

Oracle Utilities Rate Management

Revenue Management User's Guide

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Chapter 1

Introduction to Oracle Utilities Revenue Management

This chapter provides a brief overview of Oracle Utilities Revenue Management and the forecasting process, including:

- **What Does Oracle Utilities Revenue Management Do?**
- **How Do You Work with Oracle Utilities Revenue Management?**
- **About Extended Block Rates**
- **Oracle Utilities Revenue Management Documentation Overview**

What Does Oracle Utilities Revenue Management Do?

Oracle Utilities Revenue Management can be used to forecast a utility's revenues at all levels of the organization—from entire operating companies to individual billing determinants within a rate schedule. The graphical interface is designed to allow the user to quickly define the parameters of a forecast and immediately view the results. Oracle Utilities Revenue Management can produce several different reports which in turn can be used for budgeting and marketing purposes.

Although some of the calculations which are performed behind the scenes are complicated, the premise of Oracle Utilities Revenue Management is fairly simple. After defining the internal organization, or *hierarchy*, of one or more operating companies to be used in the forecast, the user then provides the system with historical information for each of the rate schedules within the forecast hierarchy. This historical information is provided in the form of Bill Frequency Tables (BFTs). A BFT is a file that can be created either with Oracle Utilities Rate Management or by other external means. A BFT contains information about the number of customers and amount of billing determinant usage for a rate schedule over a defined period of time. This information is summarized into blocks for each of the billing determinants. For some rate schedules, additional historical information is required to calculate determinant usage for extended blocks.

Oracle Utilities Rate Management - Revenue Management uses the historical information supplied in the BFT to determine three types of allocation factors. First is the percentage of kWh and number of customers attributed to each rate schedule within a business class. Second is the linear relationship between kWh and any other billing determinants within each rate schedule. Last is an Ogive curve that represents the normalized accumulated usage with respect to the number of customers over the specified BFT blocking. This Ogive curve is used to calculate determinant usage for fixed-size blocks.

Next, forecasted billed kWh usage and number of customers for each business class within the forecast hierarchy is entered via a single text file. This forecast can be for any number of years. A file containing the net power supply forecasts for each jurisdiction within the forecast hierarchy can also be entered to provide information necessary to calculate unbilled revenue forecasts.

Oracle Utilities Revenue Management uses the forecasted information for each business class, along with the allocation factors determined from the historical information for each rate schedule, to calculate forecasted determinant usage for each pricing block within each billing determinant within each rate schedule in the forecast hierarchy. This forecasted determinant usage is then used, along with tariff information either entered by the user or obtained from the Oracle Utilities Data Repository via factors, to calculate actual forecasted revenue. Both the resultant billing determinant usage and revenues can be summarized at the business class, jurisdiction, or operating company levels via the various reports provided by the application. Forecasted information for individual rate schedules, business classes, or jurisdictions that span more than one operating company can also be summarized.

The application also allows for various factors to be associated with each rate schedule to account for other revenue sources such as fuel adjustments and tax surcharges. This information can also be summarized at the various levels of the forecast via the reports. Finally, unbilled revenue forecasts are also calculated using entered forecasted net power supply information along with the billed revenue calculations provided by the system.

Figure 1.1 - Basic elements of the forecast hierarchy

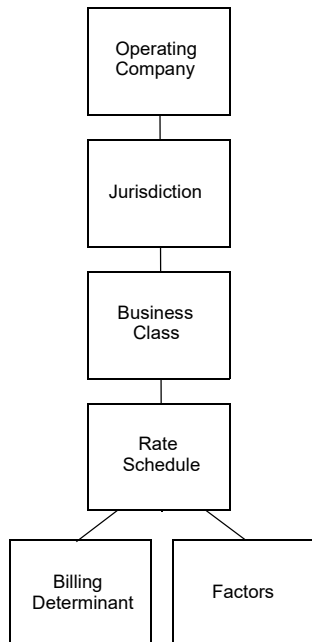
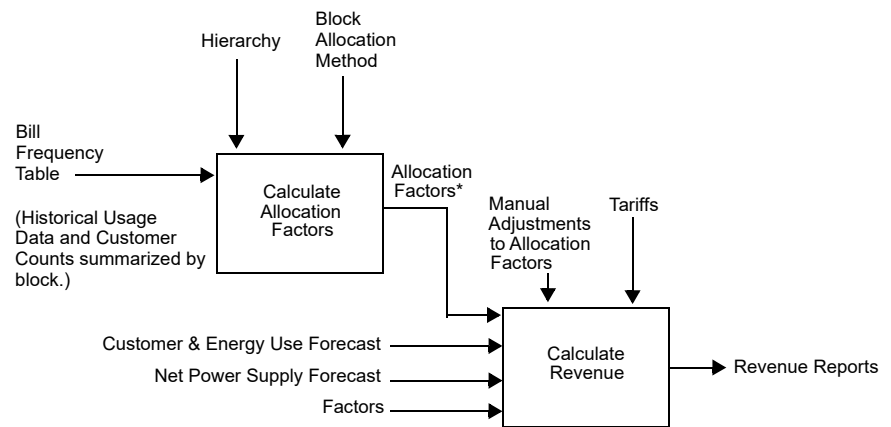


Figure 1.2 - Overview of the Forecasting Process

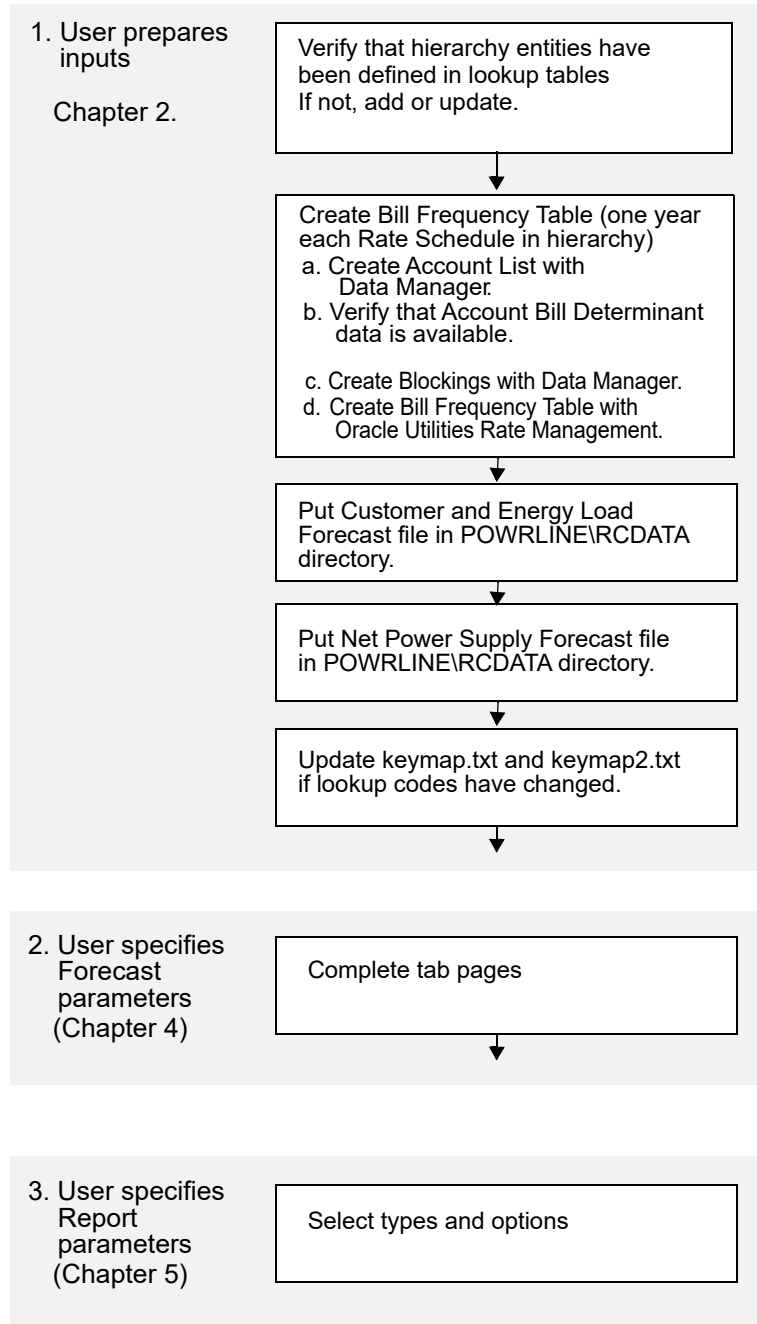


* Allocation factors include:

- Percentage of kWh and number of customers attributed to each rate schedule within a business class.
- Linear relationship between kWh and other billing determinants in rate schedule.
- Usage attributed to each pricing block.

How Do You Work with Oracle Utilities Revenue Management?

Below is a visual summary of the steps you'll follow to generate a forecast. These steps are explained in detail in chapters 2, 4, and 5.



About Extended Block Rates

Extended-block rates generally include any rate where a block size for one billing determinant is dependent on the value of another billing determinant. For fixed-block rates, Oracle Utilities Revenue Management uses Ogive curves—calculated from Bill Frequency Tables (BFTs)—to determine the distribution of forecasted usage over the blocks. However, because the block sizes in the BFTs are fixed, they are not suitable alone for rates that have variable blocks.

To accommodate extended-block rates, Oracle Utilities Revenue Management can calculate the historical averages using the actual determinant blockings as defined in the rate schedule (written in the Oracle Utilities Rules Language). Oracle Utilities Revenue Management uses the bill history information from the Oracle Utilities Data Repository together with the rate form to calculate the total summarized bill determinant blocking distributions. The total summarized bill determinant blocking distributions are then used by Oracle Utilities Revenue Management as a basis for calculating the historical averages for the rate schedule. Oracle Utilities Revenue Management applies either the Ogives or the Historical Averages method on a per block basis, as opposed to a per billing determinant basis.

When combined with BFTs, this approach supports rates that contain both fixed-size and extended blocks.

Important Note

Before you can use Oracle Utilities Revenue Management or any of its functions, you must first make sure that appropriate data and records have been created in the Oracle Utilities Data Repository. The instructions in this manual assume that these records exist. For more information about creating, updating, or editing records in the Oracle Utilities Data Repository, please refer to the *Data Manager User's Guide*.

Oracle Utilities Revenue Management Documentation Overview

In addition to the *Oracle Utilities Revenue Management User's Guide* (this book), Oracle Utilities Revenue Management also comes with a number of other manuals and documents. These are described briefly below.

Oracle Utilities Energy Information Platform User' Guide

The *Oracle Utilities Energy Information Platform User's Guide* contains describes how you work with the Oracle Utilities Energy Information Platform web -user interface.

Data Manager User's Guide

Data Manager is the tool you use to view, edit, and update records in the Oracle Utilities Data Repository. The *Data Manager User's Guide* explains how to use Data Manager to view and maintain data in the Oracle Utilities Data Repository.

Oracle Utilities Rules Language

The Oracle Utilities Rules Language is a powerful command language that defines business rules and specific items such as rate tariffs. The *Oracle Utilities Rules Language User's Guide* and *Oracle Utilities Rules Language Reference Guide* describe the Oracle Utilities Rules Language and how it is used with Oracle Utilities products.

Oracle Utilities Energy Information Platform Installation Guide

The *Oracle Utilities Energy Information Platform Installation Guide* contains installation information related to the Oracle Utilities Energy Information Platform.

Oracle Utilities Energy Information Platform Configuration Guide

The *Oracle Utilities Energy Information Platform Configuration Guide* contains configuration and system administration information related to the Oracle Utilities Energy Information Platform.

Chapter 2

Working with Oracle Utilities Revenue Management

This chapter describes how you work with the Oracle Utilities Revenue Management application, including:

- **Starting Oracle Utilities Revenue Management**
- **Oracle Utilities Revenue Management Menus**
- **Default Options**
- **Report Options**
- **Viewing and Printing Reports**
- **Using Online Help**
- **Creating and Opening Forecasts**
- **Navigating the Revenue Forecast Window**
- **Closing, Saving, and Deleting**

Starting Oracle Utilities Revenue Management

From the Windows Desktop

Depending upon how your system is configured, you can start Oracle Utilities Revenue Management using one of two methods:

- Double-click the Oracle Utilities Revenue Management icon, or
- Click the **Start** button in the lower-left corner of the Windows desktop. Then, select **Programs->Oracle Utilities->Oracle Utilities Revenue Management**.

Depending upon your system configuration (or if an error occurs during database initialization), the logon screen appears.

- User Name: the user ID for the database connection*
- Password: the password for the supplied user ID*
- Data Source Name: The data source name and provider for the database, in one of the following formats:

For Oracle databases:

```
"Data Source=<data_source>;LSProvider=ODP;"
```

where:

- <data_source> is Oracle TNS Name from the TNS_NAMES.ora file (typically located in the \\<machine>\oracle\network\admin directory)

* User Name and Password are optional—if you do not supply them, the UserID defaults to your Windows logon ID.

When you complete the fields and click **OK**, the Oracle Utilities Revenue Management desktop appears. You are now ready to begin.

From Another Oracle Utilities Application

You can start Oracle Utilities Revenue Management while working in another Oracle Utilities application program, such as Oracle Utilities Rate Management. From that program's desktop, select

Tools->Oracle Utilities Revenue Management. The Oracle Utilities Revenue Management desktop appears.

Note: If Oracle Utilities Revenue Management is not available on the Tools menu, contact your System Administrator. (The program must be added to the *.tls files.)

Oracle Utilities Revenue Management Menus

The Oracle Utilities Revenue Management menu provides access to all Oracle Utilities Revenue Management functions, as well as to all other Oracle Utilities products installed on your system. The following pages describe each option on each menu.

File Menu

New: Creates a new revenue forecast.

Open: Opens an existing revenue forecast.

Close: Closes an open report or revenue forecast window.

Save: Saves the current revenue forecast.

Save As...: Saves the current revenue forecast to a different file.

Export: Exports the contents of an open report window to a file.

Print: Prints the contents of an open report or graph window. See **Viewing and Printing Reports** on page 2-16 for more information.

Exit: Closes the Oracle Utilities Revenue Management application.

Edit Menu

Cut: Cuts value in an editable cell.

Copy: Copies a line of text that you have selected in a report, to the Clipboard where it is available for pasting into other applications such as Word.

Paste: Pastes value into an editable cell.

Undo: *Not applicable to Oracle Utilities Revenue Management.*

Redo: *Not applicable to Oracle Utilities Revenue Management.*

Add: *Not applicable to Oracle Utilities Revenue Management.*

Update: *Not applicable to Oracle Utilities Revenue Management.*

Delete: Deletes value in an editable cell.

Find - This option allows you to search for a word or words in an open report window. When you select this option (or press **F3**), the Find dialog opens. See **Viewing and Printing Reports** on page 2-16 for more information.

Find Next (Shift-F3) - This option finds the next instance of the word or words last entered in the Find dialog.

Find Previous (Ctrl-F3) - This option find the previous instance of the word or words last entered in the Find Dialog.

Go To (Ctrl-G) - This option opens the Go To tab on the Find dialog and allows you to go to a specific line in an open report window.

Browse Account: Examine information in the Oracle Utilities Data Repository for a selected account using the Browser.

Note: You must first highlight an Account ID in a report in order for this feature to be available.

View Account: Examine information in the Oracle Utilities Data Repository for a selected account using the Account-Centric View.

Note: You must first highlight an Account ID in a report in order for this feature to be available.

Refresh Cached Tables: If you have made changes to the Operating Company and/or Bill Determinants tables, you can select this option to display the changes in the Data Manager Account-Centric View or Browser.

Font: Allows you to change the font in an open report window. See **Viewing and Printing Reports** on page 2-16 for more information.

Revenue Forecast Menu

Reports: Generates the following reports. For more information concerning reports, see **Chapter 5: Reports and Other Output**.

- **Bill Determinants:** Total number of customers and usage for each selected rate schedule in the hierarchy.
- **Revenue Detail:** Forecast revenue by block and factor.
- **Revenue Summary:** Base and total revenue.
- **Revenue Comparison:** Base and total revenue, and percentage difference between current forecast and prior year forecast.
- **Unbilled Revenue:** Unbilled revenue and unbilled fuel revenue.

Corporate Model Output: Generates the Corporate Model Output File. See **Corporate Model Output File** on page 5-5 for more information.

Edit Unbundled Components: Specifies unbundled components. See **Unbundled Component Setup** on page 4-7 for more information.

Revenue Output Data File: Generates the Revenue Output Data File. See **Revenue Output Data File** on page 5-6 for more information.

Unbilled Revenue Output File: Generates the Unbilled Revenue Output File. See **Unbilled Revenue Output File** on page 5-8 for more information.

Setup kWh and kW...: Opens the Setup kWh and kW dialog. Select the appropriate kWh and kW Bill Determinants and click **OK**.

Refresh Factor Values: Updates and refreshes factor values stored in the Oracle Utilities Data Repository. See **Factor Refresh** on page 4-7 for more information.

View Menu

The View menu contains options for altering the view of reports. Note that the View menu is only available when an open report window is displayed.

Note: The contents of the View menu change when viewing graphs. See **Creating Graphs** on page 2-17 for more information.

Graph: Opens the Create Graph dialog and allows you to create a graph based data in the report. This option is only available if the data in the report can be graphed. See **Creating Graphs** on page 2-17 for more information.

Auto Vertical Scroll: Selecting this options causes the last page of the report to be displayed as the report progresses, if it is not checked then no automatic scrolling occurs.

Display Only Pages With Errors: Creates a new report window based on an open report window that contains only pages that contain errors. This option is only available if an open report window contains pages with errors.

Display Only Pages Without Errors: Creates a new report window based on an open report window that contains only pages that contain no errors. This option is only available if an open report window contains pages with errors.

Tools Menu

Options: This option provides you with options for tailoring Oracle Utilities Revenue Management to your needs and environment. See **Default Options** on page 2-6 for more information.

Display Toolbar: *Available in future release.* Displays the Oracle Utilities Revenue Management toolbar.

Customize: *Available in future release.* Make other programs accessible from the menu bar.

[application program]: Open another Oracle Utilities or user-supplied application.

Window Menu

Cascade: Overlap multiple open windows the desktop; provides largest view of active window.

Tile: Display multiple open windows side by side.

Arrange Icons: Organize icons on Oracle Utilities Revenue Management desktop.

Close All: Closes all open windows.

Help Menu

Help: Displays on-line help for currently-displayed window. See **Using Online Help** on page 2-18 for more information.

Help contents: Displays table of contents for on-line help. See **Using Online Help** on page 2-18 for more information.

About: Displays version number of software. Also displays the username, computer/network name, and database name.

Display Error Window: Displays database version, configuration settings, and error log. Especially useful when calling the HelpLine.

Default Options

The Options feature allows you to set your own default values for several frequently used parameters. You can set your preferred defaults via Data Manager or another Oracle Utilities product (such as Oracle Utilities Billing Component) and store them in the Oracle Utilities Data Repository. In that way, whenever you open a Oracle Utilities program, these values are automatically supplied—saving you the time and effort of defining them each and every time.

When you are working in any of the Oracle Utilities application programs, you can also override your defaults for individual work sessions, or even specific dialog boxes throughout the programs. Whenever you see the **Options** button on a dialog box, you can click it to open the Options box to override the defaults.

Available options include:

- **General Options**
- **Rate Analysis Options**
- **Billing Options**
- **Interval Data Source**
- **Interval Data Options**
- **Interval Data Merge**
- **Error Handling**
- **User Files**

How to set default options:

1. At the Desktop, select **Tools->Options**. Or, Click the **Options** button on the current active dialog box.
2. Set your options on each tab as desired.
3. When you have completed the tabs as desired, click **OK** to save the new settings as your defaults, replacing the previous settings. Any Oracle Utilities program you run will automatically use these defaults. If you click **Apply**, the result depends on how you opened the **Default Options** dialog:
 - If you opened the **Default Options** dialog from the main menu, your new settings apply to all of your work for remainder of your current session. The settings will revert to the original defaults when you quit the Oracle Utilities programs.
 - If you opened the **Default Options** dialog by selecting the Options button in a dialog box, your new settings apply to just the current job.

The next several pages contain detailed information about the Default Option tabs.

General Options

The General tab specifies a number of default values and formatting preferences used by the system.

Default Operating Company: Choose the default operating company for bill calculations and rate analyses.

Default Jurisdiction: Choose the default jurisdiction for bill calculations and rate analyses.

Account ID: Choose the default ID for bill calculations and rate analyses.

Minimum printed line width: The type size in printed reports is partially determined by the number of characters that you specify here. The recommended setting is 110 characters, which yields approximately 10 to 12 point type (depending upon your printer). If you do not supply a value here the programs automatically sizes the type based on the longest line in the report. So for example, if the longest line were 40 characters, the program would size the type so that the 40 characters filled the entire width of the page, which most likely would yield uncomfortably large type. On the other hand, if the longest line in the report is longer than the value you specify here, the value has no effect.

Default to landscape printing after this # of characters: If a line single line in a report contains this many characters, the report will default to landscape printing. This allows the user to print reports in landscape mode without having to manually change the mode in the printer's properties dialog box.

Display calculation time with date on each report page: The date/time is displayed on every page of every report. If this option is checked, the time is also displayed with the date.

Date Format: Your selection here dictates the format used to enter dates via the graphical user interface, and how they are displayed in reports. (This setting is not dependant upon, nor does it affect, how dates are stored by your database software.)

Your three options are:

- **MM/dd/yyyy hh:mm:ss:** Month-day-year, hours-minutes-seconds.
- **yyyy-MM-dd hh:mm:ss:** Year-month-day, hours-minutes-seconds.
- **Windows Regional Settings:** Default Options will draw from the **Date** tab of the **Regional Settings** Windows Control Panel.

Using the Windows Regional Settings, you will have greater flexibility in the formats available to you. You can set a 2-digit year (although the 4-digit, Y2K-compliant date will still be used internally), a European format (day-month-year), and so on.

Note: If you change the Windows Regional Settings while an application (Data Manager, Oracle Utilities Billing Component, etc.) is running, you must restart the application in order for the new settings to take effect.

Rate Analysis Options

The Rate Analysis tab specifies default values for processing rate schedules and running reports.

Default Rate Schedule: Choose a default rate schedule for calculating charges. This is the default schedule selected when running trial calculations.

Test Period: Can be any period, one month or greater. This period is used as the default time range for the Billing History Report, Special Events Report, and Trial Calculations.

Default Season Schedule: Select a season schedule for the calculations.

Note: If when running an analysis or calculation, the input rate form includes a statement that assigns a value to the SEASON_SCHEDULE_NAME identifier, the value in the rate form takes precedence over the Options selection.

Display Line Numbers: If this checkbox is checked, the Rules Language Editor and Rules Language Text Editor display line numbers at the beginning of each statement/line. Line numbers also appear in the Trial Calculation window.

Maximum number of Undo's allowed: This field sets the maximum number of Undos allowed in the Rules Language Editor. The default is 1.

Display 'Saved by' comments at end: If selected, the 'Saved by' comments inserted in rate schedules are inserted at the bottom of rate schedules instead of at the top. This option unselected by default.

Billing Options

The Billing tab specifies how billing information is displayed by the system.

Round Revenue: Specifies the precision of revenue values in reports. *This setting affects only values that have been assigned to revenue identifiers via an Assignment, All, or Block statement in the applicable rate form.* A value of **0** (zero) means don't round, **-1** means round to dollars, **-2** means round to tens of dollars, **1** to tens of cents, **2** to cents, and so on.

Currency displayed to n decimal places: Specifies the number of decimal places shown in reports for dollar values. It is usually set to be consistent with your choice for Round Revenue. A value of **0** (zero) means use the default (display cents), **1** means display tens of cents, **2** means display cents, **3** means display tenths of cents, **4** means display hundredths of cents, and so on.

Note: This setting applies only to Oracle Utilities Billing Component reports; Oracle Utilities Rate Management reports always display dollars with two decimal places (cents).

Billing Units displayed to n decimal places: Specifies the number of decimal places shown in reports for billing units.

Display midnight as 00:00:00 (not blank): Specifies whether or not a value (00:00:00) is displayed and printed when the time is midnight or unspecified.

If you leave this option unchecked (the default), the programs print and display the date without a time when *either* the time has not been specified or the time is midnight. For example, if either 12/01/1998 or 12/01/1998 00:00:00 were specified, the program would display 12/01/1998.

If you check this option, the programs print and display 00:00:00 when the time is either unspecified or midnight. For example, if either 12/01/1998 or 12/01/1998 00:00:00 were specified, the program would display 12/01/1998 00:00:00.

Interval Data Source

The Interval Data Source tab specifies the source of interval data used by the system.

Interval Data Database: Select a Type from the three options:

- **File:** Specify an interval data file. The **File** option below becomes active when this button is selected, allowing you to specify a file (and path) in the **File Name** field, or to **Browse** to a file.
- **Default:** Specifies that the default Interval Data Database identified in the LODESTAR.CFG File be used. See the *Oracle Utilities Energy Information Platform Installation and Configuration Guide* for more information about setting a default Interval Data Database.
- **Customer Database:** Specifies that interval data stored in the Oracle Utilities Data Repository be used. When this button is selected, a drop-down list appears listing all available interval data header tables. The default table is the Channel Cut Header (LSCHANNELCUTHEADER) table.

Export Records Overwritten by SAVE to File: This option saves interval data cuts from the Interval Database to an export file before they are overwritten by new cuts created by a Rules Language SAVE Statement. The full path and name of the file (including a valid extension) must be specified.

This option appends new cuts to the same file without overwriting previously exported cuts.

Interval Data Options

The Interval Data Options tab specifies how interval data is loaded and processed by the system.

Exclude intervals with quality less than: Specify a status code level that the interval data must meet or exceed in order to be included in the calculations. All interval values with a code less than your selection will be ignored by the programs.

The codes are listed in order of decreasing quality—alpha codes generally indicate that the data is acceptable; numeric codes indicate that the data is suspect and should be corrected..

Status Code	Classification of interval data
(blank)	Normal
A	Normal, alternate-recorded (e.g., hand-entered)
J	Data inserted by Oracle Utilities Load Analysis to correct outage
L	Default for data modified by Oracle Utilities Load Analysis Load Data Editor
M	Splice peak interval (estimated value)
N	Interruptible or curtailable load
P	Inserted outage
Q	Corrected outage
X	Cuts resulting from merging invalid data or from unrecognized status codes
Y	Reserved
1	Uncorrected outage
2	Non-normal (usually timing-pulse defects)

Status Code	Classification of interval data
5	Aggregated interval used in rolling format with partially missing or unavailable data
7	Marged, aggregated, or transformed interval with partially missing data
9	Missing

Day Start: Specify the time that your facility considers the beginning of the day—8:00 am or midnight. This setting pertains to the ROUNDATE Rules Language function.

Use in all day calculations: Check this box if you want the Day Start time to apply to all date calculations that round to a full day or higher.

Use interval end time when displaying time of the interval: Specifies whether the start- or end-times of intervals are displayed for the MAXDATE values in INTDVALUE and INTDTOUVALUE functions. If checked, the end-time is displayed. If unchecked, the start-time is displayed (the default).

Add Fall Daylight Savings Time value to Energy requests: Because previous versions of the Oracle Utilities Data Repository stored energy in a 24-hour format, the system had to compensate for the extra hour of interval data that is left over on the day when the clocks are turned back for Daylight Savings Time. To do this, the system automatically takes each account's interval data values for the two DST hours (2:00 AM in the US) and averages them together for a single hour. This option enables you to specify how Oracle Utilities Billing Component (or other Oracle Utilities products) handles the "leftover" hour when calculating energy from interval data. If this option is checked, the system doubles the averaged value. If the option is unchecked, it uses just the single, averaged value. This option should only be used if the DST Participant flag is set to "A" in your interval data.

Version 3.70 (and above) can store interval data in 25-hour format (for the day when DST ends). Oracle recommends this option remain **unchecked** when using version 3.70 or above. Enabling this option in version 3.70 or above can result in incorrect energy calculations.

Export Validation Flag: Controls the settings of the Validate_Record_Flag upon export. This can be set to one of the following:

- **Valid** (default): Sets all Validate_Record_Flags of each cut within the exported file to "N", ignoring the Validation status of the requested cuts.
- **Invalid:** Sets all Validate_Record_Flags of each cut within the exported file to "Y", effectively ignoring the Validation status of the requested cuts.
- **Use Cut's Status:** Sets the Validate_Record_Flag to either "Y" or "N" depending upon the combination of validation flags that are current in the cut when exporting takes place. If either the Merge flag or the Internal_Validation flag are "Y", then the Validate_Record_Flag in the exported cut is set to "N". If both are set to "N" then the Validate_Record_Flag is set to "Y".

Interval Data Merge

The Interval Data Merge tab allows you to specify how interval data cuts are merged when using the INTDJOIN Rules Language function.

Note: The Interval Data Merge options tab only appears if you include the INTD_NEW_JOIN parameter in the configuration file. See the *Oracle Utilities Energy Information Platform Installation and Configuration Guide* for more information.

Check Interval Data Validation before Merge: Check this checkbox to cause the program to check cuts' merge validation flag before merging. The default is not to check.

Interval Data Merge Selection Criterion: Choose a criterion for merging overlapping interval cuts (i.e., a rule how to merge two cuts into one). There are four criteria for merge:

- **Most Recent Start:** Pick the interval from the cut that starts later.
- **Best Status:** Pick the interval from the cut with a better status code. If the intervals have the same status code, the values are averaged.
- **Average Value:** Pick the time-weighted average of the overlapping intervals. The status code of the averaged interval will be the worse of the overlapping intervals.
- **Maximum Value:** Pick the interval from the cut with a larger value.
- **Time Stamp:** Pick the interval from the cut with the later Timestamp.

The default criterion is Most Recent Start.

Error Handling

The Error Handling tab specifies how errors are handled by the system.

Display error messages: If checked, the program will display the number of errors (if any) it encountered during the job run.

Stop analysis after ## errors: The number of errors to allow when running an analysis or bill.

On Rules Language Interval Data Error: Use this option to specify how the programs handle interval data problems encountered while the rate schedule is running:

- **Stop with Error.** Stop processing in any mode.
- **Log Message.** Complete processing; include warning message in error log, but not in report.
- **Continue.** Complete processing; do not issue any messages.
- **Issue Warning Message.** In the Automatic Billing mode, stop processing the bill. In the Automatic or Approval Required modes, complete processing, but issue a warning message in the bill report.
- **Issue Information Message.** Complete processing; include informational message in report.

User Files

The User Files tab specifies where files created by the user are stored by the system.

Default User Directory: If there is a value in this field it will override the USERDIR setting in the configuration file (after the database is opened). Files put in the user directory before the database is opened - such as .log files - will still be placed in the USERDIR directory.

Use last save/open path as default for next save/open? - If this checkbox is checked, the path used in the last open or save operation will be the default path for the next open and save operation, for the duration of the application's run. Each time an application starts it will use the Default User Directory/USERDIR path in the first open or save.

Hierarchy

The Hierarchy tab specifies the behavior of the Revenue Management Hierarchy screen.

Hierarchy Expansion Initial Display: Choose a criterion for the initial display of the revenue forecast hierarchy:

- **Full Expansion:** Display the hierarchy fully expanded.
- **Saved Expansion:** Display the hierarchy in the same expansion as when Oracle Utilities Revenue Management was last closed.
- **No Expansion:** Display the hierarchy with no expansion.

The default criteria is Full Expansion.

For more information on the uses of the Revenue Forecast Hierarchy tab, see the section entitled **Hierarchy Page** on page 4-3.

Report Options

Report options allow users to customize the contents of a report, including the report presentation and output, the print detail level, problem determination options, and the appearance of the Bill Calculation Results section of reports.

Note: Changes to report options as described in this section apply only to the report currently being run.

Users access the Report Options via tabs at the top of the Report Options dialog. Clicking on these tabs allows users to navigate between types of report options, including:

- **General Options**
- **Print Detail Options**
- **Problem Determination Options**
- **Bill Calculation Results Columns Options**

How to set and save report options:

1. Click the **Report Options** button in the input dialog box for the report you're creating. The **Report Options** dialog appears.
2. Make any appropriate changes on the **General**, **Print Detail**, **Problem Determination**, and **Bill Calculation Results Columns** tabs.

Note: Not all report options are available for all reports. If an option is not available, it is greyed out.

3. Click **OK** to save the changes. To close the Report Options dialog without saving changes, click **Cancel**.

General Options

The General tab allows users to set presentation and output options for a report.

Report Titles

To add optional titles to a report, enter the title in one of the three optional title fields.

Saving Reports to Files

To write the report to a file, check the "Write report directly to File" check box and specify the path and filename for the file. Use the "Browse" button to locate an existing file. To display the report also, check the "Also Display Report" checkbox.

Other Options

- To disable graphing for the report, check the "Disable graphing of data" checkbox.
- To display only summaries for the report, check the "Display summaries only" checkbox.
- To keep the report data for CSV/XML exporting, check the "Keep data" checkbox.

Print Detail Options

The Print Detail tab allow users to specify the level of detail included in both a bill report and transaction record. The information computed and available for reporting is determined by the statements used in the applicable rate form. The **Print Detail** tab enables you to specify how much of that available data is included in the reports and transaction records.

Print Detail Options

Default: This option means the program will use the **Print Detail** setting normally applied to the account (via the Account, Rate Code, Rate Schedule, or Global options specified). Alternately, you can override the usual setting for just this job by selecting one of the following:

None: This option displays effective revenue only.

Normal Detail: This option displays effective revenue, plus any charges assigned to a revenue identifier and any values assigned to a Report Statement in the applicable rate form.

All Detail: This option displays effective revenue, plus revenue identifiers, plus the values associated with the Rules Language Label and Report statements in the rate form.

The table below details how these options apply to specific components of a report and transaction record.

Report Component	None	Normal	All
Customer/Account Detail	X	X	X
Input Values		X	X
LABELed Identifier Values			X
Simple Report Values		X	X
Compound Report Values		X	X

Print Detail Items

To override the **Print Detail Options** setting for specific components of a bill report and transaction record, select the specific options for each component in the **Print Detail Items** section of the dialog. For each report component type, select one of the following:

- **On** - Include the component in the report and transaction record.
- **Off** - Exclude the component from the report and transaction record.
- **Print Detail Option** - Apply the setting specified under **Print Detail Options**. The specific manner in which these settings affect individual report components is detailed in the table above. For example, if you had selected “None” under **Print Detail Options**, and selected **Print Detail Option** here for **Input Values**, the input values would not appear in the report.

Following is a brief description of each of the report components.

Customer/Account Detail. Date activated, billing mode, number of days specified for the eligibility pre- and post-windows.

Input values. This option reports the parameters specified for the bill calculations: bill start and end date; date that the account's meter was scheduled to be read; rate code applied to the account; number of days in bill period, and the bill month.

LABELed Identifier Values. This option reports the any identifier values and text strings specified using a LABEL Statement in the rate form. LABEL statements are typically used to substitute meaningful labels for bill determinant names or other brief and sometimes-cryptic identifiers (e.g., LABEL LF “LOAD FACTOR” displays LOAD FACTOR and its value in the report). They are often used for column headings or report subtitles.

Note: If a report component type is designated to appear in a report, and it is assigned a name using a LABEL Statement, its values will automatically appear in the report, with the new label. In other words, it is not necessary in that case to apply the **LABELED identifier values** option to get the label and value to appear. For example, the applicable rate form might have the statement LABEL \$EFFECTIVE_REVENUE “Total Charges”. Because Effective Revenue is automatically included in all report types, “Total Charges” will appear, no matter what print details options you choose.

Simple report values. This option reports any values that were assigned to an identifier using a REPORT Statement in the rate form. REPORT statements are typically used to report values of interest that are calculated and/or drawn from the database, such as peak times.

Compound report values. This option reports any values associated with a stem identifier using a REPORT Statement in the rate form.

Problem Determination Options

The Problem Determination tab allows users to specify the level of problem determination detail included in both a bill report and a transaction record.

When problems occur during the processing of a bill, error messages and other information useful in determining the cause of the problem are created. The **Problem Determination tab** option enables you to specify how much of that data is included in the reports and transaction records.

Problem Determination Options

Show All Error Messages: This option reports all error messages that occur while processing the bill.

Show All Input Options: This option reports all input options used in processing the bill.

Show Bill records to Save (BillHistory, CSS, etc). This option includes the Bill History records in the Bill Report. *It is typically only used for testing.* If you turn this option off, the records are still output when you approve a bill, but they are not displayed or printed in the bill report.

Show Rate Schedule Used in Bill Calculation: This option includes the rate schedule used in processing the bill on the bill report.

Bill Calculation Results Columns Options

The Bill Calculation Results Columns tab allows users to specify the labels of the Bill Calculation Results section of a bill report.

The Bill Calculation Results section displays the number of billing units, the distribution of those billing units, the charge rate, and revenue for each revenue identifier used in a rate schedule.

Bill Calculation Results Columns Options

- To change one or more of the Bill Calculation labels, check the **Change Bill Calculation Labels** checkbox and edit the labels as appropriate.
- To omit one or more of the columns from the bill report (except the Revenue column), check the **Change Bill Calculation Labels** checkbox and delete the appropriate label.

Billing Units Label: The label for the Billing Units column. If blank, the column is omitted.

Distribution Label: The label for the Distribution column. If blank, the column is omitted.

Charge Rate Label: The label for the Charge Rate column. If blank, the column is omitted.

Revenue Label: The label for the Revenue column. This column cannot be omitted. If blank, the column label is Revenue.

Viewing and Printing Reports

One of the primary functions of Oracle Utilities applications is to generate reports. Each of the various analysis modules generate reports, and the programs also generate a number of other useful reports as well.

Once a report has been generated, it appears in an open report window on the application desktop. Once in an open report window, you can view and/or print the report. This section describes how to view and print reports generated using Oracle Utilities applications.

Viewing and Searching Reports

You can search for a specific word or words (or numbers) in an open report window using the **Find** option. The Find option (selected from the Edit Menu) allows you to search for a word or words in an open report window. When you select this option (or press **F3**), the Find dialog opens.

Enter the word or words you wish to find and click **OK**. To find the next instance of the word or words with the Find dialog still open, click **Find Next**. To find the previous instance of the word or words with the Find dialog still open, click **Find Previous**.

Once you've entered a word or words in the Find dialog, you can search by using the Find Next or Find Previous options from the Edit menu.

- To search for the next instance of the word or words last entered in the Find dialog, select the **Find Next** (or press **Shift-F3**) option.
- To find the previous instance of the word or words last entered in the Find dialog, select the **Find Previous** (or press **Ctrl-F3**) option.

Moving to a Specific Line in a Report

You can also jump to a specified line number within an open report window by using the Go to option. The Go to option (selected from the Edit Menu) allows you to move to a specific line in an open report window. When you select this option (or press **Ctrl-G**), the Go To tab on the Find dialog opens.

Enter the line number in the report that you wish to move to and click **OK**.

Changing the Appearance of Reports

You can also change the appearance of the text in an open report window using the Font option (from the Edit menu). When you select the Font option, the Font dialog opens.

To change the font in the report window, select a new Font, Style, and Size and click **OK**. The text in the report window will display and print the font/style/size selected.

Printing Reports

You can also print reports using the Print option (from the File menu). When you select the Print option, the Print dialog opens.

To print the report, complete the Print dialog as appropriate:

- **Ignore page breaks:** Check this to ignore the page breaks in the report.
- **Page width in characters:** Enter the desired width of the report.
- **Display line numbers:** Check this to include line numbers on the report.

Once you've completed the dialog, click **OK**. A standard Windows Print dialog will open, allowing to set any desired print options.

Creating Graphs

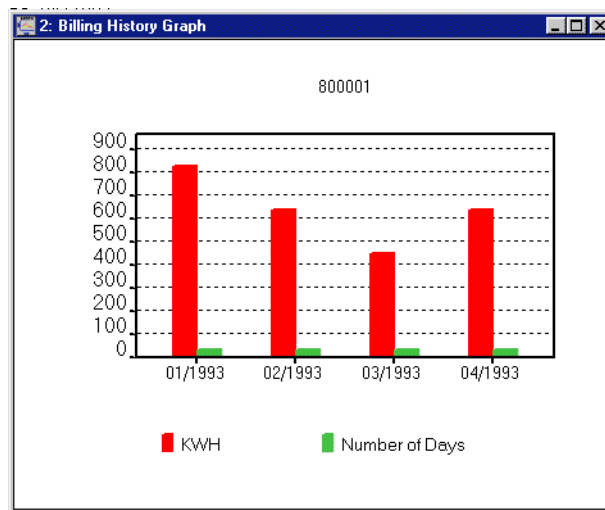
You can also create graphs from data in open report windows.

How to Create a Graph:

1. Select the Graph option from the View Menu (available only when an open report window is displayed), the Create Graph dialog opens.
2. Select an Account ID you wish to graph from the Select Account ID to Graph box. A list of available rows to graph will appear in the Select Rows to Graph box.
3. Select a row to include on the graph and click Add. The selected row will appear in the Pairs to Graph box. Repeat this step for each Account ID/row pair you wish to include in the graph.

To remove a pair, select it and click **Remove**.

4. Enter an optional title for the graph in the Title box and click OK. The graph will appear in a window.






5. To change the view of the graph, select from the options in the View menu.
 - The Style option allows you to select from bar graph style (as above) or line graph style.
 - The Background Color option allows you select the background color for the graph (White, Gray, Dark Gray, or Black).

Using Online Help








Oracle Utilities applications provide browser-based online help.

How to open online help:

1. Select **Help Contents** from the Help menu. The online help opens in a browser window.
2. Locate the topic you need help about via the Contents tab, Index tab, or Search tab.
 - The **Contents** tab allows users to expand/collapse sections of the table of contents as needed to find a particular topic. Click on the book icons ( and ) to open/close headings. Click on the topic icon () to open it.
 - The **Index** tab allows the user to browse an index for the online help. Click on the index entry for the topic to open it.
 - The **Search** tab allows the user to search the online help for specific words. Enter the word(s) for the search in the text box and click **Go!** The search results appear beneath the text box. Click on the topic to open it.
3. The selected topic will appear in the right pane of the online help window.

Help Icons

A number of icons appear along the top of the online help window. These icons are used for navigating the online help and other functions. These icons perform the following functions:

Icon	Description
	Show Navigation: Open the navigation frame. Used after opening a single help topic.
	Previous: Display the previous help topic.
	Next: Display the next help topic.
	Show in Contents: Expand the Contents tab to display the current topic.
	E-mail: Send email to Customer Support.
	Print: Print the current topic.
	Bookmark: Save the current topic as an Internet Explorer Favorite..

Context-Sensitive Help

Users can also get online help based on a specific function or screen. This is referred to as context-sensitive help.

How to open context-sensitive help:

1. Open the function or screen you wish to find help about.
2. Click the Help button in the Toolbar or press F1.
3. An online help window opens displaying the corresponding topic.

Creating and Opening Forecasts

Once you've started Oracle Utilities Revenue Management, you can create a new forecast or open an existing one.

Creating a New Forecast

1. At the Oracle Utilities Revenue Management desktop, select **File->New**.

A **Revenue Forecast** window appears.

This is where you specify the inputs and parameters for your forecast, as detailed in Chapter 4.

Opening an Existing Forecast

1. Select **File->Open**.

A list of the previously saved forecasts appears.

2. Highlight the desired forecast and click **Open**.

All input parameters and results for this forecast appear for viewing and/or modification.

Note: Revenue forecasts can only be opened in read/write mode by one user at a time. If you select a forecast that is currently in use by another user, a warning dialog will alert you, and ask if you want to open the forecast read-only mode.

Opening Multiple Forecasts

You can have several Revenue Forecast windows open on the Oracle Utilities Revenue Management desktop at one time—including different forecasts or multiple instances of the same one. The changes you make to one are not automatically updated in another, but you can apply the Edit commands in the menu bar to cut and paste data between them—specifically the table data in the Allocation Factors, Bill Determinants, Tariffs, Revenue, and Unbilled Revenue tab pages.

How to control how multiple windows are displayed:

As you open each new Revenue Forecast window, the program layers them one on top of the other.

- To display all open windows side by side, select **Window→Tile**.
- To return to the previous configuration, select **Window→Cascade**.
- To bring one of the partially-covered windows to the front, simply click on its title bar.

Deleting a Forecast

Should you decide to delete an existing revenue forecast:

1. Select **File→Open**.

A list of the previously saved forecasts appears.

2. Highlight the desired forecast and click **Delete**.

Note: If you select a forecast that is currently in use by another user, a warning dialog will alert you.

Navigating the Revenue Forecast Window

The Revenue Forecast window contains a series of eight tabs. To create or modify a forecast, you simply “fill out” each one of the tab pages, moving left to right.

How to move between tab pages:

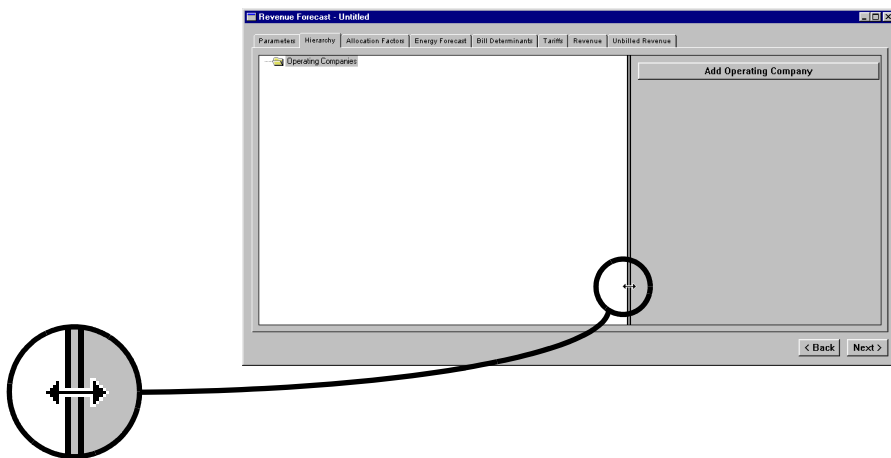
You have two choices:

- Click on the < **Back** or **Next**> button in the lower right corner of the tab page. (If either button is grayed out, you are at the first or last tab in the sequence.)
- Click on the tab for the desired page.

How to Resize the Panes on a Tab Page

Several of the tab pages in the Revenue Forecast window consist of two panes, side-by-side. You can manipulate the relative sizes of the panes to make more room for the information you’re interested in:

1. Move the mouse pointer over the divider that separates the two panes until a double-headed arrow appears.



2. Drag left or right to resize the panes.

Closing, Saving, and Deleting

You can save your work at any time—regardless of whether or not you have completed all of the tabs. However, if any of the information you’ve supplied on a single tab is invalid or incomplete, Oracle Utilities Revenue Management will display a warning message. You must correct the problem before you can move to a different tab or save the forecast.

Saving a Forecast

1. Select **File->Save** or **File->Save As**. If you select **File->Save**, Oracle Utilities Revenue Management saves the information using the name you supplied on the Parameters tab page, overwriting any previously-saved information with that name. If you select **File->Save As**, Oracle Utilities Revenue Management prompts you for a new name, and any previously-saved work with the old name is preserved.

Closing a Revenue Forecast Window

To close a Revenue Forecast window, either:

1. Click the Close button in the upper right corner of the window (the “X”), or
2. Select **File->Close**.

If you have not already saved your work, Oracle Utilities Revenue Management displays a message asking if you wish to do so now. If you respond “yes,” any previously saved inputs and results are overwritten with the current information on the tabs. If you want to retain the earlier version as well as the new, click **Cancel**, then select **File->Save As**, and provide a new name in the window that appears.

Deleting a Forecast

To conserve space on your system, you should periodically delete old forecasts.

How to delete a forecast:

1. At the Oracle Utilities Revenue Management desktop, select **File->Open**.
A list of forecasts appears.
2. Highlight the name of the forecast you wish to delete, and click **Delete**.
A message appears asking for confirmation. Click **yes** or **no** as desired.

Troubleshooting with the Error Log

Oracle Utilities Revenue Management automatically maintains a log of any errors—both system and user—in a file called revxprt.log, stored in the LODESTAR\USER directory. If you experience any problems, you may find it helpful to examine this report by selecting **Help->Display Error Window**.

Chapter 3

Preparing Inputs

This chapter describes the inputs you must assemble before you can create a revenue forecast with Oracle Utilities Revenue Management, including:

- **Lookup Codes**
- **Customer and Energy Load Forecast File**
- **Net Power Supply Forecast File**
- **Bill Frequency Tables**
- **Additional Inputs Required for Extended Block Rates**

Lookup Codes

What are Lookup Codes?

Before you can apply Oracle Utilities Revenue Management, every entity you want to include in a forecast must have been defined in the Oracle Utilities Data Repository Lookup tables. These entities include both the organizational entities that you use to define the forecast hierarchy and segment the customer population (e.g., operating company, jurisdiction, business class, and rate schedule) and the specific billing determinants and charges for which you want to calculate and display revenue as line items in the revenue forecast reports. The types of entities you can specify for a forecast are:

Note: A forecast requires at least one operating company, jurisdiction, business class, and rate schedule. Bill determinants and factors are optional.

- **Operating company:** Entity that bills accounts; for example, Monongahela Power.
- **Jurisdiction:** Territory in which the operating company's billing practices are subject to a particular regulatory agency (typically a state or the Federal Energy Regulatory Commission).
- **Business class** (also referred to as revenue code): Class of accounts, for example, Commercial or Residential.
- **Rate schedule:** Sub-class of accounts, subject to a particular rate schedule.
- **Bill determinant:** A measurement of customer energy consumption that is used to determine a bill, such as "metered energy" or "metered demand."
- **Factors:** Variables used to represent taxes or other charges (described further on the following page).

For most types of entities, the lookup tables require a lookup code (a unique identifier) and a more descriptive name that appears on the user interface. Since the lookup tables are utilized by all Oracle Utilities programs, most or all of the lookup codes you'll require for your forecasts have already been entered in the database. (Factors are the exception; there are a few that are unique to Oracle Utilities Revenue Management. See below.)

If an entity is not defined in the Oracle Utilities Data Repository lookup tables, it will not be available for selection via the Oracle Utilities Revenue Management user interface.

How Do You Add Lookup Codes?

To view, add, or update an entity in the lookup tables, use the Data Manager Browser, as described in **Chapter 6: Browsing Data** and **Chapter 7: Maintaining Data** in the *Data Manager User's Guide*. If you have a great number of lookup codes to add, you can also use the Import program.

About Factors and UOMs in Oracle Utilities Revenue Management

Factor names are variables used to represent taxes and other charges. A factor name is stored in the Factor Lookup Table, while the actual values associated with the factor are kept in the Factor Value Table (both the current value and values that were in effect in the past). When you use a factor in a revenue forecast, Oracle Utilities Revenue Management automatically retrieves the correct values for the factor for each bill period in the forecast range.

Any factor that will be used in a revenue forecast must have the appropriate unit of measure (UOM) code associated with it in the Factor Table, since the UOM determines how Revenue Expert applies the factor value when calculating revenue. Oracle Utilities Revenue Management recognizes the following UOM codes:

- **85 - Dollars per kWh**

- **REVBASE:** Indicates that the factor is a percentage of base revenue. The factor value should directly represent the percentage to apply (i.e., to indicate 5%, enter the value '0.05').
 - **REVTOTAL:** Indicates that the factor is a percentage of total revenue. The factor value should directly represent the percentage to apply (i.e., to indicate 5%, enter the value '0.05').
- Note:* Only one factor in a rate schedule can have this UOM.
- **CUSTCHARGE:** Indicates that the factor is applied as dollars per customer. Any factor in the hierarchy that uses the CUSTCHARGE UOM code is included in the base revenue for its parent rate schedule.
 - **TAX_SURCHARGE:** Percentage of total revenue less any other factor using this UOM.
 - **TAX_SURCHARGE_KWH:** Applied as dollars per kWh.
 - **UNBUNDLED_SURCHARGE:** Revenue for factors with this UOM will be calculated as a percentage of the base revenue attributed to the unbundled component associated with the factor. The percentage will be the factor's tariff value, which is the factor's value plus any adjustment (a value of 0.05 is equivalent to 5%). If the factor is not associated with an unbundled component then its revenue will be zero.
 - **FUEL_ADJ:** Applied as dollars per kWh.
 - **FUEL_ADJ_KW:** Applied as dollars per kW.
- Note:* Reports will show fuel adjustment revenues as the sum of FUEL_ADJ and FUEL_ADJ_KW factor revenues.
- **BASE_FUEL_ADJ:** Revenue for factors with this UOM will be calculated as dollars per kWh.
 - **BASE_FUEL_ADJ_KW:** Revenue for factors with this UOM will be calculated as dollars per kW.

If a factor with any other UOM is selected for a forecast, Oracle Utilities Revenue Management substitutes dollars per kWh.

Setting up kWh and kW

You also need to specify which bill determinant to use with kWh (kilowatt hours) and which bill determinant to use with kW (kilowatts).

How to setup kWh and kW:

1. Select **File->Open->[name of forecast]** if the Revenue Forecast window is not already open.
2. Select **Revenue Forecast->Setup kWh and kW**.
The **Setup kWh and kW** dialog box appears.
3. Select the bill determinant to use for kWh from the **kWh Bill Determinant** drop-down list.
4. Select the bill determinant to use for kW from the **kW Bill Determinant** drop-down list.
5. Click **OK** to save the settings. Click **Cancel** to close the dialog.

Customer and Energy Load Forecast File

This file contains your utility's projected customer count and Megawatt-hour (MWH) sales for each business class that you wish to include in the revenue forecast. It is required.

This file typically comes from the department in your utility that is responsible for forecasting future energy use. It must be placed any where on your system or network that is accessible from the machine you're using to run Oracle Utilities Revenue Management (typically LODESTAR\RCDATA on the local drive).

Keymap.txt - Mapping Codes

The codes used to identify operating companies, jurisdictions, and business classes in the Customer and Energy Forecast File are not the same as those used in the Oracle Utilities Data Repository Lookup tables. To accommodate this situation, there is a special file that maps keys in the forecast file to the appropriate lookup codes. The file is called "keymap.txt" and is located in the LODESTAR\CFG directory. If and when lookup codes in the Oracle Utilities Data Repository are added or modified, you must update this file as well. You can edit the file using Notepad or another text editor.

Here is an example of a portion of a keymap.txt file. The values must be separated by a comma; blanks are optional (for readability).

①	②	③
"MHTR@WP@F"	"WP", "PA", "00"	MWH
"MHTCM@WP@F"	"WP", "PA", "20"	MWH
"MHTIN@WP@F"	"WP", "PA", "40"	MWH
"MHSTL@WP@F"	"WP", "PA", "50"	MWH
"MHWHO@WP@F"	"WP", "PA", "60"	MWH
"MHTR@MPWV@F"	"MP", "WV", "00"	MWH
"MHTCM@MPWV@F"	"MP", "WV", "20"	MWH
"MHTIN@MPWV@F"	"MP", "WV", "40"	MWH
"MHSTL@MPWV@F"	"MP", "WV", "50"	MWH
"MHWHO@MPWV@F"	"MP", "WV", "60"	MWH
"MHTR@MPOH@F"	"MP", "OH", "00"	MWH
"MHTCM@MPOH@F"	"MP", "OH", "20"	MWH
"MHTIN@MPOH@F"	"MP", "OH", "40"	MWH
"MHSTL@MPOH@F"	"MP", "OH", "50"	MWH
"MHWHO@MPOH@F"	"MP", "OH", "60"	MWH
"MHTR@PEVA@F"	"PE", "VA", "00"	MWH
"MHTCM@PEVA@F"	"PE", "VA", "20"	MWH
"MHTIN@PEVA@F"	"PE", "VA", "40"	MWH
"MHSTL@PEVA@F"	"PE", "VA", "50"	MWH

The table above shows a sample keymap.txt file

- **Column 1:** The key as it appears in the Customer and Energy forecast file.
- **Column 2:** Lookup codes as they appear in the Oracle Utilities Data Repository; operating company code, jurisdiction code, and revenue code.
- **Column 3:** Flag indicating whether the first key (1) represents MWH or number of customers. Possible values are MWH or CUST.

Net Power Supply Forecast File

This file contains data required for calculating unbilled kWh for each operating company in a forecast. Its format is similar to that of the Customer and Energy Forecast File, except that it contains data just down to the jurisdiction level (as opposed to the business class level).

Keymap2.txt - Mapping Codes

As with the Customer and Energy Forecast File, the codes used to identify operating companies and jurisdictions in the Net Power Supply Forecast File are not the same as those used in the Oracle Utilities Data Repository Lookup tables. A file called “keymap2.txt” is used to map keys between the two files. This file is located in the LODESTAR\CFG directory. If and when lookup codes in the Oracle Utilities Data Repository are added or modified, you must update this file as well. You can edit the file using Notepad or another text editor.

Here is an example of keymap2.txt.

①	②
"MHNPS@MPOH@F"	"MP", "OH"
"MHNPS@MPWV@F"	"MP", "WV"
"MHNPS@PEMD@F"	"PE", "MD"
"MHNPS@PEVA@F"	"PE", "VA"
"MHNPS@PEWV@F"	"PE", "WV"
"MHNPS@WP@F"	"WP", "PA"

The table above shows a sample keymap2.txt file

- Column 1: The key as it appears in the Net Power Supply Forecast File.
- Column 2: Lookup codes as in the Oracle Utilities Data Repository: operating company code and jurisdiction code.

Bill Frequency Tables

What are Bill Frequency Tables?

Oracle Utilities Revenue Management uses the historical data that you input in the Bill Frequency tables as the basis for allocating a Business Class' total kWh and customers among its rate schedules; for allocating billing determinant usage to blocks in a rate schedule; and for determining the relationship between kWh and other determinants in the forecast. ***You should create one Bill Frequency Table for every customer group that represents a rate schedule in each Operating Company/Jurisdiction/Business Class combination in the forecast.***

Bill Frequency tables summarize historical usage data for a customer group by blocks over a range of months. A single Bill Frequency Table can summarize data for one bill determinant, or a number of them. In addition, the customer group can be segmented by rate code (more about that later).

For each determinant of interest, you divide the range of possible usage values into "bins" or "blocks." For example, for kWh/month, you might have bins of 0 to 250, 251 to 500, 501 to infinity. To create the Bill Frequency Table, the software examines each customer's bill history information, month by month. When a customer's value for the determinant falls within a given block, the software increments the customer count for the block by 1, and adds the value of the billing determinant to the total value for the block. The result is a table of customer counts and total usage for each block, for every month in the date range.

```

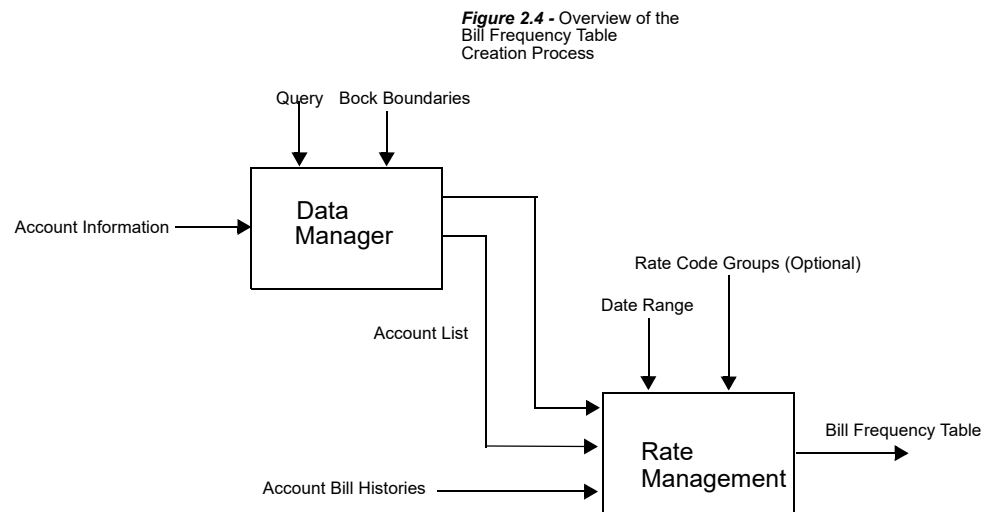
12 "mpwva" "" 276814 1 1995 12 1995 "mpwva" " "
{ 1 "KWH":"mpwva"
}
( 1 "Z1":" "
)
<
1 274452 1 1995 1 1995 /* Bill month: 7/1992 thru 7/
1992 */
<
1 274452 "Z1" /* Rate code: Z1 */
<
3 "KWH"
<
{ -1.0000, 0, 0.0000 }
{ 0.0000, 110440, 33036631.0000 }
{ 550.0000, 164012, 196066066.00 }

```

Portion of a '.bft' file

How Do You Create a Bill Frequency Table?

You can create a Bill Frequency Table using the Data Manager and Oracle Utilities Rate Management applications. Step-by-step instructions are provided on the following pages.



Required Inputs

Before you can create a Bill Frequency Table, the following inputs must be available:

- Account List.
- Bill history data for every account in the list over the test period.
- Blocking(s).

Creating an Account List

The Account List is a list of IDs for all of the accounts you wish to include in the Bill Frequency Table (and hence in your forecast for a particular rate schedule).

Typically, you create the list using Data Manager's Query feature. See **Chapter 8: Working with Lists and Queries** of the *Data Manager's User's Guide* for information about creating lists. In general, *for Oracle Utilities Revenue Management you specify a query that will find all accounts belonging to the desired operating company/jurisdiction/revenue code/rate schedule combination.* For example, you would first specify that you want to create an account list, and then supply a query similar to the one shown below:

```
Operating Companies.Code = WP
AND
Jurisdictions.Code = PA
AND
Revenue Code.Code = 20
AND
Rate Forms.Code = 1
```

Note: The term “Business Class” used in Oracle Utilities Revenue Management and “Revenue Code” in Data Manager are equivalent.

You can further filter the list by specifying one or more rate codes. However, if you leave rate codes out of the query now, you'll have the option of segmenting the Bill Frequency Table by rate code group later in the process (e.g., when you actually create the table).

About Account Billing Determinant Data

Billing Determinant values for accounts are stored in the Account Bill History and/or Account Bill History Values tables in the Customer Database. Billing determinant data must be available in these tables for every account in your list over the desired date range. This information is typically loaded into the database on a regular, production basis, and no additional effort is required on your part.

Creating Blockings

For each billing determinant you want to include in the Bill Frequency Table, you must specify a “Blocking.” A Blocking is a set of values that defines the boundaries between blocks in the Bill Frequency Table.

The blockings should generally match the blockings that you'll specify for Ogives in the actual forecasting process.

You create a blocking using Data Manager. Blockings are stored in the Customer Database, so that you can reuse them.

When you create a blocking, you can specify the high and low values that define each individual block. Or, if all or a portion of the blocking consists of a series of contiguous, equal-size blocks, the software gives you a shortcut—in that case, you can supply the high and low values that define the range covered by the series of equal-sized blocks, and then the value of the block (called the “**Step**” value).

How to create a new blocking:

1. Go to the Data Manager desktop. If you are at the Oracle Utilities Rate Management desktop, you can open Data Manager by selecting **Tools->Data Manager**.
2. At the Data Manager desktop, select **File->Setup->Blocking Tables**.

The **Open Blocking** dialog box appears.

3. Click **New**.

The **Blocking** dialog box appears.

4. Under **Values**, enter the Low and High values for the current block (or the range of contiguous, equal-size blocks). The High value must be greater than the Low value for each block, except for the *last* block in the blocking, which may be zero (a High value of zero indicates infinity).

You can specify negative numbers for the low and high values that define a block (however, these are used only in the Billing Impact Frequency report in Customer Impact). If you change your mind and want to remove a minus sign, simply type a + sign in the Values field for that value.

5. Enter a **Step** value for the block. If you are defining each block individually, then the Step value must equal the difference between the High and Low values. If you are using the step feature to specify a set of contiguous, equal-size blocks, the Step value must evenly divide into the difference between the High and Low values. If you are specifying the last block with a High value of 0, the Step value should be 0, too.

Note: If any usage values fall outside of the specified blockings (either at the high end if you did not specify 0 for the High value in the last block, or at the low end if there are negative values), the program automatically creates an “additional” blocking at that end when the program creates the Bill Frequency Table.

6. Click **Add** to insert the block(s) into the Blocking Contents list box. A block is automatically inserted into its proper position in the list box based on its Low and High values.
7. Repeat Steps 3 through 6 to add any other blocks necessary to complete the definition of the Blocking. **Make sure that the High values match the Low values for consecutive blocks.**
8. Click **OK** to save the new blocking in the Customer Database. The **Save Blocking Table As** dialog appears.
9. Enter a name and comments for the blocking, and click **OK**.

You can also open an existing blocking file.

How to Open an Existing Blocking:

1. At the Data Manager desktop, select **File->Setup->Blocking Tables**.

The **Open Blocking** dialog box appears.

2. Select the desired blocking and click **Open**. You can also import a Common Blocking file by clicking **Import** and selecting the appropriate Common Blocking file. The imported blocking file then appears in the **Open Blocking** dialog.

Creating a Bill Frequency Table

Once you have assembled all of the required inputs as described on the previous pages, you are ready to create the Bill Frequency Table. For this part of the process, you'll use the Oracle Utilities Rate Management application.

1. Start Oracle Utilities Rate Management.

To start Oracle Utilities Rate Management from Data Manager, select **Tools->Oracle Utilities Rate Management**.

2. At the Oracle Utilities Rate Management desktop, select **Analysis->Bill Frequency->Create**.

The **Create Bill Frequency Table** dialog box appears.

3. Select either **Account** or **Customer** in the **Select By** box.

4. **Select** the accounts or customers of interest using one of the following options:

- **ID:** Type the ID of the account or customer of interest.
- **List:** Select the list that contains the IDs of the customers or accounts whose usage you want to use as the basis for the Bill Frequency Table. If the contents of the list may have changed since the last time that the query associated with it was run, check **Refresh list before using**. This option updates the list for this job and saves the new version of the list to the database, replacing the old version.
- **All:** Select this option to include all customers or accounts that are in the Customer Database.
- **File** - Select a file containing a list of customer/account IDs (*.IDS), a list file (*.lst), an account query file (*.qra), or a customer query file (*.qrc).

5. **Test Period.** Enter the start and stop dates for the test period in the MM/YYYY format. The period covered by the Bill Frequency Table can be greater than the period desired for the forecast, but not less.

6. Select the **Determinant/Blocking**. In the Determinant list box, highlight a desired billing determinant. Then, in the Blocking list box, highlight the Blocking you wish to apply to the selected determinant. Click **Add** to put the results in the **Determinant/Block Pairs** list box. Repeat for each billing determinant you want to include in the Bill Frequency Table.

7. Click **Advanced** if you want to break down the Bill Frequency Table by Rate Code Groups. If so, go to Step 5. If not, click **OK** and go to Step 7.

8. If you clicked **Advanced**, you are at the **Advanced Create Bill Frequency Table** dialog box shown above. This dialog lets you select billing information for inclusion in the Bill Frequency Table by rate code group. This is useful to further segment customers within a business class or jurisdiction. Complete the box as follows:

- Select a Rate Schedule in the Rate Schedule combo box. All Rate Codes for the selected Rate Schedule then appear in the Rate Codes list box.
- Select one or more Rate Codes from the Rate Codes list box to define a single Rate Code Group.
- Click **Add** to add the selected Rate Codes to the Rate Code Groups list box as a single Rate Code Group.
- Repeat the above three steps for each desired rate code group.

9. Click **OK** to accept the defined Rate Code Groups.

10. When you are satisfied with your options in the Create Bill Frequency Table dialog box, click **OK**. The system will prompt you for a name (up to 8 characters).

A Progress Indicator dialog appears and tracks the progress of the Bill Frequency Table creation. If you want to stop the process for some reason, click **Abort**.

When the process ends, the software creates a Bill Frequency table in the Oracle Utilities Data Repository. You can examine and analyze the contents of the file by applying the Bill Frequency Analysis feature of Oracle Utilities Rate Management to it (see the *Oracle Utilities Rate Management User's Guide*).

Additional Inputs Required for Extended Block Rates

Forecasts that include extended block rates require that historical averages be calculated for per block usage via the actual rate schedule. For that reason, you must supply the following inputs, in addition to those described on the preceding pages:

- Account List
- Rate Schedule Version (written in the Oracle Utilities Rules Language)
- Rate Code (optional).

The *Data Manager User's Guide* provides instructions for creating these inputs.

Note: All rates require BFTs for the allocation factors.

Using the above inputs, Oracle Utilities Revenue Management iterates the calculations over each account in the list, for each month in the specified historical date range, using the specified rate schedule version language to calculate the amount of bill determinant usage in each price block. If you do not explicitly specify a rate code, Oracle Utilities Revenue Management will use the account's rate code history. In most cases, the account's rate code history specifies the same rate schedule as the one being used in the calculation; however, if not, then Oracle Utilities Revenue Management queries the interschedule mapping information in the database to determine which rate code to use.

About Rate Schedules

It is important that when the rate schedule is run, the result is just one set of blocks per bill determinant per month. For example, the following rate schedule could be used only if either all accounts in the account list were on rate code MI, or all accounts in the list were not on rate code MI. If some accounts were subject to the first set of blocks and some to the second (e.g., some on MI and some not), then the rate schedule could not be used because it would yield two sets of blocks for KWH.

```

SELECT RATE_CODE
  WHEN "MI"
    BLOCK KWH
    FROM 0 TO 4000 CHARGE $.0982 INTO $BK1
    FROM 4000 TO 10000 CHARGE $.0815 INTO $BK2
    FROM 10000 CHARGE $.0736 INTO $BK3
    TOTAL $ENERGY_CHARGE;
  OTHERWISE
    BLOCK KWH
    FROM 0 TO 5000 CHARGE $.0982 INTO $BK_OTH1
    FROM 5000 TO 8000 CHARGE $.0815 INTO $BK_OTH2
    FROM 8000 CHARGE $.0736 INTO $BK_OTH3
    TOTAL $ENERGY_CHARGE;
END SELECT;
$EFFECTIVE_REVENUE = 10;
```


Chapter 4

Running a Revenue Forecast

Once you have created all of the inputs required for a forecast as described in **Chapter 3: Preparing Inputs**, you are ready to use the system to actually generate a forecast. This chapter takes you step-by-step through the process of specifying all of the necessary parameters and running the calculations.

- **Specifying Inputs and Parameters**
- **Saving the Forecast**

Specifying Inputs and Parameters

You select inputs and define parameters for a forecast in the **Revenue Forecast** window. Select **File->New** or **File->Open->[name of existing forecast]** to open this window.

The Revenue Forecast Window displays a series of eight tabs. Each tab page represents a set of parameters or inputs you must specify. As explained in the remainder of this chapter, you must “fill out” each one of these tab pages, in sequence, moving from left to right. (As you progress from tab to tab, you may decide to go back and modify your inputs to a previously completed tab page—however, keep in mind that information on tabs to the right may be affected.)

Parameters Page

Oracle Utilities Revenue Management lets you save the forecast parameters and results. The information you provide on this tab page will help you identify and retrieve the information in the future:

- **Name:** Enter a unique name for your forecast (up to 64 characters).
- **Note:** Enter a description of your forecast (up to 254 characters).

Hierarchy Page

The Hierarchy page is used to specify several important aspects of the forecast:

- the hierarchy of entities of one or more operating companies to be used in the forecast
- whether or not to calculate a deferred fuel expense for each jurisdiction, and whether or not to include a business class in the calculation of an operating company's "regular customer unbilled kWh" (both calculations pertain to unbilled revenue)
- the historical usage data to be used in the forecast
- the methodology for forecasting usage for bill determinant blocks in a rate schedule. You'll also associate a charge factor with each block.

Using the Hierarchy Page to Specify Entities for Inclusion in the Forecast

The Hierarchy page gives you a graphical tool for specifying the entities for which you want to generate a forecast. You can specify one or more operating companies, jurisdictions, revenue codes (business classes), rate schedules, billing determinants, and factors. You can choose as many entities as desired; however, for each operating company you choose you must also specify at least one jurisdiction; for each jurisdiction at least one business class (revenue code); and for each business class at least one rate schedule.

How to add an entity to the tree:

1. In the Tree Pane, highlight the folder that represents the level of the entity you wish to add. (When you first begin, only the Operating Companies folder is visible.)
2. Click the **Add [entity]** button in the right pane (where "entity" is the name of the currently selected folder).

A window opens, displaying the list of the entities that are currently available at the selected level (see the illustration on the next page). If the list is long, you may have to scroll the window to view all of the options. If the desired entity is not included in the list, it has not been defined in the Customer Database Lookup tables (refer to Chapter 2 for more information).

3. Highlight one or more entities in the list and click **OK**.

The selected entities appear in the Tree, as does as the folder for the subordinate level. You can add an entity at the new level, or you can highlight a higher-level folder and add additional entities there.

Continue this process until all desired entities have been added to the tree.

How to remove an entity from the tree:

Note: When you remove an entity, any and all of its subordinate entities are automatically removed as well.

1. In the Tree Pane, highlight the icon for the entity that you wish to remove.
2. Click the **Remove [entity] button** that appears in the right pane.

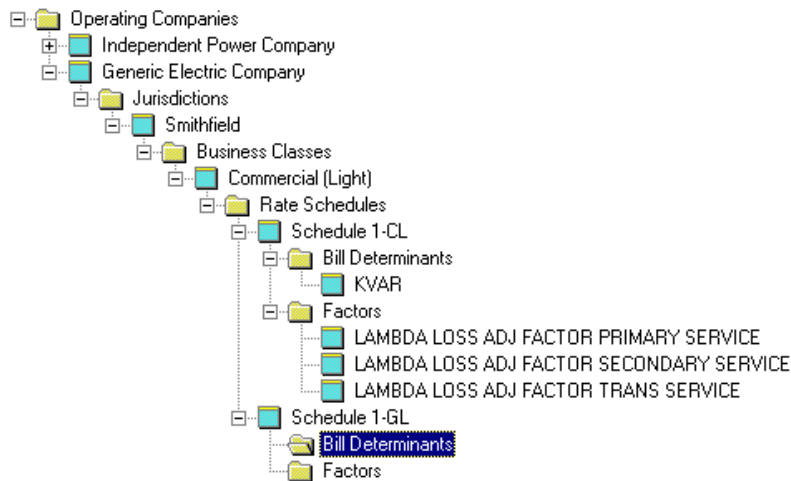
A message appears, asking you to confirm that you wish to remove the selected entity. Click **Yes** or **No** as desired.

How to replace an entity in the tree:

1. In the Tree Pane, highlight the icon for the entity that you wish to replace with a different one.
2. Click the **Replace** button that appears in the right pane.
3. Highlight the icon for the new entity in the Tree Pane and click **OK**. (Alternatively, you can double-click the icon.)

How to navigate the tree view:

As you build and modify the Tree, you may find it advantageous to modify the amount of information displayed in the Tree Pane. You can collapse or expand the tree, and you can resize the pane to make more room for the information you're interested in. None of these actions affects which entities are included in the calculations.

**Using the Hierarchy Page to Specify Options for Unbilled Revenue**

The Hierarchy page also lets you specify whether or not to calculate a deferred fuel expense for each jurisdiction, and whether or not to include a business class in the calculation of an operating company's "regular customer unbilled kWh." Both calculations pertain to unbilled revenue.

How to include calculations of deferred fuel expense for a jurisdiction:

1. In the Tree Pane, highlight the icon for the jurisdiction of interest.
2. In the right pane, check **Show Deferred Fuel Expense** to have the software perform the calculations, or leave the option unchecked if you don't want the calculations. The default is unchecked (no deferred fuel expense calculations will be performed for the jurisdiction).

How to include (or exclude) a business class in the calculations of an operating company's "regular customer unbilled kWh":

1. In the Tree Pane, highlight the icon for the business class of interest.
2. In the right pane, check **Include as Regular Customer Unbilled KWH** to include the business class; remove the checkmark to exclude it. The default is checked (will be included).
3. Check **Exclude from Unbilled Fuel Revenue Calculations** as desired.

This box, when checked, alters the way the Unbilled Fuel Revenue, Unbilled Fuel Costs, and Deferred Fuel Expense are calculated for the parent Jurisdiction. The formulae below show how this is calculated:

Unbilled Fuel Revenue =Average Fuel Rate (excluding the checked Business Classes) *

Unbilled kWh (excluding checked business classes) *

GRT Effective Rate

Unbilled Fuel Costs =Fuel Rate * Unbilled kWh (excluding checked business classes)

Deferred Fuel Expense =Unbilled Fuel Revenue - Unbilled Fuel Costs

Using the Hierarchy Page to Specify Historical Usage Data

Prior to starting the Oracle Utilities Revenue Management software, you should have assembled historical usage data for each customer group that represents a rate schedule in the forecast, and put it in a Bill Frequency Table. (If you have not already created the tables, see Chapter 3 for instructions.) Oracle Utilities Revenue Management will use the historical data in the Bill Frequency tables as the basis for allocating a Business Class' total kWh and customers among its rate schedules, as well as to determine relationships between kWh and other determinants.

In this step, you will associate each rate schedule in the hierarchy with the appropriate Bill Frequency Table. You must also specify the 12-month period within the Bill Frequency Table that you wish to apply for each rate schedule. If your rate schedule includes extended-block rates, you must also specify an account list, rate schedule version, and (optionally) rate code.

How to specify historical usage data:

1. Highlight a rate schedule in the Tree Pane.
A form appears in the right pane.
2. In the right pane, specify the **Date Range** for the historical data to be used in the forecast:
 - **All Rate Schedules:** To specify a “global” historical date range that the program will apply to all rate schedules in this forecast’s hierarchy, click **All Rate Schedules**. Then, specify the start and end month of the date range in the **From** and **To** fields, described below.
 - **This Rate Schedule:** To apply a date range to just one rate schedule, highlight the rate schedule in the tree pane and click **This Rate Schedule**. Then, specify the start and end month as described under *From, To:* (below). This date range overrides any dates specified using the **All Rate Schedules** option just described.
 - **From, To:** Type the start and end month that defines the date range. *The specified date range must span 12 months exactly, and there must be data for that period in the Bill Frequency Table.* July through June of the previous year are the defaults.
3. In the right pane, specify the **Bill Frequency Table** for the historical data to be used in the forecast. Click the small arrow to the right of the field, and highlight the name of the file containing the data you want to apply to the selected rate schedule. The filename appears in the field. If the file you want does not appear in the list, verify that it is stored in the `LODESTAR\RCDATA` directory.

Select **None** if you want to manually specify allocation factors, rather than have Oracle Utilities Revenue Management calculate them. (A Bill Frequency Table is absolutely necessary only if the rate schedule contains a bill determinant with more than one block, and one of those blocks is fixed. Otherwise, you can manually allocate a business class’ usage and customers among its rate schedules using the Allocations Factors tab page described later in this chapter.)
4. If you had previously run this forecast and want to use the same Bill Frequency Table now, but the contents of the table have been modified since, click the **Reload** button. Or, if you add a new billing determinant for the rate schedule on the Hierarchy tab page after selecting the file here, you must reload the file.
5. Click the **Calculate...** button if the rate schedule includes extended blocks rates. The **Select Rate Schedule and Optional Rate Code** dialog box appears. Specify the following:
 - **Account List:** List of accounts on this rate schedule. (If you have not yet created this input, refer to Chapter 3.)
 - **Rate Schedule Version:** The version of the rate schedule to apply. (If you have not yet created this input, refer to Chapter 3.)

- **Rate Code:** If you want to apply a specific rate code, select it in the Rate Code listbox in the upper right corner of the dialog. If you do not specify a rate code, Oracle Utilities Revenue Management will use the account's rate code history. If you click **Via Inter-Schedule Mapping**, Oracle Utilities Revenue Management will query the interschedule mapping information in the database to determine which rate code to use.
6. Repeat steps 2 through 5 for each rate schedule in the hierarchy.

Using the Hierarchy Page to Specify Unbundled Components

Each billing determinant in the forecast hierarchy will be able to be associated with an unbundled component. The **Unbundled Component** combo box control will be added to the Hierarchy Tab control when a billing determinant is selected in the tree. The drop-down list of the combo box will contain all unbundled components defined for the forecast. Selecting an unbundled component in the combo box will associate that component with the selected billing determinant. A “<None>” selection will also be provided so that a billing determinant can be disassociated from any unbundled components. This “<None>” selection will be the default value for any new billing determinants added to the forecast and also for any billing determinants in existing revenue forecasts created prior to this new version.

In addition to being able to associate billing determinants with unbundled components, the same billing determinant will be allowed to be added to a rate schedule in the forecast hierarchy more than once. This will allow for a bundled determinant to be broken down into its unbundled components within the revenue forecast.

The billing determinant's associated unbundled component, if any, will appear in parentheses to the right of the determinant's identifier in both the hierarchy tree and in any reports in which it appears.

Associating a Factor with an Unbundled Component

Each factor in the forecast hierarchy will also be able to be associated with an unbundled component. The **Unbundled Component** combo box control will be added to the Hierarchy Tab control when a factor is selected in the tree. The drop-down list of the combo box will contain all unbundled components defined for the forecast. Selecting an unbundled component in the combo box will associate that component with the selected factor. A “<None>” selection will also be provided so that a factor can be disassociated from any unbundled components. This “<None>” selection will be the default value for any new factors added to the forecast and also for any factors in existing revenue forecasts created prior to this new version.

In addition to being able to associate factors with unbundled components, the same factor will be allowed to be added to a rate schedule in the forecast hierarchy more than once. This will allow for a bundled factor to be broken down into its unbundled components within the revenue forecast.

The factor's associated unbundled component, if any, will appear in parentheses to the right of the factor's name in both the hierarchy tree and in any reports in which it appears.

Unbundled Component Setup

Unbundled components are specified via the **Edit Unbundled Components** dialog. Select **Revenue Forecast→Edit Unbundled Components...** to access this dialog.

The unbundled components specified here will be saved with the revenue forecast. New components can be added by entering the component name in the edit box at the bottom of the dialog and then clicking **Add**. The new component name will be inserted above the selected component in the list box.

The selected component's name can be edited by changing the text in the edit box and then clicking **Update**.

A component can be removed by selecting the component in the list box and clicking **Delete**. An unbundled component cannot be removed if any billing determinants or factors in the forecast hierarchy are associated with it.

The order of the unbundled components as they appear in the list box will be the order in which they appear in any reports in which they are included. A component can be moved up or down in the list box by selecting the component and then clicking **Up** or **Down**.

Clicking **OK** will accept any changes and close the dialog. Clicking **Cancel** will ignore any changes and close the dialog. Clicking **Help** will display online help for the dialog.

Factor Refresh

Factor values may be stored in a database or in a cached revenue forecast object. These cached objects can be updated from the database by selecting **Revenue Forecast→Refresh Factor Values**.

After you select this option, you will be prompted to confirm the action. Click **Yes** to proceed, or **No** to abort.

Using the Hierarchy Page to Specify the Methodology for Calculating Forecast Usage for Bill Determinant Blocks and to Associate Factors with Bill Determinant Blocks

The Hierarchy tab page also enables you to select a methodology for calculating forecast usage per bill determinant price block (you can even specify a different method for individual blocks). You can specify different blocks boundaries for selected date ranges within a 12-month period (January through December).

In addition, you can associate a factor code with each bill determinant price block. The program uses the factors referenced by these factor codes to derive tariffs (prices) for the blocks. These tariffs appear on the Tariffs page for the selected Bill Determinant as the derived values for the blocks. Like the factor tariffs, these block tariffs reflect the factor values of the corresponding factors in the Oracle Utilities Data Repository over the forecast date range.

You must perform the following steps for each Billing Determinant in every rate schedule that is priced according to block rates. If none of your rate schedules include price blocks, leave the default block range in place (e.g. "From 0 To -"); the dash represents infinity. Conceptually, a determinant always has at least this one block (from zero to infinity).

How to select an allocation methodology and specify block boundaries:

1. Highlight a bill determinant in the Tree Pane.
A form appears in the right pane.
2. In the right pane, specify the blocking type, the blocks and associated factor codes, and the month(s) each set of blocks is in effect.

Rate Schedule Identifier: *Applies only if one or more extended blocks exist for the bill determinant.*
Enter the identifier that the rate schedule uses for the bill determinant.

Date Ranges: You can divide the test year into sub-periods during which different blockings are in effect. When a new tab is first displayed, the Date Range is "From 01 To 12," which

means that there is one period covering January through December. To subdivide the year, modify the “To” values. In other words, click the cursor in a cell in the To column and type a value for the end month of the new period. Press the ENTER key. Oracle Utilities Revenue Management automatically creates a following period consisting of the remaining months. For example, say you want to divide the year into two periods, the first consisting of January through June, the second consisting of July through December. Click the cursor in the first cell in the To column (which initially reads 12). Type **3** and press Enter. Oracle Utilities Revenue Management automatically subdivides the year appropriately. You can divide the year into as many as 12 periods using this method.

Note: If the rate schedule contains seasons, the divisions of the year you specify here must match the seasons.

Blocks: Specify the blocks in effect for each date range. First, select the date range in the Date Ranges Table by clicking anywhere in its row. Then, specify the desired blocks in the Blocks Table. The default is one block, from 0 to infinity (the dash in the To column represents infinity). You can create smaller blocks using the same method desired above (e.g., specify new block boundaries by modifying values in the “To” column). The first block must begin with 0 and the last must end with -. Even if you are specifying extended blocks, it is recommended that you supply block ends (see *Tips About Rates that Include Extended Blocks*, below).

Note about Blocks, Bill Frequency tables, and Rate Schedules: It is not necessary for each block boundary in the Blocks Table to align with a block boundary in the Bill Frequency Table. However, the number of blocks in the BFT must be equal to or greater than the number of blocks you specify here. (With fixed blocks, a more accurate forecast will result if the Bill Frequency Table defines many blocks for each one defined here.) **For extended blocks, the number of blocks in the blocking must exactly match the number of blocks specified in the rate schedule.** See also *Tips About Rates that Include Extended Blocks*, below.

Factor Code: Associate a factor code with each bill determinant block. First, click the mouse pointer in the Factor Code cell in the row for the block. Then click the Associate Factor button near the bottom of the screen. The “Select Factor” dialog box appears. Highlight the desired factor, and click OK.

Block Type: Specify a block type for each bill determinant block. First, click the mouse pointer in the block’s row, then click either Fixed or Extended. Fixed blocks will be calculated using the Ogives method; Extended, the Historical Average. Repeat for each applicable block. See also *Tips About Rates that Include Extended Blocks*, below.

Tips About Rates that Include Extended Blocks

When calculating bill determinant block distribution, Oracle Utilities Revenue Management applies either the Ogives or Historical Averages method on a per block basis, rather than on a per determinant basis.

In order to do that, Oracle Utilities Revenue Management applies the Historical Averages method first, using the total forecasted usage for the month; then distributes the remaining usage over the fixed-size blocks using the Ogives method.

For the best results here, it is recommended that any extended blocks that consist of a fixed-size portion and a load factor-based portion be split into two separate blocks.

For example, say you have a rate schedule that defines the first energy block as follows:

The first energy block shall consist of 300 kilowatt-hours plus 30 kilowatt-hours for each one-half kilowatt of Customer's Demand in excess of 5 kilowatts.

The forecast for this block could be more accurate if you split the block into a fixed block from 0 to 300 kWh, and an extended block consisting of the additional 30 kWh increments.

Also, it is best if you use the Ogives method for **all** fixed sized blocks, even those that come after an extended block. However, when a fixed-size block is preceded by an extended block, it is not possible to determine an absolute value for the block end. But since the Ogives method requires the block end as an input, it is recommended that you estimate the block end in such cases.

Allocation Factors Page

Oracle Utilities Revenue Management allocates a Business Class's total kWh usage and number of customers to its rate schedules (if you've specified more than one in the hierarchy) according to data in the Bill Frequency Table. You can manually adjust these derived percentages using the Allocation Factors tab page.

This tab also enables you to adjust the linear relationship between kWh and other Billing Determinants in a rate schedule (also originally derived from the Bill Frequency Table data).

How to manually alter allocation of Business Class usage among its customer population on different rate schedules:

- In the Tree pane, highlight the icon for the desired Business Class.

A spreadsheet-type table appears in the right pane. This table displays both the percentage of kWh and the percentage of customers for each Rate Schedule in the selected Business Class, for each month in the historical date range for all Rate Schedules.

Edit the derived values as desired using the “adjustment” cells. Refer to **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

Note: The total for each and every column in the table must equal 100.00%. When you adjust a value in one cell, you must compensate for the change by adjusting other values in the column (the software does not do this for you). If the total of any column is more or less than 100%, Oracle Utilities Revenue Management will display a warning message when you attempt to go to a different tab.

How to manually alter the linear relationship between kWh and other Billing Determinants for a selected rate schedule:

- In the Tree pane, highlight the icon for the desired rate schedule.

A spreadsheet-like table appears in the right pane. This table displays the linear relationships between kWh and the other bill determinants for the selected rate schedule. The data is displayed for each month in the historical date range for the selected rate schedule.

Edit the derived values as desired using the “adjustment” cells. Refer to **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

How to edit values in a table using the adjustment cells:

Enter a value in one of the “adjustment” cells, and press the ENTER key. Oracle Utilities Revenue Management displays the “adjusted” value. *You can make changes to the table values only via the adjustment cells; you cannot directly edit information in any of the other cell types.*

An adjustment can be one of three possible types: *additive*, *multiplicative*, or *absolute*. Additive adjustments are indicated by a leading plus (+) character. Multiplicative adjustments are indicated by a leading asterisk (*) character. Absolute values are indicated by no leading plus or asterisk character. You can use a minus (-) sign with any of the three types for a negative value.

For example, to change 89.00% to 90.00%, type +1 in the adjustment cell. To change 42.00% to 40.00%, type +-2.00. To change 3.00% to 4.5%, type *1.5. To replace 51.00% with 53.00%, type 53.

In addition to typing adjustments in one cell at a time as just described, you can also highlight one or more cells and apply the Edit menu commands, e.g., Cut, Copy, Paste, or Delete as you would in a spreadsheet program. For example, to copy adjustment values from one pair of contiguous cells to another: highlight two adjustment cells that are side-by-side and select

Edit→Copy. Oracle Utilities Revenue Management copies the values to the clipboard. Then highlight two other side-by-side cells and select **Edit→Paste.** Oracle Utilities Revenue Management copies the values into the cells.

You can even apply the Edit operations to a whole row or a whole table of adjustment cells. To highlight an entire row of cells, click the leftmost cell in the row (the one containing the row's title). To highlight all adjustment cells in the table, click the first cell in the table (the blank one in the very upper left corner). Then apply the Edit operations as desired.

Note: Oracle Utilities Revenue Management saves all of your adjustments independent of the derived values. If you make a series of adjustments, the result is cumulative (a new adjustment is applied to the most recent value, not the original derived value).

Energy Forecast Page

In this step, you will specify the forecast date range and the Customer and Energy Load Forecast File that you wish to use as the basis for the forecast. (If you have not assembled this file, see Chapter 2 for instructions.) In addition, if you wish to calculate unbilled kWh for one or more operating companies, you'll specify the applicable Net Power Supply Forecast File here.

Forecast Date Range: Specify the date range for the forecast by typing the start and end month in the **From:** and **To:** boxes. January and December of the current year are the defaults. Valid data for the specified date range must exist within the Customer and Energy Load Forecast File and (optionally) the Net Power Supply Forecast File.

Note: If you increase the forecast date range after selecting one of the forecast files, you must reload the file (see *Reload* below).

Customer and Energy Load Forecast File: Type the absolute path and name of the file, including the extension (which should be '.prn'). Alternatively, you can click the **Browse** button to locate and select the file.

Net Power Supply Forecast File: Type the absolute path and name of the file, including the extension (which should be '.prn'). Alternatively, you can click the **Browse** button to locate and select the file.

Reload: If—after selecting the forecast files in the dialog box—you change your mind about any of the options as described below, you must click the **Reload** button for the affected file:

- You expand the forecast date range (affects either file).
- You add a jurisdiction to the hierarchy on the Hierarchy tab page (affects either file).
- You add a business class to the hierarchy on the Hierarchy tab page (affects the Customer and Energy Load Forecast File).

If you change the contents of the files themselves, you must reload the files.

Note: The codes used to identify Operating Companies, Jurisdictions, and Business Classes in the forecast files are not the same as those used in the Data Repository Lookup tables. There are two special files that map keys in the forecast files to the appropriate lookup codes—"keymap.txt" for the Customer and Energy Load Forecast File and "keymap2.txt" for the Net Power Supply Forecast File. If the lookup codes have recently been added to or modified, you must update these files. *Refer to Chapter 3 for instructions.*

Bill Determinants Page

The Bill Determinants tab page enables you to view and edit the forecasted kWh determinant usage and number of customers allocated to each Rate Schedule within a selected Business Class, as well as the allocation of any other forecast billing determinants for a selected rate schedule. Oracle Utilities Revenue Management derived this data from the Customer and Energy Load Forecast File and the allocation factors.

If desired, you can edit the values manually, as described below.

How to manually alter the allocation of Business Class usage (kWh) and/or customers to rate schedules:

- In the Tree pane, highlight the icon for the desired Business Class.

A spreadsheet-type table appears in the right pane. This table displays the number of forecast kWh and customers allocated to each Rate Schedule in the selected Business Class, for each month in the historical date range.

You can edit the derived values as desired using the “adjustment” cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

Note: You cannot change the total number of customers and kWh forecast for each month. In other words, when you adjust a value in one cell, you must compensate for the change by adjusting other values in the column (the software does not do this for you). If the total adjusted value at the bottom of a column does not match the original forecast value, Oracle Utilities Revenue Management will display a warning message when you attempt to go to a different tab.

How to manually alter allocation of the forecast billing determinants:

- In the Tree pane, highlight the icon for the desired rate schedule.

A spreadsheet-type table appears in the right pane. This table displays the values for all other determinants for the selected rate schedule. The data is displayed for each month in the forecast date range. Oracle Utilities Revenue Management derived this data from the Customer and Energy Load Forecast File and your input in the Allocation Factors tables.

Edit the derived values as desired using the “adjustment” cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

Tariffs Page

This tab page lets you view, add, and edit pricing information for each rate schedule in the forecast. If you specified a factor code for bill determinant blocks on the Hierarchy page, Oracle Utilities Revenue Management automatically computes the per unit prices and displays them on this tab page as the Derived values for the blocks. You can edit these prices as desired.

How to enter bill determinant prices and (optionally) adjust factor values:

- In the Tree pane, highlight the icon for the desired rate schedule.

A spreadsheet-type table appears in the right pane. This table displays tariff and pricing information for all Bill Determinants and Factors for the selected Rate Schedule, for each month in the forecast date range. Current pricing for Factors is loaded from the database, but values for the Bill Determinants default to 0 unless a factor was associated with the Bill Determinants as described on page 4-14. Supply prices for the bill determinants by typing values in the adjustment cells. You can also modify the factors using the adjustment cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

Revenue Page

Finally, this tab page lets you view and edit the revenue forecast for each rate schedule in the hierarchy. Oracle Utilities Revenue Management derives this data from the Customer and Energy Load Forecast File and your inputs on the previous pages.

How to view forecast revenue for a rate schedule:

- In the Tree pane, highlight the icon for the desired rate schedule.

A spreadsheet-type table appears in the right pane. This table displays the derived revenue for each bill determinant and factor for the selected rate schedule. The data is displayed for each month in the forecast date range.

You can edit the data using the adjustment cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

Once you are satisfied with the forecast, you can generate a number of useful reports. See **Chapter 5: Reports and Other Output** for more information about Oracle Utilities Revenue Management reports.

Unbilled Revenue Page

This tab page lets you calculate, view, and edit the unbilled revenue forecast for an operating company, jurisdiction, and/or business class. Oracle Utilities Revenue Management derives this data from the Net Power Supply Forecast File and your inputs on this page and on the previous ones.

How to calculate and view unbilled revenue for an operating company:

- In the Tree pane, highlight the icon for the operating company of interest.

A spreadsheet-type table appears in the right pane. This table displays all of the components of unbilled kWh for the selected operating company for each bill month in the forecast date range. Spread factors represent the percentage of unbilled kWh for each business class within the parent operating company. Keep in mind that the spread factors must total 100% for each bill month.

Note: You must supply values for the “Unbilled KWH” for the first month in the forecast, as well as “Percentage of Losses” and business class “Spread Factors” for every month in the forecast.

Oracle Utilities Revenue Management derives the total unbilled kWh using the following formula:

$$\begin{aligned} \text{unbilled kWh} &= \text{previous month unbilled kWh} \\ &+ \text{net power supply} \\ &- (\text{net power supply} \times \text{percentage of losses}) \\ &- \text{current month billed kWh} \end{aligned}$$

where the previous month unbilled kWh value is carried forward from the total unbilled kWh value for the previous month. Net power supply values come from the Net Power Supply Forecast File that you specified on the Energy Forecast tab page. Percentage of losses is a number you supply. Current billed kWh is carried forward from the Bill Determinants page (values for each business class for all jurisdictions in the operating company are summed together, unless you indicated otherwise for a business class by deselecting the **Include as Regular Customer Unbilled kWh** option on the Hierarchy tab page).

You can, if desired, modify the calculated total unbilled kWh value for each month, using the adjustment cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

How to calculate and view unbilled revenue for a jurisdiction:

- In the Tree pane, highlight the icon for the jurisdiction of interest.

A spreadsheet-type table appears in the right pane. This table enables you to view and enter information required to calculate Unbilled Fuel Revenue and Deferred Fuel Expense values.

Note: You must supply values for every month in the forecast for the “GRT Effective Rate” and “Unbilled Fuel Revenue” (unbilled fuel revenue is required only if you had requested the “Show Deferred Fuel Expense” option on Hierarchy tab page for the jurisdiction).

Oracle Utilities Revenue Management calculates the Average Fuel Rate from existing revenue information within the revenue forecast using the following formula:

$$\text{average fuel rate} = \text{billed fuel revenue} / \text{billed kWh}$$

where billed fuel revenue is the sum of all revenues from factors with a UOM code of FUEL_ADJ, FUEL_ADJ_KW, BASE_FUEL_ADJ, or BASE_FUEL_ADJ_KW.

Note: *You must supply values for “GRT” and “Fuel Cost.”* Otherwise, Oracle Utilities Revenue Management uses the default values 1.00 for GRT and \$0.00 for Fuel Cost. Oracle Utilities Revenue Management calculates Deferred Fuel Expense by summing any Unbilled Fuel Revenue for each business class within the selected jurisdiction and then subtracting any fuel costs (see below for a description of Unbilled Fuel Revenue for a business class).

You can, if desired, modify the results of the calculations using the adjustment cells. See **How to edit values in a table using the adjustment cells:** on page 4-9 for more information.

How to view unbilled revenue for a business class:

- In the Tree pane, highlight the icon for the business class of interest.

A spreadsheet-type table appears in the right pane. This table displays components for both Unbilled Revenue and Unbilled Fuel Revenue for the selected business class.

Unbilled kWh is calculated by multiplying the Unbilled kWh for the parent Operating Company by the Unbilled kWh spread factor for the selected business class. Average Rate is calculated by dividing Total Revenue by Billed kWh for the business class. The Unbilled Revenue is then calculated by multiplying the Unbilled kWh for the business class by the Average Rate.

The Average Fuel Rate and GRT values are carried over from entries made on the Jurisdiction Table. Unbilled Fuel Revenue is then calculated by multiplying the Average Fuel Rate, GRT, and Unbilled kWh for the business class. You can edit the data using the adjustment cells as described on page 4 - 17.

See **Chapter 5: Reports and Other Output** for information about generating an unbilled revenue report.

Saving the Forecast

You can save the inputs and results for future use. Select **File->Save** or **File->Save As**. If you select **Save**, Oracle Utilities Revenue Management saves the information using the name you supplied on the Parameters tab page. If you select **Save As**, Oracle Utilities Revenue Management prompts you for a new name.

Chapter 5

Reports and Other Output

This chapter explains how to create reports and output files from a revenue forecast, including:

- **What Report Types are Available?**
- **Creating a Report**
- **Report Tools**
- **Corporate Model Output File**
- **Revenue Output Data File**

What Report Types are Available?

Oracle Utilities Revenue Management lets you print and save five types of forecast reports:

- **Bill Determinants:** Total number of customers and usage per each selected rate schedule in the hierarchy.
- **Revenue Detail:** Forecast revenue by block and factor.
- **Revenue Summary:** Base and total revenue.
- **Revenue Comparison:** Base and total revenue, and percentage difference between current forecast and prior year forecast.
- **Unbilled Revenue:** Unbilled revenue and unbilled fuel revenue.

Note

The Revenue Summary report, Revenue Comparison report, Bill Determinants report, and Unbilled Revenue report include revenue class totals listed by revenue class name in sorted ASCII order for each operating company.

Creating a Report

The following pages explain how to create any of the five types of reports listed in the previous section.

How to create a report:

1. Select **File->Open->[name of forecast]** if the Revenue Forecast window for the desired forecast is not already open.
2. Go to the appropriate tab, depending upon the type of report you wish to create:
 - **Bill Determinants** tab for the Bill Determinants report
 - **Unbilled Revenue** tab for the Unbilled Revenue report
 - **Revenue** tab for all other report types.
3. In the Tree Pane of the tab, highlight the entity for which you wish to generate the report. The entity can be at any one of the following levels: Operating Company, Jurisdiction, Business Class, or Rate Schedule (the exception is the Unbilled Revenue report, which applies to the first three entity levels—not rate schedule).
4. Select **Revenue Forecast->Reports->[report type]**.
5. Complete the **Revenue Forecast Report** dialog that appears.

Date Range: Specify start and end month for the period you wish to report (must be the same as, or a subset of, the forecast year).

Report Level: These options limit the report for the selected entity to just the context of its parent entity. The specific options that are available depends upon the level of the entity that you selected. Deselecting some options makes others available.

Include Selected Unbundled Components: Select the components to include in the report. To select more than one component, hold down the Ctrl key and select additional items.

Scale: Choose one of the following options:

- **Monthly:** Report data for each month in the forecast period.
 - **Quarterly:** Report data for each quarter in the forecast period.
 - **Annual:** Report data for entire year.
6. *(Optional)* Complete the **Report Options** dialog. See **Report Options** on page 2-13 for more information.

Report Tools

Oracle Utilities Revenue Management offers several useful features and tools for working with the reports. All require that the report be displayed on-screen.

How to print the report:

- Select **File->Print**.

A dialog box appears, giving you additional options for printing.

How to export the report in a text or CSV-format file:

- Select **File->Export**.

A dialog appears. Specify a name and destination directory for the file. Then specify a file type in the **Save as type** box. If you specify .txt, you can open the file with Notepad or other text editor or word processor. If you specify .csv, you can load the data into a spreadsheet program for further analysis.

Note: in order for the Comma Separated Files .csv option to be available in the Save as type drop-down list, you must have checked the **Keep Data (for CSV export)** option described on the previous page.

How to search the report for desired text strings:

- Select **Edit->Find**, then the text you want to find.

Be sure to keep in mind that the search is case-sensitive. To find the next instance of the text, select **Edit->Find Next**. To find the previous instance of the text, select **Edit->Find Previous**.

Corporate Model Output File

The Corporate Model Output File contains data on the average rate at different levels of the hierarchy for a selected operating company. It has been designed for input to budgeting and other external programs.

How to create the Corporate Model Output File:

1. Select **File->Open->[name of forecast]** if the Revenue Forecast window for the desired forecast is not already open.
2. Go to the **Revenue** tab page.
3. In the Tree Pane, highlight the operating company of interest.
4. Select **Revenue Forecast->Corporate Model Output**.
5. The Corporate Model Output dialog box appears.

Specify a date range, destination directory and file name, and click **OK**.

Revenue Output Data File

The Revenue Output Data File contains one or more revenue line items for every business class in the selected node of the forecast hierarchy. The content of the revenue line items will be determined by a text-based control file that you can edit.

Each line in the file contains comma-separated values described below:

Value	Code
First Value	Operating Company Code
Second Value	Jurisdiction Code
Third Value	Business Class Code
Fourth Value	Revenue Item Description
Additional Values	Revenue Item Value for each month in report range

The revenue values for each month are formatted as thousands of dollars and scaled to three decimal places.

The control file is named REVDATA.TXT and is located in the C:\LODESTAR\CFG directory. It contains one line for each unique revenue item description that is required to appear in the output file. Each line in the control file consists of a keyword, an optional argument list in parentheses, an optional multiplier in square brackets, and a description in double quotes. All argument lists should be comma-separated.

The keyword, along with any arguments, is used to determine how revenue for the line item is calculated. The resultant revenue is multiplied by the multiplier, if it exists. The description is what will appear as the fourth value (Revenue Item Description) in each line of the output file. The valid keywords are described below.

- **DETERMINANT (arglist):** Specifies that the line item should contain revenue for all billing determinants listed in the required argument list by identifier.
- **DETERMINANTUSAGE (arglist):** Specifies that the line item should be usage data for the billing determinant listed in the required argument list by identifier. The data is represented in non-scaled usage units. Note that only a single argument is permitted.
- **FACTORUOM (arglist):** Specifies that the line item should contain revenue for all factors with the UOMs listed in the required argument list by code.
- **BASEUNBUNDLED (arglist):** Specifies that the line item should contain base revenue for all unbundled components listed in the required argument list by name.
- **TOTALUNBUNDLED (arglist):** Specifies that the line item should contain total revenue for all unbundled components listed in the required argument list by name.
- **BASE:** Specifies that the line item should contain base revenue.
- **TOTAL:** Specifies that the line item should contain total revenue.

For any keywords that require arguments, if a particular business class does not contain any data for the arguments listed, then the line will not appear in the output file for that business class.

Keywords are case-insensitive. All identifiers, codes, and unbundled component names are, however, case-sensitive. An example of a control file is shown below:

```
TOTAL "Total Revenue"
TOTALUNBUNDLED (CTC) "Unbundled CTC"
TOTALUNBUNDLED (Generation) "Unbundled Generation"
TOTALUNBUNDLED (Distribution) "Unbundled Distribution"
TOTALUNBUNDLED (Transmission) "Unbundled Transmission"
```

DETERMINANT (KWH) [0.001] "MWH"
DETERMINANTUSAGE (KWH) [0.001] "Megawatt-hours"

How to create the Revenue Output Data File:

1. Select **File->Open->[name of forecast]** if the Revenue Forecast window for the desired forecast is not already open.
2. Go to the **Revenue** tab page.
3. In the Tree Pane, select the Operating Company, Jurisdiction, or Business Class to report on (all Operating Companies may also be selected).
4. Select **Revenue Forecast->Revenue Output Data File**.
5. The Revenue Output Data File dialog box appears.
Specify a date range, destination directory and file name, and click **OK**.

Unbilled Revenue Output File

The Unbilled Revenue Output File contains one or more unbilled revenue line items for every business class in the selected node of the forecast hierarchy. The content of the revenue line items will be determined by a text-based control file that you can edit.

Each line in the file contains comma-separated values described below:

Value	Code
First Value	Operating Company Code
Second Value	Jurisdiction Code
Third Value	Business Class Code
Fourth Value	Revenue Item Description
Additional Values	Revenue Item Value for each month in report range

The revenue values for each month are formatted as thousands of dollars and scaled to three decimal places. The revenue megawatt-hour values for each time period are formatted as megawatt-hour units scaled to three decimal places. The time period is either one month, one quarter, or one year and is specified in the Unbilled Revenue Output dialog (see below).

The control file is named UBDATA.TXT and is located in the C:\LODESTAR\CFG directory. It contains one line for each unique revenue item description that is required to appear in the output file. Each line in the control file consists of a keyword, an optional argument list in parentheses, an optional multiplier in square brackets, and a description in double quotes. All argument lists should be comma-separated.

The keyword, along with any arguments, is used to determine how revenue for the line item is calculated. The resultant revenue is multiplied by the multiplier, if it exists. The description is what will appear as the fourth value (Revenue Item Description) in each line of the output file. The valid keywords are described below.

- **UNBILLEDMDWH (arglist):** Specifies that the line item should contain unbilled megawatt-hour data (in megawatt-hours).
- **UNBILLEDREV (arglist):** Specifies that the line item should contain unbilled revenue (in thousands of dollars).
- **UNBILLEDFUELREV (arglist):** Specifies that the line item should contain unbilled fuel revenue (in thousands of dollars).
- **TOTALFUELREV (arglist):** Specifies that the line item should contain total fuel revenue (in thousands of dollars).

For any keywords that require arguments, if a particular business class does not contain any data for the arguments listed, then the line will not appear in the output file for that business class.

Keywords are case-insensitive. All identifiers, codes, and unbundled component names are, however, case-sensitive. An example of a control file is shown below:

```
UNBILLEDMDWH "Unbilled Megawatt-Hours"
UNBILLEDREV (CTC) "Unbilled Revenue (thousands)"
UNBILLEDFUELREV "Unbilled Fuel Revenue (thousands)"
TOTALFUELREV [0.001] "Total Revenue (millions)"
```

How to create the Unbilled Revenue Output File:

1. Select **File->Open->[name of forecast]** if the Revenue Forecast window for the desired forecast is not already open.
2. Go to the **Unbilled Revenue** tab page.

3. In the Tree Pane, select the Operating Company, Jurisdiction, or Business Class to report on (all Operating Companies may also be selected).
4. Select **Revenue Forecast->Unbilled Revenue Output File**.
5. The Revenue Output Data File dialog box appears.
Specify the scale, a date range, destination directory and file name, and click **OK**.

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