the study. These are listed in Table 2 .

All Environment Canada Regional Offices were also contacted during the course of the study to determine their involvement with other federal departments in emergency prevention, preparedness and response activities. Regional staff were also asked to comment on the status of federal facility inventory information in each of their offices, as well as on other relevant aspects of their dealings with federal facilities. This information was useful in assessing regional differences in approach to the implementation of emergency programs, and provided valuable background data on the way in which each region conducts activities related to other federal departments.

Table 2 Federal Sites Surveyed

DEPARTMENT / FACILITY	LOCATION
Agriculture & Agrifood / Research Center	Fredericton, New Brunswick
Agriculture & Agrifood / Atlantic Food & Horticulture Research Center	Kentville, Nova Scotia
Correctional Service Canada / Penitentiary	Dorchester, New Brunswick
Correctional Service Canada / Atlantic Institution	Renous, New Brunswick
Correctional Service Canada / Institution	Springhill, Nova Scotia
Correctional Service Canada / Institution	Westmorland, New Brunswick
Department of Fisheries and Oceans / Canadian Coast Guard Base	Charlottetown, Prince Edward Island
Department of Fisheries and Oceans / Canadian Coast Guard Base	Dartmouth, Nova Scotia
Department of Fisheries and Oceans / Canadian Coast Guard Base	Prescott, Ontario
Department of Fisheries and Oceans / Canadian Coast Guard Base	Saint John, New Brunswick
Department of Fisheries and Oceans / Bedford Institute of Oceanography	Dartmouth, Nova Scotia
Department of Fisheries and Oceans / Water Street Fisheries Laboratory	Halifax, Nova Scotia
Department of National Defence / CFB Gagetown	Gagetown, New Brunswick
Department of National Defence / MARLANT Halifax	Halifax, Nova Scotia
Environment Canada / Environmental Science Center	Moncton, New Brunswick
Environment Canada / Environmental Technology Center (ETC)	Ottawa, Ontario
Transport Canada / Airport	Charlottetown, Prince Edward Island
Transport Canada / Airport	Fredericton, New Brunswick
Transport Canada / International Airport	Halifax, Nova Scotia
Transport Canada / Airport	Saint John, New Brunswick

QUESTIONNAIRE USED DURING INTERVIEWS AT FEDERAL SITES

A. GENERAL INFORMATION

Facility Name_____

Facility Address_____

Facility Contact_____

Phone_____

Fax_____

Type of Activity:

_____

Areas where hazardous substances may be found:

_____

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population. prevailing wind direction)

_____

_____

_____

_____

_____

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes_____ No_____

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes_____ No_____

3. Are any MIACC List 1 Substances used and / or stored?
   Yes_____ No_____

4. Are they present in amounts exceeding the Threshold Values?
   Yes_____ No_____

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes_____ No_____ Details_____

6. Where are these substances stored?
   - Outside_____
   - Inside_____
   - In Special Storage Rooms_____
   - Other_____

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks_____
   - dykes _____
   - specialized containers _____
   - labeled and controlled entry storage rooms_____
   - other_____

8. Usually, for how long are the chemicals in storage prior to use?
   _____

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   _____

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   _____

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   _____

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes_____ No_____

2. How often are such events likely to occur?
   _____

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes_____ No_____

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes_____
   - inventory reduction_____
   - substitution of hazardous chemicals with less hazardous ones_____
   - training of personnel_____
   - regular maintenance and inspection activities (i.e. a checklist)_____
   - other_____

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes_____ No_____

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes_____ No_____

3. When was your plan prepared?
   _____

4. Is it periodically audited and updated?
   Yes_____ No_____

5. Does your plan include:
   - an analysis of risk_____
   - an identification of the hazards_____
   - documentation on applicable legislation_____
   - organization, roles and responsibilities_____
   - notification system (to whom are you required to report in case of a spill or release)_____
   - resources required and available to respond_____
   - contact telephone list_____

- emergency response procedures_____
- communications and public relations strategies_____

6. Do you conduct regular exercises to test the plan?
   Yes_____ No_____

7. Is there an Emergency Coordinator?
   Yes_____ No_____

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes_____ No_____

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes_____ No_____

2. Do they have any formal training, e.g.:
   - WHMIS_____
   - TDG_____
   - chemical safety_____
   - emergency procedures_____
   - other_____

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes_____ No_____

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes_____ No_____

2. What is the nature of this interaction?
   - regular open houses_____
   - public participation on facility committees_____
   - newsletters and bulletins_____
   - other_____

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes_____ No_____

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes_____ No_____

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes_____ No_____

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel_____
   - guidance on chemical handling, storage and disposal_____
   - training on risk evaluation_____
   - training on contingency planning_____
   - other_____

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules_____
   - provide technical assistance and advice_____
   - other_____

ENVIRONMENT CANADA REGIONAL ACTIVITIES

Pacific and Yukon Region

In the Pacific & Yukon region, there are an estimated 2312 federal facilities, as shown in Table 3.

Table 3 Federal Facilities and Lands in Pacific & Yukon Region

AGENCY	NUMBER OF SITES
Agriculture Canada	5
Canadian Coast Guard	3*
Correctional Service	7
Energy, Mines & Resources	1*
Fisheries and Oceans	317
Health & Welfare	2*
Heritage - National Parks	12*
Indian Affairs	1823**
National Defence	11*
Public Works	1*
RCMP	65*
Transport Canada	65*

(* These numbers are based on estimates provided by P&Y staff for BC facilities and a 1989 data base on federal hazardous waste generators).

(** This is an estimate of facilities in BC only).

There is no up-to-date general federal facility inventory in the Pacific & Yukon region, but federal facility inventories have been compiled for specific purposes, notably for locations of underground and aboveground storage tanks. However, regional staff were unable to estimate the number of facilities where hazardous substances might be in use and/or storage.

The Pacific & Yukon region has an active Pollution Prevention program primarily associated with storage tanks. Audits are conducted on a routine basis at federal sites to assess compliance with the Canadian Council of Ministers of the Environment (CCME) Code of Practice for Underground Storage Tanks, and also with recognized safety and environmental requirements.

The region has an active training program on the management of environmental emergencies and response to spills. This training is usually given in cooperation with the provincial petroleum industry. Regional staff encourage federal facility representatives to attend training sessions conducted in their respective geographical areas. Training is given at individual federal facilities upon request, and technical advice and assistance on managing hazardous substances is also provided, again on an as-requested basis.

Prairie and Northern Region

In the **Northwest Territories**, there are approximately 50 federal facilities. About 35 of these are Department of National Defence (DND) northern radar stations, while the rest are small weather and air monitoring stations. There is one large operating DND base at Alert. An inventory of the federal facilities in the Northwest Territories is maintained by the District Office of Environment Canada at Yellowknife.

Staff of the District Office interact with other federal departments on a fairly regular basis, but only when requested to do so by the particular federal department. The Office has developed a Contingency Planning Guideline specifically for use in the Northwest Territories. The Guideline is provided to federal departments when they need assistance in preparing and implementing emergency preparedness and prevention programs.

In **Alberta**, there are approximately 77 major operating federal or federally regulated facilities. The various agencies and the number of facilities associated with each are listed in Table 4 .

Table 4 Federal Facilities and Lands in Alberta

AGENCY	NUMBER OF FACILITIES
Agriculture & Agrifood Canada	2
Correctional Service Canada	2
Customs Canada	5
Department of National Defence	4
First Nations Reserves	43
Heritage Canada National Parks	5
Natural Resources Canada	1
Transport Canada	15

(Note: These data are estimates only, provided by staff of Alberta District office)

The District Office does not maintain an up-to-date inventory of federal sites, but does interact with many federal facilities on an operational basis. For example, staff members conduct training on current regulatory initiatives and have also delivered a specific training program on Emergency Response to a number of federal representatives from First Nations Reserves, Parks Canada. and DND. This two day training program, which focuses on the practical aspects of developing an emergency response plan, was developed in Saskatchewan and amended to reflect the specific situation in Alberta.

District staff also work with specific federal departments on waste management issues, effluent control matters and other areas of concern. These are usually practical projects designed to solve problems at individual sites. The MIACC tools are not routinely used in dealings with other federal departments.

In **Saskatchewan**, there are approximately 193 operating facilities. The various agencies and the number of facilities associated with each are listed in Table 5.

Table 5 Federal Facilities and Lands in Saskatchewan

AGENCY	NUMBER OF FACILITIES
Agriculture & Agrifood Canada	10
Correctional Service Canada	2
Department of National Defence	5
Environment Canada	11
First Nations Reserves	99 (*)
Natural Resources Canada	2
Public Works & Govt. Services	4
Revenue Canada	13
Royal Canadian Mounted Police	10
Transport Canada	37

((*) Under the Saskatchewan Treaty Land Entitlement Program native bands are purchasing land to be part of their reserve. This program involves the purchase of over a million acres of land in Saskatchewan and will be ongoing for approximately 12 years. As this land does not have to be adjacent to existing reserve land, the number of blocks of reserve land in Saskatchewan is constantly increasing.)

The District Office does not maintain a current inventory of federal facilities (the information above is from a 1992 data base), but it does interact frequently with federal departments on an operational basis. Of note are the training activities related to pollution prevention and emergency preparedness conducted at First Nation reserves. The District Staff also provide advice and assistance upon request from other federal representatives, and commonly use the CCME tools in many of their activities. MIACC tools are not routinely used in dealings with other federal departments.

In Saskatchewan as well, there is a very active committee on which Environment Canada, Health Canada and Indian and Northern Affairs Canada are all represented. This committee was struck as a result of a national Memorandum of Understanding between the three departments to provide expert advice to Indian and Northern Affairs on environmental and human health issues. The committee provides a forum for presentation and discussion of items of concern to all

departments, and represents an excellent opportunity for information transfer to the Reserves, through Indian and Northern Affairs.

In **Manitoba**, there are approximately 26 major operating facilities (See Table 6).

Table 6 Federal Facilities and Lands in Manitoba

AGENCY	NUMBER OF FACILITIES
Agriculture & Agrifood Canada	7
Correctional Service Canada	3
Heritage Canada - National Parks	6
National Defence	3
Transport Canada	7

(Note: These data are estimates only, provided by District staff)

The District Office does not maintain a current inventory of federal facilities in the province, but does access accurate inventory information from the Manitoba Regional Office of Human Resources Development Canada to develop mailing lists for distribution of departmental publications. The District staff interact with other federal departments on pollution prevention initiatives, but have tended to restrict programs related to stewardship activities as other departments have begun to develop their own expertise. The District office concentrates much of it's work with other government departments on compliance promotion and other activities related to regulatory initiatives.

Ontario Region

In Ontario, there are over 2200 federal facilities, 510 of which produce hazardous wastes in quantities sufficient to require registration with the province as hazardous waste generators. A list of these registered generators is shown in Table 7.

Table 7 Registered Federal Facilities in Ontario

AGENCY / DEPARTMENT	NUMBER OF FACILITIES
Agriculture Canada	39
Atomic Energy Control Board	1
Atomic Energy Control Limited	2
Bank of Canada	3
Canada Post	31
Canadian Broadcasting Corp.	6
Canadian Coast Guard	7
Canadian National Railway	40
Canadian Security Intelligence Service	2
Communications Canada	2
Consumer & Corporate Affairs	2
Correctional Service Canada	6
Department of Finance	1
Department of Fisheries & Oceans	6
Department of National Defence	67
Energy, Mines & Resources	12
Environment Canada	15
Harbourfront Corporation	5
Health and Welfare Canada	24
Museums Canada	12
National Arts Center	1
National Capital Commission	6
National Energy Board	1
National Research Council	8
Parks Canada	15
Public Works Canada	83
RCMP	46
Revenue Canada	16
St. Lawrence Seaway Authority	2
Supply and Services Canada	7
Transport Canada	40
Via Rail	2

(Note: These data are from a 1994 database and do not reflect recent government changes in department names and facility closures.)

The Federal Programs Division maintains the Federal Facility Environmental Activity Database for all of Ontario. The database is custom designed to store information on a wide variety of federal facilities. The information is organized in three levels: the first describes the site or facility (the physical location, the name of the facility, facility contacts, etc.); the second describes each occupant at the facility (if applicable), and the third describes a series of environmental activities (e.g. underground and aboveground storage tanks; ozone depleting substances; use and storage of PCBs; incinerators; discharge of wastewaters; presence of environmental irritants; boilers; hazardous wastes (the hazardous waste information comes from the Province of Ontario's Hazardous Waste Generator Database); landfills; spills; sites requiring further study, and persistent toxic substances).This office is extremely active at federal sites and conducts a number of "hands on", practical projects related to hazardous substances management. For example, at the Prescott Coast Guard Base, staff cooperated with Fisheries and Oceans Canada in an audit of the activities at the Base and an identification of action items to improve the environmental performance at that facility.

A similar project was undertaken at CFB Trenton, more specifically related to the use of hazardous chemicals and the reduction and / or substitution of products containing such materials. In the Trent Severn Waterway, recognizing the fact that 1.6 million boating visitors pass through the system every summer, a joint project was undertaken with Parks Canada to educate boaters on the importance of and the methods of cleaning up small hydrocarbon leaks and spills. All of these projects have been extremely successful and have served as excellent examples of how to develop and implement effective hazardous substances management programs designed for specific installations.

With respect to spill prevention and preparedness activities, the Federal Programs Division has conducted Workshops for federal facilities to assist them

in identifying the risks associated with the use of hazardous substances at their sites. Environmental Sensitivity Atlases were used at these Workshops to indicate to federal facilities their standing with respect to the locations of sensitive areas and resources. This is an excellent planning tool, allowing federal managers to easily identify the probable impacts of emergency events and to prepare for protection of sensitive resources should their facility have a spill that threatened such resources.

The Federal Programs Division has also prepared a brochure entitled "A Guide to Spill Prevention", which will be distributed to all federal sites in Ontario as an awareness raising tool for managers. Brochure distribution will be followed by a workshop on spill prevention for federal facility managers. The workshop will focus on how to identify risks at individual facilities; how to reduce and/or eliminate those risks, and how to develop a contingency plan for those risks which cannot be eliminated.

Quebec Region

In Quebec, the Regional Office maintains a very detailed federal facility inventory and there are a number of ongoing initiatives related to federal activities. There are 7026 federal buildings in the province, and federal properties cover an area of approximately 2,301,880,587 hectares. A summary of the distribution of federal buildings and properties in Quebec is shown in Table 8.

The major objective of the prevention programs in the Quebec region is the identification and reduction of risks associated with the use of hazardous substances.

Table 8 Federal Facilities and Lands in Quebec

DEPARTMENT	BUILDINGS (Number)	LAND (HECTARES)
Agriculture & Agrifood Canada	210	1347
Atomic Energy of Canada Limited	11	821
Canada Post	724	344
Canadian Coast Guard (Aids to Navigation)	138	453
Canadian Coast Guard (Ports and Harbours)	30	1053
Central Mortgage and Housing	30	339
Correctional Service Canada	433	995
Department of National Defence	3802	53294
Environment Canada	93	7893
Fisheries and Oceans - Other	14	50
Fisheries and Oceans - Small Craft Harbours	20	317
Health Canada	36	8
Heritage Canada - Parks Service	97	93470
Indian and Northern Affairs	7	3
Industry Canada	2	381
Laurentide Pilotage Authority	2	10
National Battlefields Commission	15	105
National Capital Commission	189	28722
National Railroad Company of Canada	25	188
National Research Council	4	24
Natural Resources Canada	58	1963
Port of Montreal	101	1066
Port of Quebec	43	4227
Ports Canada	26	3764
Public Works & Government Services (federal)	53	1470
Public Works & Government Services (offices)	230	78
Radio Canada	70	222
Revenue Canada	72	43
Royal Canadian Mounted Police	38	6
Saint Lawrence Seaway Authority	78	10607
Transport Canada (Airport Management)	269	15558
Transport Canada (Aviation)	75	1319
Veterans Affairs Canada	28	46
VIA Rail Canada Inc.	3	0.6

In that respect, the regional office has worked with other agencies in developing a guide to risk management (Guide de Gestion des Risques D' Accidents Industriel Majeurs à l' Intention Des Municipalités et de l' Industrie. Partie 1); has conducted a study at the five most important ports in the province (Evaluation des Risques aux Ports de Montréal), and has completed a risk analysis study along the United States border as part of a Canada / U.S. joint inland border contingency planning exercise. Federal sites were included in that project

Currently, the regional office is undertaking a major study at all federal installations in the province to assess the environmental performance of all aspects of federal facility operation. A comprehensive questionnaire has been developed as a tool in this program. The questionnaire, which includes sections relating to atmospheric emissions, water treatment and discharges, contaminated sites, dangerous goods and wastes is to be computerized in May, 1997.

Regional staff are not asking federal facility managers to provide the detailed information to Environment Canada; rather they are providing the questionnaire as an "awareness raising" mechanism in an effort to enhance the level of environmental awareness at federal sites by focussing their attention on the numerous issues of potential concern. Regional staff do expect, however, that federal facility managers will provide information on the general profile of each facility. They also expect that, when managers go through the questionnaire, they will contact Environment Canada for assistance and advice regarding certain environmental issues of specific interest and concern at their sites. The questionnaire is a valuable and flexible tool which will allow federal facilities managers to evaluate their own operations, and assist them in the development of Environmental Management Systems for their facilities.

Atlantic Region

In the Atlantic Region, a general inventory of federal facilities is not maintained. As in other regions, however, inventories specific to certain program areas have been compiled. For example, a survey of hazardous wastes generated at federal facilities has recently been completed. The inventory identified 319 operating facilities in the region where hazardous waste was generated. A summary by province is shown in Table 9 .

Table 9 Federal Facilities and Lands in the Atlantic Region

DEPARTMENT	NEW BRUNSWICK	NOVA SCOTIA	PRINCE EDWARD ISLAND	NEWFOUNDLAND
Agriculture & Agrifood	1	1	2	1
Canada Post	13	15		9
Canadian Coast Guard			2	4
Correctional Service	3	1		
Dept. of Fisheries & Oceans	82	15	11	2
Dept. of National Defence	3	10	1	34
Environment Canada		1		
Heritage Canada - Parks	2	7	3	4
Indian & Northern Affairs	7	4	1	
Public Works & Govt. Services	4	11	1	31
RCMP	2	2	1	2
Transport Canada	11	10	2	3

(Note that the data in Table reflect only those facilities where the contractor indicated that hazardous waste was generated. It is therefore not an accurate representation of the number of federal facilities in the region.)

The Atlantic Region has a number of training programs which are delivered, mainly on request, at federal sites. The emergency training modules are tailored to suit the particular situation and needs of the audience at the facilities where they are given.

The Regional Director General has identified interaction with, and provision of advice and assistance to, First Nations Reserves and to Indian and Northern

Affairs Canada as priorities in the region. Activities directed toward addressing these priority areas is therefore expected to increase.

Atlantic Region Environmental Emergency staff plan to conduct audits at federal sites in the 1997-98 fiscal year. These audits will serve to identify those federal sites where hazardous substances are used, assess the management systems in place, and determine the assistance that other federal departments need to better manage those substances.

In reviewing the above data for the different regions, it will be noted that the numbers of federal facilities reported in each region varies considerably. This is due in large measure to the fact that no standardized national format has yet been developed for the compilation of data of this type.

RESULTS OF SURVEY

General Awareness of MIACC

In general, the personnel interviewed were unaware of MIACC or the tools developed by that organization to assist in emergency prevention, preparedness and response activities. While 100% of the facilities surveyed had MIACC substances on site, only 35% of them were aware of MIACC.

As well, 65% of those interviewed were not aware of the existence of the Canadian Standards Association Emergency Planning Standard, and 30% of the facilities surveyed had no emergency plan in place. Details of the above information are presented in Table 10.

MIACC Substances in Storage / Use

Of the 34 substances on the MIACC List One of Hazardous Substances, all were found at one or more of the federal sites surveyed. Acetylene, gasoline, propane, sulphuric acid and toluene were the substances most commonly found, and only one site had stored a substance in a quantity exceeding the MIACC threshold limit. At the majority of the sites surveyed, the amount of hazardous substances other than acetylene, gasoline and propane was very small, being present only in laboratory quantities in most cases. This information is summarized in Table 11.

Table 10 General Awareness and Emergency Planning at Surveyed Facilities

FACILITY	MIACC SUBSTANCES ON SITE?	AWARE OF MIACC AND TOOLS?	AWARE OF CSA EMERGENCY PLANNING STANDARD?	EMERGENCY PLAN IN PLACE?
Ag. Can. Kentville	✓	-	-	-
Ag.Can. Fredericton	✓	✓	✓	✓
CCG Charlottetown	✓	-	-	-
CCG Dartmouth	✓	-	-	-
CCG Prescott	✓	✓	✓	-
CCG Saint John	✓	✓	-	-
CSC Dorchester	✓	-	✓	✓
CSC Renous	✓	-	✓	✓
CSC Springhill	✓	-	-	-
CSC Westmorland	✓	-	✓	✓
DFO Dartmouth	✓	✓	-	✓
DFO Halifax	✓	✓	-	✓
DND Gagetown	✓	✓	-	✓
DND Halifax	✓	-	-	✓
EC Moncton	✓	-	-	✓
ETC	✓	✓	✓	✓
TC Charlottetown	✓	-	-	✓
TC Fredericton	✓	-	-	✓
TC Halifax	✓	-	-	✓
TC Saint John	✓	-	✓	✓

Table 11 MIACC Substances at Surveyed Sites

MIACC Substance	Percentage of Sites Where Substance was Found	Percentage of Sites Where Amount Exceeded the Threshold Limit
Acetaldehyde	15	0
Acetylene	45	0
Ammonia, anhydrous	12	0
Ammonia Solutions	27	0
Arsine	12	0
Benzene	21	0
Bromine and Bromine Solutions	15	0
Butane and Butane Mixtures	12	0
Chlorine	27	0
Cyclohexane	15	0
Ethylbenzene	12	0
Ethylene	15	0
Ethylene Dichloride	12	0
Ethylene oxide	12	0
Fluorine	12	0
Gasoline	39	3
Hydrogen Chloride / Acid	27	0
Hydrogen Fluoride / Acid	15	0
Hydrogen Sulphide	15	0
Liquified Petroleum Gases	12	0
Mercury	21	0
Methane	15	0
Naptha, Petroleum Naptha or Solvent	24	0
Nitric Acid, Fuming or Red Fuming	15	0
Propane and Propane Mixtures	45	0
Propylene Oxide	12	0
Sodium Chlorate	12	0
Sulphur Dioxide	12	0
Sulphuric Acid, Fuming	39	0
Toluene	36	0
Tetraethyl Lead	12	0
Vinyl Chloride	12	0
Xylene	24	0

Tools Required to Better Manage Hazardous Substances

In terms of the tools needed to better manage hazardous substances at the selected facilities, interviewees identified a number of requirements. Fifty five percent stated they needed general awareness training; 50% needed specific storage, handling and disposal advice; 55% needed training on risk evaluation, and 40% wanted training on contingency planning. Only 10% of the interviewees indicated that they did not need anything to help them better manage hazardous substances at their facilities. The information on tools required at individual sites is presented in Table 12.

Assistance Required From Environment Canada

Forty five percent of those interviewed indicated that Environment Canada could assist them by developing training modules and 60% suggested that providing technical assistance and advice was one way that Environment Canada could help them to better manage hazardous substances at their facilities.

A number of representatives stated that they needed specific information and training on the Canadian Environmental Protection Act and its regulations, especially as it related to hazardous substance management at their particular sites.

A summary of the responses related to the assistance that Environment Canada could provide other federal departments in the management of hazardous substances is presented in Table 13.

Table 12 Required Tools

FACILITY	AWARENESS TRAINING	GUIDANCE ON HAZARDOUS SUBSTANCE HANDLING, STORAGE & DISPOSAL	TRAINING ON RISK EVALUATION	TRAINING ON CONTINGENCY PLANNING
Ag. Can. Kentville	✓	✓	✓	✓
Ag.Can. Fredericton	✓	-	✓	✓
CCG Charlottetown	✓	✓	-	-
CCG Dartmouth	-	-	✓	✓
CCG Prescott	-	-	-	-
CCG Saint John	-	✓	-	✓
CSC Dorchester	✓	✓	✓	-
CSC Renous	✓	✓	-	✓
CSC Springhill	-	-	✓	✓
CSC Westmorland	✓	✓	✓	-
DFO Dartmouth	✓	-	✓	-
DFO Halifax	✓	-	✓	-
DND Gagetown	✓	✓	-	-
DND Halifax	-	-	✓	-
EC Moncton	-	-	-	-
ETC	-	-	-	-
TC Charlottetown	-	-	-	-
TC Fredericton	✓	✓	✓	✓
TC Halifax	✓	✓	✓	✓
TC Saint John	-	✓	-	-

Table 13 Assistance Required from Environment Canada

FACILITY	DEVELOP TRAINING MODULES	PROVIDE TECHNICAL ASSISTANCE AND ADVICE	OTHER
Ag. Can. Kentville	✓	✓	1. Training Module on Contingency Planning, including the CSA Standard 2. Information session on CEPA
Ag.Can. Fredericton	✓	✓	1. Courses at their facility on Personal Protection Equipment 2. More contact with Env. Canada
CCG Charlottetown	-	-	1. Pocket Guide with definitive guidelines for handling and disposal of chemicals
CCG Dartmouth	✓	-	1. Basic education on good handling practices for hazardous substances
CCG Prescott	✓	-	
CCG Saint John	-	✓	1. Specific disposal advice for hazardous wastes 2. Information on Env. Canada mandate and roles, particularly REET
CSC Dorchester	✓	✓	1. Need an Env Canada training officer to consult with the facility training officer to determine training needs applicable to their facility. 2. Information and advice on sources and suppliers of cleanup equipment
CSC Renous	-	✓	1. Refresher training on chemical handling and emergency preparedness

CSC Springhill	-	✓	
CSC Westmorland	✓	✓	1. Need an Env Canada training officer to consult with the facility training officer to determine training needs applicable to their facility. 2. Information and advice on sources and suppliers of cleanup equipment
DFO Dartmouth	-	-	1. Provide information sessions and training on Env. Canada mandate and responsibilities, CEPA and regulations
DFO Halifax	-	-	1. Provide information sessions and training on Env. Canada mandate and responsibilities, CEPA and regulations
DND Gagetown	✓	✓	1. Generic training modules which they can adapt to their own facility but they need an expert instructor from Env. Canada to assist.
DND Halifax	✓	✓	1. Facilitate the exchange of "Success Stories" among facilities
EC Moncton	-	-	1. Refresher training on chemical handling and emergency response
Environmental Technology Center	-	-	
TC Charlottetown	✓	✓	1. Specific information on the environmental effects resulting from airport operations

TC Fredericton	-	✓	1. More frequent visits by Env. Canada inspectors to assess their environmental practices
TC Halifax	-	-	1. Assist tenants with the development of action plans to address chemical substances 2. Provide advice and assistance on analyzing, interpreting and collating the large amounts of env. data in their Baseline and other studies
TC Saint John	-	✓	

EXEMPLARY PRACTICES AT FEDERAL SITES

General

During the course of the study, it became apparent that among the facilities surveyed there appears to be a growing awareness that hazardous substances must be handled in an environmentally safe manner. For example, at many facilities single-walled hydrocarbon storage tanks have been replaced by double-walled ones with leak detection, level alarms and computerized inventory reconciliation. Also, many aboveground tanks have been equipped with secondary containment dykes. In several instances, inventory reduction has been actively pursued (e.g. asbestos has been removed from buildings; PCBs have been shipped to an offsite licensed disposal facility). Hazardous substances have been replaced with less hazardous ones (e.g. muriatic acid has been replaced by other cleaning products in some facilities; biological larvicides are being used instead of chemical pesticides; water based paints are more commonly used instead of solvent based ones; new airconditioners have been installed which do not contain CFCs). More and more facilities are hiring outside contractors to regularly collect spent solvents and other chemical wastes and properly dispose of them.

To facilitate effective emergency response by local authorities, some facilities routinely invite members of the local fire departments to tour their properties in order to orient personnel to the layout of the site and the locations of hazardous substances. These tours are conducted on an annual (or more frequent basis) to ensure that any changes in facility operations and/or chemical locations is identified. In an emergency then, local response personnel are more fully aware of the hazards at these federal sites.

Trailers with sufficient equipment to deal with small to medium spills were present at some facilities. As a result, spill response times at these sites should

be significantly reduced, as should the attendant environmental impacts from such spills, because the necessary response equipment is conveniently located in one place.

At some of the sites surveyed, personnel had undertaken innovative and effective projects to better manage hazardous substances. Some of these are described below:

CFB Gagetown - Department of National Defence

In keeping with the tiered approach to emergency response, CFB Gagetown has implemented a three-level response process at the Base:

- Level one for small oil spills which can be handled by the unit where the spill occurs
- Level two for medium oil and/ or chemical spills which can be handled by the Base Hazardous Materials response team
- Level three for larger oil spills or spills of chemicals such as chlorine or ammonia which must be handled by an outside contractor

This approach provides for effective use of available resources and a more efficient response to emergency events. The Base personnel have expended time and effort in developing, testing and perfecting response procedures for the types of incidents to which they would most often have to respond - small to medium spills. They leave response to the less frequent larger events to those more fully trained and equipped to respond.

Correctional Service Canada - Atlantic Region

A generic contingency plan was developed by the regional office and forwarded to each facility in the region. Personnel at the individual facilities then adapted the plan to meet the particular needs of their sites. In this way, a standard format

was incorporated into all plans and important emergency response plan elements were not omitted.

Dartmouth Coast Guard Base - Canadian Coast Guard

Because of problems encountered with the use of some chemical products, a staff member on one of the Coast Guard vessels compiled a list of "environmentally friendly" products which could be used on board the ships. This list has been made available across the region and is now used for all regional Coast Guard vessels, resulting in significant substitutions of hazardous substances with less hazardous ones.

Fredericton Research Center - Agriculture and Agrifood Canada

Staff at the Center have developed their own risk evaluation system applicable to the laboratories and storage areas at their facility. They have used the appropriate components of the MIACC Risk Evaluation procedure and combined them with relevant aspects of the J.T. Baker chemical risk assessments and applied the methodology to all labs in their facility. It is a two-step, semi-quantitative process, involving first a site assessment of each laboratory and/or storage area, and then an evaluation of the risks based on the chemicals in use. The process can be time consuming, especially when there are many chemicals in use and when sufficient information is not readily available on the individual chemicals. It is, however, an excellent approach to defining the risks associated with hazardous substance management in all parts of the Center, and is the first step in effectively managing those risks.

Moncton Environmental Service Center - Environment Canada

This facility houses the major laboratories serving the Maritime offices of Environment Canada. There are a number of laboratories at the center, including general chemistry labs for both organics and inorganics, bioassay labs, and

other special purpose labs. As a result, there are many hazardous substances in use and storage in the facility and staff are routinely exposed to numerous hazards. To reduce the risk to workers and the surrounding community, a hazard awareness aspect has been incorporated in the annual appraisal process. Each year during the appraisal procedure with employees, managers stress the hazards in the individual's jobs, the risks associated with handling of various substances, and the training they need to conduct their duties safely. In this way, risk evaluation and management strategies are reinforced with employees on a regular basis.

In addition, the Center has developed a Lab Safety Manual incorporating the following topics:

- good laboratory practices
- personal protection equipment
- glass handling
- disposal of laboratory wastes
- emergency procedures
- fire hazards
- chemical hazards
- microbiological hazards
- physical hazards
- high and low pressure hazards
- environmental health monitoring

This Manual forms part of the general awareness training given to all new employees, term employees and students. Another educational/operational tool is the "Employee Orientation Guide to Occupational Safety & Health" developed in 1996 for the Environmental Science Center. The information in the document was drawn from many sources and abridged and adapted to fit the specific location and types of work at the Center.

Prescott Coast Guard Base - Canadian Coast Guard

In conjunction with Environment Canada, CCG carried out an environmental baseline study at the Prescott Base. The study included a Phase I and II Site Assessment, an environmental compliance audit, an environmental management system review, a waste audit and an energy audit. The objectives of the study were to assess the existing conditions at the Base and determine the status of compliance with environmental regulations and policies. Good environmental practices were highlighted in the final study report, as well as recommendations for improving environmental management at the site. Staff participated in the compilation of all data and in the process became much more aware of important and relevant environmental issues in their workplace. The report, particularly the compliance and management system recommendations, provides an excellent record of what is required at the facility and a tool against which progress can be measured.

Environmental Technology Center - Environment Canada (ETC)

Environment Canada developed a generic guide to conducting audits at scientific institutions, and staff at ETC agreed to be part of a pilot project to test the procedures in the guide. After the audit, an Action Plan was developed to address deficiencies in operations and procedures which had been identified in the audit. Progress on successfully addressing the items identified in the Action Plan is monitored on a regular basis.

ACTION ITEMS

During the interviews and the site visits, a number of problems and concerns about the management of hazardous substances and emergency prevention, preparedness and response at federal facilities became apparent. Recognizing the capabilities and responsibilities of Environment Canada in these areas, a number of Action Items were developed which Environment Canada could pursue to assist other government departments to better manage their hazardous substances. These Action Items are listed and described below. They appear in a logical sequence of priority, based on the needs identified during interviews with federal agencies, as well as the potential for promoting effective prevention, preparedness and response strategies.

Facilitate the Exchange of Success Stories

It was obvious from several of the interviews that important advances in prevention, preparedness and response have been made at a number of federal sites where problems have been identified and solved in effective, efficient and innovative ways. Some of these sites include:

- Agriculture & Agrifood Canada, Fredericton Research Station
- Department of Fisheries & Oceans, Prescott Coast Guard Base
- Department of Fisheries & Oceans, Dartmouth Coast Guard Base
- Environment Canada, Environmental Technology Center (ETC)

Undoubtedly there will be other examples at other federal sites with similar experiences.

Federal departments should be encouraged to document and share experiences and success stories from their operational facilities. Environment Canada could facilitate the exchange of such relevant and important examples and experiences through the Federal Committee on Environmental Management Systems (FCEMS). It could be "kick started" by the documentation and

distribution of a "Success Story" from an Environment Canada facility such as ETC.

In order to be effective, this documentation should be short (one to two pages) and factual, highlighting the relevant issues (e.g. why some action was necessary); the actions taken, and an idea of the resources involved.

Raise Awareness about Environment Canada

It also became obvious throughout the course of the site interviews and visits that many federal representatives were unaware of the roles and responsibilities of Environment Canada, and the significant expertise it has in the field of emergency prevention, preparedness and response.

To address this lack of awareness; inventories of facilities and sites held by other federal departments (i.e. Public Works and Government Services Canada, Human Resources Development Canada) could be utilized to promote the Environment Canada mandate and services. Complete lists of federal facilities and sites could be obtained from these agencies and reviewed to establish an initial mailing list. These facilities could then be provided with general information on Environment Canada initiatives and programs, and requested to indicate whether or not they wished to be included on a mailing list for future publications and notices (similar to what is now done in the Ontario Region). This would serve to raise the general level of awareness at other federal departments about Environment Canada, its role and responsibilities, and the types of services that it can provide to assist them in better managing hazardous substances. It could also serve to raise their awareness about the importance of environmental protection in general.

Develop Accurate Inventories

One of the more significant issues that became apparent during the course of the study was the lack of sufficient and accurate inventory information on federal facilities, not only relating to hazardous substances, but also to facilities where such substances are used and/or stored. Only the Quebec and Ontario regions and the NWT District Offices reported that they maintain inventories of federal sites. In order for Environment Canada to encourage the implementation of effective hazardous substances management practices, it is vitally important to know which federal facilities use hazardous substances, the types of hazardous substances used and the management practices currently in place at those facilities. To address this issue, Environment Canada could initiate an inventory process either nationally or through the regions; to update/obtain and maintain accurate listings of federal facilities and relevant aspects of their operations. This exercise could serve many purposes and could be coordinated with other branches of the department, since such information would also be useful to various Environment Canada program areas (e.g. hazardous wastes, air issues, water pollution, CEPA, etc.).

Developing such an inventory could be very expensive if validation of the data involved actual site visits. It would be considerably less expensive if conducted as a paper exercise.

Develop Appropriate Training Programs

Most federal facility representatives identified training as an important requirement in their programs to better manage hazardous substances. Environment Canada could address this need in a number of ways:

a) Training Modules - Specific areas where training modules would be useful include handling and disposal of small volumes of hazardous materials; Canadian Environmental Protection Act and Regulations; Transportation of Dangerous Goods, and general environmental awareness.

b) On-Site Training by Experts - Environment Canada could provide on-site training in such areas as Personal Protective Equipment (one federal representative identified the PPE training given by Dr. Merv Fingas of ETC as an excellent example of the type of training from which many people could benefit if it could be given at their facilities).

c) Training Trainers - Environment Canada has a wealth of information and knowledge, particularly in the areas of emergency prevention and response. Most of Environment Canada's regional offices have a training module on contingency planning which they deliver to federal departments on request. This and other relevant modules could be used by Environment Canada personnel to "train the trainers" at federal sites. The facility trainers could then in turn educate and re-educate their own personnel, as well as new employees, on various aspects of hazardous substances management.

Produce Fact Sheet on the "LISTS"

Many federal facility personnel were very confused about how the MIACC List of Hazardous Substances related to the ARET List, the NPRI List and the CEPA Priority Substances Lists. Environment Canada could resolve this problem through the development of a Fact Sheet explaining what each of these lists are, the purposes for which they were developed, by whom they were developed, and the significance of the chemicals included on them. This would serve to focus attention on the prevention, preparedness and response aspects of the chemicals on the MIACC List, and also to eliminate some of the problems personnel have in distinguishing between the different lists. The Fact Sheet should also highlight the voluntary versus regulatory aspects of the various lists. In this way people will understand that while some of the recommended

prevention, preparedness and response activities are indeed voluntary they will greatly contribute to their pollution prevention and stewardship responsibilities. To be useful, the Fact Sheet should be short and contain relevant, factual data without being overly technical and/or bureaucratic.

Advertise the MIACC Tools

While many federal facility personnel were familiar with MIACC and its List of Hazardous Substances, most were not aware of the abundance of useful prevention, preparedness and response tools available from the Council. Even though MIACC tends to focus on large volumes of chemicals and chemicals which are not all commonly used at federal sites, the information in the publications is of real value in analyzing risk and developing risk management options. Information relating to the availability and the usefulness of the MIACC tools therefore has to be disseminated to the federal departments.

One effective way of doing this would be to create a link to the MIACC Internet Site from the Environment Canada Green Lane Site. It should then be advertised that a wealth of relevant information on emergency prevention, preparedness and response is available on the Green Lane (via the Emergency Link). The FCEMS would be an ideal forum to promote this initiative. Advertisements could also be carried on the "What's New" portion of the Green Lane.

Develop General Awareness Training on the MIACC List of Hazardous Substances

Most federal facility personnel had little or no in-depth knowledge about many of the chemicals on the MIACC List of Hazardous Substances. This lack of awareness could be addressed through the development and distribution of a booklet containing detailed information on each of the MIACC List One substances. The document would include an introductory section explaining its

purpose and one data page for each of the substances. The data page would include (but not necessarily be limited to) the following:

i) chemical name
ii) common name, where appropriate
iii) hazard classification
iv) toxicity data
v) uses
vi) alternatives, where appropriate
vii) recommended emergency response procedures

This document would be designed to be user friendly and useful, and would therefore contain factual and practical information on the management of each of the chemicals. It could be developed in an electronic format suitable for posting on the Internet (e.g. Adobe) and/or in hard copy for distribution.

Promote the Use of Sensitivity Maps in Preparedness Planning

Workshops could be held in each region of the country where sensitivity maps have been prepared, and which identify (or have the capability of identifying) the location of various federal sites. These Workshops would serve to raise the awareness of federal facility managers about those environmental resources that might be at risk in the event of an emergency at their facilities. This is an important tool for effective contingency planning.

Prepare Generic Risk Assessment Document

Risk assessment was an area where the level of understanding and knowledge of the process was generally limited. Because the volumes of hazardous substances at many facilities were generally small, personnel did not recognize the need for or importance of evaluating the environmental risks. As a result, risk reduction techniques were largely ignored. Therefore, many facilities would benefit from a standardized and simple generic risk assessment procedure which

could be adapted to individual facilities in a fairly simple and straightforward manner. Environment Canada could develop and document a generic process which could be widely distributed through any one of several mechanisms (e.g. FCEMS, the Green Lane).

An estimate of the costs associated with delivering each of the Action Items is presented in Table 14.

Table 14 Estimated Costs of Action Items

ACTION ITEM	ESTIMATED RESOURCES
1. Facilitate the Exchange of Success Stories	- $3,000 for Environment Canada Success Story - 5 working days if conducted in-house - activities promoted through the FCEMS are assumed to be normal operations and are not costed separately
2. Raise Awareness about Environment Canada	- $40,000 ($8,000 per region) if conducted under contract - 13 working days per region if conducted in-house
3. Develop Inventories	- $100,000 ($20,000 per region) if conducted under contract as a paper exercise with limited on-site data validation - 33 working days per region if conducted in-house

Table 14 Cont'd

4. Develop Appropriate Training Programs	**Modules** 1. Handling, Disposal of Small Volumes of Hazardous Substances - development of a 2 day session ($6000) - delivery of a 2 day session ($2400) 2. CEPA - development of a 2 day session ($6000) - delivery of 2 day session ($2400) 3. TDG - development of a 2 day session ($6000) - delivery of 2 day session ($2400) 4. General Environmental Awareness - development of 1 day session ($3000) - delivery of 1 day session ($1200) * above represent costs if contracted out **On Site Training by Experts / Training the Trainers** All training provided by Environment Canada personnel. Costs will vary.
5. Produce Fact Sheet on Lists	- $5,000 if contracted out - 8 working days if conducted in-house
6. Advertise the MIACC Tools	- Internet link and advertising through the FCEMS would be part of normal operations and are not costed separately
7. Develop General Awareness Training on the MIACC List of Chemicals	- $20,000 if contracted out - 34 working days if conducted in-house
8. Promote the Use of Sensitivity Maps in Preparedness Planning	- $2,000 per workshop
9. Prepare Generic Risk Assessment Document	- $9,000 if contracted out - 15 working days if conducted in-house

Note:

1. Travel costs are not included in the above estimates
2. Average consultant costs were assumed to be $600 per day
3. In-house estimates indicate the time required for Environment Canada staff to conduct the tasks.

Recommended Implementation Schedule

The following table (Table 15) lists the Action Items and outlines a recommended implementation schedule over a period of approximately 24 weeks. The duration of the activity relates to development of materials, and does not necessarily reflect delivery. For example, it is estimated that 7 weeks would be required to develop the four training modules, but the delivery of these modules would be an ongoing activity. Similarly for development of the inventories, it is suggested that approximately 8 weeks would be required to prepare inventories in each region, but maintenance of the data would be an ongoing requirement.

It should be noted that, for ease of presentation, the activities are shown as sequential in some cases and concurrent in others. Depending upon budgets and departmental priorities, each of the activities could be undertaken alone, or in combination. For example, it is recommended that the Fact Sheets on the MIACC Lists, the Advertisement of the MIACC Tools and the Development of the General Awareness Training on the MIACC List of Chemicals be undertaken concurrently.

Table 15 Recommended Implementation Schedule

ACTIVITY	DURATION IN WEEKS
Success Stories	
Awareness	
Inventories	
Training	
Fact Sheets	
MIACC Tools	
MIACC Training	
Workshops	
Risk Assessment	

SUMMARY

Through the use of focussed interviews at and site visits to selected federal facilities, the quantities of hazardous substances on the MIACC List 1 and the ways in which they are managed was assessed. During the project it became apparent that although the study was prompted by similar projects initiated by MIACC, a large percentage of the facilities were unaware not only of MIACC and it's activities, but also that their departments were actually represented on MIACC. It was also evident that while all of the listed substances were found at one or more of the facilities surveyed, the threshold levels identified by the MIACC were far in excess of the quantities generally present.

The study also assessed the Environment Canada regional activities as they relate to other federal government departments. All regions actively interact with federal facilities, particularly in the areas of training and the provision of technical advice. The status of federal facility inventories maintained by Environment Canada differed markedly across the country, with Ontario and Quebec having the most comprehensive listings of federal sites and operations at those sites. Other regions, such as the Atlantic, have compiled inventories for specific program purposes, e.g. hazardous waste generators.

The gaps and deficiencies in hazardous substance management practices at federal facilities identified during the study were reviewed and analyzed, and a number of Action Items were developed to address priority areas where Environment Canada might most effectively direct its efforts.

While the study served to identify gaps and deficiencies in hazardous substances management at several of the facilities, it also revealed that the responsible personnel at most facilities exhibited an "environmental conscience" in the conduct of their daily affairs. Their concern for the environment and their interest in ensuring that their facility operations produced no harmful

environmental effects was obvious. This is reflected not only in the numerous examples of exemplary practices that are highlighted in this report, but in the genuine desire of these facilities to find solutions to the environmental problems that they face.

Environment Canada
Environnement Canada

APPENDIX TO PREVENTION, PREPAREDNESS & RESPONSE

AN ACTION PLAN FOR MANAGING HAZARDOUS SUBSTANCES AT FEDERAL SITES

Prepared by
Duerden & Keane Consultants Inc.
Dartmouth, Nova Scotia
Canada

Appendix to Prevention, Preparedness & Response An Action Plan for Managing Hazardous Substances at Federal Sites

Prepared for
Environmental Emergencies Branch
Environment Canada
Hull, Quebec

Prepared by
Duerden & Keane Consultants Inc.
Dartmouth, Nova Scotia
Canada

April 1997

TABLE OF CONTENTS

A. GENERAL INFORMATION

Facility Name	*FREDERICTON RESEARCH STATION, AGRIC. & AGRIFOOD CANADA*
Facility Address	*RESEARCH CENTER, P.O.BOX 20280, FREDERICTON. NEW BRUNSWICK, E3B 4Z7*
Facility Contact	*Susan Cassidy*
Phone	*506 - 452-3260*
Fax	*506 - 452-3316*

Type of Activity (See Table 1):
RESEARCH; EXPERIMENTAL FARMS; RESEEARCH STATION; SCIENCE AND MONITORING, LABORATORIES, TECHNOLOGY DEVELOPMENT; HEATING /POWER PLANT; PHOTOGRAPH DEVELOPMENT

Areas where hazardous substances may be found (See Table 2):
LABORATORIES; MACHINE SHOP; 2 STORAGE FACILITIES (1 CHEMICALS, 1 PESTICIDES); WASTE STORAGE FACILITIES, WASTE TREATMENT FACILITIES (REVERSE OSMOSIS UNIT FOR TREATING PESTICIDES); WATER TREATMENT FACILITY FOR TREATING THEIR OWN STEAM; 1 WELDING SHOP.

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is on the edge of the Town of Fredericton, surrounded on 2 sides by subdivisions and by the Saint John River and a mix of industries on the other 2. The prevailing wind is from the northwest.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No ***(acetylene; ammonia (anhydrous and solutions); bromine; cyclohexane; ethylene; hydrochloric acid; hydrogen fluoride; mercury; nitric acid; propane; sulphuric acid; toluene; xylene.***

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☐ Details

6. Where are these substances stored?
   - Outside
   - Inside ☐

- In Special Storage Rooms *(These are meant for acids, bases, organic solvents in bulk quantity)*
- Other *(Some chemicals are stored in individual laboratories as well)*

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(Some are underground. Smaller household tanks are above ground. Most are indoors)*
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms *(Only 2 or 3 people have keys)*
   - Other

8. Usually, for how long are the chemicals in storage prior to use?

(THE CHEMICAL INVENTORY WAS CONSIDERABLY REDUCED AFTER REPRESENTATIVES ATTENDED THE MIACC MEETING).

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access).
   (None of the above)
2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THERE ARE FIRE ALARMS AND SPRINKLERS.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   THERE IS A 6-MEMBER SPILL RESPONSE TEAM

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No
   Did a risk assessment for all labs, using a semi-quantitative system. Employed a 2-step process, a site assessment and an assessment of each individual lab.

2. How often are such events likely to occur?
   LESS THAN ONCE PER YEAR.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No *(Depends on size)*

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes
   - inventory reduction

- substitution of hazardous chemicals with less hazardous ones *(this has not really been a big thing. New technology changes so fast that change is normal)*
- training of personnel *(need more in some areas)*
- regular maintenance and inspection activities (e.g. checklist) *(this is done by the Health and Safety Committee on a regular basis; there is a regular review of fumehoods, eye wash stations have all been replaced)*
- other *(after Health and Safety Committee meetings a list of recommendations is made. Floor plans with maps are outside every room).*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared? *(The plan was prepared in 1989).*

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond *(Not specifically laid out)*
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No *(Working on this)*

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☐ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety *(NOT AS SUCH. A SPECIFIC GROUP IS TARGETTED, GENERALLY SUMMER STUDENTS).*
   - emergency procedures *(ONLY IN THE SENSE THAT NEW STAFF IS GIVEN A DOCUMENT. COULD WORK ON THIS AREA).*
   - other ☐ *(GENERAL FAMILIARIZATION TRAINING AND FIRST AID TRAINING)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☐ No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other ☐ ***Have a picnic site that the public regularly uses, also the gardens. There are also self-guided tours.***

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☐

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes ☐ No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes [redacted] No [redacted]

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel [redacted] ***(Can never have too much)***
   - guidance on chemical handling, storage and disposal ***(Generally alright)***
   - training on risk evaluation [redacted] ***(Probably need to become more sophisticated in this area)***
   - training on contingency planning [redacted]
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other [redacted] ***(Reference was made to the wonderful course put on by Merv Fingas on Personoal Protective Equipment. They would like to have this course again. Also find that it is too expensive to travel to other places to get training, would like some training to come to them).***

A. GENERAL INFORMATION

Facility Name	*ATLANTIC FOOD AND HORTICULTURE RESEARCH STATION - AG. CAN*
Facility Address	*32 MAIN STREET, KENTVILLE, NOVA SCOTIA, B4N 1J5*
Facility Contact	*MARIE STEWART, ADMIN. OFFICER / BOB NEILSON, SAFETY OFFICER*
Phone	*902 - 679 - 1625*
Fax	*902 - 679 - 5784*

Type of Activity (See Table 1):
AGRICULTURAL RESEARCH CENTER, PEST CONTROL, FACILITY MANAGEMENT, HEATING AND POWER PLANT, GROUNDS MAINTENANCE, FLEET MANAGEMENT

Areas where hazardous substances may be found (See Table 2):
EXPERIMENTAL FARM, RESEARCH LABORATORIES, GARAGE

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
THE CENTER IS LOCATED ON THE SOUTH EAST CORNER OF THE TOWN OF KENTVILLE. RESIDENTIAL AREA SURROUNDS THE WEST AND SOUTH SIDES OF THE CENTER PROPERTY. THE VILLAGE OF NEW MINAS IS IN CLOSE PROXIMITY TO THE CENTER, WHICH INCLUDES THE ELDERKIN RAVINE NATURE RESERVE. THE PREVAILING WINDS ARE FROM THE EAST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☐
3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No *(all)*
4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐
5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☐ Details
6. Where are these substances stored?
   - Outside ☐ ***(solvent storage area in a bunker)***
   - Inside ☐
   - In Special Storage Rooms ☐

- Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☑ *(underground fuel storage)*
   - dykes
   - specialized containers ☑
   - labeled and controlled entry storage rooms ☑
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   Varies from one week to 10 years

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   DOORS TO THE FACILITY ARE LOCKED AND A COMMISSIONAIRE IS ON DUTY AFTER HOURS.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   HEAT DETECTORS, FIRE ALARMS, AND SPRINKLERS IN SOME AREAS

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SMALL SPILLS WOULD BE CONTAINED BY ABSORBENT WHICH IS STORED ON SITE FOR THAT PURPOSE (KITTY LITTER, VERMICULITE). SOLVENT STORAGE BUNKER IS EQUIPPED WITH DRAINS TO A CONTAINMENT TANK. PESTICIDE STORAGE AREA HAS A CONTAINMENT TANK.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes ☑ No

2. How often are such events likely to occur?
   SPILLS COULD OCCUR WHENEVER FACILITIES ARE USED. THEY HAVE NOT YET HAD AN ACCIDENT INVOLVING HAZARDOUS SUBSTANCES AT THIS FACILITY.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☑ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☑ *(dry chemicals are now stored in an acid storage room.)*
   - inventory reduction ☑ *(A major program has been undertaken to identify all chemicals which are on site and dispose of out-of-date ones and ones no longer needed.)*

- substitution of hazardous chemicals with less hazardous ones ***(Instrumentation in the laboratories will result in fewer chemicals being used. Also, as personnel become more aware of the high costs of waste disposal. they are trying to minimize the use of hazardous chemicals.)***
- training of personnel
- regular maintenance and inspection activities (e.g. checklist) ***(the maintenance activities need to be improved. The ventilation system especially needs to be checked regularly.)***
- other ***(Procedures for use of perchloric acid in fume hoods have been developed.)***

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No ***(there is a fire plan only)***

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared?

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No ***(the Safety Officer)***

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☐ No *(The first responders in an emergency situation would be the local fire department, which has a fully trained Haz. Mat. Team.)*

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety ☐
   - emergency procedures ☐ *(fire safety only)*
   - other ☐ *(FIRST AID TRAINING / FIRE TRAINING / CPR / PERSONAL PROTECTION EQUIPMENT)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☐ *(with respect to general procedures, not specific to emergency procedures)*
   No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No

2. What is the nature of this interaction?
   - regular open houses ☐
   - public participation on facility committees
   - newsletters and bulletins
   - other ☐ *(conference rooms at the Center are used by the public during and after hours.)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☐

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No ☐

2. Were you aware that your department was represented on the NIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other

(Personnel advised that they would benefit from more contact with Environment Canada. They indicated that Labour Canada and Health Canada provided them more assistance and advice than Environment Canada. They were especially interested in the Canadian Environmental Protection Act and how it related to their facility, as well as a training module on contingency planning including the CSA Standard.)

A. GENERAL INFORMATION

Facility Name	*CHARLOTTETOWN COAST GUARD BASE*
Facility Address	*P.O. BOX 1510, CHARLOTTETOWN, PRINCE EDWARD ISLAND, C1A 7N3*
Facility Contact	*CHARLIE MACDONALD*
Phone	*902 - 566-7935*
Fax	*902 - 566 - 7922*

Type of Activity (See Table 1):
COAST GUARD BASE, SHIP MAINTENANCE, SHIP REPAIR, FUELLING, FACILITY MAINTENANCE, HEATING PLANT, GROUNDS MAINTENANCE, PEST CONTROL, FLEET MANAGEMENT

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION SITES, MACHINE SHOPS, MANUFACTURING FACILITIES, SHIP MAINTENANCE FACILITIES, STORAGE FACILITIES, WASTE STORAGE FACILITIES (FOR SOLVENTS, PAINT THINNERS), WAREHOUSES, WELDING SHOPS

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
MOSTLY COMMERCIAL SETTING
PARK ON ONE SIDE
CP HOTEL ON THE OTHER SIDE
CHARLOTTETOWN YACHT CLUB IN CLOSE PROXIMITY
PREVAILING WIND IS SOUTHWEST IN SUMMER AND NORTHWEST IN WINTER

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No
3. Are any MIACC List 1 Substances used and / or stored?
   Yes No *(Sulphuric Acid, propane)*
4. Are they present in amounts exceeding the Threshold Values?
   Yes No
5. Are there seasonal fluctuations in the amount of substances which you store on site?

Yes No Details

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms *(The sulphuric acic for batteries is stored in a special room)*
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(one underground tank for diesel storage being removed this spring)*
   - dykes
   - specialized containers *(enclosed pallet-type container wit- drums inside for sulphuric acid)*
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?

THEY KEEP APPROXIMATELY 10 % OF THE SULPHURINC ACID THEY USE IN BATTERIES AS SPARE OR RESERVE - THEY ALWAYS HAVE A SUPPLY OF PROPANE ON SITE.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)

   THEY HAVE A LOCKED GATE AND THE SITE IS PATROLLED ON A 24 HOUR BASIS BY A COMMISSIIONAIRE.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)

   FIRE ALARM AND SPRINKLER SYSTEMS ARE IN PLACE AT ALL FACILITIES.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

   IF THERE IS A SPILL ON THIS SITE, IT IS HANDLED BY THE HAZARDOUS MATERIALS TEAM, AND MANAGED BY THE HAZARDOUS MATERIALS OFFICER. AT THIS SITE THERE IS A FULLY EQUIPPED WAREHOUSE AND A FULLY TRAINED EMERGENCY RESPONSE TEAM WHICH HAS BEEN SET UP TO ASSIST OTHER AGENCIES IN SPILL RESPONSE ACTIVITIES. THEY ARE THEREFORE AVAILABLE TO CLEAN UP ANY SPILLS WHICH MAY OCCUR ON THIS PROPERTY AS WELL.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes No

2. How often are such events likely to occur?
   VIRTUALLY NEVER.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes *(replacing underground tank)*
   - inventory reduction *(they have reduced the types of chemicals used at the facility over the years)*
   - substitution of hazardous chemicals with less hazardous ones *(used to use a lot of muriatic acid for cleaning but they do not use that chemical anymore)*
   - training of personnel
   - regular maintenance and inspection activities (e.g. checklist)
   - other *(a contractor has been hired to regularly collect and properly dispose of any wastes generated at the site. A separate contractor collects waste batteries.)*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared?

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes ☒ No *(There is a Safety and Security Officer who would respond to emergency situations)*

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☒ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety ☒
   - emergency procedures ☒
   - other ☐ *(FIRST AID TRAINING / CPR TRAINING)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☒ No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No

2. What is the nature of this interaction?
   - regular open houses ☒
   - public participation on facility committees
   - newsletters and bulletins
   - other ☐ *(THEY HAVE A GOOD WORKING RELATIONSHIP WITH THE HARBOUR FRONT COMMISSION. FOR EXAMPLE, THEY OPENED THEIR WHARF DURING THE CANADA DAY FIREWORKS CELEBRATION FOR WHEEL CHAIRS, ETC. IN COOPERATION WITH THE CHAMBER OF COMMERCE.)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No 3

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No 1
2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A 1

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel 5
   - guidance on chemical handling, storage and disposal 1
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other 1 ***(Develop standard specifications and standards on how chemicals should be handled and disposed of. The interviewee commented on the usefulness of having this information in a "Pocket Guide" format.)***

A. GENERAL INFORMATION

Facility Name	*COAST GUARD BASE DARTMOUTH*
Facility Address	*FOOT OF PARKER ST., P.O.BOX 1000, DARTMOUTH, NC VA SCOTIA, B2Y 3Z8*
Facility Contact	*Dan Veniot*
Phone	*902 - 426-2696*
Fax	*902 - 426 6501*

Type of Activity (See Table 1):
SHIP MAINTENANCE; SHIP REPAIR; HEATING AND POWER PLANTS; PEST CONTROL; VEHICLE FLEET MANAGEMENT.

Areas where hazardous substances may be found (See Table 2):
MACHINE SHOPS; CONSTRUCTION SITES; GARAGES; MARINE TERMINAL; SHIP MAINTENANCE; STORAGE FACILITIES; WASTE MATERIAL STORAGE TANKS, WAREHOUSES, WELDING SHOP.

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is in the City of Dartmouth in a fairly densely populated area. The wind direction varies.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No ***(acetylene; ammonia; gasoline; naphtha; mercury; propane; sulphuric acid; toluene. Also have other solvents).***

4. Are they present in amounts exceeding the Threshold Values?
   Yes No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details *(More gasoline stored in early summer and early fall)*

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms *(or buildings)*

7. Other Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(WASTE OIL AND DIESEL TANKS ARE ABOVEGROUND, FUEL OIL TANKS ARE BELOW GROUND*
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
(THE BASE GOT RID OF A CARTFUL OF CHEMICALS THAT DATED BACK TO THE 1980S).

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access).
   (All of the above, plus the property is fenced and there are surveillance cameras).
2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THERE ARE FIRE ALARMS BUT NOT NECESSARILY SPRINKLERS.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILL KITS, SORBENTS ETC. THIS IS A BASE RESPONSIBLE FOR ENVIRONMENTAL EMERGENCY RESPONSE SO A LARGE AMOUNT OF SPILL RESPONSE EQUIPMENT IS ON HAND. IN ADDITION, THE OIL TANKS HAVE SECONDARY CONTAINMENT ATTACHED.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No
   The building Health and Safety Committee have emergency procedures in place in case of a spill.

2. How often are such events likely to occur?
   UNKNOWN

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes *Now use a number of smaller tanks, one each for solvents, used oil, miscellaneous. Looking at recycling solvent. One person came up with a list of environmentally friendly products to use on board the ships.*
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones *(using more environmentally friendly products in the heating plant).*
   - training of personnel
   - regular maintenance and inspection activities (e.g. checklist)
   - other *(OSH, Fire Marshall and Labour Canada visit the facility a few times/year.*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared? *(N/A)*

4. Is it periodically audited and updated?
5. Yes No Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?

Yes No

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No ***MSDS sheets are followed fairly closely. Hazmat team is fully aware***

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety
   - emergency procedures
   - other ***(FIRE DRILL, FIRST AID)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses ***(NORMALLY EVERY SUMMER)***
   - public participation on facility committees
   - newsletters and bulletins
   - other ***Public meetings***

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ***(SANDBLASTING, SMOKE, NOISE FROM SHIPS)***

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation *(possibly some)*
   - training on contingency planning *(May need some help)*

   other *(biggest problem is lack of staff-need more staff).*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(provide basic education on good hazardous substances management practices).*

A. GENERAL INFORMATION

Facility Name	*CANADIAN COAST GUARD, PRESCOTT*
Facility Address	*401 KING STREET, PRESCOTT, ONTARIO*
Facility Contact	*Lorne MacMillan, Supervisor, Base Operations*
Phone	*613 - 925-2865 ext. 233*
Fax	*613 - 925-5540*

Type of Activity (See Table 1):
MAINTENANCE DEPOT; SHIP REPAIR; MANUFACTURING; CENTER FOR POLLUTION CONTROL; GAS FURNACES; INFRA-RED HEATING; FLEET MANAGEMENT.

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION SITES; MACHINE SHOP; WELDING SHOP; GARAGES; MANUFACTURING FACILITIES; MARINE TERMINAL; SMALL ENGINE REPAIR; PAINT SHOP; WASTE STORAGE AREA (2000 GAL TANK FOR OILY WASTE); WAREHOUSES; SHIP MAINTENANCE FACILITIES; 2 ABOVE GROUND TANKS FOR JET A (18000L) AND DIESEL (3800 L); CARPENTRY SHOP; RESCUE AND ENVIRONMENTAL RESPONSE SHOP; NEW TANK FOR SOLVENTS WILL BE INSTALLED, NOW USING DRUMS.

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is in the downtown core of the town of Prescott, pop. 5000. The prevailing wind used to be from the east, but seems to be changing to the south west. To the east is a commercial area, to the west it is residential, and the river runs to the north and south.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No *(sulphuric acid; toluene; benzene; gasoline; xylene; acetylene)*

4. Are they present in amounts exceeding the Threshold Values?
   Yes No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details

6. Where are these substances stored?
   - Outside *(Very few hazardous substances are stored outside. Some thinners are because they are having problems with the solvent recycler*
   - Inside
   - In Special Storage Rooms *(There are special lockers, a small metal building for storing PCBs; batteries and battery acids are stored in a large metal box built for that purpose. The hazardous substances storage room was built in 1983, has explosion proof walls and door,and is controlled by stores. Jet fuel is controlled by the helicopter mechanic).*

7. Other Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(Diesel is kept in concrete encased steel tanks underground. Helicopter fuel tank has a concrete dyke).*
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
(SOME HAVE BEEN IN STORAGE FOR A LONG TIME. HOWEVER, THEY ARE GENERALLY NOT STORED FOR LONGER THAN 6 MONTHS. THE BASE IS PLANNING TO HOLD AN AMNESTY IN THE SUMMER).

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access).
   (Controlled access; commissionaires 24 hr/day; electrically operated gates; swing arms; 4 surveillance cameras).
2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THERE ARE MONITORING SYSTEMS AND SPRINKLERS, AS WELL AS HEAT SENSORS IN THE RADIO ROOM.
3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   THERE ARE SPILL CONTAINMENT KITS IN AREAS WHERE SPILLS ARE MOST LIKELY TO OCCUR. THE KITS CONTAIN PADS, SAUSAGES, GLOVES ETC. AS AN ENVIRONMENT EMERGENCY RESPONSE DEPOT, THERE IS ACCESS TO A TREMENDOUS AMOUNT OF RESPONSE EQUIPMENT.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No
   There has not been a complete risk analysis, but one will have been completed by the end of the summer of 1997.
2. How often are such events likely to occur?
   PROBABLY ONCE/MONTH, BUT GENERALLY SMALL.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No ***(Have just set up a spill log to record every spill)***

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ***tanks now have a new design, special protection, proper overflow protection.***
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones ***(replaced all cleaning fluids; new urinal pucks without naphthalene;; looking at new products for cleaning paint guns. Going to be running project for water based products for buoys.***
   - training of personnel ***(need more in some areas)***
   - regular maintenance and inspection activities (e.g. checklist) ***done by the Health and Safety Committee on a regular basis).***
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No ***(One is three quarters done)***

2. Are you familiar with the CSA Standard Emergency Planning for industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared?

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No
8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety *(ABOUT 14 PEOPLE TRAINED)*
   - emergency procedures
   - other *(ENVIRONMENTAL AWARENESS PROGRAM)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☑ No

2. What is the nature of this interaction?
   - regular open houses ☑
   - public participation on facility committees ☑ *(YES, THE MARINE EMERGENCY OFFICER IS IN THE LOCAL CAER GROUP; THE BASE MANAGER PARTICIPATES AS WELL. THE MAYOR OF PRESCOTT IS THE PAINT SHOP FOREMAN).*
   - newsletters and bulletins ☑
   - other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☑

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes ☑ No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No ☑

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other ☑ ***(time and resources to complete what they've started)***

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules ☑
   - provide technical assistance and advice
   - other ***(refresher training in some areas, particularly on handling hazardous substances and WHMIS)***

A. GENERAL INFORMATION

Facility Name	*SAINT JOHN COAST GUARD BASE*
Facility Address	*P.O. BOX 700, WARD STREET, SAINT JOHN, NEW BRUNSWICK, E2L 4A3*
Facility Contact	*RALPH HARTLEN / RYAN GREENE / BILL PARKER (ENVIRONMENTAL RESPONSE AND SAFETY)*
Phone	*506- 636 - 4713*
Fax	*506 - 636 - 4024*

Type of Activity (See Table 1):
COAST GUARD BASE, SHIP MAINTENANCE, SHIP REPAIR, FUELLING, FACILITY MAINTENANCE, HEATING PLANT, PEST CONTROL, FLEET MANAGEMENT

Areas where hazardous substances may be found (See Table 2):
GARGAGES, MACHINE SHOPS, MARINE TERMINAL, TANK FARM, WASTE STORAGE FACILITY FOR WASTE OIL, WAREHOUSE, WELDING SHOP

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
THE FACILITY IS LOCATED IN THE DOWNTOWN AREA OF THE CITY OF SAINT JOHN, BOUNDED ON ONE SIDE BY THE HARBOUR, ON ANOTHER BY MARKET SQUARE SHOPPING AND DINING AREA, AND THE OTHER BY

BUSINESS AND COMMERCIAL FACLITIES. IN THE SUMMER, THE PREVAILING WIND IS TO THE SOUTH - SOUTHWEST AND IN THE WINTER THE PREVAILING WINDS ARE NORTHERLY.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes No ☐
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☐ ***(The Emergency Personnel were familiar with the MIACC list but others at the Base were not.)***

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No ***(benzene, chlorine, gasoline (500 gallons), methane, propane, toluene) Other hazardous substances stored include 750 gallons of diesel, 5000 gallons of furnace oil, helicopter fuel, waste oils, glycol, consumer quantities of paints and cleaners.)***

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes ☐ No Details ***(Typically, more paints and helicopter fuels are stored during the summer months.)***

6. Where are these substances stored?
   - Outside ☐
   - Inside ☐
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☐ ***(one underground tank which is being replaced this year.)***
   - dykes ☐
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?

THERE IS VERY LITTLE ON SITE STORAGE OF HAZARDOUS CHEMICALS. THERE MAY BE CHEMICALS BROUGHT ON SITE FOR CERTAIN JOBS BUT THE CONTRACTORS WOULD TAKE WHATEVER IS LEFT WITH THEM.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)

   THERE IS A FENCE SURROUNDING THE FACILITY AND THE AREA IS MONITORED BY A SECURITY CAMERA. COMMISSIONAIRES ARE ALSO ON SITE.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)

   FIRE ALARMS, SPRINKLERS AND SMOKE ALARMS ARE IN PLACE.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

   ONE OF THE TANKS IS A DOUBLE-WALLED TYPE AND THEREFORE ANY LEAK WOULD BE CONTAINED BETWEEN THE WALLS. ANOTHER TANK IS DYKED AND SPILLS WOULD BE CONTAINED IN THE DYKED AREA.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes No ☐

2. How often are such events likely to occur?

   VERY SELDOM

3. Is there a record of accidents involving hazardous substances at this facility?

   Yes No ☐

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐ ***(they are converting to above ground tanks)***
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones ☐ ***(they have a policy to purchase "green" products)***
   - training of personnel ☐
   - regular maintenance and inspection activities (e.g. checklist) ☐ ***(The safety committee does a "walk about" once a month and uses a general checklist to identify areas of concern.)***
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?

   Yes ☐ No ***(It is part of the overall local response plan for which the Base is responsible. They have, on site, a Hazardous Materials Response Team***

which is responsible for emergency response for the Coast Guard in that area. They don't have a specific plan for the Base.)

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared?
   About 1987 (updated 2 years ago)

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

   (again, the above comments refer to the local response plan)

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety

- emergency procedures
- other *(FIRST AID TRAINING / MONITORING INSTRUMENTS OPERATION / PERSONAL PROTECTION EQUIPMENT)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes *(for those involved in emergency response only)* No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses *(annual Coast Guard Day)*
   - public participation on facility committees *(There is a community initiative / partnership program with communities along the coast. The Coast Guard is on the Saint John Port Dangerous Goods Committee and there are Coast Guard representatives on several public committees such as the Board of Trade and Atlantic Canada Action Program.)*
   - newsletters and bulletins *(They distribute spill cleanup information to coastal communities.)*
   - other *(They host Career Days, hire Co-Op students and support tours by Big Brothers, Cubs and Scouts.)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No *(When they sand blasted buoys at the facility, there were some complaints related to the dust from that operation.)*

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(This facility needs disposal advice for a number of hazardous wastes generated there: alkaline batteries, dry cell batteries, PCBs. Facility personnel also identified a need for information on Environment Canada's responsibilities and mandate (specifically as they relate to REET).*

A. GENERAL INFORMATION

Facility Name	*DORCHESTER PENITENTIARY / WESTMORELAND INSTITUTION (CORRECTIONAL SERVICE CANADA)*
Facility Address	*67 & 69 MAIN ST., P.O.BOX 130, DORCHESTER, NEW BRUNSWICK E0A 1M0*
Facility Contact	*Mike Caldwell / Gilles Fournier*
Phone	*506 - 379-4038 (G. Fournier) 506 - 379-4507 (M. Caldwell)*
Fax	*506 - 379-4202 (G. FOUORNIER) 506 - 379-4641 (M. CALDWELL)*

Type of Activity (See Table 1):
MAINTENANCE; HEATING/POWER; GROUNDS MAINTENANCE (2800 ACRES); PEST CONTROL: FLEET MAINTENANCE (33 VEHICLES); 6-BED HOSPITAL; 40 BED PSYCHIATRIC HOSPITAL; PHARMACY;

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION; GENERATING PLANTS; ARMORIES & FIRING RANGE; 2 GARAGES; OUTDOOR HOCKEY RINK; 2 HOSPITALS; MACHINE SHOPS; MANUFACTURING FACILITIES; SEWAGE TREATMENT FACILITY; STORAGE FACILITIES, TANK FARMS (4 PROPANE TANKS, 2 UG DIESEL STORAGE TANKS @ 2000L EACH, 1 GAS @ 2000L, 2 BUNKER C @ 18000 GALS, 1 AG DIESEL FUEL TANK @ 1800 GALS, 3 @ 200 GALS,

2 @ 150 GALS); 2 WASTE OIL STORAGE TANKS @ 250 GALS EA.; WASTE TREATMENT FACILITIES (WINDROW COMPOSTING USING MANURE, SHREDDED PAPER AND ORGANIC KITCHEN WASTE); WAREHOUSES; WATER TREATMENT FACILITIES; WELDING SHOPS

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)

Facility is in the Village of Dorchester, a few kilometers from the town of Sackville. On one side it is bounded by marshland. The prevailing wind is from the south east. It is near to a bird conservation area and a migratory bird site. The CN main railroad line runs just below the hill on which the facilities are situated.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☑ No (***The types are known but the volumes are not. The Activity Center Manager basically knows what the inventory is)***
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☑

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☑ No ***(acetylene, chlorine, gasoline, hydrochloric acid in very small amounts, propane, sulphuric acid reagent; varsol is also stored)***

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☐ Details

6. Where are these substances stored?
   - Outside ☑
   - Inside ☑
   - In Special Storage Rooms ☐ ***(There is a building for flammables, e.g. varsol)***
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☑
   - dykes ☐
   - specialized containers ☐ ***(Yes, containers for biomedical wastes)***
   - labeled and controlled entry storage rooms ☐ ***(Labour Canada ensures that the facility complies with requirements for any area where flammables are kept)***
   - Other

8. Usually, for how long are the chemicals in storage prior to u se?
THE CHEMICALS ARE KEPT FOR VERY SHORT PERIODS.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
ALL OF THE ABOVE, AS WELL AS ARMED GUARDS AND DETECTION SYSTEMS ONE WOULD FIND IN A MEDIUM SECURITY INSTITUTION.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
FIRE ALARMS, SPRINKLERS, ETC. THE FACILITIES MEET THE 1990 NATIONAL FIRE AND BUILDING CODES. LABOUR CANDDA CONDUCTS ANNUAL INSPECTIONS \ AUDITS AT THIS AND ALL INSTITUTIONS.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
ANYTHING INSIDE OR OUTSIDE IS DYKED, WITH THE EXCEPTION OF THE DIRTY OIL TANK, WHICH IS PICKED UP ON A REGULAR BASIS BY A CONTRACTED DISPOSAL COMPANY. USED OIL FILTERS ARE DRAINED, CRUSHED AND PICKED UP AS WELL.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
Yes ☐ No

2. How often are such events likely to occur?
VERY RARELY.

3. Is there a record of accidents involving hazardous substances at this facility?
Yes ☐ No *(A record was kept for PCBs, though PCBs are no longer stored at the facility. No other records are kept)*

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐ *(new underground tanks will be installed in the near future; the cathodic protection has been upgraded)*
   - inventory reduction ▸ *(acetylene quantities have been reduced to meet the demand)*
   - substitution of hazardous chemicals with less hazardous ones ☐ *(liquid chlorine will be eliminated and powdered chlorine will be substituted))*
   - training of personnel ▸ *(to a level that requires them to handle chemicals safely)*

- regular maintenance and inspection activities (e.g. checklist) *(Storage tank levels are monitored , gas tanks are dipped daily as part of an inventory check)*
- other *(metals, cans and cardboard are recycled)*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No *(A generic contingency plan was prepared for all institutions and this plan was adapted for the situation at the Dorchester and Westmorland facilities)*

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared? *The plan was finalized in June, 1996.*

4. Is it periodically audited and updated?
   Yes No *(Yearly)*

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☑ No

2. Do they have any formal training, e.g.:
   - WHMIS ☑
   - TDG
   - chemical safety ☑ ***(Specific to what they're dealing with)***
   - emergency procedures ☑ ***(Specific to what they're dealing with)***
   - other ☑ ***(3 DAY TRAINING SESSION WITH SURVIVAL SYSTEMS, BASIC FIRST AID /CPR TRAINING)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☑ No ***(This is all outlined very specifically in the new federal job description format)***

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☑ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees ☑ ***(There is a Citizen's Advisory Committee with representatives from Dorchester, Sackville, Fredericton, Saint John and Moncton.***
   - newsletters and bulletins
   - other ☑ ***Annual fire exercises are conducted with the Dorchester and Sackville Fire Depts.***

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☑

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No ☑

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No *(N\A. CS NOT on MIACC)*

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel *(Can never have enough training)*
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *(Would be good to have training in all fields related to the topic)*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules *Develop training applicable to the facility*
   - provide technical assistance and advice
   - other *(Provide information on sources of cleanup equipment etc. They need to have a training officer sit down with their training officer to work out what is appropriate for the facility. There should also be some information that tells the facility what Environment Canada does.*

A. GENERAL INFORMATION

Facility Name	*ATLANTIC INSTITUTION, CORRECTIONAL SERVICES CANADA*
Facility Address	*P.O. BOX 102, 13175 ROUTE 8, RENOUS, NEW BRUNSWICK, E9E 2E1*
Facility Contact	*JACQUES BOSSY*

Phone *506- 623 - 4000*
Fax *506 - 623 - 4017*

Type of Activity (See Table 1):
FACILITY MANAGEMENT, HEATING AND POWER PLANT, GROUNDS MAINTENANCE, PEST CONTROL, FLEET MANAGEMENT, CLINIC, HOSPITAL

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION SITES, GENERATING PLANT, WEAPONS AND SHELLS STORAGE, HOSPITAL, MACHINE SHOPS, MANUFACTURING FACILITIES, SEWAGE TREATMENT FACILITIES, STORAGE FACILITIES, TANKS, WASTE STORAGE FACILITIES, WATER TREATMENT FACILITIES, WELDING SHOP

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
THE FACILITY IS BOUNDED ON THE NORTHEAST BY THE VILLAGE OF RENOUS AND THE RENOUS RIVER; ON THE EAST BY THE MIRAMICHI RIVER; ON THE WEST AND SOUTH BY FORESTED LANDS. THE FACILITY COVERS 712 HECTARES. PREVAILING WINDS ARE FROM THE NORTHWEST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☒ No ☐

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No ☒

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☒ No ☐ ***(acetylene, ammonia solutions, chlorine, gasoline(9092 liters), propane, sulphuric acid. Other hazardous substances stored on site include highway salt (75 tons, diesel (9092 liters), heating oil)***

4. Are they present in amounts exceeding the Threshold Values?
   Yes ☐ No ☒

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes ☒ No ☐ Details ***(Typically, more heating oil in the winter. Also, highway salt is delivered in October and is usually mostly used up by May.)***

6. Where are these substances stored?
   - Outside ☐
   - Inside ☐

- In Special Storage Rooms (Acetylene is stored in a special steel cabinet outside.)
- Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   Usually, not very long. For example, no more than 4 bottles of acetylene are stored at any one time.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   THIS IS A MAXIMUM SECURITY PRISON.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THE INSTITUTION HAS A STATE-OF-THE-ART FIRE DETECTION AND PROTECTION SYSTEM.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILLS WOULD BE CLEANED UP BY USING ABSORBENT MATERIALS WHICH ARE STORED ON SITE FOR THAT PURPOSE.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No

2. How often are such events likely to occur?
   VERY SELDOM. ONLY ONE SPILL HAS BEEN RECORDED - IN 1987, THERE WAS A SPILL IN THEIR BOILER ROOM AND HYDROCARBONS WENT INTO THE FLOOR DRAIN. THE SOIL HAD TO BE REMOVED AND SENT TO AN OFFSITE TREATMENT FACILITY.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No

4. Have measures been undertaken to reduce risks, e.g.:

- design changes *(an underground tank has been relocated and a system installed to detect leaks from the tank. Gasoline storage tanks are dipped every day and inventory reconciliation done.)*
- inventory reduction *(Inventory reduction was prompted more in response to security concerns than environmental ones. It is in the best interests of the Institution to have as little hazardous materials on site as possible.)*
- substitution of hazardous chemicals with less hazardous ones *(They have switched from using alkyd paints to using latex ones; they use water based epoxy floor paints instead of epoxy; they now use water based furniture polish; they have stopped using chemical defoliants and now have summer students manually remove unwanted vegetation; they use a biological larvicide instead of chemicals in their black fly control program.)*
- training of personnel
- regular maintenance and inspection activities (e.g. checklist) *(there is no specific maintenance program but the acetylene storage area is checked every day.)*
- other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No
2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No
3. When was your plan prepared?
   Issued September 6, 1996
4. Is it periodically audited and updated?
   Yes No ***(not yet)***
5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

1. Do you conduct regular exercises to test the plan?
   Yes ☐ No ☐ *(regular exercises are conducted to test fire response but they do not include other emergency response procedures.)*
2. Is there an Emergency Coordinator?
   Yes ☐ No ☐

3. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☐ No ☐

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No ☐

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety
   - emergency procedures ☐
   - other ☐ *(FIRST AID TRAINING / FIRE TRAINING / CPR / PERSONAL PROTECTION EQUIPMENT)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☐ No ☐

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No ☐

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees ☐ *(There is a Citizen's Liaison Committee which regularly visits the facility to work with inmates. The Local Fire Department visits the facility twice per year.)*
   - newsletters and bulletins
   - other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes ☐ No ☐

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No
2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(Facility personnel indicated that they would benefit from refresher training on chemical handling and emergency preparedness procedures. Even though the emergency personnel are well trained, they need to be kept up-to-date on new procedures and information as it becomes available.)*

A. GENERAL INFORMATION

Facility Name	*SPRINGHILL INSTITUTION / CORRECTIONAL SERVICES CANADA*
Facility Address	*P.O. BOX 2140, SPRINGHILL, NOVA SCOTIA, B0M 1X0*
Facility Contact	*LES STEWART, WORKS SUPERVISOR / GREG ATWELL, FIRE CHIEF*
Phone	*902 - 597- 3755 (EXTENSION 302)*
Fax	*902 - 597 - 3262*

Type of Activity (See Table 1):
FACILITY MANAGEMENT, HEATING AND POWER PLANT, GROUNDS MAINTENANCE, PEST CONTROL, FLEET MANAGEMENT, CLINIC, HOSPITAL

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION SITES, GENERATING PLANT, WEAPONS AND SHELLS STORAGE, HOSPITAL, MACHINE SHOPS, MANUFACTURING FACILITIES, SEWAGE TREATMENT FACILITIES, STORAGE FACILITIES, TANKS, WASTE STORAGE FACILITIES, WATER TREATMENT FACILITIES, WELDING SHOP

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
THE INSTITUTION COVERS 300 ACRES BOUNDED BY THE LIMIT OF THE TOWN OF SPRINGHILL, BY WOODLANDS AND COUNTY OWNED LAND WHICH IS NOT POPULATED. AT ONE PROPERTY LINE IS THE SOUTH HAMPTON RIVER WHICH RECEIVES EFFLUENT FROM THE SEWAGE AND STORM DRAINS FROM THE INSTITUTION.
THE PREVAILING WIND IS FROM THE SOUTHWEST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes No *(Central Stores record what comes into the Institution but they do not keep a record of what is in use and/or storage at any one time.)*

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No *(acetylene, propane) (Other hazardous substances stored on site include highway salt, varsol, paint thinners, muriatic acid, heating oil)*

4. Are they present in amounts exceeding the Threshold Values?
   Yes No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details
6. Where are these substances stored?
   - Outside

- Inside
- In Special Storage Rooms
- Other *(acetylene is stored in a storage cabinet specially designed for flammable materials.)*

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   Some materials, like propane, they try to keep in adequate supply. There is no "just in time" purchasing policy at the Institution.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   THIS A MEDIUM SECURITY PRISON.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THE INSTITUTION HAS FIRE ALARMS AND SPRINKLERS IN THE MAIN BUILDINGS.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILLS WOULD BE CLEANED UP BY USING ABSORBENT MATERIALS WHICH ARE STORED ON SITE FOR THAT PURPOSE.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No ***(They have, to a certain degree identified some of the things which could go wrong. But the probable incidents which could occur involving hazardous substances have not been specifically itemized.)***

2. How often are such events likely to occur?
   VERY SELDOM.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes No ***(Each time there is an incident involving hazardous substances, a report must be filed with the Health and Safety Committee.)***

4. Have measures been undertaken to reduce risks, e.g.:

- design changes *(there are leak detectors and audible alarms installed on the underground tanks. Tanks are dipped weekly and a computerized inventory control system is in place.)*
- inventory reduction *(The waste inventory has been reduced by shipping all PCBs toa licensed destruction facility.)*
- substitution of hazardous chemicals with less hazardous ones
- training of personnel
- regular maintenance and inspection activities (e.g. checklist)
- other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No *(There is a fire plan in place and Correctional Service Canada regional personnel in Moncton have been working on the development of a Hazardous Material Contingency Plan for the regional institutions. The Works Supervisor and the Fire Chief were not aware of the status of the plan or its contents.)*

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No

3. When was your plan prepared?

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

   (Since the interviewees were not aware of the status of the plan, the questions relating specifically to the plan could not be answered.)

6. Do you conduct regular exercises to test the plan?
   Yes No *(regular exercises are conducted to test fire response but they do not include other emergency response procedures.)*

7. Is there an Emergency Coordinator?
   Yes ☑ No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☑ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☑ ***(to a limited degree)*** No

2. Do they have any formal training, e.g.:
   - WHMIS ☑
   - TDG ☑
   - chemical safety
   - emergency procedures ☑
   - other ☑ ***(FIRST AID TRAINING / FIRE TRAINING / CPR / CONFINED SPACE ENTRY)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ☑ ***(for fire response personnel)*** No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☑ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees ☑ ***(There is a Community Help Group which regularly visits the facility to work with inmates. The Local Fire Department visits the facility regularly and the Institution personnel have a good working relationship with the local Works Department in Springhill.)***
   - newsletters and bulletins
   - other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☑

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other

A. GENERAL INFORMATION

Facility Name	*BEDFORD INSTITUTE OF OCEANOGRAPHY - DFO LABORATORIES*
Facility Address	*DARTMOUTH, NOVA SCOTIA*
Facility Contact	*JOHN FOX / GERRY BROWNE, OCCUPATIONAL HEALTH AND SAFETY OFFICERS*
	12TH FLOOR QUEEN SQUARE, 45 ALDERNEY DRIVE, DARTMOUTH, NOVA SCOTIA, B2Y 2N6
Phone	*902 - 426 - 7661 / 902 - 426 - 4203*
Fax	*902 - 426 - 5063 / 902 - 426 - 5063*

Type of Activity (See Table 1):
SCIENCE AND MONITORING LABORATORY, POWER PLANT, PHOTOGRAPH DEVELOPMENT

Areas where hazardous substances may be found (See Table 2):
LABORATORIES, MACHINE SHOP, MARINE TERMINAL, GARAGE, SEWAGE TREATMENT PLANT, SHIP MAINTENANCE, WAREHOUSE, WELDING, WASTE STORAGE FACILITIES, TANK FARM

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
THE INSTITUTE IS LOCATED WITHIN THE LIMITS OF THE CITY OF DARTMOUTH ON THE SHORE OF THE BEDFORD BASIN ARM OF HALIFAX HARBOUR. THE SHANNON HILL (COAST GUARD OPERATIONS CENTER) TRAFFIC FACILITY IS NEARBY AS IS THE HEALTH CANADA LAB AND SHANNON PARK RESIDENTIAL AREA. THE MACKAY BRIDGE APPROACH SPAN IS VIRTUALLY OVER THE INSTITUTE PROPERTY. PREVAILING WINDS ARE FROM THE WEST AND/OR NORTHWEST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No ☐ ***(Each lab manager purchases his/her own chemicals, but all are received through Central Stores.)***

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No ☐

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No ☐ ***(All. There would be approximately 100 liters of Hydroflouric acid in the Institute at any one time, 20 liters of benzene, 20 kg. of Mercury, and 100 liters of Hydrogen chloride but the majority of the other chemicals would be present only in gram amounts.)***

4. Are they present in amounts exceeding the Threshold Values?
   Yes ☐ No ☐

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes ☐ No ☐ Details

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(heating oil is stored in double walled underground tank.)*
   - dykes
   - specialized containers *(PCBs in a special transport container. Waste chemicals are in a special aluminum container equipped with a dyked floor.)*
   - labeled and controlled entry storage rooms
   - Other *(Chemicals are stored on metal shelving units which are anchored to the walls.)*

8. Usually, for how long are the chemicals in storage prior to use?
   Variable. There is no review process in place to determine the age of chemicals in storage or what is not being used on a routine basis.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   LOCKED GATE, SECURITY PERSONNEL, CONTROLLED ACCESS THROUGH A GUARD

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   FIRE ALARMS AND SPRINKLERS ARE PRESENT THROUGHOUT THE FACILITY

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   IN THE CHEMICAL STORAGE AREAS, SPILLS WOULD BE CONTAINED WITHIN A DYKED FLOOR IN THE STORAGE ROOM. FLOOR DRAINS IN OTHER AREAS GO TO A RESERVOIR FROM WHICH SPILLED CHEMICAL CAN BE RECOVERED. SMALL SPILLS IN LABORATORY AREAS WOULD BE ABSORBED USING SPILL KITS WHICH ARE PRESENT IN ALL LABS.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes *(but not to the extent that they think is required. Identification of risk is viewed as a problem at this facility.)*

2. How often are such events likely to occur?

SINCE 1986, THEY HAVE HAD ONLY ONE MAJOR SPILL OF HAZARDOUS MATERIAL AT THIS FACILITY. IT OCCURED WHEN THEY WERE BULKING CHEMICALS.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐ ***(many design changes have been implemented to reduce vapour movements through the facility and to capture liquids which spill. Health Canada conducted an audit at this facility and identified a number of deficiencies which are being reviewed. For example, the chemical stores are in the center of the building. If the chemical stores were to be redesigned, they would not be located in the center of the building. They also need to correct mechanical deficiencies with fume hoods by redesigning and replacement of ductwork.)***
   - inventory reduction ***(The inventory has been reduced approximately 40 % in recent years. Instrumentation is replacing the need for a lot of chemical reagents.)***
   - substitution of hazardous chemicals with less hazardous ones ☐ ***(Purchase of "green" products is being encouraged. Carbon tetrachloride is now being purchased as a solid not a liquid. It was noted, however, that, even though "green" purchasing was encouraged, some chemical procedures called for specific chemicals and these could not be changed unless the procedure allowed it.)***
   - training of personnel ☐
   - regular maintenance and inspection activities (e.g. checklist) ***(inspections by safety committee members.)***
   - other ☐

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No ☐

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No ☐ ***(they use the Treasury Board requirements.)***

3. When was your plan prepared?
   unknown

4. Is it periodically audited and updated?
   Yes ☐ No

5. Does your plan include:
   - an analysis of risk ☐
   - an identification of the hazards ☐

- documentation on applicable legislation
- organization, roles and responsibilities
- notification system (to whom are you required to report in case of a spill or release)
- resources required and available to respond
- contact telephone list
- emergency response procedures ***(this aspect needs some work. Presently, for any spill greater than 4 liters, they call the Fire Department.)***
- communications and public relations strategies

(It was noted that there was a real problem with the plan in that there has been a significant change in the staff recently and approximatley 80 % of the personnel are not aware of the proper emergency procedures. Training in this area is needed.)

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No ***(the Safety Officer)***

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No ***(Because of the changes in staff, not every one is aware of who the Emergency Coordinator is.)***

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ***(aware but complacent)*** No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety
   - emergency procedures
   - other ***(A Manual on Lab Safety Procedures is being updated and will be used as general awareness training. Personnel do have FIRST AID TRAINING)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other *(Career days)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No (Aware of MIACC but not aware of the tools)

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *(Personnel noted that they need to enhance the internal responsibility system. They need to make managers more responsible for the management of hazardous substances, so that the Health and Safety personnel are only there to advise and assist.)*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(Personnel noted that they would benefit from more contact with Environment Canada in a general sense. They would like to have training on the Canadian Environmental Protection Act and Regulations.)*

The DFO representatives interviewed identified some other problems which they have at the remote lighthouse stations which have been abandoned by the Coast Guard. At many of these sites, there is saturation of the ground with hydrocarbons from fuel storage areas.

In addition, at many wharves around the region, waste oil containers have been provided for the use of fishermen and boaters, but they are not being maintained. They fill up and overflow resulting in spills to the ocean.

Also, at wharves, a lot of materials are sometimes left by dredging companies, boaters, etc. and no one seems to want to take responsibility for collecting and properly disposing of this material.

A. GENERAL INFORMATION

Facility Name	*WATER ST. FISHERIES LABORATORY, FISHERIES & OCEANS CANADA*
Facility Address	*LOWER WATER STREET, HALIFAX, NOVA SCOTIA, B3J 2S7*
Facility Contact	*John Fox*
Phone	*902 - 426-7661*
Fax	*902 - 426- 5063*

Type of Activity (See Table 1):
SCIENCE AND MONITORING, LABORATORIES.

Areas where hazardous substances may be found (See Table 2):
LABORATORIES

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is in the heart of downtown Halifax, on the waterfront. The prevailing winds are west/northwest

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No ***(very loose inventory)***
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No

3. Are any MIACC List 1 Substances used and / or stored?
4. Yes ☐ No ***(The majority of the chemicals on the MIACC list are there but in laboratory type quantities (liter and kg sizes); mercury is present in 100lb quantities)***

5. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

6. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☐ Details

7. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms *(Two storage sites are in the back of the building on the waterline. One is in the basement in a bunker)*
   - Other

8. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks *(INDOOR FUEL TANKS ARE IN ONE BUILDING)*
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other *(CHEMICALS ARE ON METAL SHELVES WITH WALL ANCHORS AND TIP PROTECTORS)*

9. Usually, for how long are the chemicals in storage prior to use?
(THERE IS NO REVIEW PROCESS OF THE LIFE SPAN. THIS IS REALLY APPARENT AT THIS FACILITY BECAUSE LABELS ON MANY CONTAINERS ARE YELLOWED AND PEELING).

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access).
   (All of the above. Commissionaires will not let people in without clearance)
2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THERE IS NO SPRINKLER SYSTEM IN THE BUILDING THAT IS RIGHT ON THE WATERLINE.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILL KITS; BOTH STORAGE ROOMS ARE DYKED.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes No
   There is no emergency response team per se, only for small spills. The things that could go wrong have not been identified.

2. How often are such events likely to occur?
   VERY SELDOM. THEY ARE FORTUNATE IN NOT HAVING INCIDENTS BUT FEEL THE POTENTIAL IS HUGE!!

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes
   - inventory reduction *(increased instrumentation has caused a marked decrease in the amount of chemicals used)*
   - substitution of hazardous chemicals with less hazardous ones ☐ *(this is encouraged)*
   - training of personnel *(but NOT in emergency response)*
   - regular maintenance and inspection activities (e.g. checklist) *(the chemical inventory list is not used very rigorously. Basically inspections are carried out by the Halifax Lab Safety Committee)*
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes ☐ No *(the plan is mainly related to fire emergencies)*

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No ☐ *(Basically use Treasury Board requirements)*

3. When was your plan prepared? *(The plan was prepared within the last 5 years).*

4. Is it periodically audited and updated?
   Yes ☐ No *(reviewed and updated).*

5. Does your plan include:
   - an analysis of risk ☐
   - an identification of the hazards ☐
   - documentation on applicable legislation *(No. This is built around the Canada Labour Code and TB requirements)*
   - organization, roles and responsibilities ☐
   - notification system (to whom are you required to report in case of a spill or release) ☐
   - resources required and available to respond *(Not specifically laid out)*
   - contact telephone list
   - emergency response procedures ☐ *(they are there, but need some refocussing)*
   - communications and public relations strategies ☐

6. Do you conduct regular exercises to test the plan?
   Yes ☐ No

7. Is there an Emergency Coordinator?

Yes ☐ No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No ☐ *(Because of constant changes in personnel, not everyone knows who the Emergency Coordinator is)*

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No *(THEY ARE AWARE BUT COMPLACENT, E.G. WHEN THERE WAS A FORMALDEHYDE SPILL, PERSONNEL STILL WENT IN AND OUT OF THE LABS. IT IS DIFFICULT TO GET SCIENTISTS TO BE LESS COMPLACENT)*

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety ☐
   - emergency procedures *(HAS TO BE DONE. THERE HAVE BEEN NO CHEMICAL COURSES SINCE THE EARLY 1990S*
   - other ☐ *(FIRST AID COURSES ARE TAUGHT TO A FAIRLY SELECTIVE GROUP DUE TO THE CUTS. AT ONE TIME EVERYONE HAD FIRST AID TRAINING, BUT THIS IS NOT THE CASE NOW. THERE ARE NO SCOTT AIRPACKS, NO CARE AND MAINTENANCE OF RESPIRATORS)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No ☐ *(THERE ARE NO RECEIVING STORES. THE SCIENTIST WHO ORDERED THE CHEMICALS HAS TO PICK THEM UP)*

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other ☐ *(SOMETIMES IN THE SUMMER TANKS OF FISH ARE PUT OUTSIDE FOR THE PUBLIC'S VIEWING ENJOYMENT. THERE IS NO PUBLIC ACCESS TO THE INSIDE.*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ☐

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other ***(more focus on internal responsibility system for personnel. They don't want a HazMat Team because they feel it is too expensive***

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other ***(Tell departments what Environment Canada can offer to them. Need broader exposure to the CEPA regulations, someone in to explain what CEPA is all about and what it covers)***

A. GENERAL INFORMATION

Facility Name	*CANADIAN FORCES BASE, GAGETOWN / DND*
Facility Address	*P.O. BOX 17000, STATION FORCES, OROMOCTO, NEW BRUNSWICK, E2V 4J5*
Facility Contact	*SHELDON DOWN, HAZARDOUS MATERIALS OFFICER*
Phone	*506- 422 - 2000 (EXTENSION 2878)*
Fax	*506 - 422 - 1435*

Type of Activity (See Table 1):
DEICING, MAINTENANCE AND REPAIRS FOR HELICOPTERS, FUELLING FOR AIRCRAFT AND HELICOPTERS, FACILITY MANAGEMENT, HEATING AND POWER PLANTS, GROUNDS MAINTENANCE, FLEET MANAGEMENT, PHOTOGRAPH DEVELOPMENT, CLINICS AND HOSPITALS

Areas where hazardous substances may be found (See Table 2):
AIRPORTS, TRAINING FACILITIES, CONSTRUCTION SITES, CURLING RINK, GENERATING PLANT, EXPLOSIVE MAGAZINES, GARAGES, HOCKEY RINK, MACHINE SHOPS, MANUFACTURING FACILITIES, PRINTING PLANT, SEWAGE TREATMENT FACILITIES, STORAGE FACILITIES, SWIMMING POOL, TANK FARM, WASTE STORAGE FACILITIES, BIO PILE FOR TREATMENT OF PETROLEUM CONTAMINATED SOIL, WAREHOUSES, WATER TREATMENT FACILITIES, WELDING SHOPS

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
RESIDENTIAL AREAS (TOWN OF OROMOCTO AND A FIRST NATION RESERVE)
ESSENTIALLY RURAL TERRAIN ALONG THE BOUNDARY OF THE BASE
PREVAILING WINDS ARE TOWARDS THE SOUTH IN WINTER AND THE NORTH IN SUMMER

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No *(Inventory is not as up-to-date as it should be. Each unit maintains their own inventory; central stores does not control a central inventory.)*
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No

3. Are any MIACC List 1 Substances used and / or stored?

Yes No *(acetylene, ammonia(anhydrous), chlorine, gasoline, mercury, naptha, propane, toluene, xylene)*

4. Are they present in amounts exceeding the Threshold Values?
   Yes *(gasoline only)* No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details *(Typically, much of the training is conducted during the summer, Therefore, more gasoline would be stored during that period.)*

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms *(there are some dedicated storage areas which have secondary containment and special blowout provisions - as per the Canada Labor Code for flammable storage.)*
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks
   - dykes *(all aboveground tanks are either in concrete vaults and/or have secondary containment)*
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other *(There are Petroleum Oil Liquids (POL) sheds equipped with state-of-the-art safety and containment measures)*

8. Usually, for how long are the chemicals in storage prior to use?
   THIS VARIES FROM ONE DAY TO ONE YEAR. THEY ARE ATTEMPTING TO CHANGE TO A "JUST IN TIME" POLICY OF PURCHASING HAZARDOUS SUBSTANCES BUT THIS DOES REQUIRE SIGNIFICANT EFFORT TO CHANGE PEOPLE'S ATTITUDES.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   THIS IS A MILITARY BASE AND SITE SECURITY IS EFFECTIVELY MAINTAINED. EVERY UNIT ASSOCIATED WITH THE BASE HAS A FENCED COMPOUND WHERE POL ARE STORED OR LOCKED SHEDS. AT THE LARGE POL COMPOUND, A SURVEILLANCE CAMERA HAS BEEN INSTALLED.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   FIRE ALARM AND SPRINKLER SYSTEMS ARE IN PLACE AT ALL FACILITIES.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

IF THERE IS A SPILL AT AN ABOVE GROUND TANK, IT WOULD BE CONTAINED IN THE SECONDARY CONTAINMENT FACILITIES. OTHER SPILLS ARE HANDLED BY PERSONNEL WITHIN EACH UNIT WHO HAVE ACCESS TO AND ARE TRAINED TO USE SPILL CLEANUP KITS.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes ☐ No

2. How often are such events likely to occur?

   THERE WERE 37 EVENTS LAST YEAR, BUT ONLY 3 OF THEM INVOLVED SPILLS GREATER THAN 100 LITERS.

3. Is there a record of accidents involving hazardous substances at this facility?

   Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐
   - inventory reduction ☐
   - substitution of hazardous chemicals with less hazardous ones ☐
   - training of personnel ☐ ***DND has developed a General Awareness Training package with an accompanying booklet. This training is adapted and delivered at the Base level to sensitize new employees to the particular environmental issues at their Base.***
   - regular maintenance and inspection activities (e.g. checklist) ☐
   - other ☐ ***(They have attempted to change the attitudes of personnel especially with respect to each unit having to take responsibility for environmental issues and managing the risks within their particular areas.)***

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?

   Yes ☐ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?

   Yes No ☐

3. When was your plan prepared?

   1994

4. Is it periodically audited and updated?

   Yes ☐ No

5. Does your plan include:

- an analysis of risk
- an identification of the hazards
- documentation on applicable legislation
- organization, roles and responsibilities
- notification system (to whom are you required to report in case of a spill or release)
- resources required and available to respond
- contact telephone list
- emergency response procedures
- communications and public relations strategies

(The Emergency Plan in place identifies three levels of response:

- *the unit level for small spills*
- *the Base Hazardous Materials Team for medium spills*
- *an outside contractor for large spills or spills which the Base cannot handle (e.g. spills of chlorine, ammonia, or a large tanker truck spill of hydrocarbons)*

6. Do you conduct regular exercises to test the plan?
   Yes No *(A three day exercise was conducted in conjunction with Lambton College to test the plan. Mock disasters are also planned to test the plan.)*

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No *(If personnel have been at the Base for more than one year, they are familiar with the hazards. New personnel are not as familiar as they should be with the hazards.)*

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety
   - emergency procedures
   - other *(FIRST AID TRAINING / CPR TRAINING / DRIVING SAFETY / PERSONAL PROTECTION EQUIPMENT)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?

Yes *(in the military job descriptions, only)* No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins *(in the Oromocto newspaper, there is a special section devoted to the Base)*
   - other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *more personnel*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules *(of a generic type which could be adapted to fit the circumstances at their facility)*
   - provide technical assistance and advice
   - other *(DND could benefit from having Environment Canada experts assist in the delivery of training to Base personnel. It was also suggested that DND would benefit by knowing what types of reports are available in Environment Canada libraries.)*

A. GENERAL INFORMATION

Facility Name	*MARLANT HALIFAX / DND*
Facility Address	*P.O. BOX 99000, STATION FORCES HALIFAX, NOVA SCOTIA, B3K 5X5*
Facility Contact	*CAROLE LEE GIFFN / MIKE COMEAU*
Phone	*902 - 427 - 0550*
Fax	*902 - 427 - 5486*

Type of Activity (See Table 1):
LABORATORIES, DE-ICING, MAINTENANCE AND REPAIRS, SHIP REPAIR, FACILITY MANAGEMENT, HEATING AND POWER PLANTS, PARK MAINTENANCE, PEST CONTROL, FLEET MANAGEMENT, INSTITUTIONAL PRINTING, PHOTOGRAPH DEVELOPMENT, CLINICS, HOSPITAL, VETERAN'S FACILITY

Areas where hazardous substances may be found (See Table 2):
AIRPORT, MARINE BARGE, TRAINING FACILITIES, CONSTRUCTION SITES, CURLING RINKS, GENERATING PLANTS, EXPLOSIVES MAGAZINES, GARAGES, HOCKEY RINKS, HOSPITALS, LABORATORIES, MACHINE SHOPS, MARINE TERMINALS, PRINTING PLANTS, SHIP MAINTENANCE FACILITIES, SEWAGE TREATMENT FACILITIES, STORAGE FACILITIES, SWIMMING POOLS, TANK FARMS, WASTE STORAGE FACILITIES, WASTE TREATMENT FACILITIES, WAREHOUSES, WATER TREATMENT FACILITIES, WELDING SHOPS

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
DENSE URBAN SETTING.
PREVAILING WIND IS TO THE NORTH / NORTHWEST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?

Yes No *(Each site associated with MARLANT would maintain its own inventory of hazardous substances in use and / or storage)*

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No *(But not before the interview)*

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No

4. Are they present in amounts exceeding the Threshold Values?
   Yes No *(gasoline, hydrochloric acid and sulphuric acid are stored in the tonnes range but not above the MIACC Thresholds)*

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details *(There are fluctuations in the amounts of some chemicals stored based on vessel maintenance. This is not necessarily seasonal but related to the activities of the ships.)*

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks
   - dykes *(CURBING AROUND THE FLOOR OF THE WASTE STORAGE AREA)*
   - specialized containers *(FOR OTTO FUEL, A TORPEDO PROPELLANT)*
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   THIS IS VARIABLE DEPENDING ON THE ACTIVITIES AT THE FACILITY. HOWEVER, MARLANT IS ATTEMPTING TO IMPLEMENT A "JUST IN TIME" ORDERING SYSTEM FOR THEIR HAZRRDOUS CHEMICALS. IT WILL TAKE SOME TIME TO IMPLEMENT THIS AT ALL SITES, ESPECIALLY SINCE MANY PERSONNEL CAN USE THEIR "DEBIT CARDS" TO PURCHASE HAZRRDOUS MATERIALS.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   SINCE THESE ARE MILITARY FACILITIES, THE SITES ARE VERY SECURE. STADACONA IS NOW AN OPEN FACILITY BUT STRICT SECURITY IS MAINTAINED AT ALL OTHERS (INCLUDING SHEARWATER, THE DOCKYARD ANNEX, THE DOCKYARD, WILLOW PARK, WINDSOR PARK, SHANNON PARK, CFAD BEDFORD, AND THE DCD SCHOOL AT YORK REDOUBT)

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)

   FIRE ALARM AND SPRINKLER SYSTEMS ARE IN PLACE AT ALL FACILITIES. AS WELL. VAPOUR SENSORS ARE INSTALLED ON ALL DOUBLE WALLED UNDERGROUND GASOLING STORAGE TANKS AND CHEMICAL VAPOUR SENSORS INSTALLED IN ALL AREAAS WHERE OTTO FUEL IS HANDLED.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

   AREAS WHERE HAZARDOUS MATERIALS ARE STORED ARE DYKED AND ANY FLOOR DRAINS ARE COVERED. SPILLS AND LEAKS ARE ABSORBED AND COLLECTED AS A SOLID.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes ☐ No

2. How often are such events likely to occur?

   IMPOSSIBLE TO PREDICT.

3. Is there a record of accidents involving hazardous substances at this facility?

   Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐
   - inventory reduction ☐
   - substitution of hazardous chemicals with less hazardous ones ☐
   - training of personnel ☐
   - regular maintenance and inspection activities (e.g. checklist) ☐ ***(this could be better managed. A checklist exists for the PCB waste storage inspections, but not for many other of the hazardous material storage areas.)***
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?

   Yes ☐ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?

   Yes No ☐

3. When was your plan prepared?

   1993

4. Is it periodically audited and updated?
   Yes ☐ No

5. Does your plan include:
   - an analysis of risk ☐
   - an identification of the hazards ☐
   - documentation on applicable legislation
   - organization, roles and responsibilities ☐
   - notification system (to whom are you required to report in case of a spill or release) ☐
   - resources required and available to respond ☐
   - contact telephone list ☐
   - emergency response procedures ☐
   - communications and public relations strategies ☐

6. Do you conduct regular exercises to test the plan?
   Yes ☐ No

7. Is there an Emergency Coordinator?
   Yes ☐ No
8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☐ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety ☐
   - emergency procedures ☐
   - other ☐ ***(FIRST AID TRAINING)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No ***(The interviewee was not aware of the content of the job descriptions for the personnel involved in handling of hazardous substances at each of the sites.)***

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ☐ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees *(particularly at the DCD School where fire training activities have caused much public concern)*
   - newsletters and bulletins
   - other *(CAREER DAY VISITS, TOURS FOR BIG BROTHERS ORGANIZATION)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *(encourage the elimination of "debit cards" for the purchase of hazardous materials)*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(facilitate the exchange of "Success Stories' between federal departments)*

A. GENERAL INFORMATION

Facility Name	*ENVIRONMENTAL SCIENCE CENTER, ENVIRONMENT CANADA*
Facility Address	*P.O.BOX 23005, MONCTON, NEW BRUNSWICK, E1A 6S8*
Facility Contact	*Guy Brun*
Phone	*506 - 851-2366*
Fax	*506 - 851-6608*

Type of Activity (See Table 1):
SCIENCE AND MONITORING, LABORATORIES, TECHNOLOGY DEVELOPMENT;

Areas where hazardous substances may be found (See Table 2):
LABORATORIES; WASTE STORAGE FACILITIES, WASTE TREATMENT FACILITIES

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is in the City of Moncton on the campus of the University of Moncton. The prevailing wind is mostly from the west.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☒ No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☒

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No *(acetaldehyde; acetylene; ammonia; benzene; hydrochloric acid; mercury; nitric acid; propane; sulphuric acid; toluene. Also have hexane, ether, acetone).*

4. Are they present in amounts exceeding the Threshold Values?
   Yes No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details

6. Where are these substances stored?
   - Outside
   - Inside
   - In Special Storage Rooms *(There is an organic solvents storage room and an inorganic chemicals storage room)*

7. Other Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks
   - dykes
   - specialized containers
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
(THERE IS USUALLY A HOUSECLEANING ONCE EVERY 2 YEARS. DON'T LIKE TO KEEP THE SOLVENTS TOO LONG, THEY ARE GENERALLY USED AS REQUIRED).

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access).
   (During working hours the facility is open to the public, but all the laboratories are locked. At night the entire facility is locked and patrols are conducted by campus police)
2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   THERE ARE FIRE ALARMS AND SPRINKLERS. THE ORGANIC SOLVENT ROOM HAS BLOWOUT PANELS, EXPLOSION PROOF FIXTURES; CO2 GAS EXTINGUISHERS, MANUAL OVERRIDE.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILLS GO INTO DRAINS AND FROM THERE INTO A LINED, UNDERGROUND, IMPERMEABLE PIT, FROM WHERE THEY ARE RECOVERED. TRAP DOORS GIVE ACCESS TO THE PIT.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes ☑ No

   The building Health and Safety Committee have emergency procedures in place in case of a spill.

2. How often are such events likely to occur?

   VERY RARELY.

3. Is there a record of accidents involving hazardous substances at this facility?

   Yes ☑ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☑ ***In storage areas, spills go down the drains into special pit***
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones ☑ ***(this has always been a conscious effort, e.g., benzene was replaced)***
   - training of personnel ***(need more in some areas)***
   - regular maintenance and inspection activities (e.g. checklist) ***(this is done by the Health and Safety Committee on a regular basis).***
   - other ☑ ***(A local company comes in to take solvents and disposes of them properly).***

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?

   Yes ☑ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?

   Yes No ☑

3. When was your plan prepared? ***(The plan was prepared some time ago. There is also a lab safety manual.).***

4. Is it periodically audited and updated?

   Yes ☐ No ***(updated in April 1996).***

5. Does your plan include:
   - an analysis of risk ☐
   - an identification of the hazards ☐

- documentation on applicable legislation
- organization, roles and responsibilities
- notification system (to whom are you required to report in case of a spill or release)
- resources required and available to respond *(Not specifically laid out)*
- contact telephone list
- emergency response procedures
- communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No *(Only regular fire drills)*

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety *(IF WORKING WITH CHEMICALS, GIVEN MSDSs)*
   - emergency procedures
   - other *(HEALTH AND SAFETY POLICY)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees *(REPRESENTATIVE FROM THE UNIVERSITY IS ON THE FACILITY COMMITTEE)*

- newsletters and bulletins
- other *University and other stakeholders often use boardrooms. groups of high school sturdents have toured the facility.*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *(looking for refresher training in some areas, particularly on handling hazardous substances)*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other *(refresher training in some areas, particularly on handling hazardous substances and WHMIS)*

A. GENERAL INFORMATION

Facility Name	*ENVIRONMENTAL TECHNOLOGY CENTER, ENVIRONMENT CANADA*
Facility Address	*3439 RIVER ROAD SOUTH, GLOUCESTER, ONTARIO. K1A OH3*
Facility Contact	*BEN FIELDHOUSE / NANCY LAROCHE*
Phone	*613 - 991 - 1114*
Fax	*613 - 991 - 9485*

Type of Activity (See Table 1):
RESEARCH AND SCIENCE & MONITORING

Areas where hazardous substances may be found (See Table 2):
LABORATORIES / MACHINE SHOPS / WASTE STORAGE AREA / INDIVIDUAL LABORATORIES / SMALL WELDING AREA

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population. prevailing wind direction)
RESIDENTIAL HOUSING ON TWO SIDES OF THE PROPERTY (APPROXIMATELY 6 HOUSES).
OPEN FIELD ON ONE SIDE OF THE PROPERTY.
A COMMERCIAL WAREHOUSE BEHIND PROPERTY.
PREVAILING WIND IS TO THE NORTHWEST.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes ☐ No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

5. Are there seasonal fluctuations in the amount of substances wh ch you store on site?
   Yes No ☐ Details

6. Where are these substances stored?
   - Outside ☐
   - Inside ☐
   - In Special Storage Rooms ☐
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☐
   - dykes ☐ *(CURBING AROUND THE FLOOR OF THE WASTE STORAGE AREA)*
   - specialized containers ☐ *(FOR WASTE SOLVENTS AND OTHER HAZARDOUS WASTE)*
   - labeled and controlled entry storage rooms ☐
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   COMPLETELY VARIABLE DEPENDING ON ACTIVITIES. FOR EXAMPLE, SOMETHING WHICH IS OFTEN USED LIKE DICHLOROMETHANE WOULD BE IN STORAGE FOR ONLY A FEW DAYS. OTHER CHEMICALS, NOTABLY SOLIDS MAY BE IN STORAGE FOR MANY MONTHS PRIOR TO USE.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   THE FACILITY IS VERY SECURE. ALL EXTERNAL DOORS ARE LOCKED AND MUCH OF THE FACILITY IS SURROUNDED BY A LOCKED FENCE. DOORS OUTSIDE THE FENCED AREA ARE ALSO ALARMED. THERE IS A SECURITY GUARD ON THE PREMISES AT ALL TIMES WHO CONDUCTS REGULAR INSPECTIONS AFTER NORMAL BUSINESS HOURS.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   A FIRE ALARM AND A SPRINKLER SYSTEM IS IN PLACE.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

ABSORBENT MATERIAL TO COLLECT A SPILL IS PRESENT IN ALL LABORATORIES. IN THE WASTE STORAGE AREA, A FLOOR DRAIN LEADS TO A CONTAINMENT TANK TO COLLECT SPILLAGE.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes ☐ No

2. How often are such events likely to occur?
   VERY INFREQUENTLY

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones
   - training of personnel ☐
   - regular maintenance and inspection activities (i.e. a checklist) ☐
   - other *USE OF WASTE SOLVENT FOR WASHING PURPOSES REDUCES NEED FOR CHEMICAL CLEANERS AND MINIMIZES WASTE SOLVENT GENERATION.*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes ☐ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes ☐ No

3. When was your plan prepared?
   1993

4. Is it periodically audited and updated?
   Yes ☐ No

5. Does your plan include:
   - an analysis of risk ☐
   - an identification of the hazards ☐
   - documentation on applicable legislation
   - organization, roles and responsibilities ☐

- notification system (to whom are you required to report in case of a spill or release)
- resources required and available to respond
- contact telephone list
- emergency response procedures
- communications and public relations strategies

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG
   - chemical safety *(GOOD LABORATORY PRACTICES)*
   - emergency procedures
   - other *(FUME HOOD TRAINING / FIRST AID TRAINING / PERSONAL PROTECTIVE EQUIPMENT TRAINING FOR APPROPRIATE PERSONNEL)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees

- newsletters and bulletins *(PERIODICALLY HIGHLIGHTED IN DEPARTMENTAL LET'S TALK GREEN NEWSLETTER)*
- other *(SCHOOL TOURS /CAREER DAY VISITS / DISPLAYS FOR SCIENCE & TECHNOLOGY MUSEUM)*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes ☐ No ☐

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes ☐ No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes ☐ No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other (***money***)

A. GENERAL INFORMATION

Facility Name	*CHARLOTTETOWN AIRPORT / TRANSPORT CANADA*
Facility Address	*SUITE 132, 250 MAPLEHILL AVE., CHARLOTTETOWN, PEI. C1T 1N2*
Facility Contact	*Mr. George Woodford*
Phone	*902 - 566-7997*
Fax	*902 - 566-7929*

Type of Activity (See Table 1):
AIRPORT; DE-ICING; MAINTENANCE; FUELLING; HEATING/POWER; PEST CONTROL; FLEET MAINTENANCE.

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION (MINOR); GENERATING PLANTS (BACKUP POWER UNITS); GARAGES; STORAGE FACILITIES; TANK FARMS

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is located on the outskirts of Charlottetown, on the watershed of the city, so care has to be exercised in handling possibly pollutant substances. The surrounding land is mainly agricultural and the prevailing wind is North west.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?

Yes No

2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No

3. Are any MIACC List 1 Substances used and / or stored?
   Yes No ***acetylene, gasoline (av. gas, jet fuel, regular gas, heating fuel, diesel fuel), propane.***

4. Are they present in amounts exceeding the Threshold Values?
   Yes No

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No Details

6. Where are these substances stored?
   - Outside
   - Inside ***(in maintenance garage)***
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ***(all aboveground)***
   - dykes
   - specialized containers ***(Yes, biomedical containers)***
   - labeled and controlled entry storage rooms ***(Labour Canada ensures that the facility complies with requirements for any area where flammables are kept)***
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
THE CHEMICALS ARE KEPT FOR VERY SHORT PERIODS.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   ALL OF THE ABOVE

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   FIRE ALARMS, SPRINKLERS,

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

SPILL KITS FOR SMALL SPILLS, THERE IS ALSO AN ENVIRONMENTAL TRAILER ON SITE, EQUIPPED WITH ABSORBENT MATERIAL, CONTAINMENT KITS, SHOVELS, BROOMS ETC.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes ☑ No

2. How often are such events likely to occur?
   VERY RARELY.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☑ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☑ *(all tanks are doublewalled)*
   - inventory reduction
   - substitution of hazardous chemicals with less hazardous ones
   - training of personnel
   - regular maintenance and inspection activities (e.g. checklist)
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes ☑ No *(This is an Emergency Procedures Manual)*

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No ☑

3. When was your plan prepared? *The plan was prepared some time ago.*

4. Is it periodically audited and updated?
   Yes ☑ No

5. Does your plan include:
   - an analysis of risk ☑
   - an identification of the hazards ☑
   - documentation on applicable legislation ☑
   - organization, roles and responsibilities ☑
   - notification system (to whom are you required to report in case of a spill or release) ☑
   - resources required and available to respond ☑
   - contact telephone list ☑

- emergency response procedures
- communications and public relations strategies *(There is a Public Affairs Officer in Moncton who would be involved)*

6. Do you conduct regular exercises to test the plan?
   Yes ✓ No *A full exercise is run every three years, a table top exercise every year*

7. Is there an Emergency Coordinator?
   Yes ✓ No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ✓ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ✓ No

2. Do they have any formal training, e.g.:
   - WHMIS ✓
   - TDG ✓
   - chemical safety ✓
   - emergency procedures ✓
   - other

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes ✓ No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes ✓ No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other ✓ *Fire exercises are conducted with the Charlottetown Fire Dept.*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No ✓

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

   (Basically, they handle things themselves because the quantities of chemicals at the facility are so small).

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?

   - develop training modules
   - provide technical assistance and advice
   - other ***(Provide training on the environmental effects of hazardous substances at the airport.***

A. GENERAL INFORMATION

Facility Name *FREDERICTON AIRPORT / TRANSPORT CANADA*
Facility Address *TRANS.CAN. AIRPOR MGRS. OFFICE, 2570 RTE 102, HIGHWAY UNIT 1, LINCOLN, NEW BRUNSWICK E3B 9G1*
Facility Contact *john Craft*
Phone *506 - 444-6100*
Fax *506 - 444-6119*

Type of Activity (See Table 1):
AIRPORT; DE-ICING; MAINTENANCE; FUELLING; HEATING/POWER; PEST CONTROL; FLEET MAINTENANCE (20 VEHICLES). FACILITY MANAGEMENT.

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION (MINOR); GENERATING PLANTS (BACKUP POWER UNITS); GARAGE; SEWAGE TREATMENT PLANT;STORAGE FACILITIES; TANK FARMS; MINIMAL WASTE STORAGE FACILITIES (CALL IN LOCAL COLLECTION COMPANY).

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)
Facility is located on the outskirts of Fredericton, approximately one kilometer from the Saint John river. It is surrounded by agricultural and residential areas. The prevailing wind varies depending on the time of year. It is north/northeast in the winter and from the south in the summer.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☒ No *(Basically, each group that handles the various chemicals keeps its own inventory)*
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☒

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☒ No *(acetylene; chlorine; gasoline (av. Gas. jet fuel, regular gas, heating fuel, diesel fuel), propane. Also have varsol and large amounts of urea.*

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☒

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☒ Details

6. Where are these substances stored?
   - Outside
   - Inside ☒ *(in small storage building)*
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☒ *(both. They are above ground in the fire training area and below ground elsewhere. All are doublewalled and have leak detectors)*
   - dykes ☒
   - specialized containers ☒ *(Yes, one bladder tank)*
   - labeled and controlled entry storage rooms ☒
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   THE CHEMICALS ARE KEPT FOR VERY SHORT PERIODS. FIREFIGHTING CHEMICALS ARE BOUGHT ONCE A YEAR.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)

ALL OF THE ABOVE

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)
   FIRE ALARMS, FIRE EXTINGUISHERS,

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)
   SPILL KITS FOR SMALL SPILLS, ALSO HAVE PEAT MOSS, EVERY TANK ON SITE HAS SECONDARY CONTAINMENT AND SOUBLE WALLS.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)
   Yes ☒ No

2. How often are such events likely to occur?
   SMALL SPILLS, GENERALLY < 25L, ONCE OR TWICE/YEAR.

3. Is there a record of accidents involving hazardous substances at this facility?
   Yes ☒ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☒ *(all tanks doublewalled, one of tank farms going to be completely rebuilt, one rebuilt in 1992.)*
   - inventory reduction *(They try not to store large quantities, only what is needed)*
   - substitution of hazardous chemicals with less hazardous ones *All asbestos has been removed from buildings*
   - training of personnel *WHMIS is in place, everyone is trained once per year*
   - regular maintenance and inspection activities (e.g. checklist)
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes ☒ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No ☒

3. When was your plan prepared? *The plan was prepared some time ago (10-15 years)*

4. Is it periodically audited and updated?
   Yes ☐ No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards ☐
   - documentation on applicable legislation
   - organization, roles and responsibilities ☐
   - notification system (to whom are you required to report in case of a spill or release) ☐
   - resources required and available to respond ☐
   - contact telephone list ☐
   - emergency response procedures ☐
   - communications and public relations strategies ☐

6. Do you conduct regular exercises to test the plan?
   Yes ☐ No ***(Every 3 years required to have a major exercise. Table top exercise every 12 months)***

7. Is there an Emergency Coordinator?
   Yes ☐ No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes ☐ No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes ☐ No

2. Do they have any formal training, e.g.:
   - WHMIS ☐
   - TDG ☐
   - chemical safety ☐
   - emergency procedures ☐
   - other ***(Regularly scheduled meetings of the Health and Safety Committee where safety procedures are discussed. 2 people do airport safety inspections twice/year)***

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?

Yes No *The job descriptions don't have anything that addresses this subject specifically. They are more general.*

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other *when there are fire exercises, interact with the Oromocto Fire Dept.*

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other *It would be good to have an outside agency come in to inspect the facility, keep them on their toes, as it were.*

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?

   - develop training modules
   - provide technical assistance and advice
   - other *(Would like to have visits periodically from Environment Canada reps to see how the airport is doing from an environmental viewpoint. They also noted that they have experienced problems with DND's classification*

system for hazardous materials, because their system is different from any others, and often airport personnel don't know what's aboard DND aircraft, and can't find out from DND personnel. Sometimes runways have to be closed because they don't know what's on DND aircraft).

A. GENERAL INFORMATION

Facility Name	*HALIFAX INTERNATIONAL AIRPORT / TRANSPORT CANADA*
Facility Address	*P.O. BOX 40,ELMSDALE, NOVA SCOTIA B0N 1M0*
Facility Contact	*M. Alyson Macdonald*
Phone	*902 - 873-1478*
Fax	*902 - 873-1258*

Type of Activity (See Table 1):
AIRPORT; DE-ICING; MAINTENANCE; FUELLING; HEATING PLANT; FACILITY MANAGEMENT.

Areas where hazardous substances may be found (See Table 2):
CONSTRUCTION; GARAGES; SEWAGE PUMPING TO AEROTECH; MACHINE SHOPS; WASTE TREATMENT (INTERNATIONAL WASTE INCINERATOR)AIRCRAFT MAINTENANCE; STORAGE FACILITIES (NOT UP TO STANDARD); TANK FARMS; WELDING SHOPS; WAREHOUSES; WATER TREATMENT FACILITIES

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)

Two major tenants in the Aerotech Business Park; airport tenants, airport hotel, village of Enfield is 10 km away. Prevailing winds are easterly.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No *(The environmental baseline study included an inventory of chemicals at Transport Canada and all the tenants as well)*
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☐

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No *(naptha, gasoline; jet A, diesel, Jet A1; acetylene; heating fuel, propane; toluene; xylene; Also have solvents, phosphoric acid, Glycol).*

4. Are they present in amounts exceeding the Threshold Values?
   Yes ☐ No *(Some are, e.g. Jet A-1 fuel)*

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes No ☐ Details

6. Where are these substances stored?
   - Outside ☐
   - Inside ☐
   - In Special Storage Rooms
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☐ *(both. 46 tanks underground, 31 aboveground)*
   - dykes ☐ *(Not all have secondary containment. Those that don't have been identified and will be dyked or replaced)*
   - specialized containers ☐ *(Some, but not all)*
   - labeled and controlled entry storage rooms ☐ *(Some, but not all. Any room where hazardous materials are stored is labelled and entry restricted. A lot of other chemicals are scattered around in unlabelled areas)*
   - Other

8. Usually, for how long are the chemicals in storage prior to use?
   Unknown

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)
   ALL OF THE ABOVE. SECURITY CLEARANCE IS NEEDED. THERE ARE ALSO SURVEILLANCE CAMERAS.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)

   FIRE ALARMS AND SPRINKLERS ALL OVER. SOME BUILDINGS HAVE SPRINKLERS, SOME HAVE ALARMS!

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

   THE POLLUTER HAS SPILL KITS. IF THE SPILL IS TOO LARGE FOR THE KITS, THE POLLUTER IS SUPPOSED TO HAVE SOMEONE TO DEAL WITH IT. NORMALLY, BY DEFAULT, THE TRANSPORT CANADA FIRE HALL RESPONDS.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes ☒ No

2. How often are such events likely to occur?

   ONCE OR TWICE / MONTH, GENERALLY RANGES FROM 10 TO 500L.

3. Is there a record of accidents involving hazardous substances at this facility?

   Yes ☒ No *(when they are reported)*

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☒ *(tanks that don't have secondary containment will be dyked or replaced).*
   - inventory reduction *(Found chemicals stored, e.g. cleaning solvents, paints, pesticides. Got rid of them. All stored PCBs gone to Alberta; all asbestos is going for disposal)*
   - substitution of hazardous chemicals with less hazardous ones *Putting in new air conditioners, getting rid of all CFCs and halons.*
   - training of personnel
   - regular maintenance and inspection activities (e.g. checklist)
   - other *Spill containment systems for beneath barrels; spill response kits.*

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?

   Yes ☒ No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?

   Yes No ☒

3. When was your plan prepared? *The plan was prepared in 1990/1991*

4. Is it periodically audited and updated?

   Yes No ☐

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies *(In Airport Disaster Plan, probably not in Environmental Emergency Plan*

6. Do you conduct regular exercises to test the plan?
   Yes No *(Exercises have been conducted in the past, but not recently)*

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No *(Some are, probably not all. All of Fire Hall people are)*

2. Do they have any formal training, e.g.:
   - WHMIS *Some*
   - TDG *Some*
   - chemical safety *Some*
   - emergency procedures *Some, in spill response*
   - other *(Some in first aid (standard and advanced), hazmat training).*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?

- regular open houses
- public participation on facility committees *(Probably not specifically with environment)*
- newsletters and bulletins *(Environmental information is contained in the quarterly bulletin)*
- other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules
   - provide technical assistance and advice
   - other ***Visit tenants and develop action plans to address chemical substances; provide advice on how to put together all the environmental baseline information so that it makes sense. The biggest issue is how to deal with the tenant's environmental problems. Environment Canada sees it as Ms. Macdonald's job, but she needs assistance from Environment Canada.***

A. GENERAL INFORMATION

Facility Name	*SAINT JOHN AIRPORT, TRANSPORT CANADA*
Facility Address	*4180 LOCH LOMOND ROAD, SAINT JOHN, NEW BRUNSWICK, E2N 1L7*
Facility Contact	*WAYNE MCALLISTER, AIRPORT MANAGER / RANDY HERALD, MANAGER OF OPERATIONS*
Phone	*506- 636 - 3950*
Fax	*506 - 636 - 3960*

Type of Activity (See Table 1):
AIRPORT, DEICING, MAINTENANCE AND REPAIRS, FUELLING, FACILITY MAINTENANCE, BOILER PLANT, FIELD ELECTRICAL BACK UP GENERATOR, GROUNDS MAINTENANCE, PEST CONTROL, FLEET MANAGEMENT

Areas where hazardous substances may be found (See Table 2):
AIRPORT, CONSTRUCTION SITES, BACK UP GENERATING PLANT, GARAGE, SEWAGE TREATMENT PLANT, STORAGE FACILITIES, TANK FARM, WATER TREATMENT FACILITIES

Briefly describe the surrounding area which could be affected by a hazardous event (fire, toxic cloud) on your property (i.e. land use, population, prevailing wind direction)

THE FACILITY IS BOUNDED ON TWO SIDES BY FAIRLY DENSE RESIDENTIAL AREA, AND BY FORESTED AND SWAMPY LAND ON THE OTHERS. IT IS LOCATED WITHIN THE WATERSHED OF THE CITY OF SAINT JOHN. ALSO THE MISPEC RIVER RUNS THROUGH THE PROPERTY.
THE PREVAILING WIND IS WESTERLY.

B. CHEMICAL INFORMATION

1. Is there an inventory of chemicals stored / used at this facility?
   Yes ☐ No
2. Are you familiar with the MIACC Lists of Hazardous Substances?
   Yes No ☐

3. Are any MIACC List 1 Substances used and / or stored?
   Yes ☐ No *(acetylene gasoline (9100 liters), hydrogen chloride, propane, sulphuric acid (in batteries only), toluene, xylene) Other hazardous substances which are stored on site include urea (20 tons in the early winter), glycol (stored by the airport tenants), diesel fuel (22,000 liters)*

4. Are they present in amounts exceeding the Threshold Values?
   Yes No ☐

5. Are there seasonal fluctuations in the amount of substances which you store on site?
   Yes ☐ No Details *(Typically, more urea stored in early winter which is used on roadways as the season progresses.)*

6. Where are these substances stored?
   - Outside ☐
   - Inside ☐
   - In Special Storage Rooms ☐
   - Other

7. Do you employ any special storage techniques?
   - underground and/or aboveground storage tanks ☐ *(both)*
   - dykes ☐
   - specialized containers ☐ *(waste oil tank has an inner bladder; it is essentially a double walled tank)*
   - labeled and controlled entry storage rooms
   - Other

8. Usually, for how long are the chemicals in storage prior to use?

UREA IS USUALLY ON SITE FOR 2 TO 3 WEEKS BEFORE IT IS ALL USED AND THE STOCK HAS TO BE REPLENISHED. FUEL TANKS ARE KEPT FULL, OR NEARLY SO, AT ALL TIMES. CHEMICALS WHICH ARE USED ARE PURCHASED FOR SPECIFIC JOBS AND USED RIGHT AWAY.

C. FACILITY OPERATIONS

1. How is site security maintained? (e.g. locked gate, security personnel, controlled access)

   THERE IS A LOCKED GATE, SECURITY PERSONNEL AND CONTROLLED ACCESS TO THE FACILITY.

2. What fire prevention systems in the chemical storage areas are in place? (e.g. fire alarm, sprinklers)

   FIRE ALARMS ARE PRESENT IN ALL BUILDINGS. SPRINKLERS ARE INSTALLED IN SOME BUILDINGS, AND IN OTHERS, THERE ARE FIRE HOSES WHICH ARE CONNECTED DIRECTLY TO A FIRE SUPPRESSION SYSTEM.

3. If there is a spill of liquid hazardous materials on site, how is it contained? (e.g. within a dyke, into a containment tank)

   SPILLS IN THE ABOVEGROUND TANK AREA WOULD BE CONTAINED WITHIN THE DYKE. SPILLS ELSEWHERE ON THE PROPERTY WOULD BE CLEANED UP USING THE AVAILABLE STOCKS OF CLEANUP EQUIPMENT, INCLUDING ABSORBENTS AND BOOMS. IF THERE IS A POSSIBILITY THAT A SPILL COULD REACH A STORM DRAIN, THE DRAIN IS DYKED AND/OR PROTECTED BY STRAW BALES OR OTHER ABSORBENTS.

D. RISK MANAGEMENT CONSIDERATIONS

1. Have you identified the types of "things which could go wrong"? (For example, if flammable liquids are stored, there is a possibility that a release could result in a fire or an explosion.)

   Yes ☐ No

2. How often are such events likely to occur?

   LAST YEAR THERE WERE NO MAJOR INCIDENTS. MINOR INCIDENTS (SPILLS OF LESS THAN 10 LITERS) OCCUR ABOUT ONCE PER MONTH.

3. Is there a record of accidents involving hazardous substances at this facility?
   - Yes ☐ No

4. Have measures been undertaken to reduce risks, e.g.:
   - design changes ☐
   - inventory reduction ☐
   - substitution of hazardous chemicals with less hazardous ones ☐
   - training of personnel ☐
   - regular maintenance and inspection activities (e.g. checklist) ☐
   - other

E. EMERGENCY PLANS

1. Do you have an emergency / contingency plan in place?
   Yes No

2. Are you familiar with the CSA Standard Emergency Planning for Industry document (CAN/CSA-Z731-M95)?
   Yes No ***(They have the M91 version)***

3. When was your plan prepared?
   About mid 1980's

4. Is it periodically audited and updated?
   Yes No

5. Does your plan include:
   - an analysis of risk
   - an identification of the hazards
   - documentation on applicable legislation
   - organization, roles and responsibilities
   - notification system (to whom are you required to report in case of a spill or release)
   - resources required and available to respond
   - contact telephone list
   - emergency response procedures
   - communications and public relations strategies

   (The Emergency Plan refers to a prescribed set of emergency procedures documented in an Emergency Procedures Manual for the facility. All the details outlined above are contained in one of the two documents.)

6. Do you conduct regular exercises to test the plan?
   Yes No

7. Is there an Emergency Coordinator?
   Yes No

8. Does everyone know who the Emergency Coordinator is and how to reach him/her in case of an emergency involving hazardous substances?
   Yes No

F. PERSONNEL

1. Are the personnel involved in handling hazardous substances aware of the possible hazards?
   Yes No

2. Do they have any formal training, e.g.:
   - WHMIS
   - TDG

- chemical safety
- emergency procedures
- other *(FIRST AID TRAINING / CPR / PERSONAL PROTECTION EQUIPMENT)*

3. Are their duties and responsibilities related to handling of hazardous substances clearly identified in their job descriptions?
   Yes *(for those involved in fire response only)* No

G. PUBLIC / COMMUNITY RELATIONS

1. Do you interact with the surrounding community?
   Yes No

2. What is the nature of this interaction?
   - regular open houses
   - public participation on facility committees
   - newsletters and bulletins
   - other

3. Have there been any public complaints about the way you manage hazardous chemicals at this facility?
   Yes No *(There were contractors on site doing lawn maintenance and they did not post the signs indicating they were using chemicals. There was a public complaint about this. Another incident involved a public complaint about the way one of the airlines was handling fuel.)*

H. REQUIRED TOOLS TO BETTER MANAGE CHEMICALS

1. Are you aware of the Major Industrial Accidents Council of Canada and the tools and services they can provide for emergency prevention, preparedness and response?
   Yes No

2. Were you aware that your department was represented on the MIACC? (for departments in Table III only)
   Yes No N/A

3. What do you need to better manage chemicals at your facility?
   - awareness training for appropriate personnel
   - guidance on chemical handling, storage and disposal
   - training on risk evaluation
   - training on contingency planning
   - other

4. What assistance can Environment Canada provide to help you to better manage chemicals at your facility?
   - develop training modules

- provide technical assistance and advice
- other

(Officials at this facility identified a need for specific advice and assistance on storage and disposal requirements for hazardous chemicals.)