**GREATER-THAN-CLASS-C
LOW-LEVEL WASTE DATA BASE
USER'S MANUAL**

August 1992

**Idaho National Engineering Laboratory
EG&G Idaho, Inc.
National Low-Level Waste Management Program
P.O. Box 1625
Idaho Falls, ID 83415**

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MASTER

Greater-than-Class-C Low-Level Waste Data Base User's Manual

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Mary T. Magleby
GTCC LLW Technical Leader

Date

Jeanette Frasure
E&WMC Technical Coordinator

Date

ABSTRACT

The Greater-than-Class-C Low-Level Waste (GTCC LLW) Data Base characterizes GTCC LLW using low, base, and high cases for three different scenarios: unpackaged, packaged, and concentration averages. The GTCC LLW Data Base can be used to project future volumes and radionuclide activities. This manual provides instructions for users of the GTCC LLW Data Base.

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1. Introduction

The Greater-than-Class-C Low-Level Waste (GTCC LLW) Data Base was designed to characterize GTCC LLW using low, base, and high cases for three different scenarios: unpackaged, packaged, and concentration averages. This manual helps you use the GTCC LLW Data Base to project future volumes and radionuclide activities.

Section 1
Introduction

2. Getting Started

System Requirements

Running the GTCC LLW Data Base requires the following:

- A PC with a minimum of 640 K bytes of random-access memory
- A hard-disk drive with a minimum of 1 megabyte of free disk space to accommodate report files for printing
- A floppy-disk drive for off-loading or copying the GTCC LLW system reports
- A printer
- TCP/IP Communication Software (either 3Com or Excelan).

Setting Up GTCC LLW System

This section explains how the GTCC LLW Data Base is installed onto your PC.

The TCP/IP (either 3Com or Excelan) software must be **installed and running** on your PC before attempting to execute the GTCC LLW system.

1. The server system administrator and data base administrator will set up the necessary files on the server to execute the GTCC LLW system.
2. The system administrator will create an account for the user on the data base server.
3. The data base administrator will add the user to the Oracle system and grant the user access to the appropriate tables.
4. The system administrator will place a file in the user's home directory (/u/users/xxx where xxx indicates the userid) to execute the GTCC LLW system (gtccstart). This script file may be executed automatically upon login (after entering the userid and password), or the user may execute it manually by typing **gtccstart**. The gtcstart file contains commands to change to the GTCC LLW project directory and execute the main menu screen. Upon completion of the system, the user will be back in their home directory.

3. Function Keys

The function key system was designed to make the GTCC LLW system easy to use. Throughout this manual, the function keys are referred to by their assigned names (e.g., **List of values**). Important function key names will be displayed at the bottom of the screen when you are using the GTCC LLW Data Base.

The function keys may differ with different keyboard maps. To display the list of function keys for your keyboard, press **Help** (<F1>) for the function keys screen. (Note: if the <F1> key is not programmed for your key map, try typing <Ctrl>-K or <Esc>-K.) Figure 1 presents an example help screen.

FUNCTION	KEYSTROKE(S)	FUNCTION	KEYSTROKE(S)
Right	->	Enter Query	F2
Next Field	TAB	Count Query Hits	F4
	RETURN	Execute Query	F3
Next Primary Key Fld	^K	Commit Transaction	^A
Next Record	Down Arrow	Exit/Cancel	^Z
Next Block	^F		^X
Left	<-	Print	^P
Previous Field	^B	Redisplay Page	Escape ^R
Previous Record	Up Arrow	Help	^H
Previous Block	Escape B	Display Error	^E
Insert/Replace	Insert	Block Menu	^T
Delete Backward	Backspace	Show Function Keys	F1
Clear Field	^V		
Clear Record	^W		
Clear Block	^Y		
Clear Form/Rollback	^U		
Delete Record	^D		
Create Record	^N		
Duplicate Field	Escape D		
Duplicate Record	Escape C		

Press any function key to return to form.

Figure 1. Help screen.

Section 3
Function Keys

The following list defines the function key names in alphabetical order.

Table 1. Function key descriptions for GTCC LLW Data Base.

Field Title	Description
Block menu	<p>Displays a list of all the blocks in the current form. From this list, you can select the block to which you would like to move.</p> <p>When you choose a block from the block menu, the cursor moves to that block. If a form has many blocks, Block menu will usually move the cursor to a block more quickly than Next block or Previous block.</p>
Clear block	<p>Clears work space to allow new record input. Clear block might prompt you to commit your changes.</p> <p>Clear block does not deleted records from the data base; it only removes records from the work space.</p>
Clear field	<p>Clears the contents of the current field beginning at the current cursor position. If the cursor is to the right of all the characters in the field, Clear field clears to the end of the line.</p>

Table 1. (continued).

Field Title	Description
Clear form/rollback	<p>Clears all the blocks of the current form, deletes all data in all blocks of the form, and does a rollback</p> <p>Clear form/rollback undoes all inserts, updates, and deletes posted to the data base but does not delete records from the data base; it only removes records from the work space.</p>
Clear record	<p>Removes the current record from the current block, reversing any uncommitted changes made to that record. A cleared record is NOT deleted from the data base.</p>
Commit transaction	<p>Saves to the data base the data entered on the form.</p>
Create record	<p>Creates a new record after the current record. Use with Duplicate record.</p>
Count query hits	<p>Clears the current block and displays on the message line the number of rows that a query would retrieve if executed. If you are in enter query mode, the current block does not clear.</p> <p>When used in enter query mode, Count query hits counts the number of records matching the specified search criteria.</p>

Table 1. (continued).

Field Title	Description
	Note: If you press Count query hits after pressing Execute query , it terminates the query, clears all the records from the work space, and counts all of the records in the table that can be retrieved by the block.
Delete backward	Deletes the character to the left of the current cursor position.
Delete record	Deletes a retrieved record from the screen and from the data base. Records are not permanently deleted until you commit your changes to the data base.
Display error	Displays error information and/or advanced help information, if available, for the field where the last error occurred.
Duplicate field	Copies the field value from the same field of the previous record into the current field.
Duplicate record	Copies all field values from the previous record into a new record.
Enter query	Clears the current block and allows you enter query criteria. Use % to query similar values (e.g., ABC% returns

Table 1. (continued).

Field Title	Description
	<p>everything beginning with ABC). In enter query mode, the following keys have these functions:</p> <ul style="list-style-type: none"> • Enter query displays the query criteria last used. • Execute query performs the query. If records are retrieved, returns to normal operation; however, if no records are found, remains in enter query mode. • Exit/cancel returns to normal operation without performing the query. • Count query hits displays the number of rows that satisfy the query.
Execute query	<p>Clears the current block and retrieves all the records from the data base. (Only those records that can fit on the screen are displayed.)</p> <p>When used after Enter query, executes a query with the criteria specified.</p>
Exit/cancel	<p>Interrupts an operation and cancels it. Pressing Exit/cancel from a screen</p>

Table 1. (continued).

Field Title	Description
	clears that screen and returns you to the GTCC LLW Data Base Main Menu. Pressing Exit/cancel from the Main Menu causes you to exit the GTCC LLW system.
Help	Displays the help screen for the current field or form, if available.
Insert/replace	Toggles between insert and replace character modes for text entry.
Left	Moves the cursor one character to the left.
List of values	Lists all of the information in the current block.
Next block	Moves the cursor to the next block in the form that contains at least one enterable field.
Next field	Moves the cursor to the next enterable field.
Next primary key fld	Moves the cursor to the next enterable field in the current record that has been designated as part of the "primary key"—those fields that uniquely identify a particular row of a data base table.

Table 1. (continued).

Field Title	Description
Next record	Moves the cursor to the next record in the current block. If no more records are found, Next record creates a new blank record (unless the current record is blank).
Previous block	Moves the cursor to the previous block in the form that contains at least one enterable field.
Previous field	Moves the cursor to the previous enterable field.
Previous record	Moves the cursor to the previous record in the current block.
Print	Writes the current screen to a file and asks if you want to print it.
Redisplay page	Refreshes the screen.
Right	Moves the cursor one character to the right (within a field or a line).

Section 3
Function Keys

4. Logging On and Off

Logging On

Before attempting to log on, ensure that the GTCC LLW Data Base is properly installed. Refer to Section 2, Getting Started.

The following describes logging onto the GTCC LLW Data Base.

1. At the screen prompt **C:\>**:
 - If you are using IBM models 70, 80, or 90, type **cd c:\3c523** and press <ENTER> (this changes the directory). To execute the GTCC LLW system, type **3c523** and press <ENTER>.
 - If you are using an IBM AT, XT, Compaq, or other Industry Standard Architecture (ISA) or Extended Industry Standard Architecture (EISA) machine, type **cd c:\3c501** and press <ENTER> (this changes the directory). To execute the GTCC LLW system, type **3c500** and press <ENTER>.

The prompt **C:\>** should appear again after the TCP/IP software has been started.

2. Type **tnvt boink1** and press <ENTER>.
3. At **login:**, type in your userid and press <ENTER>.
4. At **password:**, type in your password and press <ENTER>. The prompt **/u/users/userid>** should appear.

5. Type **gtccstart** and press <ENTER>.
6. The GTCC LLW main menu will appear on the screen, similar to Figure 2.

```

      *-----*
      *  MAIN MENU  *
      *-----*
*-----*
*  0  Exit
*  1  Select or Copy a Scenario
*  2  Edit Scenario
*  3  Project on Scenario
*  4  Report on Projections
*  5  Query Projections to Screen
*  6  Delete Scenario
*  7  Master User Edit
*-----*
Selection:  _

```

Figure 2. GTCC LLW Data Base - Main Menu

Logging Off

To log off of the GTCC LLW Data Base:

1. Return to the GTCC LLW main menu (Figure 2).

Return to the GTCC LLW main menu from most submenus by repeatedly typing **0** or pressing **Exit** until you reach the **/u/users/userid>** prompt.

2. At the GTCC LLW main menu, type **0** and press **<ENTER>**.
3. Type **exit** or **logout** and press **<ENTER>**.

Section 4
Logging On/Off

5. Select or Copy A Scenario

You must select a scenario before you can perform any other options in the GTCC LLW Data Base.

1. To select or copy a scenario, type **1** and press **<ENTER>** from the main menu (see Figure 2, page 14). The following screen will appear.

The screenshot shows a terminal window with a title bar 'SELECT OR COPY SCENARIO'. Inside the window, there is a list of options: '0 Exit', '1 Select Scenario', and '2 Copy Scenario'. Below the list is a prompt 'Selection: _' with a cursor. The window is enclosed in a rectangular border with asterisks at the corners.

```

*-----*
| SELECT OR COPY SCENARIO |
|-----|
| 0   Exit                |
| 1   Select Scenario     |
| 2   Copy Scenario       |
| Selection: _            |
|-----|
*-----*

```

Figure 3. Select or copy a scenario menu.

2. For information on selecting a scenario, go to page 18.
For information on copying a scenario, go to page 22

Select A Scenario

From this menu you can select and then either edit or project on a scenario.

1. To select a scenario, type **1** and press **<ENTER>** from the select or copy a scenario menu. The following screen (Figure 4) will appear.
2. Use the up and down arrow keys to move to a desired selection. The current record will be highlighted.

***** LIST OF SCENARIOS *****

NAME	TYPE	DESCRIPTION
— BASE85B	BASE	1985 SURVEY DATA -BASE CASE - BASE FACTOR
— LOW85L	LOW	1985 SURVEY DATA - LOW CASE - LOW FACTOR
— HIGH85H	HIGH	1985 SURVEY DATA - HIGH CASE - HIGH FACTOR
— SHOPTST	BASE	1985 SURVEY DATA - BASE CASE - BASE FACTOR
— SHOPTST1	BASE	1985 SHOPTST DATA FOR NULLS
— SHOPTST2	BASE	SHOPTST FOR ZEROS
— ACCEPTST	BASE	1985 SURVEY DATA - BASE CASE - BASE FACTOR
—		
—		
—		
—		
—		
—		
—		
—		
—		

<Enter> - Selects the scenario to be copied<Up/Down> - to new selection

Figure 4. Select a scenario menu.

3. Press <ENTER> to select a scenario. The following screen should appear (Figure 5).

The screenshot shows a terminal window with a title bar that reads "***** DISPLAY SCENARIO *****". Inside the window, the following text is displayed:

```
SCENARIO NAME      BASE85B
SCENARIO DESCRIPTION 1985 SURVEY DATA - BASE CASE - BASE FACTOR
SCENARIO TYPE (Low, Base or High) BASE

START YEAR 1985
STOP YEAR 1995

EXIT to quit
ENTER to Continue _
```

Figure 5. Display scenario menu.

4. Press <ENTER> to commit the selection. The following screen will appear (Figure 6).

Figure 6. Continue editing scenario screen.

5. If you want to edit the scenario, type **Y**. This will take you directly to submenu 2, Edit Scenario, discussed in Section 6, page 27.

If you do not want to edit the scenario, type **N** and the screen shown in Figure 7 will appear.

DO YOU WANT TO PROJECT ON THIS SCENARIO? _

Figure 7. Continue projecting on scenario screen.

If you want to project on the scenario, type **Y**. This will take you directly to submenu 9, Project On This Scenario, discussed in Section 7, page 47.

If you do not want to project on the scenario, type **N** and exit this submenu.

Copy a Scenario

This subsection describes how to copy a scenario.

1. Type **2** from the Select or Copy a Scenario submenu and press <ENTER>. The following screen will appear (Figure 8).

***** GET NEW NAME *****

Enter a new name for the scenario: TEST

** NOTE - You must enter a new name.

Enter to commit the new scenario name
ListVal - For list of old scenario names
Press List of Values to view existing scenario names.

Figure 8. Get new name screen.

2. Type in a new name and press <ENTER>. (You cannot use a name from a current scenario.)

To see the list of current scenarios, as shown in Figure 9, press **List of Values**.

***** LIST SCENARIO NAMES *****

Name
— BASE85B
— LOW85L
— HIGH85H
— SHOPTEST
— SHOPTST1
— SHOPTST2
— ACCEPTST
— _____
— _____
— _____
— _____
— _____
— _____
— _____
— _____

<Enter> - return from this screen<Up/Down> - move highlight

Figure 9. List of scenario names.

Press <ENTER> to exit. The following screen will appear (see Figure 10).

Section 5
Select or Copy a Scenario

***** LIST OF SCENARIOS *****

NAME	TYPE	DESCRIPTION
=> BASE85B	BASE	1985 SURVEY DATA - BASE CASE - BASE FACTOR
— LOW85L	LOW	1985 SURVEY DATA - LOW CASE - LOW FACTOR
— HIGH85H	HIGH	1985 SURVEY DATA - HIGH CASE - HIGH FACTOR
— SHOPTST	BASE	1985 SURVEY DATA - BASE CASE - BASE FACTOR
— SHOPTST1	BASE	1985 SHOPTST DATA FOR NULLS
— SHOPTST2	BASE	SHOPTST FOR ZEROS
— ACCEPTST	BASE	1985 SURVEY DATA - BASE CASE - BASE FACTOR
—		
—		
—		
—		
—		
—		
—		
—		
—		

<Enter> - Selects the scenario to be copied
<Up/Down> - to new selection

Figure 10. List of scenarios.

3. Use the up and down arrow keys to move to the desired scenario, and press <ENTER> to select a scenario. The following screen will appear (see Figure 11).

***** COPY A SCENARIO *****	
SCENARIO NAME	BASE85B
SCENARIO DESCRIPTION	1985 SURVEY DATA - BASE CASE - BASE FACTORS
SCENARIO TYPE (Low, Base or High)	BASE
START YEAR	1985
STOP YEAR	1995
EXIT to quit COMMIT to copy BASE85B to scenario TEST	

Figure 11. Copy scenario screen.

3. From the list of scenarios, press **Commit** to copy the highlighted scenario to the new name.

Press **Exit** to cancel the copy and return to the main menu.

Section 5
Select or Copy a Scenario

6. Edit Scenario

This section describes how to edit the tables that compose a scenario in the GTCC LLW Data Base.

1. After you have selected a scenario (see Section 5, page 17), type **2** from the main menu and press <ENTER>. The following screen will appear (Figure 12).

```
***** EDIT SCENARIO *****

Scenario
0 Exit
1 Waste Stream Volumes
2 Concentrations
3 Plant Information (Reactors)
4 Scenario Data
5 Plant Component Exposure
6 Sealed Source Information
7 Package Factors*
8 Concentration Average Factors*
9 Project On This Scenario

Selection: _

NOTE - Select each set of data you would like to edit.
* - Indicates Lookup Table
```

Figure 12. Edit scenario menu screen.

2. To make a selection, type any of the numbers for the presented selections and press <ENTER>. The following subsections describe the Edit Scenario selections in detail.

Waste Stream Volumes

1. From the Edit Scenario menu, type **1** and press <ENTER> to edit the waste stream volume. The following screen will appear (Figure 13).

```
SCENARIO NAME  BASE85B  7
*-----*
*  EDIT WASTE STREAM  *
*-----*
*
*  COMPONENT DESCRIPTION  ORGANIC LIQUID
*
*  PLANT NAME             AMRSHM
*
*  FIRST YEAR             1985__
*
*  STREAM DURATION        40
*
*  INITIAL VOL (M^3)      .07
*  (unpackaged)
*
*  INCREMENTAL VOL (M^3)  .014
*  (unpackaged)
*
*  MATERIAL               _____
*
*  DENSITY                0
*
*
*  EXIT to QUIT
*  COMMIT to SAVE
```

Figure 13. Edit waste stream screen.

On the edit screens, one or more fields comprise the key that uniquely identifies that record. This key information may not be edited, as the record would lose its uniqueness.

The fields on this screen that may be modified are

- **First year** of the waste stream (default 1985)

- **Stream duration** (number of years the waste stream will continue to generate waste, 0–999)
 - **Initial volume** of the waste stream in cubic meters
 - **Incremental annual volume** of the waste stream in cubic meters
 - **Material** the waste stream is constructed of (alphanumeric string)
 - **Density** of the waste stream in kilograms/cubic meter.
2. Use the **Next field** key to move the field you want to modify.
 3. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
 4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Edit Concentrations

1. From the Edit Scenario menu, type **2** and press <ENTER> to edit the waste stream concentrations. The following screen will appear (Figure 14).

```
SCENARIO NAME  BASE85B

*-----*
*  EDIT CONCENTRATION  *
*-----*

*-----*
*  COMPONENT DESCRIPTION  ORGANIC LIQUID  *
*  PLANT NAME             AMRSHM          *
*  NUCLIDE CODE           Am-241          *
*  INITIAL CONCENTRATION   1              UNITS Ci/m3  *
*  INCREMENTAL CONCENTRATION .15          *
*-----*

EXIT to QUIT
COMMIT to SAVE
```

Figure 14. Edit concentration screen.

The fields that may be edited on this screen include

- **Nuclide code**, an alphanumeric string of six characters
- **Initial concentration** of the specified radionuclide activity per volume of the waste stream in curies per cubic meter units

- **Incremental concentration** of the radionuclide activity that will be added annually.
2. Use the **Next field** key to move the field you want to modify.
 3. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
 4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Plant Information (Reactors)

1. From the Edit Scenario menu, type **3** and press <ENTER> to edit plant (reactor) information. The following screen will appear (Figure 15).

SCENARIO NAME BASE858

EDIT REACTOR

PLANT NAME	ARK1	SITE CODE	ARK1
FIRST OPERATION YEAR	1974	AVERAGE LEVEL TO DATE	836
FUEL ARRAY SIZE	C	LICENSE YEAR	1974
MAX POWER LEVEL	836	NUMBER OPERATING YEARS	40
POWER RATING	836	PROJECTED OPERATING LEVEL	_____
REACTOR TYPE	PWR	YEAR PROJECTED OP LEVEL	_____
SUPPLIER CODE	BW		

EXIT to QUIT

COMMIT to SAVE

Figure 15. Edit reactor screen.

The fields that may be edited on this screen are

- **First operation year**, the first year the plant began operations.
- **Average level to date**, the average percentage of maximum capacity that the plant has run since

commencement of operations. At this time, the average level to date contains the power rating of the plant, as this data was not available.

- **Fuel array size**, the code that corresponds to the supplier that built the reactor, and the reactor type. See Table 2 below for a listing of fuel array size codes and their descriptions.
- **License year**, the year the operations license was issued to the plant.
- **Max power level**, the maximum power level at which the plant operates. This field contains the same number as the power rating.
- **Number of operating years**, the number of years the plant is expected to operate (usually 40 years).
- **Power rating**, the megawatt thermal rating for the plant.
- **Projected operating level**, the percentage of maximum power level at which the plant is estimated to operate.

Table 2. Reactor reference table.

Code	A	B	C	D	E	F
Supplier	GE	GE	BW	CE	WEST	WEST
Reactor type	BWR4	BWR6	PWR	PWR	PWR-mid size	PWR-large

- **Reactor type**, either BWR (boiling water reactor), PWR (pressurized water reactor), or HTGR (high temperature gas-cooled reactor).
 - **Years at projected operation level**, the number of years the reactor is expected to operate at the projected operating level.
 - **Supplier code**, the descriptor of the company that manufactured the reactor (CE-Combustion Engineering, BW-Babcock and Wilcox, GE-General Electric, or WEST-Westinghouse).
2. Use the **Next field** key to move the field you want to modify.
 3. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
 4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press <ENTER>.

Scenario Data

1. From the Edit Scenario menu, type **4** and press <ENTER> to edit scenario data. The following screen will appear (Figure 16).

SCENARIO NAME BASE85B	

----- EDIT SCENARIO -----	

SCENARIO DESCRIPTION 1985 SURVEY DATA - BASE CASE - BASE FACTORS	
SCENARIO TYPE (Low, Base or High) BASE	

START YEAR	1985
STOP YEAR	2040

EXIT to QUIT	
COMMIT to SAVE	

Figure 16. Edit scenario screen.

Only the start year and stop year fields may be edited on this screen. Scenarios may only be added by copying an existing scenario to ensure all associated records are created. **Insert record** and **Delete record** are disabled for this screen. To edit scenario type, you must delete the scenario and re-create it with a different scenario type. This method of editing the scenarios will prevent inconsistent scenario information. Use

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Edit Scenario

the Delete option (option 6 from the main menu, see page 57) to delete the scenario.

2. Use the **Next field** key to move the field you want to modify.
3. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Plant Component Exposure

1. From the Edit Scenario menu, press **5** and **<ENTER>** to edit plant component exposure. The following screen will appear (Figure 17).

```
SCENARIO NAME BASE85B

*-----*
*  EDIT PLANT COMPONENT  *
*-----*

*-----*
* COMPONENT DESCRIPTION  *
* PLANT NAME             *
* AVERAGE NUMBER YEARS  *
* EXPOSED                *
*-----*

EXIT to QUIT
COMMIT to SAVE
```

Figure 17. Plant component exposure screen.

Data for the plant component exposure screen is not available at this time. However, when that data becomes available, the **average number of years** will be the only field available for editing purposes.

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Edit Scenario

2. Use the **Next field** key to move the field you want to modify (in this option, you can only edit the field average number of years).
3. Enter the number of years the component was exposed to a radioactive flux field at the specified plant.
4. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Sealed Source Information

1. From the Edit Scenario menu, type **6** and press <ENTER> to edit sealed source information. The following figure will appear (Figure 18).

SCENARIO_NAME BASE85B

EDIT SEALED SOURCES

COMPONENT DESCRIPTION

GENERATOR

LICENSEE

MANUFACTURER

MODEL_NO

EXIT to QUIT
COMMIT to SAVE

Figure 18. Sealed source information screen.

Data for the Sealed Source Information screen is not available at this time. However, the following fields may be edited when the data becomes available:

- **Generator**, the name of the facility/company that generated the sealed source waste.

Section 6
Edit Scenario

- **Licensee**, the person licensed to possess the sealed source. The licensee may be the same entity as the generator.
 - **Manufacturer**, the person/company that manufactured the sealed source.
 - **Model no**, the model number of the sealed source.
2. Use the **Next field** key to move the field you want to modify.
 3. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
 4. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Package Factors

1. From the Edit Scenario menu, type **7** and press <ENTER> to edit package factors. The following screen will appear (Figure 19).

PACKAGE-FACTOR	COMPONENT-DESCRIPTION
1	BURNABLE POISON ROD ASSEMBLY
1	METAL SHAVINGS
2	BWR OUTER CONTROL ROD DRIVE FILTERS
2	PWR CRUD TANK FILTERS
2	PWR MISC. CARTRIDGE FILTERS
5	LPRM - LOCAL POWER RANGE MONITORS
5	PWR IN-CORE INSTRUMENTS
1	POISON CURTAIN
1	PRIMARY/SECONDARY SOURCE
5	BWR IN-CORE INSTRUMENTS
1	BWR TOP FUEL GUIDE
2	PWR CORE SHROUD AND FORMER PLATES
2	PWR LOWER CORE BARREL
1	PWR LOWER GRID PLATE

EXIT to QUIT
COMMIT to SAVE

Figure 19. Package factor screen.

The component description can only be modified through the Edit Component Option on the Master Edit Option (7). Package factor is the only field on this screen that may be modified.

2. Use the **Next field** key to move the field you want to modify.

Section 6
Edit Scenario

3. Enter the number that indicates the appropriate volume multiplier for the specified component. The package factor, multiplied by the unpackaged volume, will indicate the packaged volume of the waste stream once the waste stream has been processed and packaged.
4. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
5. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press <ENTER>.

Concentration Average Factors

1. From the Edit Scenario menu, type **8** and press <ENTER> to edit concentration average factors. The following screen will appear (Figure 20).

CONCENTRATION-FACTOR	COMPONENT-DESCRIPTION
.01	BURNABLE POISON ROD ASSEMBLY
.01	METAL SHAVINGS
.1	BWR OUTER CONTROL ROD DRIVE FILTERS
.01	PWR CRUD TANK FILTERS
.01	PWR MISC. CARTRIDGE FILTERS
.1	LPRM - LOCAL POWER RANGE MONITORS
.1	PWR IN-CORE INSTRUMENTS
.01	POISON CURTAIN
.01	PRIMARY/SECONDARY SOURCE
.01	BWR IN-CORE INSTRUMENTS
.01	BWR TOP FUEL GUIDE
.01	PWR CORE SHROUD AND FORMER PLATES
.01	PWR LOWER CORE BARREL
.01	PWR LOWER GRID PLATE

EXIT to quit
COMMIT to SAVE

Figure 20. Concentration average factors.

The concentration average factor is the only field that may be modified on this screen.

2. Use the **Next field** key to move the field you want to modify.
3. Enter a number that indicates the concentration averaging divisor for the specified component. Concentration averaging

is the act of combining components with different radionuclide activities to lessen the overall radionuclide activity of the packaged waste stream.

4. Press **Commit** to save your changes. Press **Exit** to quit this option and cancel your changes, if any.
5. Press **Exit** to quit. The system will ask you if you want to commit your changes before you quit. Type **Y** or **N** and press **<ENTER>**.

Project on This Scenario

To project on the scenario, type **9** and press <ENTER>. From here, you can follow the directions in Section 7, Project on Scenario, on page 47.

7. Project on Scenario

1. From the main menu, type **3** and press <ENTER> to make a projection based on scenario. The following screen will appear (Figure 21).

You can also project on scenario from the Select or Copy a Scenario and Edit Scenario options.

***** PROJECT ON SCENARIO *****	
SCENARIO NAME BASE85B	
SCENARIO DESCRIPTION 1985 SURVEY DATA - BASE CASE - BASE FACTORS	
SCENARIO TYPE (LOW, BASE OR HIGH) BASE	
START YEAR 1985	***** Projecting on this scenario
STOP YEAR 2040	* PLEASE NOTE: * will cause the deletion of
	***** all previous results having
	this scenario name.
EXIT to QUIT	
COMMIT to PROJECT	

Figure 21. Project on scenario screen.

2. Press **Commit** to project on scenario. Press **Exit** to cancel and return to the main menu. If you select to commit, the following screen should appear (Figure 22).

CALCULATIONS

Do you want to run volume calculations (Y/N): _

Do you want to run activity calculations (Y/N): _

EXIT to QUIT
COMMIT to start calculations

Figure 22. Run calculations screen.

3. If you want to run volume calculations, type **Y** and press <ENTER>. If not, type **N** and press <ENTER>.
4. If you want to run activity calculations, type **Y** and press <ENTER>. If not, type **N** and press <ENTER>.
5. Press **Commit** to exit to the main menu.

Note: Running either calculation may take a few minutes.

All calculated volumes and activities associated with this scenario will be overwritten with new calculations. Type **N** at both options to preserve the existing calculated volumes and activities.

8. Report on Projections

1. To report on projections, type **4** and press <ENTER> from the main menu. The following screen will appear (Figure 23).

```

*-----*
*  Report_On_Projections  *
*-----*

Scenario BASE85B
*-----*
0  Exit
1  Unpackaged Volume Report
2  Activity Report
3  Concentration Report
4  GTCC Limit Report
5  Packaged/Concen. Averaged
   Volume Report
6  GTCC Characterization Reports

   Selection:  _
*-----*
```

Figure 23. Report on projections screen.

2. Type the number of the report you want and press <ENTER>.
3. For options 1 to 5, the following screen will appear (Figure 24).

Get Report Start and Stop Years

Enter the name of the report file => volume.lst

(File name may be up to 8 characters, then a '.' and
a 3 character file extension such as 'lst' or 'out')

Enter the report Start Year => 1985
Enter the report Stop Year => 2055

NOTE: the Start Year and Stop Year MUST end in '5' or '0'
(e.g. 1990, 1995) as the reports are in five year increments.

Press <COMMIT> to accept default values
or
Enter new values - press <COMMIT> to SAVE changes

Figure 24. Get report screen.

Reports 1 to 5 report the volumes and activities in five-year increments.

These results are shown in the following format:

Non-activated metals waste
 Operational waste
 Decommissioning waste
Activated metals waste
 Operational waste
 Decommissioning waste

Example reports are contained in the appendix.

4. Enter new values and press **Commit** to save changes.

You can also accept the default values by pressing **Commit**.

For option 6, GTCC LLW Characterization Reports, the following screen will appear (Figure 25).

SCENARIO: BASE85B

FILE NAME	Report Selection
aHIGH85H.1st	0. Exit
act5yr.1st	1. Summarized Activity Results - 2035
vol35.1st	2. Five Year Incremented Activity Report
vol5pack.1st	3. Summarized Volume Results - 2035
HIGH2055.1st	4. Five Year Incremented Volume Report
	5. Calculated Volumes for 2055 - no data set required

Selection: _

* NOTE - These reports will overwrite current files

Figure 25. GTCC LLW characterization report screen.

1. Type the number of the desired report, and press **<ENTER>** to generate the report.
2. After the report has run, type **0** and press **<ENTER>** to exit to the main menu, or report additional projections.

Section 8
Report on Projections

3. The reports will be written to the user's home directory (/u/users/userid), with the specified report name.

NOTE: All existing report files will be overwritten with the new reports.

4. To print the report, you must use the 3Com or Excelan File Transfer Protocol (FTP) software to put the report file on your PC. You may then print the file to a printer using landscape print mode. This FTP process must be used until a server printer is installed and configured. At that time, an update to this page will be issued, instructing users how to print report files.

To transfer the report file to the PC:

1. Exit the GTCC LLW system by pressing **0** at the main menu. Log off the data base server (see Section 4, page).
2. From the DOS prompt, type **c:\ftp boink1**.
3. At the **userid:** prompt, enter the userid and press <ENTER>. Type the password and press <ENTER>.
4. Type **get <filename>** and press <ENTER>. This command gets the report from the server and transfers the file to the PC.

To transfer many files at one time, type **c:\mget <filenames>**, where filenames may include wildcard characters such as *.Rpt. The user will then be prompted for default PC filenames. Press <ENTER> to accept the default filenames. The files will be placed in the current directory on the PC.

Refer to the 3Com or Excelan documentation or the system administrator for more information.

9. Query Projections to Screen

You must first select a scenario before you can query projections to screen (see Section 5, page 17).

1. To query projections to screen, type **5** and press <ENTER>. The following screen will appear (Figure 26).

Scenario BASE85B		***** B_VOLUME_RESULTS *****				
		Plant		Unpacked	Packed	Concen. Avg.
Component Description		Name	Year	Volume	Volume	Volume
PWR CORE SHROUD AND FORMER PLA	OCONE3	2020	1.470000	2.94000	2.94000005	
PWR CORE SHROUD AND FORMER PLA	OCONE3	2025	1.470000	2.94000	2.94000005	
PWR CORE SHROUD AND FORMER PLA	OCONE3	2030	1.470000	2.94000	2.94000005	
PWR CORE SHROUD AND FORMER PLA	OCONE3	2035	1.470000	2.94000	2.94000005	
PWR CORE SHROUD AND FORMER PLA	OCONE3	2040	1.470000	2.94000	2.94000005	
PRIMARY/SECONDARY SOURCE	OCONE3	1985	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	1990	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	1995	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2000	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2005	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2010	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2015	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2020	.0027700	.002770	.002770000	
PRIMARY/SECONDARY SOURCE	OCONE3	2025	.0027700	.002770	.002770000	

Figure 26. Query projections to screen.

2. Use the up and down arrow keys to move to a desired data set, and press **Commit** to view projected activities. The following screen will appear (Figure 27).

Press **Exit** to quit this option and return to the main menu.

Section 9
Query Projections to Screen

NOTE: These query activities may take a few minutes, as many records are searched for the results.

Scenario BASE85B ===== B_ACTIVITY_RESULTS =====					
Description	Plant	Nuclide	Year	Activity	Loss
ORGANIC LIQUID	AMRSHM	Cm-242	1985	.206938311	.793061673
ORGANIC LIQUID	AMRSHM	Cm-242	1990	.000078531	.000300961
ORGANIC LIQUID	AMRSHM	Cm-242	1995	.000000029	.000000114
ORGANIC LIQUID	AMRSHM	Cm-242	2000	.000000000	.000000000
ORGANIC LIQUID	AMRSHM	Cm-242	2005	.000000000	.000000000
ORGANIC LIQUID	AMRSHM	Cm-242	2010	.000000000	.000000000
ORGANIC LIQUID	AMRSHM	Cm-242	2015	.000000000	.000000000
ORGANIC LIQUID	AMRSHM	Cm-242	2020	.000000000	.000000000
ORGANIC LIQUID	AMRSHM	Cm-242	2025	8.90178121	3.41148132
ORGANIC LIQUID	AMRSHM	Cm-242	2030	3.37816975	1.29463552
ORGANIC LIQUID	AMRSHM	Cm-242	2035	1.28199396	4.91306014
ORGANIC LIQUID	AMRSHM	Cm-242	2040	4.86508546	1.86447483
ORGANIC LIQUID	AMRSHM	Pu-238	1985	.004949126	.000007868
ORGANIC LIQUID	AMRSHM	Pu-238	1990	.000955212	.000007563
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Figure 27. Volume results screen.

3. Press **Exit** to return to the main menu.

10. Delete Scenario

1. From the main menu, type **6** and press <ENTER>. The following screen should appear (Figure 28).

To select a scenario, see Section 5, page 17.

Figure 28. Delete scenario screen.

2. Press **Commit** to delete the data set. **NOTE:** Upon pressing **Commit**, all data associated with the selected data set will be destroyed! Please review the data set name and the delete decision carefully before pressing **Commit**.

Section 10
Delete Scenario

Press **Exit** to cancel the delete option and return to the main menu.

11. Master User Edit

Only system administrators have access to this option. Should data contained in the master edit tables need to be modified, please submit notification via internal company memo to the GTCC LLW Program Manager and/or the GTCC LLW Data Base Administrator.

12. Appendix

GTCC Packaged Waste Volumes - 2055

TYPE	VENDOR	TYPE	COMPONENT	UNPACKAGED VOLUME	PACKAGED VOLUME	CONCENTRATION AVERAGED VOLUME
BMR	GE	D	BMR CORE SHROUD	1.29E+02	3.46E+02	3.86E+02
			BMR FULL SYSTEM FUEL-IN RESINS	1.13E+02	1.13E+02	1.13E+02
			BMR INNER CONTROL ROD DRIVE FILTERS	3.45E+01	1.38E+00	1.38E+00
			BMR OUTER CONTROL ROD DRIVE FILTERS	1.54E+01	6.17E+01	6.17E+01
			BMR UNDERWATER VACUUM FILTERS	2.27E+01	2.27E+01	2.27E+01
			CARTRIDGE FILTER-OPERATIONAL	5.80E+01	2.32E+00	2.32E+00
			CONTROL ROD BLADES - NOT CONTROL CELL	1.20E+02	1.20E+03	1.20E+03
			CONTROL ROD ROLLER BEARINGS	1.42E+04	1.42E-04	1.42E-04
			LPRM - LOCAL POWER RANGE MONITORS	2.63E+01	2.63E+02	2.63E+02
			POISON CURTAIN	6.78E-03	6.78E-03	6.78E-03
			SRM DRY TUBES - SOURCE RANGE MONITORS	5.80E+00	5.80E+01	5.80E+01
			*****	*****	*****	*****
			sum	4.33E+02	2.10E+03	2.10E+03

PWR	BW	D	PWR CORE SHROUD AND FORMER PLATES	4.33E+02	2.10E+03	2.10E+03
			PWR FULL SYSTEM FUEL-IN RESINS	1.03E+01	3.09E+01	3.09E+01
			PWR LOWER CORE BARREL	2.97E+01	2.97E+01	2.97E+01
			CARTRIDGE FILTER-OPERATIONAL	1.53E+01	4.59E+01	4.59E+01
			CONTROL ROD DRIVE	1.80E-01	7.20E-01	7.20E-01
			FLUX WIRE	3.20E-02	3.20E-02	3.20E-02
			METALS-OPERATIONS	4.00E-01	4.00E-01	4.00E-01
			PRIMARY/SECONDARY SOURCE	3.80E-02	3.80E-02	3.80E-02
			PWR CRUD TANK FILTERS	1.25E-02	1.25E-02	1.25E-02
			PWR IN-CORE INSTRUMENTS	3.15E+00	1.26E+01	1.26E+01
			PWR MISC. CARTRIDGE FILTERS	5.30E+00	5.30E+01	5.30E+01
			*****	*****	*****	*****
			sum	1.80E+01	7.19E+01	7.19E+01

CE		D	PWR CORE SHROUD AND FORMER PLATES	8.23E+01	2.45E+02	2.45E+02
			PWR FULL SYSTEM FUEL-IN RESINS	3.32E+01	9.95E+01	9.95E+01
			PWR LOWER CORE BARREL	6.36E+01	6.36E+01	6.36E+01
			CONTROL ROD DRIVE	1.23E+02	3.69E+02	3.69E+02
			FLUX WIRE	7.40E-01	7.40E-01	7.40E-01
			METALS-OPERATIONS	6.00E-02	6.00E-02	6.00E-02
			PRIMARY/SECONDARY SOURCE	3.00E-01	3.00E-01	3.00E-01
			PWR IN-CORE INSTRUMENTS	1.02E-01	1.02E-01	1.02E-01
			PWR MISC. CARTRIDGE FILTERS	1.22E+01	1.22E+02	1.22E+02
			THIMBLE PLUGS OR ASSEMBLY	3.12E+01	1.25E+02	1.25E+02
			*****	*****	*****	*****
			sum	4.00E-02	1.20E+00	1.20E+00

WEST		D	PWR CORE SHROUD AND FORMER PLATES	2.65E+02	7.82E+02	7.82E+02
			PWR FULL SYSTEM FUEL-IN RESINS	8.93E+01	2.68E+02	2.68E+02
			PWR LOWER CORE BARREL	2.89E+02	2.29E+02	2.29E+02
			CARTRIDGE FILTER-OPERATIONAL	1.98E+02	5.95E+02	5.95E+02
			CONTROL ROD DRIVE	4.20E-02	1.68E-01	1.68E-01
			METALS-OPERATIONS	1.72E+01	1.72E+01	1.72E+01
			PRIMARY/SECONDARY SOURCE	1.25E+00	1.25E+00	1.25E+00
			PWR IN-CORE INSTRUMENTS	1.21E+00	1.21E+00	1.21E+00
			PWR MISC. CARTRIDGE FILTERS	5.94E+00	5.94E+01	5.94E+01
			THIMBLE PLUGS OR ASSEMBLY	1.14E+02	4.55E+02	4.55E+02
			*****	*****	*****	*****
			sum	4.44E+00	1.33E+02	1.33E+02

			sum	6.60E+02	1.76E+03	1.76E+03

			sum	1.01E+03	2.79E+03	2.79E+03
			COMPACTIBLE TRASH-DECOMMISSION	4.20E+01	4.20E+01	4.20E+01
			CARTRIDGE FILTER-OPERATIONAL	2.30E+01	9.20E+01	9.20E+01
			COMPACTIBLE TRASH-OPERATIONS	9.96E+01	9.96E+01	9.96E+01
			CONTAMINATED EQUIPMENT-OPERATIONS	2.33E+01	2.33E+01	2.33E+01
			CONTROL ROD BLADES - NOT CONTROL CELL	2.60E-02	2.60E-01	2.60E-01

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GTCC Packaged Waste Volumes - 2035

TYPE	VENDOR	COMPONENT	UNPACKAGED VOLUME	PACKAGED VOLUME	CONCENTRATION AVERAGED	VOLUME
BWR	GE	BWR CORE SHROUD	1.29E+02	2.57E+02		2.57E+02
		BWR FULL SYSTEM	1.13E+02	1.13E+02		4.53E+00
		BWR INNER CONTR	2.55E-01	5.09E-01		1.02E-01
		BWR OUTER CONTR	1.11E+01	2.22E+01		4.4E+00
		BWR UNDERWATER	1.68E+01	1.68E+01		6.71E-01
		CARTRIDGE FILTE	5.80E-01	1.16E+00		1.16E+00
		CONTROL ROD BLA	8.33E+01	4.41E+02		1.77E+02
		CONTROL ROD ROL	1.42E-04	1.42E-04		1.42E-04
		LPWM - LOCAL FO	1.93E+01	9.57E+01		1.29E+01
		POISON CURTAIN	6.78E-03	6.78E-03		6.78E-03
		SRM DRY TUBES -	4.26E+00	2.13E+01		2.13E+00

	sum		3.82E+02	9.70E+02		4.60E+02
PHR	BW	CARTRIDGE FILTE	3.82E+02	9.70E+02		4.60E+02
		CONTROL ROD DRI	1.80E-01	3.60E-01		3.60E-01
		FLUX WIRE	3.20E-02	3.20E-02		3.20E-02
		METALS-OPERATIO	4.00E-01	4.00E-01		4.00E-01
		PRIMARY/SECONDA	3.80E-02	3.80E-02		3.80E-02
		PWR CORE SHROUD	1.13E-02	1.13E-02		1.13E-02
		PWR CRUD TANK F	1.03E+01	2.06E+01		2.06E+01
		PWR FULL SYSTEM	2.32E+00	4.64E+00		1.85E-01
		PWR IN-CORE INS	2.97E+01	2.97E+01		1.19E+00
		PWR MISC. CARTR	3.90E+00	1.95E+01		2.60E+00

	sum		1.32E+01	2.64E+01		1.06E+00
CE		CONTROL ROD DRI	6.01E+01	1.02E+02		2.65E+01
		FLUX WIRE	7.40E-01	7.40E-01		7.40E-01
		METALS-OPERATIO	6.00E-02	6.00E-02		6.00E-02
		PRIMARY/SECONDA	3.00E-01	3.00E-01		3.00E-01
		PWR CORE SHROUD	7.47E-02	7.47E-02		7.47E-02
		PWR FULL SYSTEM	3.32E+01	6.63E+01		6.63E+01
		PWR IN-CORE INS	6.36E+01	6.36E+01		2.54E+00
		PWR MISC. CARTR	9.17E+00	4.59E+01		6.11E+00
		THIMBLE PLUGS O	2.30E+01	4.59E+01		1.84E+00

	sum		4.00E-02	8.00E-01		.00E+00
WEST		CARTRIDGE FILTE	1.30E+02	2.24E+02		7.80E+01
		CONTROL ROD DRI	4.20E-02	8.40E-02		8.40E-02
		METALS-OPERATIO	1.72E+01	1.72E+01		1.72E+01
		PRIMARY/SECONDA	1.25E+00	1.25E+00		1.25E+00
		PWR CORE SHROUD	1.15E+00	1.15E+00		1.15E+00
		PWR FULL SYSTEM	8.93E+01	1.79E+02		1.79E+02
		PWR IN-CORE INS	2.29E+02	2.29E+02		9.16E+00
		PWR MISC. CARTR	4.31E+00	2.15E+01		2.87E+00
		THIMBLE PLUGS O	8.50E+01	1.70E+02		6.80E+00

	sum		3.89E+00	7.78E+01		.00E+00
sum			4.31E+02	6.97E+02		2.17E+02
sum			6.21E+02	1.02E+03		3.22E+02
		CARTRIDGE FILTE	2.30E+01	4.60E+01		4.60E+01
		COMPACTIBLE TRA	4.20E+01	4.20E+01		4.20E+01
		CONTAMINATED EQ	9.96E+01	9.96E+01		9.96E+01
		CONTROL ROD BLA	2.33E+01	2.33E+01		2.33E+01
		DEWATERED ION E	2.60E-02	1.30E-01		5.20E-02
		FILTER MEDIA	5.00E+00	5.00E+00		5.00E+00
		METAL SHAVINGS	9.30E+00	9.30E+00		9.30E+00

	sum		5.00E+00	5.00E+00		5.00E+00

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GTCC Packaged Waste Volumes - 2035

TYPE	VENDOR	COMPONENT	UNPACKAGED VOLUME	PACKAGED VOLUME	CONCENTRATION AVERAGED VOLUME
		METALS-OPERATIO	2.95E+00	2.95E+00	2.95E+00
		MIXED-OXIDE FUE	4.15E+00	4.15E+00	4.15E+00
		NONCOMPACTIBLE	1.03E+01	1.03E+01	1.03E+01
		ORGANIC LIQUID	6.22E+00	6.22E+00	6.22E+00
		SOLIDIFIED RESI	1.60E+01	1.60E+01	1.60E+01
	*****	*****			
	SUM		2.47E+02	2.70E+02	2.70E+02

SUM			2.47E+02	2.70E+02	2.70E+02

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REA P COMPONENT		Greater Than Class C PACKED VOLUME REPORT					
		1985	1990	1995	2000	2005	2010
BWR	D BWR CORE SHROUD	5.78E+00	5.78E+00	5.78E+00	1.16E+01	1.16E+01	1.73E+01
	BWR FULL SYSTEM FUEL-IN RESINS	2.98E+00	2.98E+00	2.98E+00	2.98E+00	5.96E+00	5.96E+00
*****		*****					
	BWR INNER CONTROL ROD DRIVE FILTERS	5.78E+00	8.76E+00	8.76E+00	1.45E+01	1.75E+01	2.33E+01
	BWR OUTER CONTROL ROD DRIVE FILTERS	1.07E-01	1.66E-01	2.31E-01	2.95E-01	3.59E-01	4.19E-01
	BWR UNDERWATER VACUUM FILTERS	4.76E+00	7.33E+00	1.01E+01	1.30E+01	1.57E+01	1.83E+01
	CARTRIDGE FILTER-OPERATIONAL	3.53E+00	5.47E+00	7.59E+00	9.72E+00	1.18E+01	1.38E+01
	CONTROL ROD BLADES - NOT CONTROL CELL	5.80E-01	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00
	CONTROL ROD ROLLER BEARINGS	8.58E+01	1.35E+02	1.92E+02	2.48E+02	3.03E+02	3.56E+02
	LPRM - LOCAL POWER RANGE MONITORS	8.49E-05	1.42E-04	1.42E-04	1.42E-04	1.42E-04	1.42E-04
	POISON CURTAIN	2.13E+01	3.23E+01	4.46E+01	5.66E+01	6.85E+01	7.99E+01
	SRM DRY TUBES - SOURCE RANGE MONITORS	6.78E-03	6.78E-03	6.78E-03	6.78E-03	6.78E-03	6.78E-03
	*****	5.40E+00	7.67E+00	1.02E+01	1.27E+01	1.52E+01	1.76E+01
*****		*****					
		1.21E+02	1.90E+02	2.66E+02	3.42E+02	4.16E+02	4.87E+02
*****		*****					

REA P COMPONENT		Greater Than Class C PACKED VOLUME REPORT			
		2015	2020	2030	2035
BWR D	BWR CORE SHROUD	7.51E+01	1.47E+02	1.53E+02	2.42E+02
BWR D	BWR FULL SYSTEM FUEL-IN RESINS	3.28E+01	6.85E+01	7.15E+01	1.04E+02
*****		*****			
O	BWR INNER CONTROL ROD DRIVE FILTERS	1.08E+02	2.16E+02	2.24E+02	3.46E+02
O	BWR OUTER CONTROL ROD DRIVE FILTERS	4.61E-01	4.86E-01	5.06E-01	5.09E-01
O	BWR UNDERWATER VACUUM FILTERS	2.01E+01	2.12E+01	2.20E+01	2.22E+01
O	CARTRIDGE FILTER-OPERATION	1.52E+01	1.60E+01	1.67E+01	1.68E+01
O	CONTROL ROD BLADES - NOT CONTROL CELL	1.16E+00	1.16E+00	1.16E+00	1.16E+00
O	CONTROL ROD ROLLER BEARINGS	3.94E+02	4.19E+02	4.39E+02	4.41E+02
O	LFPH - LOCAL POWER RANGE MONITORS	1.42E-04	1.42E-04	1.42E-04	1.42E-04
O	POISON CURTAIN	8.77E+01	9.24E+01	9.60E+01	9.67E+01
O	SRM DRY TUBES - SOURCE RANGE MONITORS	6.78E-03	6.78E-03	6.78E-03	6.78E-03
*****		*****			
S		1.93E+01	2.04E+01	2.12E+01	2.13E+01
*****		*****			
S		5.38E+02	5.70E+02	5.96E+02	6.00E+02

REA P COMPONENT		Greater Than Class C PACKED VOLUME REPORT				
		2015	2020	2035	2030	2035
PWR D PWR CORE SHROUD AND FORMER PLATES						
PWR FULL SYSTEM FUEL-IN RESINS		3.17E+01	1.24E+02	1.55E+02	2.33E+02	2.65E+02
*****		4.66E+01	1.61E+02	2.04E+02	2.88E+02	3.22E+02

O CARTRIDGE FILTER-OPERATIONAL		7.83E+01	2.85E+02	3.58E+02	5.21E+02	5.88E+02
CONTROL ROD DRIVE		4.44E-01	4.44E-01	4.44E-01	4.44E-01	4.44E-01
FLUX WIRE		1.80E+01	1.80E+01	1.80E+01	1.80E+01	1.80E+01
METALS-OPERATIONS		4.60E-01	4.60E-01	4.60E-01	4.60E-01	4.60E-01
PRIMARY/SECONDARY SOURCE		1.59E+00	1.59E+00	1.59E+00	1.59E+00	1.59E+00
PWR CRUD TANK FILTERS		1.21E+00	1.23E+00	1.24E+00	1.24E+00	1.24E+00
PWR IN-CORE INSTRUMENTS		4.59E+00	4.64E+00	4.64E+00	4.64E+00	4.64E+00
PWR MISC. CARTRIDGE FILTERS		7.89E+01	8.35E+01	8.64E+01	8.69E+01	8.69E+01
THIMBLE PLUGS OR ASSEMBLY		2.13E+02	2.29E+02	2.39E+02	2.42E+02	2.42E+02
*****		7.45E+01	7.66E+01	7.81E+01	7.86E+01	7.86E+01

*****		3.93E+02	4.15E+02	4.30E+02	4.34E+02	4.34E+02

REA P COMPONENT		Greater Than Class C PACKED VOLUME REPORT				
		2015	2020	2035	2030	2035
D COMPACTIBLE TRASH-DECOMMISSION		4.20E+01	4.20E+01	4.20E+01	4.20E+01	4.20E+01
* *****		4.20E+01	4.20E+01	4.20E+01	4.20E+01	4.20E+01
O CARTRIDGE FILTER-OPERATIONAL		4.60E+01	4.60E+01	4.60E+01	4.60E+01	4.60E+01
COMPACTIBLE TRASH-OPERATIONS		9.69E+01	9.84E+01	9.96E+01	9.96E+01	9.96E+01
CONTAMINATED EQUIPMENT-OPERATIONS		2.15E+01	2.25E+01	2.33E+01	2.33E+01	2.33E+01
CONTROL ROD BLADES - NOT CONTROL CELL		1.30E-01	1.30E-01	1.30E-01	1.30E-01	1.30E-01
DEWATERED ION EXCHANGE RESIN		5.00E+00	5.00E+00	5.00E+00	5.00E+00	5.00E+00
FILTER MEDIA		7.50E+00	8.50E+00	9.30E+00	9.30E+00	9.30E+00
METAL SHAVINGS		5.00E+00	5.00E+00	5.00E+00	5.00E+00	5.00E+00
METALS-OPERATIONS		2.35E+00	2.68E+00	2.95E+00	2.95E+00	2.95E+00
MIXED-OXIDE FUEL PELLETS/RODS		4.15E+00	4.15E+00	4.15E+00	4.15E+00	4.15E+00
NONCOMPACTIBLE TRASH-OPERATIONS		1.02E+01	1.02E+01	1.03E+01	1.03E+01	1.03E+01
ORGANIC LIQUID		5.10E+00	5.72E+00	6.22E+00	6.22E+00	6.22E+00
SOLIDIFIED RESIN		1.60E+01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
* *****		2.20E+02	2.24E+02	2.28E+02	2.28E+02	2.28E+02
S						

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