Appendix D RateVision User's Manual Version 1.0

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CHAPTER 1. INTRODUCTION

About RateVision

RateVision is a program designed to enter and analyze your electricity rate schedule and energy use schedule(s). These schedules are saved in formats that are compatible with other programs (FarmWare, CITCEM, and E-PLUS) and can be used to analyze various electricity saving or producing options within these programs.

Why use RateVision?

As the owner or manager of a facility, you have energy management choices. Some options you examine will affect your electricity costs. For example, a shopping mall may install more efficient lighting, or a farmer may install equipment to produce electricity from a manure methane recovery system. In these cases, there is a need to accurately evaluate the potential benefits of energy recovery projects that offset electricity purchases. To do this, you must have a good understanding of your current electricity costs and how they are likely to change. RateVision helps you make these decisions by organizing your rate schedule and electricity use information. This information can then be saved and used in other EPA software systems that evaluate specific electricity recovery projects, such as FarmWare and CITCEM (Commercial and Industrial Transformer Cost Evaluation Model). These other programs can customize their analyses to your specific electricity use and rate schedule information. This provides you with more detailed and accurate results to help you make a profitable decision for your facility.

What is a Rate Schedule?

A Rate Schedule is an agreement between you and your local utility company that outlines the specific rates you pay for electricity. There are many types of rate schedules using different terminology, values and calculation methods for four basic components:

- **Fixed Monthly Charge**: Fixed charges are monthly charges that are the same each month. Your rate schedule may have one or more fixed monthly charges. Common names for fixed monthly charges include Customer Charge and Meter Charge. These charges usually vary by the size of the facility being served.
- **Demand Charge**: Demand charges are based on the capacity, or the cost per kW of electricity, used. Demand charges typically vary by time of year and peak utility season. Generally, summer demand charges are higher than winter demand charges. Some have multiple charges based on time of day.
- **Energy Charge**: Energy charges are based on the cost per kWh of electricity used. Energy charges vary by time of year, time of day, and amount used (block rates). Generally, energy charges are highest during the mid-day hours.
- **Other Charges**: Other charges are charges that are not included in fixed monthly, demand, or energy charges. These include state and local taxes, environmental and DSM surcharges, and other user fees.

Together, these four charge elements determine your electricity bill. Understanding the details of your electricity rate schedule enables you to make informed decisions about your electricity options. For an example of a rate schedule and how to enter it into RateVision, see the Tutorial Section in Chapter 3.

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Installing the RateVision Software

Before you begin working with RateVision, check the contents of your RateVision package, make sure you have the correct equipment to run the program, and read through the rest of this section to be sure you have a clear understanding of the installation procedure.

The RateVision Package

Your RateVision package includes the following:

- 3½ inch RateVision program disk (located in the plastic sheet in this handbook)
- RateVision manual (this appendix)

Required Equipment

- An IBM compatible computer with a 386SX or better processor with at least 4MB RAM;
- Microsoft Windows 3.1 or later; and
- Hard disk with at least 4 MB of space available.

Recommended Equipment

- ***Color monitor*** - RateVision operates on a monochrome monitor; however, some screens are difficult to read. We suggest using a screen resolution greater than 640 x 480.
- ***Mouse*** - If you do not have a mouse, it is possible (though rather inconvenient) to RateVision using keyboard controls. **File** menu options may be accessed by clicking the Alt key and the underscored letter in the menu option (e.g., to access the **File** menu, click **Alt+F**).
- ***Printer*** - You may wish to print a hard copy of RateVision results.

Installation Instructions

To install RateVision on your computer, follow the instructions below:

1. Insert the RateVision disk into your floppy disk drive (A or B).
2. Click on the **File** menu of your **Windows Program Manager** and select **Run**.
3. Type **a:\install** (or **b:\install**) and click OK.
4. Follow the instructions during the installation process, making sure that you select the default directory. ***RateVision will not be installed correctly if you modify the default drive or directory***.
5. Read the message in the instruction screen at the end of the installation process and double click on the upper left hand corner to continue.

To run RateVision, double click on the RateVision icon, or click on the **File** menu of the Windows Program Manager, select **Run**, and type c:\ratevisi\ratevisi.exe (or d:\ratevisi\ratevisi.exe or e:\ratevisi\ratevisi.exe, depending on where you install the RateVision program files).

After RateVision has loaded, it displays the "Question For New Users" screen (Figure 1).

Figure 1: RateVision Question for New Users Screen

If you are a first time user, you may want to continue with the RateVision Wizards and click either the **Run the Rate Schedule Wizard** button or the **Run the Load Profile Wizard** button. Additional information about the wizards is covered in Chapter 2 - RateVision Wizards.

CHAPTER 2. RATEVISION WIZARDS

Users who are not familiar with RateVision are advised to use the RateVision Wizards. When RateVision is started, a dialog box (Figure 2) gives the user the option to use either the **Rate Schedule Wizard**, the **Load Profile Wizard**, or neither. The wizards take you through a step by step process to create a rate schedule or load profile. Along the way, the wizard provides brief descriptions of various rate and load components, and prompt you for each input step.

Figure 2: RateVision Question for New Users Screen

Rate Schedule Wizard

The **Rate Schedule Wizard** takes you through the process of creating a rate schedule. When the Rate Schedule Wizard is launched, either from the opening dialog box or from the **Wizard** menu, a series of dialog boxes describe the steps involved in creating a rate schedule, including creating and combining rate components. The Wizard asks you whether you wish to proceed and define rate components. If you select the **Yes** button, the rate component construction sequence begins. If you select the **No** button, the Wizard begins the rate schedule customization sequence.

Load Schedule Wizard

The **Load Schedule Wizard** takes you through the process of creating a load profile. When the Load Profile Wizard is launched, either from the opening dialog box or from the **Wizard** menu, a series of dialog boxes describe the steps involved in creating a load schedule, including defining and combining load profiles. The Wizard asks you whether you wish to proceed and define load profiles. If you select **Yes**, the load component construction sequence begins. If you select the **No** button, the Wizard begins the load schedule customization sequence.

CHAPTER 3. RATEVISION TUTORIAL

This tutorial is intended to introduce new users to the RateVision software. A case study is presented outlining hypothetical data to be entered and analyzed. This case study may be used in conjunction with FarmWare case study E-2 in Appendix E of this handbook.

Example: Snow Falls Dairy

Snow Falls Dairy is a successful 500 cow dairy in Central California. Mr. Snow, the owner of Snow Falls Dairy, is considering a methane recovery system for his farm. The initial analysis using the FarmWare interview looks promising. Mr. Snow wants to examine the possibility in greater detail, so he is using RateVision to enter his electricity rate schedule and energy use patterns. The rate schedule and energy use entered in RateVision can then be used in FarmWare to provide a more accurate estimate of the financial evaluation for a methane recovery system at Snow Falls Dairy.

Snow Falls Dairy purchases electricity from the Big Blizzard Electric Company. Mr. Snow retrieved a copy of his electrical rate schedule from his files. Snow Falls Dairy electrical rates fall under the Agricultural (Large Time-of Use): AG-5 Rate B scale, presented below. In addition to these charges, Mr. Snow pays a 5% sales tax.

Charge Type		
Charge type	**$ per Month Winter**	**$ per Month Summer**
Customer Charge (Rate B) per meter	16.00	16.00
Meter charge (Rate B) per meter	6.00	6.00
Demand Charge (Rate B)	4.40/kW	6.55/kW
Energy Charge (Rate B)		
Peak	-----	0.14965/kWh
Partial-Peak	0.04880/kWh	-----
Off-Peak	0.03880/kWh	0.04280/kWh

Time-of Use Periods for Rate B

Winter (Nov. 1-April 30)		**Summer (May 1-Oct. 31)**	
Charge name	**time**	**Charge name**	**time**
Partial-Peak	8:00 a.m., to 9:00 p.m. Monday - Friday	Peak	12:00 noon to 6:00 p.m. Monday - Friday
Off-Peak	All other hours Mon.-Fri. All day Saturday, Sunday and holidays	Off-Peak	All other hours Mon.-Fri. All day Saturday, Sunday and holidays.

How does all of this information affect Mr. Snow's decision to install a methane recovery system to produce electricity on his farm? RateVision is designed to help answer this question. Let's walk through the Snow Falls Dairy example together with RateVision.

Using the information in the above two tables (Charge Type and Time of Use Periods), we can complete a table showing the "big picture" for Snow Falls Dairy. To avoid confusion later, the charge types should be listed according to the times for which they apply. As a general rule of thumb, the first charge listed should be the charge in effect on January 1 at 12:01am (just after the new year begins). For example, the energy charge in effect at the beginning of January 1 is the Winter Off-Peak charge type. The next charge type to be listed is the next new charge type to come into effect as the days or seasons progress. For example, after the new year, it will eventually be 8:30 am on a week day and the Partial-Peak will be the next charge type in effect. Continue listing charges in the order they become effective chronologically. Notes have been added in the charge type column to help guide you through the seasons.

Your completed Big Picture table for Snow Falls Dairy should look like the table below. This table will be used throughout the tutorial to help you understand how each step fits into the big picture.

The Big Picture Table for Snow Falls Dairy

Rate Type	Rate Component	Time of Year	Time of Day	Value
Fixed Rates	1) Customer	*All*	*All*	*$16.00/month*
	2) Meter	*All*	*All*	*$6.00/month*
Capacity Rates	1) Winter	*Jan 1 - April 30*	*All*	*$4.40/kW*
	2) Summer	*May 1 - Oct 31*	*All*	*$6.55/kW*
	1) Winter	*Nov 1-Dec 31*	*All*	*$4.40/kW*
Energy Rates	1) Winter Off-Peak	*Jan 1 - April 30*	*M-F 9:00pm-8:00am; Sat, Sun, and Holidays all day.*	*$0.0388/kWh*
	2) Partial-Peak	*Jan 1 - April 30*	*M-F 8:00am-9:00 pm.*	*$0.0488/kWh*
	3) Summer Off-Peak	*May 1 - Oct 31*	*M-F 6:00pm-12:00 noon; Sat, Sun, and Holidays all day.*	*$0.0428/kWh*
	4) Peak	*May 1 - Oct 31*	*M-F 12:00 noon-6:00pm.*	*$0.14965/kWh*
	1) Winter Off-Peak	*Nov 1-Dec 31*	*M-F 9:00pm-8:00am; Sat, Sun, and Holidays all day.*	*$0.0388/kWh*
	2) Partial-Peak	*Nov 1- Dec 31*	*M-F 8:00am-9:00 pm.*	*$0.0488/kWh*
Other Rates	1) Taxes	*All*	*All*	*5%*

After filling out the table you are ready to begin designing a rate schedule for Snow Falls Dairy. The first step is to define each of the rate components for each rate type.

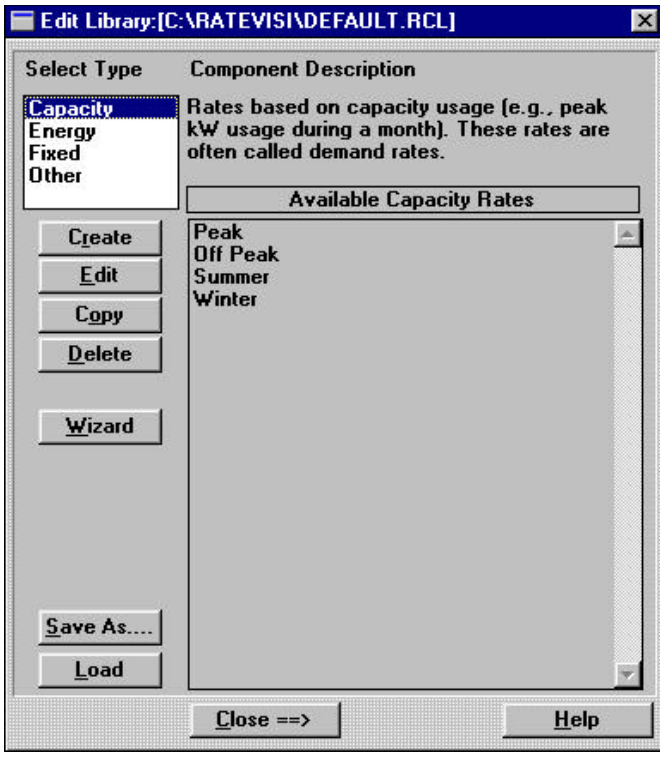
Step 1: Define Rate Components

Figure 3: Rate Components Button

To define rate components, click on the Rate Components button on the Toolbar (Figure 3) or choose the **Rate Components** option in the **Rates** menu to bring up the Rate Components dialog box (Figure 4). The available rates for each rate type are stored in the default rate component library. Rate types are defined as follows:

- **Capacity Rates:** Rates that are based on capacity usage (e.g. peak kW usage during a month). These rates are often called demand rates.
- **Energy Rates:** Rates based on energy usage (e.g., kWh usage during a month).
- **Fixed Rates:** Rates that do not depend on energy usage. These rates may be called customer charges or meter charges.
- **Other Rates:** Other types of rates. These may include minimum or maximum charges and taxes calculated as a percentage of total charges.

Figure 4: Rate Component Dialog Box



Capacity Rate Components

Snow Falls Dairy has two capacity rate components, summer and winter, as shown in the table below. To define these components, choose **Capacity Rates** in the **Select Type** selection box.

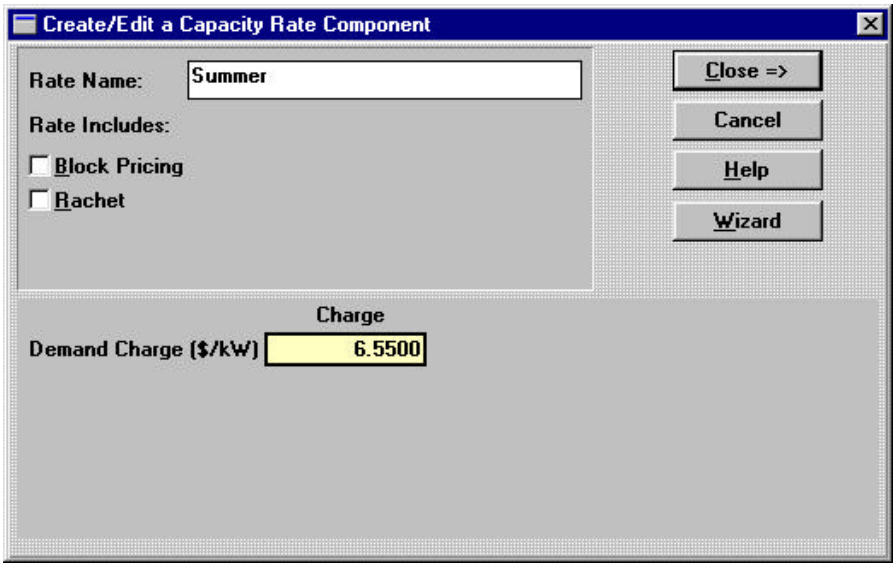
Capacity Rates for Snow Falls Dairy

Rate Type	Rate Component	Value
Capacity Rates	1) Winter 2) Summer	*$4.40/kW* *$6.55/kW*

To create Capacity Rate Components, follow these steps:

1. Delete all of the rates listed in the **Available Rates** list by highlighting the rate names and clicking on the **Delete** button. (*We will create the summer and winter rates for Snow Falls Dairy from scratch*).
2. Click on the **Create** button. This brings up **the Create/Edit a Capacity Rate Component** dialog box with the default Summer rate configuration (Figure 5).
3. Enter ***Summer*** in the Rate Name box and ***$6.55*** in the demand charge entry box. (*Snow Falls Dairy does not have a block pricing or ratchets. The summer rate is simply $6.55*.).
4. Click on the **Close** button.
5. Repeat Steps 2-4 for the ***Winter*** rate component using ***$4.40*** as the demand charge.

Figure 5: Capacity Rate Component for Snow Falls Dairy



After defining both the summer and winter capacity rate components you should save the rate component library by clicking on the **Save As** button and entering "snowfalls.rcl".

Energy Rate Components

Snow Falls Dairy has four energy rate components, listed in the below table.

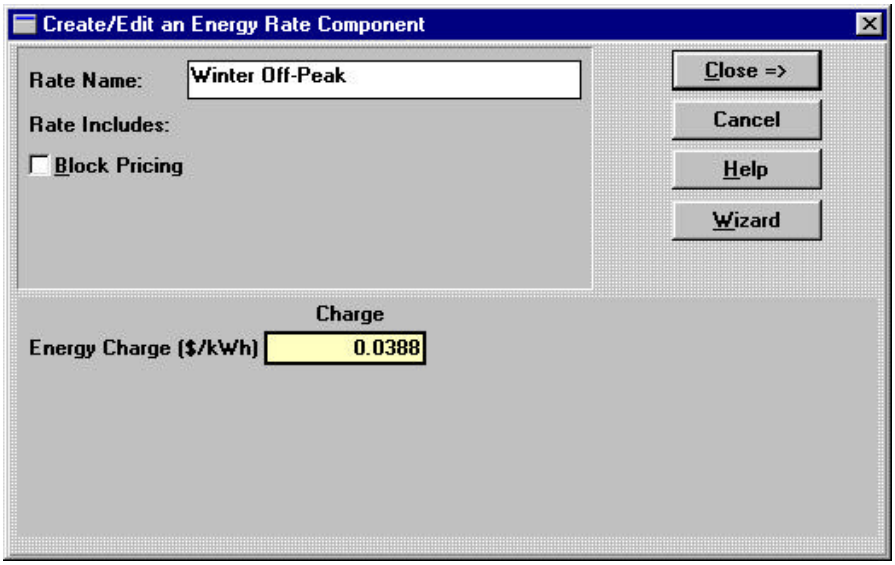
Energy Rates for Snow Falls Dairy

Rate Type	Rate Component	Value
Energy Rates	1) Winter Off-Peak	*$0.0388/kWh*
	2) Partial-Peak	*$0.0488/kWh*
	3) Summer Off-Peak	*$0.0428/kWh*
	4) Peak	*$0.14965/kWh*

To create Energy Rate Components, follow these steps:

1. Select **Energy Rates** in the **Select Type** selection box.
2. Delete all of the rates listed in the **Available Rates** box. (*We will create energy rate components from scratch for Snow Falls Dairy*.)
3. Click on the **Create** Button. The **Create/Edit an Energy Rate Component** dialog box (Figure 6) pops up.
4. Enter ***Peak*** in Rate Name box and ***$0.14965*** in the energy charge entry box.
5. Click on the **Close** button.
6. Repeat Steps 3 - 5 for the **Winter Off-Peak** (energy charge is ***$0.0388***), **Partial-Peak** (energy charge is ***$0.0488***). and the **Summer Off-Peak** Rates (energy charge is ***$0.0428***).

Figure 6: Energy Rate Component for Snow Falls Dairy



After defining all four of the energy rate components you should save the rate component library by clicking on the **Save As** button and entering "snowfalls.rcl".

Fixed Rate Components

Snow Falls Dairy's fixed rates are shown in the table below.

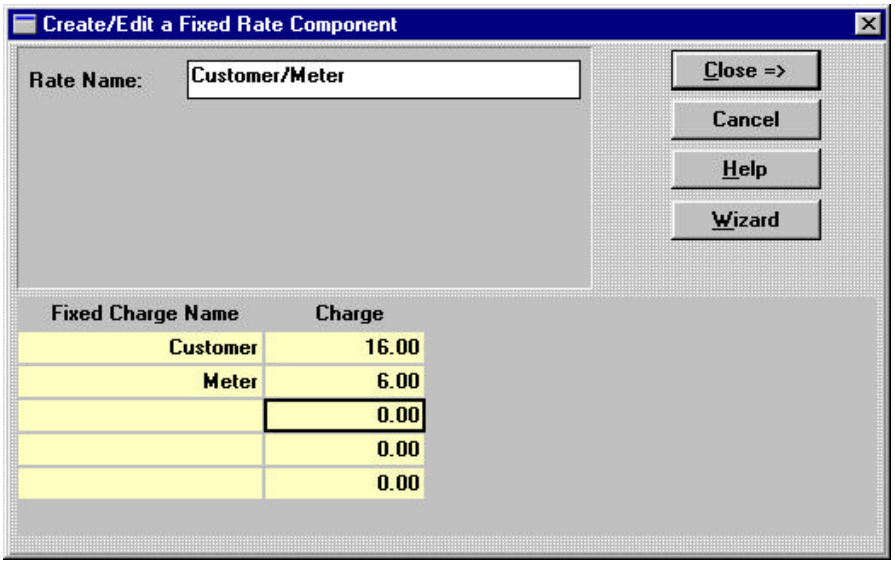
Fixed Rates for Snow Falls Dairy

Rate Type	Rate Component	Value
Fixed Rates	1) Customer 2) Meter	*$16.00/month* *$6.00/month*

To create a Fixed Rate Component, follow these steps:

1. Select **Fixed Rates** in the **Select Type** selection box.
2. Delete all of the rates listed in the **Available Rates** box. (*We will create fixed rate components from scratch for Snow Falls Dairy.*)
3. Click on the **Create** button. This brings up the **Create/Edit a Fixed Rate Component** dialog box (Figure 7).
4. In the dialog box, enter **Customer/Meter** in the rate name entry box.
5. In the first row of the Fixed Charges, enter ***Customer*** in the Name column and ***$16.00*** in the Charge column.
6. In the next row, enter ***Meter*** in the Name column and ***$6.00*** in the Charge column. Your screen should look like Figure 7.
7. Click on the Close button. Customer/Meter should now appear in the Available Fixed Rates list.

Figure 7: Fixed Rate Component for Snow Falls Dairy



After defining both the customer and meter fixed rate components you should save the rate component library by clicking on the **Save As** button and entering "snowfalls.rcl".

Other Rate Components

The Other rates for Snow Falls Dairy are listed in the table below.

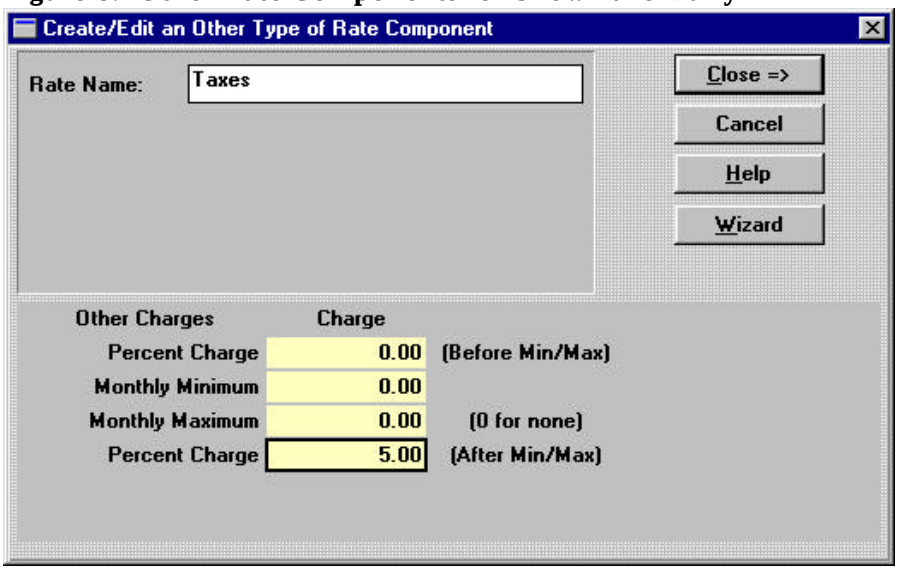
Other Rates for Snow Falls Dairy

Rate Type	Rate Component	Value
Other Rates	1) Taxes	*5%*

To create Other Rate Components, follow these steps:

1. Select **Other rates** in the **Select Type** selection box.
2. Delete all of the rates listed in the **Available Rates** box. (*We will create a taxes rate component from scratch for Snow Falls Dairy*.)
3. Select **Create**, click on the **Edit** button.
4. Enter **Taxes** in the Rate Name box.
5. Enter **5%** in the Percent Charge (after min/max) box. The finished screen should look like Figure 8.

Figure 8: Other Rate Components for Snow Falls Dairy



After defining the other rate component you should save the rate component library by clicking on the **Save As** button and entering "snowfalls.rcl".

Step 2: Build an Hourly Rate Schedule.

The energy rates that apply to Snow Falls Dairy vary by the time of day, as well as by season. Based on the energy rate schedule, two hourly rate components, one for *winter* and one for *summer*, need to be defined for energy rates.

The energy rates' time-of-day schedule is shown in the table below.

Energy Rates for Snow Falls Dairy

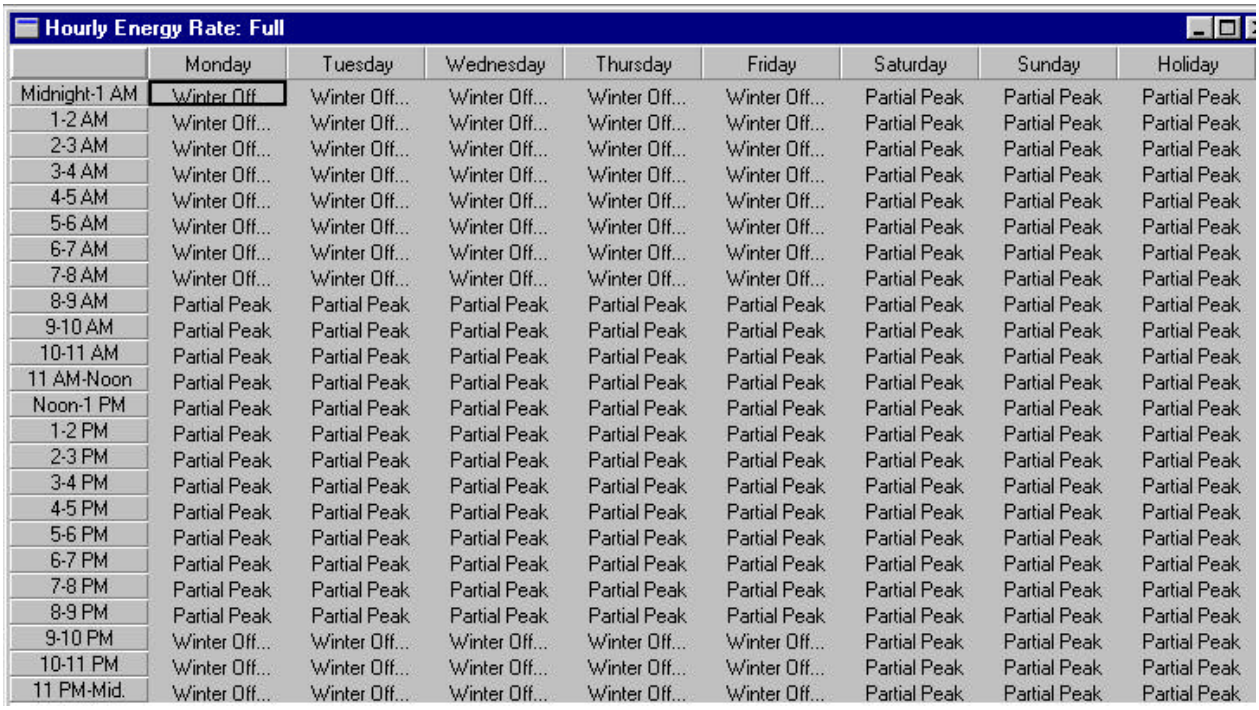
Rate Type	Rate Component	Time of Day
Energy Rates	1) Winter Off-Peak	*M-F 9:00pm-8:00am; Sat, Sun, and Holidays all day.*
	2) Partial-Peak	*M-F 8:00am-9:00 pm.*
	3) Summer Off-Peak	*M-F 6:00pm-12:00 noon; Sat, Sun, and Holidays all day.*
	4) Peak	*M-F 12:00 noon-6:00pm.*

To create Hourly Rate Components, follow these steps:

Figure 9: Hourly Rate Components Button

1. Click on the Hourly Rate Component button (Figure 9) or choose **Hourly Rate Components** in the **Rates** menu.
2. In the dialog box, choose **Energy** from the drop down list in the upper left hand corner. The available energy rate components should appear in the **Energy Rate Components** list.
3. Enter **Hourly Winter** in the **Name** entry box.
4. Select the **Winter Off-Peak** rate component.
5. Using the mouse, highlight *Monday through Friday, midnight to 8:00 am* in the Hourly Energy Rate Table. Click on the **Apply** button. Then highlight *Monday through Friday, 9:00 pm to midnight*. Click on the **Apply** button.
6. Select the **Partial-Peak** rate component.
7. Using the mouse, highlight *Monday through Friday, 8:00 am to 9:00 pm* in the table. Click on the **Apply** button.
8. With the Partial-Peak rate component still selected, highlight all of *Saturday, Sunday, and Holiday*. Click on the **Apply** button. *NOTE: You may need to move the dialog box to view different parts of the table. Move the dialog box by clicking on the blue header and dragging with the mouse.*
9. Click on the **Store** button to save the **Hourly Winter** hourly rate. The completed table should look like Figure 10.
10. Repeat Steps 3 through 9 for the **Hourly Summer** rate, using the **Summer Off-Peak** and **Peak** rate components.

Figure 10: Hourly Winter Energy Rate Table



Hourly Energy Rate: Full

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Holiday
Midnight-1 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
1-2 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
2-3 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
3-4 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
4-5 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
5-6 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
6-7 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
7-8 AM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
8-9 AM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
9-10 AM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
10-11 AM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
11 AM-Noon	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
Noon-1 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
1-2 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
2-3 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
3-4 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
4-5 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
5-6 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
6-7 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
7-8 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
8-9 PM	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak	Partial Peak
9-10 PM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
10-11 PM	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak
11 PM-Mid.	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Winter Off...	Partial Peak	Partial Peak	Partial Peak

After defining the hourly rate components you should save the rate component library by clicking on the **Save As** button and entering "snowfalls.rcl".

You may exit this screen by double clicking in the upper left hand corner of the table.

Step 3: Build a Rate Schedule

Once all the rate components and hourly rate components are defined, they can be applied to a yearly rate schedule. The yearly schedule for Snow Falls Dairy is shown in the following table.

The Yearly Rate Timetable for Snow Falls Dairy

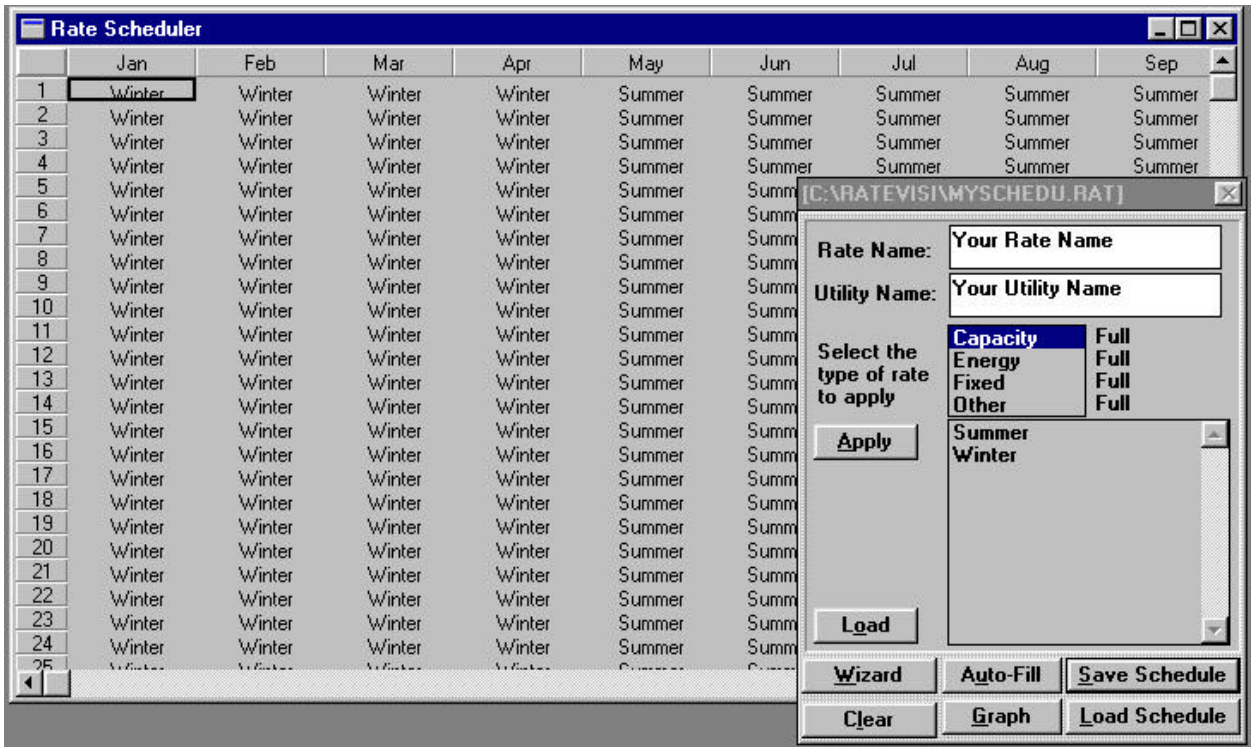
Rate Type	Rate Component	Time of Year
Fixed Rates	1) Customer	*All*
	2) Meter	*All*
Capacity Rates	1) Winter	*Jan 1 - April 30*
	2) Summer	*May 1 - Oct 31*
	1) Winter	*Nov 1-Dec 31*
Energy Rates	1) Winter Off-Peak	*Jan 1 - April 30*
	2) Partial-Peak	*Jan 1 - April 30*
	3) Summer Off-Peak	*May 1 - Oct 31*
	4) Peak	*May 1 - Oct 31*
	1) Winter Off-Peak	*Nov 1-Dec 31*
	2) Partial-Peak	*Nov 1- Dec 31*
Other Rates	1) Taxes	*All*

To create a Rate Schedule for Snow Falls Dairy, follow these steps:

Figure 11: Rate Schedule Button

1. Click on the Rate Schedule button on the Toolbar (Figure 11) or choose the **Rate Schedule** option in the **Rates** menu.
2. Name the Rate Schedule (***AgSTAR-5 Rate B***) and the Utility (***Big Blizzard Electric Company***) in the appropriate entry boxes.
3. In the dialog box that is shown, choose **Fixed** rates in the Rate Type selection box. Select the **Customer/Meter** rate component.
4. In the table, highlight every day of the year. Click on the **Apply** button. *NOTE: You may select every day of the year by clicking on the upper left hand corner of the table.*
5. Choose **Capacity** rates in the dialog box. A blank table for capacity rates appears. Select the **Winter** rate component.
6. In the table, highlight all the days in *January through April*. Click on the **Apply** button. Repeat for all the days in *November and December*.
7. Select the **Summer** rate component in the dialog box. Highlight all the days in *May through October*. Click on the **Apply** button. Figure 12 shows the completed screen.
8. Choose **Energy** rates in the dialog box. Select the **Hourly Winter** rate component.
9. In the table, highlight all the days in *January through April*. Click on the **Apply** button. Repeat for all the days in *November and December*.
10. Select the **Hourly Summer** rate component in the dialog box. Highlight all the days in *May through October*. Click on the **Apply** button.
11. Choose **Other** rates in the dialog box. Select the **Taxes** rate component.
12. In the table highlight every day of the year. Click on the **Apply** button.
13. Save the rate schedule by clicking on the **Save Schedule** button. Enter snowfall.rat in the File Name box. Click OK to save and continue.

Figure 12: Rate Schedule Table and Dialog Box for Snow Falls Dairy



Step 4: Define Load Components

Now that we have entered and saved Snow Falls Dairy's Rate Schedule, we can enter Mr. Snow's energy use patterns and analyze his energy costs. To keep things simple, Mr. Snow determined his average daily load profiles for the summer and winter months.

Snow Falls Dairy Daily Energy Use Patterns

Season	Maximum load (kW)	Minimum Load (kW)
Summer	150	90
Winter	145	100

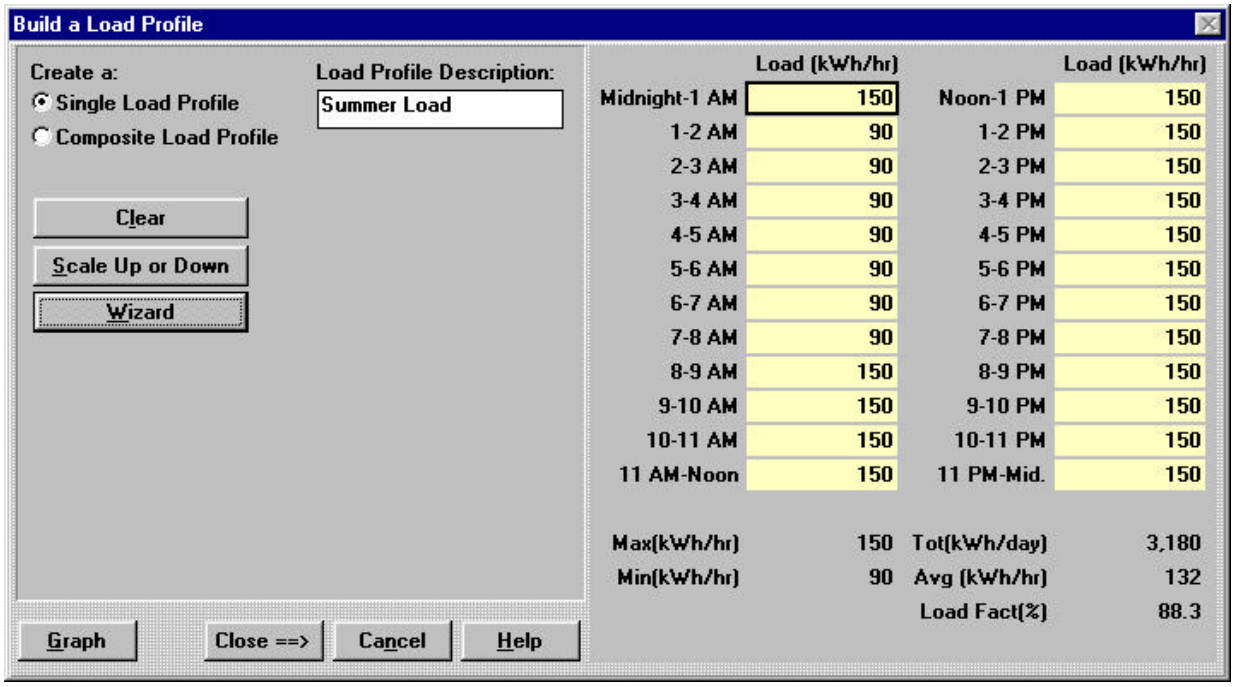
Follow these steps to enter Mr. Snow's load data.

Figure 13: Load Components Button

1. Click on the Load Components button on the Toolbar (Figure 13) or choose the **Load Components** option in the **Load** menu.
2. Click on the **Create** button in the dialog box.
3. Enter **Summer Load** in the Load Name entry box.
4. Click on the **Wizard** button.
5. Enter ***150*** as the Maximum hourly load, and ***90*** as the Minimum.
6. Choose ***Square*** in the load shape selection combo box.
7. Click on the **Finish** button. The resulting load profile for the summer is shown in Figure 14.

8. Click on the **Close** Button.
9. Repeat Steps 2 through 8 for the **Winter Load**.

Figure 14: Load Component Screen for Snow Falls Dairy



After entering the summer and winter load profiles and closing the "Build A Load Profile Screen", you should save the load profile file. Click on the **Save As** button in the Load Profile Components screen and save the file as "snowfall.lpf". After saving, click on the **Close** button to exit.

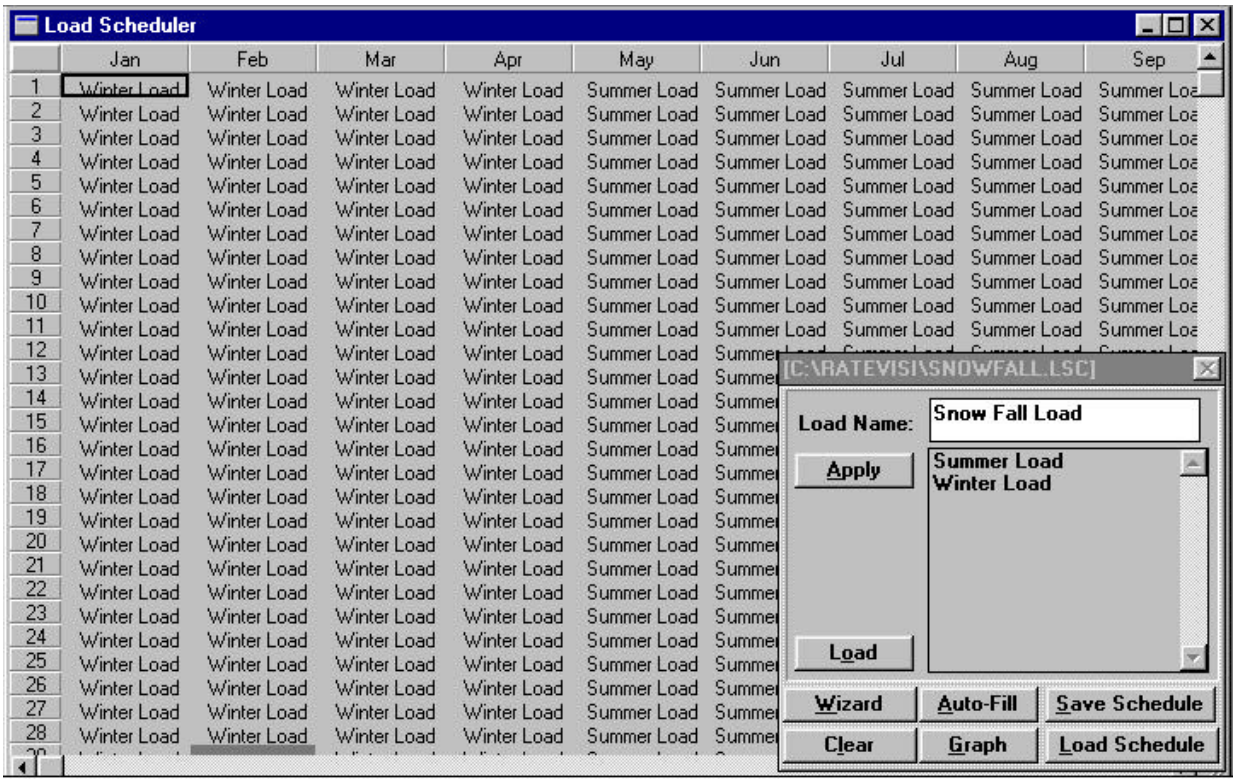
Step 5: Build a Load Schedule

From the load components that we defined, we can build a load profile for Snow Falls Dairy using the following steps:

Figure 15: Load Schedule Button

1. Click on the Load Schedule button on the Toolbar (Figure 15) or choose the **Load Schedule** option in the **Load** menu.
2. Enter ***Snow Fall Load*** in the **Load Name** Box.
3. Select **Summer Load** in the load component list.
4. In the table, select all the days in the months *May through October*. Click on the **Apply** button to assign the Summer Load to those days.
5. Select **Winter Load** in the load component list.
6. In the table, select *all the remaining days in the remaining months*. Click on the **Apply** button to assign the Winter Load to those days.
7. Save the Load Profile by clicking on the **Save Schedule** button and saving the file as "snowfall.lsc". Your finished screen should look like Figure 16.

Figure 16: Load Schedule Screen for Snow Falls Dairy



Step 6: Analyze Energy Costs

Figure 17: Bill Calculator button

Now that we have a rate schedule and load schedule for Snow Falls Dairy, we can use RateVision to analyze the energy costs. Follow the listed steps to perform this analysis.

1. Click on the Bill Calculator button on the Toolbar (Figure 17) or choose the **Analyze Electricity Payments** option in the **Billing** menu.
2. In the Bill Calculator Control Panel, click on the **Load Rate Schedule** button. Select snowfall.rat and click on OK.
3. In the Bill Calculator Control Panel, click on the **Load Load Schedule** button. Select snowfall.lsc and click on OK.

After both schedules are loaded, the Bill Calculator calculates and displays the peak kW, total energy consumed in each month (kWh) and the cost of energy in the table, shown in Figure 18.

Figure 18: Electricity Bill Analysis for Snow Falls Dairy

Bill Calculator

	Peak kWh/hr	Energy (kWh)	Capacity ($)	Energy ($)	Fixed ($)	Other ($)	Total ($)	Avg ($/kWh)
January	145	98,115	$638	$4,506	$22	$204	$5,370	$0.0547
February	145	88,620	$638	$4,069	$22	$83	$4,811	$0.0543
March	145	98,115	$638	$4,506	$22	$88	$5,254	$0.0535
April	145	94,950	$638	$4,365	$22	$199	$5,224	$0.0550
May	150	98,580	$982	$6,335	$22	$219	$7,558	$0.0767
June	150	95,400	$982	$6,103	$22	$214	$7,321	$0.0767
July	150	98,580	$982	$6,239	$22	$221	$7,464	$0.0757
August	150	98,580	$982	$6,431	$22	$217	$7,652	$0.0776
September	150	95,400	$982	$5,910	$22	$218	$7,133	$0.0748
October	150	98,580	$982	$6,431	$22	$217	$7,652	$0.0776
November	145	94,950	$638	$4,365	$22	$85	$5,110	$0.0538
December	145	98,115	$638	$4,532	$22	$210	$5,402	$0.0551
Total	150	1,157,985	$9,723	$63,791	$264	$2,173	$75,952	$0.0656

This table shows that Snow Falls Dairy uses a total of 1,157,985 kWh/year of energy. The total electricity cost is approximately $75,900 at an average cost of $0.0656/kWh. To factor in these detailed costs in FarmWare, the "snowfall.rat" and "snowfall.lsc" files should be imported into the FarmWare software program in the Energy Prices screen. See the appropriate FarmWare chapter for more details.

CHAPTER 4. BUILDING A RATE SCHEDULE

A rate schedule is comprised of rate components that are combined in a specific manner. Building a rate schedule thus involves two general parts: (1) defining rate components; and (2) applying the defined components to the appropriate days or time of day. A rate schedule generally has a number of rate components, which you can create, edit, and combine in a schedule using RateVision.

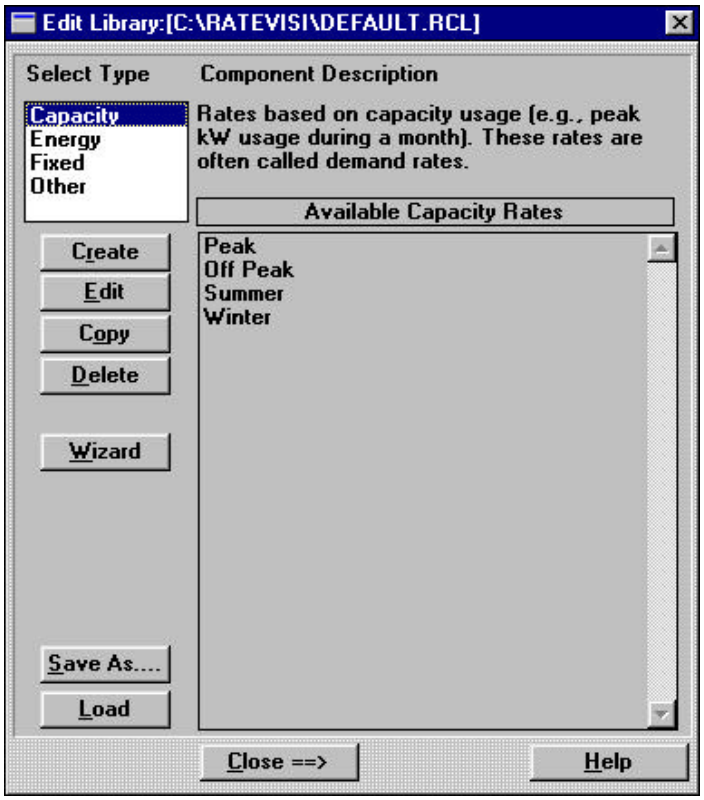
Rate Components

Figure 19: Rate Components button

A rate component is a charge, applied either against capacity usage, energy usage, a fixed monthly charge, or a charge applied to the total monthly bill. There can be different energy and capacity charges applied to different parts of the day, days of the week, or months of the year. Fixed charges are normally applied to the entire month. For your schedule to be accurate, separate rate components must be defined for each of these different charges.

To define rate components, click on the Rate Components button (Figure 19) on the toolbar or choose the **Rate Components** option in the **Rates** menu. Your screen looks like Figure 20 below.

Figure 20: Rate Component Main Dialog Box



Appendix D RateVision User's Manual Version 1.0

When you use RateVision for the first time, the built-in default rate component library is opened when you bring up the Rate Components screen. The default rate components that are defined for this library are listed in the **Available Rates** box. This rate component library can be modified and renamed, and the rate components in the library can be edited or deleted. At any step in the process of creating rate components, you can click on the Wizard button in the active dialog box to start the Rate Schedule Wizard.

You can define rate components in RateVision using the following steps:

Step 1: Select a Rate Type

In the selection box at the upper left side of the rate component dialog box, choose the rate type that you would like to define a component for by clicking on it with the mouse, or by scrolling down the selections with the arrow keys. A description of the highlighted rate type is shown next to the rate type selection box. You can select from four rate types: capacity, energy, fixed, and other. These rate types are defined as follows:

- **Capacity Rates**: Rates that are based on capacity usage (e.g. peak kW usage during a month). These rates are often called demand rates.
- **Energy Rates**: Rates based on energy usage (e.g., kWh usage during a month).
- **Fixed Rates**: Fixed cost rates do not depend on energy usage. These rates may be called customer charges or meter charges.
- **Other Rates**: Other types of rates. These may include minimum or maximum charges and taxes calculated as a percentage of total charges.

Capacity rates and energy rates can incorporate ***block pricing***. These are rates that use different charges for different blocks of time (e.g., one charge for the first 500 hours, another charge for the next 500 hours, and a third charge for all the remaining hours). Capacity rates can also incorporate ***ratchet pricing***. Ratchet pricing limits the speed at which capacity charges can decline.

Step 2: Create a Rate Component

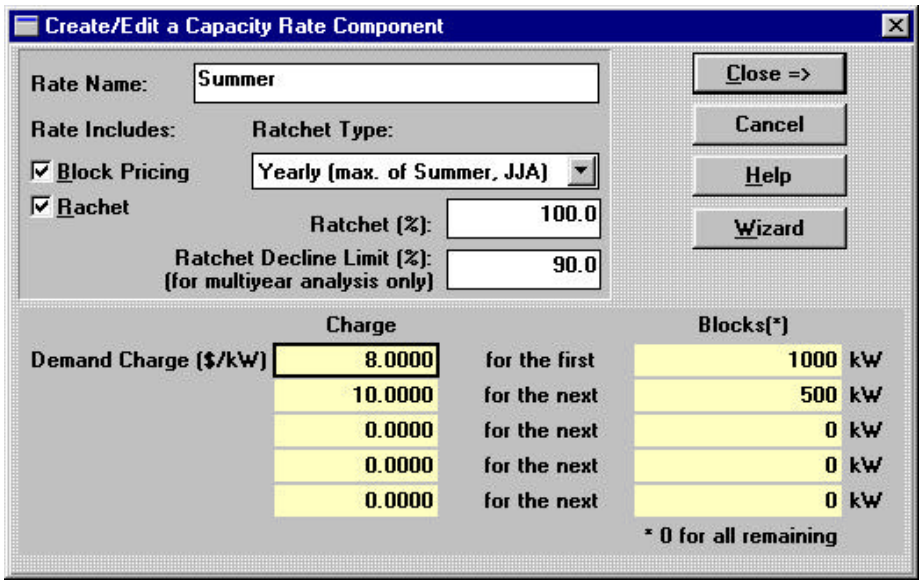
Once you have chosen what type of rate component you want to create, click the **Create** button on the dialog box. This brings up the **Create/Edit a Rate Component** dialog box for the chosen rate type. In this dialog box, first enter the name of the rate in the rate name entry box, and the amount of the charge in the charge entry box. By default, the word "Basic" is in the name entry box. This can be changed by clicking into the entry box and entering a new name. The next steps in creating rate components vary slightly by rate type, and are described separately below:

Capacity Rates

The **Create/Edit a Capacity Rate Component** dialog box (Figure 21) has a name entry box, a check option for block pricing and ratchet pricing, and the charge amount entry box. If neither block pricing or

ratchet pricing are applicable, simply enter the name of the rate and the charge per kW of capacity. If the rate component uses block pricing, check the block pricing option with the mouse. This brings up multiple charge and time block entry boxes. In these boxes, enter the appropriate charges and the blocks of energy use that they apply to. If the rate component also uses ratchet pricing, check the ratchet pricing option with the mouse. This brings up a drop down list from which you can choose the type of ratchet. There are also two entry boxes where you enter the ratchet percentage and the ratchet decline limit percent. Once the capacity rate component has been completely defined, click on the **Close** button to save the component and exit the screen.

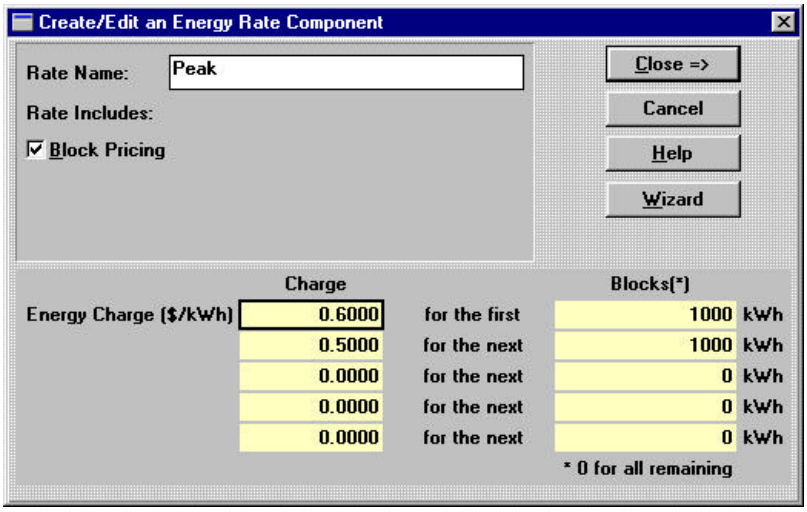
Figure 21: Sample Capacity Rate Component Dialog Box



Energy Rates

As with capacity rates, **Create/Edit an Energy Rate Component** dialog box (Figure 22) has a name entry box, a check option for block pricing, and the charge amount entry box. If block pricing is not applicable, simply enter the charge per kWh in the charge entry box. If block pricing is applicable, check the block pricing option and enter the charge for the appropriate blocks of energy use. Once the energy rate component has been completely defined, click on the **Close** button to save the component and exit the screen.

Figure 22: Sample Energy Rate Component Dialog Box

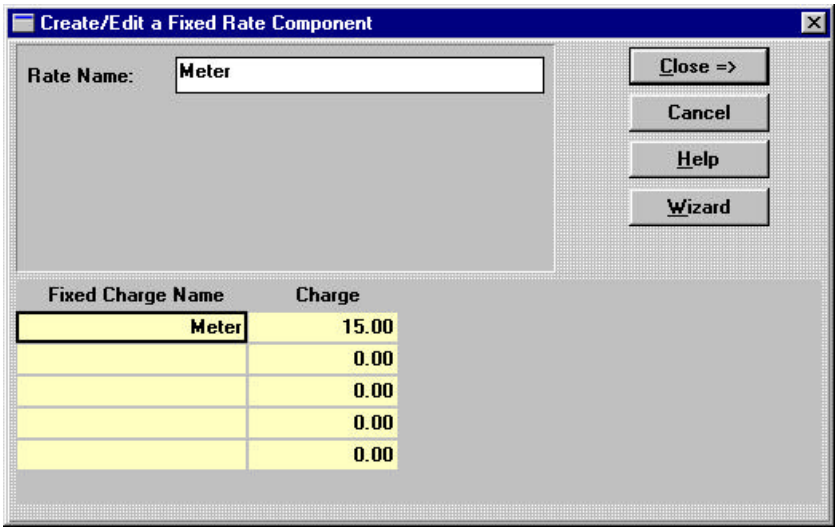


Once the energy rate has been completely defined, click on the **Close** button to save and exit the screen.

Fixed Rates

The **Create/Edit a Fixed Rate Component** dialog box (Figure 23) has a rate name box and a table listing the applicable fixed rate name and charges. Simply enter the name of the rate component, and then list the charge or charges that are added to the monthly electricity bill.

Figure 23: Sample Fixed Rate Component Dialog Box



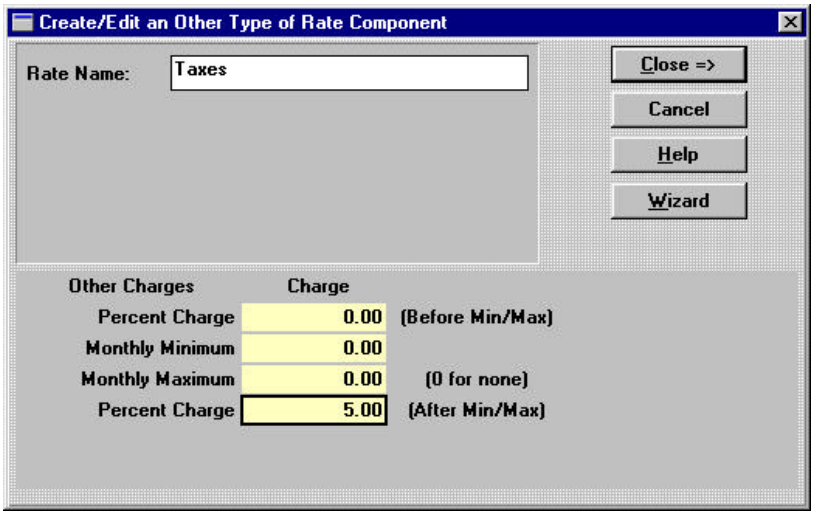
Once the fixed rate has been completely defined, click on the **Close** button to save and exit the screen.

Other Rates

The **Create/Edit an Other Type of Rate Component** dialog box (Figure 24) Other rate components are charges such as taxes that are usually applied to the total electricity bill. In the Other rate component

dialog box, enter the name of the rate, the percent charge before and after the changes (if applicable), and the monthly minimum and maximum rates (if applicable).

Figure 24: Sample Other Rate Component Dialog Box



Once the other rate has been completely defined, click on the **Close** button to save and exit the screen.

When the necessary components for each of the rate types have been created, click on the **Save As** button to name and save the component library.

Hourly Rate Components

Figure 25: Hourly Rate Components Button

Some capacity and energy rates can apply to specific hours of the day. These charges are defined in RateVision as hourly rates. Hourly rates are combinations of rate components across specified hours within a week. To apply rate components to specific hours, click on the Hourly Rate Components button on the Toolbar (Figure 25) or choose the **Hourly Rate Components** option in the **Rates** menu. Your screen consists of two windows, the Hourly Rate dialog box (Figure 26), and the Hourly Rate Schedule Table (Figure 27).

Figure 26: Hourly Rate Component Dialog Box

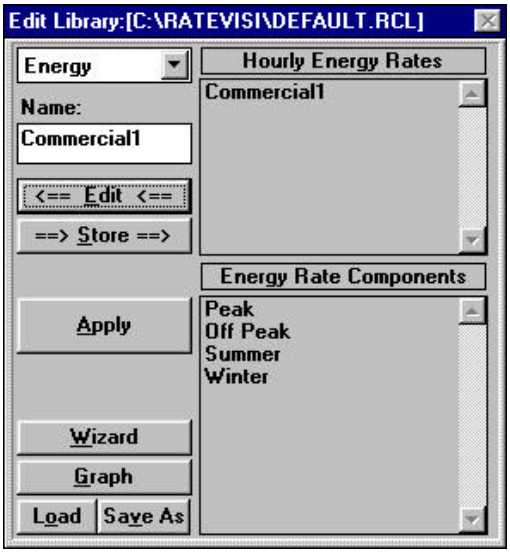


Figure 27: Hourly Rate Component Table

Hourly Energy Rate: Full

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Holiday
Midnight-1 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
1-2 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
2-3 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
3-4 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
4-5 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
5-6 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
6-7 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
7-8 AM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
8-9 AM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
9-10 AM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
10-11 AM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
11 AM-Noon	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
Noon-1 PM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
1-2 PM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
2-3 PM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
3-4 PM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
4-5 PM	Peak	Peak	Peak	Peak	Peak	Off Peak	Off Peak	Off Peak
5-6 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
6-7 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
7-8 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
8-9 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
9-10 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
10-11 PM	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak
11 PM-Mid.	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak	Off Peak

The table allows you to apply defined rate components to specific hours in a day or week. To do this, follow the steps below:

1. Load the appropriate rate component library using the **Load** button.
2. Select the rate component from the list in the dialog box.

3. Select the hour or range of hours in the table that the component applies to, and then click on the **Apply** button in the dialog box.
4. Once each hour in the week has been assigned a rate component, enter a name for the hourly rate schedule in the Name entry box, and then save by clicking on the **Store** button in the dialog box.

Applying Rate Components to a Schedule

Figure 28: Rate Schedule Button

A rate schedule is a combination of daily and hourly rate components that describes the overall energy charges for specific times of the day and days of the year. Complete rate schedules consist of a charge schedule for each rate type. To create a rate schedule in RateVision, first click on the Rate Schedule button on the Toolbar (Figure 28) or choose the **Rate Schedule** option in the **Rates** menu. Your screen consists of a dialog box (Figure 29), and a rate schedule table (Figure 30). You can name the rate and the utility in the entry boxes in the dialog box. Each rate type's charge schedule consists of a combination of rate components specific to the rate type.

Figure 29: Rate Schedule Dialog Box

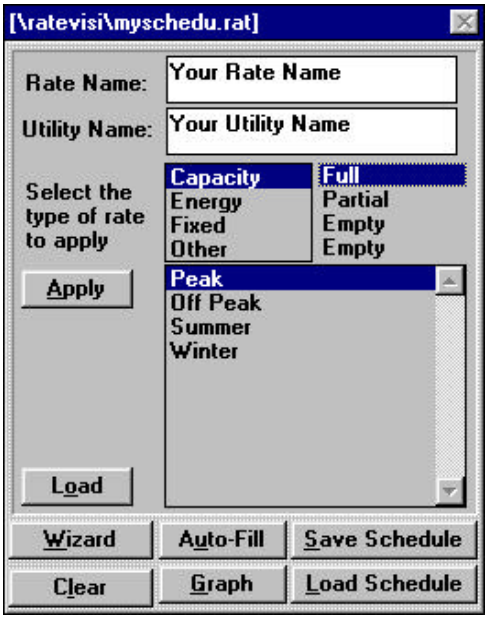
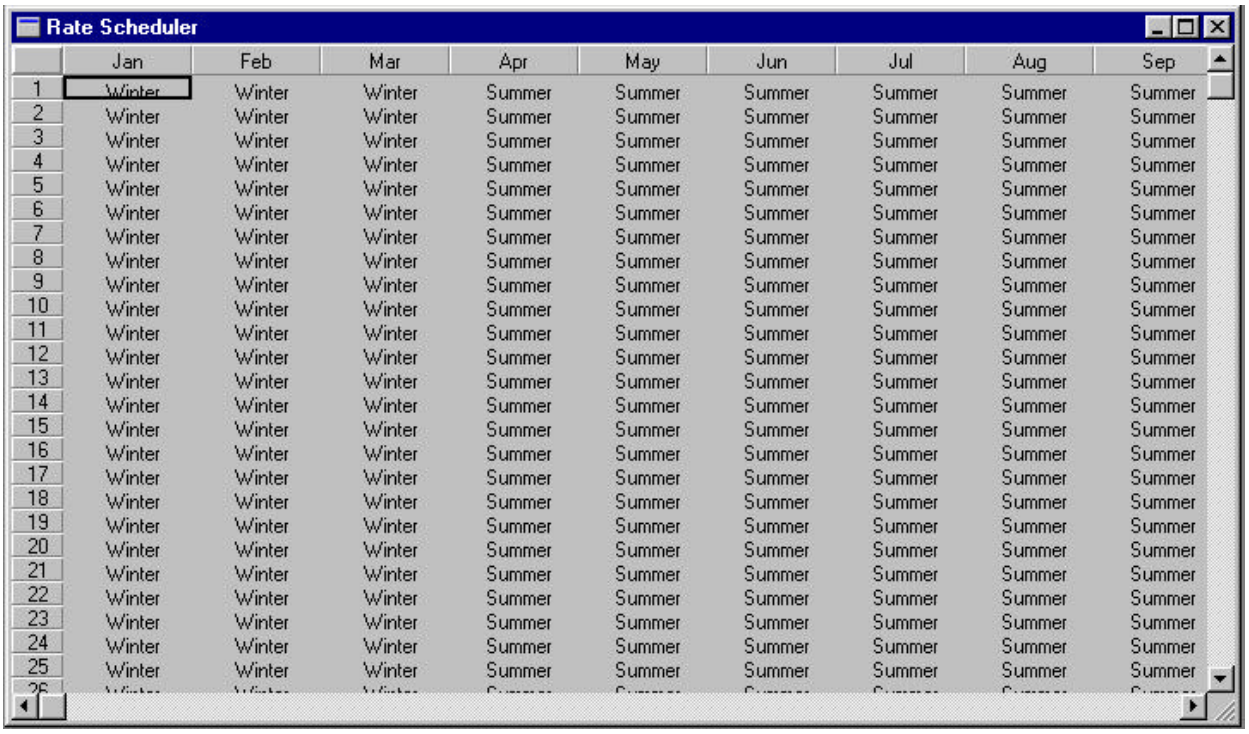


Figure 30: A Typical Rate Schedule



To create a rate schedule, follow these steps:

1. Load the appropriate rate component library.
2. Choose a rate type. The available rate components for that rate type are listed in the rate schedule dialog box.
3. Choose a rate component, and then select the days of the year for which that rate applies in the rate scheduler table.
4. Click on the **Apply** button to assign the rates to the selected days. To quickly fill in large portions of the table, select a rate component in the table and click on the **Autofill** button. This assigns the selected rate component to all the remaining empty cells in the table.

The status of the charge schedule, *Empty*, *Partial*, or *Full*, appears next to each rate type in the dialog box. A partial or complete rate schedule can be named and saved by clicking on the **Save Schedule** button. Saved rate schedules can be loaded by clicking on the **Load Schedule** button.

This screen may be closed by double clicking in the upper left hand corner of the **Rate Scheduler Table**.

CHAPTER 5. BUILDING A LOAD SCHEDULE

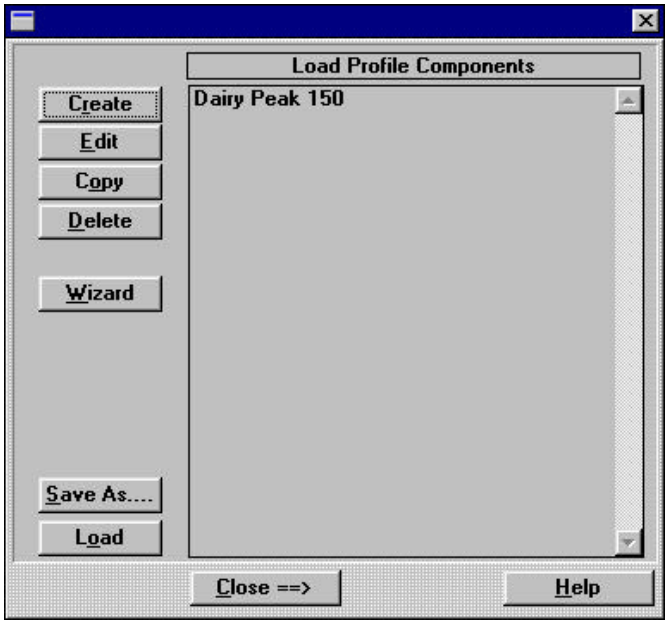
A load schedule is a collection of daily load profiles that describes energy use over the course of a year. Individual load profiles list energy usage for each hour of the day. Energy usage typically varies by day of week and time of year. Each discrete daily load profile requires that a separate load profile be defined. At any time along the process of developing load profiles, you can click on the Wizard button in the active dialog box to begin the Load Schedule Wizard.

Load Components

Figure 31: Load Components Button

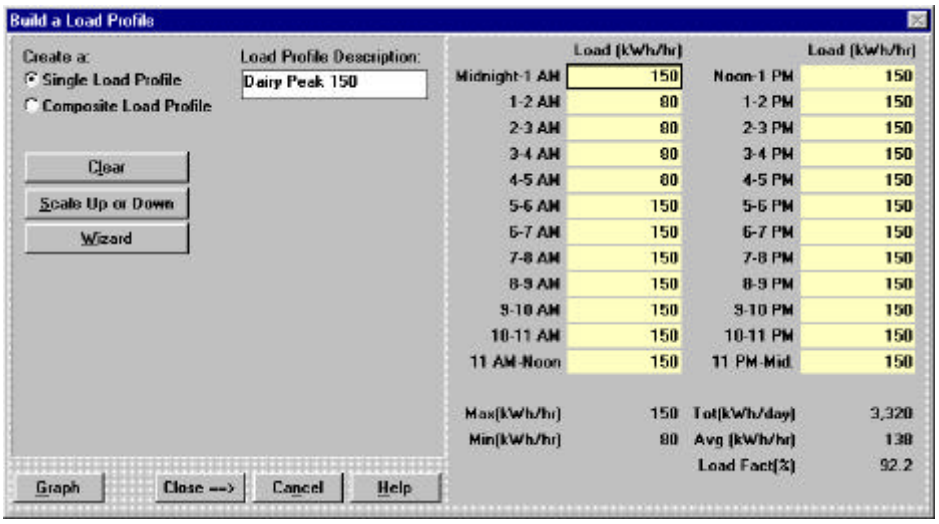
A load component is a load profile listing energy usage for each hour of the day. To build a load component, click on the Load Components button on the Toolbar (Figure 31) or choose the **Load Components** option in the **Load** menu. Your screen should look like Figure 32 below.

Figure 32: Load Profile Components Dialog Box



Here, you can either edit or delete the listed existing load profiles or create new ones. To create a new load component, click on the **Create** button in the Load Components dialog box. This brings up the **Load Profile Build** screen (Figure 33), shown below.

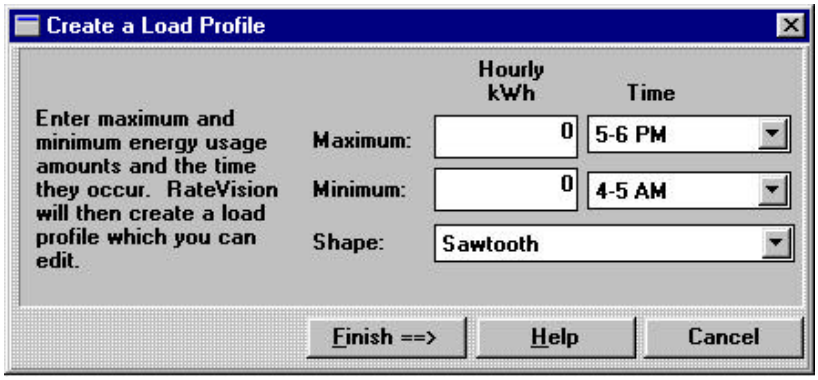
Figure 33: Build a Load Profile Screen



In the left half of the screen, you can enter a name for the load profile. In the right half, you can enter the kWh used at each hour of the day. Below the table, the maximum, minimum, total, and average energy uses are calculated and displayed. To create an individual load profile, choose the **Single Load Profile** selection and, name the load profile in the description entry box, and enter the hourly energy amounts in the table.

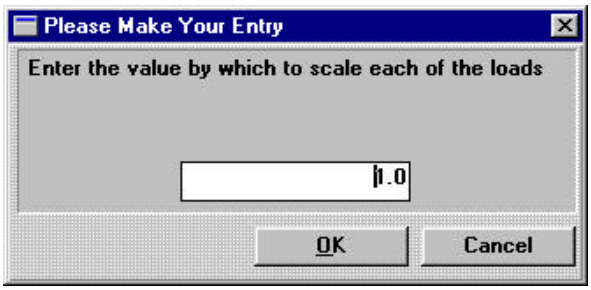
If you know that your load profile follows a sawtooth or smooth shape, you may want to use the Wizard function to save time. When you click on the **Wizard** button, a separate dialog box (Figure 34) pops up. Here, you can enter the minimum and maximum load in kWh, as well as the hour that they occur. In the combo box, you can choose the shape of the load profile, Sawtooth or Smooth. When you click on the **Finish** button, the **Load Profile Build** Screen (Figure 33) displays the hourly loads created based on your Wizard inputs.

Figure 34: Load Profile Wizard Screen



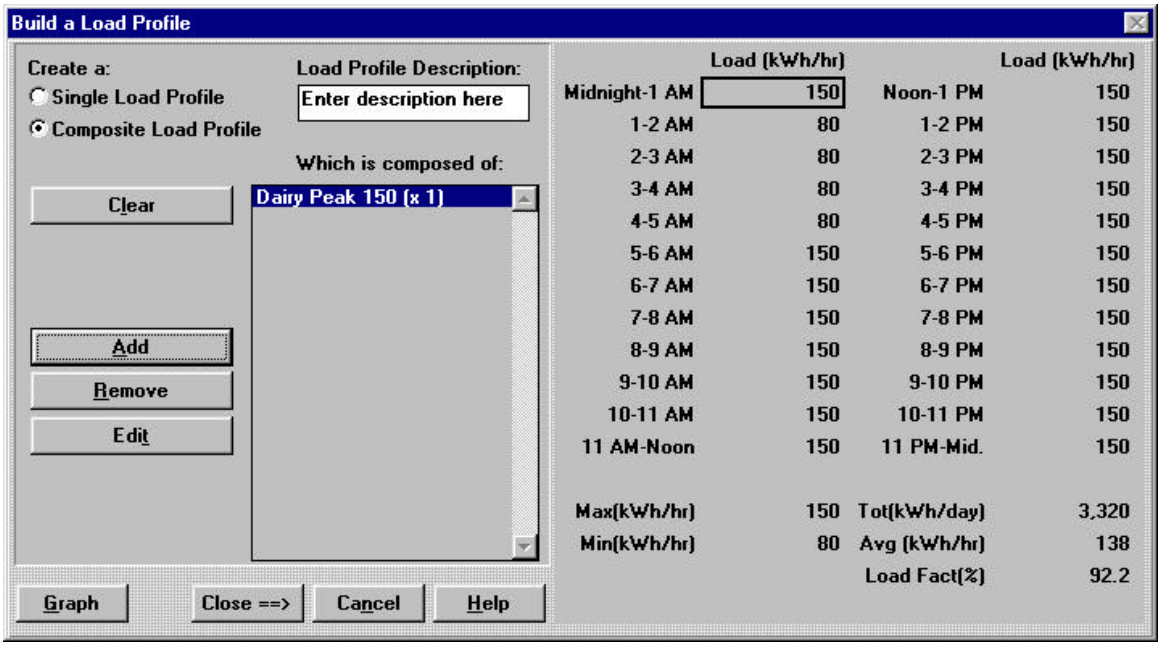
The entered energy use amounts can be scaled by a common factor. Clicking on the **Scale Up or Down** button brings up a dialog box (Figure 35) where you can enter a scaling factor. Each energy use amount is multiplied by this factor. Once an energy use amount has been entered for each hour, the profile can be saved by clicking on the **Close** button in the lower left side of the screen. This brings you back to the **Load Components** dialog box, where the saved load profile is now listed.

Figure 35: Load Scaling Dialog Box



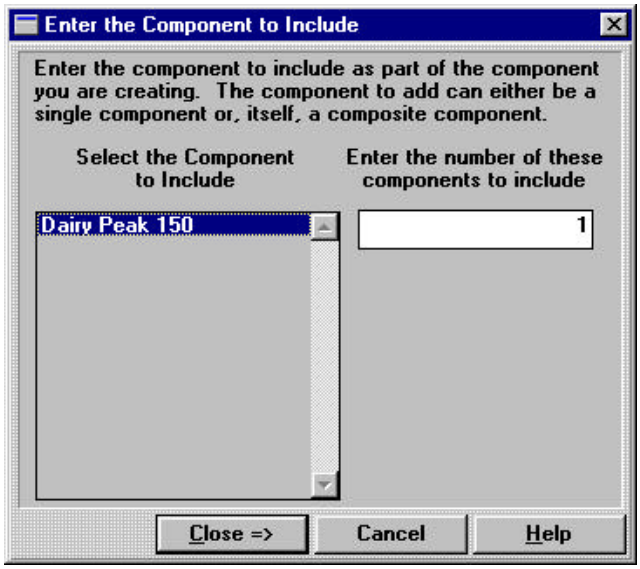
You can also combine individual load profiles to create a composite load profile. To do this, choose **Composite Load Profile** in the left half of the **Load Profile Build** screen. This pulls up a list of individual load profiles that you can combine. The screen looks like Figure 36, shown below.

Figure 36: Composite Load Profile Build Screen



To combine load profiles, select the first load profile in the composite profile and click on the **Add** button. This brings up another dialog box, the **Composite Load Construction Dialog** as shown in Figure 37.

Figure 37: Composite Load Construction Dialog Box



Here, select the components you want to combine, one by one, and enter the number of each to include. Once you have selected all the components you want to combine, click on the **Close** button. RateVision averages the loads at each hour and display them in the Load Profile Build Screen. You can name the composite load by entering a name in the **Load Profile Description** entry box. The screen displays the load profiles that were combined to create the composite load profile. To save the composite load profile, click on the **Close** button.

DOW Load Components

Figure 38: Day of Week Load Components Button

Energy usage can vary across days in a week. To account for this, RateVision allows you to create Day of Week Load Components. To begin, click on the DOW Load Components button on the Toolbar (Figure 38), or choose **Load Day-of-Week Components** in the **Load** menu. Your screen consists of a dialog box (Figure 39), and a table (Figure 40). In the dialog box, existing load profiles are listed in the **Basic Load Profiles** box.

Figure 39: Day of Week Load Profile Dialog Box

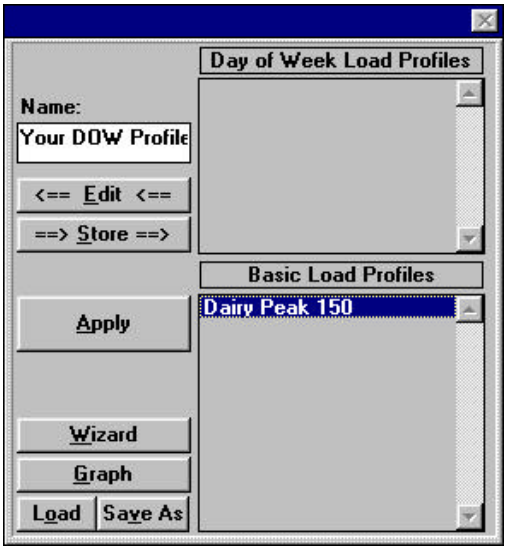
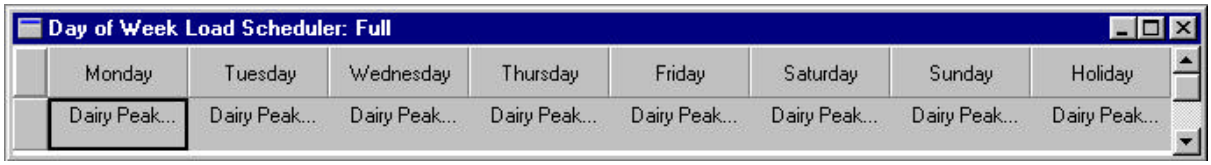


Figure 40: Day of Week Load Profile Table



To create a day of week load profile, follow these steps:

1. Load the appropriate load profile library.
2. Name the profile in the Name entry box.
3. Select a load profile from the list, then select the day or days for which the load applies.
4. Click on the **Apply** button to assign the selected load profile to the selected day or days.
5. Once the appropriate load profiles have been applied to all the days of the week, including holidays, click on the **Store** button to save the day of week load profile to a disk.

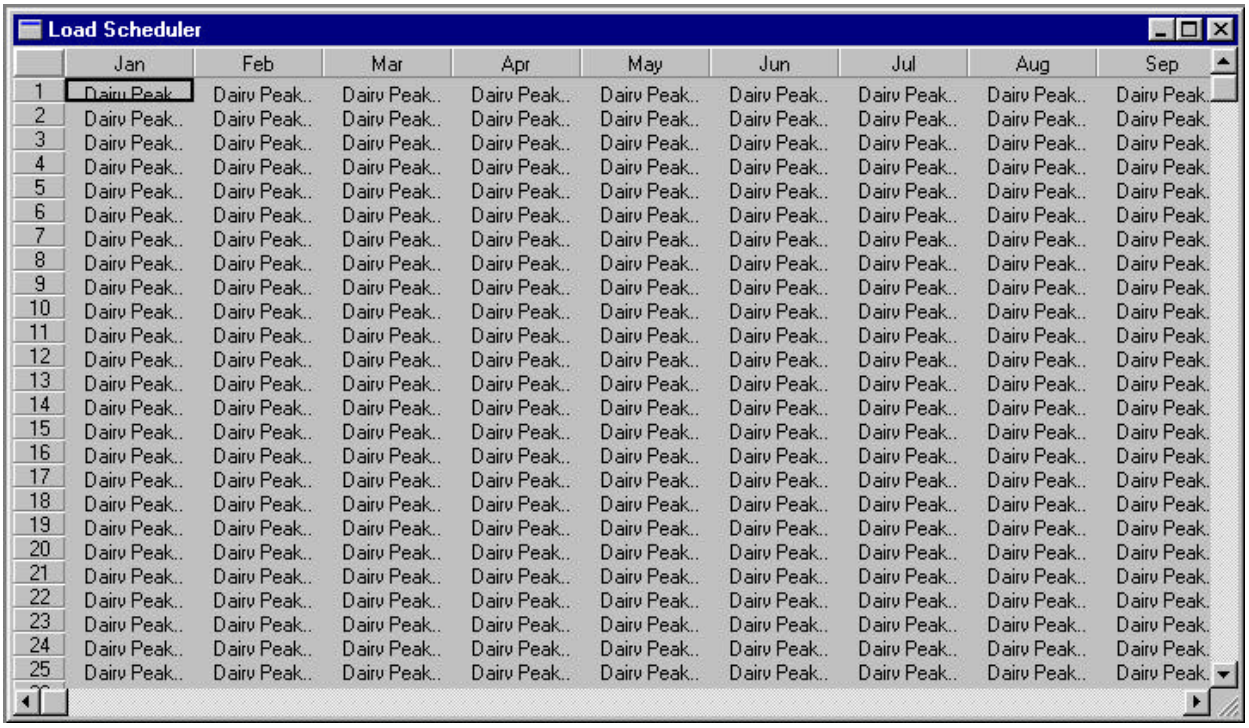
Applying Load Components to a Schedule

Figure 41: Load Schedule Button

Once the necessary load components have been defined, you can apply the components to a load schedule. To build a load schedule, click on the Load Schedule button on the Toolbar (Figure 41), or choose **Load Profiles** in the **Load** menu. Your screen consists of a Load Components dialog box (Figure 42), and a Load Scheduler table (Figure 43).

Figure 42: Load Components Dialog Box

Figure 43: Load Scheduler Table



To create a Load Schedule, follow these steps:

1. Load the appropriate load component library in the dialog box.
2. Choose a load component. In the table, select the days of the year for which that load applies.
3. Click on the **Apply** button to assign the load to the selected days. To quickly fill in large portions of the table, select a load component in the table and click on the **Autofill** button. This assigns the selected load component to all the remaining empty cells in the table.

4. Name the load schedule by entering a name in the **Load Name** entry box. Save the schedule by clicking on the **Save Schedule** button.

This screen may be closed by double clicking in the upper left hand corner of the **Load Scheduler Table**.

CHAPTER 6. ANALYZING ELECTRICITY PAYMENTS

Figure 44: Bill Calculator Button

RateVision calculates your total electricity bill based on your rate and load schedules. To begin the analysis, click on the Bill Calculator button on the Toolbar (Figure 44) or choose the **Analyze Electricity Payments** option in the **Billing** menu. Upon doing this, your screen should consist of a Bill Calculator Control Panel (Figure 45) and a Bill Calculator Table (Figure 46).

Figure 45: Bill Calculator Control Panel

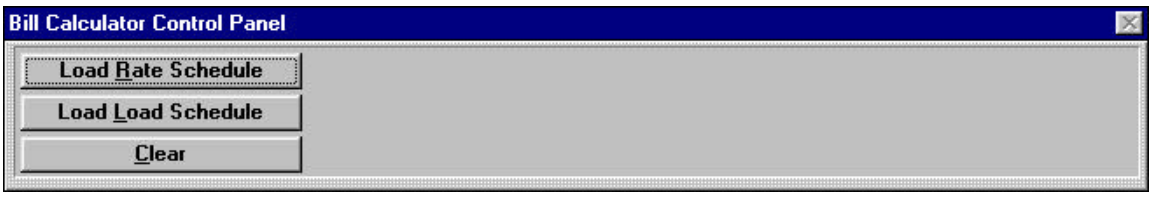
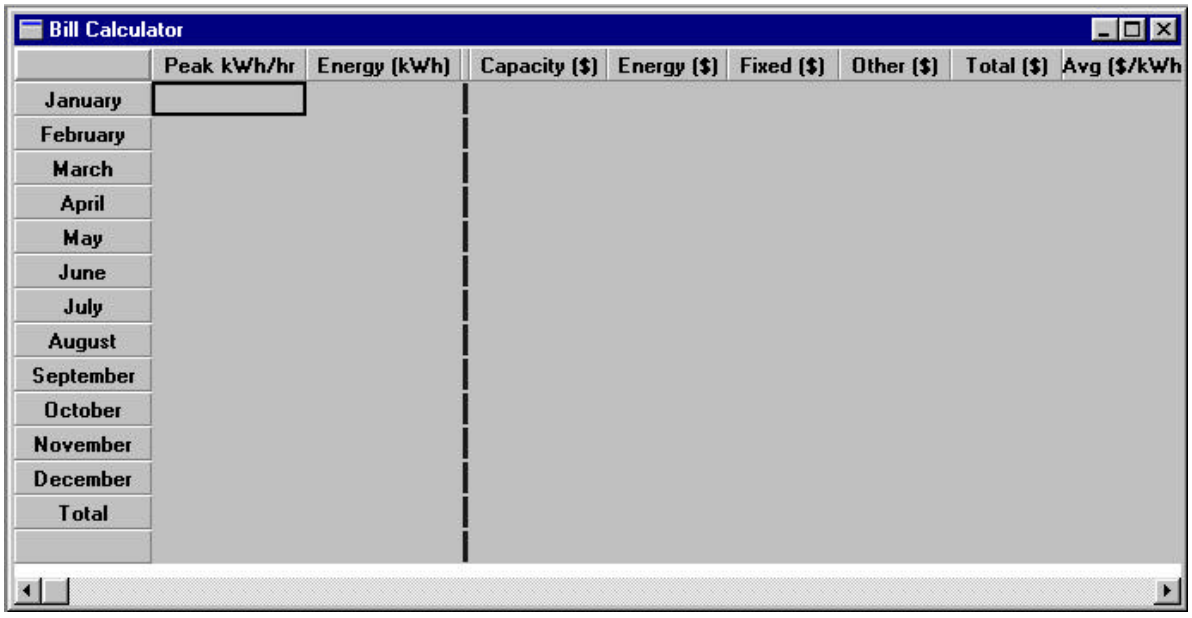


Figure 46: Bill Calculator Table



In the **Bill Calculator Control Panel**, click on the **Load Rate Schedule** button to load a previously created rate schedule. Repeat the action with a load schedule. Once both schedules are loaded, the Bill Calculator calculates the peak kilowatt hours for each month, the total energy used in each month, and the dollar amount of the charges in each rate type. These amounts are displayed in the Bill Calculator Table (Figure 47). RateVision also calculates the total monthly bill and the average dollars per kilowatt hour charge. If you want to perform an analysis using a different combination of rate and load schedules, click on the **Clear** button in the **Bill Calculator Control Panel** to first clear the schedules, and then load the desired schedules.

Figure 47: Sample Bill Calculator Screen

Bill Calculator

	Peak kWh/hr	Energy (kWh)	Capacity ($)	Energy ($)	Fixed ($)	Other ($)	Total ($)	Avg ($/kWh)
January	145	98,115	$638	$4,506	$22	$204	$5,370	$0.0547
February	145	88,620	$638	$4,069	$22	$83	$4,811	$0.0543
March	145	98,115	$638	$4,506	$22	$88	$5,254	$0.0535
April	145	94,950	$638	$4,365	$22	$199	$5,224	$0.0550
May	150	98,580	$982	$6,335	$22	$219	$7,558	$0.0767
June	150	95,400	$982	$6,103	$22	$214	$7,321	$0.0767
July	150	98,580	$982	$6,239	$22	$221	$7,464	$0.0757
August	150	98,580	$982	$6,431	$22	$217	$7,652	$0.0776
September	150	95,400	$982	$5,910	$22	$218	$7,133	$0.0748
October	150	98,580	$982	$6,431	$22	$217	$7,652	$0.0776
November	145	94,950	$638	$4,365	$22	$85	$5,110	$0.0538
December	145	98,115	$638	$4,532	$22	$210	$5,402	$0.0551
Total	150	1,157,985	$9,723	$63,791	$264	$2,173	$75,952	$0.0656

The Bill Calculator screen is view only - it cannot be edited. It is designed to show the user how the rate and load schedules are compiled. This information may be imported into other programs (FarmWare, CITCEM, and E-PLUS) and used to estimate the financial benefits and cashflow expected from the implementation of a methane recovery system.

GLOSSARY

Block Pricing: Block pricing may applied to demand or energy charges. Block pricing varies by quantity used (e.g., $10 for the first 100 kW, $8 for the next $200 kW and so on).

Customer Charge: A fixed monthly electricity charge.

Day of Week (DOW) Load Profile: A load profile that varies by the type of day.

Demand Charge: The utility cost per kW of electricity used. Demand charges typically vary by time of year. Generally, summer demand charges are higher than winter demand charges.

Energy Charge: The utilities cost per kWh of electricity used. Energy charges vary by both time of year and time of day. Generally, energy charges are highest during the mid-day hours.

Energy Used: The amount of energy used at the facility in kWh.

Load Factor: The proportion of the peak power level that is actually used (the energy charge divided by the demand charge).

Load Profile: A daily schedule of energy use for each hour of the day. Load profiles may be single or composite (a collection of load profiles).

Load Schedule: A load schedule describes your energy use over the course of a year. Load schedules are created by selecting previously defined load profiles and applying them to the days of the year over which they apply.

Meter Charge: A fixed monthly electricity charge.

Other Rates: Other types of rates. These may include minimum or maximum charges and taxes calculated as a percent of total charges.

Peak Demand: The peak kW experienced during a fixed time period.

Ratchet Pricing: Ratchet pricing limits the speed at which capacity charges can decline (e.g., capacity charges based on the peak month over the last year).

Ratchets: Ratchets cause past demand peaks to affect the current month's charges. Ratchets set a percentage of a designated previous demand charge (such as the previous month) below which the current demand charge cannot fall below.

Rate Component: A charge applied against either capacity usage, energy usage, a fixed monthly charge , or a charge applied against the total monthly bill.

Rate Schedule: A collection of rate components applied over the different days of the year.

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Appendix D RateVision User's Manual Version 1.0