

## Appendix B: NetPower Track

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### What is NetPower Track?

NetPower Track is a set of special enhancements to the standard commercial version of NetPower Billing, which make NetPower Billing especially useful for tracking the energy costs associated with industrial production. Using NetPower Track, a manufacturer can track the energy consumption and related costs of specific production lines and production runs. With this information and the number of units produced, a manufacturer can determine the energy cost per unit of any production run and product.

NetPower Track provides the following features:

- ◆ A product table (Prod) to track individual products and their production lines
- ◆ A production-run table (Prodttime) to track the time span of a production run and the number of products produced
- ◆ Dialog boxes to enter data into each of these tables
- ◆ Report generating functions to combine the energy data, product information, and production-run information to produce a report showing energy costs of production

The content of the product table is available to any energy user in any group. A production-run table is associated with an individual energy user.

To generate a production energy report, NetPower Billing assimilates energy data associated with energy users' meters, the production-run information, (including the product, the clock time of the production run and the number of products produced) and the energy provider information. By combining this information, NetPower Billing can determine the energy utilization and costs for individual production runs and for each unit produced.

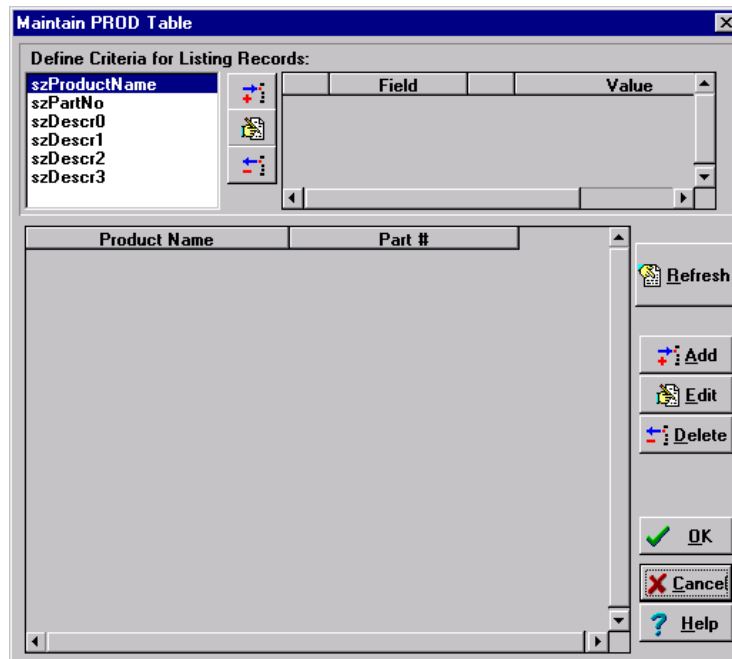
## Maintaining the Product (Prod) Table

The product table defines valid products and valid product-production line combinations. A product record consists of a product name, optional part number, and from one to four production line descriptions.

To access the Maintain Prod Table dialog box, do the following:

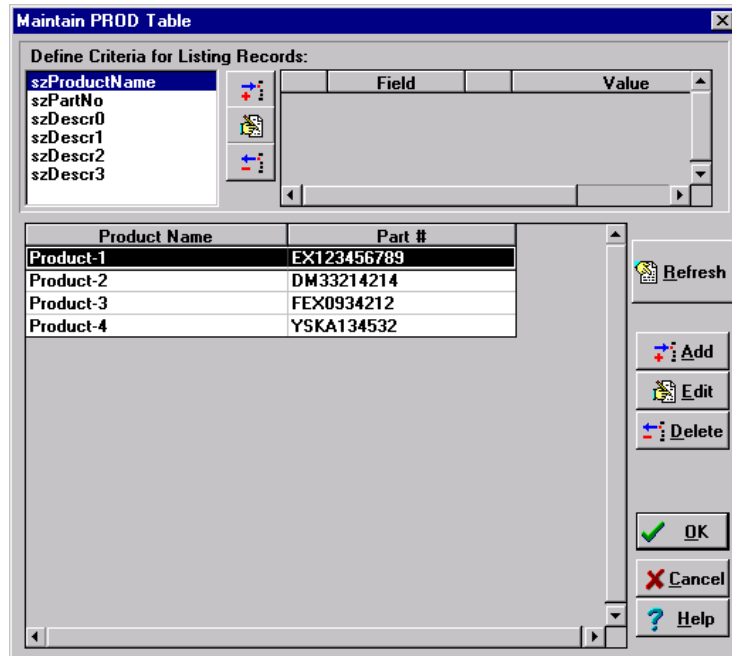
1. From the System menu of the NetPower Billing main window, select Maintain Production Table.

Maintain Prod Table dialog box displays.



2. To display the records, click Refresh.

The Maintain Prod Table dialog box updates to include any records you previously added.



You can now perform any of the following procedures:

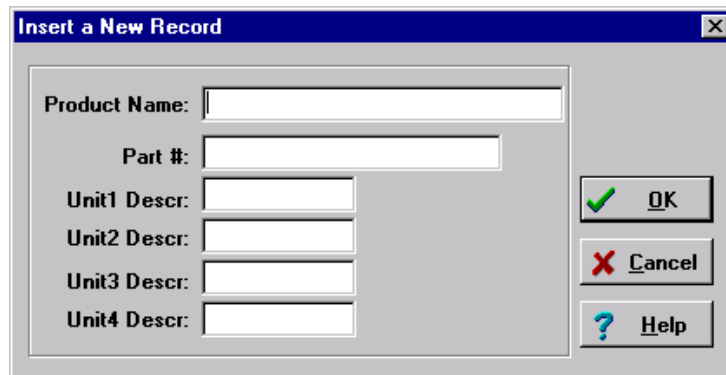
- ◆ Specify criteria to search/select records in the table
- ◆ Add a record to the table
- ◆ Edit an existing record in the table
- ◆ Delete an existing record in the table

## Adding a Product Record

To add a product to the product table, do the following:

1. On the Maintain Prod Table dialog box, click Add.

The Insert a New Record dialog box displays.



2. In the Product Name field, enter the name of the product. This is a required field.
3. In the Part # field, enter a part number. This is an optional field, but can be helpful in selecting groups of products from large product tables.

### Note

If you want NetPower Billing to track energy costs of production, then you can add the additional units in the edit boxes provided.

4. In the Unit1 Descr field, enter a description of the unit by which you measure the production of the product, such as boxes, pounds, pieces, etc. This is a required field. If necessary, you can add additional units in the next three unit description fields.



**Note**

You can use spaces and punctuation in all of the fields.

5. Click OK.

NetPower Billing adds the record to the product table.

## Editing a Product Record

To edit a record in the Production table, do the following:

1. On the Maintain Prod Table dialog box, select the record you want to modify.
2. Click Edit.

The Edit Existing Record dialog box displays.



3. Make the necessary changes to the information in the edit fields.

**Important**

The Product Name and Unit 1 Description fields are required.

4. Click OK.

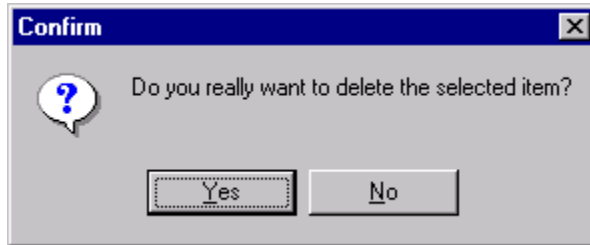
NetPower Billing applies the changes to the specified record in the product table.

## Deleting a Product Record

To delete a product from the product table, do the following:

1. On the Maintain Prod Table dialog box, select the record you want to delete.
2. Click Delete.

A confirm box displays, verifying the request to delete.



3. Click Yes.

NetPower Billing deletes the item from the product table.

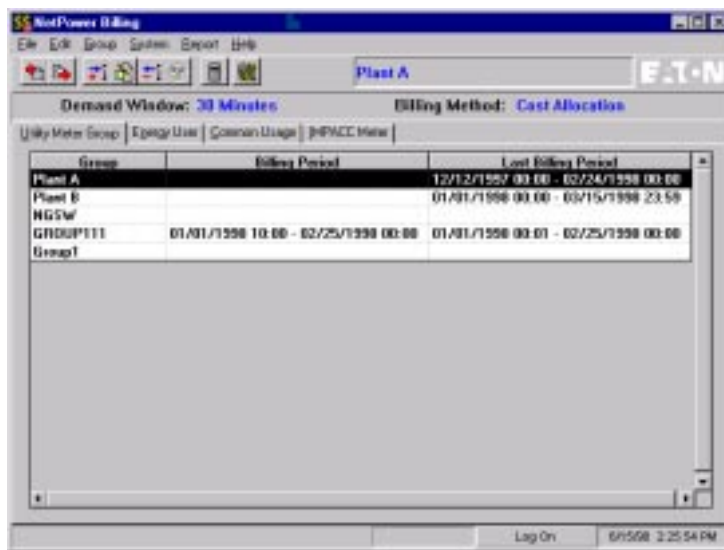
## Maintaining the Production-Run (Prodttime) Table

The production-run table is associated with individual energy users. A production-run record consists of a product name, the start and end time of the production run, and the number of units produced by each production line.

To access the Maintain Prodttime dialog box, do the following:

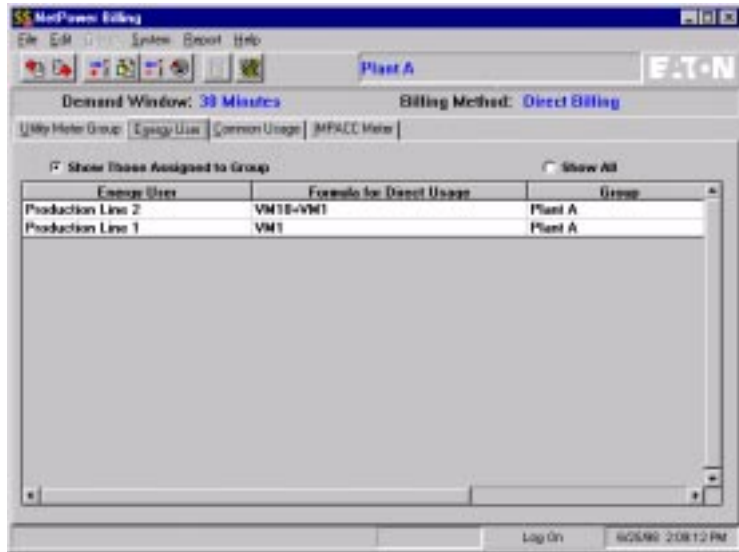
1. On the NetPower Billing main window, click the Utility Meter Group tab.

The Utility Meter Group Tab displays.



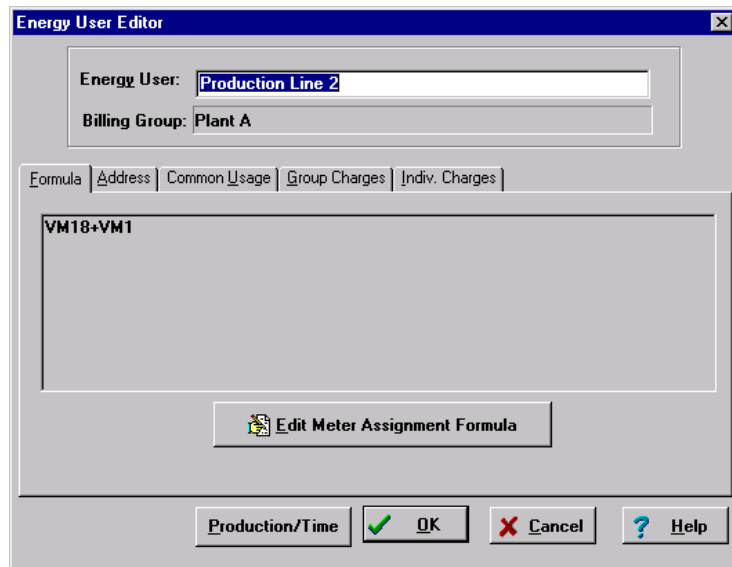
2. Select the group that contains the energy user associated with the production run.
3. Click the Energy User tab.

The Energy User tab displays.



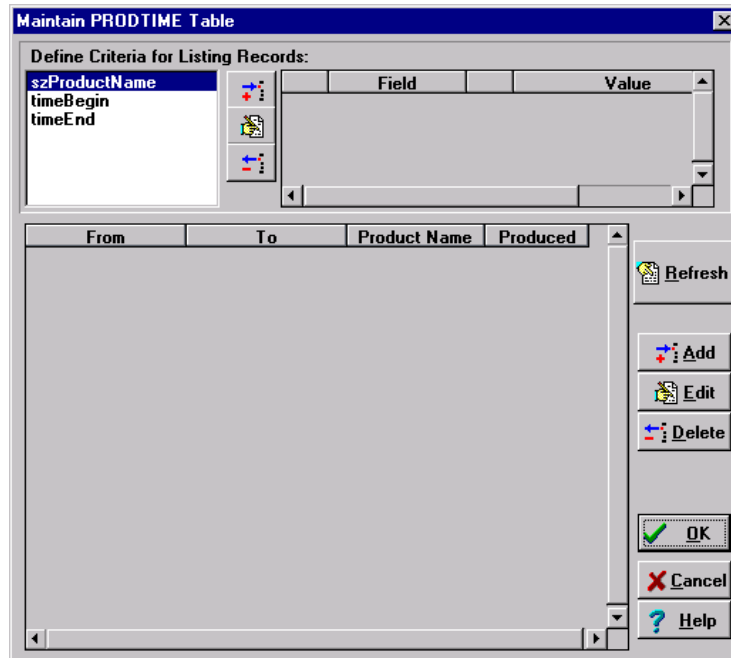
4. Select the energy user associated with the production run.
5. Click the Edit icon.

The Energy User Editor dialog box displays.



6. Click Production/Time.

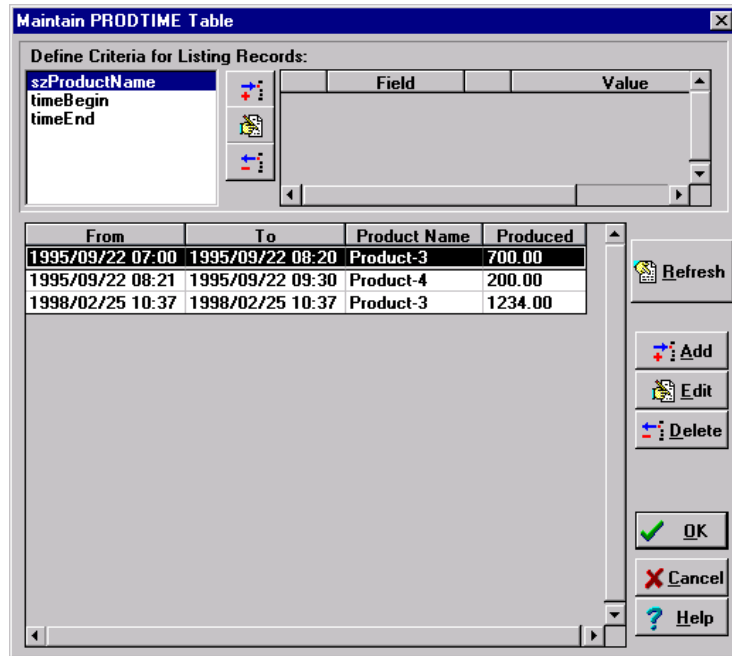
The Maintain Provertime Table dialog box displays.



7. To list any production runs already entered for the user, click Refresh.

The Maintain Prodttime Table updates to display production runs previously entered.





You can now perform any of the following procedures:

- ◆ Specify criteria to search/select records in the table.
- ◆ Add a product record to the table
- ◆ Edit an existing record in the table
- ◆ Delete an existing record in the table

## Adding a Production-Run Record

To add a production run, do the following:

1. On the Maintain Prodttime Table dialog box, click Add.

The Insert a New Record dialog box displays.

Product:

Begin: 06/25/1998 14:20

End: 06/25/1998 14:20

0

0

0

0

Next OK Cancel Help

2. Click the pencil icon to the right of the Product box.

The Maintain Prod Table dialog box displays.

Define Criteria for Listing Records:

Field	Value
szProductName	
szPartNo	
szDescr0	
szDescr1	
szDescr2	
szDescr3	

Product Name	Part #
Product-1	EX123456789
Product-2	DM33214214
Product-3	FEX0934212
Product-4	YKA134532

Refresh Add Edit Delete OK Cancel Help

3. To display the list of products, click Refresh. You can use the search criteria feature to limit the size of the list of records. For more information, see the section *Specifying Table Record Selection Criteria*.

4. Select the product that was produced in the production run you are adding to the table.
5. Click OK.

The Maintain Prod Table dialog box closes and the Insert a New Record dialog box displays the product you selected in the Product field. The dialog box also lists the units of the product.

The screenshot shows a dialog box titled "Insert a New Record". It has a "Product" field containing "Product-4". Below this are "Begin" and "End" fields, each with a date and time input: "06/25/1998" and "14:20". Underneath are four input fields for units, with the first two labeled "LB" and "PCS". On the right side, there are four buttons: "Next" (with a right arrow), "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark).

6. Enter the time and date of the beginning and end of the production run in the fields provided. Be sure not to overlap or leave gaps.

**Note**  
NetPower Billing requires consecutive, contiguous time to generate the report properly.

The time interval of a production run must not extend into the time interval of the production run of any other product. Also, do not leave gaps in the time intervals of the production runs you are tracking in NetPower Billing.

**Example:**

If you are tracking the production energy costs of #7 and #9 sheet metal screws, you need to schedule the productions consecutively, without any time between runs. If you cannot schedule productions without intervening pauses, create imaginary placeholder products to span the gaps.

If your #7 sheet metal screw is produced from 8:00 to 9:42 and your #9 sheet metal screw is produced from 9:55 to 11:07, you need to define a place-holder product (call it "Idle Time") to prevent the gap in time from 9:43 to 9:54.

7. Enter the number of units (for each type of unit) that were produced in the production run.
8. Click OK.

**Note**

You can click Next to enter the record into the table without closing the Insert a New Record dialog box. This feature allows you to quickly enter a series of similar production runs.

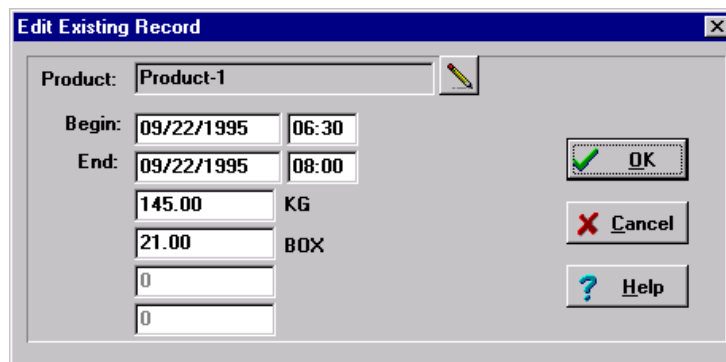
NetPower Billing creates a record based on the information you entered and adds it to the prodttime table and closes the Insert a New Record dialog box. NetPower Billing updates the list in the Maintain Prodttime Table dialog box to include the new record.

9. To add more records, repeat steps 1 through 8.
10. To close the Maintain Prodttime dialog box, click OK.  
Any records you added are now available to the reporting functions.

## Editing a Production-Run Record

1. On the Maintain Prodttime Table dialog box, select the production run record you want to edit.
2. Click Edit.

The Edit Existing Record dialog box displays.



Product:	Product-1	
Begin:	09/22/1995	06:30
End:	09/22/1995	08:00
	145.00	KG
	21.00	BOX
	0	
	0	

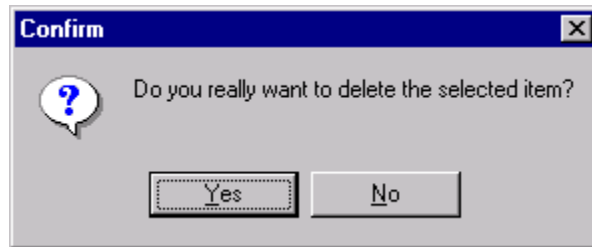
3. Enter the changes you want to make in the edit fields.
4. Click OK.
5. Click OK to close the Maintain Prodttime Table dialog box.  
NetPower Billing updates the table with any edits you made.

## Deleting a Production-Run Record

To delete a production run from the table, do the following:

1. On the Maintain Prodttime Table dialog box, select the production run record you want to delete.
2. Click Delete.

A confirm box displays, verifying the request to delete.



3. Click Yes.

NetPower Billing deletes the item from the proptime table.

## Specifying Table Record Selection Criteria

In addition to the basic table functions, the Maintain Prod Table and Maintain Proptime dialog boxes provide functions for building advanced record selection criteria.

If you have only a few products for which you wish to track production energy costs, you need not define search criteria for selecting records. If no selection criteria are defined, all the records display in the selection list.

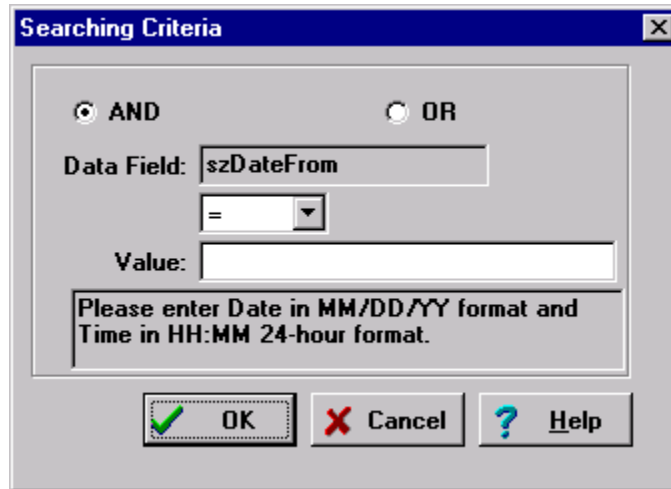
However, if you have a large number of products, you can define search/selection criteria such that NetPower Billing lists only the product or products you wish to see. You can define multiple search/selection criteria related by logical AND or OR functions, so your selection list can be as specific as you want it to be.

### Specifying a Selection Criteria

To define a criteria for selecting records in the Maintain Prod Table and Maintain Proptime Table dialog boxes, do the following:

1. In the dialog box, select a field from the field list in the upper left-hand corner of the dialog box.
2. Click the Add icon located next to the field list.

The Searching Criteria dialog box displays.



The data field you selected displays in the Data Field box.

3. Select AND or OR to establish the relationship between the selection criteria you are defining and any other selection criteria that are defined or will be defined.
  - ◆ If you specify AND, all records NetPower Billing retrieves will match this field specification, in addition to any other field specification.
  - ◆ If you specify OR, the records NetPower Billing retrieves will match this field specification or any other specification, but need not match both.
4. Select a relational operator from the field immediately below the Data Field box. Five relational operators are available:
 

=	Selects records for which the selected data field has a value equal to the value you enter in the Value box.
>	Selects records for which the selected data field has a value greater than the value you enter in the Value box.
<	Selects records for which the selected data field has a value less than the value you enter in the Value box.
<>	Selects records for which the selected data field has a value that is not equal to the value you enter in the Value box.
like	Selects records based on wild card characters. The wild card character for a string of zero or more characters is %. The wild card character for a single character is _.

5. Enter a value for the field you selected based on what you know about the values of records you are looking for, the value of the records in the table, and the relational operator you have chosen.
6. Click OK.  
The Searching Criteria dialog box closes.
7. Click the Refresh button in the dialog box to update the list to reflect the new criteria.

NetPower Billing generates a new list of records according to the current defined criteria.

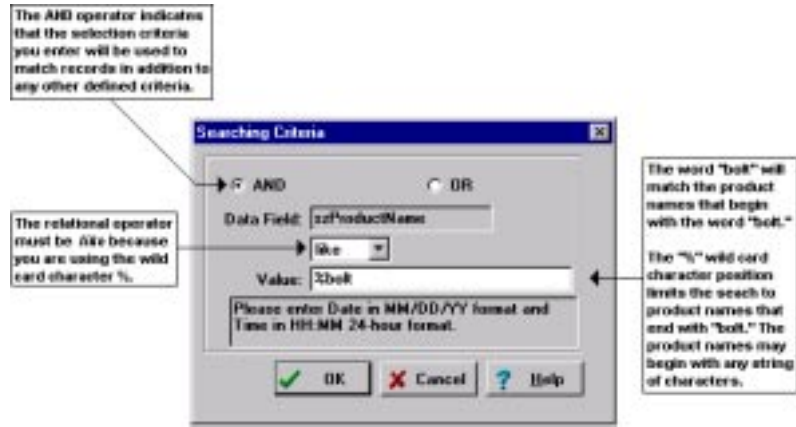
### Examples

Suppose you are the manufacturer of dozens of types of fasteners, say screws, bolts, and spring fasteners, and you want to track the energy costs involved producing each type of fastener.

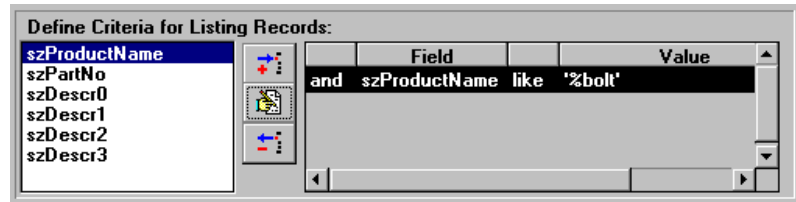
If you wanted to edit the product table entries for each type of bolt, you might have to rummage through the table looking for each bolt you want to edit. The selection list might look like this:

Product Name	Part #
<b>#1 Bolt</b>	<b>AB-11007-62</b>
<b>#1 Spring Fastener</b>	<b>AD-44006-100</b>
<b>#10 Bolt</b>	<b>AB-11007-68</b>
<b>#11 Bolt</b>	<b>AB-11007-70</b>
<b>#16 Bolt</b>	<b>AB-11007-72</b>
<b>#192 Spring Fastener</b>	<b>AD-38488-003</b>
<b>#20 Bolt</b>	<b>AB-11007-71</b>
<b>#204 Spring Fastener</b>	<b>AD-58472-023</b>
<b>#3 Bolt</b>	<b>AB-11007-64</b>
<b>#7 Spring Fastener</b>	<b>AD-44123-102</b>
<b>Sheet Metal Screw</b>	<b>AN-123-03</b>
<b>Sheet Metal Screw</b>	<b>AN-45899-34</b>
<b>Sheet Metal Screw</b>	<b>AN-5602-17</b>
<b>Sheet Metal Screws</b>	<b>AN-123-09</b>

But you can easily limit the display list to the type of fastener you wish by defining the criteria. If you are looking for bolts, and if you can assume that each type of bolt has the word “Bolt” as part of the product name, you can limit the selection list to these records by defining the following search/selection criteria:



When you click OK, the defined criteria looks like this:



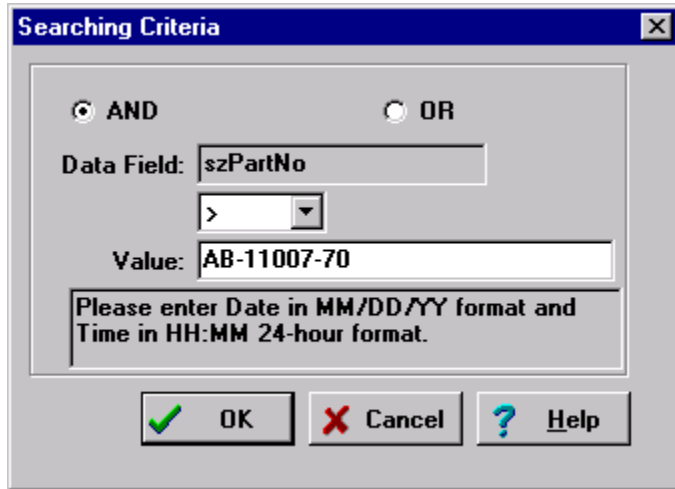
Since every bolt product name consists of the # character, followed by a number, followed by a space and the word bolt, this selection criteria will produce a selection list like the following. Note that you can resize the column, if necessary.

Product Name	Part #
#1 Bolt	AB-11007-62
#10 Bolt	AB-11007-68
#11 Bolt	AB-11007-70
#16 Bolt	AB-11007-72
#20 Bolt	AB-11007-71
#3 Bolt	AB-11007-64

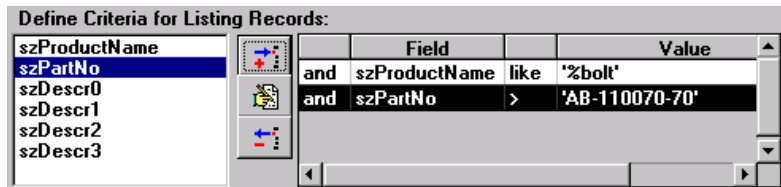
If this list is still too large to manage easily, you can limit the selection further by defining additional criteria. Suppose you knew that you only wanted to see records with a part number higher than AB-11007-70. To



further limit the selection list in this way, you would define the following additional criteria.



When you click OK, the defined criteria looks like this:



The new selection list shows that the records not matching the new criteria have been removed:

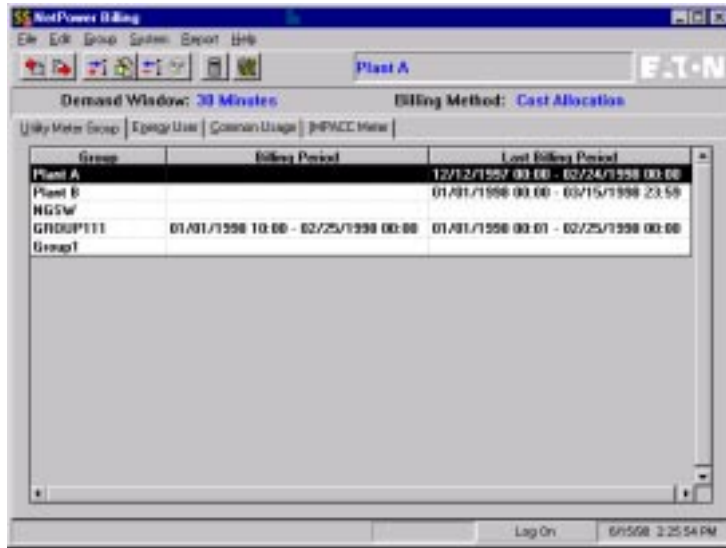
Product Name	Part #
#20 Bolt	AB-11007-71

## Generating Production Energy Reports

To generate an energy report showing energy consumption and costs associated with a production run, do the following:

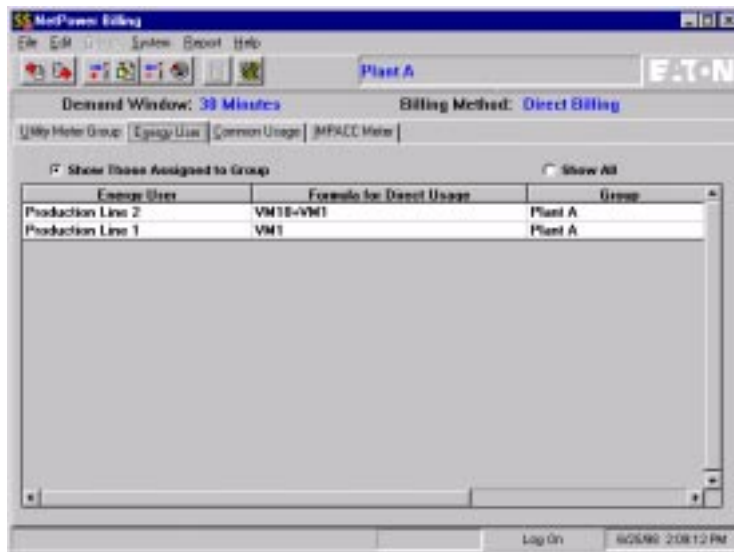
1. Verify that you have NetPower Track installed.
2. Calculate the billing charges. For more information see *Chapter 5: Calculating Billing Charges*.
3. On the NetPower Billing main window, click the Utility Meter Group tab.

The Utility Meter Group Tab displays.

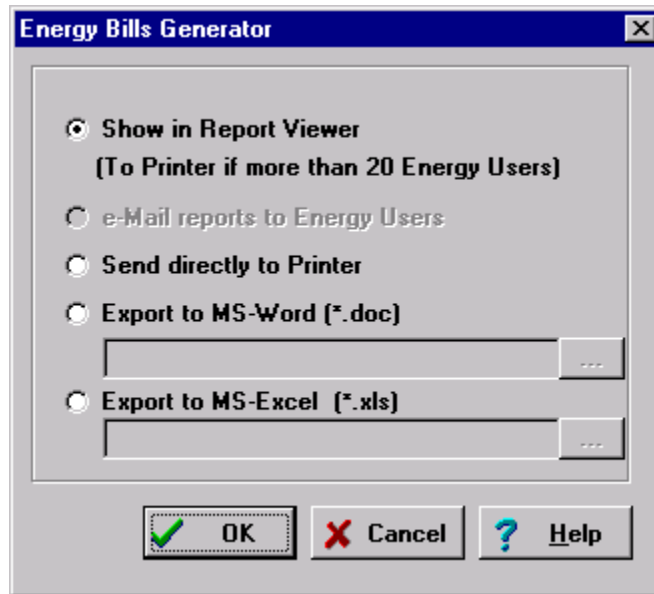


4. Select the group containing the energy user for which you want to generate a report.
5. Click the Energy User tab.

The Energy User tab displays.



6. Select the Energy User, for which you want to generate a report. You can select multiple users.
  7. From the Report menu, select Product Energy Bill(s).
- The Energy Bills Generator dialog box displays.



In this dialog box, you can specify the form of output you want for the reports you are generating. In addition to displaying the reports in the report viewer, you can distribute them as e-mail, send them to the printer, or output them as Microsoft Word or Excel files.

- ◆ To use the e-mail option, your energy users must have valid mailboxes and you must log NetPower Billing on to the mail system. For more information, see *Chapter 3: Configuring the System*.
- ◆ To export bills to a Microsoft Word .doc file or a Microsoft Excel .xls file, click the corresponding radio button and enter the filename you want to use. If you want to save the bills to an existing file, use the browse buttons to the right of the file box. The browse buttons open a file browsing dialog box with which you can locate the existing file to which you want to save the bills.

6. When you have selected the output option you want, click OK.

**Note**

For additional information about generating reports, see *Chapter 5: Generating Bills and Reports*.

NetPower Billing validates bill calculation for each user in the group based on the configuration, entered charges, and IMPACC meter data.

NetPower Billing generates the report and either launches the viewer, distributes the report using the e-mail system, or writes the report to a file in the format you specified.

## Example Report

The following report is an example:

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Energy User:</b> Production Line 1</td> <td style="width: 50%;"><b>Part #:</b> DX-2735-475-009</td> </tr> <tr> <td><b>Product Name:</b> Widget</td> <td></td> </tr> <tr> <td><b>Billing Period From:</b> 9/22/95 7:00:00 AM</td> <td><b>Billing Date:</b> 10 / 1/96</td> </tr> <tr> <td style="text-align: right;"><b>To:</b> 9/22/95 12:30:00 PM</td> <td><b>Due Date:</b> 10/11/96</td> </tr> </table>				<b>Energy User:</b> Production Line 1	<b>Part #:</b> DX-2735-475-009	<b>Product Name:</b> Widget		<b>Billing Period From:</b> 9/22/95 7:00:00 AM	<b>Billing Date:</b> 10 / 1/96	<b>To:</b> 9/22/95 12:30:00 PM	<b>Due Date:</b> 10/11/96
<b>Energy User:</b> Production Line 1	<b>Part #:</b> DX-2735-475-009										
<b>Product Name:</b> Widget											
<b>Billing Period From:</b> 9/22/95 7:00:00 AM	<b>Billing Date:</b> 10 / 1/96										
<b>To:</b> 9/22/95 12:30:00 PM	<b>Due Date:</b> 10/11/96										
<b>Billing Capacity Charge</b>											
<b>Rate Period</b>	<b>Peak At</b>	<b>KW</b>	<b>Charge \$</b>								
On-Peak	9/22/95 8:00:00 AM	34.33	24.91								
Part-On-Peak	9/22/95 9:30:00 AM	147.92	140.42								
<b>SubTotal:</b>			<b>165.33</b>								
<b>Billing Energy Charge</b>											
<b>Rate Period</b>		<b>KWH</b>	<b>Charge \$</b>								
On-Peak		50.07	251.87								
Part-On-Peak		73.96	548.49								
<b>SubTotal:</b>			<b>800.36</b>								
<b>Other Charges</b>											
<b>Description</b>	<b>Method</b>	<b>Charge \$</b>									
Customer Charge	Equal Share	38.75									
Peak-Period Rate Limited Adj.	% of Total kWh	3.90									
Average Rate Limited Adj.	% of Total kWh	1.09									
Economic Stimulus Credit	% of Total kWh	(149.86)									
Power Factor Adj.	% of Total kWh	178.59									
State Surcharge	Weight Points	87.26									
Connection Charge-Ming	Weight Points	(29.45)									
Equipment Renting		5.56									
<b>SubTotal:</b>			<b>135.85</b>								
<b>Per Unit Cost</b>											
<b>Total Cost (\$)</b>		<b>Produced</b>	<b>Unit Cost \$</b>								
1101.54		321.00	3.43								
<b>Product Total Cost:</b>			<b>1,101.54</b>								

