

US EPA ARCHIVE DOCUMENT

Chapter 5**Reporting Utility**

In this chapter of the user's guide, the following topics are discussed:

- a general description of the NONROAD model Reporting Utility,
- how to import core model outputs, and
- how to compact databases that have become too large, and how to repair corrupted databases.

QUICK START

Each step involved in the creation of NONROAD model reports is explained in this chapter. However, to quickly create reports and view core model output data, follow these simple steps.

1. With the left button on your mouse, double click on the Reports icon created when the NONROAD model was installed on your computer, or click on **Run** under the main menu **Model** in the graphical user interface to execute the reporting utility. (For more information, see General Description below.)
2. Import the core model output file that you are interested in viewing by using the left button on the mouse to click on the submenu **Import Data** under the main menu **Data** in the reporting utility. (For more information, see Importing Core Model Output below.)
3. Select the type of report that you are interested in by clicking on the appropriate report title under the main menu **Reports** in the reporting utility. Once you have selected the report that you want, follow the instructions on the screen to specify report options. (For more information, see Generating Reports below.)
4. Once the report appears on your computer screen, you can print the report by clicking on **Print** under the main menu **File** in the reporting utility. (For more information, see Viewing a Report in Print Preview below.)

GENERAL DESCRIPTION

The reporting utility is used to create standardized reports using output data generated in the core model. Like the graphical user interface, the reporting utility is a fully operational Windows program designed as a separate module in order to take advantage of the many reporting and formatting options available when using a database application. Although the reporting utility is written in Microsoft Access database software, **you do not need to know how to use Access to generate reports.**

When the NONROAD model is installed on your computer, an icon for the reporting utility is created. To access the reporting utility, use the left button on the mouse to double click on the reporting utility icon. This will execute the reporting module. Similarly, clicking on **Reports** under the main menu **Model** in the graphical user interface will also execute the reporting utility.

Note: The Reporting Utility is written in Microsoft Access 2.0 which allows users operating Windows 3.1 and Windows 95 to run the reporting module. Unlike Fortran, in which the core model is written, Access is easy to use and flexible, allowing you to produce professional quality reports with minimal computing programming experience.

If you do not have Access 2.0 (i.e., if you do not have any version of Access installed on your computer or are using Access 97 for other database applications), the reporting utility will operate as a standalone application by executing the program with the reporting utility icon.

MOVING AROUND IN THE REPORTING UTILITY

Figure 5-1 shows the initial screen when the reporting utility is executed. From this screen you can access four menus that make up the reporting module, as listed at the top of the window in the menu bar:

- **File** - In this menu, you can setup and preview a report for printing, print a report, and exit the database.
- **Reports** - In this menu, you can select a standard report for viewing data.

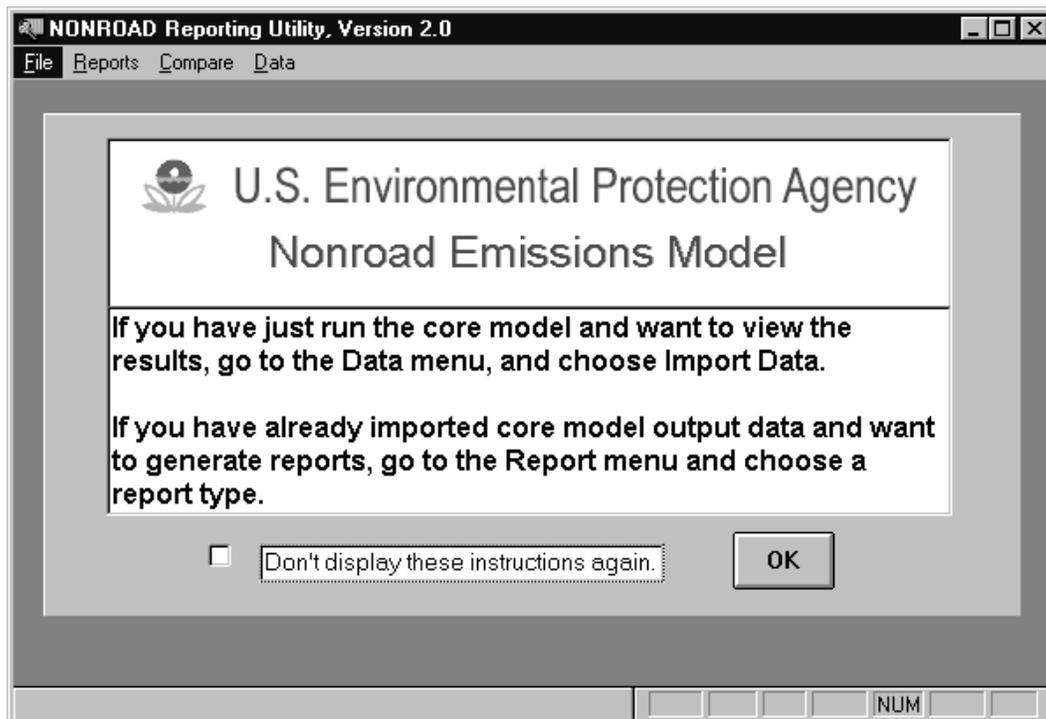


Figure 5-1: Initial report utility screen.

- **Compare** - In this menu, you can select a report for comparing the results of two separate modeling runs.
- **Data** - In this menu, you can import data, remove a simulation from the database, and reattach files.

Choosing Menu Options

The menu items on the menu bar, File, Report, Compare, and Data, can be selected in one of three ways: by either using the left button on the mouse to click on the menu choice, by using the arrow keys to move left or right, or by typing the underlined letter in the menu choice while holding down the Alt key. Once selected, the menu will display a list of submenu items. The following shows the list of submenu items for each of the three menu choices:

File	Print Setup...
	Print Preview
	Print...
	Exit

Reports	Emissions Totals by County Emissions Totals by Equipment Type Emissions Totals by Horsepower Emissions Totals by HP and Source Classification Emissions Totals by SCC Emissions Totals by Source Classification Population and Fuel Consumption by HP and Source Classifications Population and Fuel Consumption by SCC
Compare	Compare Two Model Runs by HP and Source Classification Compare Two Model Runs by Pop and Fuel Compare Two Model Runs by SCC Compare Two Model Runs by Source Classification
Data	Import Data Remove Simulation Re-Attach Tables

A submenu item can be selected by either using the left button on the mouse to click the highlighted item, by pressing <Enter> when the item is highlighted, or by simply typing the underlined letter of the item. For example, to run the *Emissions Totals by SCC* report you would follow these steps:

1. With the mouse, highlight **R**eport on the menu bar and click the left mouse button. Alternatively, you can type <Alt-R> to display the report submenu.
2. Drag the mouse down to highlight the *Emissions Totals by SCC* title and click the left mouse button. Alternatively, type <S> to access the report.

Once you have selected a report type, the utility displays an input form. You can move around the input form by using <Tab>, the arrow keys, or pointing and clicking with the mouse. When an input error occurs, an appropriate message (dialog box) is displayed. If a dialog box appears, use the left button on the mouse to click on **OK** or press <Enter>, make the corrections needed, and continue.

SET UP, IMPORT, AND DELETE

The reporting utility has been designed to run cohesively with the graphical user interface and the core model to simplify the use of the NONROAD model; if you operate the model with the default inputs provided, the process of running a simulation and generating reports is straightforward. However, several steps are required to set up the reporting utility to ensure that the core model outputs can be imported.

Attaching the Reporting Utility Databases

When the NONROAD model is installed, a subdirectory called Reports is created. Within this subdirectory are two databases required to run the reporting utility. These databases and the information contained in each are as follows:

- *NRdata.mdb* - This database contains the example data supplied with the model and any core model output data you import.
- *Reports.mdb* - This database contains the reporting utility code and requisite data tables (such as the SCC table and FIPs county code).

Note: The NRdata and Reports databases are essential to run the reporting utility. In addition, there are two tables in the NRdata database called Table Headers and Table Counties that also are essential to the operation of the reporting utility. These databases and tables should never be deleted.

To operate the reporting utility, *Reports.mdb* must have the path of *NRdata.mdb* in order to properly connect to it. To connect *NRdata.mdb*, follow these steps:

1. From the Main Menu, use the left mouse button to click on **Data**, or press <Alt-D>.
2. A pull-down menu appears identifying three submenus. Click the left mouse button on **Re-Attach Tables**, or use the up/down arrow keys to highlight **Re-Attach Tables** and press <Enter>. Alternatively, press <A>.

Note: You must attach or re-attach the database tables under two scenarios: (1) upon first installation and operation of the reporting utility, and (2) if you move the database tables to a new directory.

3. If the databases reside in the same subdirectory as the reporting utility, a message box will appear indicating that the operation is done. Use the left button on the mouse to click **OK** or press **<Enter>**.
4. If *NRdata.mdb* resides in a different directory than *Reports.mdb*, an open file dialog box will appear. Using the left button on the mouse, locate the directory where the *NRdata.mdb* database is located and click on **OK**. When *NRdata.mdb* is attached, a message box will appear indicating that the operation is done. Click **OK** or press **<Enter>** to return to the main menu.

Importing Core Model Output

In order to generate model summary reports, the reporting utility must import the output from the core model. As discussed in Chapters 3 and 4, the core model output file will have the name you assigned to it.

Follow these steps to import a core model output data file:

1. From the Main Menu, use the left mouse button to click on **Data**, or press **<Alt-D>**.
2. A pull-down menu appears identifying three submenus. Click the left mouse button on **Import Data**, or use the up/down arrow keys to highlight **Import Data** and press **<Enter>**. Alternatively, press **<I>**.
3. An open file dialog box appears that requests you to select the core model output file. Using the left button on the mouse, locate the core model output file and either double click on the file name, highlight the file name and click on **OK**, or press **<Enter>**.
4. A screen will appear requesting you to enter the new database table name (Figure 5-2). With the mouse, click in the field below the words ENTER THE NEW DATABASE TABLE NAME and type in the appropriate name of the database table. The database

Note: Because the core model was developed in Fortran, the name of the output file must be no longer than eight characters with a three character extension as a result of DOS conventions. However, the reporting utility allows you to name the database table using up to 30 characters.

The name you give the database table can be the same as the output data file (but without the .extension since a period is not a valid table name character in Access). However, to help in differentiating one core model run from others, it is recommended that a more descriptive name be used.

table name that is entered is the name that the reporting utility will recognize for all further processing of the data. Do not use a period in the data base table name

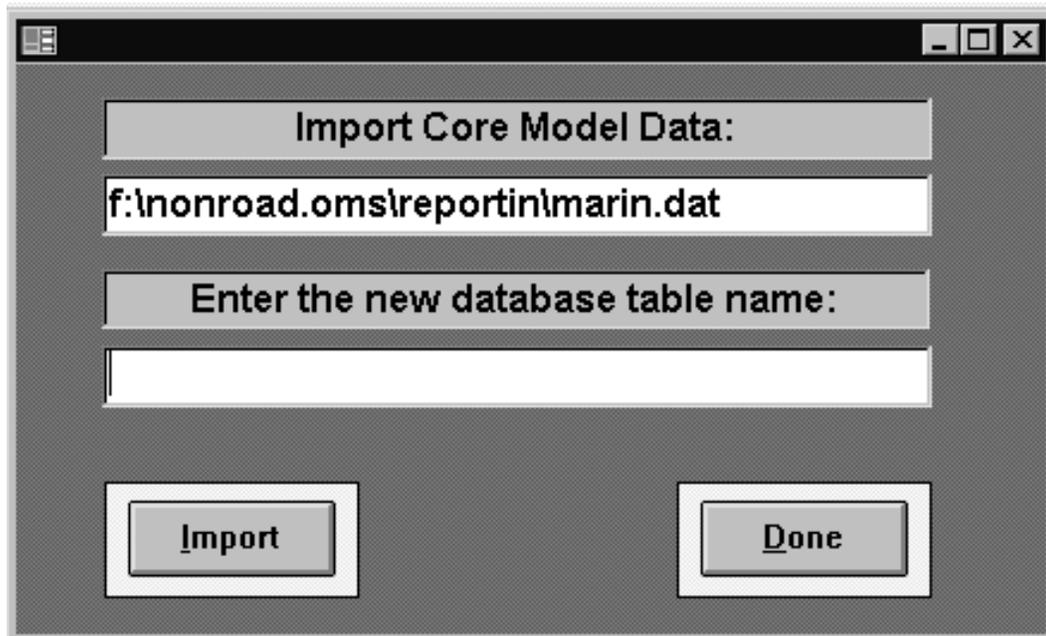


Figure 5-2: Import core model data screen.

5. After you have entered a name, use the left button on the mouse to click on **Import**, press **<Enter>**, or press **<I>** to begin the data import process. The bottom of the window will display a line indicating the percent completion of the import. This process may take several minutes or longer depending on the size of the database that you are processing and the speed of your computer. When the import is complete, a message box will appear indicating that the process is done. Click **OK** or press **<Enter>** to return to the main menu.
6. If you enter a name that is invalid (e.g., contains punctuation marks or has already been used), a message will appear notifying you of the problem. If this happens, simply rename the table and repeat step five.
7. If more data files need to be imported, repeat steps 1 through 5 until all files have been imported.

Removing a Simulation

When an imported database table is no longer of use it can be deleted. This should only be done with the Remove Simulations submenu option. In addition to deleting the table, the reporting utility removes records from tables it uses for processing.

Follow these steps to delete an imported database table:

1. From the Main Menu, click on **Data**.
2. Select the submenu option **Remove Simulations**.
3. A screen appears allowing you to indicate which table you want to delete. Either type the table name in the field or click on the arrow to view a list of tables from which to select.
4. Click on **Remove**. When the table has been successfully deleted a message box will appear indicating that the process is done. Click **OK**.
5. Repeat steps 3 and 4 until all database tables you want to delete have been removed.
6. Click on **Done**.

Note: Simulations tables should never be deleted in the NRdata database except through the Remove Simulation submenu under the Data menu in the reporting utility.

Following the removal of database tables it is usually beneficial to compact the database. Refer to the section Compacting and Repairing Databases at the end of this chapter for more details.

REPORT TYPES

The reporting utility provides you with eight types of standard reports. A summary of each of these reports is as follows:

Emissions Totals by County - This report provides a table of emissions by pollutant for each county in the output file.

Emissions Totals by Equipment Type - This report provides a table of emissions by pollutant for each equipment type for either all counties or for a single, user-specified county. This report is separated by major source classification (e.g., agricultural, lawn & garden, etc.) with subtotals provided for each classification. Equipment type descriptions

are also included (e.g., “2-wheel tractors”, “asphalt pavers”, etc.). The report includes a grand total by pollutant.

Emissions Totals by Horsepower - This report provides a table of emissions by pollutant and horsepower for either all counties or for a single, user-specified county. The report includes total across all horsepower ratings by pollutant.

Emissions Totals by HP and Source Classification - This report provides a table of emissions by pollutant for each Source Classification and horsepower range for either all counties or for a single, user-specified county. The report is separated by major equipment classification and subtotals are provided. The report includes a grand total by pollutant.

Emissions Totals by SCC - This report provides a table of emissions by pollutant for each SCC code for either all counties or for a single, user-specified county. The report is separated by major equipment classification and subtotals are provided. In addition to the SCC code, the equipment description and engine type is provided. The report includes a grand total by pollutant.

Emissions Totals by Source Classification - This report provides a table of emissions by pollutant for each major equipment category for either all counties or for a single, user-specified county. The report includes a grand total by pollutant.

Population and Fuel Consumption by HP and Source Classification - This report provides a table of equipment population and fuel consumption for each source classification and horsepower range for either all counties or for a single, user-specified county. The report is separated by major equipment classification, and subtotals are provided. The report includes a grand total of population and fuel consumption.

Note: All emissions are reported as short tons (i.e., 2000 lbs).

Note: Because there are different types of hydrocarbon and particulate matter emissions, the reporting utility is designed to allow you to identify the type of reporting units that you want. For hydrocarbon emissions, the core model calculates and outputs these emissions as THC (total hydrocarbon). The reporting utility has the capability to report hydrocarbons as THC, TOG (total organic gas), NMOG (non-methane organic gas), NMHC (non-methane hydrocarbon), or VOC (volatile organic compound). THC is converted to the other designations by applying appropriate factors.

For particulate matter, the core model calculates and outputs these emissions as total PM. The reporting utility allows you to report particulates as PM, PM10 (particulate size of 10 microns or less), or PM2.5 (particulate size of 2.5 microns or less). Again, total PM is converted to the other designations by applying appropriate factors.

Population and Fuel Consumption by SCC - This report provides a table of equipment population and fuel consumption for each SCC code for either all counties or for a single, user-specified county. The report is separated by major equipment classification, and subtotals are provided. In addition to the SCC code, the equipment description and engine type is provided. The report includes a grand total of population and fuel consumption.

USER SPECIFICATIONS

To provide flexibility in designing a report, the report utility offers several report options. When you select a report type, a window appears requesting specific inputs and your choice of display options (Figure 5-3).

The screenshot shows a software window titled "User-specified report options screen". It contains the following elements:

- Report:** A dropdown menu with "Emission Totals by SCC" selected.
- Database table to use:** An empty text input field with a dropdown arrow.
- Decimal places to use:** A text input field containing the number "2".
- Report all counties?** A checkbox that is currently unchecked.
- Report one county:** An empty text input field with a dropdown arrow.
- Pollutants to report:** An empty text input field with a dropdown arrow.
- Select the HC:** A list box containing the following items: THC, TOG, NMOG, NMHC, and VOC.
- Select the PM size:** A list box containing the following items: PM, PM10, and PM2.5.
- Buttons:** "Run" and "Cancel" buttons located at the bottom right of the window.

Figure 5-3: User-specified report options screen.

A brief description of the report options is provided in the table below.

User-Specified Report Option	Description
Database table to use	Enter the table name that you want to use for the report (this is the name you gave the database table when you imported the file into the reporting utility as described previously in Importing Care Model Output). To enter, either type the table name directly into the field, or use the left button on the mouse to click on the down arrow at the right of the field for a list of available tables to choose from. Similarly, pressing <F4> will also access the list of available tables. Select the table from the list by using the left button on the mouse to click on the table name.
Decimal places to use	The default is two decimal places for most reports. To enter a number between 0 and 5, click on the field and enter the desired number.
Report all counties?	If you desire to report emissions for all counties included in the core model output file, click in this field to specify yes. If you select all counties, the next report option (Report one county) is removed from the window.
Report one county	Specify the individual county by typing the name of the county directly into the field or using the left button on the mouse to click on the down arrow at the right of the field for a list of counties from which to choose.
Pollutants to report	The “pollutants to report” option allows you to select a grouping of pollutants to report. To designate the group of pollutants to report, use the left button on the mouse to click on the down arrow at the right of the field for a list of pollutant choices and descriptions. Click on the desired option. Depending on your selection, the “Select the HC” field and/or the “Select the PM size” field may be removed from the window. For example, by choosing all PM, it is no longer necessary to specify a hydrocarbon type or a particulate matter size.

Select the HC

When you select a group of pollutants that include hydrocarbon emissions, you need to specify the hydrocarbon species that you want to report. Use the left button on the mouse to specify the hydrocarbon to report (i.e, THC, TOG, NMOG, NMHC, VOC).

Select the PM

When you select a group of pollutants that include particulate emissions (with the exception of All PM) , you need to specify the particulate species that you want to report. Use the left button on the mouse to specify the size of particulates to report (i.e., PM, PM₁₀, and PM_{2.5}).

GENERATING REPORTS

Once you have imported the necessary output files from the core model, reports can easily be generated with the reporting utility. When a report is generated, a window opens and the report is displayed in a Print Preview window.

For the *Emissions Totals by Equipment Type* report, *Emissions Totals by Horsepower* report, *Emissions Totals by HP and Source Classification* report, *Emissions Totals by SCC* report, and *Emissions Totals by Source Classification* report, the report options include all of those shown in Figure 5-2. For the *Emissions Totals by County* report, the only report options required are the name of the database table that you want to use, the number of decimal points desired, and the pollutants to report. For the *Population and Fuel Consumption by HP and Source Classification* report and the *Population and Fuel Consumption by SCC* report, the only report options required are the name of the database table that you want to use, the number of decimal points desired, and whether you want all counties or a specific county. The report option for types of pollutants to report is not necessary since emissions are not being reported.

Note: If the output file generated in the core model contains data for all counties in a state or multiple counties, the *Emissions Totals by County* report will be reported for all of these counties. If you want separate reports for each county in a region, then the core model must be run for each individual county. Once the core model has been run, you must import the output files and run the *Emissions Totals by County* using each database table.

Running a Report

To run a report, follow these steps:

1. From the Main Menu, use the left mouse button to click on **Reports**, or press **<Alt-R>**.
2. A pull-down menu appears identifying the eight available reports. Click the left mouse button on the report that you are interested in running, or use the up/down arrow keys to highlight the report and press **<Enter>**. Alternatively, press the underlined letter of the desired report.
3. Enter the report options. Use the left button on the mouse to click on **RUN** or press **<Alt-R>** after you have completed each field. If a required field is left blank or an incorrect entry has been made, a message box will prompt you for the correct information. Once the report has been generated, it will appear in a window.
4. To return to the main menu without running the report, use the left button on the mouse to click on **CANCEL** or press **<Alt-C>**.

Note: User specified report options will remain in the window until closed. If you want to run more than one report which uses the same options and same options window then leave the report options window open, select another report from the **Reports** submenu. The report title will be changed in the options window. Click on **RUN**. The same options (database table, decimal places, pollutants, etc.) will be used for the report.

Note: The abbreviation NA (not available) is printed in a report for entries of missing data. If a column of data contains one or more NA entries, then the subtotals and totals for that column will also be listed as NA.

Viewing a Report in Print Preview

With the left mouse button click on the 'maximize' button in the upper right hand corner of the report window (the middle of the three buttons, the one that has a square icon) to enlarge the report window for easier viewing.

As you move the mouse across the report, the cursor changes from an arrow icon to a magnifying glass icon. To zoom in or out of the report, click the left button on the mouse.

Also, only sources with nonzero emissions are shown in a report. For example, if the core model output file was generated for only lawn and garden source categories, then only lawn and garden SCC codes with nonzero emissions for at least one pollutant will be reported.

To view a specific portion of the report, follow these steps:

1. In the Zoom In mode, use the left button of the mouse to click on the vertical or horizontal scrollbars to locate the desired section of the report.
2. In the Zoom Out mode, place the magnifying glass icon on the desired section of the report and click to the Zoom In mode to view.
3. To page up or down through a multipage report, press <PgUp> or <PgDn> in the Zoom Out mode. In either the Zoom In or Zoom Out modes, clicking on the arrows in the lower left corner of the report window or typing the page number at the bottom of the Print Preview window and pressing <Enter> will also move you to the desired page.

Note: When reporting non-exhaust hydrocarbon emissions, total hydrocarbons is also reported. The hot soak, running, and resting losses are currently set to 0 instead of missing values (at this time the emission factor data is not available for these categories) in order to compute total HC.

To provide a consistent look for all reports, the report title area for each standard report in the report utility is similar in design (Figure 5-4). For each, the first line will identify the name of the report and whether the report includes information for all counties (within the region or state) or for a selected county. The second line comes from the core model output file. Similarly, the third line also comes from the core model output file and designates the period of emissions estimates. The final line of the report title area indicates the date and time that the core model run was generated and the date that the report was created.

The Reporting Utility menu bar has only one option, **File**, when viewing a report. A displayed report can be printed by selecting **File** from the menu bar and choosing the **Print** submenu option. In addition, you can also modify the print setup to adjust the margins, the page orientation, and the printer selection by selecting the **Print Setup** submenu option.

Report: Emission Totals by County - Exhaust

Emission Totals in tons/year by County and Pollutant
 Check of hand calculations BASE YEAR 1997
 Total for year: 1995
 Date of Model Run: Fri Apr 24 17:08:03 1998 Today's Date: 5/29/98

County	Exhaust THC	Exhaust NOx	Exhaust CO	Exhaust PM	Exhaust SOx	Exhaust CO2
The State of Alabama	4,165.42	13366.08	2524.27	1684.41	661.73	75.19
The State of Alaska	1,098.77	3525.76	665.86	444.32	174.55	19.83
The State of Arizona	2,551.04	8185.82	1545.94	1031.59	405.27	46.05
The State of Arkansas	5,169.63	16588.39	3132.82	2090.49	821.26	93.32
The State of California	139,449.41	447467.55	84506.99	56390.47	22153.38	2517.34
The State of Colorado	5,410.55	17361.46	3278.82	2187.91	859.54	97.67
The State of Connecticut	3,179.23	10201.57	1926.63	1285.62	505.06	57.39
The State of Delaware	0.00	0.00	0.00	0.00	0.00	0.00

Figure 5-4: Report title area.

Appendix C contains examples of all standard reports for a core model run of Washtenaw County, Michigan emissions.

Exporting to Excel

An additional submenu option on the **File** menu, **Export to Excel**, allows you to write the report in Excel spreadsheet format. When selected, a dialogue box is opened to enter the excel output filename. This name is displayed in a window where you can click on Export Report to create the file. When completed a message is displayed. Click **OK**.

The spreadsheet file will contain the line item information from the report. It will not contain subtotals or grand totals. In addition, the spreadsheet contains columns for all species and modes even though for example, you elected only to report exhaust particulate matter. Also, there are fields labeled Missing which are used by the reporting utility for totaling purposes. You can delete any of the columns in Excel that you do not want or need.

COMPARING MODEL RUNS

In addition to allowing you to generate and view reports from single model runs, the reporting utility provides you with the ability to compare the results of two separate model runs. Currently, the reporting utility lets you compare two model runs by:

- horsepower and source classification,
- population and fuel,
- source classification code, or
- source classification.

When comparing two runs, the report only shows the records that the two runs have in common. For example, if you select a report that lists information by source classification code, only that information pertaining to source classification codes that the two model runs have in common will be shown in the comparison report. Similarly, if you are interested in comparing two model runs by horsepower and source classification, you will get horsepower ranges within source classifications that the two runs have in common. If there are no common records between the two runs, you will get a message that there is nothing to report.

For the comparison reports by HP and source classification, SCC, and source classification, the report displays the results of model run 1, model run 2, the difference between model run 2 and model run 1, and the percent difference for a single pollutant. For the population and fuel comparison report, the report displays only the results of model run 1 and model run 2 side by side.

To compare the results of two separate model runs, follow these steps:

1. From the Main Menu, use the left mouse button to click on **Compare**, or press **<Alt-C>**.
2. A pull-down menu appears identifying the different ways to compare model runs. Click the left mouse button on the type of comparison that you are interested in, or use the up/down arrow keys to highlight the report and press **<Enter>**.
3. Enter the report options. For the comparison reports *Compare Two Model Runs by Source Classification*, *Compare Two Model Runs by SCC*, and *Compare Two Model Runs by HP and Source Classification*, the report options are shown in Figure 5-5.

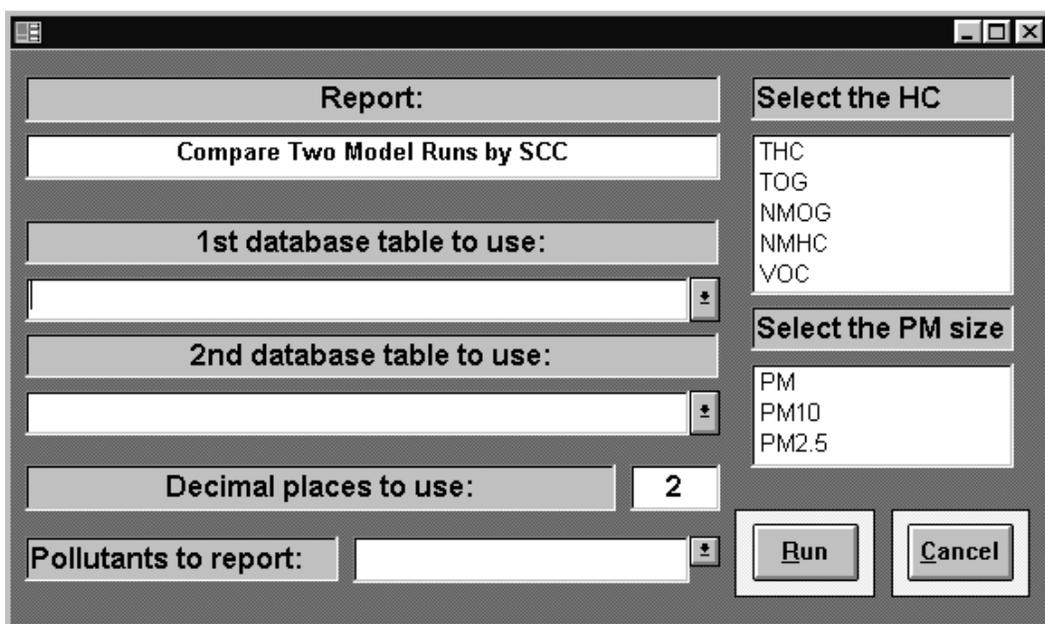


Figure 5-5: Report options for comparing two model runs.

For the comparison method entitled *Compare Two Model Runs by Pop and Fuel*, the report options are shown in Figure 5-6. After you have entered the appropriate options, use the left button on the mouse to click on **RUN** or press **<Alt-R>**. If a required field is left blank or an incorrect entry has been made, a message box will prompt you for the correct information. Once the comparison has been generated, it will appear in a window.

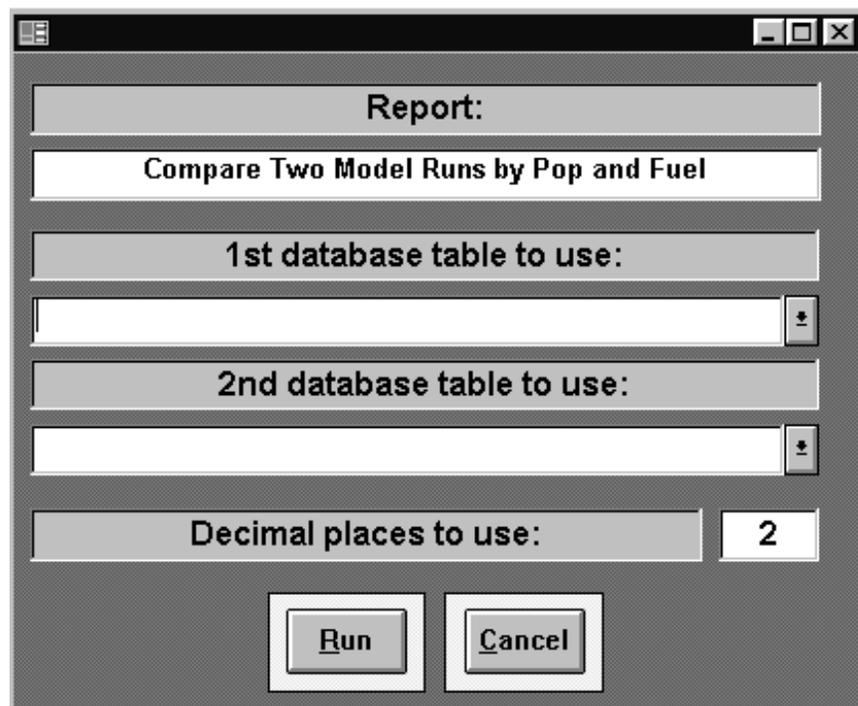


Figure 5-6: Report options for comparing two model runs by population and fuel.

4. To return to the main menu without running the comparison, use the left button on the mouse to click on **CANCEL** or press <Alt-C>.

Refer to the previous section on Viewing a Report in Print Preview for a discussion of viewing and printing the generated report. Examples of all comparison reports are provided in Appendix D.

COMPACTING AND REPAIRING DATABASES

If a database contains many large tables, it may slow the operation of the reporting utility and take up substantial space on the hard drive. This is particularly true if you remove large simulations. Furthermore, a computer crash may corrupt a database. For these reasons, the model installation includes a utility that allows you to compress and repair databases. To access the Compact and Repair Utility from the Program Manager, use the left button on the mouse to double click on the Compact Utility icon. This will execute the utility. Be sure to close the reporting utility before using the Compact and Repair Utility.

The menu bar for the Compact and Repair Utility has two menu choices: File and Utilities. The submenu under File allows you to exit the compact and repair utility. Under the Utilities menu, you can either Compact a database or Repair a database.

To compact a database follow these steps:

1. From the Main Menu, use the left mouse button to click on **Utilities**, or press **<Alt-U>**.
2. A pull-down menu appears identifying two submenus. Click the left mouse button on **Compact Database**, or use the up/down arrow keys to highlight **Compact Database** and press **<Enter>**. Alternatively, press **<C>**.

3. An open file dialog box appears that requests you to select the database that the you want to compact. Using the left button on the mouse, locate the database and either double click on the file name, highlight the file name and click on **OK**, or press **<Enter>**.

Note: To compact a database, you will need temporary storage space on your disk that is as much as the size of the *.mdb file that you are compressing.

4. A screen will appear requesting you to enter a directory for temporary storage of the compacted database (Figure 5-7). With the mouse, click in the field below the words ENTER A DIRECTORY FOR TEMPORARY STORAGE and type in the appropriate directory and path.

Note: If you are running the reporting utility on a computer operating under Windows 95, use the left button on the mouse to click on the **X** in the upper right corner of the DOS screen to return to the reporting utility. For those operating under Windows 3.1, you must press **<Alt-Tab>** to get from the DOS window to the reporting utility.

5. After you have entered a directory, use the left button on the mouse to click on **Compact**, press **<Enter>**, or press **<C>** to begin the compression process. Depending on the size of the database, this process may take several seconds or a few minutes. When the process is complete, a message box will appear indicating that the process was completed successfully and notifying you that the DOS window used to execute the move command can now be closed. Press **OK** or **<Enter>** to return to the main menu.

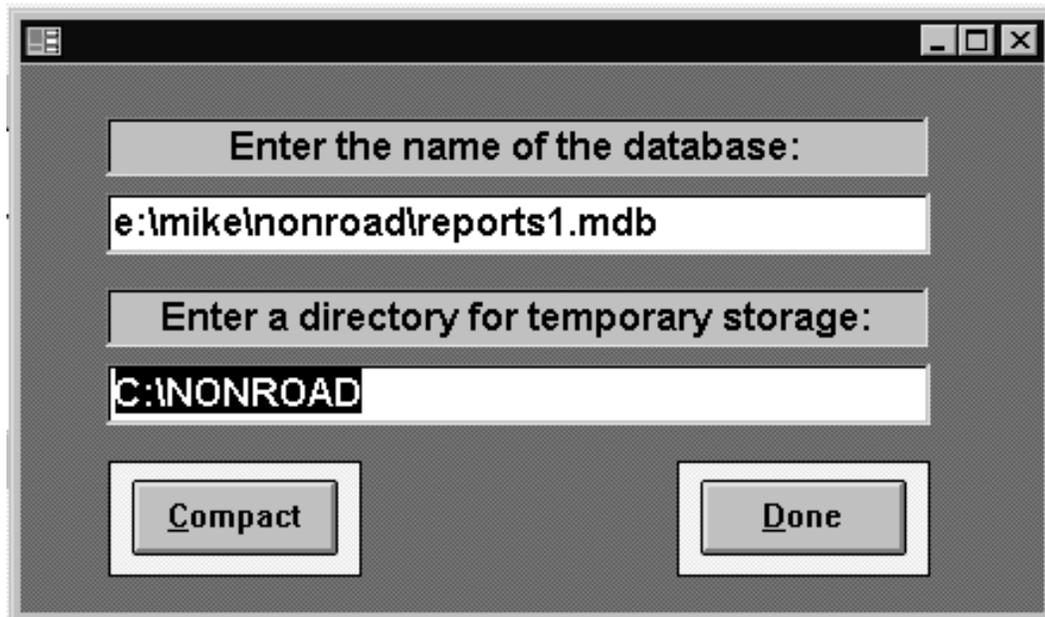


Figure 5-7: Identify a directory for temporary storage screen.

To repair a database that has become corrupted, follow these steps:

1. From the Main Menu, use the left mouse button to click on **Utilities**, or press <Alt-U>.
2. A pull-down menu appears identifying two submenus. Click the left mouse button on **Repair Database**, or use the up/down arrow keys to highlight **Repair Database** and press <Enter>. Alternatively, press <R>.
3. An open file dialog box appears that requests you to select the database that you want to repair. Using the left button on the mouse, locate the database and either double click on the file name, highlight the file name and click on **OK**, or press <Enter>. Depending on the size of the database, this process may take several seconds or a few minutes. When the repair is complete, a message box will appear indicating that the process is done. Press **OK** or <Enter> to return to the main menu.

Note: To prevent the accidental loss of data resulting from a damaged or corrupted database, it is strongly recommended that you routinely back-up your database.
