



Software Guide for the National Pollutant Release Inventory

2003

*Canadian Environmental Protection Act,
1999*

National and Regional NPRI Offices

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Introduction

The National Pollutant Release Inventory (NPRI) is at the centre of the Government of Canada's efforts to track toxic substances. It is the only nation-wide, publicly-accessible program of its type in Canada that provides information on pollutant releases to the environment, disposals, and transfers for recycling. Since its inception in 1992, the role of the NPRI has expanded to include the collection of information on NPRI substances being recycled and pollution-prevention activities.

This guide is intended to be used in conjunction with the *Guide for Reporting to the National Pollutant Release Inventory - 2003*. This guide provides step-by-step information on installing the software, preparing and submitting a report to the NPRI and other reporting programs, in the following sections:

- (Steps 1 and 2 - see *Guide for Reporting to NPRI for 2003*)
- Step 3 - Install the reporting software and upload data
- Step 4 - Enter or update the facility information
- Step 5 - Enter or update the NPRI substance information
- Step 6 - Check errors and create export data file
- Step 7 - Sign the Statement of Certification and submit the report

There are a number of changes to the reporting software, as highlighted in the next section, and identified throughout this Guide. It is recommended that these changes be reviewed prior to using the software.

Changes to the 2003 Reporting Software

There have been a number of changes to the reporting software that will be reflected in both the software screens and this guide. The changes are described below. If the data reported for the 2002 NPRI is uploaded and used as the basis for the 2003 report, the software will highlight to the user where additional information is required based on the changes for 2003.

Facility Information

The 9-digit Business Number for the facility **and** any parent companies situated in Canada is a required field. Collection of the Business number will facilitate with information gathering and the compilation of data and by ensuring consistency. It will also assist with cross referencing the NPRI information with that of other government agencies.

If the facility is required to report criteria air contaminants, there is no longer a requirement to provide the start and end time for shut down periods, only the start and end date.

Basis of Estimate Codes

The Basis of Estimate codes for Monitoring and Direct Measurement (M) and Emission Factors (E) have been expanded to include more specific information on the type of monitoring and emissions factors used by a facility.

Disposals and Releases (On-Site and Off-Site)

The definitions of release and disposal have been changed so that substances sent to landfill, land application or underground injection, are treated consistently whether they occur on site or offsite. This change does not affect the amount of information collected, but simply reclassifies the activities that have been reported to the NPRI. The new format for the reporting of information is as follows:

- Releases, include releases to air and water and those releases that disperse material on land, such as spills and leaks
- Substances sent to landfill, land treatment or underground injection are now reported as disposals, on site or off site. Also included in this category are substances transferred off-site for treatment prior to final disposal.

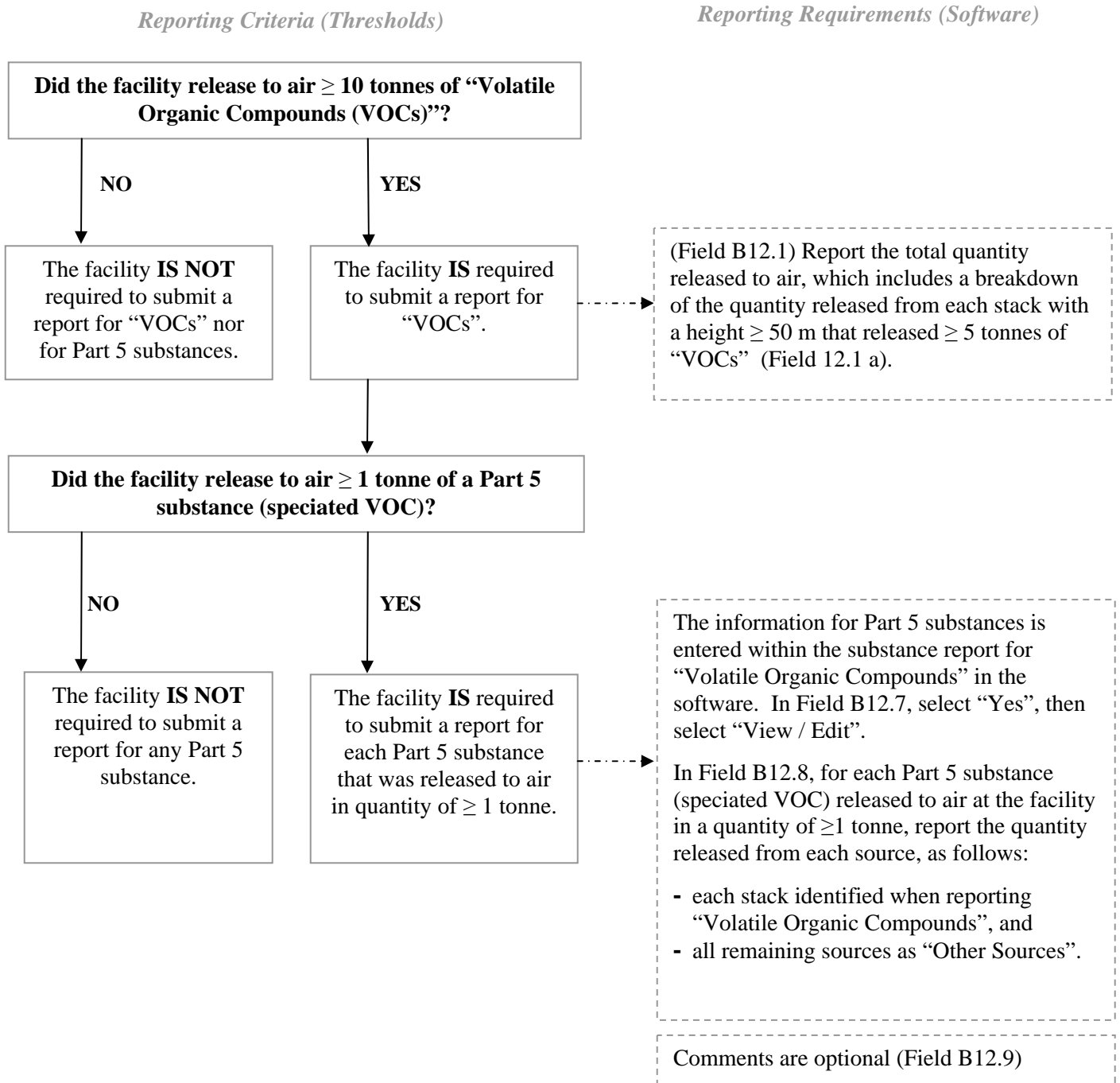
Reporting of VOC Species (Part 5 Substances)

For the 2003 reporting year, a facility required to submit a report for "Volatile Organic Compounds (VOCs)" is subject to reporting criteria for 60 VOC species (Part 5 substances). These 60 VOC species are listed in Appendix 1, Part 5 - Selected Volatile Organic Compounds with Additional Reporting Requirements. The next section of this Guide provides an overview of the reporting criteria and requirements for these VOC species.

Overview of Reporting Part 5 Substances (speciated VOCs)

The following flowchart illustrates the reporting criteria and reporting requirements for facilities with respect to Part 5 Substances (speciated VOCs).

Figure 1: VOC Reporting Criteria & Requirements



The following example illustrates both the reporting criteria and requirements explained above:

Reporting Part 5 Substances (speciated VOCs) Example

A facility emits 28 tonnes of "Volatile Organic Compounds (VOCs)" to air, 7 tonnes of which are emitted from a 65 metre stack. The 28 tonnes are from the following sources: 7 tonnes from a stack with height of 65 meters, and the remaining 21 tonnes are from storage/handling, fugitive releases, spills, other non-point sources.

The facility releases 3 tonnes of styrene to air - a component of its VOC emissions, 0.4 tonnes of which are from the 65 metre stack.

The reporting requirements are as follows:

1. The reporting threshold for VOCs is 10 tonnes released to air. Since the facility released 28 tonnes of VOCs to air, it exceeds the threshold, and is required to submit a report for "VOCs".
2. When reporting "VOCs" a facility is required to provide details on stacks with a height ≥ 50 meters that release ≥ 5 tonnes of VOCs. This facility has a stack that is 65 meters tall which releases 7 tonnes of VOCs. As such, the stack-specific threshold has been met.

The stack height, diameter, exit velocity and temperature must be provided for any stack with a height ≥ 50 meters and VOC releases ≥ 5 tonnes. [Reporting releases from this stack can be accessed from field B12.1 a) - # of stacks button]. The remaining 21 tonnes of releases are reported in Fields B12.1 b)-e).

3. Styrene is a Part 5 substance (speciated VOC). The styrene release of 3 tonnes exceeds the 1 tonne release threshold for a Part 5 substance. As such, the information must be reported as follows: 0.4 tonnes released from the 65 metre stack, and 2.6 tonnes released from "Other Sources".

Since a Part 5 substance was released to air in a quantity ≥ 1 tonne, answer "Yes" to Field B12.7. Select the "View/Edit" button, and a Summary Screen will list the "Other sources" and the stacks for which you must report your releases to air of styrene.

Select the stack, and click "Modify" to open the screen where the emissions are reported. This will open B12.8, which is a list of the 60 Part 5 substances. Enter a release quantity of 0.4 tonnes for styrene. Return to the previous screen, and select "Other sources" and "Modify". Enter the release quantity of 2.6 tonnes for styrene.

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Step 3 - Install the reporting software and upload data

Step 3 describes how to install and open the NPRI reporting software. You are encouraged to install and open the NPRI reporting software **when you receive it** to ensure that you do not have any technical difficulties that may result in late submission of your report. If you have questions about the reporting form or software, refer to this Guide or use the "Help" button in the bottom left-hand corner of each screen. Alternatively, "Help" can be obtained by pressing the F1 key.

If you reported to the NPRI for 2002, you can upload the data from that report and update the information (see "Import Data / Maintain System").

The four components of this step are:

1. Install the software - see description of system requirements and installation procedure below.
2. Open the software and familiarize yourself with the various screens and functions.
3. Select inventory program - see description below.
4. Import data (optional) - use this function if you want to upload an NPRI report from 2003 or a report from another facility (see "Import Data / Maintain System").

Install and Open/Start the NPRI Reporting Software

Hardware and Software Requirements

The Windows-based reporting software is a 32-bit application that can only be used on computers running Microsoft Windows. The minimum requirements for using the electronic reporting form are:

- Intel Pentium II compatible personal computer
- Windows 9x (includes 95, 98, SE, ME) or Windows NT (includes 2000 and XP - may also require Administrative Privilege to install)
- Microsoft Internet Explorer version 4 with service pack 5 (or higher) installed (IE5+ is recommended)
- CD-ROM drive or Internet access
- Hard disk drive with 50 megabytes (Mb) or more of available space
- Microsoft Data Access Components (MDAC) 2.6 (or higher) installed (recommended)

Environment Canada has initiated a software installation helpdesk. If you are having difficulty installing and running the NPRI software, contact:

nprihelpdesk@ec.gc.ca
(819) 994-1672
1-877-877-8375

NOTE: *Installation related problems represent a large proportion of the calls received by Environment Canada. It is strongly recommended that the software be installed as soon as it is received or downloaded and then tested to ensure successful installation. This will provide sufficient time for resolution of any problems and allow adequate time to complete the NPRI report by the June 1, 2004, deadline.*

Questions regarding completing and submitting NPRI reports should be directed to your regional NPRI office (listed on the inside front cover of this Guide).

Install the NPRI Reporting Software

- Start Windows.
- Insert the NPRI CD into your CD-ROM drive. The NPRI CD browser will automatically launch if Autorun is enabled on your system. Follow the on-screen instructions. To install the NPRI reporting software, select "Install" under Reporting Software on the main menu. This will start the installation process.
- If the NPRI CD browser does not appear, open the Windows/NT Explorer, select the CD-ROM drive, change to the directory "Software" and double-click on the file **NPRI2003Setup.exe**.

Information is available on this CD to assist you in submitting your report; be sure to browse it after successful installation.

If downloading from the Internet, go to <www.ec.gc.ca/pdb/npri> and locate the download location of the 2003 reporting software. Download the file **NPRI2003Setup.exe** (approximately 25 Mb in size) to a directory on your hard drive and then double-click this file.

- Follow the installation instructions*.

Open the NPRI Reporting Software

To open the NPRI reporting software, use one of the following three methods:

- Double-click on the NPRI-INRP icon on your desktop
- Go to... **Start, Programs, NPRI-INRP, 2003**, and click on **2003 Reporting Software**, or
- Open the Windows Explorer, select the drive and directory in which the software was installed, and double-click on **NPRI_Win.exe**.

Using the NPRI Reporting Software

Opening Screens

When you first open the software, select your preferred working language - French or English.

Selection of Inventory Program

The 2003 NPRI reporting software includes the annual reporting forms for Environment Canada programs (NPRI and Environmental Performance Agreements), Ontario Regulation 127/01 (O.Reg.127/01), Alberta Environment (AENV) Approvals Reporting, and the National Emissions Reduction Masterplan (NERM) of the Canadian Chemical Producers' Association. These programs are further defined below. At the outset, you must select all of the inventory program(s) to which you intend to report through the "Selection of Inventory Program" screen. Company coordinators must be cognizant of all the programs to which their respective facilities will report and make these selections before importing any individual facility reports.

* The installation process will check for the presence of two system components provided by Microsoft. If your system is missing one or both of these components, the installation program will install them (Windows Installer v2.0 and Microsoft Data Access Components (MDAC) v2.6). This may result in your system restarting once or twice. It is possible that the installation process may not restart correctly, in which case you will need to manually restart the installation process as previously described.

Warning: Once an inventory program has been selected and data has been entered, do not attempt to remove an inventory program globally through this screen. This may result in errors when you generate an export file. You will be given an opportunity to deselect non-applicable programs on a substance-by-substance basis later (see field B1.5).

- **NPRI - National Pollutant Release Inventory**
- Facilities required to report to Environment Canada under the NPRI

Select this option if you are required to report to Environment Canada under the NPRI. If you are completing an NPRI report for multiple facilities, only some of which are in Ontario, you should also select the "ON MOE" option.

- **EPA - Environmental Performance Agreements**
- Facilities required to report to Environment Canada under an EPA(s)

Select this option if you are reporting to Environment Canada under an Environmental Performance Agreement (EPA). EPAs are non-legislative agreements, which meet core design criteria, and have been negotiated among parties to achieve specific environmental results.

By selecting to report under an EPA, you will be able to report emissions information required by your agreement. Substances and specific data fields that must be reported may vary, depending on the EPA. All EPA reporting requirements may not be met through this software. Individual EPAs may require other forms of monitoring, such as case studies. Refer to the EPA to which you are a signatory for specific reporting requirements.

Environmental Performance Agreement (EPA) Identification

If you have selected to report under an EPA, you must identify under which EPA(s) you will be reporting.

After selecting to report under an EPA, you will be presented with a screen that will enable you to select an agreement from a list of EPAs known to exist when the software was created. To select an EPA, click the "Add" button to open the "Master Pick-list of Environmental Performance Agreements" table. From this pick-list, select the EPA under which you will be reporting. If you cannot find the name of the EPA under which you are reporting, you can add a new entry by selecting "Other" from the pick-list. By selecting "Other", you will be automatically prompted to provide a short description of the EPA under which you are reporting. Provide a description that clearly identifies the EPA. Repeat this process for each EPA you wish to report.

- **ON MOE - O.Reg.127/01 - Ontario Regulation 127/01**
- Ontario facilities required to report to the Ontario Ministry of the Environment (ON MOE) under O.Reg.127/01

Select this option if you are required to submit an annual report to the ON MOE under O.Reg.127/01.

If you are required to report for any substances listed in Table 2C of O.Reg.127/01, you must also report those substances to the NPRI. In this case, select the "NPRI" option as described above.

Refer to the Help file or the *Guide for Reporting under O.Reg.127/01 Using the NPRI Software - 2003* for descriptions of the fields in the O.Reg.127/01 reporting form.

- **NERM - National Emissions Reduction Masterplan**
 - Facilities required to report to the Canadian Chemical Producers' Association (CCPA) for NERM

Select this option if you are reporting to NERM. NERM is an emissions reporting and reduction initiative of the CCPA. A component of Responsible Care®, NERM applies to all chemical manufacturing facilities operated by CCPA-member companies. For further information, contact the CCPA at [613-237-6215 ext. 237](tel:613-237-6215).

The NERM reporting form is similar to the NPRI reporting form. Refer to this Guide for a description of each field in the reporting form. A summary of the changes to the NERM substance list for 2003 is included on the NPRI reporting software CD.

- **AENV - Alberta Environment Approvals Reporting**
 - Facilities required to report to Alberta Environment (AENV) for Criteria Air Contaminants under the Alberta Environmental Protection and Enhancement Act (EPEA)

Select this option if you are required to submit emission information for Criteria Air Contaminants to support your Alberta EPEA approval(s).

Main Menu

The NPRI reporting software uses a menu-based system for navigation. The "Main Menu" is the starting point for completing an NPRI report. A typical procedure is to first select "Import Data/Maintain System Files" and upload the data from your 2002 report, or to load the data from another 2003 reporting facility. Next, choose "View / Enter / Edit Data" and update information on reporting facilities and substances. **It is particularly important that you do this when you import a previous year's report as not all data is uploaded.** Finally, choose "Check Errors / Create Export" to check if your report contains any errors and to export an NPRI report to diskette or a directory (folder) on your hard drive for submission with a signed Statement of Certification to your regional NPRI office. Note that the "Change Inventory Program Selection" option should only be used if you need to change your original program selection.

Main Menu

- Import Data / Maintain System Files
 - View / Enter / Edit Data
 - Check Errors / Create Export
 - Print Menu
 - Change Inventory Program Selection
 - << Change Directory >>
-

<< Change Directory >>

This feature allows you to change the subdirectory within the reporting software so you can work on multiple reports for different companies. This feature is useful for consultants who prepare reports for different clients or for company coordinators reporting for several facilities. Note that independent contractors (consultants) submitting reports for different companies must submit a separate report for each of their clients.

To use this feature, first use Windows Explorer to create a new folder (or data directory). Then use the NPRI software to change to the location of the data directory created. The software will create a new empty database in the folder selected or it will open an existing database if one is present.

Note: This function cannot be used to copy NPRI reports from one folder to another. You must use Windows Explorer to manually copy the NPRIDATA.MDB database file from one directory to another and then use the above steps to change the default data directory. Also, the software can only open a database created for the current reporting year.

Import Data / Maintain System Files

Import Data / Maintain System Files

- Import Data
 - Clear Database Tables
-

Importing Data

You may only import your data from the 2002 or 2003 reporting years that are stored on a hard drive (including network drives) or on floppy disks. If you import data, you are required to update the facility and substance information where required, verify that all information is accurate, and complete the fields that were not imported.

Data reports from other facilities can also be uploaded. This feature is useful for company coordinators who wish to combine reports from several facilities into one report.

To use this feature, go to the "Main Menu" and select the "Import Data / Maintain System Files" option, followed by the "Import Data" button. When prompted, choose the drive letter and directory name of the appropriate data file. For 2002, if you installed the reporting software in the default directory, choose the **Expo_All.mdb**, **Expo_EC.mdb**, **ExpoNERM.mdb**, or **Expo_MOE.mdb** file (depending on the file you want imported) found in the following directory:

- C:\Program Files\NPRI-INRP\EDR2002\Exports\

If you exported your file to a diskette, use it as the source for your import file.

For the current year, choose the **Expo_All.mdb** file found in the following directory:

- C:\Program Files\NPRI-INRP\EDR2003\Exports

The NPRI software can upload data from any drive or folder that contains a valid export file. A status screen will indicate the year for which the data are being uploaded (2002 or 2003) and list the number of facilities, substances and off-site facilities that will be uploaded.

While the data are being uploaded, the program will display the number of records transferred and the number of duplicates found, if any. The software will warn you if a duplicate facility is being uploaded and give you the option to:

- overwrite the existing record with the record being uploaded
- create a new facility with a different identifier (NPRI ID)
- skip and not import the record being uploaded, or
- cancel all further imports.

Clear Database Tables

This feature is designed to delete all data that are currently in the `NPRIData.mdb` file in the directory to which the reporting software is set (see << Change Directory >>).

Important: Once deleted, data cannot be recovered.

View / Enter / Edit Data

The software requires that you enter the identification information for a facility prior to entering substance-related information.

From the “Main Menu”, select “View / Enter / Edit Data”. From this screen, you can enter all the information required by the programs you previously selected. **At any time, you can save the information you have entered or abandon the changes you have made.**

View / Enter / Edit Data

- Default Contractor / Coordinator
 - Reporting Facilities
 - Substances
 - Stacks (>= 50 metres)
 - Surface Water Bodies
 - Off-site Facilities
-

Default Contractor / Coordinator

You are required to identify whether there is a contractor or company coordinator completing or associated with the report being submitted. This optional section simplifies the entry of this information by providing a default that the software will use when it is required. Should you decide not to provide a default, you will need to enter this information for each reporting facility.

C1.0 Default Contractor (applies to Contractor Contact, A21.0 and A22.0)

A company or facility will often hire a contractor to complete its NPRI report. In this case, Environment Canada requires that the contact information for the contractor be provided.

If you answer “Yes” to the question in field C1.0, you will be prompted to enter the name, telephone number and address of the contractor. The C1.0 feature assists independent contractors who are submitting reports for a number of facilities owned by the same company. Information entered in C1.0

and C2.0 will be automatically entered in the fields in sections A21.0 and A22.0, respectively, so the independent contractor need only enter his/her contact information once.

C3.0 Default Company Coordinator (applies to Company Coordinator, A8.0 and A9.0)

Some companies may coordinate reports for several facilities through a central contact. If you are a company coordinator completing reports for more than one facility, you may enter your contact information here, rather than repeatedly in each facility report.

If you answer "Yes" to the question in field C3.0, provide the name, position title, e-mail address, telephone and facsimile numbers for the company coordinator (see the description for sections A8.0 and A9.0 for further details). Information entered in C3.0 and C4.0 will be automatically entered in the fields in sections A8.0 and A9.0, respectively, so the company coordinator need only enter his/her contact information once.

Note: Correspondence from Environment Canada will be addressed to the company coordinator.

Reporting Facilities

Information identifying the facility is entered in sections A1.0 to A26.0 of the "Reporting Facilities" section. The electronic reporting form allows reports for more than one facility to be entered. This is useful for company coordinators who are submitting reports for several facilities. The "Facility Listing" screen provides a detailed list of facilities and their location. Refer to Step 4 for guidance on entering facility information.

Substances

Note: You must have entered or imported information for at least one facility before you can enter substance-related data.

Information on substances is entered in sections B1.0 to B40.0 of the "Substances" report. The substance summary screen lists the facilities and their associated substance reports. Substance reports can be added, modified and deleted. The "Substance Summary" screen provides a concise summary of on-site releases and off-site transfers.. Refer to Step 5 for guidance on entering substance information.

The following sections describe the major pick-lists used by the software. The pick-lists can be modified or edited if they are incomplete or inaccurate.

Stacks (>= 50 metres) (CAC reporting requirement)

Note: You must have entered or imported data for at least one facility to access this pick-list.

When you select the "Stacks (>= 50 metres)" button, you will be shown the stack pick-list for the facilities you are reporting. You may add a stack or modify a previously-entered stack by selecting the "Add" or "Modify" buttons at the bottom of the screen. This will present the "Identification of Stacks (>=50 metres)" screen. Fields S2.1 to S2.8 must be completed for all stacks greater than or equal to 50 m above grade that meet stack release thresholds (see Table 1).

Table 1: CAC Thresholds for Identifying and Reporting for Stacks >= 50 metres

CAC Substance	Stack Threshold
Carbon monoxide	5 tonnes
NO _x (expressed as NO ₂)	5 tonnes
Sulphur dioxide	5 tonnes
Total particulate matter	5 tonnes
Volatile organic compounds (VOCs)	5 tonnes
PM _{2.5}	0.15 tonnes
PM ₁₀	0.25 tonnes

S2.1 and S2.2 Stack ID Number and Stack Name

The software will assign each stack an identification number and provide a field for you to assign a name/description to the stack. This is intended to ease stack identification by the facility for current and future reporting. Environment Canada strongly recommends that facilities provide an appropriate stack name.

S2.3 Stack Height (m)

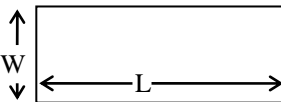
This refers to the height of the stack above grade. The height of the stack is determined by taking the measurement from ground level to the exit level of the stack. This is the same procedure used if the stack is on the top of a building. For example, if you have a 30-m stack sitting on top of a building that is 20 m tall, your total stack height is 50 m.

S2.4 Stack Diameter (m)

Report the inner diameter at the exit level of the stack. If the opening at the top of the stack is not circular, calculate and report the equivalent diameter using the following equation:

$$E_d = 2 \left(\frac{L * W}{L + W} \right)$$

Where: L = length
W = width



The diagram shows a rectangle representing a stack opening. A horizontal double-headed arrow below the rectangle is labeled 'L', representing the length. A vertical double-headed arrow to the left of the rectangle is labeled 'W', representing the width.

S2.5 Exit Velocity (m/s)

Enter the average exit velocity of the gas when it exits the stack. This number is often required for an operating permit. Use the number on the permit where applicable. In the case where only the exit flow rate is known, use the following equation to convert the flow rate (i.e., m³/s) to velocity (m/s):

$$v = \frac{\dot{V}}{A}$$

Where: v = exit velocity in m/s
 \dot{V} = volumetric flow rate in m³/s
A = stack area in m²

S2.6 Exit Temperature (°C)

Enter the average temperature of the gas when it exits the stack. This number is often required for an operating permit. Use the number on the permit where applicable. The equations to convert Kelvin and degrees Fahrenheit to degrees Celsius are provided below:

Fahrenheit ($^{\circ}F$) to Celsius ($^{\circ}C$):

$$a^{\circ}C = \left[32 + \left(\frac{9}{5} \right) a \right]^{\circ}F$$

Kelvin (K) to Celsius ($^{\circ}C$):

$$bK = (b - 273.15)^{\circ}C$$

S2.7 and S2.8 Stack Latitude and Longitude (optional)

If the latitude and longitude value of the stack is known (e.g., documented in regulatory permits or site plans), report this information in the fields provided. The required format is *degrees, minutes, seconds*. Reporting this information is not mandatory, but it is of use to regional air quality modellers who use the information collected through the NPRI for CACs.

Surface Water Bodies

Select this button to open the “Master Pick-list of Surface Water Bodies” table. The entries in this table become part of a pick-list available when completing the “Water Bodies” column of field B12.3 of the substances report.

If you are reporting the release of an NPRI substance to surface waters (streams, rivers, lakes, bays, inlets, etc.), you must identify the receiving water body. To ensure that water bodies are consistently identified, the list of names in this table was assembled from data in the NPRI and from the *Gazetteer of Canada*. The names in this initial list cannot be modified. However, if you cannot find the name of a water body, you can add a new geographic feature to the list. When adding a water body, ensure you use its proper name.

There are two ways to edit the “Master Pick-list of Surface Water Bodies” table:

- select “Surface Water Bodies” in the “View / Enter / Edit Data” menu, or
- select the button in the “# of Water Bodies” column in field B12.3 and, when presented the next screen, select “Add a new water body to the pick-list”.

Once you have added a water body, you are required to report the quantity of the substance released to that water body. **Do not add a new surface water body name unless it will be associated with at least one discharge to surface waters identified in field B12.3, otherwise the software will generate an “orphan water body” error.** To correct this error, you must either identify releases to that water body or delete that water body.

Off-site Facilities

Select this button to open “Master Pick-list of Off-site Facilities”. The entries in this table become part of a pick-list which is available when completing the “# of Off-sites” column of fields B22.1 and B25.1 of the substances report.

The NPRI identifies three different types of off-site facilities:

- facilities to which the reported substance is sent for final disposal or treatment prior to final disposal
- municipal sewage treatment plants (MSTPs) to which your facility discharges an effluent containing the reported substance, and
- facilities to which materials containing the reported substance are sent for recycling.

Note: Discharges to sanitary sewers are reported as off-site transfers for disposal to an MSTP, regardless of the type or level of treatment offered at the MSTP.

If your facility transfers a substance off site for disposal or recycling, you must identify the receiving facility. To ensure that off-site facilities are consistently identified, a list of facilities was assembled from data reported to Environment Canada in previous years. The information for the off-site facilities in this initial list cannot be modified. However, you can add a new off-site facility to the list if you cannot find the name of the facility to which you transferred substances. Make sure you use the correct name for the off-site facility when selecting from, or adding to, the off-site facility pick-list.

There are two ways to edit the "Master Pick-list of Off-site Facilities" table:

- select "Off-site Facilities" in the "View / Enter / Edit Data" menu, or
- select the button in the "# of Off-sites" column in field B22.1 or field B25.1 and then "Add an off-site facility to the pick-list".

Once you have added an off-site facility, you are required to report the quantity of the substance transferred to that facility. **Do not identify an off-site facility unless it will be associated with at least one substance transfer, otherwise the software will generate an "orphan facility" error.** To correct this error, you must either indicate a transfer to that facility or delete the off-site facility you added.

Check Errors / Create Export

See Step 6 for a complete description of this menu item.

Print Menu

From this screen, you can set printer defaults, print all or part of a report and print a Statement of Certification for each of the programs to which you are reporting.

Note: DO NOT submit a printed copy of the report with your electronic copy. You are only required to submit the electronic copy and a signed Statement of Certification.

Print Menu

- Print Statement of Certification
 - Print Facilities / Substances
 - Print Supplementary Information
 - Print Stacks (>= 50 metres)
 - Print Surface Water Bodies
 - Print Off-site Facilities
 - Print Summary Listings
 - Print Reporting Errors
 - Set Printer Defaults
-

Print Statement of Certification

A signed and dated Statement of Certification (SoC) must be submitted with the NPRI report. *Each program-specific SoC created by the software is adjusted to reflect the information included on the electronic submission for that program.*

A brief report summary is printed as part of the SoC. It lists the facilities, their substance reports and the total quantities released on site and/or transferred off site for disposal and recycling. The SoC includes the name and address of the company official identified in sections A16.0 and A17.0.

Print Facilities / Substances

This report provides a detailed listing of all the information in a report. A series of check boxes allow you to select various options for printing. By default, the report will list all of the facilities and their substances. The off-site facilities and water bodies **must** be printed separately. You have the option of printing the facility information only, without the substance information, or printing specific sections of the facility and/or substance reports.

You may choose to print the report in the "language of entry". This allows those reports completed in English to be printed in English while reports completed in French are printed in French. Or, the report headings can be printed in either French or English; information entered in the report will remain in the language of entry. There is no requirement to print a copy of your report for submission to Environment Canada. This feature is provided for your convenience in preparing your submission or generating a hard copy of the report for your own needs.

Print Supplementary Information

Print Stacks (>= 50 metres)

This report provides a listing of all the stacks greater than or equal to 50 metres to which the facility reported the release of a CAC substance.

Print Surface Water Bodies

This report provides a listing of all surface water bodies to which the facility reported the release of a substance.

Print Off-site Facilities

This report provides a listing of all off-site facilities to which the facility reported the transfer of a substance.

Print Summary Listings

This report provides a summary of the actual and anticipated releases and transfers reported for each substance.

Print Reporting Errors

This report provides a summary of errors in the facility and substance reports which must be corrected before exporting the data.

Set Printer Defaults

You can either print to a printer ("P") or to a file ("F"). The software can use any printer on your system *or* you can print to a file in cases where the printer is inaccessible. The resulting file is a simple text document that can be edited in Notepad, WordPad or any other PC-based word processing program. If you are having printing problems, try using the "print to a file" option and then printing from Notepad, WordPad or your preferred word processing program.

HINT: For best results, use a fixed-pitch font such as 10-point Courier or New Courier. Reports are currently designed to produce legible output with these fonts only.

Follow Steps 4 and 5 to complete your report, then Steps 6 and 7 to export your data and submit your report to Environment Canada and/or to other selected programs.

The electronic reporting form, and Steps 4 and 5 of this Guide, are organized as follows:

Step 4:

- Section A1 Facility Identification

Step 5:

- Section B1 Substance Information
- Section B10 On-site Releases to the Environment
- Section B20 Disposals and Transfers for Recycling
- Section B30 Pollution-Prevention Activities
- Section B40 Production Ratio and Activity Index

Review the explanations provided for these sections before completing your 2003 NPRI report.

Step 4 - Enter or update the facility information

Steps 4 and 5 describe the information required and the procedures to follow to comply with the *Canada Gazette* notice for the 2003 NPRI. The electronic reporting form was developed to facilitate data input for reporters, to provide help files for the person completing the report and to reduce errors in data transcription. For ease of reference, Steps 4 and 5 follow the same order, titles and numbering system as the electronic reporting form.

NOTE: Some facilities have replaced staff who prepared earlier NPRI reports and, as a result, new staff are unaware of the requirement to report, do not receive the NPRI reporting kit when it arrives at the facility, or cannot find the electronic data and records used to prepare the previous year's report. Consequently, some facilities may submit a late or incomplete report. Reporting by the June 1st date is a legal requirement of the "Notice with Respect to Substances in the National Pollutant Release Inventory". Facilities reporting after June 1, 2003 are in violation of CEPA 1999. All facilities should establish and maintain appropriate administrative procedures to guarantee an orderly transition during staff and other corporate changes and to ensure due diligence.

If your facility is located in Ontario and you are required to report to the NPRI and the ON MOE, the software will display both the NPRI and ON MOE fields. Refer to the *Guide for Reporting under O.Reg. 127/01 Using the NPRI Software - 2003* or Help file for a description of the ON MOE fields.

Facility Identification

From the "Main Menu" of the NPRI software, select the "View / Enter / Edit Data" menu and then select "Reporting Facilities". The electronic reporting form allows NPRI reports for more than one facility to be created. This is useful for company coordinators who are submitting NPRI reports for several facilities. You can add, delete, edit or clone a facility record from the facility list. Deleting a facility will also delete all of its substance data if any has been entered.

NOTE: There is a new function this year for reporters who have to report many facilities with similar characteristics and/or substances. This "Cloning" feature is further described in the following paragraphs.

"Clone" a Facility and its Substances

In the Facility list, select the facility to be "Cloned", and select the "Clone" button at the bottom of the screen. A screen will open prompting the user to enter the facility and address information, and the number of times to clone the facility/substance information (maximum 99). Select "Continue" to return to the Facility Listing screen, where the cloned facilities will be added. Note that when cloning any facility, the province cannot be changed. Any similar facilities in a different province must be entered manually. Also, when performing multiple clones, the address and any other information for the cloned facilities must be manually modified by selecting the appropriate facility from the facility list.

Cloning a facility will also clone all of its substance data if any has been entered; the user will be required to modify data as appropriate for the new facility. More information on "cloning" information for multiple facilities efficiently is available from the regional offices.

Note: At any time while completing the report, you can save the information entered or abandon changes made. Save work often to avoid losing data should the hardware or software fail.

A1.0 NPRI ID, Web Site Address, Dun and Bradstreet Number

The “Reporting Year” field cannot be changed. This is the calendar year for which you are required to report to the NPRI and for which you will be providing information.

A1.1 NPRI ID

If an NPRI report was previously submitted for your facility, it was assigned a permanent NPRI identification number. The NPRI ID is specific to the facility, at a particular location, and does not change even if ownership or the name of the facility does. You will find this number on the mailing label of the 2003 NPRI package or on correspondence sent to your company/facility. If you cannot find your NPRI ID number, call your regional NPRI office (listed inside the front cover).

If this is your first year of reporting, you must create a temporary NPRI ID for your facility. To create a temporary NPRI ID, click on the “Generate an NPRI ID” button. A permanent NPRI ID for your facility will be assigned by Environment Canada at a later date.

NOTE: A number of facilities do not report the NPRI identification number assigned to the facility. Your assigned NPRI ID number is provided in your NPRI correspondence. Valid NPRI ID numbers are between 00001 and 99999. Contact your regional NPRI office if you cannot find your ID number.

A1.2 Language

Correspondence from Environment Canada to your facility will be in the language identified in this field - English or French. The language code determines which language is used by the software when printing reports.

A1.4 Web Site Address

This is an optional field for you to provide the Web site address of your facility or parent company. The address you provide will become part of the on-line NPRI database and will allow visitors to link directly to your Web site for more information.

A1.5 Dun and Bradstreet (D-U-N-S) Number

D-U-N-S is a nine-digit number that Dun and Bradstreet uses to identify companies in its financial database. This will allow Environment Canada to identify the corporate structures relating facilities to their parent companies. A large organization is likely to have many D-U-N-S numbers, linking their various headquarters, subsidiaries, branches and facilities. Report the D-U-N-S number of the facility. This number may be available from your facility’s treasurer or financial officer. If the facility doesn’t have a D-U-N-S number, but the parent company does, report that number in section A3.0 “Identification of Parent Companies”. If you need to verify your D-U-N-S number or obtain a new one, call the Dun and Bradstreet Customer Service Centre at 1-800-463-6362, or (905) 568-6000; Fax: (905) 568-6197. For more information, you can visit the Dun and Bradstreet Web site at <www.dnb.ca>.

A1.6 Business Number

The Business Number (9 digit registration number) for each facility is now required. Business Numbers (BN) can be found on all forms issued to a business by the Canada Customs and Revenue Agency. The first nine digits that appear on these forms is the business number to be used when reporting to NPRI. This registration number will stay the same no matter how many or what types of accounts a business has. BN are issued to Canadian businesses that register for one or more of the following accounts: Corporate Income Tax; Importer/Exporter account number; Payroll (source) deductions (Trust accounts); or Good and Services Tax.

A2.0 Facility Identification and Site Address

The NPRI database fully supports uppercase/lowercase text entry which improves legibility. DATA ENTRY IN ALL UPPERCASE CHARACTERS IS DISCOURAGED. Take the time to correctly enter your facility identification as you wish it to appear in the publicly-accessible database. This information will be used to identify your facility in all Environment Canada reports and data products and should therefore be selected carefully to ensure that your facility is correctly identified.

Geographic coordinates for facilities are determined by Environment Canada. Facilities may be asked to provide the information needed to determine the geographic coordinates of the facility.

A2.1 Company Name

Enter your company name. **This field is mandatory.** If your company owns more than one reporting facility, ensure that the company name is used consistently for all facilities.

A2. Facility Name

Enter the name of the facility or any other information which, in addition to the "Company Name", completely identifies the facility. If the "Company Name" completely identifies the facility, information does not have to be provided in the "Facility Name" field.

Company Name	Facility Name
Specialty Pharmaceuticals	Liquids Plant
Trans Canada Airlines	Calgary
Canadian Refineries	Alberta Processing Plant
International Manufacturing	ABC Manufacturing Division

A2.3 and A2.4 Street Address

The "Street Address" is the site address of the facility. **Do not use a post office box or mailing address as the street address.** A mailing address can be given when identifying a public contact, technical contact or company coordinator. Enter the street name and number and other identifiers such as suite number or building designation. For rural addresses, where a street address is not available, enter the lot and concession numbers, and the township or its equivalent.

A2.5 City/District

Enter the name of the city, town, village, district or township in which the facility is located.

A2.6 Province or Territory

Enter the name of the province or territory in which the facility is located. Choose the name or abbreviation from the pick-list that is available while the cursor is in the "Province" field.

A2.7 Postal Code

Enter the postal code. It will be formatted automatically (e.g., V7M 3H7). This field is optional for rural addresses but you are encouraged to enter one if it is available (see A2.11).

A2.11 Rural Address

Selecting "Yes" will identify the above address as a rural address.

A3.0 Identification of Parent Companies

For the purposes of the NPRI, a parent company is defined as the highest level company or group of companies that directly control your facility. If your company is not owned or controlled by another parent company, select "No" in field A3.1, "Is the facility controlled by another company or companies?" Otherwise select "Yes" in field A3.1. This opens the "Identification of Parent Companies" screen in which you can report the names, addresses and percent ownership of controlling parent companies.

The D-U-N-S number identifies the parent company and its corporate relationship to the reporting facility. Complete this field as described in A1.5.

Province, territory or U.S. state codes can be found in pick-lists available while the cursor is in the appropriate fields. Field P1.8 "Zip Code or Other" is provided to enter the postal code equivalent for addresses in the U.S. or in other countries. The "Country" field (P1.10) must be completed only if the address is outside Canada or the U.S. This field may also be used to enter other relevant address information, not contained in the other address fields, that needs to be on an address label for successful delivery.

P1.12 Business Number

The Business Number (9 digit registration number) for each facility is now required. Business Numbers (BN) can be found on all forms issued to a business by the Canada Customs and Revenue Agency. The first nine digits that appear on these forms is the business number to be used when reporting to NPRI. This registration number will stay the same no matter how many or what types of accounts a business has. BN are issued to Canadian businesses that register for one or more of the following accounts: Corporate Income Tax; Importer/Exporter account number; Payroll (source) deductions (Trust accounts); or Good and Services Tax.

A4.0 Facility Public Contact

Enter the name, position title, e-mail address, telephone and facsimile numbers of the facility's public contact. The public contact does not have to be the same person who prepares the report or signs the Statement of Certification and does not necessarily need to be someone at the reporting facility. However, this person should be able to answer questions from the public about the report. A position title alone, such as "Environmental Coordinator", can be used to identify the public contact. The facility public contact will be identified in the NPRI database available to the public. **If these fields are left blank, the technical contact (in field A6.0) will be listed as the public contact in the NPRI database.**

A5.0 Facility Public Contact Address

Complete this field if the mailing address for the public contact is different from the facility's site address (A2.0). The province, territory or U.S. state names can be found in pick-lists while the cursor is in these fields. Field A5.9 "Zip Code/Other" is provided for addresses in the U.S. or in other countries. The "Country" field (A5.10) must be completed only if the address is outside Canada or the U.S.

A6.0 Facility Technical Contact

Enter the name, position title, e-mail address, telephone and facsimile numbers of a technical representative who can be contacted by Environment Canada for clarification of the report. This person should be familiar with the details of the report and be able to answer questions about the information provided. **The technical contact will be listed as the public contact in the NPRI database if a public contact is not named in section A4.0.** Unless a company coordinator is identified in section A8.0, the technical contact will receive all information, mailings and inquiries from Environment Canada. **A consultant can be the technical contact as long as a company coordinator is identified in section A8.0.**

A7.0 Facility Technical Contact Address

If the mailing address for the technical contact is different from the facility's site address (A2.0), complete this field as described in A5.0.

A21.0 Contractor Contact

If an independent contractor is submitting the NPRI report on behalf of a facility, enter the independent contractor information. This section will already be completed if you entered this information in C1.0 in the opening screens (see Step 3). C1.0 globally replaces A21.0 for all of a company's facilities in the NPRI report. However, if different contractors were used for some facilities, you can modify the independent contractor contact information for individual facilities through this section.

A22.0 Contractor Contact Address

Complete the fields in A22.0 as described in A5.0. If you filled out C2.0 fields in the opening screens, these fields will already be completed. If the contractor is not the same for all facilities owned by a company, this screen will allow you to modify the contractor address for an individual facility.

A8.0 Company Coordinator

In addition to a facility technical contact, some companies may coordinate reports for several facilities through a central contact. If you answer "Yes" to the question "Would you like to have information sent to a central contact?", provide the name, position title, e-mail address, telephone and facsimile numbers for the company coordinator (fields A8.1 to A8.8). **Correspondence from Environment Canada will be addressed to the company coordinator. If there is no coordinator, correspondence will be sent to the technical contact.** This section will already be completed if you entered this information in section C3.0 in the opening screens (see Step 3).

A9.0 Company Coordinator Address

If the mailing address for the company coordinator is different from the facility's site address (A2.0), complete this section as described in A5.0. This section will already be completed if you entered this information in section C4.0 in the opening screens (see Step 3).

A10.0 Primary Industrial Classification Codes

Industrial classifications are a means of identifying different types of businesses and industries. The NPRI has adopted the North American Industry Classification System (NAICS Canada) as the standard for identifying industrial sectors to enable better comparisons of NPRI data with similar inventories in the

U.S. and Mexico. This year, the NPRI will also continue to collect Canadian and American Standard Industrial Classification (SIC) data to retain continuity with historical data.

NOTE: Many facilities report industrial classification codes that are inconsistent with their industrial activities. Facilities must verify that the Canadian Standard Industrial Classification (SIC), U.S. SIC and North American Industry Classification System (NAICS) codes that they report best describe their primary business activity. The NPRI software provides pick-lists for these codes. While there may be several choices because of differences in the classification systems, be certain to choose the classification that best describes the primary activity. If you have any questions about selecting industrial classification codes, contact your regional NPRI office.

North American Industry Classification System (NAICS)

The NAICS was developed by Statistics Canada, the U.S. Office of Management and Budget and Mexico's Instituto Nacional de Estadística Geografía e Informática, to enable the respective national agencies to collect comparable statistical data (Statistics Canada, 1998). It has replaced the 1980 SIC as the standard for classifying industries by Statistics Canada. Statistics Canada provides complete details of NAICS Canada on its Web site at <www.statcan.ca/english/Subjects/Standard/index.htm>.

You can order a copy of the NAICS Canada Manual (printed version, Catalogue No. 12-501-XPE; CD-ROM, Catalogue No. 12-501-XCB) on-line, toll free at 1-800-267-6677 (voice) or 1-877-287-4369 (fax), or through Statistics Canada Regional Reference Centres.

The NAICS Canada consists of 20 sectors, 99 subsectors, 321 industry groups, 734 industries and 921 national industries. Industries within these sectors are grouped according to their production processes rather than the goods or services produced. The numbering system that has been adopted is a six-digit code, of which the first five digits are used by the three countries to produce comparable data. The first two digits designate the sector, the third digit designates the subsector, the fourth digit designates the industry group and the fifth digit designates industries. For example, the first two digits "22" designate the utilities sector comprised of industries engaged in operating gas, electrical and water utilities. The four-digit NAICS code "2211" refers to the electric power generation, transmission and distribution industry group. Within this group, "22111" refers specifically to electric power generation while "22112" is electric power transmission, control and distribution. The sixth digit is used to designate national industries. At this level, the respective national agencies are free to define classifications relevant to their own economies. In this example, hydro-electric, fossil-fuel-electric and nuclear-electric power generation have the NAICS Canada codes "221111", "221112", and "221113", respectively.

Sector and subsector NAICS classifications and their corresponding two-, three- and four-digit codes are listed in Appendix 8. The electronic reporting form provides a pick-list of the NAICS codes. If you are unsure about the correct NAICS code for your facility, contact your regional NPRI office.

Standard Industrial Classification (SIC) Codes

SIC codes are numerical identifiers for different types of businesses and industries (Statistics Canada, 1989). The first two digits of a four-digit SIC code define a major business sector, while the last two denote a facility's specialty within that sector. For example, the first two digits (37) of the Canadian SIC code "3751" represent the chemical industry in general, and the last two digits (51) represent the paints and varnishes industry. Code "3741" represents the same major sector but denotes the

pharmaceutical industry. Two-digit Canadian and American SIC codes are listed in Appendices 9 and 10, respectively. The electronic reporting form provides a pick-list of two-digit Canadian SIC codes. The software also provides concordance tables of four-digit Canadian SIC codes and their corresponding U.S. SIC codes. If you are unsure about the correct SIC code for your facility, contact your regional NPRI office.

A10.1 Two-digit Canadian SIC Code

Enter the two-digit Canadian SIC code that best represents your facility as found in Appendix 4 or access the pick-list and choose the appropriate number. Your facility may be engaged in several different activities that are described by more than one SIC code. If so, use the SIC code that describes the primary business activity.

A10.2 Four-digit Canadian SIC Code

Based on the two-digit code entered in field A10.1, the software will provide a pick-list of four-digit codes associated with your industrial sector. Select the most appropriate Canadian SIC code for your facility according to the description provided.

A10.3 Four-digit U.S. SIC Code

Based on the Canadian SIC code entered in field A10.2, the software will provide a pick-list of corresponding four-digit U.S. codes. As some Canadian classifications are broader than the U.S. codes, there may be more than one U.S. code for each Canadian code. **A common error is to select the first choice offered by the software.** Be certain to select the appropriate U.S. SIC code for your facility.

A10.4 Two-digit NAICS Code

Choose the two-digit code or range of codes which best describe the industrial sector in which your facility operates. A pick-list of two-digit codes is available or you may refer to the NAICS codes in Appendix 3. Note that some sectors, such as manufacturing (31-33), span several two-digit codes. Use the pick-list to select the correct range of two-digit NAICS codes.

A10.5 Four-digit NAICS Code

Based on the two-digit NAICS code entered in field A10.4, the software will provide a pick-list of four-digit NAICS codes for the corresponding subsectors. A list of four-digit NAICS codes is also given in Appendix 3.

A10.6 Six-digit NAICS Canada Code

Based on the four-digit NAICS code entered in field A10.5, the software will provide a pick-list of six-digit NAICS Canada codes for the corresponding national industries.

A11.0 Number of Full-time Employees or Equivalent

A11.1 Number of Employees

Enter the number of full-time (or equivalent) employees at your facility. This threshold depends specifically on the number of hours worked by all employees at the facility during the calendar year and not on the number of persons working. To determine the number of full-time employee equivalents, total the hours worked by:

- persons employed at the facility, including students, part-time and term employees
- owner(s) who performed work on site at the facility, and

- persons who performed work on site at the facility on a routine basis related to the normal operation of the facility, for the period of time the person performed that work, such as contractors,

and divide the total by 2 000 hours. The total number of hours worked includes paid vacation and sick leave.

A11.2 Activities to Which the 20 000-hour Employee Threshold does not Apply

The 20 000-hour employee threshold does not apply to facilities used for certain types of incineration, wood preservation, terminal operations and wastewater collection facilities discharging 10 000 m³/day or more of water to surface waters. Refer to the Guide for Reporting to the NPRI - 2003 for more information on these activities.

If your facility was used exclusively or mainly for one of the incineration activities (A11.2.a - A11.2.d), you must submit an NPRI report for dioxins/furans and HCB (Part 3 Substances). You may also have to submit a report for any NPRI Part 1A, 1B, 2, 4 or 5 substances, provided their respective substance criteria are met. If any of the incineration activities (A11.2.a - A11.2.d) are chosen, the corresponding fields in A12.1 will be checked.

If your facility was used exclusively or mainly for one of the activities in A11.2.e - A11.2.g, you may also have to submit a report for any NPRI Part 1A, 1B, 2, 4 or 5 substances, provided their respective substance criteria are met.

Was the facility used mainly or exclusively for:

A11.2.a Non-hazardous solid waste incineration (≥ 26 tonnes/year) - Non-hazardous solid waste means any waste, regardless of origin, which might normally be disposed of in a non-secure manner, such as at a sanitary landfill site, if not incinerated. It includes clean wood waste, i.e., waste from woodworking or forest product operations, including bark, where the wood waste has not been treated with preservative chemicals (e.g., pentachlorophenol) or decorative coatings. Non-hazardous solid waste incineration includes incineration of residential and other municipal wastes in conical burners, and clean wood waste in beehive burners.

A11.2.b Biomedical or hospital waste incineration (≥ 26 tonnes/year) - Biomedical waste is defined fully in the Guide for Reporting. Biomedical or hospital waste refers to waste that is generated by:

- human or animal health-care facilities
- medical or veterinary research and testing establishments
- health-care teaching establishments
- clinical testing or research laboratories, and
- facilities involved in the production or testing of vaccines.

Biomedical or hospital waste includes human anatomical waste and animal waste. It also includes microbiology laboratory waste, human blood and body fluid waste, and waste sharps that have not been disinfected or decontaminated. It does not include waste from animal husbandry, or waste that is controlled in accordance with the *Health of Animals Act* (Canada).

Wastes that are household in origin, or that are generated in the food production, general building maintenance and office administration activities of those facilities to which this

definition applies, are not considered to be biomedical or hospital waste but rather to be non-hazardous solid waste.

- A11.2.c Hazardous waste incineration** - Hazardous waste is defined fully in the Main Guide. Hazardous waste includes those wastes that are potentially hazardous to human health and/or the environment because of their nature and quantity, and that require special handling techniques. Hazardous waste incinerators must be licensed or authorized by the responsible jurisdiction. Hazardous waste incinerated in a mobile incinerator temporarily located at your facility must be included as part of this activity.
- A11.2.d Sewage sludge incineration** - Sludge means a semi-liquid mass removed from a liquid flow of wastes. Sewage sludge means sludge from a facility treating wastewater from a sanitary sewer system. The drying of sludge to reduce water content is part of the incineration stage.
- A11.2.e Wood preservation** - Select this if your facility was used mainly or exclusively for wood preservation by means of heat or pressure treatment, or both, or for the manufacture, blending or reformulation of wood preservatives. If your facility used pentachlorophenol, also select field A12.1.q. If your facility used creosote, also select field A13.1.
- A11.2.f Terminal operations** - Select this option if your facility is a terminal operation. For the purposes of reporting, terminal operations refer to either: i) the use of storage tanks and associated equipment at a site used to store or transfer crude oil, artificial crude or intermediates of fuel products into or out of a pipeline; or ii) operating activities of a primary distribution installation normally equipped with floating roof tanks that receives gasoline by pipeline, railcar, marine vessel or directly from a refinery. Terminal operations do not include bulk plants or service stations.
- A11.2.g Discharge of treated or untreated wastewater ($\geq 10\,000\text{ m}^3/\text{day}$)** - Select this option if your facility had an annual average discharge of $10\,000\text{ m}^3$ or more per day of treated or untreated wastewater to surface waters.
- A11.2.h None of the above** - If your facility was not used for one of the activities described above, the 20 000-hour employee threshold applies when reporting to the NPRI for Part 1A, 1B, 2, 4 and 5 substances.

A12.0 Activities Relevant to the Reporting of Dioxins/Furans and Hexachlorobenzene

The criteria for reporting NPRI Part 3 substances is based on specific activities in which a facility engaged, not on quantities manufactured, processed or otherwise used. A facility may have engaged in one of these activities, even if it was not the sole activity at the facility. A facility engaged in one or more of the activities listed below (A12.1.a - A12.1.q) must submit reports for dioxins/furans and HCB if it also met the 20 000-hour employee threshold (see Step 1 of the Guide for Reporting to the NPRI - 2003). If, however, the facility was used mainly or exclusively for any of the incineration activities (A12.1.a - A12.1.d), or for wood preservation using pentachlorophenol (A12.1.q), the facility must report releases and transfers of dioxins/furans and HCB regardless of the number of hours worked by employees. Information to be reported for dioxins/furans and HCB differs from that required in other NPRI substance reports. Refer to Step 2 of the Guide for Reporting to the NPRI - 2003 for further details.

- A12.1.a Non-hazardous solid waste incineration (≥ 26 tonnes/year)** - See A11.2.a.
- A12.1.b Biomedical or hospital waste incineration (≥ 26 tonnes/year)** - See A11.2.b.
- A12.1.c Hazardous waste incineration** - See A11.2.c.
- A12.1.d Sewage sludge incineration** - See A11.2.d.
- A12.1.e Base metals smelting (including copper, lead, nickel and zinc)** - refers to copper, lead, nickel and zinc. This activity does not include smelting of aluminum or any other metals. It also does not include the smelting of secondary lead or secondary aluminum which are

identified in field A.12.1.f and A.12.1.g, respectively. Smelting is defined in Step 1 of the Guide for Reporting to the NPRI - 2003.

- A12.1.f **Smelting of secondary lead** - refers to lead-bearing scrap or lead-bearing materials, other than lead-bearing concentrates derived from a mining operation. Facilities engaged in smelting of lead-bearing concentrates derived from a mining operation are considered to be base metals smelters (see A12.1.e).
- A12.1.g **Smelting of secondary aluminum** - refers to aluminum-bearing scrap or aluminum-bearing materials. Secondary aluminum smelting involves two processes - pre-cleaning and smelting - both of which may produce dioxins/furans emissions.
- A12.1.h **Manufacturing of iron using a sintering process** - Sintering is the welding together and growth of contact area between two or more initially distinct particles at temperatures below the melting point, but above one-half of the melting point (in Kelvin). In sintering operations, dioxins/furans may be formed as unwanted by-products during high-temperature decomposition and combustion of raw materials containing chlorine and organic compounds.
- A12.1.i **Operation of electric arc furnaces in steel manufacturing** - In an electric arc furnace, material is heated by the heat energy released from an electric arc. The electric arc is a component of an electric circuit, like a resistor, but with its own peculiar characteristics. Dioxins/furans may be formed as unwanted by-products during high-temperature decomposition and combustion of raw materials containing chlorine and organic compounds.
- A12.1.j **Operation of electric arc furnaces in steel foundries** - In an electric arc furnace, material is heated by the heat energy released from an electric arc during which dioxins/furans and HCB may be formed.
- A12.1.k **Production of magnesium** - Production of magnesium from magnesium chloride by electrolysis may result in the generation of dioxins/furans and HCB.
- A12.1.l **Manufacturing of portland cement** - Portland cement is a fine greyish powder consisting of four basic materials - lime, silica, alumina and iron compounds. Cement production involves heating (pyroprocessing) the raw materials to a high temperature in a rotating kiln to induce chemical reactions that produce a fused material called clinker. The cement clinker is further ground into a fine powder, then mixed with gypsum to form portland cement.
- A12.1.m **Production of chlorinated organic solvents or chlorinated monomers** - This activity is limited to the intentional manufacturing of chlorinated organic solvents or chlorinated monomers, and does not include coincidental production.
- A12.1.n **Combustion of fossil fuel in a boiler unit to produce electricity (≥ 25 megawatts)** - This activity is limited to the combustion of a fossil fuel in a boiler unit, for the purpose of producing steam for the production of electricity, with a nameplate capacity of 25 megawatts or greater of electricity. Fossil fuel means a fuel that is in a solid or liquid state at standard temperature and pressure (such as coal, petroleum or any liquid or solid fuel derived from such). It does not include combustion of natural gas or other fuels that are gaseous in form at ambient pressure and temperature. It also does not include diesel generators, which are not boiler units.
- A12.1.o **Combustion of salt-laden logs in pulp & paper sector** - Pulp and paper boilers burning salt-laden wood are unique to British Columbia. Dioxins/furans are emitted from the burning of salt-contaminated hog fuel. Logs transported and stored in salt water take up chlorine into the bark. The bark is stripped from logs and ground up with other waste wood to produce hog fuel. The material is then used as boiler fuel to produce heat and electrical energy for pulp and paper processes. The *Canada-wide Standards for Dioxins and Furans* state that every boiler covered by the Standards will be tested twice each year to determine the level of dioxins/furans air emissions for the years prior to 2003, and annually for the year 2003 and beyond.
- A12.1.p **Combustion of fuel in kraft liquor boilers in pulp & paper sector** - A kraft liquor boiler burns black liquor, composed mostly of lignin, the residue from the digester in a kraft

(sulphate) pulping process. The boiler recovers chemical products from the combusted black liquor, which are later recycled, and also produces steam which is used in mill process operations.

A12.1.q Wood preservation using pentachlorophenol - Pentachlorophenol (PCP), by its chemical structure, is a close surrogate to HCB. PCP is derived from HCB by substituting one of HCB's six chloro-substituents with a hydroxyl group. Given its chemical similarity to HCB and that its manufacturing ingredients contain the precursors for dioxin/furan production (i.e., chlorinated aromatics), the manufacture of PCP often results in the incidental manufacture of both HCB and dioxins/furans. Hence, dioxins/furans and HCB are present in PCP formulations used for wood preservation and may be released or transferred when used for wood preservation.

A12.1.r None of the above - If your facility was not engaged in any of the activities described above, then your facility may not have to submit reports for dioxins/furans and HCB.

A13.0 Activity Relevant to the Reporting of Polycyclic Aromatic Hydrocarbons (PAHs)

A13.1 Was the Facility Used for Wood Preservation Using Creosote?

Wood preservation means the use of a preservative for the preservation of wood by means of heat or pressure treatment, or both, and includes the manufacture, blending or reformulation of wood preservatives for that purpose. There is no 50-kg reporting threshold for PAHs released or transferred from a wood-preservation process using creosote, since the PAHs are contained in the creosote and not incidentally manufactured. A facility used for wood preservation must report any of the 17 individual PAHs incidentally manufactured and released on site or transferred off site from a wood-preservation process using creosote, **regardless of the number of hours worked by employees**. If selected, field A11.2.e - Wood Preservation, will be automatically selected.

A25.0 Criteria Air Contaminants (CACs)

A25.1 Are you required to report for one or more criteria air contaminants?

Select either "Yes" or "No". If you select "Yes", you are required to enter the facility's operating schedule (fields T1.1 through T1.5). Otherwise, leave the answer as "No". To enter the operating schedule, select the "View Operating Schedule" button on the right of the field.

T1.0 Facility Operating Schedule (Temporal Variation)

For a detailed explanation of temporal variation, refer to the *Guide for Reporting to the National Pollutant Release Inventory - 2003*.

T1.1 Typical Days of Operation

You must select the typical days of the week on which your facility operates.

T1.2 Typical Hours of Operation

You are required to select the typical hours of operation for your facility. Three common hours-per-day schedules are given; "other" is used to capture non-standard schedules. If you choose "other", you must complete sections T1.2.a(ii) and T1.2.b.

T1.2.a Typical Hours of operation

T1.2.a(i) Select the typical hours of operation. Your options are 24, 16 or 8 hours per day. If none of these options are applicable, select "other" and complete field T1.2.a(ii).

T1.2.a(ii) If "Other", then provide the average total daily hours of operation

On this portion of the screen you will need to complete the following statement:

"Average total daily hours of operation: ____ hours." (input is in hours, to 2 decimal places, e.g., 21.15).

T1.2.b Average daily start time of operation

This portion of the screen follows up your total daily hours of operation (response to T1.2.a) by asking you to provide Environment Canada with your average daily start time. The software will ask you to complete the following statement:

"Average daily start time of operation: ____." (use the 24-hour format of *hhmm*, e.g., 1130).

T1.3 Were there any periods of time longer than one week when operations at your facility were shut down?

The shutdown could be for scheduled or unscheduled maintenance or any other operations requiring a facility shutdown. Selecting either "Yes" or "No" is all that is required for reporting. Selecting "Yes" will present the screen for entering your shutdown periods and pressing the "View Shutdown Periods" button will present the shutdown screen for your viewing (field T1.4).

T1.4 Dates of shutdown periods (one week or longer)

To add the duration information about a shutdown select "Add" on the right of the screen. You are required to enter the start date (as *yyyy.mm.dd*) and end date (as *yyyy.mm.dd*) of the operation's shutdown.

T1.5 Comments (Shutdown periods) (optional)

If you wish to provide comments on why your facility was shut down for one week or longer, select "Yes". You will be presented with a screen to enter your comments.

A26.0 Pollution-Prevention (P2) Planning

A26.1 Did your facility prepare or implement any P2 plans?

Pollution-prevention (P2) planning is a process to examine current operations and develop a plan to eliminate or reduce pollution at the source. A P2 plan documents ways to prevent or minimize the creation of pollutants and waste, and identifies where investment in P2 would lead to cost savings. Such plans can target a specific pollutant, a production process or an entire facility. In this field, facilities must identify whether a P2 plan was prepared and/or implemented during the 2003 calendar year. Facilities are encouraged to provide additional information describing P2 plans that were prepared or implemented at the facility. These descriptions may be entered in the facility "Comments (Pollution Prevention)" field (A15.2).

A26.2 If so,

a) Were any P2 plans required by notice under Part 4 of CEPA 1999?

Part 4 of the CEPA 1999 gives the Minister of the Environment the authority to require the preparation and implementation of P2 plans to manage substances that have been added to the List of Toxic Substances in the Act. Such requirements are made by publishing a notice in the *Canada Gazette*, Part I. If a P2 plan was prepared and/or implemented during the 2003 calendar year, facilities must identify whether the plan was developed to meet the requirements of a *Canada Gazette* notice requiring the preparation and implementation of P2 plans. If yes, please identify the Notice Reference Code published in the *Canada Gazette* notice in the facility "Comments (Pollution Prevention)" field (A15.2).

Facilities are also encouraged to provide additional information describing P2 plans that were prepared or implemented at the facility. These descriptions may be entered in the facility "Comments (Pollution Prevention)" field (A15.2).

b) Were any P2 plans prepared or implemented for another government or under another Act of Parliament?

If a P2 plan was prepared and/or implemented during the 2003 calendar year, facilities must identify whether the plan was developed to comply with legal requirements other than a *Canada Gazette* notice requiring the preparation and implementation of P2 plans, such as for another government or another Act of Parliament. Examples of other legal requirements for which a P2 plan may have been prepared and/or implemented include municipal by-laws, provincial regulations and court orders. Facilities are encouraged to provide additional information describing P2 plans that were prepared or implemented at the facility. These descriptions may be entered in the facility "Comments (Pollution Prevention)" field (A15.2).

c) Were any P2 plans prepared or implemented on a voluntary basis?

If a facility prepared or implemented a P2 plan during the 2003 calendar year, facilities must identify whether the plan was developed on a voluntary basis. Facilities are encouraged to provide additional information describing P2 plans that were prepared or implemented at the facility. These descriptions may be entered in the facility "Comments (Pollution Prevention)" field (A15.2).

A14.0 Other Environmental Regulations or Permits (optional)

This optional field identifies other government organizations, agencies or programs to which you report environmental data. These identifiers may be municipal, provincial, territorial or regional operating permit numbers, certificates of approval or numbers used to identify your facility for a survey on releases or transfers to the environment.

If you wish to provide the environmental identification numbers that exist for your facility, select "Yes" for question A14.1, "Do you report under other environmental regulations or permits?" The electronic form will present a screen to allow the entry of this information. Select "Add" and enter the appropriate identifier or permit number in the column entitled "ID Number" and the government and program that provided you this number in the column entitled "Government Department, Agency or Program Name".

If you do not report under any other environmental regulations, select "No". If you choose not to complete this field, select "Decline to answer".

Example 1

In **Ontario**, include the *Ontario Hazardous Waste Generator Registration Number* (HWIN). The HWIN is a nine-digit alphanumeric number (e.g., ON1234500) assigned to each facility under Ontario Regulation 347 (*Ontario Environmental Protection Act*).

Example 2

Facilities located in **Alberta** handling hazardous waste have to register for and may have more than one provincial ID number(s), assigned by Alberta Environmental Protection. Facilities receiving, consigning or transporting hazardous wastes are assigned provincial ID numbers. The ID number is an eight-digit alphanumeric number (e.g., ABR09999).

Example 3

Facilities located in **British Columbia** have permits allowing them to release to the environment and may have more than one provincial or municipal permit(s) assigned by their local municipalities, such as the Greater Vancouver Regional District (GVRD) or the British Columbia Ministry of Water, Land and Air Protection (BCMWLAP). Facilities having discharges are assigned a permit number. The ID number is alphanumeric (e.g., for air permits, PA-12345 or GVA1234).

A15.0 Comments

Comment fields are limited to 750 characters. Be succinct when providing comments.

A15.1 Comments (Facility)

This field is for comments regarding the facility information provided in this section or on any issue pertaining to your NPRI report in general. For example:

- an explanation of why a substance is no longer reported to the NPRI
- details of a plant closure that resulted in reduced releases and transfers of all substances reported by the facility, or
- details of a one-time site remediation program which dramatically increased off-site transfers of several substances.

These comments will appear in the NPRI database available to the public and are your opportunity to provide context for the information reported to the NPRI. Comments specific to a substance being reported should be provided in the "Substances" report.

A15.2 Comments (Pollution Prevention)

In addition to the pollution-prevention (P2) activities reported for a specific substance in B30.0, information on general facility-wide P2 activities such as water- and energy-conservation initiatives can be provided in this comments field. P2 activities that were implemented in a year other than 2003, may also be entered in this field, along with the year in which the activity was implemented. Facilities are encouraged to provide additional information describing their P2 initiatives (including P2 plans) and results achieved (e.g., environmental results, economic benefits, etc.). These comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI.

Keep in mind that pollution prevention **does not** include on-site treatment (pollution control), off-site recycling, off-site disposal, waste treatment or dilution, or transferring hazardous and/or toxic constituents from one environmental medium to another. Refer to section B30.0, Pollution-Prevention Activities, for more information on pollution prevention, and related activities.

Important: If you answered “yes” to the question “Were any P2 plans required by notice under part 4 of the CEPA 1999?” (field A26.2 a) , please identify the Notice Reference Code published in the *Canada Gazette* notice in this comment field.

A16.0 Company Official Certifying this Submission

A “Statement of Certification” (SoC) can be printed at the end of the Export process (see Step 6) by selecting “Print Statement of Certification”. Alternatively, you can also print your SoC through the “Print Reports Menu”. **If you are unable to print an SoC, contact your regional NPRI office immediately.** A brief summary of the NPRI report is printed as part of the SoC. It lists the reporting facilities, their substances and the total quantities of substances released on site and/or disposed and/or transferred off site for recycling. (This statement is automatically adjusted to include the data required by the selected program, in this case Environment Canada, and may not reflect all the data you entered into the software.)

The NPRI report submitted to Environment Canada must include an SoC signed by an official of the company. Normally, the company official is the person identified in section A16.0. This person must have delegated powers to accept legal responsibility for the information provided. Some facilities may choose a CEO, the environmental coordinator or the plant manager. The person who signs this statement acknowledges that:

- he/she has reviewed the documents
- he/she has exercised due diligence to ensure that the information provided is true and complete, and
- the amounts and values provided in the report are accurate, based on reasonable estimates using available data.

The name of the company official will not appear in the public database.

A17.0 Company Official Address

If the mailing address for the company official contact is different from the facility's site address (A2.0), complete this field as described in A5.0.

This is the end of the first section of the reporting form. You have the options of saving the facility information, cancelling the changes or returning to the facility report.

Return to the "View / Enter / Edit Data" menu and proceed to Step 5.

To add or modify a substance report, after entering at least one facility, select "Substances" from the "View / Enter / Edit Data" menu. A substance report consists of the following sections:

- Section B1 Substance Information
 - Section B10 On-site Releases to the Environment
 - Section B20 Disposals and Transfers for Recycling
 - Section B30 Pollution-Prevention Activities
 - Section B40 Production Ratio and Activity Index
-

Step 5 - Enter or update the NPRI substance information

Substance Identification

There are five different sets of substances and four reporting criteria. Consult Step 1 of the Guide for Reporting to the NPRI - 2003 to determine which substances you are required to report and of the Guide for Reporting to the NPRI - 2003 for how to report your data. **If you met the reporting criteria for a substance, you must submit a report for that substance even if there are no releases, disposals or transfers for recycling.**

If your facility is located in Alberta and you are required to report to the NPRI and under an Alberta Environment (AENV) Approval, the software will display both the NPRI and AENV fields.

If your facility is located in Ontario and you are required to report to the NPRI and the ON MOE, the software will display both the NPRI and ON MOE fields. Refer to the *Guide for Reporting under O.Reg. 127/01 Using the NPRI Software - 2003* for a description of the ON MOE fields. Alternatively, "Help" can also be obtained by pressing the F1 key.

Units of Measure

The units of measure depend upon the substance being reported. Generally, release, disposal and recycling quantities are reported in tonnes. However, for substances with lower reporting thresholds, these quantities are reported in kilograms or grams. Field B1.3 displays the units of measure. The software determines what units will be used once a substance has been selected and displays the appropriate units on each screen where quantity data are requested.

Part	Substance	Units
Part 1A	241 Substances	tonnes
Part 1B	Mercury ¹ , cadmium ¹ , arsenic ¹ , hexavalent chromium compounds, lead ² , tetraethyl lead	kilograms
Part 2	Polycyclic aromatic hydrocarbons (PAHs)	kilograms
Part 3	Hexachlorobenzene (HCB)	grams
Part 3	Dioxins/furans	grams (TEQ) ³
Part 4	Criteria air contaminants (CACs)	tonnes
Part 5	Volatile Organic Compounds with Additional Reporting Requirements	tonnes

¹ and its compounds

² and its compounds, except tetraethyl lead (CAS No. 78-00-2); does not include lead contained in stainless steel, brass or bronze alloys

³ see Step 2 of the Guide for Reporting to the NPRI - 2003 for explanation of these units

NOTE: Double check your report to ensure you have reported your releases, disposals and transfers for recycling in the correct units as noted above.

"Basis of Estimate" Codes

You must report a "Basis of Estimate" code for each release, disposal or transfer for recycling quantity you report. This code provides information about how you determined the quantity of an

NPRI substance that was released on site or transferred off site for disposal or recycling. Codes for the seven estimation methods along with two other codes used by the software are listed below. A detailed description of these estimation methods is provided in Step 2 of the Guide for Reporting to the NPRI - 2003. Reference documents that may assist with your estimates are listed in the References and Bibliography section and examples of each estimation method are given in the Guide for Reporting.

The Basis of Estimate codes for Monitoring and Direct Measurement (M) and Emission Factors (E) have been expanded to include more specific information on the type of monitoring and emissions factors used by a facility.

Code	Description
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M1	Continuous Emission Monitoring (CEM) - A CEM System provides a continuous record of emissions over an extended and uninterrupted period of time. Once the contaminant concentration and the flow rate are known, emission rates can be obtained by multiplying the contaminant concentration by the volumetric stack gas flow rate. The emissions can then be calculated from this data.
M2	Predictive Emission Monitoring (PEM) - PEM is based on developing a correlation between contaminant emission rates and process parameters (e.g., fuel usage, steam production or furnace temperature) and could be considered a hybrid of continuous monitoring, emission factors and stack tests. Emissions can be calculated or predicted using process parameters to predict emission rates based on the results of an initial source test.
M3	Source testing - For releases, disposals, or off-site transfers for recycling, different methods can be used to obtain direct measurements, as described below: <ul style="list-style-type: none">• <i>Releases to air</i> - source testing provides a "snapshot" of emissions during the period of the test. Samples are collected using probes inserted into the exhaust stack, and contaminants are collected in or on various media and sent to a laboratory for analysis or are analysed on-site. Contaminant concentrations are obtained by dividing the amount of contaminant collected during the test by the volume of the sample. Emission rates are then determined by multiplying the contaminant concentration by the volumetric stack gas flow rate. Emission loadings are then determined from these emission rates and the total period of operation. Note that Continuous Emission Monitoring or Predictive Emissions Monitoring are listed as separate Basis of Estimate codes• <i>Releases to water or land</i> - Direct measurement of the substance being released. An example is monthly monitoring of a substance in a waste stream and the volume flow rate of the stream.• <i>Disposals and Off-site Transfers for Recycling</i> - Direct measurement of the substance prior to disposal or transfer for recycling. The most common method is to record quantities (i.e. volume, weight) of a substance prior to disposal or transfer off-site for recycling. Material densities can be used to convert volume measurements to weight measurements.
C	Mass balance - A mass balance is an accounting of the quantity of a substance going in and out of an entire facility, process or piece of equipment. Releases can be calculated as the difference between input and output.
E1	Site-specific emission factors - Facility-specific emission factors (mass of emission per unit time, mass of emission per input material flow, or mass of emission per unit output production) are those developed by the facility using site-specific emission-testing data and source-activity information.

- E2** **Published emission factors** - Emission factors that have been published by government agencies or industry association for applications to emission sources in their particular jurisdiction or industry sector.
- O** **Engineering estimates** - This estimation method is based on physical/chemical properties (e.g., vapour pressure) of the substance and mathematical relationships (e.g., ideal gas law).
- NA** **Not applicable** - This indicates that there were no releases, disposals, or transfers for recycling from your facility to this medium.
- NI** **No information available** - This code is for dioxins/furans and HCB. Select this code only if your facility met the reporting criteria for dioxins/furans or HCB, but you have no information available on which to base an estimate of the quantity released, disposed of, or transferred for recycling.
-

The reporting software has a pick-list for choosing the “Basis of Estimate” codes. Select the letter code identifying the method that applies to the largest portion of the estimated releases, disposals or transfers for recycling.

Dioxins/Furans and HCB

The reporting requirements for dioxins/furans and HCB differ greatly from those for other substances in the NPRI. Refer to Step 1 of the Guide for Reporting to the NPRI - 2003 for details. An NPRI substance report for dioxins/furans or HCB will indicate:

- the quantity released or disposed of as the result of **incidental manufacture** from prescribed activities
- the quantity released or disposed of resulting from **wood preservation using pentachlorophenol**
- **for direct measurements only**, that the measured concentrations were above, equal to or below the **Level of Quantification (LoQ)**
- that there were no releases to a specific medium or disposals, or
- that **no information** was available on which to base an estimate.

Level of Quantification (LoQ)

The level of quantification is defined in Section 65.1 of the CEPA 1999, as “the lowest concentration that can be accurately measured using sensitive but routine sampling and analytical methods”. Environment Canada determines LoQ values by carrying out statistical analyses of several sets of measurements from a variety of emission sources. The LoQ is calculated as 10 times the standard deviation of replicated measurements (ASTM, 2003). For some media and some analytical methods, the detection limit may be lower than the LoQ recommended by Environment Canada. Step 2 of the Guide for Reporting to the NPRI - 2003 lists the LoQ for dioxins/furans and HCB for three types of material or waste streams that may be released or disposed - gaseous, liquid and solid. The LoQ values listed include both final, draft and estimated values published by Environment Canada. In the reporting software, the “Detail” code is used to indicate if your measured concentrations were above, equal to or below the LoQ for each type of material that you released or disposed of.

“Detail” Codes

“Detail” codes are required and only available for dioxins/furans and HCB substance reports. A “Detail” code is required only if the release, disposal or recycling data were obtained through direct measurement or monitoring (codes “M1”, “M2” and “M3” in the “Basis of Estimate” field). The

“Detail” code is used to indicate if your measured concentrations are above, equal to or below the LoQ. The “Detail” code field is adjacent to the “Basis of Estimate” field. Three “Detail” codes are available:

Code	Description
AL	At or Above LoQ - The measured concentration was equal to or greater than the LoQ - If chosen, you must enter the quantity of the substance that was released, disposed of, or transferred for recycling.
BL	Below LoQ (no quantity entered) - The measured concentration was below the LoQ - This indicates that the substance may have been present but you did not quantify the amount that was released, disposed of, or transferred for recycling.
BQ	Below LoQ (quantity entered) - The measured concentration was below the LoQ - If chosen, this indicates that you have opted to report the quantity of the substance that was released, disposed of, or transferred for recycling based on a measured concentration that was less than Environment Canada’s LoQ.

How to Report Releases and Transfers of Dioxins/Furans and HCB

The use of “Basis of Estimate” and “Detail” codes is summarized in Step 2 of the Guide for Reporting to the NPRI - 2003.

B1.0 Substance Identity

Select the name of the NPRI substance and its CAS number. The reporting software provides pick-lists for the NPRI substances and their CAS numbers. Appendix 1 lists the NPRI substances alphabetically and Appendix 2 lists the NPRI substances by CAS number.

Important: Reporting of Part 5 substances (Speciated VOCs) is completed from within the substance report for “Volatile Organic Compounds (VOCs)” with CAS Number “NA - M16”.

Report only NPRI substances. For example, if you use silver nitrate, do not report silver nitrate with its corresponding CAS number because the NPRI does not list silver nitrate as an individual compound. Report this substance as “silver (and its compounds)”. The reporting software will only accept the names and the CAS numbers of substances on the NPRI list.

The NPRI reporting form can be used to complete reports under Environmental Performance Agreements, Regulation 127/01 of the Ontario Ministry of the Environment, Alberta Environment and for the National Emissions Reduction Masterplan (NERM) of the Canadian Chemical Producers’ Association. If you have selected the appropriate inventory(s) in the “inventory program selection” screen of the NPRI reporting software (Step 3), the pick-lists in fields B1.1 and B1.2 will display the substances for the inventory(s) selected. (This may result in more or fewer substances being presented in the pick-lists associated with these fields than those listed in the 2003 NPRI; this is normal.)

B1.1 CAS Registry Number

Select the CAS number of the NPRI substance for which you are reporting. A pick-list of NPRI substances, listed numerically by CAS number, is available. Once the CAS number is identified and selected from the pick-list in field B1.1, the program will automatically place the substance name in field B1.2. Some NPRI substances, such as “ammonia (total)” or “(element) and its compounds”, do

not have unique CAS numbers and are identified by "NA" followed by a number (i.e. NA-16), a combination of a number and letter (i.e. NA-M10), or letters (NA-D/F) on the pick-list.

B1.2 Substance Name

If you do not know the CAS number of the substance for which you are reporting, you can choose from a pick-list in field B1.2 of substance names. Once the substance name has been selected, the CAS number will automatically be inserted into field B1.1. The program will enter "NA" in the CAS number field for groups of NPRI substances which do not have unique CAS numbers, such as "zinc (and its compounds)".

B1.3 Units of Measurement

This field displays the units of measure. The units of measure will also be displayed wherever quantity data are reported (e.g., when entering on-site releases or anticipated disposals). The software determines what units will be used once a substance has been selected.

B1.4 This Substance is on the Following Program List(s):

Indicators will show if the substance is on the NPRI, ON MOE, AENV, Environmental Performance Agreements (EPA), or NERM list(s).

B1.5 Inventory Program Selection Substances

a) Report substance to all selected Inventory Program(s) listed below:

If you wish to report this substance to all of the Inventory Program(s) listed here, select option a). Otherwise, proceed to option b).

b) I am only required to submit a report for this substance to the following Inventory Program(s):

This option permits you to deselect the Inventory Program(s) that are not applicable to a substance report. Ensure check marks remain for the programs that require reporting of the substance.

Note: Deselection of inventory programs can only be done on a substance-by-substance basis. Do not attempt to remove an inventory program globally through the "Selection of Inventory Program" screen.

B2.0 Nature of Activities

Indicate whether the NPRI substance was manufactured, processed or otherwise used, and the nature of such activities at the facility during the calendar year. For each substance, you may identify more than one activity.

B2.1 Manufacture the Substance

The term "manufacture" means to *produce, prepare or compound* an NPRI substance. This also includes the incidental production of an NPRI substance as a by-product as the result of the manufacture, processing, other use or treatment of other substances, products or materials. For example, certain NPRI substances may be manufactured as a result of wastewater treatment or other treatment processes.

Example of Manufacturing Activity

Your facility purchased chlorine and reacted it with sodium chlorite to form chlorine dioxide. Therefore, your company *processed* chlorine and *manufactured* chlorine dioxide. Both are NPRI substances. You are required to report both substances if you met the reporting criteria. Refer to Step 1 of the Guide for Reporting to the NPRI - 2003.

Example of Incidental Manufacturing of By-products

Your facility manufactured aluminum. During the smelting process, hydrogen fluoride (HF) was released. The concentration of HF is 2 ppm but the quantity exceeded 10 tonnes per year. You are required to report your releases of HF because it was *produced as a by-product* and not subject to the 1% concentration criterion. You are not required to report solid aluminum because it is not an NPRI substance. You may have to report "aluminum (fume or dust)", as well as other NPRI substances, if all other reporting criteria are met. Refer to Step 1 of the Guide for Reporting to the NPRI - 2003.

If you manufactured the substance being reported, select at least one of the following:

- B2.1.a** For on-site use/processing - The substance was manufactured and then further processed or used at the same facility.
- B2.1.b** For sale/distribution - The substance was manufactured specifically for sale or distribution outside the facility. For example, a mine mill processed metal ore on site to manufacture ore concentrates, and then sold the metal concentrate(s) outside the facility.
- B2.1.c** As a by-product - The substance was produced incidentally and released to the environment or transferred off site for disposal. See Step 1 of the Guide for Reporting to the NPRI - 2003 for a complete discussion of NPRI by-products.
- B2.1.d** As an impurity - The substance was produced incidentally and remained in the product destined to be distributed in commerce.

B2.2 Process the Substance

The term "process" means the *preparation* of a listed substance, after its manufacture, for distribution in commerce, or the *use* of a listed substance as part of a chemical or physical process. Processing includes the preparation of a substance **with or without change** in physical or chemical form. The term also applies to the processing of materials, mixtures or formulations that contain a listed substance as one component. During processing, the substance is generally not separated from the product.

If your facility processed the substance, select at least one of the following:

- B2.2.a** As a reactant - An NPRI substance used in chemical reactions for the manufacture or processing of another substance or product. This includes, but is not limited to, feedstock, raw materials, intermediates, catalysts and nutrients added to wastewater treatment systems.
- B2.2.b** As a formulation component - A substance added to a product (or product mixture) before further distribution of the product. Examples of substances used in this capacity include, but are not limited to, additives, dyes, reaction diluents, initiators, solvents, inhibitors, emulsifiers, surfactants, lubricants, flame retardants and rheological modifiers.
- B2.2.c** As an article component - A substance that became an integral component of an article distributed for industrial, trade or consumer use. An example is ethylene glycol added to vehicle radiators during assembly.

- B2.2.d Repackaging only** - Processing or preparation of a substance (or product mixture) for distribution in commerce. This also includes transferring NPRI substances to or from bulk containers.
- B2.2.e As a by-product** - The NPRI substance was incidentally processed and was released to the environment or was transferred off site for disposal. See Step 1 of the Guide for Reporting to the NPRI - 2003 for a complete discussion of NPRI by-products.

B2.3 Otherwise Use the Substance

"Otherwise use" encompasses any use or disposal of an NPRI substance that is relevant to the purposes of the facility that does not fall under the definitions of "manufacture" or "process". As an example, your facility cleaned equipment with a listed solvent; it *otherwise used* the substance (ancillary or other use). Note that such an activity is not considered "routine janitorial" or "facility grounds" maintenance.

If your facility otherwise used the substance, select at least one of the following:

- B2.3.a As a physical or chemical processing aid** - A substance that was added to a reaction mixture to aid in the manufacture or synthesis of another substance but was not intended to remain in or become part of the product or product mixture. Examples of such substances include, but are not limited to, process solvents, catalysts, inhibitors, initiators, reaction terminators and buffers.
- B2.3.b As a manufacturing aid** - A substance that aided the manufacturing process but did not become part of the resulting product and was not added to the reaction mixture during the manufacture or synthesis of another substance. Examples include process lubricants, metal-working fluids, coolants, refrigerants and hydraulic fluids.
- B2.3.c Ancillary or other use** - A substance in this category that was used at a facility for purposes other than as a chemical processing aid or manufacturing aid. This includes, but is not limited to, equipment cleaners, degreasers, fuels, flocculants and substances used for treating wastes.
- B2.3.d As a by-product** - The NPRI substance was incidentally present in a material that was otherwise used at the facility and released to the environment or transferred off site for disposal. See Step 1 of the Guide for Reporting to the NPRI - 2003 for a complete discussion of NPRI by-products.

B9.0 EPA - Collection of Use Information

If you have signed an Environmental Performance Agreement with Environment Canada that requires reporting of usage information for the selected substance, enter the total quantity of the substance used on-site in field B9.1.

Releases to the Environment

If the reporting criteria are met for an NPRI substance, then **all** releases of that substance must be reported **regardless of the concentration or amount**. A release is the emission or discharge of a substance from the facility to air, surface waters, or under certain circumstances to land (i.e. spills, leaks).

B10.1 Do You Release This Substance On Site?

To report on-site releases of an NPRI substance, select "Yes" in field B10.1. If you select "No", the program automatically brings you to field B14.0 "Reasons for Changes in Quantities Released from Previous Year" and skips the sections for detailed release reporting.

Important: Releases to land no longer includes landfill, land treatment, or underground injection, as these are now grouped under the new category of On-Site Disposal.

B11.1 Releases of Less than One Tonne

If the total of all your releases of an NPRI Part 1A substance to all media was less than one tonne, you have the option of reporting releases by environmental medium (B12.1 to B12.4 for releases to air, water, and land) or reporting only the total release to all media (B12.5). To report total releases to all media of less than one tonne of a substance, select "Yes" in field B11.1. This field is enabled only for NPRI Part 1A substances. The program will proceed directly to field B12.5 "Total Releases". Otherwise, select "No" and enter specific releases to each environmental medium.

B12.0 On-site Releases of the Substance to the Environment

If your releases were greater than one tonne, you must account for total releases of the substance from your facility to each environmental medium (air, water, and land). **Report the "net" release of the substance, not the total release of a mixture containing the substance.**

Some NPRI substances are listed as "(element) and its compounds". For these substances, report only the total amount of the element in the compounds released rather than the total amount of the compounds that contain the element. Total releases (B12.5) from your facility do not include on-site or off-site disposals or transfers of the substance to off-site locations for recycling.

For each release by medium, enter a "Basis of Estimate" code. Selecting "NA" (Not applicable) indicates that there were no releases from your facility to this medium. Enter the letter code identifying the estimation method that applies to the largest portion of the releases. A pick-list is available for choosing the "Basis of Estimate" codes.

"Detail" codes are required and available only for dioxins/furans and HCB substance reports. A "Detail" code is required only if the release, disposal or recycling data were obtained through direct measurement or monitoring (codes "M1", "M2" and "M3" in the "Basis of Estimate" field). The "Detail" code is used to indicate if your measured concentrations were above, equal to or below the LoQ.

B12.1 Air Releases

Report all air emissions of the NPRI substance, the basis of the estimate and the detail code, if applicable. Both routine releases, such as fugitive releases to air, and accidental or non-routine releases, such as a relief valve opening as a result of a process upset, should be included in your estimate of the quantity released.

B12.1.a Stack or point releases – Total releases from stack or point sources including stacks, vents, ducts, pipes or other confined process streams. Releases to air from pollution-control equipment generally fall into this category.

CAC Reporting:

For each stack greater than or equal to 50 metres above grade, you must identify CAC releases from the stack that met or exceeded the stack thresholds in Table 2. The button in the “# of Stacks” column shows the number of stacks that met the stack criteria and had attributable CAC releases. It will display a “?” if no stacks have been identified. Select the button to open a screen that allows you to attribute all or a portion of the identified release of a CAC substance to a stack greater than or equal to 50 metres above grade. Selecting “Add a Stack from pick-list” will present a screen with a “Pick-list of Stacks” that relate to this facility. If stacks have not been entered for this facility, then select the “Add a NEW Stack to the pick-list” button to add stacks to the pick-list.

You may add the names of new stacks to the pick-list if it is incomplete as described above or from the “View / Enter / Edit Data” menu by selecting the “Stacks (>=50 metres)” option (see Step 3).

Table 2: CAC Thresholds for Identifying and Reporting for Stacks >= 50 metres

CAC Substance	Stack Threshold
Carbon monoxide	5 tonnes
NO _x (expressed as NO ₂)	5 tonnes
Sulphur dioxide	5 tonnes
Total particulate matter	5 tonnes
Volatile organic compounds (VOCs)	5 tonnes
PM _{2.5}	0.15 tonnes
PM ₁₀	0.25 tonnes

For each stack greater than or equal to 50 metres above grade that met one or more of the stack thresholds, report the quantity released of each substance, and the physical parameters of that stack. If the physical parameters for the stack were already entered when reporting for another CAC substance, you are not required to enter them again as this information is retained within the stack pick-list.

Important: A stack may have met the criteria for one CAC substance but not for another.

Physical parameters of stacks greater than or equal to 50 metres above grade:

For each stack which met one or more of the stack thresholds, the stack height and diameter must be reported, as well as the exit temperature and exit velocity, if known. See Step 3, View / Enter / Edit Data, for a description of the physical parameter fields.

- B12.1.b Storage or handling releases** - The quantity of releases to air from storage or handling of a listed substance should be entered in this field.
- B12.1.c Fugitive releases** - Fugitive releases are the total of all releases to air that are not released through confined process streams. These releases include:
- fugitive equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.
 - evaporative losses from surface impoundments and spills
 - releases from building ventilation systems, and
 - any other fugitive or non-point air emissions from land treatment, mine tailings, storage piles, etc.
- Do not include emissions from road dust when reporting total particulate matter, PM₁₀, and PM_{2.5}.
- B12.1.d Spills** - Any accidental releases to air that do not qualify as point or non-point air releases should be entered in this field.
- B12.1.e Other non-point releases** - Any other non-point air releases not estimated in one of the above air-related release types should be entered in this field.

B12.2 Underground Injection - this field has moved to Section B22.1.c.

B12.3 Releases to Surface Waters

Report all releases of the NPRI substance to surface waters, the basis of the estimate and the detail code, if applicable. Do not include water bodies that received the general plant waste stream if this waste stream did not contain an NPRI substance or if reportable acids in the waste stream had been neutralized to a pH of 6.0 or greater prior to release.

- B12.3.a Direct discharges** - Direct discharges do not include discharges to an MSTP or other off-site wastewater treatment facilities. These discharges are considered off-site transfers for disposal which are reported in field B22.3 e).
- B12.3.b Spills** - Spills into surface waters include any accidental releases which may have occurred at your facility.
- B12.3.c Leaks** - A leak to surface waters differs from a spill in terms of the time required for an event. Spills normally occur over a period of hours or days, whereas a leak is a chronic event which occurs over periods of days or months.

For each surface water discharge, you must identify the receiving water bodies. The button in the "# of Water Bodies" column shows the number of water bodies receiving the discharge. It displays a "?" if no water bodies have been identified. Select the button to open a screen that allows you to attribute all or a portion of the identified discharges of a substance to a water body. Here you must identify the surface water bodies that received the discharge, as well as the quantity discharged to each surface water body. The software provides a pick-list of standard water body names that is drawn from the NPRI database and the *Gazetteer of Canada*. The pick-list is sorted by province. If the water body to which you discharged is not on the pick-list, you can add the water body by selecting "Add a NEW Water Body to the pick-list" button.

You may add the names of new surface water bodies to the pick-list if it is incomplete as described above or from the "View / Enter / Edit Data" menu by selecting the "Surface Water Bodies" option (see Step 3).

If your total discharge to all media was less than one tonne for a Part 1A substance, you are not required to report your releases by environmental media and may report only a total discharge. Do not include water bodies that receive the general plant waste stream if this waste stream did not contain an NPRI substance or if reportable acids in the waste stream have been neutralized to a pH of 6.0 or greater prior to release.

B12.4 Releases to Land

Report all releases of the NPRI substance to land **within** the boundaries of your facility, the basis of the estimate and the detail code, if applicable. Do not report land disposal on-site or at an off-site location in this field. On-site disposal of the substance is reported in B22.1.

B12.4.a Landfill - this field has moved to Section B22.1.a

B12.4.b Land treatment - this field has moved to Section B22.1.b

B12.4.c Spills - Releases classified as spills include any accidental release of a listed substance to land at your facility.

B12.4.d Leaks - Leaks differ from spills in that they are chronic events that occur over a comparatively long time. This includes leaking underground storage tanks.

B12.4.e Other - Releases to land could occur in forms other than those specified above, for example, encapsulation prior to on-site landfill.

B12.5 Total Quantity Released

The electronic form will calculate the sum of the on-site releases reported in fields B12.1 through B12.4 and place this total into field B12.5. If you choose to report only a total release of less than one tonne to all media for an **NPRI Part 1A substance only** (B11.1), enter the quantity, the basis of the estimate and the detail code, if applicable.

If you are reporting for a CAC substance, this field will display the total quantity released to air (i.e., the sum of fields B12.1.a to B12.1.e).

Reporting of Part 5 Substances (Speciated VOCs)

B12.7 Did the facility release to air 1 tonne or more of a Part 5 substance (Speciated VOC)?

A facility is required to submit a report for "VOCs" is required to report on any Part 5 substance that was released to air in a quantity of 1 tonne or more. The complete list of Part 5 substances (speciated VOCs) is provided in *Appendix 1: Part 5 - Selected Volatile Organic Compounds with Additional Reporting Requirements*. For more information, refer to Figure 1 and the example in the "Overview of Reporting Part 5 Substances (speciated VOCs)" at the front of this document.

To report releases of a Part 5 substance, select "Yes" in field B12.7. If you select "No", fields B12.8 and B12.9 are not applicable.

Select "View / Enter" to report the releases to air of the applicable Part 5 substances. The Summary Screen will display a list of the sources of releases of the Part 5 substances. This list is comprised of the stacks identified in field B12.1 a) when reporting releases of "VOCs", and a listing for "Other sources".

The quantities of Part 5 substances released to air are reported on a source-specific basis, as follows:

- From each stack with height equal to or greater than 50 meters, that released 5 or more tonnes of VOCs (Part 4 substance), and
- "Other sources" All other Part 5 substances (speciated VOC) released from all other sources which includes stacks not identified above, storage or handling, fugitive, spills and other non-point releases (i.e. not released from the stacks identified above).

Select a stack or "Other sources" listing, and click "Modify". This will open Field B12.8

"Clone" VOC profile from one source to another

If releases from individual stacks are similar, the releases of Part 5 substances can be copied from one stack to another stack, then edited if necessary. Select the source for which you want to "copy" the data, then select the "Clone" button. On the subsequent screen identify the source you want to copy the data to, then click "Continue" to return to the previous screen. The VOC profile will be copied to that other source, and can be modified as required, from B12.8.

B12.8 VOC Profile For This Source

For the selected source (a stack or "Other sources" listing), enter the releases to air (in tonnes) for each of the Part 5 substances (species) for which you are required to report. Once this information has been entered, select "Save" to return to the Summary Screen. Repeat this process for each source with releases to air of the Part 5 substances you are required to report.

B12.9 Comments (Part 5 Substances)

Comments specific to the releases of Part 5 substances (speciated VOCs) may be provided in this field. The comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI.

B13.0 Breakdown of Releases by Percentage

This field is intended for facilities that have seasonal fluctuations in their releases. Releases for the four quarters of the year must total 100%. If you are reporting for a CAC substance, you will be required to enter a monthly breakdown of releases to air. Percentage releases for the 12 months must total 100%.

B14.0 Reasons for Changes in Quantities Released from Previous Year

Select one or more reasons why the on-site releases of the NPRI substance changed since 2002. This section must be completed, even if there were no on-site releases. You may use the "Comments" field to elaborate on your reasons. If this is your first reporting year, select B14.1.i "Not applicable". Some of the reasons for change may also be considered as pollution-prevention activities. If you have selected B14.1.c "Pollution-prevention activities", you must also complete section B30.0, "Pollution-Prevention Activities".

B14.1.a Changes in production levels - A change in on-site releases may be the result of changes in production levels or some other activity at the facility. Changes in production levels can be caused by increased sales, a change in the economy affecting the facility, a strike or other plant closure, expansion or conversion of the facility, etc. Other examples are given in

section B40.0, "Production Ratio and Activity Index", in which you have the option to provide a quantitative measure of the year-to-year fluctuations in production levels and on-site releases.

- B14.1.b Changes in estimation methods** - Choose this item if there was a change in the method of estimating the quantity of the NPRI substance released. For example, engineering estimates may have been replaced by direct measurement. Or, the engineering calculations were updated or corrected.
- B14.1.c Pollution-prevention activities** - If chosen, you must describe the pollution-prevention activities in section B30.0. Refer to that section for examples of pollution-prevention activities. Pollution prevention does not include on-site treatment (pollution control) or off-site recycling or disposal.
- B14.1.d Changes in on-site treatment** - Examples include modification to, or addition of, new pollution-control devices, redirection or elimination of waste streams, expanded on-site recycling and other changes in on-site waste treatment.
- B14.1.e Changes in disposal** - If chosen, you must report the on-site and off-site disposals in sections B20.0, B21.0, B22.0, B23.0 and B24.0.
- B14.1.f Changes in off-site transfers for recycling** - If chosen, you must report the off-site transfers for recycling in sections B20.0, B21.0, B25.0, B26.0 and B27.0.
- B14.1.g Other** - Some examples include accidents, spills or breakdowns. Provide details in field B14.2 "Comments".
- B14.1.h No significant change (i.e., < 10%) or no change** - Choose this item if there has been no change or if the change was less than 10% from the previous year.
- B14.1.i Not applicable** - Choose this item if this is the first year you are reporting this substance.

B14.2 Comments (Releases)

Comments specific to the releases of this substance may be provided in this field. For example, provide details of a spill which dramatically affected the release of this substance. The comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI.

B15.0 Anticipated Releases

Enter your estimates of total releases to all environmental media, for the years, 2004, 2005 and 2006. Estimates for the years 2007 and 2008 are optional (select "Not applicable" if you do not want to make an entry). Factors that should be considered when making these estimates include future production levels, product or process changes, pollution-prevention measures, addition of pollution-control equipment, etc.

Disposals and Off-site Transfers for Recycling

Disposal and recycling activities are considered together in the following section. The reporting categories are based on the International Waste Identification Code (IWIC) (Environment Canada, 1993) developed by the Organization for Economic Cooperation and Development (OECD). Reporting is limited to those categories which are most applicable to NPRI reporters. Those who report under the *Export and Import of Hazardous Wastes Regulations (EIHWR)* (Canada Gazette, 1992) will recognize the format. Even if you do not handle hazardous wastes, the reporting format will enable you to describe your transfers more accurately.

Important: For 2003 reporting, "Disposal" is final disposal of a substance to landfill, land treatment, or underground injection, either on-site at the facility or at an off-site location, and the treatment or storage at an off-site location prior to final disposal.

"Recycling" refers to activities that keep a material or a component of the material from becoming a waste destined for final disposal. Recyclable materials may be cleaned, regenerated or reprocessed to their original specifications and reused for their original purpose or used for an entirely different purpose without any pretreatment or modification. Components may be recovered or reclaimed from the recyclable material or the material may be used as a fuel for energy recovery. The recyclable material may be used in the manufacture of another product. For the purposes of the NPRI, recycling also includes substances sent back to the manufacturer or supplier for reprocessing, repackaging, resale or for credit or payment.

B20.0 Disposal and Off-Site Transfers for Recycling

Indicate whether you disposed of the NPRI substance and/or transferred it to an off-site location for recycling by selecting either "Yes" or "No" in fields B20.1 and B20.2, respectively. Depending on your selection, the software will automatically skip certain sections of the report. However, even if you did not dispose of or transfer off-site for recycling the NPRI substances, you must still provide reasons for changes in quantities disposed/recycled and anticipated quantities for disposal/recycling (B23.0, B24.0, B26.0 and B27.0). You will also be able to provide comments on your disposal and recycling activities in fields B23.2 and B26.2.

B21.0 Reasons why Substances were Disposed of or Transferred Off Site for Recycling

Select one or more reasons why the NPRI substance or a material containing the NPRI substance was disposed of or transferred off site for recycling. Equivalent IWIC Q-codes are listed in brackets after each item. Choose one or more of the following reasons:

- B21.1.a Production residues** - These are, for example, residues of industrial processes such as slags and still bottoms, residues from raw material processing such as mining residues and oil field slop. [Corresponds to codes Q1, Q8 and Q11 in the IWIC]
- B21.1.b Off-specification products** - These are products that were not suitable for commercial distribution or that could not be used by the facility and were destined for final disposal, reuse or recycling by another facility. [Corresponds to code Q2 in the IWIC]

- B21.1.c **Expiration date passed** - Products for which the date for appropriate use expired and that were transferred off site for final disposal or reuse or recycling by another facility. [Corresponds to code Q3 in the IWIC]
- B21.1.d **Contaminated materials** - For example, materials spilled or having undergone other mishap, including any materials contaminated as a result of the mishap; materials contaminated or soiled as a result of planned actions such as residues from cleaning operations, packing materials, containers, etc.; contaminated substances that no longer performed satisfactorily such as contaminated acids, solvents, exhausted tempering salts, etc.; adulterated materials. [Corresponds to codes Q4, Q5, Q7 and Q12 in the IWIC]
- B21.1.e **Unusable parts or discards** - Describes items such as reject batteries, exhausted catalysts, etc. [Corresponds to code Q6 in the IWIC]
- B21.1.f **Pollution-abatement residues** - Materials such as scrubber sludges, baghouse dusts, spent filters, etc., generated by pollution controls and on-site waste treatment. [Corresponds to code Q9 in the IWIC]
- B21.1.g **Machining or finishing residues** - This includes lathe turnings, grinding dusts, sheet metal cuttings, mill scales, etc. [Corresponds to code Q10 in the IWIC]
- B21.1.h **Site-remediation residues** - Materials, substances or products resulting from remedial actions with respect to contaminated land. [Corresponds to code Q15 in the IWIC]
- B21.1.i **Other** - Any materials, substances or products not described above.

B22.0 On-site and Off-site Disposal

Important: Reporting on-site disposals is now included in this section. “Disposal” is final disposal of a substance to landfill, land treatment, or underground injection, either on-site at the facility or at an off-site location, and the treatment or storage at an off-site location prior to final disposal.

In this section, report the quantity of the NPRI substances disposed of on site, transferred to off-site locations for final disposal, or transferred off-site for storage and treatment prior to final disposal. If the reporting criteria are met for a listed substance, **all disposals and/or off-site transfers** of that substance for disposal must be reported **regardless of the concentration or amount**.

Report the exact amounts of the NPRI substance disposed of for a specific disposal method, not the total weight of the mixture containing that substance. Facilities can obtain information about the ultimate treatment/disposal of their transfers by looking at invoices, waybills, waste manifests or by contacting the transfer facility.

Report transfers to the first off-site location only and identify its name and location. You are not required to report any subsequent transfers by the waste disposal company. However, you must report the disposal method used. Disposal includes storage and treatment (e.g., stabilization) prior to final disposal. Do not report materials containing the NPRI substance which were recycled off site; they are reported in section B25.0.

If the transfer was split among several off-site facilities, specify the quantity of the NPRI substance that was transferred to each facility. Select the button in the “# of Off-sites” column to open a screen that allows you to attribute all or a portion of the identified transfer of a substance to an off-site facility. The software provides a pick-list of off-site facility names drawn from previously entered off-

site facilities. The pick-list is sorted by province. If the off-site facility to which you transferred is not on the pick-list, you can add to the list by selecting the "Add a NEW Off-site to the pick-list" button.

You may add the names of new facilities to the pick-list if it is incomplete as described above or from the "View / Enter / Edit Data" menu by selecting the "Off-site Facilities" option (see Step 3).

Do not report off-site transfers of mineral acids if the acid had been neutralized to a pH of 6.0 or greater *prior to its transfer off site for final disposal*. In the case of nitric acid, the quantity of neutralized nitric acid would be reported as "nitrate ion in solution at a pH of 6.0 or greater".

For each disposal activity chosen, enter a "Basis of Estimate" code. Selecting "NA" (Not applicable) indicates that there were no transfers from your facility for this disposal activity. Enter the letter code identifying the method that applies to the largest portion of the estimated transfers. A pick-list is available in each field for choosing the "Basis of Estimate" codes.

"Detail" codes are required and available only for dioxins/furans and HCB substance reports. A "Detail" code is required only if the release, disposal or recycling data were obtained through direct measurement or monitoring (codes "M1", "M2", and "M3" in the "Basis of Estimate" field). The "Detail" code is used to indicate if your measured concentrations were above, equal to or below the LoQ.

B22.1 On-Site Disposal

Important: "On-Site Disposal" is a new category for 2003 reporting, comprised of information previously reported under "B12.2 - Underground Injection" and "B12.4 - Releases to Land".

- B22.1.a **Landfill** - Disposal at a designated landfill area located within the site boundaries. If the substance was transferred off site for disposal, enter the quantity in field B22.2.a - Landfill
- B22.1.b **Land treatment** - Land treatment is a disposal method in which a waste containing a listed substance is applied onto or incorporated into soil. If the substance is transferred off site for disposal, enter the quantity in field B22.2.b "Land Treatment".
- B22.1.c **Underground Injection** - Report the quantity of the NPRI substance injected on site, the basis of the estimate and the detail code, if applicable.

B22.2 Off-Site Disposal

- B22.2.a **Landfill** - Transfer to a Municipal or other licensed landfill site.
- B22.2.b **Land treatment** - Report the quantity transferred off site for the purpose of land application or land farming.
- B22.2.c **Underground injection** - Report quantity injected underground at an off-site location.
- B22.2.d **Storage** - Transfer to a site for storage prior to final disposal or use.

B22.3 Off-Site Transfers for Treatment Prior to Final Disposal

- B22.3.a **Physical treatment** - e.g., drying, evaporation, encapsulation or vitrification.

- B22.3.b Chemical treatment - e.g., precipitation, stabilization or neutralization.
- B22.3.c Biological treatment - e.g., bio-oxidation or composting.
- B22.3.d Incineration/thermal - This differs from energy recovery. Incineration occurs when the substance or the material containing the substance does not have sufficient fuel value to contribute toward energy recovery.
- B22.3.e Municipal Sewage Treatment Plant (MSTP) - Report discharges of the NPRI substance from a facility to a municipal sewer system, regardless of the level of treatment provided by the MSTP.

B22.4 Total Quantity Disposed

The reporting software calculates the sum of the entries made in fields B22.1, B22.2, and B22.3 and places the result into this field.

B23.0 Reasons for Changes in Quantities Disposed from Previous Year

Select one or more reasons why disposal of the NPRI substance have changed since 2002. This section must be completed, even if there were no disposals. You may use the "Comments" field to elaborate. If this is your first reporting year, select B23.1.i for "Not applicable". Some of the reasons for change may also be considered pollution-prevention activities. If you have selected B23.1.c "Pollution-prevention activities", you must also complete section B30.0, Pollution-Prevention Activities. The reasons for changes include:

- B23.1.a Changes in production levels - A change in disposals (on-site or off-site) may be the result of changes in production levels or some other activity at the facility. Changes in production levels can be caused by increased sales, a change in the economy affecting the facility, a strike or other plant closure, expansion or conversion of the facility. Other examples are given in section B40.0, Production Ratio and Activity Index, where you have the opportunity to provide a quantitative measure of the year-to-year fluctuations in production levels and disposals.
- B23.1.b Changes in estimation methods - Choose this item if there was a change in the method of estimating the quantity of the NPRI substance disposed. For example, engineering estimates may have been replaced by direct measurement or the engineering calculations may have been updated or corrected.
- B23.1.c Pollution-prevention activities - If chosen, you must describe the pollution-prevention activities in Section B30.0. Refer to that section for examples of pollution-prevention activities. Pollution prevention does not include on-site treatment (pollution control) or off-site recycling or disposal.
- B23.1.d Changes in on-site treatment - Examples include modification to or addition of new pollution-control devices, redirection or elimination of waste streams, expanded on-site recycling and other changes in on-site waste treatment.
- B23.1.f Changes in off-site transfers for recycling - If chosen, you must report the off-site transfers for recycling in sections B20.0, B21.0, B25.0, B26.0 and B27.0.
- B23.1.g Other - Some examples include site remediation, accidents, spills or breakdowns which affect the quantity of the NPRI substance disposed of (on-site or off-site). Provide details in field B23.2 "Comments".
- B23.1.h No significant change (i.e., <10%) or no change - Choose this item if there has been no change or if the change was less than 10% from the previous year.
- B23.1.i Not applicable - Choose this item if this is the first year reporting this substance.

B23.2 Comments (Disposal)

Comments specific to the off-site disposal of this substance may be provided in this section. For example, give details of a one-time site remediation which dramatically affected the off-site transfers of this substance. The comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI.

B24.0 Anticipated Disposals

Enter your estimate of total quantities of the listed substance for disposal for the years 2004, 2005 and 2006. Years 2007 and 2008 are optional fields (select "Not applicable" if you do not want to make an entry). Factors that should be considered when making these estimates include future production levels, product or process changes, pollution-prevention measures, addition of pollution-control equipment, site remediations, etc. This section must be completed, even if there were no off-site transfers.

B25.0 Off-site Transfers for Recycling

"Recycling" refers to activities that keep a material or a component of the material from becoming a waste destined for disposal. Recyclable materials may be cleaned, regenerated or reprocessed to their original specifications and reused for their original purpose. They may also be used for an entirely different purpose without any pretreatment or modification. Components may be recovered or reclaimed from the recyclable material or the material may be used as a fuel for energy recovery. The recyclable material may be used in the manufacture of another product. For the purposes of the NPRI, recycling also includes substances sent back to the manufacturer or supplier for reprocessing, repackaging, resale or for credit or payment. Report only the net weight of the NPRI substance transferred off site for recycling, and **not the total amount of the mixture containing the substance**. For example, your facility submits an NPRI report for zinc. It sends zinc-coated steel for recycling to an off-site recycler. In this case, you must report the net weight of the zinc and not the total weight of the zinc-coated steel.

Ten types of recycling operations are listed, based on those set out in Part II of Schedule III of the *Export and Import of Hazardous Wastes Regulations* and are used as part of the IWIC code to classify hazardous recyclables. Choose the recycling operation which best describes how the NPRI substance or material containing the NPRI substance was recycled. The NPRI substance is considered to be recycled even when only a portion of the material in which it is contained is recycled. This recognizes the fact that recycling may only recover certain valuable components. For example, only the valuable metals may be recovered from a wastewater treatment sludge from an electroplating operation.

For each recycling activity chosen, enter a "Basis of Estimate" code. Selecting "NA" (Not applicable) indicates that there were no transfers from your facility for this recycling activity. Enter the letter code identifying the method that applies to the largest portion of the estimated transfers. A pick-list is available in each field for choosing the "Basis of Estimate" codes.

"Detail" codes are required and available only for dioxins/furans and HCB substance reports. A "Detail" code is required only if the release, disposal or recycling data were obtained through direct measurement or monitoring (codes "M1", "M2", and "M3" in the "Basis of Estimate" field). The "Detail" code is used to indicate if your measured concentrations were above, equal to or below the LoQ.

B25.1 Recycling Activity

Ten major off-site recycling activities are identified. Report the net amounts of the NPRI substance transferred for that recycling activity, the basis of the estimate and the detail code, if applicable.

- B25.1.a Energy recovery** - The NPRI substance or the material containing it has sufficient energy content (BTU value) to allow its use as a fuel for energy recovery. If there had been no attempt to recover energy from the material, report it as an off-site transfer for incineration. [Corresponds to code R1 in the IWIC]
- B25.1.b Recovery of solvents** - The recovery or regeneration of NPRI substances or materials containing NPRI substances that have been used as solvents. For example, distillation of methanol after solvent extraction to recover pure solvent methanol. [Corresponds to code R2 in the IWIC]
- B25.1.c Recovery of organic substances (not solvents)** - Recovery of other organic substances that are not used as solvents. [Corresponds to code R3 in the IWIC]
- B25.1.d Recovery of metals and metal compounds** - Choose this recycling activity when a pure metal or a metal compound was being recovered. The NPRI list of substances includes 20 metals/organometals: aluminum, antimony, arsenic, cadmium, chromium, hexavalent chromium, cobalt, copper, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thorium, tetraethyl lead, titanium, vanadium and zinc. Some are listed as "(element) and its compounds" while others are listed as specific inorganic or qualified inorganic compounds. [Corresponds to code R4 in the IWIC]
- B25.1.e Recovery of inorganic materials (not metals)** - The NPRI list of substances contains the inorganic substances: ammonia, asbestos, boron trifluoride, bromine, carbon disulphide, chlorine, chlorine dioxide, fluorine, hydrazine, hydrogen sulphide, ionic cyanides, nitrate ion, phosphorus and sulphur hexafluoride. [Corresponds to code R5 in the IWIC]
- B25.1.f Recovery of acids or bases** - The following mineral acids are on the NPRI list: hydrochloric, nitric and sulphuric. This recycling activity also applies to the recovery of acids or bases that contain other NPRI substances as contaminants. [Corresponds to code R6 in the IWIC]
- B25.1.g Recovery of catalysts** - Choose this item if a catalyst containing an NPRI substance was transferred off site to be recovered, reactivated, regenerated or otherwise refurbished for reuse as a catalyst. Recovery of catalysts does not include the destruction of the catalyst to recover separate components. Choose B25.1.d if the catalyst was transferred off site for recovery of the metals in the catalyst. [Corresponds to code R8 in the IWIC]
- B25.1.h Recovery of pollution-abatement residues** - This includes the recycling of residues from pollution controls or site-remediation activities. [Corresponds to code R7 in the IWIC]
- B25.1.i Refining or reuse of used oil** - Lubricating oils are not on the NPRI list of substances. However, used oils are sometimes contaminated with NPRI substances, such as zinc additives. Choose this recycling activity if used oils containing NPRI substances were transferred off site for refining or reuse. If used oil was used as a fuel, choose B25.1.a. [Corresponds to code R9 in the IWIC]
- B25.1.j Other** - Other recovery, reuse and recycling activities not described above.

You must identify the off-site facilities which received the NPRI substance for recycling. If the transfer was split among several off-site facilities, specify the quantity of the NPRI substance that was transferred to each facility (see field B22.1 for instructions on using and editing the "Master Pick-list of Off-site Facilities" table).

B25.2 Total Quantity Recycled

The reporting software calculates the sum of the entries made in section B25.1 and places the result into this field.

B26.0 Reasons for Changes in Quantities Recycled from Previous Year

Indicate the changes, since 2002, in off-site transfers for recycling. This section must be completed, even if there were no off-site transfers. If this is your first reporting year, select B26.1.i for "Not applicable". Otherwise, select at least one of the following reasons for changes in quantities transferred. If you have selected B26.1.c "Pollution-prevention activities", you must complete section B30.0, Pollution-Prevention Activities. The reasons for changes include:

- B26.1.a Changes in production levels - See field B23.1.a.
- B26.1.b Changes in estimation methods - See field B23.1.b.
- B26.1.c Pollution-prevention activities - See field B23.1.c.
- B26.1.d Changes in on-site treatment - See field B23.1.d.
- B26.1.e Changes in disposal - If chosen, you must report on- and/or off-site disposal in sections B20.0, B21.0, B22.0, B23.0 and B24.0.
- B26.1.g Other - See field B23.1.g.
- B26.1.h No significant change (i.e., <10%) or no change - No change or a change of less than 10% from the previous year.
- B26.1.i Not applicable - First year reporting this substance.

B26.2 Comments (Recycling)

Comments specific to the recycling of this substance may be provided in this section. The comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI.

B27.0 Anticipated Recycling

Enter your estimate of total transfers of the listed substance for recycling for the years 2004, 2005 and 2006. Years 2007 and 2008 are optional fields (select "Not applicable" if you do not want to make an entry). This section must be completed, even if there were no off-site transfers for recycling.

B30.0 Pollution-Prevention (P2) Activities

Pollution prevention (P2) is defined as "the use of processes, practices, materials, products, substances or energy that avoid or minimize the creation of pollutants and waste, and reduce the overall risk to the environment or human health" (CEPA 1999). P2 seeks to eliminate the causes of pollution rather than managing it after it has been created. It encourages the kinds of changes that are likely to lead to lower production costs, increased efficiencies and more effective protection of the environment.

In this section, facilities that have taken measures to prevent the generation of NPRI pollutants and wastes are required to indicate what P2 activities they have implemented, for each substance. This section allows facilities to identify P2 activities that were newly implemented, in whole or in part, during the 2003 calendar year specifically for the substance being reported. If you are reporting for P2 activities that are not specific to a particular substance, or if you are providing information on P2 activities that were not newly implemented in 2003, identify these activities, along with the year in which they were implemented, in field A15.2, Comments (Pollution Prevention).

The opportunity to institute P2 measures can be identified in broad areas of an industrial operation, including material and resource feedstock, equipment and processes, operational practices, products and non-product outputs, and business management systems. **P2 activities may include:** materials or feedstock substitution; product design or reformulation; equipment or process modification; spill and

leak prevention; on-site reuse, recovery or recycling; improved inventory management or purchasing techniques; and, good operating practices and training.

Some examples of activities which are **NOT** considered pollution prevention include on-site treatment (pollution control), off-site recycling, off-site disposal, waste treatment or dilution, and transferring hazardous and/or toxic constituents from one environmental medium to another.

Qualitative reporting of P2 activities is a mandatory reporting requirement of the NPRI. If you have not implemented a P2 program at your facility, choose item B30.1.i. Otherwise, identify all of the P2 activities you have implemented during the 2003 calendar year. If you selected "Pollution-prevention activities" in fields B14.1.c, B23.1.c or B26.1.c as a reason for changes in quantities released on site, disposed of, or transferred off site for recycling, you **must** identify the activity in this section.

B30.1.a Materials or feedstock substitution entails replacing materials used in the production process or embedded within a product, with non-polluting or less polluting materials or feedstock. Also referred to as source elimination, materials substitution aims to decrease or eliminate the quantity of toxic and/or hazardous materials used:

- i) **Increased purity of materials** - The material or feedstock used in the production process was of greater purity to reduce the amount of the substance being emitted or produced as waste.
- ii) **Substituted materials** - An alternative feedstock was used to achieve a reduction in emissions or waste of the substance.
- iii) **Other (specify)** - If you are implementing materials or feedstock substitution other than those described above, provide details of this practice in the "Comments" field below (B30.1.a iv).
- iv) **Comments (specific to B30.1a)** - Facilities are encouraged to provide additional information describing their materials or feedstock substitution initiatives and results achieved. Note that if you have selected "Other" (B30.1.a iii), you must provide a description of the initiative in this field.

B30.1.b Product design or reformulation includes methods for preventing pollution associated with the entire life cycle (i.e., resource extraction, production, use and disposal) of products through the design of new products and the redesign or reformulation of old ones:

- i) **Changed product specifications** - One or more of the characteristics or traits of the product were changed to prevent pollution associated with the product's production, use and disposal.
- ii) **Modified design or composition** - The design or composition of existing products were modified to significantly reduce pollution.
- iii) **Modified packaging** - Product packaging was modified to minimize the amount of the substance released or generated as waste.
- iv) **Other (specify)** - If you are implementing product design or reformulation other than those described above, provide details of this practice in the "Comments" field below (B30.1.b v).
- v) **Comments (specific to B30.1b)** - Facilities are encouraged to provide additional information describing their product design or reformulation initiatives and results achieved. Note that if you have selected "Other" (B30.1.b iv), you must provide a description of the initiative in this field.

B30.1.c **Equipment or process modification** introduces new technologies or optimization approaches to existing operating systems, processes and practices to improve production efficiencies, resource utilization and reduce pollution generated and materials wasted:

- i) **Modified equipment, layout, or piping** - The equipment, layout and/or piping at the facility was altered in order to reduce or eliminate the amount of pollution and waste of this substance (e.g., use of gravitational force for transferring material).
- ii) **Used different process catalyst** - Part or all of the process was accelerated by replacing the substance being reported with a less- or non-toxic substance. This also includes instances in which the substance being reported was replaced by a catalyst which produced less- or non-toxic waste by-products.
- iii) **Instituted better controls on operating bulk containers** - Through regulation and better management of the use of bulk containers, the amount of spillage and container residue containing the substance was reduced or eliminated.
- iv) **Changed from small volume containers to bulk containers** - Increasing the size and carrying capacity of containers reduced residual waste and excess packaging, thus decreasing the amount of the substance that was released or generated as waste.
- v) **Modified stripping/cleaning equipment** - Stripping/cleaning equipment was modified to utilize less- or non-toxic substances instead of the substance being reported (e.g., water-based cleaning solution).
- vi) **Changed to mechanical stripping/cleaning devices** - The replacement of solvents with abrasive stripping/cleaning equipment eliminated, or significantly reduced, the amount of the substance released or generated as waste.
- vii) **Changed to aqueous cleaners** - Solvent-based cleaners were replaced with aqueous (water-based) cleaning solutions, reducing the use of the substance or the amount of the substance released or generated as waste.
- viii) **Modified or installed rinse systems** - A rinse system was installed or changed to screen and capture excess material for recovery and further use.
- ix) **Improved rinse equipment design** - The efficiency and effectiveness of rinse equipment was improved to reduce the amount of the substance used in the cleaning process (including the installation of splash guards, sideboards, or counter-current rinse systems).
- x) **Improved rinse equipment operation** - The operation of rinse equipment was modified to minimize once-through use, and spillage of the substance through an increased degree of care and efficiency in handling procedures.
- xi) **Modified spray systems or equipment** - Spray systems or equipment was modified to reduce emissions of the substance (including the avoidance of over-spray, switching to water-based products, and ensuring controls were set appropriately).
- xii) **Improved application techniques** - Application techniques were improved to augment the focus and control (e.g., maintaining proper types of nozzles, spray distances, pressure and speed), limiting or eliminating the accidental emission or waste of the substance.
- xiii) **Changed from spray to other system** - Spray system was replaced with another mechanism or system to limit or eliminate the emission or waste of the substance.
- xiv) **Other (specify)** - If you are implementing an equipment or process modification other than those described above, provide details of this practice in the "Comments" field below (B30.1.c xv).
- xv) **Comments (specific to B30.1.c)** - Facilities are encouraged to provide additional information describing their equipment or process modifications and results achieved. Note that if you have selected "Other" (B30.1.c xiv), you must provide a description of the initiative in this field.

B30.1.d Spill and leak prevention improves inventory controls and reduces or eliminates the amount of the substance and its waste that accidentally escapes storage and transportation facilities:

- i) **Improved storage or stacking procedures** - Improved storage and stacking procedures reduced the quantity of the substance lost through a leaking storage system and/or unstable stacking techniques.
- ii) **Improved procedures for loading, unloading, and transfer operations** - Improved techniques for loading, unloading and transferring materials were employed at the facility to improve ground protection and reduce or eliminate the amount of the substance emitted.
- iii) **Installed overflow alarms or automatic shut-off valves** - Overflow alarms or automatic shut-off valves were installed to reduce the amount of spillage and waste of the substance.
- iv) **Installed vapour-recovery systems** - A vapour-recovery system was installed to capture and contain, for the purpose of reuse, any air emissions of the substance that escaped throughout the production process.
- v) **Implemented inspection or monitoring program of potential spill or leak sources** - Regular monitoring and testing of leak, including fugitive emissions, and spill sources was conducted on all process devices, increasing productivity and preventing loss.
- vi) **Modified containment procedures** - Containment procedures were changed to limit emissions and loss of the substance from storage units (including emissions from volatile compounds).
- vii) **Improved draining procedures** - Drainage procedures were improved to ensure that the substance was not released from containment, storage systems and process equipment. This included ensuring that the substance being drained was properly managed (e.g., storm system protection).
- viii) **Other (specify)** - If you are implementing spill and leak prevention mechanisms other than those described above, provide details of this practice in the "Comments" field below (B30.1.d ix).
- ix) **Comments (specific to B30.1.d)** - Facilities are encouraged to provide additional information describing their spill and leak prevention initiatives and results achieved. Note that if you have selected "Other" (B30.1.d viii), you must provide a description of the initiative in this field.

B30.1.e On-site reuse, recycling or recovery covers the processes of reusing, recycling or recovering materials **at the same facility** where an activity has taken place. Reuse is the re-employment of products or materials in their original form or in new applications, with refurbishing to original or new specifications as required. Recycling is the extension of the effective life span of renewable and non-renewable resources through changes to processes or practices and the addition of energy inputs. Recovery is the process of diverting material, waste product or by-product from loss and restoring it to usefulness:

- i) **Instituted recirculation within a process** - Products, substances and/or catalysts were recirculated within a process or in additional processes to improve efficiency, reduce or eliminate emissions and waste of the substance or improve resource utilization through on-site recycling, reuse or recovery.
- ii) **Other (specify)** - If you are implementing on-site reuse, recycling and recovery activities other than the one described above, provide details of this practice in the "Comments" field below (B30.1.e iii).
- iii) **Comments (specific to B30.1.e)** - Facilities are encouraged to provide additional information describing their on-site reuse, recycling or recovery initiatives and results

achieved. Note that if you have selected "Other" (B30.1.e ii), you must provide a description of the initiative in this field.

B30.1.f Improved inventory management or purchasing techniques include building environmental considerations into the purchasing process as well as inventory management of products:

- i) **Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life** - Processes were instituted to ensure that inventories were not purchased ahead of immediate needs.
- ii) **Initiated testing of outdated material** - Outdated materials were tested to assess usefulness.
- iii) **Eliminated shelf-life requirements for stable materials** - Shelf-life requirements were eliminated by substituting stable materials to avoid the unnecessary disposal of the substance.
- iv) **Instituted better labelling procedures** - More effective labelling processes were instituted to ensure that only truly-expired products were discarded.
- v) **Instituted clearinghouse to exchange materials** - A clearinghouse of materials was established to reduce waste by making unwanted goods and substances available to others who might have a use for them, thus averting disposal of the substance.
- vi) **Instituted improved purchasing procedures** - Improved purchasing procedures were instituted to reduce waste by ensuring that environmental factors were taken into consideration during purchasing (e.g., purchased materials were recyclable or reusable).
- vii) **Other (specify)** - If you are implementing improved inventory management or purchasing techniques other than those described above, provide details of this practice in the "Comments" field below (B30.1.f viii).
- viii) **Comments (specific to B30.1.f)** - Facilities are encouraged to provide additional information describing their improved inventory management or purchasing techniques and results achieved. Note that if you have selected "Other" (B30.1.f vii), you must provide a description of the initiative in this field.

B30.1.g Good operating practices or training can often improve operating efficiencies and provide a cost-effective way to prevent pollution, reduce costs and improve quality. These multiple objectives can often be achieved through basic improvements in work procedures, and through training and encouraging staff to improve material handling and to recognize P2 opportunities:

- i) **Improved maintenance scheduling, record keeping or procedures** - Improved maintenance scheduling, record keeping or procedures were instituted to reduce the amount of the substance released or waste generated as a result of faulty or unmaintained equipment, as well as assuring that the records were reflective of all operating practices, waste generation, emissions and process improvements.
- ii) **Changed production schedule to minimize equipment and feedstock changeovers** - The production schedule was changed to minimize equipment and feedstock changeovers, thus reducing the emission and waste of this substance accumulated from cleaning between changeovers.
- iii) **Training related to pollution prevention** - Employees, both new and existing, were educated about P2 goals related to this substance and how to fulfil their responsibilities. Appropriate training provided employees with the knowledge and skills required to identify and implement P2 practices for this substance.

iv) **Other (specify)** - If you are implementing good operating practices or P2 training other than those described above, provide details of this practice in the "Comments" field below (B30.1.g v).

v) **Comments (specific to B30.1.g)** - Facilities are encouraged to provide additional information describing their good operating practices or training initiatives and results achieved. Note that if you have selected "Other" (B30.1.g iv), you must provide a description of the initiative in this field.

B30.1.h Other (specify) - If you are implementing a P2 activity for this substance, other than those described above, provide details of this activity in the P2 comment field (B30.2).

B30.1.i No new pollution-prevention activities - No new P2 activities were implemented at your facility during the 2003 calendar year for this substance.

B30.2 Comments (Pollution Prevention)

Facilities are encouraged to provide additional information describing P2 initiatives related to the reported substance, that have been implemented during the year, including results achieved (e.g., environmental results, economic benefits, etc.). The comments will appear in the NPRI database available to the public and are an opportunity to provide context for the information reported to the NPRI. Information on general, facility-wide P2 activities, such as water- and energy-conservation initiatives, or P2 activities that were newly implemented in a year other than 2003, should be entered in the facility "Comments (Pollution Prevention)" field (A15.2).

B40.0 Production Ratio and Activity Index (optional)

This section allows facilities, on a voluntary basis, to show the relationship between year-to-year fluctuations of their production levels and the relative decrease or increase in the sum of their releases, disposals, and transfers for recycling of the reported substance.

A "production ratio" is the ratio of "reporting-year production" to "prior-year production" that will permit year-to-year comparisons of changes in the total on-site releases plus off-site transfers. An "activity index" is based on a variable, other than production, that is the primary influence on the total, and that will in turn permit comparison of changes from year to year. While the use of a production ratio or activity index is not practical for some facilities, it does provide a means for facilities to report useful information to better understand trends in releases, disposals, and transfers for recycling in a simple numerical format. Because changes in total releases, disposals and transfers for recycling may be the result of changes in production levels, a production ratio or activity index would help indicate, relatively speaking, whether a facility has, in fact, improved (or worsened) its environmental performance.

You are encouraged to provide a "ratio" of reporting-year production to prior-year production, or an "activity index" based on a variable other than production that was the primary influence on the total quantity of the reported substance released, disposed of, or transferred for recycling. The ratio or index should be reported to two decimal places (i.e., two digits to the right of the decimal point). If the manufacture, processing or other use of the reported substance began during the current reporting year, enter "NA" (Not applicable) as the production ratio or activity index.

It must be noted that if your facility reports more than one substance, the production ratio or activity index may vary between substances. For facilities that manufacture the reported substance, the quantities produced in the current and previous year provide a good basis for the ratio because that is the primary business activity associated with the substance. However, in most cases, the production

ratio or activity index must be based on some variable of production or activity rather than on the amount of substance manufactured, processed or otherwise used.

Select, from the following examples, the production ratio or activity index that is the most appropriate method of adjusting the sum of releases, disposals, and transfers for recycling of the reported substance. If your facility reports more than one NPRI substance, the production ratio or activity index may vary from substance to substance. However, for a given substance, the same method of calculating a production ratio or activity index must be used from year to year to allow comparison. If the substance was used in more than one production process, you must use a production ratio that is based on a weighted average of the individual production ratios. If this is the first year reporting a substance, enter "NA" (Not applicable) in field B40.1.

Determining a Production Ratio

The production ratio must be based on the variable that most directly affects the quantities of the substance released or disposed of on site or transferred off site for final disposal or recycling. Examples of methods available include:

- amount of the substance manufactured divided by the amount of the substance manufactured in the preceding year, or
- amount of product produced divided by the amount of product produced in the preceding year.

Example 1

Your facility manufactured the reported NPRI substance and you have instituted a pollution-prevention program to reduce fugitive emissions of the substance during manufacture, storage, packaging and shipping. An appropriate production ratio would simply be the amount of the substance manufactured during the reporting year divided by the amount manufactured in the previous year.

Example 2

Your facility's only use of toluene was as a paint carrier for a painting operation. You painted 12 000 refrigerators in the current reporting year and 10 000 refrigerators during the preceding year. In this case, the production ratio for toluene was 1.2 ($12\ 000 \div 10\ 000$) because the number of refrigerators produced is the primary factor determining the quantity of toluene to be reported.

Example 3

A facility manufactured inorganic pigments, including titanium dioxide. Hydrochloric acid was produced as a waste during the production process. An appropriate production ratio for hydrochloric acid is the annual titanium dioxide production, not the amount of hydrochloric acid generated. During the reporting year, 20 tonnes of titanium dioxide was manufactured. If the facility produced 26 tonnes in the preceding year, the production ratio would be 0.77 ($20 \div 26$).

Determining an Activity Index

In some situations, an activity other than production is the primary influence on the total quantity of the reported substance released or disposed of on site or transferred off site for final disposal or recycling.

Example 1

Your facility manufactured organic dyes in a batch process. Different colours of dyes were manufactured and, between colour changes, all equipment had to be thoroughly cleaned with solvent containing glycol ethers to reduce colour carryover. During the preceding year, the facility manufactured four different colours in separate batches, totalling 15 tonnes. During the reporting year, the facility manufactured two colours, in separate batches, totalling 20 tonnes. Since the main

activity affecting usage of the glycol ether was the cleaning associated with colour changeovers, the activity index would be 0.5 (2 colour changeovers in reporting year ÷ 4 colour changeovers in previous year). The total quantity of dye manufactured has no bearing on the usage of the glycol ethers and, therefore, is inappropriate for normalizing your facility's annual changes in releases and transfers.

Example 2

A facility that manufactures thermoplastic composite parts for aircraft used toluene as a wipe solvent to clean moulds. The moulds were cleaned on an as-needed basis that was not necessarily a function of the parts' production rate. Operators cleaned 5 200 moulds during the reporting year, but only cleaned 2 000 moulds in the previous year. An activity index of 2.6 (5 200 ÷ 2 000) represents the activities involving toluene usage in the facility. If the moulds were cleaned regularly after every 1 000 parts were manufactured, the production ratio would be equal to the activity index and either could be used.

Example 3

A facility manufactured surgical instruments and cleaned the metal parts with 1,1,1-trichloroethane in a vapour degreaser. The degreasing unit is operated in a batch mode and the metal parts were cleaned according to an irregular schedule. The activity index can be based upon the total time the metal parts were in the degreasing operation. If the degreasing unit operated 3 900 hours during the reporting year and 3 000 hours the previous year, the activity index would be 1.3 (3 900 ÷ 3 000).

Determining a Production Ratio Based on a Weighted Average

At many facilities, an NPRI substance is used in more than one production process. In these cases, a production ratio or activity index can be estimated by weighting the production ratio for each process based on the respective contribution of each process to the quantity of the substance released or disposed of on site, or transferred off site for final disposal or recycling.

Example

Your facility painted bicycles with paint containing toluene. Sixteen thousand (16 000) bicycles were produced in the reporting year and 14 500 were produced in the previous year. There were no significant design modifications that changed the total surface area to be painted for each bicycle. The production ratio would be 1.1 (16 000 ÷ 14 500). You estimate that 12.5 tonnes of toluene were released on site, disposed of, or transferred off site for recycling as a result of bicycle production. Your facility also used toluene as a solvent in a glue that was used to make components and add-on equipment for the bicycles. Thirteen thousand (13 000) components were manufactured in the reporting year, compared to 15 000 in the previous year. The production ratio for the components using toluene was 0.87 (13 000 ÷ 15 000). You estimate that 1.0 tonne of toluene was released on site, disposed of, or transferred off site for recycling as a result of components' production. A production ratio can be calculated by weighting each of the production ratios based on the relative contribution each has on the quantities of toluene (13.5 tonnes during the reporting year) released on site, disposed of, or transferred off site recycling. The production ratio would be calculated as follows:

$$\text{Production ratio} = (12.5/13.5 \times 1.1) + (1.0/13.5 \times 0.87) = 1.08$$

You now have completed the 2003 reporting form for this substance. You have the options of saving the substance information, cancelling the changes or returning to the substance report.

Return to the "Substance Summary Listing" screen to add or modify any substances related to your facility. To add a new facility or review facility information already entered, return to the "View / Enter / Edit Data" screen and select the "Reporting Facilities" button. From this menu, you can enter more substances for this facility or enter other facilities and other substances.

When all substance and facility information has been entered, proceed to Step 6.

Step 6 - Check errors and create export data file

Check for Reporting Errors

This step is mandatory. The reporting software will not create an export file until no errors are detected when this function is run.

This function will verify that you have correctly completed all sections of the report required for the program(s) you selected. A status screen will indicate the number of facility and substance records being verified and the number of warnings and errors found. The reporting software has data-verification features to provide warnings if the reported releases, disposals, and transfers are unusually large. Warnings will not prevent the generation of the export file. If errors or warnings are found, you will be prompted to view the error and warning messages.

From the "Main Menu", select the "Check Errors / Create Export" option and then select the "Check for Reporting Errors" function to check your NPRI report for errors. You must click on the "verify reporting data" button to begin the error checking routine. If no errors are detected by this function, then select the "Create an Export Data File" option to create an export file that you can then send via e-mail or floppy disk to the appropriate inventory authority.

Check Errors / Create Export

- Check for Reporting Errors
 - View / Print Reporting Errors
 - Create an Export Data File
-

View / Print Reporting Errors

Use this function to review the error and warning messages generated by the software. The error and warning messages identify the field in which the error occurred and provide a brief description of the error or warning. For example:

Year	NPRI ID	Company Name	CAS No.	Substance	Ref.	Field Name
Error Message						
ERRORS DETECTED						
<i>You MUST generate a new list of possible errors after your corrections.</i>						
2003	5199	ABC Manufacturing	7782-50-5	Chlorine	B 2.0	Nature of Activities
<i>Specify either manufacture, process or otherwise use the substance.</i>						
2003	5199	ABC Manufacturing	7782-50-5	Chlorine	B14.1	Reasons for Change
<i>Specify either a, b, c, d, e, f, g, h or i as a reason for change.</i>						
2003	5199	ABC Manufacturing	7782-50-5	Chlorine	B30.1	Pollution Prevention
<i>Specify either a, b, c, d, e, f, g, h or i as a reason for change.</i>						

If errors were detected, return to the "View / Enter / Edit Data" screen, select either the "Reporting Facilities" or "Substances" button and correct the errors identified in the error message. You must then rerun the "Check for Reporting Errors" function to clear the previous error codes. When you receive the message "No Errors Detected", you will be able to create the appropriate export file.

Create an Export Data File

To export your data, select "Create an Export Data File" on the "Check Errors / Create Export" menu. Read the "Create an Export Data File" screen carefully. You must generate a separate export file for each organization to which you are required to submit a report. Select the organization from the pick-list:

- EC - reporting to one or more of NPRI, EPA, AENV
- ON MOE - reporting under O.Reg.127/01
- NERM - reporting to NERM

Press "Continue". A summary screen will be displayed so you can review the data you have entered for the selected inventory program(s).

Review the facility information and substance(s) data included in your report(s) carefully. Check that you reported your values in the correct units. If you reported to the NPRI for 2002, compare your data from 2002 to that in your 2003 report. Ensure that any significant changes in quantities reported from year to year are correct and not the result of a calculation error or the use of wrong units.

After review, select the "continue" button which takes you the screen where you will identify the destination for the export file - either a diskette or a folder on your hard drive. The default directory is C:\Program Files\NPRI-INRP\2003\Exports\. Press "Export 2003 Data" button for the export file to be created. You will receive a message indicating that the export function is complete.

Next, select the "Print Statement of Certification" button and select the the appropriate inventory¹ and "print" the statement of certification.

Repeat the above steps for each applicable organization to which you are required to submit a report.

If you would like to generate an export file for your company coordinator or for import into next year's reporting software, select the "ALL" option from the pick-list. This file also serves as a means to backup all data you have entered.

Do not use other database programs to alter the data after export. Once altered, the data will be rendered invalid and will require resubmission of your report.

¹ The printing function of this software uses a fixed font to generate reports. For this reason, it is advisable that you go to the "Print Menu" of the "Main Menu" and do a few trial prints of a document after adjusting the printer defaults on the "Print Menu" screen. It is possible to print small portions of your entered data by adjusting the various optional settings available to you on many of the report screens.

When you have exported your NPRI data and printed your Statement of Certification, proceed to Step 7.

Step 7 - Sign the Statement of Certification and submit the report

Sign the Statement of Certification

When submitting your NPRI report, you must include a signed Statement of Certification. The statement should be signed by the same person identified as the "Company Official" for the facility in section A16.0.

Submitting an NPRI Report Using the Web Submittal Form

NPRI reports submitted via the internet and the signed Statement of Certification must be electronically postmarked **no later than June 1, 2004**.

If you choose to submit your NPRI report via the internet:

- Use the NPRI software to export the NPRI report to a floppy disk or a directory (folder) on your hard drive as described in Step 6. Do not copy the files that are in the NPRI software directory. A complete NPRI report consists of a single file - EXPO_EC.MDB. This file will normally be found in the default directory C:\Program Files\NPRI-INRP\2003\Exports\.)
- On the NPRI webpage at www.ec.gc.ca/pdb/npri, select the link for "Submit NPRI Report". The following information will be provided using the web-form:
 1. **Your email address:** Enter an email address where an email message will be sent to confirm the submission of your report.
 2. **The Regional Office to which you are submitting your report:** Select the appropriate Regional Office from the drop-down list.
 3. **Attach the EXPO_EC.MDB file:** To attach this file, select the "Browse" button. This will open a window listing the various directories to which you have access. Locate the file, and select "Open". The filename will appear in the space provided.
 4. **Statement of Certification (optional to provide this electronically):** You are required to indicate whether the SOC will be submitted electronically, via fax, or by mail. To attach a scanned copy of your Statement of Certification, use the "Browse" button to locate the file to attach. The filename will then appear in the space provided.
 5. **Comments (optional):** You include any comments here.
- Once all information is complete, select the "Proceed" button to continue. To clear all information, select the "Reset" button.
- The "Review Submission" page will provide a summary of the information being submitted. Verify that the information being submitted is correct before selecting "Submit". If the information on the facility(s) or substance(s) reported is not correct, you will have to correct that information within the NPRI software.
- A "Confirmation" page will appear with a summary of the information in the file submitted to Environment Canada. This page can be printed and retained in your files.
- A confirmation email will be sent to the email address provided in the web-form.

Submitting an NPRI Report by E-mail

NPRI reports submitted by e-mail and the signed Statement of Certification must be electronically postmarked no later than June 1, 2004.

If you choose to submit your NPRI report by e-mail:

- Use the NPRI software to export the NPRI report to a floppy disk or a directory (folder) on your hard drive as described in Step 6. Do not copy the files that are in the NPRI software directory. A complete NPRI report consists of a single file - EXPO_EC.MDB (Other export options will create files such as EXPO_ALL.MDB, EXPONERM.MDB or EXPO_MOE.MDB for submission to other organizations. These files will normally be found in the default directory C:\Program Files\NPRI-INRP\2003\Exports\.)
- Send this file as an attachment to an e-mail to your regional NPRI office. In the subject line, clearly indicate that it is an NPRI report and **include the NPRI ID number** for your facility and the name of your company. Company coordinators are reminded that they are only required to send one NPRI report to the NPRI office in their region. In your e-mail message, include your name, address, telephone and facsimile numbers and e-mail address. Retain a copy of this e-mail for future reference.
- Your signed Statement of Certification (SoC) must be sent by facsimile to the same NPRI office to which you sent the e-mail message. As an alternative, you can scan your signed SoC and submit it electronically to the same NPRI office. Keep the original on file for future reference. **Your report is considered incomplete** until the signed SoC and the NPRI reports have been received by Environment Canada. Both the SoC and the e-mail message must be electronically postmarked on or before June 1, 2004.

If you need assistance, contact your regional NPRI office listed on the inside front cover of this Guide.

Submitting an NPRI Report by Postal Mail or Courier

Send a floppy disk or CD-ROM containing your NPRI export data file and the signed Statement of Certification to your regional NPRI office, postmarked or courier-dated no later than June 1, 2004.

DO NOT provide a printed copy of the report with your disk.

Where disks contain NPRI reports for facilities in different regions of Canada, company coordinators are reminded that they are only required to send one NPRI report to the NPRI office in their region. For example, a company coordinator in Montreal, reporting to the NPRI for facilities in Edmonton, Vancouver and Toronto, is asked to send the NPRI reports to the NPRI regional office in Montreal.

Although rare, computer viruses have been detected on report disks submitted to the NPRI. If your disk is infected, you will be required to resubmit your report. Many diskettes are also received that have not been formatted. Please ensure that your diskette is properly prepared prior to exporting your file on to it.

After making a copy on a floppy disk, slide the tab to open the "write protect" window on the corner of your 3.5" disk. If a CD-ROM was used, be sure to close the disk so that no more additions can be made.

Indicate on your disk the **name of your facility**, **NPRI ID number** (provided with the reporting package) and the **date of submission**. First-time reporters who have not received a permanent NPRI ID number can use the temporary ID number (e.g., 9000000001) generated by the software.

If you need assistance, contact your regional NPRI office listed on the inside front cover of this Guide.

NOTE: Some facilities in Ontario submitted their NPRI report to Ontario Ministry of Environment offices. Facilities in Ontario that are required to report to the NPRI must submit their NPRI report to the NPRI regional office in Downsview. The report to the Ontario Ministry of the Environment is created separately, and is called EXPO_MOE.MDB.

Retain a Copy of the Information on which your NPRI Report was Based

This is a legal requirement, pursuant to subsection 46(8) of the CEPA 1999, and the *Canada Gazette* notice. The owner or operator of a facility is required to keep copies of the required information, together with any calculations, measurements and other data on which the information was based. This information must be kept at the facility to which it relates or at the facility's parent company (as identified in section A3.0) for a period of three years.

Request for Confidentiality

Reporting to the NPRI for 2003 is governed by the requirements of the CEPA 1999, as well as the *Canada Gazette* notice, published **January 4, 2003**, and its amendment published **January 17, 2003**.

Pursuant to sections 51 and 313 of the CEPA 1999, any person who provides information in response to the 2003 *Canada Gazette* notice may submit a written request that it be treated as confidential, based on the reasons set out in section 52 of the CEPA 1999. For each facility and each substance reported, the request for confidentiality must clearly indicate each field for which a request is being made. **The written request must accompany the report.**

To be treated as confidential, the company must demonstrate that it treats the information as confidential and wishes to continue to do so. It must also demonstrate that this information is not available to the general public through legal means, such as obtaining a public copy of a provincial waste permit.

A request for confidentiality is not determinative. A determination of whether the information is confidential will be based on an objective analysis of the facts.

It is recommended that you include with your request for confidential treatment, documentation that would be required to justify that the information submitted should be confidential as per the criteria outlined in section 52 of the CEPA 1999.

If substantiation is not provided with the claim, or the substantiation provided doesn't support the claim, the Minister may follow the procedures with respect to publication of the information set out in section 53 of the CEPA 1999. Notwithstanding the above, the Minister may, in the appropriate

circumstances, contact the person to inform them that the information may be disclosed as permitted under sections 315 through 317 of the CEPA 1999.

A request for confidentiality will be denied if the data are already in the public domain.

Necessary precautions should be taken when submitting an NPRI report for which a request for confidentiality is being made. This includes, but is not limited to, the following:

- confidential materials are to be sent in double envelopes, excluding the courier outer envelope
- the outside envelope should be unmarked except for mailing and return addresses, and postage, and
- the inside envelope should be stamped on both sides with wording such as “Contains Confidential Information”.

Should you have any questions concerning confidentiality requests, contact your regional NPRI office listed on the inside front cover of this Guide.

Section 52 of the CEPA 1999

With regards to information submitted to the NPRI, section 51 of the CEPA 1999, allows any person to submit with the information, a written request, setting out the reason(s) referred to in section 52 (see below), that the information be treated as confidential.

Section 52 of the CEPA 1999, provides that:

52. Despite Part 11, a request under section 51 may only be based on any of the following reasons:

- (a) the information constitutes a trade secret;
- (b) the disclosure of the information would likely cause material financial loss to, or prejudice to the competitive position of, the person providing the information or on whose behalf it is provided; and
- (c) the disclosure of the information would likely interfere with contractual or other negotiations being conducted by the person providing the information or on whose behalf it is provided.

You now have completed your NPRI report for 2003.

Ensure that you submit your report and signed Statement of Certification, postmarked, courier-dated or e-mailed, **no later than June 1, 2004**. Retain a copy of the report and information on which it was based at your facility or parent company.

You will be able to upload the data from your 2003 report next year if you are required to report to the 2004 NPRI.

Appendix 1 - Alphabetical Listing of NPRI Substances for 2003

The substances are listed in six parts. The changes in substance listings and the new substances added to the NPRI for 2003 are in bold lettering. The reporting criteria for the substances listed in each Part differ and are explained in Step 1 of the Guide for Reporting to the NPRI - 2003. Explanations of the footnotes and substance qualifiers are also provided in the Guide for Reporting to the NPRI - 2003.

Part 1A Substances

Name	CAS No. ¹		
Acetaldehyde	75-07-0	C.I. Food Red 15	81-88-9
Acetonitrile	75-05-8	C.I. Solvent Orange 7	3118-97-6
Acetophenone	98-86-2	C.I. Solvent Yellow 14	842-07-9
Acrolein	107-02-8	Calcium cyanamide	156-62-7
Acrylamide	79-06-1	Calcium fluoride	7789-75-5
Acrylic acid ²	79-10-7	Carbon disulphide	75-15-0
Acrylonitrile	107-13-1	Carbon tetrachloride	56-23-5
Alkanes, C ₆₋₁₈ , chloro	68920-70-7	Carbonyl sulphide	463-58-1
Alkanes, C ₁₀₋₁₃ , chloro	85535-84-8	Catechol	120-80-9
Allyl alcohol	107-18-6	CFC-11	75-69-4
Allyl chloride	107-05-1	CFC-12	75-71-8
Aluminum ³	7429-90-5	CFC-13	75-72-9
Aluminum oxide ⁴	1344-28-1	CFC-114	76-14-2
Ammonia (total) ⁵	*	CFC-115	76-15-3
Aniline ²	62-53-3	Chlorendic acid	115-28-6
Anthracene	120-12-7	Chlorine	7782-50-5
Antimony ⁶	*	Chlorine dioxide	10049-04-4
Asbestos ⁷	1332-21-4	Chloroacetic acid ²	79-11-8
Benzene	71-43-2	Chlorobenzene	108-90-7
Benzoyl chloride	98-88-4	Chloroethane	75-00-3
Benzoyl peroxide	94-36-0	Chloroform	67-66-3
Benzyl chloride	100-44-7	Chloromethane	74-87-3
Biphenyl	92-52-4	3-Chloro-2-methyl-1-propene	563-47-3
<i>Bis</i> (2-ethylhexyl) adipate	103-23-1	3-Chloropropionitrile	542-76-7
<i>Bis</i> (2-ethylhexyl) phthalate	117-81-7	Chromium ⁸	*
Boron trifluoride	7637-07-2	Cobalt ⁶	*
Bromine	7726-95-6	Copper ⁶	*
1-Bromo-2-chloroethane	107-04-0	Cresol ^{2,9}	1319-77-3
Bromomethane	74-83-9	Crotonaldehyde	4170-30-3
1,3-Butadiene	106-99-0	Cumene	98-82-8
2-Butoxyethanol	111-76-2	Cumene hydroperoxide	80-15-9
Butyl acrylate	141-32-2	Cyanides ¹⁰	*
<i>i</i> -Butyl alcohol	78-83-1	Cyclohexane	110-82-7
<i>n</i> -Butyl alcohol	71-36-3	Cyclohexanol	108-93-0
<i>sec</i> -Butyl alcohol	78-92-2	Decabromodiphenyl oxide	1163-19-5
<i>tert</i> -Butyl alcohol	75-65-0	2,4-Diaminotoluene ²	95-80-7
Butyl benzyl phthalate	85-68-7	2,6-Di- <i>t</i> -butyl-4-methylphenol	128-37-0
1,2-Butylene oxide	106-88-7	Dibutyl phthalate	84-74-2
Butyraldehyde	123-72-8	<i>o</i> -Dichlorobenzene	95-50-1
C.I. Acid Green 3	4680-78-8	<i>p</i> -Dichlorobenzene	106-46-7
C.I. Basic Green 4	569-64-2	3,3'-Dichlorobenzidine dihydrochloride	612-83-9
C.I. Basic Red 1	989-38-8	1,2-Dichloroethane	107-06-2
C.I. Direct Blue 218	28407-37-6	Dichloromethane	75-09-2
C.I. Disperse Yellow 3	2832-40-8	2,4-Dichlorophenol ²	120-83-2
		1,2-Dichloropropane	78-87-5

Dicyclopentadiene	77-73-6	Manganese ⁶	*
Diethanolamine ²	111-42-2	2-Mercaptobenzothiazole	149-30-4
Diethyl phthalate	84-66-2	Methanol	67-56-1
Diethyl sulphate	64-67-5	2-Methoxyethanol	109-86-4
Dimethylamine	124-40-3	2-Methoxyethyl acetate	110-49-6
N,N-Dimethylaniline ²	121-69-7	Methyl acrylate	96-33-3
N,N-Dimethylformamide	68-12-2	Methyl <i>tert</i> -butyl ether	1634-04-4
Dimethyl phenol	1300-71-6	<i>p,p'</i> -Methylenebis(2-chloroaniline)	101-14-4
Dimethyl phthalate	131-11-3	1,1-Methylenebis(4-isocyanatocyclohexane)	5124-30-1
Dimethyl sulphate	77-78-1	Methylenebis(phenylisocyanate)	101-68-8
4,6-Dinitro- <i>o</i> -cresol ²	534-52-1	<i>p,p'</i> -Methylenedianiline	101-77-9
2,4-Dinitrotoluene	121-14-2	Methyl ethyl ketone	78-93-3
2,6-Dinitrotoluene	606-20-2	Methyl iodide	74-88-4
Dinitrotoluene ¹¹	25321-14-6	Methyl isobutyl ketone	108-10-1
Di- <i>n</i> -octyl phthalate	117-84-0	Methyl methacrylate	80-62-6
1,4-Dioxane	123-91-1	N-Methylolacrylamide	924-42-5
Diphenylamine	122-39-4	2-Methylpyridine	109-06-8
Epichlorohydrin	106-89-8	N-Methyl-2-pyrrolidone	872-50-4
2-Ethoxyethanol	110-80-5	Michler's ketone ²	90-94-8
2-Ethoxyethyl acetate	111-15-9	Molybdenum trioxide	1313-27-5
Ethyl acrylate	140-88-5	Naphthalene	91-20-3
Ethylbenzene	100-41-4	Nickel ⁶	*
Ethyl chloroformate	541-41-3	Nitrate ion ¹⁵	*
Ethylene	74-85-1	Nitric acid	7697-37-2
Ethylene glycol	107-21-1	Nitrilotriacetic acid ²	139-13-9
Ethylene oxide	75-21-8	<i>p</i> -Nitroaniline	100-01-6
Ethylene thiourea	96-45-7	Nitrobenzene	98-95-3
Fluorine	7782-41-4	Nitroglycerin	55-63-0
Formaldehyde	50-00-0	<i>p</i> -Nitrophenol ²	100-02-7
Formic acid	64-18-6	2-Nitropropane	79-46-9
Halon 1211	353-59-3	N-Nitrosodiphenylamine	86-30-6
Halon 1301	75-63-8	Nonylphenol and its ethoxylates¹⁶	*
HCFC-22	75-45-6	Octylphenol and its ethoxylates¹⁷	*
HCFC-122 and all isomers ¹²	41834-16-6	Paraldehyde	123-63-7
HCFC-123 and all isomers ¹³	34077-87-7	Pentachloroethane	76-01-7
HCFC 124 and all isomers ¹⁴	63938-10-3	Peracetic acid ²	79-21-0
HCFC-141b	1717-00-6	Phenol ²	108-95-2
HCFC-142b	75-68-3	<i>p</i> -Phenylenediamine ²	106-50-3
Hexachlorocyclopentadiene	77-47-4	<i>o</i> -Phenylphenol ²	90-43-7
Hexachloroethane	67-72-1	Phosgene	75-44-5
Hexachlorophene	70-30-4	Phosphorus ¹⁸	7723-14-0
<i>n</i> -Hexane	110-54-3	Phosphorus (total)¹⁹	*
Hydrazine ²	302-01-2	Phthalic anhydride	85-44-9
Hydrochloric acid	7647-01-0	Polymeric diphenylmethane diisocyanate	9016-87-9
Hydrogen cyanide	74-90-8	Potassium bromate	7758-01-2
Hydrogen fluoride	7664-39-3	Propargyl alcohol	107-19-7
Hydrogen sulphide	7783-06-4	Propionaldehyde	123-38-6
Hydroquinone ²	123-31-9	Propylene	115-07-1
Iron pentacarbonyl	13463-40-6	Propylene oxide	75-56-9
Isobutyraldehyde	78-84-2	Pyridine ²	110-86-1
Isophorone diisocyanate	4098-71-9	Quinoline ²	91-22-5
Isoprene	78-79-5	<i>p</i> -Quinone	106-51-4
Isopropyl alcohol	67-63-0	Safrole	94-59-7
<i>p,p'</i> -Isopropylidenediphenol	80-05-7	Selenium ⁶	*
Isosafrole	120-58-1	Silver ⁶	*
Lithium carbonate	554-13-2	Sodium fluoride	7681-49-4
Maleic anhydride	108-31-6	Sodium nitrite	7632-00-0

Styrene	100-42-5	1,2,4-Trichlorobenzene	120-82-1
Styrene oxide	96-09-3	1,1,2-Trichloroethane	79-00-5
Sulphur hexafluoride	2551-62-4	Trichloroethylene	79-01-6
Sulphuric acid	7664-93-9	Triethylamine	121-44-8
1,1,1,2-Tetrachloroethane	630-20-6	1,2,4-Trimethylbenzene	95-63-6
1,1,2,2-Tetrachloroethane	79-34-5	2,2,4-Trimethylhexamethylene diisocyanate	16938-22-0
Tetrachloroethylene	127-18-4	2,4,4-Trimethylhexamethylene diisocyanate	15646-96-5
Tetracycline hydrochloride	64-75-5	Vanadium ²⁰	7440-62-2
Thiourea	62-56-6	Vinyl acetate	108-05-4
Thorium dioxide	1314-20-1	Vinyl chloride	75-01-4
Titanium tetrachloride	7550-45-0	Vinylidene chloride	75-35-4
Toluene	108-88-3	Xylene ²¹	1330-20-7
Toluene-2,4-diisocyanate	584-84-9	Zinc ⁶	*
Toluene-2,6-diisocyanate	91-08-7		
Toluenediisocyanate ¹¹	26471-62-5		

[See Step 1 of the Guide for Reporting to the NPRI - 2003 for an explanation of these qualifiers.]

* No single CAS number applies to this NPRI listing.

1 CAS Registry Number denotes the Chemical Abstracts Service Registry Number, as appropriate.

2 "and its salts" - The CAS number corresponds to the weak acid or base. However, the substance includes the salts of these weak acids and bases. When calculating the weight of these substances and their salts, use the molecular weight of the acid or base, not the total weight of the salt.

3 "fume or dust"

4 "fibrous forms"

5 "Ammonia (total)" means the total of both of ammonia (NH₃ - CAS No. 7664-41-7) and the ammonium ion (NH₄⁺) in solution.

6 "and its compounds"

7 "friable form"

8 "and its compounds" except hexavalent chromium compounds

9 "all isomers" including, but not limited to, the individual isomers of cresol: *m*-cresol (CAS No. 108-39-4), *o*-cresol (CAS No. 95-48-7) and *p*-cresol (CAS No. 106-44-5)

10 "ionic"

11 "mixed isomers"

12 "all isomers" including, but not limited to, HCFC-122 (CAS No. 354-21-2).

13 "all isomers" including, but not limited to, HCFC-123 (CAS No. 306-83-2) and HCFC 123a (CAS No. 90454-18-5).

14 "all isomers" including, but not limited to, HCFC 124 (CAS No. 2837-89-0), and HCFC 124a (CAS No. 354-25-6).

15 "in solution at a pH of 6.0 or greater"

16 Includes nonylphenol, its ethoxylates and derivatives with CAS No.'s: 104-40-5; 25154-52-3; 84852-15-3; 1323-65-5; 26523-78-4; 28987-17-9; 68081-86-7; 68515-89-9; 68515-93-5; 68081-86-1; 104-35-8; 20427-84-3; 26027-38-3; 27177-05-5; 27177-08-8; 28679-13-2; 27986-36-3; 37251-69-7; 7311-27-5; 9016-45-9; 27176-93-8; 37340-60-6; 51811-79-1; 51938-25-1; 68412-53-3; 9051-57-4; 37205-87-1; 68412-54-4; 127087-87-01.

17 Includes octylphenol and its ethoxylates with CAS No.'s: 140-66-9; 1806-26-4; 27193-28-8; 68987-90-6; 9002-93-1; 9036-19-5.

18 "yellow or white"

19 Does not include phosphorus (yellow or white) with CAS No. 7723-14-0.

20 "(except when in an alloy) and its compounds"

21 "all isomers" including, but not limited to, the individual isomers of xylene: *m*-xylene (CAS No. 108-38-3), *o*-xylene (CAS No. 95-47-6) and *p*-xylene (CAS No. 106-42-3).

Part 1B Substances

Name	CAS No. ¹	Hexavalent chromium compounds	*
Mercury ⁶	*	Lead ^{22, 23}	*
Cadmium ⁶	*	Tetraethyl lead	78-00-2
Arsenic ⁶	*		

22 "and its compounds" except tetraethyl lead

23 Does not include lead (and its compounds) contained in stainless steel, brass or bronze alloys

Part 2 Substances

Name	CAS No. ¹		
		Dibenzo(a,h)anthracene	53-70-3
Benzo(a)anthracene	56-55-3	Dibenzo(a,i)pyrene	189-55-9
Benzo(a)phenanthrene	218-01-9	7H-Dibenzo(c,g)carbazole	194-59-2
Benzo(a)pyrene	50-32-8	Fluoranthene	206-44-0
Benzo(b)fluoranthene	205-99-2	Indeno(1,2,3-c,d)pyrene	193-39-5
Benzo(e)pyrene	192-97-2	Perylene	198-55-0
Benzo(g,h,i)perylene	191-24-2	Phenanthrene	85-01-8
Benzo(j)fluoranthene	205-82-3	Pyrene	129-00-0
Benzo(k)fluoranthene	207-08-9		
Dibenz(a,j)acridine	224-42-0		

Part 3 Substances

Name	CAS No. ¹	Dioxins and Furans ²⁴	*
Hexachlorobenzene	118-74-1		

[See Steps 1 and 2 for an explanation of this footnote.]

²⁴ This class of substances is restricted to the following congeners:

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (1746-01-6);
 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (40321-76-4);
 1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (39227-28-6);
 1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (19408-74-3);
 1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (57653-85-7);
 1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (35822-46-9);
 Octachlorodibenzo-*p*-dioxin (3268-87-9);
 2,3,7,8-Tetrachlorodibenzofuran (51207-31-9);
 2,3,4,7,8-Pentachlorodibenzofuran (57117-31-4);
 1,2,3,7,8-Pentachlorodibenzofuran (57117-41-6);
 1,2,3,4,7,8-Hexachlorodibenzofuran (70648-26-9);
 1,2,3,7,8,9-Hexachlorodibenzofuran (72918-21-9);
 1,2,3,6,7,8-Hexachlorodibenzofuran (57117-44-9);
 2,3,4,6,7,8-Hexachlorodibenzofuran (60851-34-5);
 1,2,3,4,6,7,8-Heptachlorodibenzofuran (67562-39-4);
 1,2,3,4,7,8,9-Heptachlorodibenzofuran (55673-89-7); and
 Octachlorodibenzofuran (39001-02-0).

Part 4 Substances - Criteria Air Contaminants (CACs)

Name	CAS No. ¹		
		Sulphur dioxide	7446-09-5
Carbon monoxide	630-08-0	Total particulate matter ²⁷	*
Oxides of nitrogen (expressed as NO ₂)	11104-93-1	Volatile organic compounds ²⁸	*
PM _{2.5} ²⁵	*		
PM ₁₀ ²⁶	*		

²⁵ means any particulate matter with a diameter less than or equal to 2.5 microns.

²⁶ means any particulate matter with a diameter less than or equal to 10 microns.

²⁷ means any particulate matter with a diameter less than 100 microns.

²⁸ Refer to Appendix 5 for definition of VOCs.

Part 5 Substances - Selected Volatile Organic Compounds (VOCs) With Additional Reporting Requirements

Individual Substances

Name	CAS No. ¹
Acetylene	74-86-2
Adipic acid	124-04-9
Aniline ²	65-53-3
Benzene	71-43-2
1,3-Butadiene	106-99-0
2-Butoxyethanol	111-76-2
<i>n</i> -Butyl acetate	123-86-4
Chlorobenzene	108-90-7
<i>p</i> -Dichlorobenzene	106-46-7
1,2-Dichloroethane	107-06-2
Dimethylether	115-10-6
Ethyl alcohol	64-17-5
Ethyl acetate	141-78-6
Ethylene	74-85-1
Formaldehyde	50-00-0
<i>n</i> -Hexane	110-54-3
Isopropyl alcohol	67-63-0
D-Limonene	5989-27-5
Methanol	67-56-1
Methyl ethyl ketone	78-93-3
2-Methyl-3-hexanone	7379-12-6
Methyl isobutyl ketone	108-10-1
Myrcene	123-35-3
Beta-Phellandrene	555-10-2
Phenyl isocyanate	103-71-9
Alpha-Pinene	80-56-8
Beta-Pinene	127-91-3
Propane	74-98-6
Propylene	115-07-1
Styrene	100-42-5
1,2,4-Trimethylbenzene	95-63-6
Trimethylfluorosilane	420-56-4
Toluene	108-88-3
Vinyl acetate	108-05-4

Isomer Groups

Name	CAS No. ¹
Anthraquinone ²⁹	*
Butane ²⁹	*
Butene ²⁹	25167-67-3
Cycloheptane ²⁹	*
Cyclohexene ²⁹	*
Cyclooctane ²⁹	*
Decane ²⁹	*
Dihydronaphthalene ²⁹	*
Dodecane ²⁹	*
Heptane ²⁹	*
Hexane ³⁰	*
Hexene ²⁹	25264-93-1
Methylindan ²⁹	27133-93-3
Nonane ²⁹	*
Octane ²⁹	*
Pentane ²⁹	*
Pentene ²⁹	*
Terpene ²⁹	68956-56-9
Trimethylbenzene ²⁹	25551-13-7
Xylene ²⁹	1330-20-7

Other Groups and Mixtures

Name	CAS No. ¹
Creosote	8001-58-9
Heavy aromatic solvent naphtha	64742-94-5
Light aromatic solvent naphtha	64742-95-6
Mineral spirits	64475-85-0
Naphtha	8030-30-6
Stoddard solvent	8052-41-3

29 "all isomers."

30 "all isomers", excluding *n*-hexane (CAS No. 110-54-3).

31 "all isomers", excluding 1,2,4-trimethylbenzene (CAS No. 95-63-6).

Appendix 2 - NPRI Substances for 2003, Listed by Chemical Abstracts Service Registry Number

The changes in substance listings and the new substances added to the NPRI for 2003 are in bold lettering. Explanations of the footnotes and substance qualifiers are provided in Step 1 of the Guide for Reporting to the NPRI - 2003.

Name	CAS No. ¹		
Ammonia (total) ²	*	Thiourea	62-56-6
Anthraquinone³	*	Ethyl alcohol	64-17-5
Antimony ³	*	Formic acid	64-18-6
Arsenic ³	*	Diethyl sulphate	64-67-5
Butane³	*	Tetracycline hydrochloride	64-75-5
Cadmium ⁴	*	Methanol	67-56-1
Chromium ⁵	*	Isopropyl alcohol	67-63-0
Cobalt ⁴	*	Chloroform	67-66-3
Copper ⁴	*	Hexachloroethane	67-72-1
Cyanides ⁶	*	N,N-Dimethylformamide	68-12-2
Cycloheptane³	*	Hexachlorophene	70-30-4
Cyclohexene³	*	<i>n</i> -Butyl alcohol	71-36-3
Cyclooctane³	*	Benzene	71-43-2
Decane³	*	Bromomethane	74-83-9
Dihydronaphthalene³	*	Ethylene	74-85-1
Dioxins and Furans ¹⁶	*	Acetylene	74-86-2
Dodecane³	*	Chloromethane	74-87-3
Heptane³	*	Methyl iodide	74-88-4
Hexane⁷	*	Hydrogen cyanide	74-90-8
Hexavalent chromium compounds	*	Propane	74-98-6
Lead ^{8,9}	*	Chloroethane	75-00-3
Manganese ⁴	*	Vinyl chloride	75-01-4
Mercury ⁴	*	Acetonitrile	75-05-8
Nickel ⁴	*	Acetaldehyde	75-07-0
Nitrate ion ¹⁰	*	Dichloromethane	75-09-2
Nonane³	*	Carbon disulphide	75-15-0
Nonylphenol and its ethoxylates¹¹	*	Ethylene oxide	75-21-8
Octane³	*	Vinylidene chloride	75-35-4
Octylphenol and its ethoxylates¹²	*	Phosgene	75-44-5
Pentane³	*	HCFC-22	75-45-6
Pentene³	*	Propylene oxide	75-56-9
Phosphorus (total)¹³	*	Halon 1301	75-63-8
PM _{2.5} ¹⁴	*	<i>tert</i> -Butyl alcohol	75-65-0
PM ₁₀ ¹⁵	*	HCFC-142b	75-68-3
Selenium ⁴	*	CFC-11	75-69-4
Silver ⁴	*	CFC-12	75-71-8
Total particulate matter ¹⁷	*	CFC-13	75-72-9
Volatile organic compounds ¹⁸	*	Pentachloroethane	76-01-7
Zinc ⁴	*	CFC-114	76-14-2
Formaldehyde	50-00-0	CFC-115	76-15-3
Benzo(a)pyrene	50-32-8	Hexachlorocyclopentadiene	77-47-4
Dibenzo(a,h)anthracene	53-70-3	Dicyclopentadiene	77-73-6
Nitroglycerin	55-63-0	Dimethyl sulphate	77-78-1
Carbon tetrachloride	56-23-5	Tetraethyl lead	78-00-2
Benzo(a)anthracene	56-55-3	Isoprene	78-79-5
Aniline ¹⁹	62-53-3	<i>i</i> -Butyl alcohol	78-83-1
		Isobutylaldehyde	78-84-2

1,2-Dichloropropane	78-87-5	1-Bromo-2-chloroethane	107-04-0
sec-Butyl alcohol	78-92-2	Allyl chloride	107-05-1
Methyl ethyl ketone	78-93-3	1,2-Dichloroethane	107-06-2
1,1,2-Trichloroethane	79-00-5	Acrylonitrile	107-13-1
Trichloroethylene	79-01-6	Allyl alcohol	107-18-6
Acrylamide	79-06-1	Propargyl alcohol	107-19-7
Acrylic acid ¹⁹	79-10-7	Ethylene glycol	107-21-1
Chloroacetic acid ¹⁹	79-11-8	Vinyl acetate	108-05-4
Peracetic acid ¹⁹	79-21-0	Methyl isobutyl ketone	108-10-1
1,1,2,2-Tetrachloroethane	79-34-5	Maleic anhydride	108-31-6
2-Nitropropane	79-46-9	Toluene	108-88-3
<i>p,p'</i> -Isopropylidenediphenol	80-05-7	Chlorobenzene	108-90-7
Cumene hydroperoxide	80-15-9	Cyclohexanol	108-93-0
Alpha-Pinene	80-56-8	Phenol ¹⁹	108-95-2
Methyl methacrylate	80-62-6	2-Methylpyridine	109-06-8
C.I. Food Red 15	81-88-9	2-Methoxyethanol	109-86-4
Diethyl phthalate	84-66-2	2-Methoxyethyl acetate	110-49-6
Dibutyl phthalate	84-74-2	<i>n</i> -Hexane	110-54-3
Phenanthrene	85-01-8	2-Ethoxyethanol	110-80-5
Phthalic anhydride	85-44-9	Cyclohexane	110-82-7
Butyl benzyl phthalate	85-68-7	Pyridine ¹⁹	110-86-1
N-Nitrosodiphenylamine	86-30-6	2-Ethoxyethyl acetate	111-15-9
<i>o</i> -Phenylphenol ¹⁹	90-43-7	Diethanolamine ¹⁹	111-42-2
Michler's ketone ¹⁹	90-94-8	2-Butoxyethanol	111-76-2
Toluene-2,6-diisocyanate	91-08-7	Propylene	115-07-1
Naphthalene	91-20-3	Dimethylether	115-10-6
Quinoline ¹⁹	91-22-5	Chlorendic acid	115-28-6
Biphenyl	92-52-4	<i>Bis</i> (2-ethylhexyl) phthalate	117-81-7
Benzoyl peroxide	94-36-0	Di- <i>n</i> -octyl phthalate	117-84-0
Safrole	94-59-7	Hexachlorobenzene	118-74-1
<i>o</i> -Dichlorobenzene	95-50-1	Anthracene	120-12-7
1,2,4-Trimethylbenzene	95-63-6	Isosafrole	120-58-1
2,4-Diaminotoluene ¹⁹	95-80-7	Catechol	120-80-9
Styrene oxide	96-09-3	1,2,4-Trichlorobenzene	120-82-1
Methyl acrylate	96-33-3	2,4-Dichlorophenol ¹⁹	120-83-2
Ethylene thiourea	96-45-7	2,4-Dinitrotoluene	121-14-2
Cumene	98-82-8	Triethylamine	121-44-8
Acetophenone	98-86-2	N,N-Dimethylaniline ¹⁹	121-69-7
Benzoyl chloride	98-88-4	Diphenylamine	122-39-4
Nitrobenzene	98-95-3	Hydroquinone ¹⁹	123-31-9
<i>p</i> -Nitroaniline	100-01-6	Myrcene	123-35-3
<i>p</i> -Nitrophenol ¹⁹	100-02-7	Propionaldehyde	123-38-6
Ethylbenzene	100-41-4	Paraldehyde	123-63-7
Styrene	100-42-5	Butyraldehyde	123-72-8
Benzyl chloride	100-44-7	<i>n</i>-Butyl acetate	123-86-4
<i>p,p'</i> -Methylene <i>bis</i> (2-chloroaniline)	101-14-4	1,4-Dioxane	123-91-1
Methylene <i>bis</i> (phenylisocyanate)	101-68-8	Adipic acid	124-04-9
<i>p,p'</i> -Methylenedianiline	101-77-9	Dimethylamine	124-40-3
<i>Bis</i> (2-ethylhexyl) adipate	103-23-1	Tetrachloroethylene	127-18-4
Phenyl isocyanate	103-71-9	Beta-Pinene	127-91-3
<i>p</i> -Dichlorobenzene	106-46-7	2,6-Di- <i>t</i> -butyl-4-methylphenol	128-37-0
<i>p</i> -Phenylenediamine ¹⁹	106-50-3	Pyrene	129-00-0
<i>p</i> -Quinone	106-51-4	Dimethyl phthalate	131-11-3
1,2-Butylene oxide	106-88-7	Nitrilotriacetic acid ¹⁹	139-13-9
Epichlorohydrin	106-89-8	Ethyl acrylate	140-88-5
1,3-Butadiene	106-99-0	Butyl acrylate	141-32-2
Acrolein	107-02-8	Ethyl acetate	141-78-6

2-Mercaptobenzothiazole	149-30-4
Calcium cyanamide	156-62-7
Dibenzo(a,i)pyrene	189-55-9
Benzo(g,h,i)perylene	191-24-2
Benzo(e)pyrene	192-97-2
Indeno(1,2,3-c,d)pyrene	193-39-5
7H-Dibenzo(c,g)carbazole	194-59-2
Perylene	198-55-0
Benzo(j)fluoranthene	205-82-3
Benzo(b)fluoranthene	205-99-2
Fluoranthene	206-44-0
Benzo(k)fluoranthene	207-08-9
Benzo(a)phenanthrene	218-01-9
Dibenz(a,j)acridine	224-42-0
Hydrazine ¹⁹	302-01-2
Halon 1211	353-59-3
Trimethylfluorosilane	420-56-4
Carbonyl sulphide	463-58-1
4,6-Dinitro- <i>o</i> -cresol ¹⁹	534-52-1
Ethyl chloroformate	541-41-3
3-Chloropropionitrile	542-76-7
Lithium carbonate	554-13-2
Beta-Phellandrene	555-10-2
3-Chloro-2-methyl-1-propene	563-47-3
C.I. Basic Green 4	569-64-2
Toluene-2,4-diisocyanate	584-84-9
2,6-Dinitrotoluene	606-20-2
3,3'-Dichlorobenzidine dihydrochloride	612-83-9
Carbon monoxide	630-08-0
1,1,1,2-Tetrachloroethane	630-20-6
C.I. Solvent Yellow 14	842-07-9
N-Methyl-2-pyrrolidone	872-50-4
N-Methylolacrylamide	924-42-5
C.I. Basic Red 1	989-38-8
Decabromodiphenyl oxide	1163-19-5
Dimethyl phenol	1300-71-6
Molybdenum trioxide	1313-27-5
Thorium dioxide	1314-20-1
Cresol ^{19,20}	1319-77-3
Xylene ²¹	1330-20-7
Asbestos ²²	1332-21-4
Aluminum oxide ²³	1344-28-1
Methyl <i>tert</i> -butyl ether	1634-04-4
HCFC-141b	1717-00-6
Sulphur hexafluoride	2551-62-4
C.I. Disperse Yellow 3	2832-40-8
C.I. Solvent Orange 7	3118-97-6
Isophorone diisocyanate	4098-71-9
Crotonaldehyde	4170-30-3
C.I. Acid Green 3	4680-78-8
1,1-Methylenebis(4-isocyanatocyclohexane)	5124-30-1
D-Limonene	5989-27-5
2-Methyl-3-hexanone	7379-12-6
Aluminum ²⁴	7429-90-5
Vanadium ²⁵	7440-62-2
Sulphur dioxide	7446-09-5
Titanium tetrachloride	7550-45-0

Sodium nitrite	7632-00-0
Boron trifluoride	7637-07-2
Hydrochloric acid	7647-01-0
Hydrogen fluoride	7664-39-3
Sulphuric acid	7664-93-9
Sodium fluoride	7681-49-4
Nitric acid	7697-37-2
Phosphorus ²⁶	7723-14-0
Bromine	7726-95-6
Potassium bromate	7758-01-2
Fluorine	7782-41-4
Chlorine	7782-50-5
Hydrogen sulphide	7783-06-4
Calcium fluoride	7789-75-5
Creosote	8001-58-9
Naphtha	8030-30-6
Stoddard solvent	8052-41-3
Polymeric diphenylmethane diisocyanate	9016-87-9
Chlorine dioxide	10049-04-4
Oxides of nitrogen (expressed as NO ₂)	11104-93-1
Iron pentacarbonyl	13463-40-6
2,4,4-Trimethylhexamethylene diisocyanate	15646-96-5
2,2,4-Trimethylhexamethylene diisocyanate	16938-22-0
Butene ³	25167-67-3
Hexene ³	25264-93-1
Dinitrotoluene ²²	25321-14-6
Trimethylbenzene ²⁸	25551-13-7
Toluenediisocyanate ²²	26471-62-5
Methylindan	27133-93-3
C.I. Direct Blue 218	28407-37-6
HCFC-123 and all isomers ²⁹	34077-87-7
HCFC-122 and all isomers ³⁰	41834-16-6
HCFC 124 and all isomers ³¹	63938-10-3
Mineral spirits	64475-85-0
Heavy aromatic solvent naphtha	64742-94-5
Light aromatic solvent naphtha	64742-95-6
Alkanes, C ₆₋₁₈ , chloro	68920-70-7
Terpene ³	68956-56-9
Alkanes, C ₁₀₋₁₃ , chloro	85535-84-8

[See Step 1 of the Guide for Reporting to the NPRI - 2003 for an explanation of the footnotes and substance qualifiers.]

- * No single CAS number applies to this NPRI listing.
- 1 CAS Registry Number denotes the Chemical Abstracts Service Registry Number, as appropriate.
- 2 "Ammonia (total)" means the total of both of ammonia (NH₃ - CAS No. 7664-41-7) and the ammonium ion (NH₄⁺) in solution.
- 3 "all isomers"
- 4 "and its compounds"
- 5 "and its compounds" except hexavalent chromium compounds
- 6 "ionic"
- 7 "all isomers", excluding *n*-hexane (CAS No. 110-54-3)
- 8 "and its compounds" except tetraethyl lead
- 9 Does not include lead (and its compounds) contained in stainless steel, brass or bronze alloys
- 10 "in solution at a pH of 6.0 or greater"
- 11 Includes nonylphenol, its ethoxylates and derivatives with CAS No.'s: 104-40-5; 25154-52-3; 84852-15-3; 1323-65-5; 26523-78-4; 28987-17-9; 68081-86-7; 68515-89-9; 68515-93-5; 68081-86-1; 104-35-8; 20427-84-3; 26027-38-3; 27177-05-5; 27177-08-8; 28679-13-2; 27986-36-3; 37251-69-7; 7311-27-5; 9016-45-9; 27176-93-8; 37340-60-6; 51811-79-1; 51938-25-1; 68412-53-3; 9051-57-4; 37205-87-1; 68412-54-4; 127087-87-01.
- 12 Includes octylphenol and its ethoxylates with CAS No.'s: 140-66-9; 1806-26-4; 27193-28-8; 68987-90-6; 9002-93-1; 9036-19-5.
- 13 Does not include phosphorus (yellow or white) with CAS No. 7723-14-0.
- 14 means any particulate matter with a diameter less than or equal to 2.5 microns
- 15 means any particulate matter with a diameter less than or equal to 10 microns
- 16 This class of substances is restricted to the following congeners:
 - 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (1746-01-6);
 - 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (40321-76-4);
 - 1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (39227-28-6);
 - 1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (19408-74-3);
 - 1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (57653-85-7);
 - 1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (35822-46-9);
 - Octachlorodibenzo-*p*-dioxin (3268-87-9);
 - 2,3,7,8-Tetrachlorodibenzofuran (51207-31-9);
 - 2,3,4,7,8-Pentachlorodibenzofuran (57117-31-4);
 - 1,2,3,7,8-Pentachlorodibenzofuran (57117-41-6);
 - 1,2,3,4,7,8-Hexachlorodibenzofuran (70648-26-9);
 - 1,2,3,7,8,9-Hexachlorodibenzofuran (72918-21-9);
 - 1,2,3,6,7,8-Hexachlorodibenzofuran (57117-44-9);
 - 2,3,4,6,7,8-Hexachlorodibenzofuran (60851-34-5);
 - 1,2,3,4,6,7,8-Heptachlorodibenzofuran (67562-39-4);
 - 1,2,3,4,7,8,9-Heptachlorodibenzofuran (55673-89-7); and
 - Octachlorodibenzofuran (39001-02-0).
- 17 means any particulate matter with a diameter of less than 100 microns
- 18 Refer to the Guide for Reporting to the NPRI - 2003 for definition of VOCs.
- 19 "and its salts" - The CAS number corresponds to the weak acid or base. However, the substance includes the salts of these weak acids and bases. When calculating the weight of these substances and their salts, use the molecular weight of the acid or base, not the total weight of the salt.
- 20 "all isomers" including, but not limited to, the individual isomers of cresol: *m*-cresol (CAS No. 108-39-4), *o*-cresol (CAS No. 95-48-7) and *p*-cresol (CAS No. 106-44-5)
- 21 "all isomers" including, but not limited to, the individual isomers of xylene: *m*-xylene (CAS No. 108-38-3), *o*-xylene (CAS No. 95-47-6) and *p*-xylene (CAS No. 106-42-3).
- 22 "friable form"
- 23 "fibrous forms"
- 24 "fume or dust"
- 25 "(except when in an alloy) and its compounds"
- 26 "yellow or white"
- 27 "mixed isomers"
- 28 "all isomers" excluding 1,2,4-trimethylbenzene (CAS No. 95-63-6).
- 29 "all isomers" including, but not limited to, HCFC-123 (CAS No. 306-83-2) and HCFC 123a (CAS No. 90454-18-5).
- 30 "all isomers" including, but not limited to, HCFC-122 (CAS No. 354-21-2)
- 31 "all isomers" including, but not limited to, HCFC 124 (CAS No. 2837-89-0) and HCFC 124a (CAS No. 354-25-6).

Appendix 3 - Four-digit North American Industry Classification System (NAICS) Codes

11 Agriculture, Forestry, Fishing & Hunting

- 111 Crop Production
- 1111 Oilseed & Grain Farming
- 1112 Vegetable & Melon Farming
- 1113 Fruit & Tree Nut Farming
- 1114 Greenhouse, Nursery & Floriculture Production
- 1119 Other Crop Farming
- 112 Animal Production
- 1121 Cattle Ranching & Farming
- 1122 Hog & Pig Farming
- 1123 Poultry & Egg Production
- 1124 Sheep & Goat Farming
- 1125 Animal Aquaculture
- 1129 Other Animal Production
- 113 Forestry & Logging
- 1131 Timber Tract Operations
- 1132 Forest Nurseries & Gathering Forest Products
- 1133 Logging
- 114 Fishing, Hunting & Trapping
- 1141 Fishing
- 1142 Hunting & Trapping
- 115 Support Activities for Agriculture & Forestry
- 1151 Support Activities for Crop Production
- 1152 Support Activities for Animal Production
- 1153 Support Activities for Forestry

21 Mining & Oil & Gas Extraction

- 211 Oil & Gas Extraction
- 2111 Oil & Gas Extraction
- 212 Mining (exc. Oil & Gas)
- 2121 Coal Mining
- 2122 Metal Ore Mining
- 2123 Non-Metallic Mineral Mining & Quarrying
- 213 Support Act. - Mining & Oil & Gas Extraction
- 2131 Support Act. - Mining & Oil & Gas Extraction

22 Utilities

- 221 Utilities
- 2211 Electricity Generation, Transmission & Dist.
- 2212 Natural Gas Distribution
- 2213 Water, Sewage & Other Systems

23 Construction

- 231 Prime Contracting
- 2311 Land Subdivision & Land Development
- 2312 Building Construction
- 2313 Engineering Construction
- 2314 Construction Management
- 232 Trade Contracting
- 2321 Site Preparation Work
- 2322 Building Structure Work
- 2323 Building Exterior Finishing Work
- 2324 Building Interior Finishing Work
- 2325 Building Equipment Installation
- 2329 Other Special Trade Contracting

31-33 Manufacturing

- 311 Food Mfg.
- 3111 Animal Food Mfg.
- 3112 Grain & Oilseed Milling
- 3113 Sugar & Confectionery Product Mfg.
- 3114 Fruit & Veg. Preserving & Specialty Food Mfg.
- 3115 Dairy Product Mfg.
- 3116 Meat Product Mfg.
- 3117 Seafood Product Preparation & Packaging
- 3118 Bakeries & Tortilla Mfg.
- 3119 Other Food Mfg.
- 312 Beverage & Tobacco Product Mfg.
- 3121 Beverage Mfg.
- 3122 Tobacco Mfg.
- 313 Textile Mills
- 3131 Fibre, Yarn & Thread Mills
- 3132 Fabric Mills
- 3133 Textile & Fabric Finishing & Fabric Coating
- 314 Textile Product Mills
- 3141 Textile Furnishings Mills
- 3149 Other Textile Product Mills

315	Clothing Mfg.	332	Fabricated Metal Product Mfg.
3151	Clothing Knitting Mills	3321	Forging & Stamping
3152	Cut & Sew Clothing Mfg.	3322	Cutlery & Hand Tool Mfg.
3159	Clothing Accessories & Other Clothing Mfg.	3323	Architectural & Structural Metals Mfg.
316	Leather & Allied Product Mfg.	3324	Boiler, Tank & Shipping Container Mfg.
3161	Leather & Hide Tanning & Finishing	3325	Hardware Mfg.
3162	Footwear Mfg.	3326	Spring & Wire Product Mfg.
3169	Other Leather & Allied Product Mfg.	3327	Machine Shops, Turned Product & Related Mfg.
321	Wood Product Mfg.	3328	Coating, Engraving & Heat Treating Activities
3211	Sawmills & Wood Preservation	3329	Other Fabricated Metal Product Mfg.
3212	Veneer, Plywood & Eng'rd Wood Product Mfg.	333	Machinery Mfg.
3219	Other Wood Product Mfg.	3331	Agr., Construction & Mining Machinery Mfg.
322	Paper Mfg.	3332	Industrial Machinery Mfg.
3221	Pulp, Paper & Paperboard Mills	3333	Commercial & Service Industry Machinery Mfg.
3222	Converted Paper Product Mfg.	3334	Ventilation, Heating, AC & Refrig. Equip. Mfg
323	Printing & Related Support Activities	3335	Metalworking Machinery Mfg.
3231	Printing & Related Support Activities	3336	Engine, Turbine & Power Transmission Mfg.
324	Petroleum & Coal Products Mfg.	3339	Other General-Purpose Machinery Mfg.
3241	Petroleum & Coal Products Mfg.	334	Computer & Electronic Product Mfg.
325	Chemical Mfg.	3341	Computer & Peripheral Equipment Mfg.
3251	Basic Chemical Mfg.	3342	Communications Equipment Mfg.
3252	Resin, Synth. Rubber, & Fibre & Filament Mfg.	3343	Audio & Video Equipment Mfg.
3253	Pesticide, Fertilizer & Other Agr. Chem. Mfg.	3344	Semiconductor & Electronic Component Mfg.
3254	Pharmaceutical & Medicine Mfg.	3345	Instruments Mfg.
3255	Paint, Coating & Adhesive Mfg.	3346	Mfg. & Reproducing Magnetic & Optical Media
3256	Soap, Cleaning Compound & Toilet Prep. Mfg.	335	Electric Equip., Appliance & Component Mfg.
3259	Other Chemical Product Mfg.	3351	Electric Lighting Equipment Mfg.
326	Plastics & Rubber Products Mfg.	3352	Household Appliance Mfg.
3261	Plastic Product Mfg.	3353	Electrical Equipment Mfg.
3262	Rubber Product Mfg.	3359	Other Electrical Equipment & Component Mfg.
327	Non-Metallic Mineral Product Mfg.	336	Transportation Equipment Mfg.
3271	Clay Product & Refractory Mfg.	3361	Motor Vehicle Mfg.
3272	Glass & Glass Product Mfg.	3362	Motor Vehicle Body & Trailer Mfg.
3273	Cement & Concrete Product Mfg.	3363	Motor Vehicle Parts Mfg.
3274	Lime & Gypsum Product Mfg.	3364	Aerospace Product & Parts Mfg.
3279	Other Non-Metallic Mineral Product Mfg.	3365	Railroad Rolling Stock Mfg.
331	Primary Metal Mfg.	3366	Ship & Boat Building
3311	Iron & Steel Mills & Ferro-Alloy Mfg.	3369	Other Transportation Equipment Mfg.
3312	Steel Product Mfg. from Purchased Steel	337	Furniture & Related Product Mfg.
3313	Alumina & Aluminum Production & Processing	3371	Household & Inst. Furniture & Cabinet Mfg.
3314	Non-Ferrous (exc. Al) Production & Processing		
3315	Foundries		

3372 Office Furniture (including Fixtures)
Mfg.
3379 Other Furniture-Related Product Mfg.
339 Miscellaneous Mfg.
3391 Medical Equipment & Supplies Mfg.
3399 Other Miscellaneous Mfg.

41 Wholesale Trade

411 Farm Product Whl.
4111 Farm Product Whl.
412 Petroleum Product Whl.
4121 Petroleum Product Whl.
413 Food, Beverage & Tobacco Whl.
4131 Food Whl.
4132 Beverage Whl.
4133 Cigarette & Tobacco Product Whl.
414 Personal & Household Goods Whl.
4141 Textile, Clothing & Footwear Whl.
4142 Home Ent. Equip & Hhld. Appliance
Whl.
4143 Home Furnishings Whl.
4144 Personal Goods Whl.
4145 Pharmaceuticals, Toiletries & Related
Whl.
415 Motor Vehicle & Parts Whl.
4151 Motor Vehicle Whl.
4152 New Motor Vehicle Parts & Accessories
Whl.
4153 Used Motor Vehicle Parts & Accessories
Whl.
416 Building Material & Supplies Whl.
4161 Electrical, Plumbing, Heating & AC
Equip. Whl
4162 Metal Service Centres
4163 Lumber & Other Building Supplies Whl.
417 Machinery, Equipment & Supplies Whl.
4171 Farm, Lawn & Garden Machinery &
Equip. Whl.
4172 Construction, Forestry & Ind'l
Machinery Whl.
4173 Computer & Communications
Equipment Whl.
4179 Other Machinery, Equipment & Supplies
Whl.
418 Miscellaneous Wholesaler-Distributors
4181 Recyclable Material Whl.
4182 Paper & Disposable Plastic Product
Whl.
4183 Agricultural Supplies Whl.
4184 Chemical (exc. Agr.) & Allied Product
Whl.

4189 Other Misc. Whl.
419 Wholesale Agents & Brokers
4191 Wholesale Agents & Brokers

44-45 Retail Trade

441 Motor Vehicle and Parts Dealers
4411 Automobile Dealers
4412 Other Motor Vehicle Dealers
4413 Automotive Parts, Accessories & Tire
Stores
442 Furniture & Home Furnishings Stores
4421 Furniture Stores
4422 Home Furnishings Stores
443 Electronics & Appliance Stores
4431 Electronics & Appliance Stores
444 Building Material & Garden Equipment
Dealers
4441 Building Material & Supplies Dealers
4442 Lawn & Garden Equipment & Supplies
Stores
445 Food & Beverage Stores
4451 Grocery Stores
4452 Specialty Food Stores
4453 Beer, Wine & Liquor Stores
446 Health & Personal Care Stores
4461 Health & Personal Care Stores
447 Gasoline Stations
4471 Gasoline Stations
448 Clothing & Clothing Accessories Stores
4481 Clothing Stores
4482 Shoe Stores
4483 Jewellery, Luggage & Leather Goods
Stores
451 Sporting Goods, Hobby, Book & Music
Stores
4511 Sport, Hobby & Musical Instrument
Stores
4512 Book, Periodical & Music Stores
452 General Merchandise Stores
4521 Department Stores
4529 Other General Merchandise Stores
453 Misc. Store Retailers
4531 Florists
4532 Office Supply, Stationery & Gift Stores
4533 Used Merchandise Stores
4539 Other Misc. Store Retailers
454 Non-Store Retailers
4541 Electronic Shopping & Mail-Order
Houses
4542 Vending Machine Operators
4543 Direct Selling Establishments

48-49 Transportation & Warehousing

481 Air Transportation
4811 Scheduled Air Transportation
4812 Non-Scheduled Air Transportation
482 Rail Transportation
4821 Rail Transportation
483 Water Transportation
4831 Deep Water Transportation
4832 Inland Water Transportation
484 Truck Transportation
4841 General Freight Trucking
4842 Specialized Freight Trucking
485 Transit & Ground Passenger Transportation
4851 Urban Transit Systems
4852 Interurban & Rural Bus Transportation
4853 Taxi & Limousine Service
4854 School & Employee Bus Transportation
4855 Charter Bus Industry
4859 Other Transit & Ground Passenger Transport
486 Pipeline Transportation
4861 Pipeline Transportation of Crude Oil
4862 Pipeline Transportation of Natural Gas
4869 Other Pipeline Transportation
487 Scenic & Sightseeing Transportation
4871 Scenic & Sightseeing Transportation, Land
4872 Scenic & Sightseeing Transportation, Water
4879 Scenic & Sightseeing Transportation, Other
488 Support Activities for Transportation
4881 Support Activities for Air Transportation
4882 Support Activities for Rail Transportation
4883 Support Activities for Water Transportation
4884 Support Activities for Road Transportation
4885 Freight Transportation Arrangement
4889 Other Support Activities for Transportation
491 Postal Service
4911 Postal Service
492 Couriers & Messengers
4921 Couriers
4922 Local Messengers & Local Delivery
493 Warehousing & Storage
4931 Warehousing & Storage

51 Information & Cultural Industries

511 Publishing Industries
5111 Newspaper, Periodical, Book & DB Publishers
5112 Software Publishers
512 Motion Picture & Sound Recording Industries
5121 Motion Picture & Video Industries
5122 Sound Recording Industries
513 Broadcasting & Telecommunications
5131 Radio & Television Broadcasting
5132 Pay TV, Specialty TV & Program Distribution
5133 Telecommunications
514 Information & Data Processing Services
5141 Information Services
5142 Data Processing Services

52 Finance & Insurance

521 Monetary Authorities - Central Bank
5211 Monetary Authorities - Central Bank
522 Credit Intermediation & Related Activities
5221 Depository Credit Intermediation
5222 Non-Depository Credit Intermediation
5223 Activities Related to Credit Intermediation
523 Securities, Commodity Contracts & Related
5231 Securities & Commodity Contracts Intermed.
5232 Securities & Commodity Exchanges
5239 Other Financial Investment Activities
524 Insurance Carriers & Related Activities
5241 Insurance Carriers
5242 Agencies, Brokerages & Other Insurance Act.
526 Funds and Other Financial Vehicles
5261 Pension Funds
5269 Other Funds and Financial Vehicles

53 Real Estate & Rental & Leasing

531 Real Estate
5311 Lessors of Real Estate
5312 Offices of Real Estate Agents & Brokers
5313 Activities Related to Real Estate
532 Rental & Leasing Services
5321 Automotive Equipment Rental & Leasing

5322 Consumer Goods Rental
 5323 General Rental Centres
 5324 Commercial & Ind'l Machinery Rental & Leasing
 533 Lessors of Non-Financial Intangible Assets
 5331 Lessors of Non-Financial Intangible Assets

54 Professional, Scientific & Technical Services

541 Professional, Scientific & Technical Services
 5411 Legal Services
 5412 Accounting, Tax Prep. & Bookkeeping Services
 5413 Architectural, Engineering & Related Services
 5414 Specialized Design Services
 5415 Computer Systems Design & Related Services
 5416 Mgmt., Scientific & Technical Consulting Serv.
 5417 Scientific R&D Services
 5418 Advertising & Related Services
 5419 Other Prof., Scientific & Technical Services

55 Management of Companies & Enterprises

551 Management of Companies & Enterprises
 5511 Management of Companies & Enterprises

56 Admin., Support, Waste Mgmt & Remed. Services

561 Administrative & Support Services
 5611 Office Administrative Services
 5612 Facilities Support Services
 5613 Employment Services
 5614 Business Support Services
 5615 Travel Arrangement & Reservation Services
 5616 Investigation & Security Services
 5617 Services to Buildings & Dwellings
 5619 Other Support Services
 562 Waste Management & Remediation Services
 5621 Waste Collection

5622 Waste Treatment & Disposal
 5629 Remediation & Other Waste Mgmt. Services

61 Educational Services

611 Educational Services
 6111 Elementary & Secondary Schools
 6112 Community Colleges & C.E.G.E.P.s
 6113 Universities
 6114 Business Schools & Computer & Mgmt. Training
 6115 Technical & Trade Schools
 6116 Other Schools & Instruction
 6117 Educational Support Services

62 Health Care & Social Assistance

621 Ambulatory Health Care Services
 6211 Offices of Physicians
 6212 Offices of Dentists
 6213 Offices of Other Health Practitioners
 6214 Out-Patient Care Centres
 6215 Medical & Diagnostic Laboratories
 6216 Home Health Care Services
 6219 Other Ambulatory Health Care Services
 622 Hospitals
 6221 General Medical & Surgical Hospitals
 6222 Psychiatric & Substance Abuse Hospitals
 6223 Specialty (exc. Psych., etc.) Hospitals
 623 Nursing & Residential Care Facilities
 6231 Nursing Care Facilities
 6232 Res. Developmental Handicap, etc., Facilities
 6233 Community Care Facilities for the Elderly
 6239 Other Residential Care Facilities
 624 Social Assistance
 6241 Individual & Family Services
 6242 Community Food & Housing & Emerg., etc. Serv.
 6243 Vocational Rehabilitation Services
 6244 Child Day-Care Services

71 Arts, Entertainment & Recreation

711 Performing Arts, Spectator Sports & Related
 7111 Performing Arts Companies
 7112 Spectator Sports

7113 Promoters of Performing Arts, Sports, etc.
 7114 Agents & Managers for Public Figures
 7115 Independent Artists, Writers & Performers
 712 Heritage Institutions
 7121 Heritage Institutions
 713 Amusement, Gambling & Recreation Industries
 7131 Amusement Parks & Arcades
 7132 Gambling Industries
 7139 Other Amusement & Recreation Industries

72 Accommodation & Food Services

721 Accommodation Services
 7211 Traveller Accommodation
 7212 RV Parks & Recreational Camps
 7213 Rooming & Boarding Houses
 722 Food Services & Drinking Places
 7221 Full-Service Restaurants
 7222 Limited-Service Eating Places
 7223 Special Food Services
 7224 Drinking Places (Alcoholic Beverages)

81 Other Services (exc. Public Administration)

811 Repair and Maintenance
 8111 Automotive R&M
 8112 Electronic & Precision Equipment R&M
 8113 Commercial & Ind'l Mach. & Equip. R&M
 8114 Personal & Household Goods R&M
 812 Personal & Laundry Services
 8121 Personal Care Services
 8122 Funeral Services
 8123 Dry Cleaning and Laundry Services
 8129 Other Personal Services
 813 Religious, Grant-Making, Civic & Similar Orgs.
 8131 Religious Organizations
 8132 Grant-Making & Giving Services
 8133 Social Advocacy Organizations
 8134 Civic & Social Organizations
 8139 Business, Prof., Labour & Other Member. Orgs.
 814 Private Households
 8141 Private Households

91 Public Administration

911 Federal Government Public Administration
 9111 Defence Services
 9112 Federal Protective Services
 9113 Federal Labour, Employment & Immigration Serv.
 9114 Foreign Affairs & International Assistance
 9119 Other Fed. Government Public Administration
 912 Prov. & Territorial Public Administration
 9121 Provincial Protective Services
 9122 Provincial Labour & Employment Services
 9129 Other Prov. & Terr. Public Administration
 913 Municipal Public Administration
 9131 Municipal Protective Services
 9139 Other Municipal Public Administration
 914 Aboriginal Public Administration
 9141 Aboriginal Public Administration
 919 Extra-Territorial Public Administration
 9191 Extra-Territorial Public Administration

Appendix 4 - Two-digit 1980 Canadian Standard Industrial Classification (SIC) Codes

01	Agricultural Industries	42	Trade Contracting Industries
02	Service Industries Incidental to Agriculture	44	Service Industries Incidental to Construction
03	Fishing and Trapping Industries	45	Transportation Industries
04	Logging Industry	46	Pipeline Transport Industries
05	Forest Services Industry	47	Storage and Warehousing Industries
06	Mining Industries	48	Communication Industries
07	Crude Petroleum and Natural Gas Industries	49	Other Utility Industries
08	Quarry and Sand Pit Industries	50	Farm Products Industries, Wholesale
09	Service Industries Incidental to Mineral Extraction	51	Petroleum Products Industries, Wholesale
10	Food Industries	52	Food, Beverage, Drug and Tobacco Industries, Wholesale
11	Beverage Industries	53	Apparel and Dry Goods Industries, Wholesale
12	Tobacco Products Industries	54	Household Goods Industries, Wholesale
15	Rubber Products Industries	55	Motor Vehicle, Parts and Accessories Industries, Wholesale
16	Plastic Products Industries	56	Metals, Hardware, Plumbing, Heating and Building Materials Industries, Wholesale
17	Leather and Allied Products Industries	57	Machinery, Equipment and Supplies, Wholesale
18	Primary Textile Industries	59	Other Products and Industries, Wholesale
19	Textile Products Industries	60	Food, Beverage and Drug Industries, Retail
24	Clothing Industries	61	Shoe, Apparel, Fabric and Yarn Industries, Retail
25	Wood Industries	62	Household Furniture, Appliances and Furnishings Industries, Retail
26	Furniture and Fixture Industries	63	Automotive Vehicles, Parts and Accessories, Sales and Service
27	Paper and Allied Products Industries	64	General Retail Merchandising Industries
28	Printing, Publishing and Allied Industries	65	Other Retail Store Industries
29	Primary Metal Industries	69	Non-store Retail Industries
30	Fabricated Metal Products Industries (except Machinery and Transportation Equipment Industries)	70	Deposit-accepting Intermediary Industries
31	Machinery Industries (except Electrical Machinery)	71	Consumer and Business Financing Intermediary Industries
32	Transportation Equipment Industries	72	Investment Intermediary Industries
33	Electrical and Electronic Products Industries	73	Insurance Industries
35	Non-metallic Mineral Products Industries	74	Other Financial Intermediary Industries
36	Refined Petroleum and Coal Products Industries	75	Real Estate Operating Industries (except Developers)
37	Chemical and Chemical Products Industries		
39	Other Manufacturing Industries		
40	Building Developing and General Contracting Industries		
41	Industrial and Heavy (Engineering) Construction Industries		

76	Insurance and Real Estate Agent Industries
77	Business Service Industries
81	Federal Government Service Industries
82	Provincial and Territorial Government Service Industries
83	Local Government Service Industries
84	International and Extra-territorial Government Service Industries
85	Educational Service Industries
86	Health and Social Service Industries
91	Accommodation Service Industries
92	Food and Beverage Industries
96	Amusement and Recreational Service Industries
97	Personal and Household Service Industries
98	Membership Organization Industries
99	Other Service Industries

Appendix 5 - Two-digit 1987 U.S. Standard Industrial Classification (SIC) Codes

01	Agricultural Production Crops
02	Agricultural Production Livestock
07	Agricultural Services
08	Forestry
09	Fishing, Hunting and Trapping
10	Metal Mining
12	Coal Mining
13	Oil and Gas Extraction
14	Non-metallic Minerals, except Fuels
15	General Building Contractors
16	Heavy Construction, except Building
17	Special Trade Contractors
20	Food and Kindred Products
21	Tobacco Products
22	Textile Mill Products
23	Apparel and Other Textile Products
24	Lumber and Wood Products
25	Furniture and Fixtures
26	Paper and Allied Products
27	Printing and Publishing
28	Chemicals and Allied Products
29	Petroleum and Coal Products
30	Rubber and Miscellaneous Plastics Products
31	Leather and Leather Products
32	Stone, Clay, and Glass Products
33	Primary Metal Industries
34	Fabricated Metal Products
35	Industrial Machinery and Equipment
36	Electronic and Other Electric Equipment
37	Transportation Equipment
38	Instruments and Related Products
39	Miscellaneous Manufacturing Industries
40	Railroad Transportation
41	Local and Interurban Passenger Transit
42	Trucking and Warehousing
43	U.S. Postal Service
44	Water Transportation
45	Transportation by Air
46	Pipelines, except Natural Gas
47	Transportation Services
48	Communications
49	Electric, Gas, and Sanitary Services
50	Wholesale Trade Durable Goods
51	Wholesale Trade Non-durable Goods
52	Building Materials and Garden Supplies
53	General Merchandise Stores

54	Food Stores
55	Automotive Dealers and Service Stations
56	Apparel and Accessory Stores
57	Furniture and Home Furnishings Stores
58	Eating and Drinking Places
59	Miscellaneous Retail
60	Depository Institutions
61	Non-depository Institutions
62	Security and Commodity Brokers
63	Insurance Carriers
64	Insurance Agents, Brokers, and Service
65	Real Estate
67	Holding and Other Investment Offices
70	Hotels and Other Lodging Places
72	Personal Services
73	Business Services
75	Auto Repair, Services and Parking
76	Miscellaneous Repair Services
78	Motion Pictures
79	Amusement and Recreation Services
80	Health Services
81	Legal Services
82	Educational Services
83	Social Services
84	Museums, Botanical, Zoological Gardens
86	Membership Organizations
87	Engineering and Management Services
88	Private Households
89	Services, n.e.c.
91	Executive, Legislative and General
92	Justice, Public Order and Safety
93	Finance, Taxation and Monetary Policy
94	Administration of Human Resources
95	Environmental Quality and Housing
96	Administration of Economic Programs
97	National Security and International Affairs