

The “TENANT EXECUTIVE”®

The “TENANT EXECUTIVE”® is a separate application that is not launched from the “ENERGY EXECUTIVE III”® Manager toolbar. While this application can be integrated with the “ENERGY EXECUTIVE III”®, it also is sometimes used as a stand alone application or integrated with a different MMI.

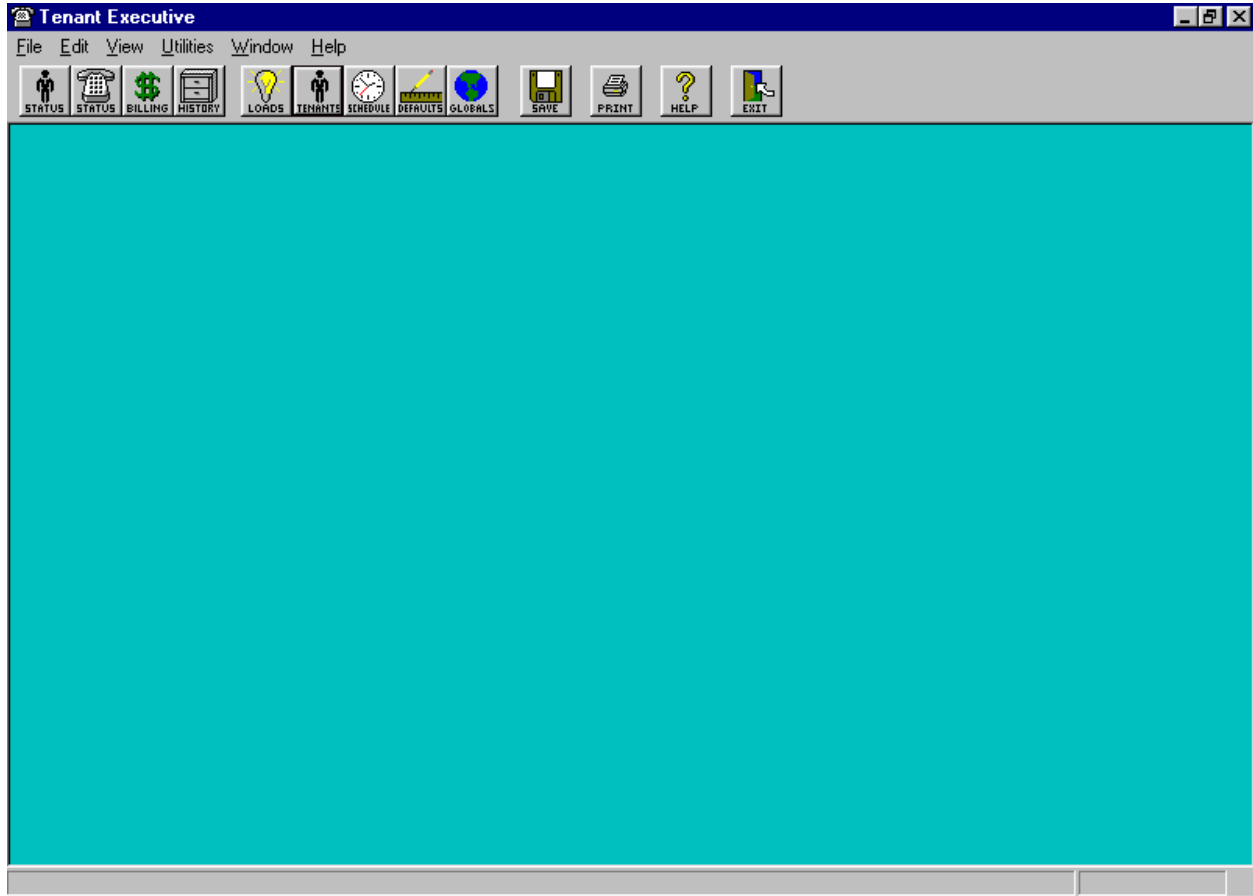
The “TENANT EXECUTIVE”® is most often used to monitor the after-normal-hours building use by tenants in a multiple tenant commercial facility. However, its monitoring and billing features can also be used for cost allocation in single occupancy buildings or retail facilities.

The features of the “TENANT EXECUTIVE”® allow the operator to:

1. Import loads (points) from the EMS (Energy Management System)
2. Configure tenants
3. Configure “areas” within the tenants
4. Assign energy consuming loads to the “areas”
5. Set up employees with access codes to activate overrides
6. Configure after-hours billing parameters
7. Monitor the status of the “TENANT EXECUTIVE”® system as it operates
8. Run tenant after-hours bills and management reports on tenant activity

The “TENANT EXECUTIVE”® allows for two separate types of services that can be overridden independently by tenants. The default configuration for these services is Lighting and HVAC. However, these designations can be changed. For the purposes of this user documentation it is assumed that the default configuration is being used.

Load the “TENANT EXECUTIVE”® by double clicking on the appropriate icon on the desktop or via the Start/Programs menu structure. The initial operator interface screen looks like this:



NOTE: Most of the normally configured parameters in the “TENANT EXECUTIVE”® are input via the windows and dialogue boxes available through either the icons on the icon toolbar or the View section of the pull down menu. However, there are few rarely used items that are programmable only via choices from the View section of the pull down menu. These items are addressed after all of the more standard features.

The first group of four icons is used to review the current status of various parts of the “TENANT EXECUTIVE”® and to run billing. Before these icons can be used you must configure the tenant database. This is done through menu bar selections and the second group of five icons.

Import the Loads from the EMS:

The first step is to import the loads from the EMS. This is done by clicking on “Utilities” on the menu bar (above the icons) and then clicking on the “Import Loads from EMS” from the “Utilities” submenu. Once the loads are imported, you can continue to configure the tenant database.

Load Configuration:

Click on the “Loads” icon to configure the loads. The display looks like the following:

EMS Type	EMS Key	EMS Name	Billing Number	Billing Type	Nameplate kW	Occupancy Override	Billing Info
Digital Output	D0000003	Administrative Offices HVAC		Nameplate kW	5.00	<input type="checkbox"/>	
Digital Output	D0000008	Bathroom Hallway Lights		Nameplate kW	0.30	<input type="checkbox"/>	
Digital Output	D0000012	Break Room Lights		Nameplate kW	0.00	<input type="checkbox"/>	
Digital Output	D0000002	Common Office Lights		Nameplate kW	0.50	<input type="checkbox"/>	
Digital Output	D0000004	Conference Room Lights		Nameplate kW	0.40	<input type="checkbox"/>	
Digital Output	D0000005	Conference/Break Rooms AC		Nameplate kW	5.00	<input type="checkbox"/>	
Digital Output	D0000011	Domestic Hot Water Heater		Nameplate kW	1.00	<input type="checkbox"/>	
Digital Output	D0000007	Engineering Office HVAC		Nameplate kW	10.00	<input type="checkbox"/>	
Digital Output	D0000006	Engineering Office Lights		Nameplate kW	0.90	<input type="checkbox"/>	
Digital Output	D0000001	Judy/Zach Office Lights		Nameplate kW	1.20	<input type="checkbox"/>	
Digital Output	D0000013	Lou/Ray Office Lights		Nameplate kW	0.00	<input type="checkbox"/>	
Digital Output	D0000010	Outside Lights		Nameplate kW	0.30	<input type="checkbox"/>	
Digital Output	D0000009	Panel Shop Lights		Nameplate kW	0.20	<input type="checkbox"/>	
Analog Output	A0000001	Outside Air Damper		Nameplate kW	0.00	<input type="checkbox"/>	
Digital Input	DI000002	Occupied Mode Input		Not Billable	0.00	<input type="checkbox"/>	
Analog Input	AI000008	Bathroom Hallway Temp.		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000005	Break Room Temp.		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000002	Common Office Temp.		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000004	Conference Room Temp.		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000013	Conference/Break Enthalpy		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000019	Conference/Break Humidity		Nameplate kW	0.00	<input type="checkbox"/>	
Analog Input	AI000007	Engineering Office Back Temp.		Nameplate kW	0.00	<input type="checkbox"/>	

This screen displays the loads that have been imported from the EMS. The first three columns contain information that cannot be changed from this form:

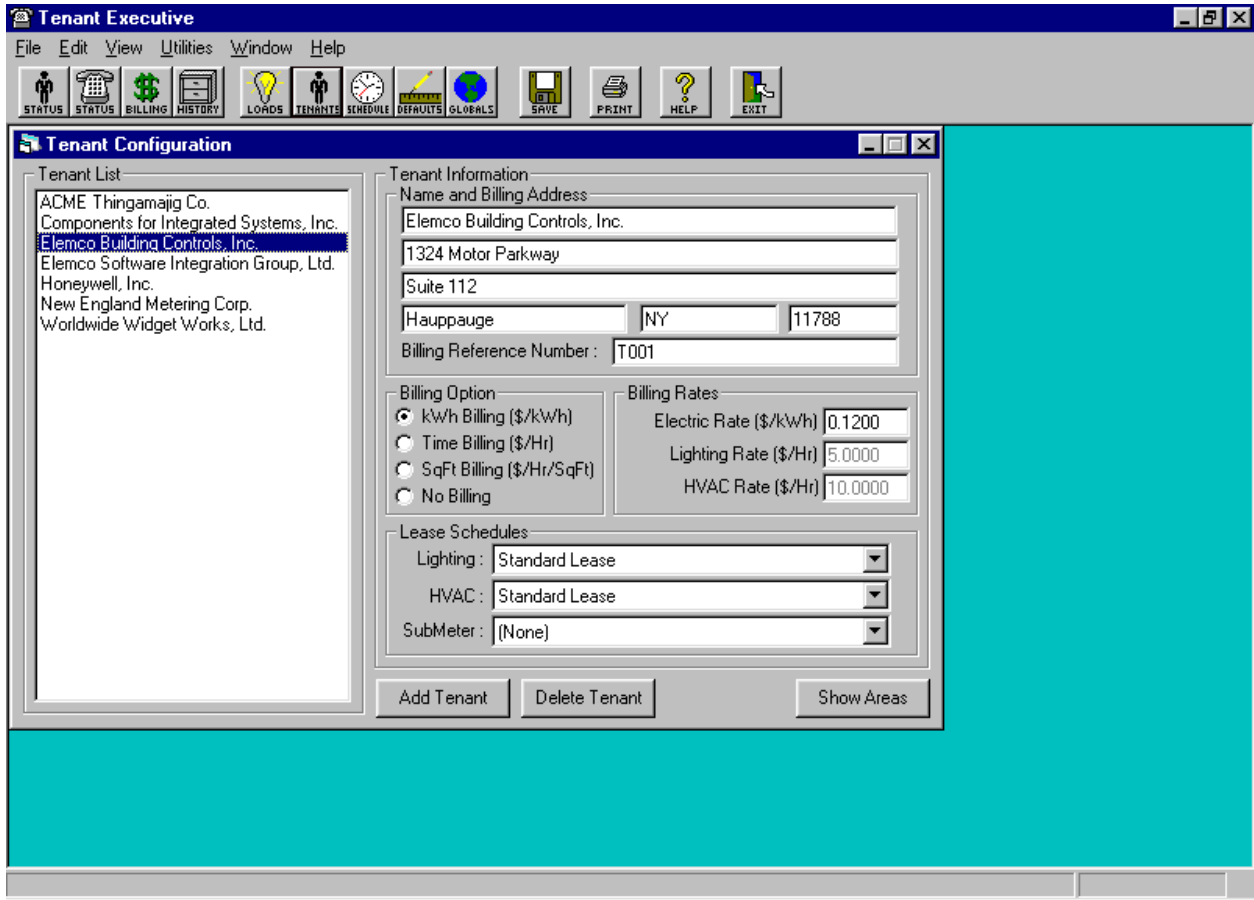
- ❖ EMS Type: The type of point it is as set by the EMS
- ❖ EMS Key: The point identification number as set by the EMS
- ❖ EMS Name: The name of the point as set by the EMS

The next five columns can be set or changed from this form:

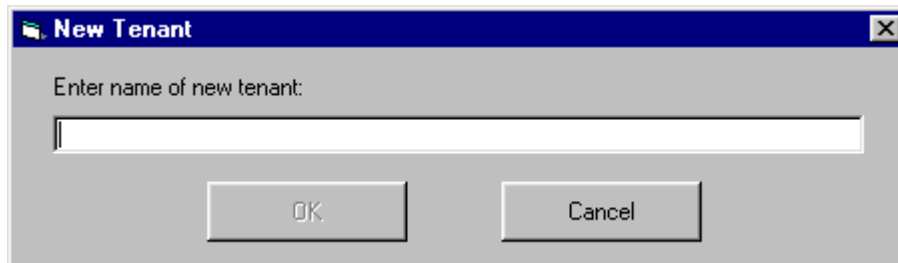
- ❖ Billing Number: This field is for use in custom applications implemented between EBC and specific customers. Therefore the significance of this data is dependent upon the custom application. Most standard software implementations will not use this field.
- ❖ Billing Type: When you click on this field you can select the billing type from the drop down pick list. The options are:
 - Not Billable: This load will not be used for billing purposes even if it is assigned to a tenant area.
 - Nameplate kW: This load will be part of the billing calculation for the tenant and the charges will be based on its Rated kW load. If a load is included in multiple active overrides, its consumption will be divided among the areas proportional to their square footage.
 - Measured kWh: This load will be part of the billing calculation for the tenant and the charges will be based measured kWh consumption. Normally this would be associated with some type of Watthour meter. If a load is included in multiple active overrides, its consumption will be divided among the areas proportional to their square footage.
 - Measured kW: This load will be part of the billing calculation for the tenant and the charges will be based measured kW demand. Normally this would be associated with some type of Watts Transducer or Current Transducer. If a load is included in multiple active overrides, its consumption will be divided among the areas proportional to their square footage.
- ❖ Nameplate kW: For loads with a billing type of “Nameplate kW”, enter the nameplate rated kW load. For billing Remember that if a load is included in multiple active overrides, its consumption will be divided among the areas proportional to their square footage. The consumption for loads billed by Rated kW will be this Nameplate kW X run time X \$/kWh.
- ❖ Occupancy Override:
- ❖ Billing Input (if measured): If a tenant point is used for billing by kWh based on the value of another point in the system, the measured input point is selected from the drop down list box in this column. For example, if the tenant point called “Common Office Lights” is assigned and billed to multiple tenants that are in the after-hours override mode at the same time and the kWh for the lighting panel is measured by a real meter input, the meter input point should be selected here as the “Billing Input” for the “Common Office Lights” tenant point. This will cause the kWh for the meter point to be shared among the tenants based on relative square footage of areas in override.

Tenant Configuration:

Click on the “Tenants” icon to configure the tenants. The display looks like the following:



This example shows some tenants already configured and the selected tenant is Elemco Building Controls, Inc. Before setting up the first tenant, the “Tenant List” on the left of the form will be blank. To add a tenant, click on the “Add Tenant” button on the bottom of the form. The following will appear:



Simply enter the new tenant name and click on “OK”. This will add the tenant name to the “Tenant List”. Once on the list, enter the **Name and Billing Address** as per the example above. If you wish to delete a tenant, highlight the tenant name on the “Tenant List” and click on the “Delete Tenant” button. Also, you may enter an optional Billing Reference Number if it will help you track your billing.

Next enter the **Billing Option**. The choices are:

- ❖ **kWh Billing [\$ kWh]:** Bill for after-hours use by kWh either measured or rated kW X point run time. If a load is included in multiple active overrides, its consumption will be divided among the areas proportional to their square footage.
- ❖ **Time Billing [\$ /hr]:** Bill for after-hours use by dollars per hour of overtime. Tenants charged by time will be charged at the same rate whether the overridden loads are shared or not.
- ❖ **SqFt Billing [\$ /hr /SqFt]:** Bill for after-hours use by Rate X hours X SqFt. Tenants charged by this method will be charged at the same rate whether the overridden loads are shared or not.
- ❖ **No Billing:** Do not bill this tenant for after-hours use

NOTE: The decision regarding billing type may be made anytime prior to the printing of bills. If the billing type is changed, all events on bills printed after the change will reflect that change even if those events occurred before the change was made. However, the decision between billing or not billing (**None**) must be made before the events occur since it affects calculation of shared overrides which must be made as the event occurs.

Then enter the Billing Rates. The items are:

- ❖ **Electric Rate [\$ /kWh]:** This rate will be used for kWh Billing. The `charge per kWh' is also used for any submeters being charged to the tenant regardless of the manner of billing for after-hours use.
- ❖ **Lighting Rate [\$ /Hr]:** This rate will be used for hourly billing of lighting loads
- ❖ **HVAC Rate [\$ /Hr]:** This rate will be used for hourly billing of HVAC loads

Then select the **Lease Schedules**. Schedules are created and defined in the “Schedules” section of the tenant database configuration discussed later in this chapter. At this point the user just selects from previously configured Schedules. The schedule designated as the Lease Schedule determines when the tenant will be billed for use via the “TENANT EXECUTIVE”®. If an override is in effect outside of the lease hours, the tenant will be billed. If the override is in effect during the lease hours, there will be no billing.

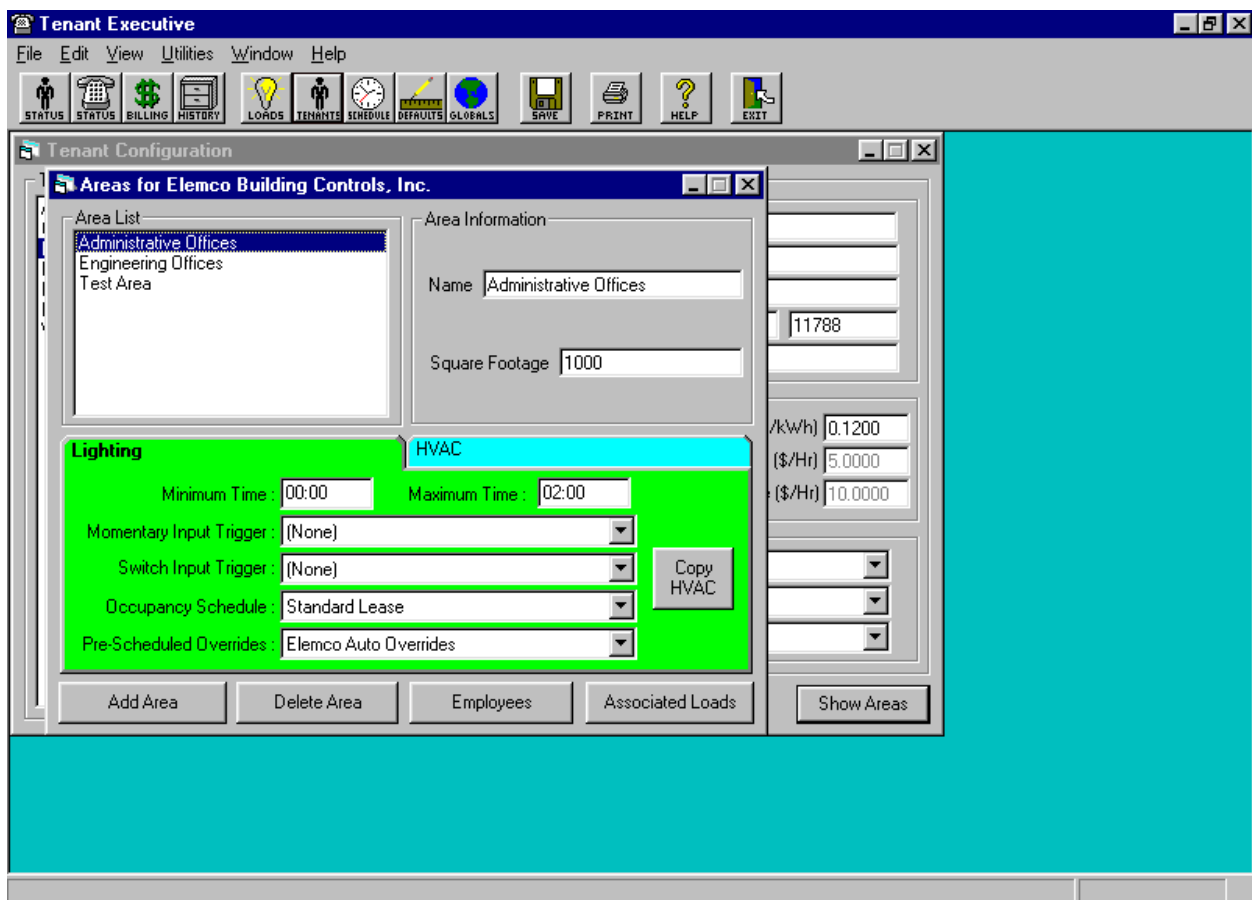
You can select different lease schedules for Lighting and HVAC overrides or you can have the same lease schedule for both. Also, if you have submeters that are for billing only

during tenant after-hours use, you can assign a lease schedule to these meters as well. The tenant will only be billed for consumption registered by these meters outside of the lease time.

Note that the Lease Schedule does not actually turn any load on or off or put any zone into an occupied mode. That is only done by the implementation of a tenant override or by some control function of the Energy Management System (e.g. time-of-day control). As stated above, the Lease schedule is only used to determine when the tenant is to be billed for building services.

Tenant Areas:

Click on the “Show Areas” button on the bottom right of the Tenant Configuration form to configure the Tenant Areas. The dialogue box looks like this:



This example shows some areas already configured and the selected area is Administrative Offices. Just like with Tenants, before setting up the first area, the “Area List” on the left of the form will be blank. To add an area, click on the “Add Area” button on the bottom

of the form and enter the name of the new area in the “New Area” dialogue box. After clicking on OK for the new area name, it will appear in the “Area List”.

After adding an area, enter the Square Footage of the area. This information is necessary for the proper calculation of after-hours charges. In particular, it is used for prorating of charges for loads shared by multiple areas/tenants.

The bottom part of this form allows input of information about lighting and HVAC overrides. This part of the form is arranged in a “Tab” format with each tab having a heading. Clicking on the heading of a tab will bring that tab to the foreground. Initially the Lighting tab will be in focus (see display above). Note that lighting and HVAC overrides are separately programmable. If desired the system can be configured so that the tenant can override just the lighting loads, just the HVAC loads or all loads. On both the Lighting and HVAC tabs the programmable functions are:

‘Minimum Time’: Enter the minimum time in hours and minutes for the override event. When an override is initiated, it will run for this minimum time period even if it is cancelled by the tenant before the end of this minimum period. You may want to utilize this feature for overrides that turn on large pieces of equipment. These machines may be required to run for a minimum cycle once started and the tenant should be billed for this minimum cycle regardless of the actual time needed for the override. If you do not need a minimum override time, leave it at 00:00.

‘Maximum Time’: Enter the maximum time in hours and minutes for the override event. At the end of this period the override will be automatically terminated even if the tenant does not actively cancel it. If the tenant requires more override time, he can extend the override for another “maximum” period. The Maximum Time is a required entry and prevents the tenant from being billed for an excessive override if he does not cancel the override.

(Related Notes:

The maximum time for phone scheduled overrides by time and date is input in a different area of the program. Refer to the section later in this manual on features programmable via pull down menus only.

While this Maximum Time is a required entry, it does not affect overrides implemented via Switch Input Triggers mentioned below.)

‘Momentary Input Trigger’: The override event can be triggered by a momentary contact. Select the point that will trigger the override from the list of available points in the drop down list box.

‘Switch Input Trigger’: The override event can be triggered by an on/off switch input. Select the point that will trigger the override from the list of available points in the drop down list box. In this special case, the length of the override is determined purely by the length of time this switch input remains on. The Maximum Time will have no effect on the end of the override.

NOTE: Overrides can be initiated by momentary input triggers, switch input triggers or touch tone telephone interaction. If all of these are configured for a particular area, the override can be initiated by any of the inputs.

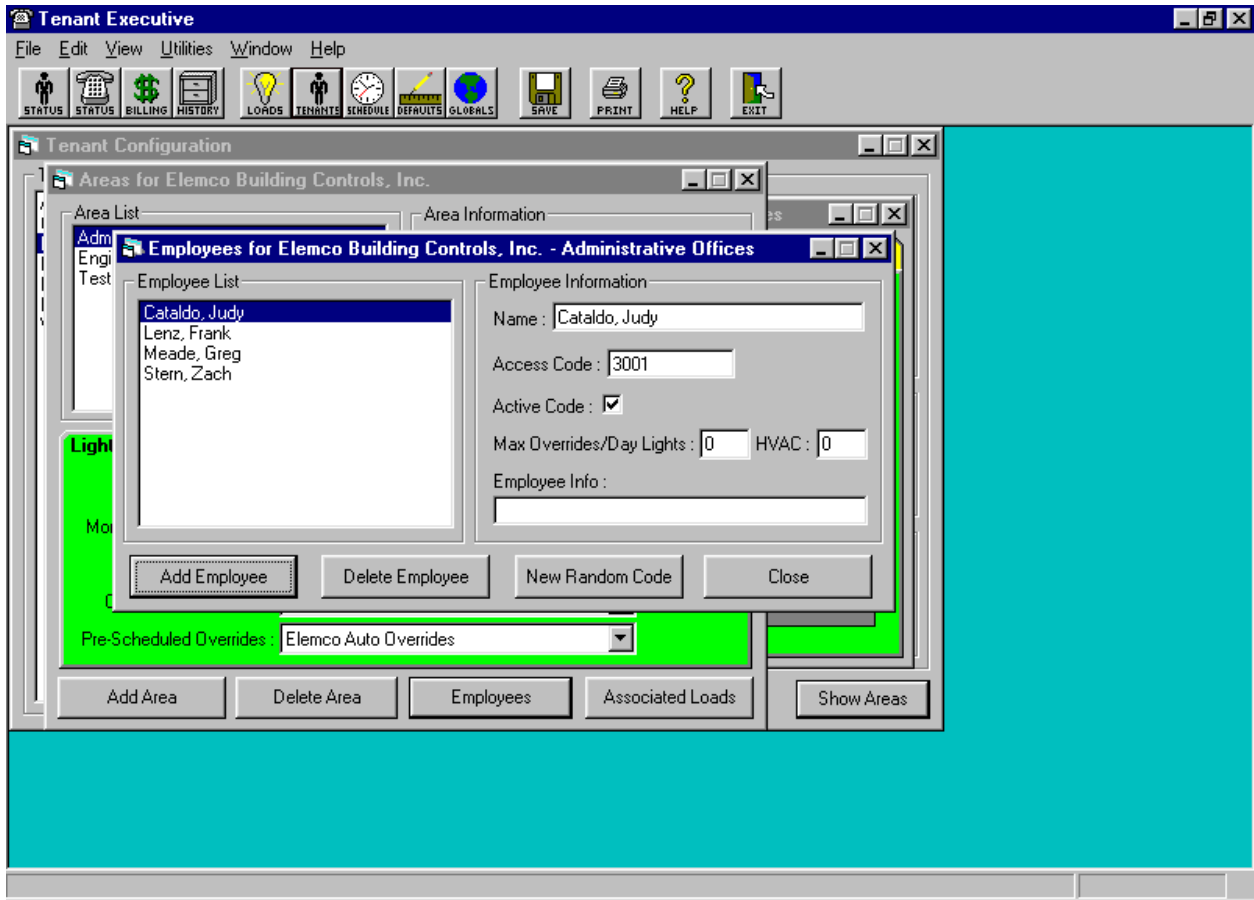
‘Occupancy Schedule’: Schedules are created and defined in the “Schedules” section of the tenant database configuration discussed later in this chapter. At this point the user just selects from previously configured Schedules. The schedule designated as the Occupancy Schedule is used by the program to determine when an override will be started. If the override initiation event (telephone call or switch input) occurs during the Occupancy Schedule, the system will not start the override at the time of the initiation event. It will remember the override request and start the override at the end of the Occupancy Schedule. The override will then continue for at least the Minimum Time and until the Maximum Time expires or the tenant cancels the override. This allows tenants who know that they will be working beyond the Occupancy Schedule to initiate the override before the last minute or whenever it is convenient to do so. In systems that use telephone override access and have Occupancy Schedules for many tenants that coincide, this can alleviate telephone busy signals at the end of the day.

You can select different lease schedules for Lighting and HVAC overrides or you can have the same lease schedule for both. Note that the Lease Schedule does not actually turn any load on or off or put any zone into an occupied mode. That is only done by the implementation of a tenant override or by some control function of the Energy Management System (e.g. time-of-day control). As stated above, the Lease schedule is only used to determine when the tenant is to be billed for building services.

To **Delete an Area** highlight the area name in the Area List box and click on the “Delete Area” button.

Employees:

Click on the “Employees” button on the bottom of the Area Configuration form to configure the information for employees who you wish to be able to initiate a tenant override for this area. The dialogue box looks like this:



This example shows some employees already configured and the selected employee is Judy Cataldo. Just like with Tenants, before setting up the first employee, the “Employee List” on the left of the form will be blank. To add an employee, click on the “Add Employee” button on the bottom of the form and enter the name of the new employee in the “New Employee” dialogue box. After clicking on OK for the new employee name, it will appear in the “Employee List”.

After adding an employee, enter the Access Code for the employee. This code will be the four digit access code that this employee uses to override the area. The code is used when implementing a tenant override from a touch tone phone with the process described in the **TENANT OVERRIDE ACTIVATION INSTRUCTIONS** listed below. The code must be unique in the system and should be kept confidential. Only the employee and the system administrator should know this code. Use of the code may generate after-hours usage charges to the tenant. If you would like the program to generate a unique code for you, click on the “**New Random Code**” button on the bottom of the form.

Check the “**Active Code**” box when you want this code to be active. If this box is checked, the employee can initiate an override. If the box is not checked, this access code will not be recognized by the program.

Enter the “**Max. Overrides/Day**” for this employee. There are separate maximums for lights and HVAC. This parameter will limit the number of times per day that this access code will be allowed to initiate an override.

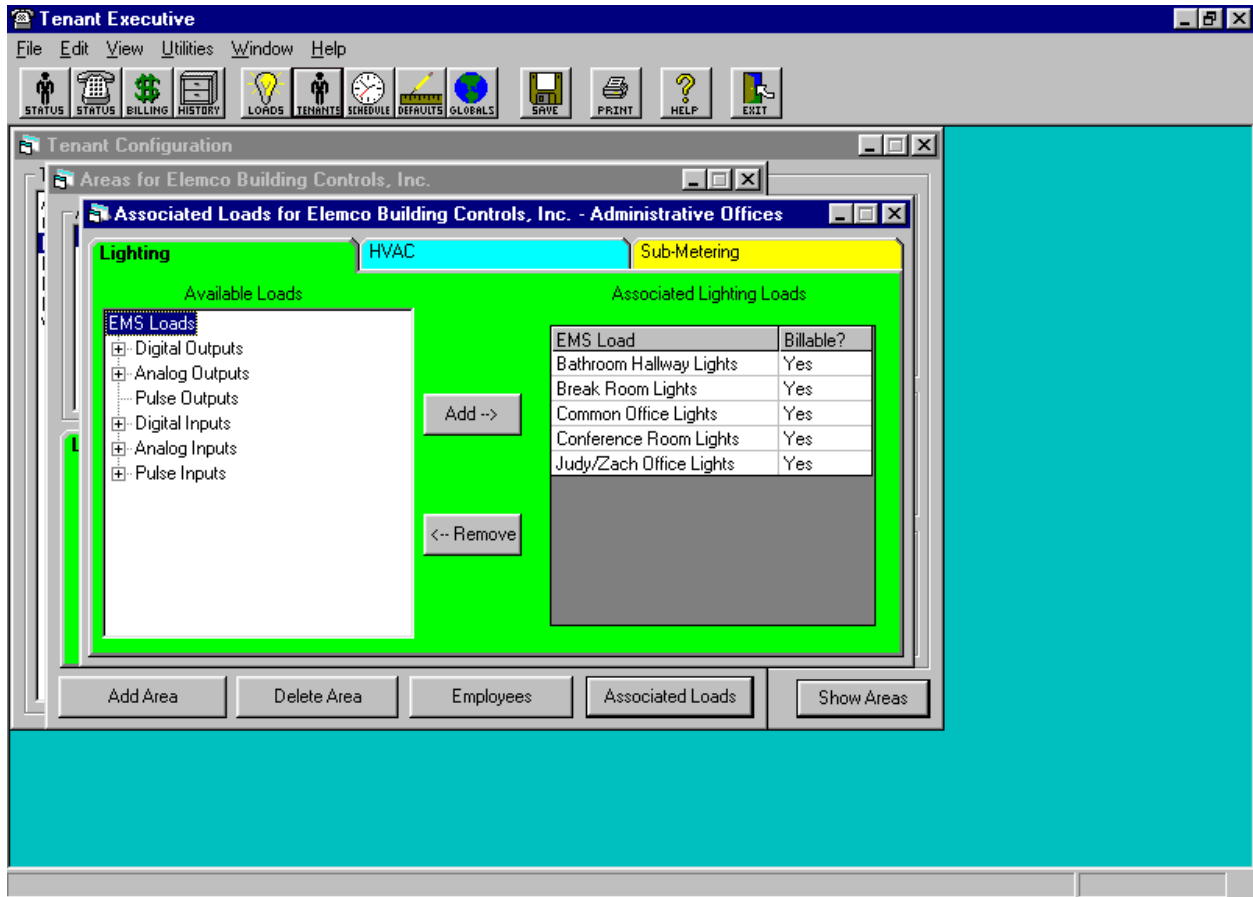
If desired, enter some descriptive information in the “**Employee Info.**” field. This information is not required but can be used for further descriptive identification.

To **Delete an Employee** highlight the employee name in the Employee List box and click on the “Delete Employee” button.

Closing the Employees dialogue box will return you to the Area dialogue box.

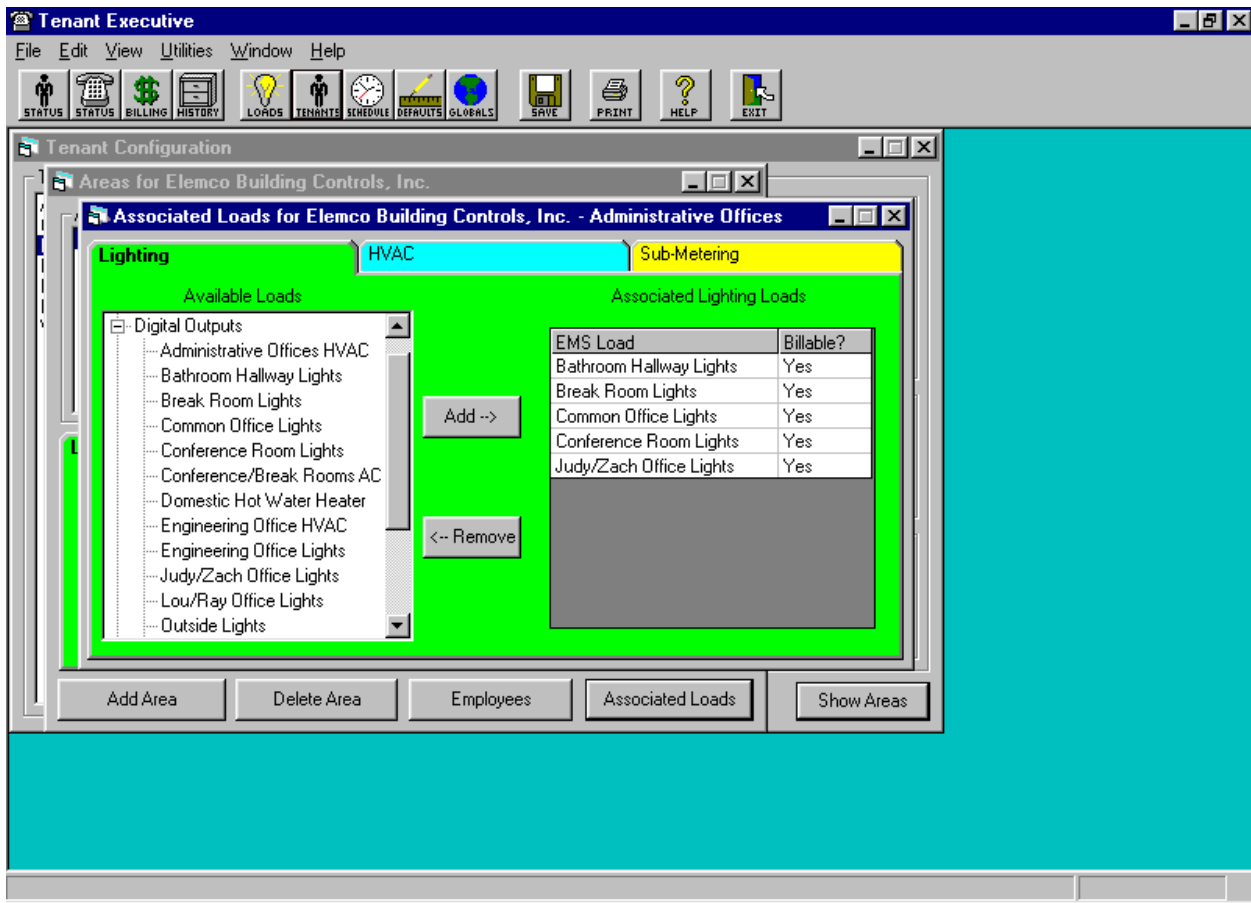
Associated Loads:

Click on the “Associated Loads” button on the bottom of the Area Configuration form to assign the lighting, HVAC and sub meter loads to the tenant area. The dialogue box looks like this:



The Associated Loads window is arranged in a “Tab” format with each tab having a heading. Clicking on the heading of a tab will bring that tab to the foreground. Initially the Lighting tab will be in focus (see display above). In our example there are already some points that have been added to the lighting override in this area.

On the left side of the Associated Loads tab is a list of available loads to associate with this tenant area in a “tree” structure. The tree structure is grouped by point type. If you click on the “+” sign to the left of a point type the tree will expand to display all of the available points of that type. For example clicking on the “+” next to the Digital Outputs point type produces the following display:



The user can add or remove lighting points by highlighting the point name in the Available Loads list box (to add) or in the Associated Lighting Loads box (to remove) and then clicking on the Add or Remove button in between the boxes.

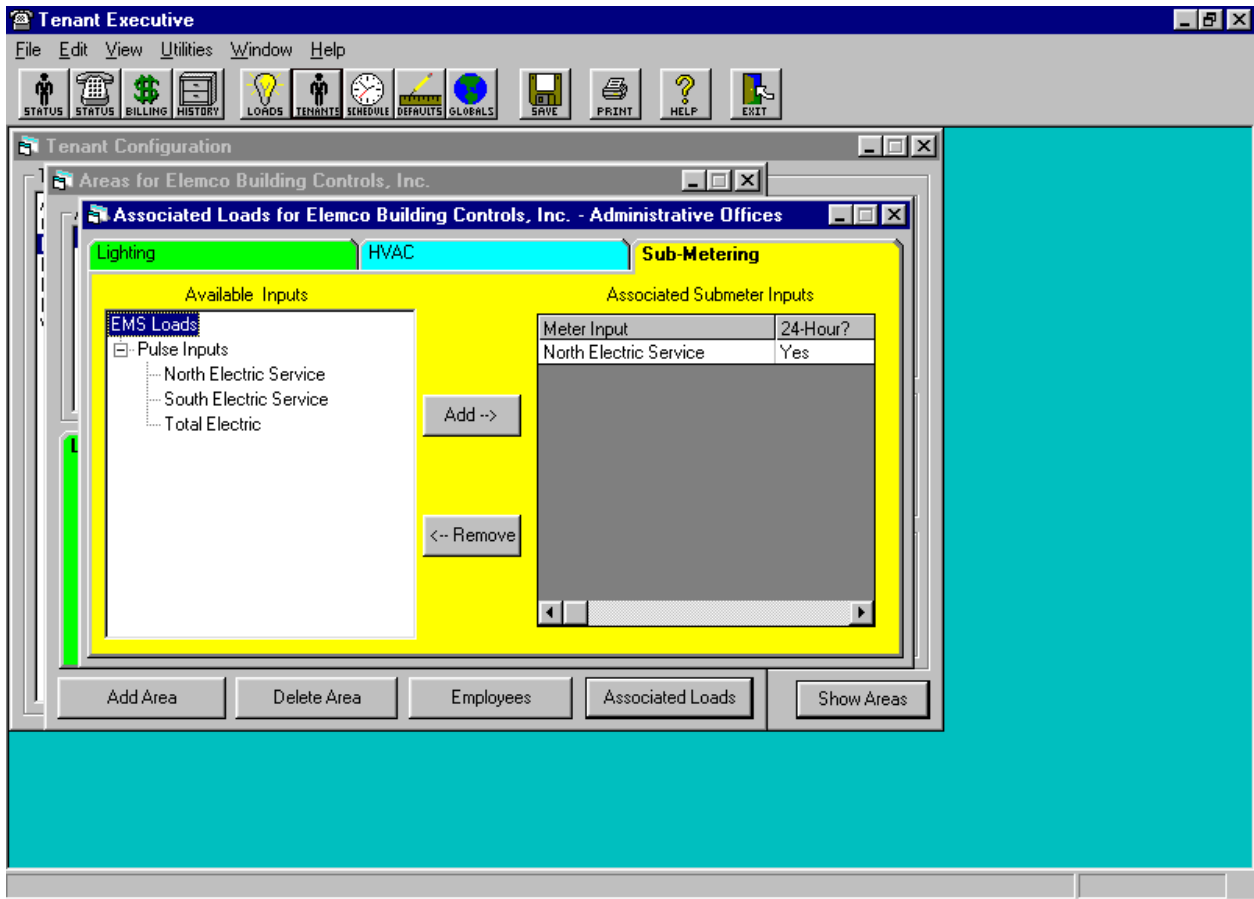
Note that you can add points other than lighting points to the Associated Lighting Load list. All loads that are included in the Associated Lighting Loads box for a given area will be put into occupied mode when the lighting override is implemented by the tenant, regardless of the nature of these points. If you do not wish to allow the tenant to override lighting and HVAC loads separately, you can put all lighting and HVAC loads in to either the Lighting or HVAC override points list. However, be careful in override configuration not to do things that do not make sense. Also be careful to configure the lists in a fashion that will accomplish the desired result. If you want to have separate tenant overrides per area for lighting and HVAC points, make sure that you include only lighting points in the lighting tab and HVAC points in the HVAC tab.

Also note that for custom configuration of the captions on the tabs and on the associated tenant bills, it is possible to actually change the definitions of these two “categories” of overrides.

After adding a point to the Associated Lighting Load list, indicate whether this particular load is billable or not by selecting Yes or No in the drop down list box under the “Billable?” column of the Associated Lighting Load list. If the tenant is configured for kWh billing and this column indicates that a particular load is not “Billable”, no calculation of charges will be performed for this point. The charges will, however, still be calculated for other “Billable” loads in this override group. If the tenant is configured for cost per hour billing, this field is irrelevant.

HVAC overrides are configured in exactly the same fashion as lighting overrides. Once again, be careful to configure the loads appropriately for HVAC overrides. Only include those loads that you wish to be put into occupied mode when the override is implemented. Remember, that the tenant will be charged for the override events.

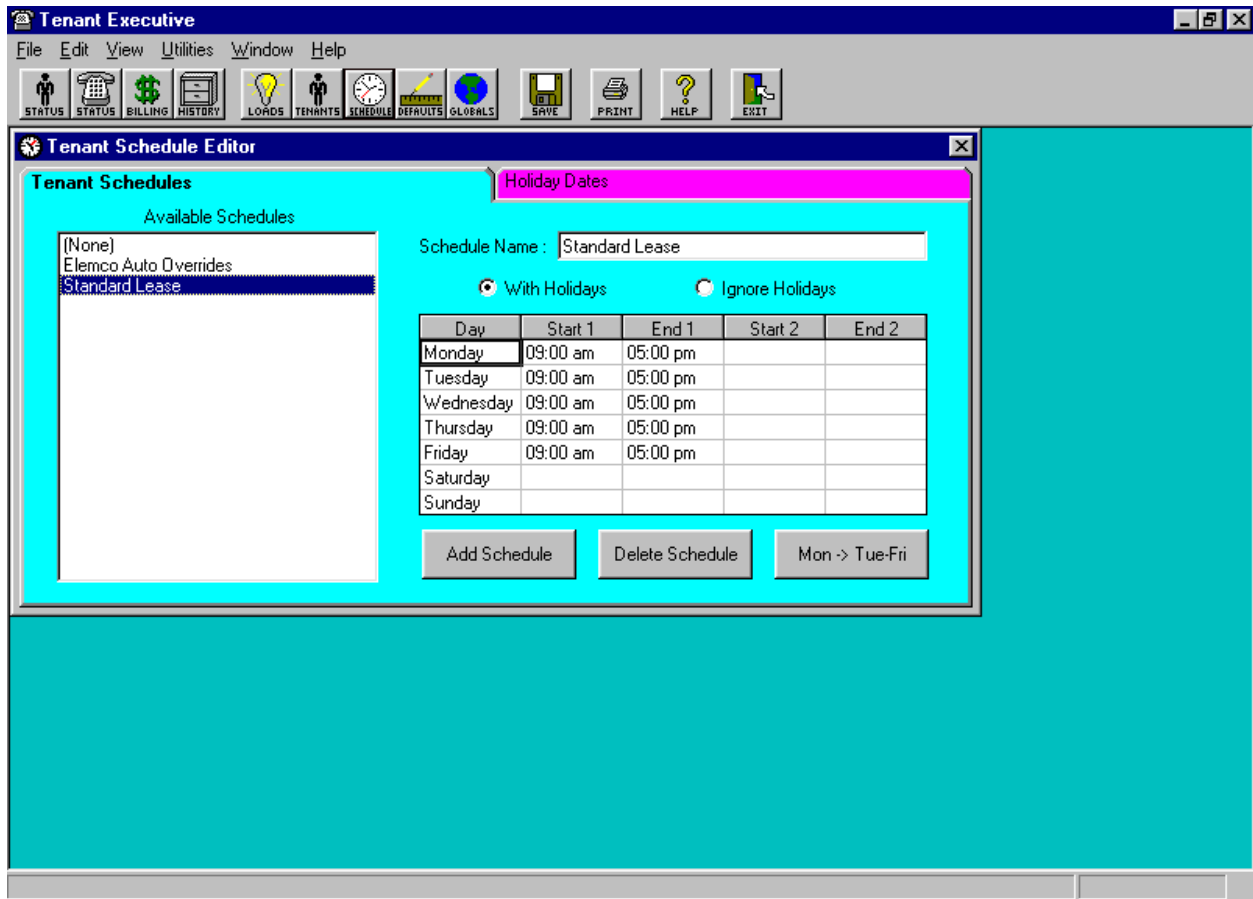
Submeters are configured in almost the same fashion as lighting and HVAC overrides. Use of the tree point selection is the same. However, submeter points have different configuration options. Any submeter can be designated as a 24 hour meter or a meter the consumption of which is only billed after-hours. The submeter tab looks like this.



After adding a submeter to the Associated Submeter Input list, indicate whether this particular load is a 24 hour meter or not by selecting Yes or No in the drop down list box under the “24-Hour?” column of the Associated Submeter Input list. Consumption for a 24-hour meter is measured and billed around the clock. Consumption for a meter that is not configured as a 24-hour meter is only measured and billed for time periods outside of the tenants Lease Time.

Schedule Configuration:

Click on the “Schedule” icon to configure schedules. The display looks like the following:



The Tenant Schedule Editor window is arranged in a “Tab” format with each tab having a heading. Clicking on the heading of a tab will bring that tab to the foreground. Initially the Tenant Schedules tab will be in focus (see display above). In our example there are already some points that have been added to the lighting override in this area.

Tenant Schedules:

This example shows some schedules already configured and the selected schedule is Standard Lease. As in many other data entry forms, before setting up the first schedule, the “Available Schedules List” on the left of the form will be blank (except for “None”). To add a schedule, click on the “Add Schedule” button on the bottom of the form and enter the name of the new schedule in the “New Schedule” dialogue box. After clicking on OK for the new schedule, it will appear in the “Available Schedules List”. Once a named schedule is selected for configuration by highlighting it in the “Available Schedules List”, the name will appear in the Schedule Name box over the Schedule grid. The name can be edited in this box.

After adding a schedule name, configure the schedule by adding up to two sets of start and stop times for the schedule. Data entry is performed by simply entering the times into the appropriate cells much like you would enter data into a spreadsheet or a database. Note, however, that the “:” in the time will be entered automatically by the program. Times are entered based on a standard 12 hour clock with AM and PM designations. Note that you only need to enter the “A” or the “P” and the program will add the “M”. Remember that Noon is 12:00 PM and Midnight is 12:00 AM. Move through the cells using the arrow keys.

Very often a schedule will be the same for Monday through Friday. To facilitate programming of schedules like these, you can program just Monday’s schedule and then simply click on the “Mon-> Tues-Fri” button on the bottom right of the form to copy Monday’s schedule through the rest of the business week.

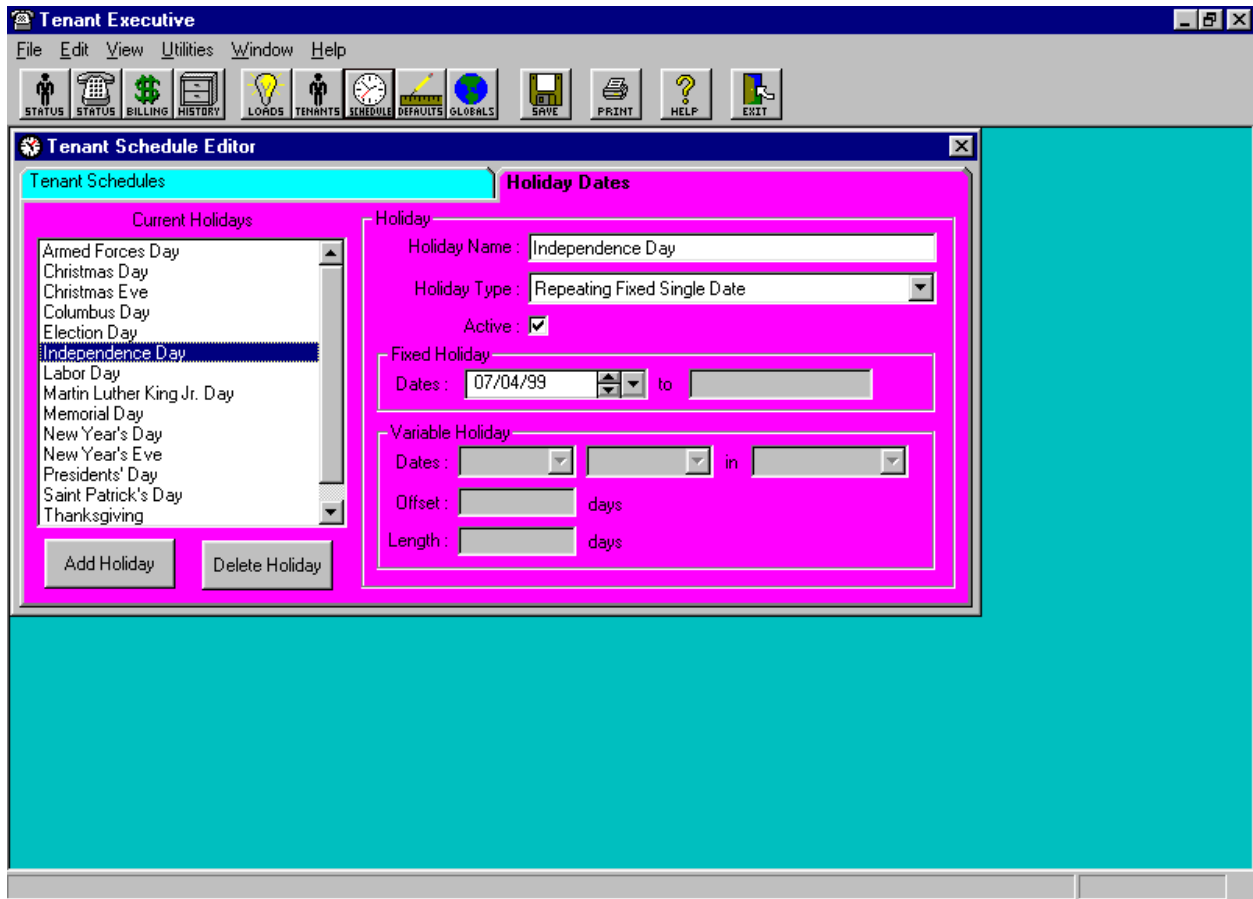
Note that this window is used only to set up named schedules. The application of configured schedules is done in the tenant configuration and tenant area configuration sections of the program. Any configured schedule can be used as either a Lease Schedule or an Occupancy Schedule. Refer to the sections of the documentation covering the tenant configuration and tenant area configuration for definitions of these types of schedules.

You can also specify if the schedule should be inactive on Holiday dates. If you select the “With Holidays” radio button (above the schedule grid), the schedule will not be active on a defined holiday. If you select the “Ignore Holidays” radio button, the schedule will remain active on a defined holiday.

To Delete a Schedule, highlight the schedule name in the Tenant Schedule List box and click on the “Delete Schedule” button.

Holiday Dates:

This tab is used to define the holidays that your system will use. Once holidays are defined, you may enter schedules for equipment for each of the holidays (the next tab). The Holiday Dates tab looks like this:



The scrolling list box on the left of the form allows you to select a holiday to define. The software comes with some pre-defined holidays. You may use these holidays as defined, change the definitions or, using the buttons below the list box, delete these holidays and add new ones do define. Click on a listed holiday to highlight it and bring up its definition to edit. Click on the Add Holiday button to add a new named holiday. Click on the “Delete Holiday” button to delete the currently highlighted holiday.

Once you have selected a holiday on which to work or added a new holiday to define, you will be working in the various data entry boxes on the right of the form. Start by editing or adding the Holiday Name. Next select a Holiday Type. The choices from this drop down list box and their definitions are:

1. One-Time Fixed Single Date – A holiday that occurs on a particular date this year, but not every year.
2. One-Time Fixed Range of Dates – A holiday that spans several days, occurs on a particular set of dates this year, but not every year.
3. Repeating Fixed Single Date – A holiday that occurs on a particular date each year.

4. Repeating Fixed Range of Dates – A holiday that spans several days and occurs on a particular set of dates each year.
5. Repeating Variable Single Date – A holiday that occurs at the same time each year but not necessarily on the same dates each year. This holiday follows a logic that pinpoints a particular occurrence of a particular weekday within a given month.
6. Repeating Variable Range of Dates – A holiday that spans several days and occurs at the same time each year but not necessarily on the same dates each year. This holiday follows a logic that pinpoints a particular occurrence of a particular weekday within a given month.

After selecting a holiday type, you will need to check the “Active” check box in order to place that holiday into effect. Any schedules for holidays for which the “Active” check box is not selected will be ignored. This feature allows you to leave definitions of holidays in place even if they are not active in case you may need to activate them at a later date.

If you have selected a “Fixed” holiday type to define, you will need to enter either a single date or a range of dates for that holiday. A good example of this type of holiday is Christmas Day, which always occurs on December 25 regardless of the day of the week on which it occurs.

The most exotic type of holiday is defined in the lower right hand box called “Variable Holiday”. These are the holidays that occur at the same time each year but not necessarily on the same dates each year. A good example of this type of holiday is Labor Day, which always occurs in the beginning of September, but not always on the same date. This holiday, like many others, follows a logic that pinpoints a particular occurrence of a particular weekday within a given month. In the case of Labor Day this is the first Monday in September. The software allows you to enter that logic by simply selecting the occurrence, the weekday and the month from drop down list boxes. Once this definition is established, you no longer have to worry about changing the date of the holiday from year to year.

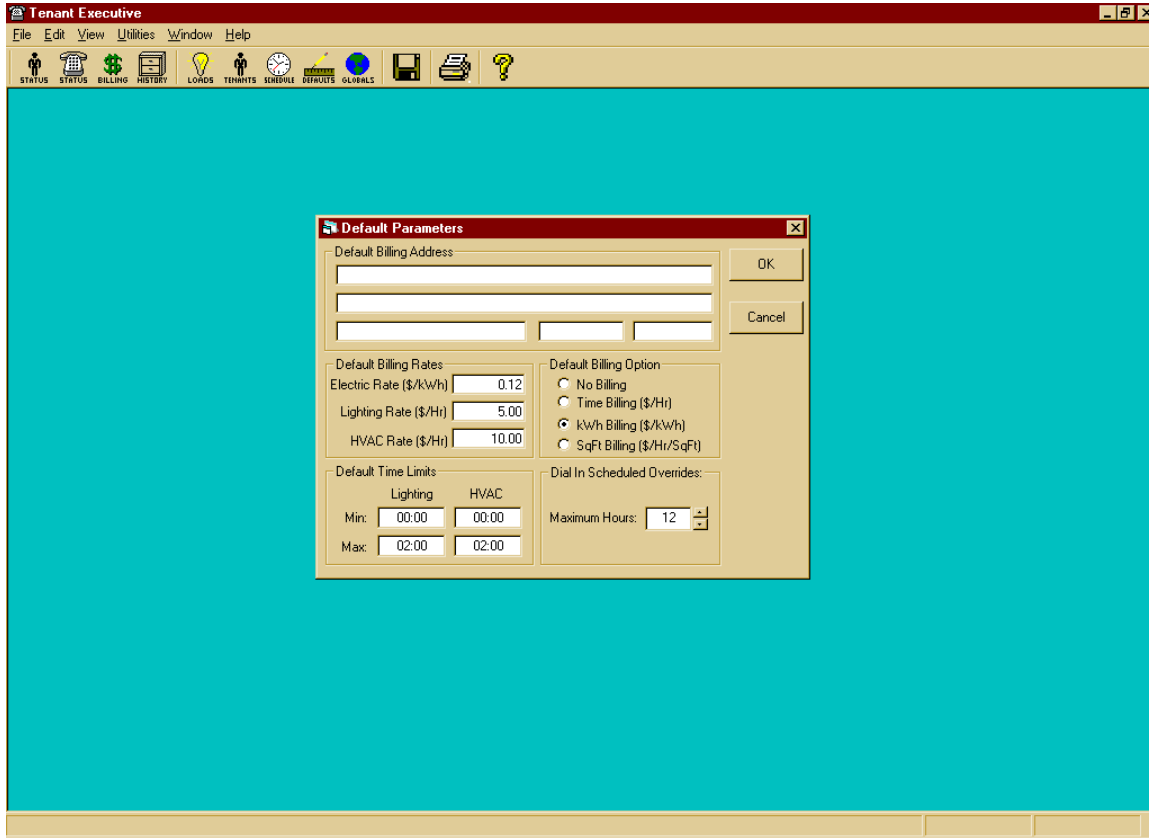
The two other features applied to Variable Holidays are:

1. Offset: _____ Days: On the rare occasion that a Variable Holiday does not occur on the date determined by the logic statement, you can offset the logical date by a number of days before (negative number) or after (positive number) the calculated date.
2. Length: _____ Days: This entry is used to configure a Repeating Variable Range of Dates. The beginning date is determined by the logic entered in the “Dates” section and the length of the holiday in days is set here.

Exiting the Holiday Dates routine is the same as exiting the Daily Schedules and requires confirmation before saving and implementing any changed information.

Defaults:

Click on the “Defaults” icon to establish default parameters for many tenant profile items. The display looks like the following:

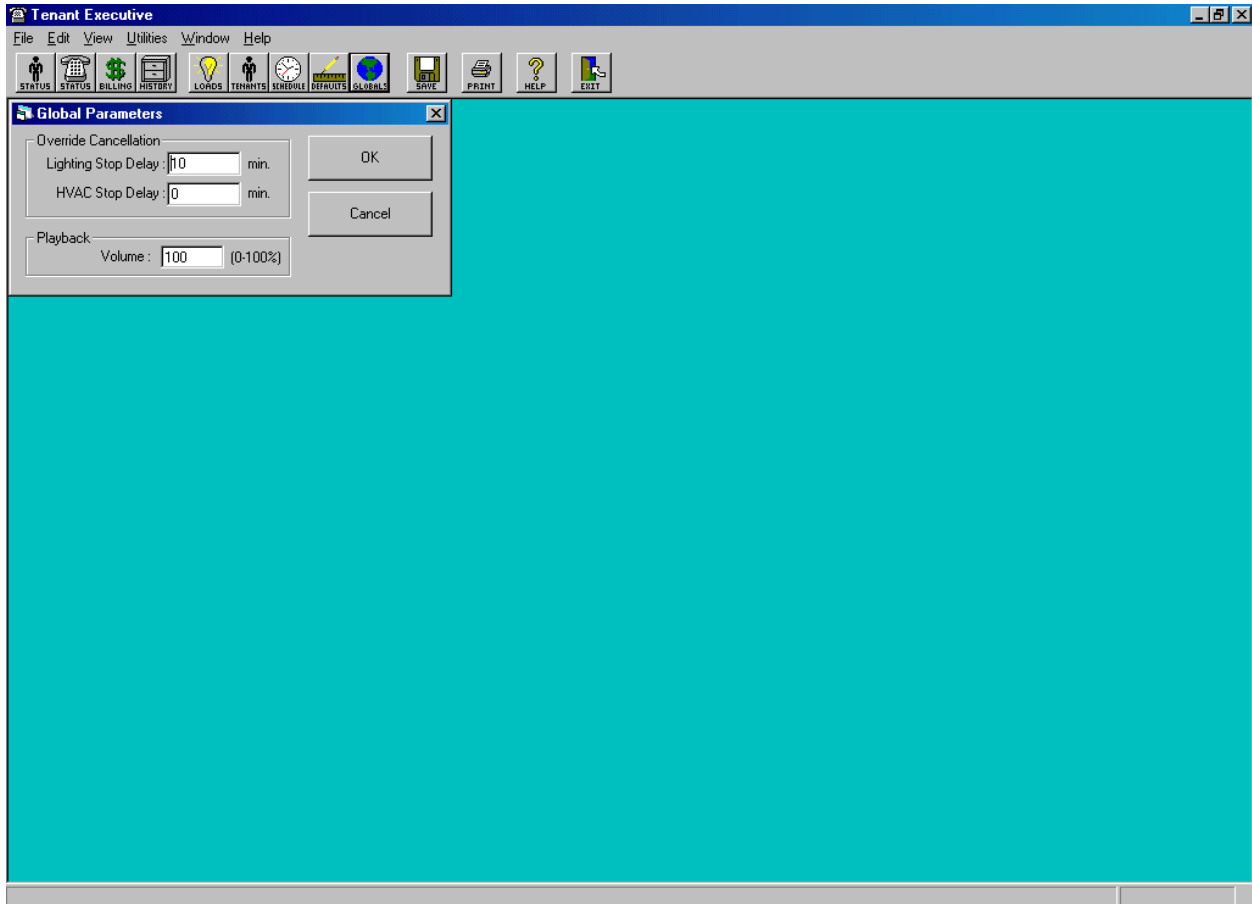


As noted in the previous sections of documentation, there are many configurable items associated with tenant configuration. In many applications several of these items will be the same for all tenants or, at least, for a majority of tenants. The Default Parameters window allows the user to set the default values for several of these common items. Configuring these default parameters can save time in tenant configuration.

Most of the parameters that appear on this form are defined in the previous sections under tenant configuration. One exception is the maximum allowable length, in hours, of an override scheduled for a Dial in Scheduled Override. This is a special type of override as noted in the Tenant Override Instructions at the end of this section.

Gobals:

Click on the “Gobals” icon to set a few special global parameters tha will be used for all tenant profiles. The display looks like the following:



Override Cancellation:

1. **Lighting Stop Delay:** This the amount of time in minutes that the lights will remain on after a tenant cancels and override event. This delay time will give the employee time to leave the affected area prior to the override ending and the lights going off. If other employees have called for an override for the same area, those overrides will continue. Any programmed minimum override time for the area will be enforced and may extend the override beyond the cancel delay.

- HVAC Stop Delay: This the amount of time in minutes that the HVAC loads will remain on after a tenant cancels and override event

Playback:

This Volume relates to the volume of the voice prompts used to interact with tenant override calls via the telephone. It is set as a percentage between 0 and 100.

Tenant Override Status:

Click on the “Person STATUS” icon to review the status of current tenant overrides. The Override Status display looks like the following:

Tenant	Area	Lighting		HVAC	
		Override	Caller	Override	Caller
ACME Thingamajig Co.	Thingamajig Production	Off		Off	
	Thingamajig R&D	Off		Off	
	Thingamajig Storage	Off		Off	
Elemco Building Controls, Inc.	EBC - Administrative Offices	Active	Stem, Zach	Active	Stem, Zach
	EBC - Engineering Offices	Off		Off	
	EBC - Test Area	Off		Off	
Elemco Software Integration Group	EBC - The Whole Place	Off		Off	
	ESIG - Administrative Offices	Off		Off	
	ESIG - Engineering Offices	Off		Off	
New England Metering Corp.	NEMCO - Administrative Office	Off		Off	
	NEMCO - Engineering Offices	Off		Off	
Worldwide Widget Works, Ltd.	Widget Development	Off		Off	
	Widget Production	Off		Off	
	Widget Storage	Off		Off	

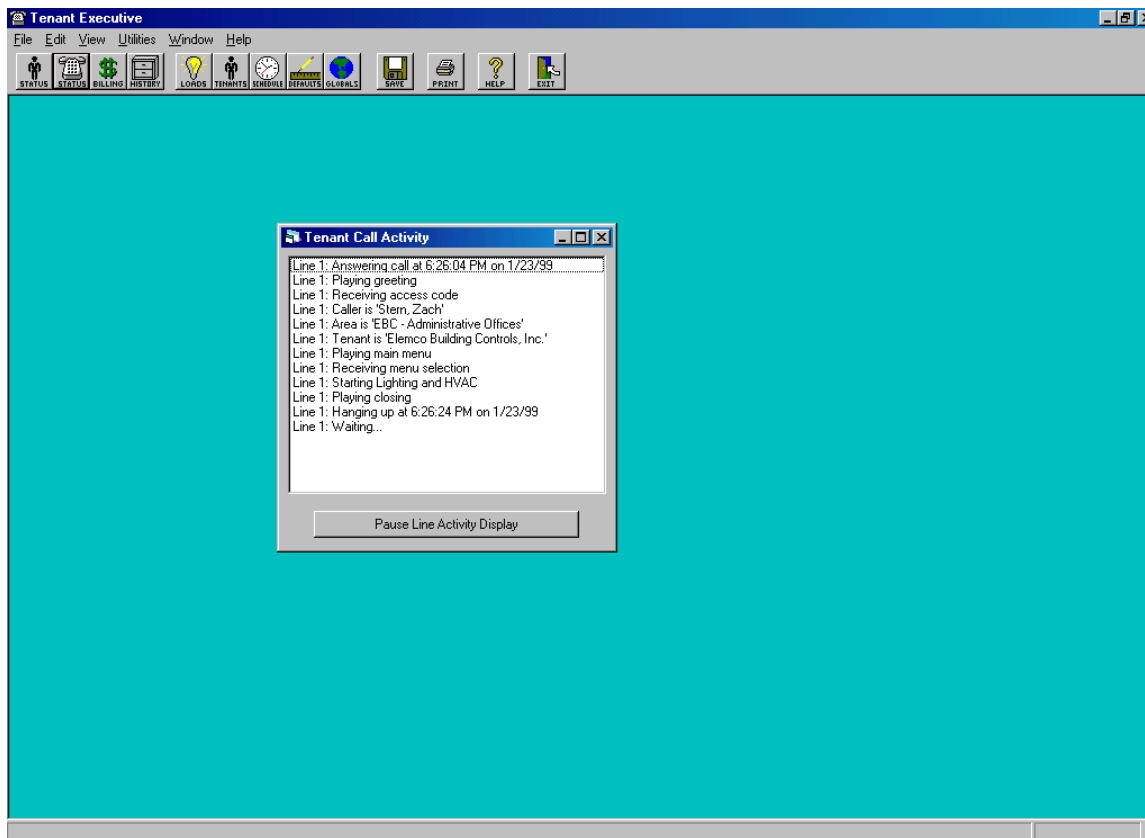
The columns on this form are:

1. Tenant: The name of the tenant.
2. Area: The name of the area within the tenant structure.
3. Lighting Override/Caller: The state of the override (Active or Off) and the employee name who activated the lighting override.
4. HVAC Override/Caller: The state of the override (Active or Off) and the employee name who activated the HVAC override

Note that active overrides are Highlighted for easy identification.

Incoming Call Status:

Click on the “Telephone STATUS” icon for a real time display of the status of the telephone line. The Telephone Status display looks like the following:

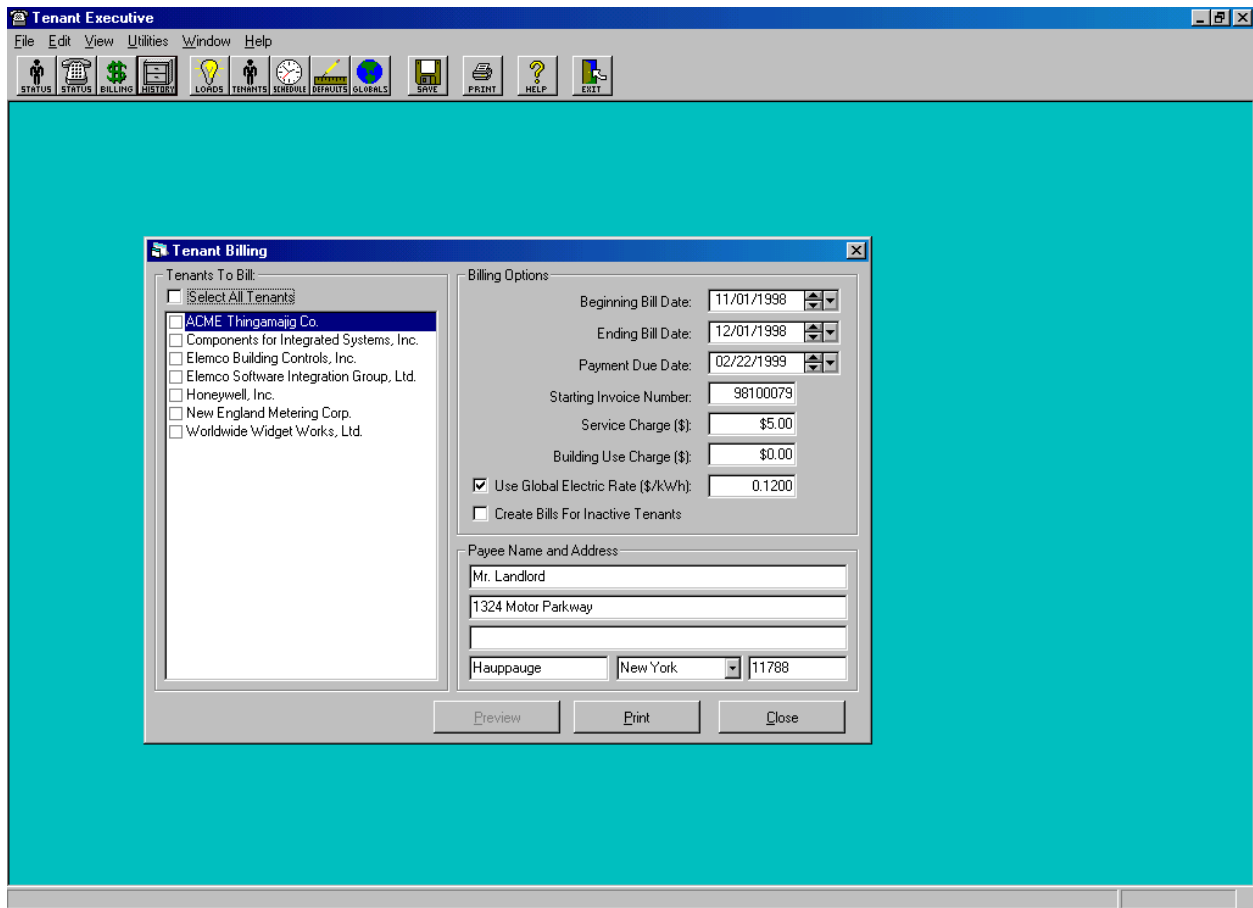


This display provides a chronological display of events as they occur on the tenant override phone line. This example depicts an override called in by employee “Zach Stern” who successfully initiated a Lighting and HVAC override in the “EBC – Administrative Offices”

area. Messages in this display will clearly indicate processes, activity and errors during incoming override calls.

Tenant Billing:

Click on the “BILLING” icon to run the tenant bills. The billing set up display looks like the following:



The left side of the form allows you to select the tenants to bill. Above the box with the list of all configured tenants is a check box with which you can select to bill all tenants with one check. Clicking in this check box will cause all of the individual tenant boxes to be checked. If there is a check in this box, clicking in it will remove the check from this box as well as from all of the individual tenant check boxes. Even if some of the individual tenant boxes are checked but not all, clicking on this check box will select all tenants for billing.

The right side of the form allows you to set up the Billing Options.

1. **Beginning Bill Date:** The date that represents the beginning of the period for which you wish to bill for overrides.
2. **Ending Bill Date:** The date that represents the end of the period for which you wish to bill for overrides.
3. **Payment Due Date:** The date on which you want the override bill payment due.
4. **Starting Invoice Number:** The invoice number for the first bill to be printed. The invoice numbers on successive bills will continue in sequence. When billing is complete, this field will be reset to the next number in sequence and will be preserved for the next billing session.
5. **Monthly Service Charge:** The charge to be added to each bill printed to cover administration costs.
6. **Building Use Charge:** An the hourly charge, to be divided among active overrides, used to recover after-hours costs not related to consumption levels. For example, if this charge is established as \$25/hr and a single tenant override is active, that tenant will be charged the full \$25/hr. If, however, multiple overrides are active, the \$25/hr will be divided among them proportional to their square footage.
7. **Use Global Electric Rate:** Each tenant can have an individual rate for electric charges as detailed in the tenant configuration documentation. However, if you use the same rate for all tenants, you can simply check the box next to this item and enter one rate for all tenants.
8. **Create Bills for Inactive Tenants:** Check this box if you want to produce an invoice for all selected tenants regardless of whether or not there was any after-hours override activity during the selected billing period. Tenants without any override events will get an invoice that does not show any events or charges. If this box is not checked, the program will only produce bills for those tenants that initiated after-hours override events during the selected billing period.

Payee Name and Address: Enter the requested information for the entity to which the payment for after-hours override services will be sent.

When all data is entered and checked, use the Print or Preview buttons on the bottom of the form.

Remote Printing via the “Print to File” Option:

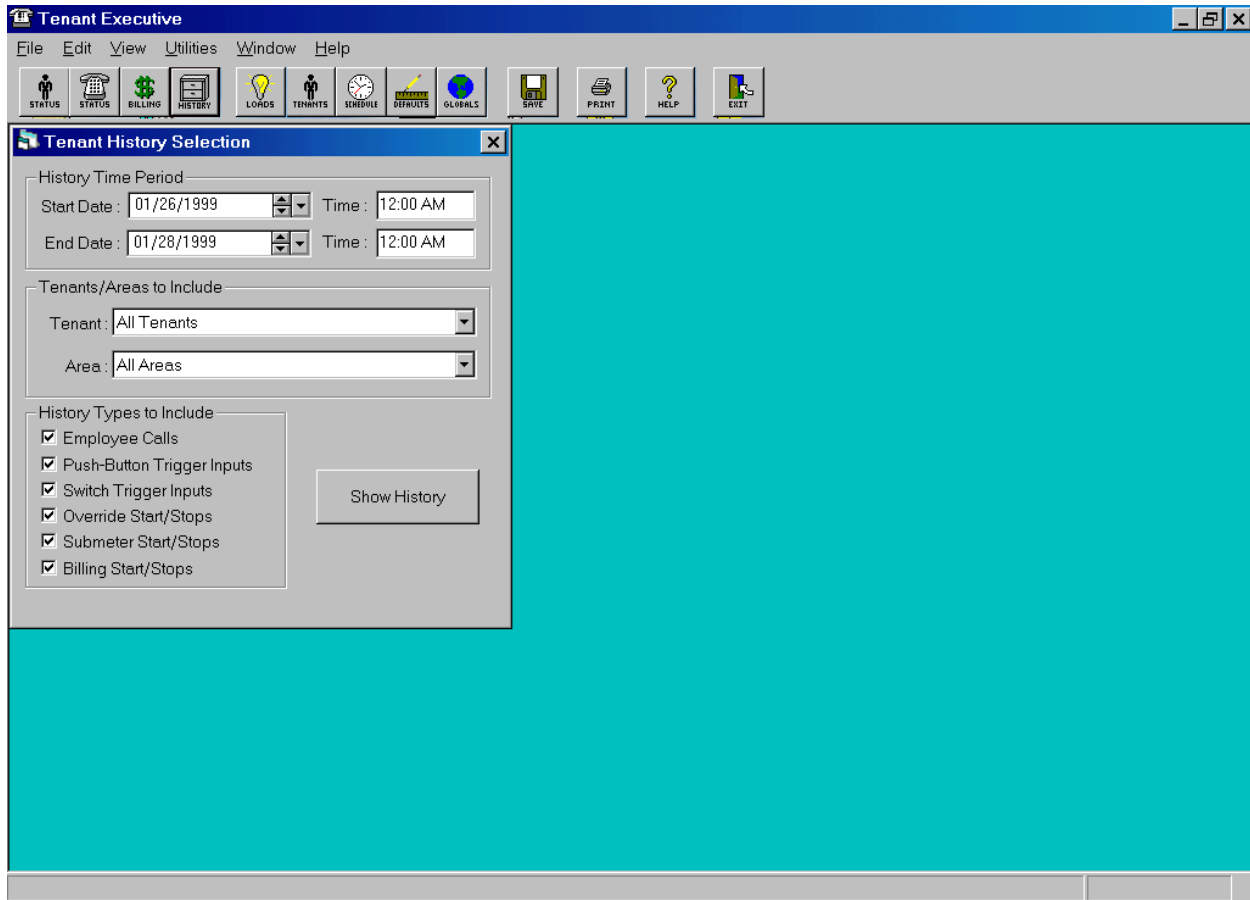
1. **Host Computer:** Open the Printers folder and add a new printer selecting the correct printer from the list but selecting “FILE:” as the printer port. Name this printer “File for <printer name>” or something similar to indicate it will be printing to a file. Note that you will need the device driver disks corresponding to the destination printer unless they are already installed on the host.
2. **Remote Computer:** Open up Windows Explorer, and select “Folder Options” from the “View” menu. Click on the “File Types” tab. Click the “New Type” button. Under

“Description of type” enter “Printer Output”. Under “Associated extensions” enter “.prn”. Below the “Actions” section click on “New”. Within the “New Action” window enter “Print” in the “Action” box and “C:\Windows\Command.com “/C Copy %1 LPT1”” in the “Application used to perform action” box. Click OK and then Close twice to return to Explorer. Note that the example assumes the printer to be on parallel port 1. If the printer is on a different port, substitute the correct port for the “LPT1” above.

3. Printing: Within the Energy Executive III or Tenant Executive, select the “Print” option to open the printer dialog window. Select the “File for <printer name>” printer set up above as the destination printer and then click OK. When asked enter the destination file for the printer output. Move the file to the remote computer via file transfer, floppy disk, network, etc. On the remote computer, locate the file with Windows Explorer. Right-click on the file and select print from the resulting menu. The file will be sent to the printer.

History:

Click on the “History” icon to review all types of activity in the tenant after-hours program. The History set up dialogue box looks like the following:



History Time Period: As in other areas of the program where dates and times are selected, use the drop down calendars and input fields to determine the time period for which you wish to review the tenant override activity.

Tenants/Areas to Include: Use the Tenant and Area drop down pick lists to select the items to review. If “All Tenants” is selected, there will be no choice in the Area pick list except “All Areas”. However, if you select an individual tenant in the Tenant box, the Area selection will automatically list all configured areas for that tenant. You can then select an individual area or all areas for that tenant.

History Types to include: You can review all events or only events of specific types as selected via these check boxes.

1. Employee calls: Telephone events.
2. Push Button Trigger Inputs: Push button events.
3. Switch Trigger Inputs: Switch trigger events.

4. Override Start/Stops: The program logs all override starts and stops separately from the events that initiated them.
5. Submeter Start/Stops: The program logs all submeter starts and stops separately from the events that initiated them. This only pertains to actual meters that have been designated as **not** 24 hour meters.
6. Billing Start/Stops: The program logs all billing starts and stops separately from the events that initiated them.

Once you have configured the activity you want to review, click on the “Show History” button. The resultant display will look like this:

Date	Time	Tenant	Area	Employee	Action
1/26/99	10:46:22 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices		HVAC Override End
1/26/99	10:46:22 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Billing Stop
1/26/99	10:46:22 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	HVAC Billing Stop
1/26/99	10:46:22 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Building Use Billing Stop
1/26/99	10:46:22 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices		Lighting Override End
1/26/99	10:48:10 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/26/99	10:48:11 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Override Start
1/26/99	10:48:11 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	HVAC Override Start
1/26/99	11:19:12 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/26/99	11:50:42 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Cancel Call
1/26/99	12:01:00 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices		Lighting Override End
1/26/99	1:20:00 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices		HVAC Override End
1/26/99	1:53:30 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/26/99	1:53:30 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Override Start
1/26/99	1:53:30 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	HVAC Override Start
1/26/99	2:34:59 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/26/99	3:13:40 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/26/99	5:00:01 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	HVAC Billing Start
1/26/99	5:00:01 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Building Use Billing Start
1/26/99	5:00:01 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Billing Start
1/26/99	5:11:36 PM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting & HVAC On Call
1/27/99	9:52:34 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices		Lighting Override End
1/27/99	9:52:34 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices		HVAC Override End
1/27/99	9:52:34 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Lighting Billing Stop
1/27/99	9:52:34 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	HVAC Billing Stop
1/27/99	9:52:34 AM	Elemco Building Controls, Inc.	EBC - Administrative Offices	Stern, Zach	Building Use Billing Stop

This report gives chronological details of all tenant override events. You can use this report to confirm all actions taken by tenants and the response of the program to these actions.

TO ACTIVATE AN OVERRIDE

To activate and override, call the Tenant Override System using any Touch Tone type telephone. Telephones that utilize push-button dialing but do not use DTMF (tone-generating) protocol will not be able to communicate with the system.

NOTE: There are a number of voice prompts and menus that are generated by the system to guide you through the override process. You do not have to wait for each voice prompt to finish before entering the next expected code. If you know the sequence of codes required, you can enter the next code in the sequence as soon as the voice prompt starts. The system will accept the code, discontinue the current prompt and move to the next sequential prompt in the process.

When the computer answers the phone you will be prompted by the system to enter your access code. This code is a four digit number that is entered directly on the telephone keypad.

Once the access code has been entered, the system will check the code against its library of valid access codes. If the code entered is invalid, the system will prompt the caller to re-enter the code. After a few attempts, if the proper code is not input, another telephone call must be made to initiate an override. This is to protect you against unauthorized entry into the system. Requiring a new phone call after a few attempts at the access code will discourage pranks by casual hackers.

If the access code is valid, the system will prompt the caller to enter an order number and will provide a voice menu of available options. The order number is a number between one and seven that determines the next action taken by the override system. The applicable order codes are:

- 1 - Lights On Only
- 2 - Lights Off Only (End Override)
- 3 - HVAC (Heat/Air Conditioning) On Only
- 4 - HVAC Off Only
- 5 - Both Lights and HVAC On
- 6 - Lights and HVAC Off
- 7 – Enter dates and times for a scheduled override on a future date

Enter the order number on the telephone keypad. The system will check that the order number is valid and received correctly. Order code numbers 1 through 6 apply to overrides for today only. Order code number 7 pertains to scheduling an override for a future date

Order Codes 1 through 6 (overrides for today only):

After entering a valid order code, the system will acknowledge that your order was accepted and will conclude the phone call with a thank you message. If the override instruction is called in outside of the normal occupied time, the override will take effect immediately. If the override instruction is called in during normal occupied time, it will not be implemented until the normal occupied time expires. In this case there will be no interruption of service as lease time expires.

Therefore, using order codes 1 through 6, an override can be called in at any time during the day on which it is to take effect. If, early in the day, a tenant anticipates after hours usage, that tenant can call in an override early. This will avoid a possible rush as occupied time expiration nears and will lessen the chances of getting a busy signal due to the large volume of calls at that time. For example, suppose that normal occupied time expires at 6:00 P.M. If at 10:00 A.M. you realize that you will require after-hours usage that evening, you can call in your override at 10:00 A.M. The system will not institute your after-hours override until 6:00 P.M. that evening (your end of normal occupied time).

If sometime after you have requested an override, you determine that the override will not be necessary, simply call in again and cancel the override using the appropriate cancel order number (2, 4, or 6).

If an override is inadvertently called in more than once before the end of the normal occupied time, it will have no adverse effect on the operation of the system. However, it is recommended that each tenant keep track of override calls, so that unnecessary service will not be ordered.

Once a tenant override takes effect, it will remain in effect until one of three possible events occur:

- 1) The override is canceled by a subsequent call with an order of 2, 4, or 6.
- 2) The normal occupied time for the next day begins.
- 3) A predetermined, maximum time period has elapsed. In the case where an override is initiated before the expiration of normal occupied time, this time period begins at the expiration of normal occupied time. If you are staying in your space beyond this maximum time, you may call in to extend your override period before the end of the maximum override time. Ask your building management representative what this maximum override time is for your space. This last condition is included as a protection against accidental excess runtime and consequential charges when a cancel command is inadvertently neglected. NOTE: The maximum override times for these "today" overrides is different that the maximum allowable override time for a dial in scheduled override for a future date as described below.

For order code number 7, overrides for future dates:

After selecting this order code, you will be prompted for another code:

- 1.) Schedule a Lighting Override
- 2.) Schedule an HVAC Override
- 3.) Schedule an HVAC and Lighting Override

After selecting one of these options, you will be prompted for the date and time information for your override. Note that dates are entered by using the number of the month followed by the asterisk (*) and then the day followed by the pound sign (#). Similarly, times are entered by using military time and entering the hour followed by the asterisk (*) and then the minutes followed by the pound sign (#). The prompts will guide you through the steps as follows:

Enter Scheduled Override Starting Date

Enter the date in this format:

Example: to enter March 2 use the following key sequence:

3*2#

Note: Do not enter the year. (See note below on year handling)

Enter Scheduled Override Starting Time

Enter the Time in 24 Hour Format. (Military Time)

Example: to enter 4:25 PM use the following key sequence:

16*25#

Enter Scheduled Override Ending Date

Enter the Date in this format:

Example: to enter March 3 use the following key sequence:

3*3#

Note: Do not enter the year. (See note below on year handling)

Enter Scheduled Override Ending Time

Enter the Time in 24 Hour Format. (Military Time)

Example: to enter 8:30 PM use the following key sequence:

20*30#

If the override duration is within the allowable maximum hours for a phone scheduled override, a prompt will be played saying the override request has been accepted. If the override duration is greater than the allowable maximum hours for a phone scheduled override, a prompt will be played saying the override exceeds the maximum allowable hours and the call will be terminated. NOTE: The maximum override times for these dial in schedulable overrides is different than the maximum a override time for a “today” as described above.

NOTE: Year Handling within Phone Scheduled Override Dates

The program assumes that all dates entered for phone scheduled overrides are in the future. Therefore if the entered dates are earlier in the year than today’s date, the program assumes that you are scheduling an override for next year. The following is an example of how this will work as the year comes to and end:

Example:

Say today is December 20 and you know that you will have to work on New Year’s day even though most people are off.

Today is December 20, 2000

You schedule an override on from 1/1 – 10:00 to 1/1 18:00

1/1 is before 12/20 (today) so the program schedules your override for January 1, 2001.

Note however, that if you enter the wrong date, you may inadvertently schedule an override for next year instead of this year. The following is an example of this type of error:

Example:

Say today is March 3, 2000 and you know that you will have to work late on March 4, 2000. But you enter the wrong starting date of March 1:

Today is March 3, 2000

You schedule an override on from 3/1 – 17:00 to 3/4 20:00

3/1 is before 3/3 (today) so the program schedules your override for March 1, 2001 to March 4, 2001. So be careful to enter the dates correctly.

PLEASE RECORD THE FOLLOWING IMPORTANT INFORMATION

Override Phone Number: _____

Access Code Number: _____

Controlled Area: _____
