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DATA POLLING ROUTINE (PlotHood) TO GENERATE WEEKLY INSPECTION PLOTS FOR FORT HOOD, TEXAS

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GENERAL ABSTRACT

This report has been prepared for the United States Army Construction Engineering Research Laboratories (CERL) located at Champaign, IL. The report describes the work performed by the Energy Systems Laboratory (ESL) of Texas A&M University System on eight army installations around the U.S. The project was divided into two major Tasks:

1- Development of Baseline Monthly Utility Models for eight army bases around the U.S.

2- Provide energy data polling routines (PlotHood) to generate weekly inspection plots at Ft. Hood, Texas.

The objective of this part of the project is to provide inspection and archiving of data coming from five existing data loggers at Fort Hood, Texas. This included the development of PlotHood, a combination of computer software that will enable the personnel at the energy office at Fort Hood to poll data from five data loggers at the base, and to generate weekly inspection plots.

For this part of the project, a weather station that includes temperature, humidity and solar sensors was installed at the west substation of Ft. Hood as part of Phase I of this project. Weekly inspection plots of electricity use at the main substation of Ft. Hood have been developed using equipment and data polling and archiving routines at the ESL. The inspection plots are delivered weekly to Ft. Hood Energy Office and CERL. For phase II of the project, the ESL developed a software package of PC routines (PlotHood) that will enable the personnel at the energy office to poll the data from the five data loggers at the base and to generate weekly inspection plots. To provide on screen visualization of real-time energy consumption data collected by the data loggers, the ESL installed Monitor, a software developed at the ESL, to be used by Ft. Hood Energy Office personnel.

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PROVIDE DATA POLLING AND INSPECTION PLOTS GENERATION ROUTINE

(PlotHood)

EXECUTIVE SUMMARY

The purpose of this task is to provide a stable data logging environment, inspection and archiving of data from existing data loggers at the main and west substations at Ft. Hood. The ESL, per phase I of this project, installed a new weather station at west Ft. Hood substation, and generated weekly inspection plots for the feeders at main Ft. Hood substation. The work in phase II included installing the software PlotHood to poll the data from all the data loggers at the base and generate weekly inspection plots for all the feeders at the main and west substations by Fort Hood Energy Office personnel.

The existing monitoring process at Ft. Hood consists of data collection at the main and west substations. There are three Synergistic data loggers at the main substation that monitor energy use from 15 active feeders. Hourly data is transferred via telephone line to Ft. Hood Energy Office. At the west substation, two data loggers are used to collect data from six active feeders. Phone communications have recently resumed with the loggers at the west substation. The energy office at Ft. Hood have accomplished a commendable work using the FM-based Demand Side Management (DSM) system for load shedding. Savings estimated at $1 million out of $25 million annual utility bill at Ft. Hood have been accomplished through using the load shedding program.

Although the present system is very effective, it is also very time consuming and can be easily upset by manual error. For example, the operator at the energy office view only one logger at a time with the Parset software. The personnel at the energy office must then determine the load shedding schedule for the day, enter the new shedding schedule into the Scientific Atlanta System and then recheck the Synergistics loggers to see that the program has taken effect.

EXISTING MONITORING SYSTEM

a- ESL Weather Station at the West Substation

ESL personnel installed calibrated temperature-humidity and solar sensors at the west substation per phase I of this project. The Licor solar sensor and the solid state temperature-humidity sensor were calibrated at the ESL-Riverside Campus. Connections to the data loggers were also made. The weather station is providing weather data in the Killeen/Temple area that can be used to develop inspection plots for Ft. Hood and can also be used for the LoanSTAR program at the ESL.

b- Install a Cellular Phone at the West Substation for Data Communication

The ESL provided information on a cellular phone that can be used for data communication between the data loggers at the west substation and Ft. Hood energy office. However, phone communications with the west substation resumed recently via a regular phone line, and the personnel of the energy office at Fort Hood are able to communicate with the two loggers at the west substation. Per direction of the USACERL project manager, the cellular phone will not be purchased and this task was deleted from the ESL Scope of work.

c- Provide On Screen Visualization (Monitor)

The ESL personnel installed Monitor Version 1.2 on one of Ft. Hood energy office computers. Monitor Version 1.2 (developed by the ESL) is a MS Windows application that allows the user to view real-time energy consumption data collected by a Synergistic logger. The data can be displayed on a rolling scroll chart, speedometer or VU meter (see Appendix B for explanation). Multiple channels of data can be viewed simultaneously, and the format of the meters and charts can be customized by changing the fonts and by manipulating axis labels and ranges. Monitor provides on-line, context-sensitive help.

d- Provide PC-Routine (PlotHood) to Download Hourly Data and Generate Weekly Inspection Plots

NOTE: This part of the project is awaiting the purchase and installation of a cellular phone on the west substation. The phone will be used for communications with the two data loggers at west Ft. Hood. However, this task is in the development process.

Currently, the ESL is producing weekly inspection plots for the data loggers at the main substation using ESL equipment and computer routines (see Appendix B for sample inspection plots). The inspection plots show the total electricity consumption (kWh/h) as well as the main substation individual feeders electricity consumption. Also shown are the daily temperature and relative humidity from the available weather data.

The ESL supplied the Energy Office at Fort Hood with an automated polling and inspection plot creation process similar to the standard ESL weekly plot pages. It is not possible to use the current weekly inspection plot routines used by the ESL because they are implemented on a Unix server, and we have developed a version that is based on a PC running DOS so the personnel at Fort Hood Energy Office can create the plots themselves.

The DOS based routines for creating the Main and/or Total inspection pages from the raw Synergistic output have been developed and PlotHood has been installed at the Fort Hood Energy Office. Details on PlotHood and how to use it are shown in Appendix B together with sample inspection plots.

APPENDIX A

Descriptions of MONITOR Graphs and Gauges

DESCRIPTIONS OF GRAPHS AND GAUGES

Monitor displays real-time data from a logger in three formats: line graph, speedometer and VU meter (Figure 1).

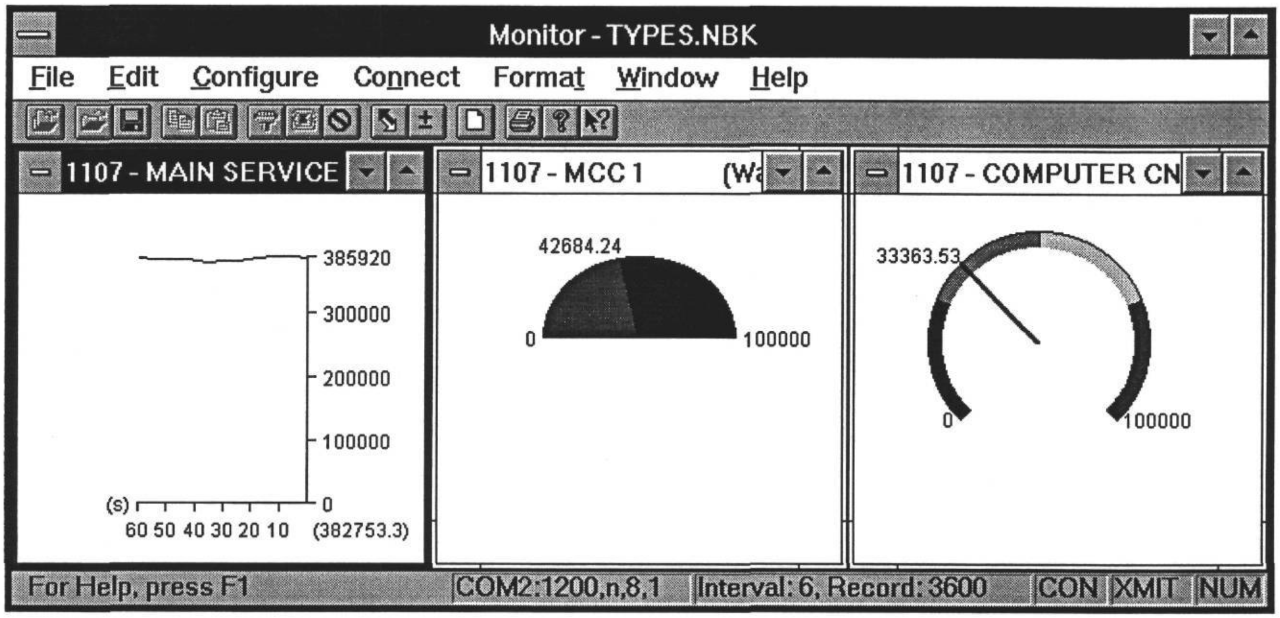

Figure 1 The three kind of data views: line graph, speedometer, and VU meter.

Line Graph
As the data is plotted on a line graph, the X axis shows the time that has passed in seconds and the Y axis shows the value of the data. The Y axis units are given on the graph's window bar. If you cannot see the units printed on the bar, resize the window by dragging a corner or clicking on its arrows. In the bottom right corner, the value of the most recently collected data is displayed in parentheses. As the data is plotted, the line will scroll to the left. Occasionally you will see gaps in the line. These gaps are caused by the Windows operating system and do not reflect a problem with either Monitor or the logger. If you do not see any data plotted at all, check the current value; it could be that the data is out of the graph's range.

Speedometer
The speedometer gauge is very similar to a speedometer on a car: a needle describes a 180 degree arc from the end points that you specify. When first opened, a speedometer gauge has a range from 0 to 100. You can customize these endpoints to accurately reflect the channel's range. The current value for the data is printed next to the needle on the outside of the arc.

VU Meter
The VU (volume unit) meter is another way that Monitor can display data. The arc that the needle describes is user-defined. The default arc is 270 degrees, but can be set between 45 and 359 degrees. The current value from the channel is written next to the needle on the outside of the arc. With this gauge, particular segments can be marked with color, showing optimal working ranges and/or danger zones.

APPENDIX B

PlotHood DOCUMENTATION

AND

SAMPLE INSPECTION PLOTS FOR FT. HOOD, TEXAS

PlotHood Version 0.9

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December 1995

ENERGY SYSTEMS LABORATC

Department of Mechanical Engineering

Texas Engineering Experiment Station

Texas A&M University System

Creating Inspection Plot Pages using PlotHood.BAT

The first task is to download the data from the logger. Due to the age of the logger's modem and the fact that it must wait 10-11 rings before picking up, the software created by the ESL programming group (POLLC180) will not work because it is currently not capable of allowing the answering modem to ring 10-11 times before answering. The creation of new routines for communication is a major task beyond the scope of the current work. Therefore, as an alternative, we suggest 1). Use Parset and these routines as an interim solution, and 2). Replace the modem in the logger with a newer model capable of answering in less than 5 rings.

The Energy Systems Lab has found that the easiest way to keep track of data files downloaded from the many loggers it maintains is with the naming convention for the data files of XXXXXXX.XXX where the filename of XXXXXXX is the three digit site number assigned by the ESL followed by the julian date of the polling. If the dataset ended on the julian date of 95298, then the date of polling would be 95290, then the filename for site 940 would be 94095290.XXX. The extension depends upon the type of file. For the raw data directly downloaded from the logger, the extension would be .RAW. For the data that has been processed by R2A.BAT, the filename is then changed to .ACS. Following this convention helps to keep the data filenames clear.

The site numbers assigned by the ESL for the sites at Main Fort Hood that are polled weekly have been set at 941, 946, and 948. For the loggers at West Fort Hood, we have assigned the site numbers of 940 and 944. A table showing the logger serial number and the respective site numbers is shown below:

Logger Serial	Location	Site Number
1141	Main	941
1146	Main	946
1148	Main	948
1150	West	940
1144	West	944

The steps to connect to the data logger, download the data, and create the inspection plot pages are as follows.

Note: These routines assume that the polling takes place on a Tuesday and the data collection is from Monday midnight to Monday midnight.

To install these routines from the distribution disk to the user's hard disk, issue the following commands from the Dos c:\ prompt:

1: `C:\xcopy a:*.* c: /s`
2. Add the directory c:\plothood to the path statement in the computer's autoexec.bat

Note: These routines also assume that the program Grapher (from Golden Software) is installed on the pc and the directory for Grapher is in the path statement

1. Exit Windows completely (not using the MSDOS shell) by selecting File then Exit Windows from the Program Manager.
2. Look at the end of the .raw data file from the previous week and determine the ending TSR number from the last entry in the column before the "V " entry, and record the number.
3. Run `DATCON` to determine the Julian date using the command "`C:\datcon -ojul 10 17 95`" where the date of polling is 10/17/1995 and record the number that datcon returns (in this case, it would be 95290).
4. Change directories to the SY directory using the command "`C:\cd sy`".
5. Run "`SYNERNET`"
6. Select `Parset` from the `SYNERNET` menu.
7. From the main `Parset` menu, select the `Logger(s)` menu
8. Select `Pick From Existing Loggers`
9. From the menu that appears, select the logger that you want to connect to.

10. Select the **E**`dit` menu.
11. Select **C**`hoose One From Work List`.
12. Choose the logger that you want from the list that appears.
13. Press `[Esc]` to return to the top level menu.
14. Select the **C**`onnect` menu.
15. Select **P**`hone Dialer` menu.
16. Press `ENTER` 3 times to dial, selecting the Dial Prefix, Phone Number, and Dial Suffix for the logger which has been previously entered by the user.

Note: This step assumes that the Dial Prefix, Phone Number, and Dial Suffix for the loggers have been entered into the information database for Synernet using the program Queue which is supplied with the software.

17. When connected, `PARSET` will show a window saying `Connected, Press Any Key To Continue`, and you should press any key.
18. Select the **T**`erminal` menu.
19. From the `Terminal` menu, select **C** `Read TSR Data`.
20. PARSET will ask for the starting TSR. To determine the ending TSR of the week in question, add 162 (7 days of 24 hourly data points minus 6) to the ending TSR from the previous week and input that number to the starting TSR field. Press return when asked for the ending TSR, and when asked `(`**S**`)creen or (`**F**`)ile output`, select **S** to show the data on the screen.
21. PARSET will start showing the TSR data from the logger's memory. Look for the last TSR from the previous night (hour 23:00), and record the value.

22 Press `ESC` to cancel the TSR list when you have found the correct TSR number.

23. Again, select **C** `Read TSR Data` from the terminal menu.
24. This time, when asked for the starting and ending TSR numbers, input 1 + the ending TSR from the pervious week, and the TSR number determined in step 20 as the ending TSR.
25. When asked `(`**S**`)creen or (`**F**`)ile output`, select option **F**.
26. `PARSET` will ask for an output filename. Input the full path to the temp directory you want to use for your data processing including the filename for the data. For the filename use the 3

digit site number, followed by the 5 digit Julian date, and give the file an extension of .raw. For site 940 and the julian date of 95290, the filename would be "`94095290.raw`".

27. `PARSET` will ask:

    File Type: `ASCII (`**`R`**`)eal/(`**`E`**`)xpon, (`**`W`**`)K1 Spreadsheet, (`**`T`**`)SR:`

    Select option **`R`** to get real numbers.

28 `PARSET` will ask:

    Header Titles? `(`**`N`**`)one, (`**`A`**`)SCII, (`**`L`**`)otus Import:`

    Select option **`N`** to get data without Header Titles

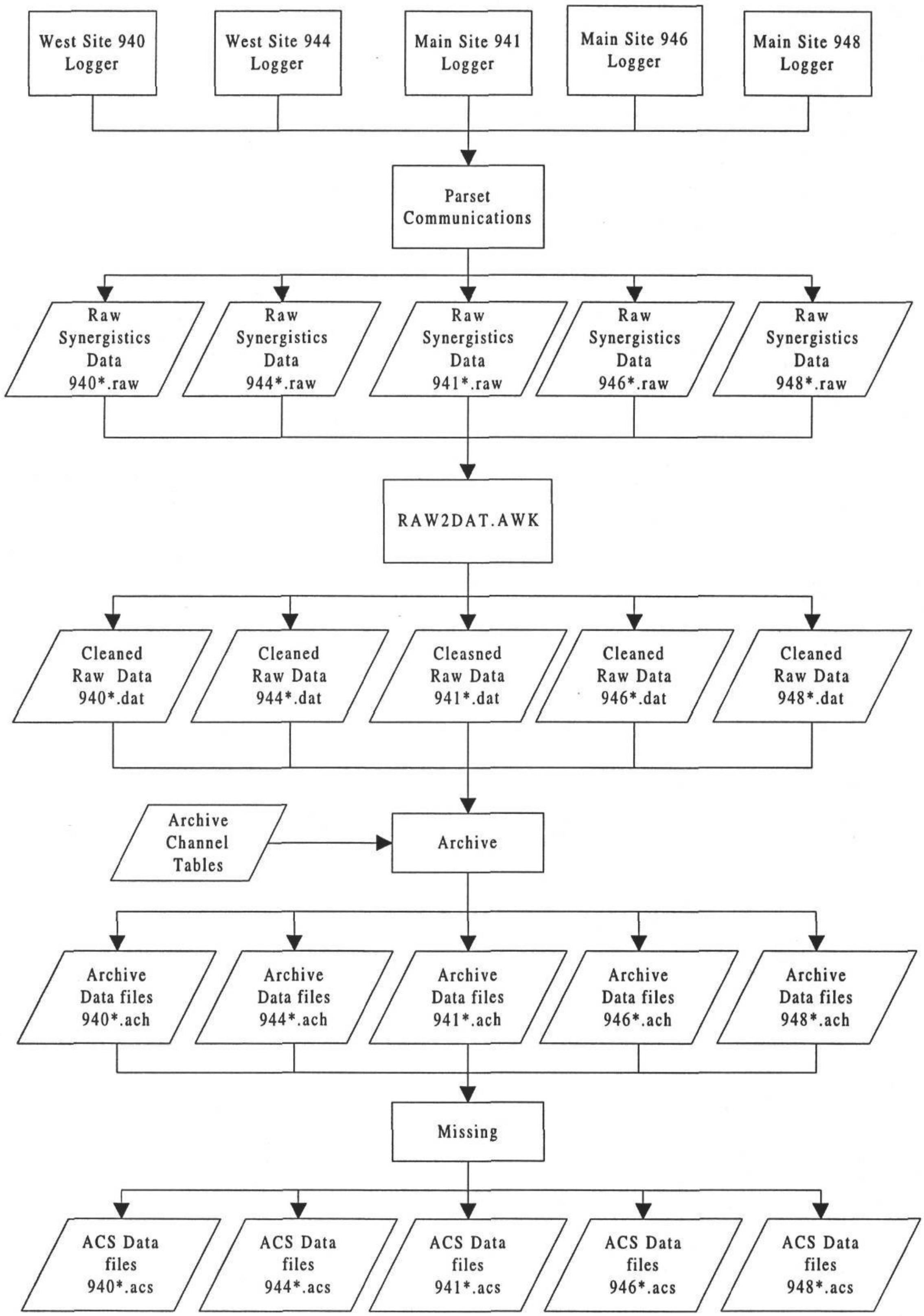
29. `PARSET` will then begin downloading the data and saving it to the hard disk. When it has completed downloading, `PARSET` will display a menu asking you `to Press Return to Continue`.
30. Repeat the above process for the other loggers, using different site numbers and the same directory for the data files.
31. When the data transfers are all completed, and you are returned to the `PARSET` menu, select "**`C`**`onnect`" followed by "**`C`**`lose Port/Hang Up`" to disconnect from the logger hang up the modem, then choose "**`Q`**`uit`" from the `PARSET` menu

    to exit `PARSET`.

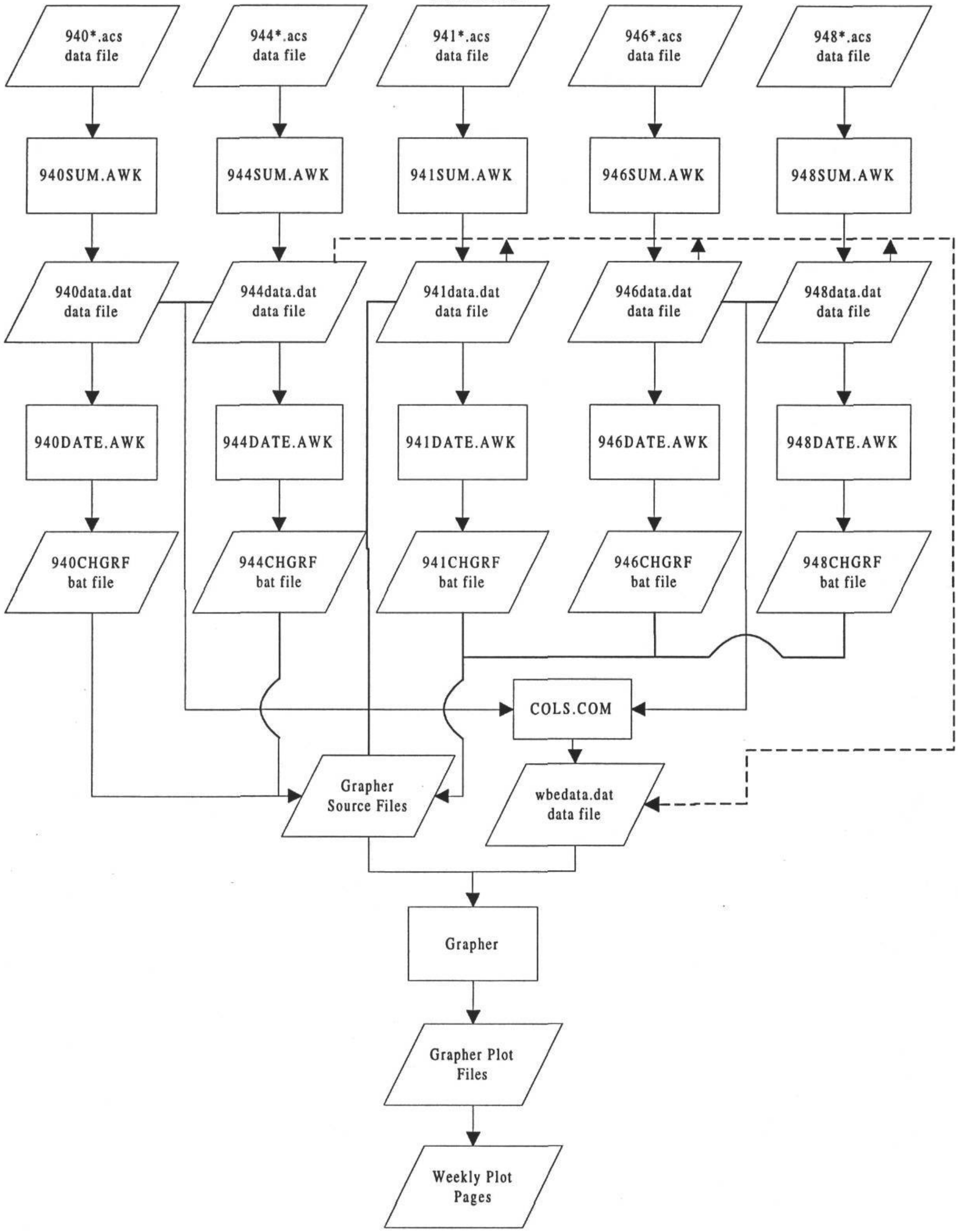
32. Change to the temporary directory where you told `PARSET` to place the raw files from the logger.
33. Run `R2A.BAT` to convert the raw data files from the logger to the format needed for plotting by typing "`R2A 940 95290 90001`" (for site 940 and julian date 95290).
34. Repeat step 29 for all raw files downloaded.
35. To create the inspection plot pages, run "`PlotHood 95290`" where 95290 is the julian date for the data just retrieved.
36. `PlotHood` will ask if you have data for the West Fort Hood sites. If you do, enter Y and it will continue. If you enter N, then `PlotHood` will create fake datasets with zeros for all the missing West Fort Hood data.
37. `PlotHood` will also ask if you want to print the inspection plot pages that you have created. `PlotHood` will clean the temporary directory and the `.ACS, .RAW and` GRAPHER

.PLT files will be left behind. It is the suggestion of the Energy Systems Lab that the .ACS & .RAW files be archived somewhere for future use.

Flowcharts of PlotHood Processing

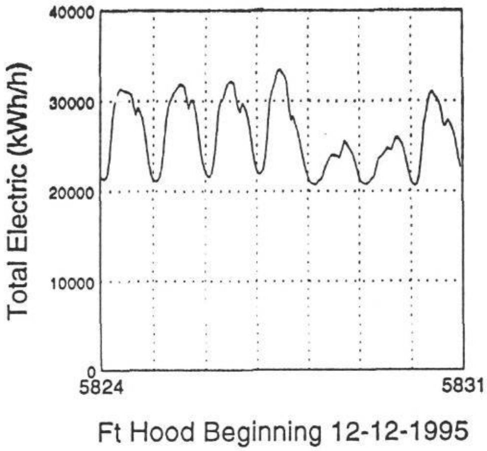


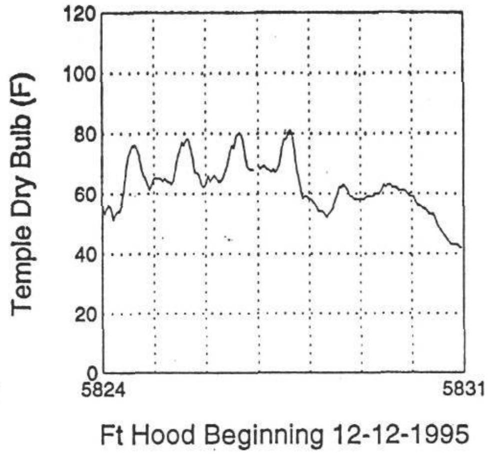
R2A.BAT

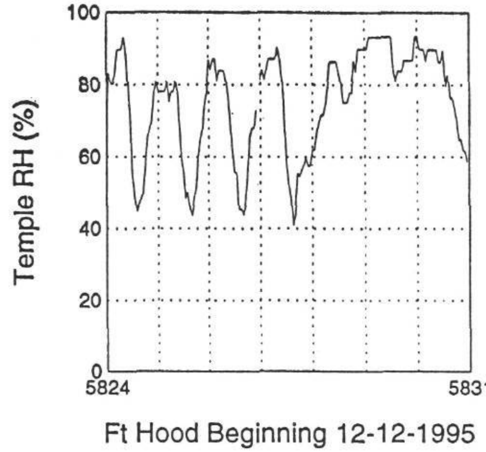


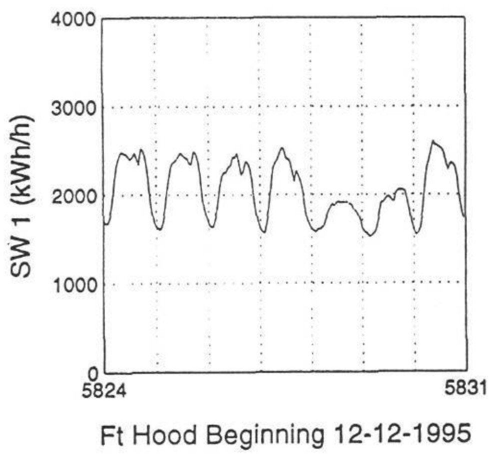
PlotHood.BAT

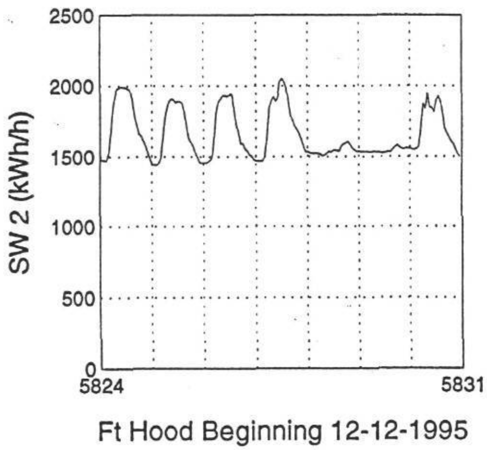
SAMPLE WEEKLY INSPECTION PLOTS

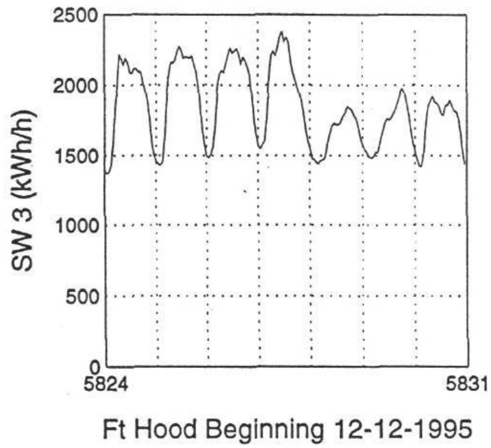

Total Electric (kWh/h)
40000
30000
20000
10000
0
5824
5831
Ft Hood Beginning 12-12-1995

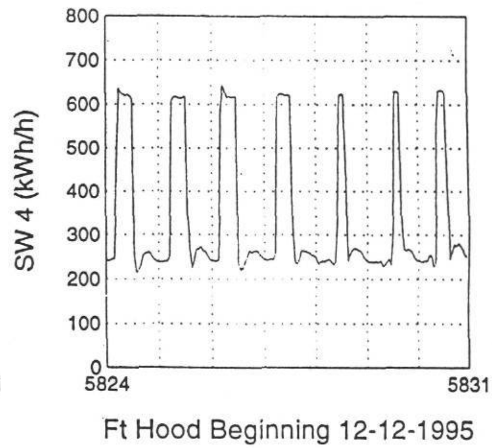

Temple Dry Bulb (F)
120
100
80
60
40
20
0
5824
5831
Ft Hood Beginning 12-12-1995

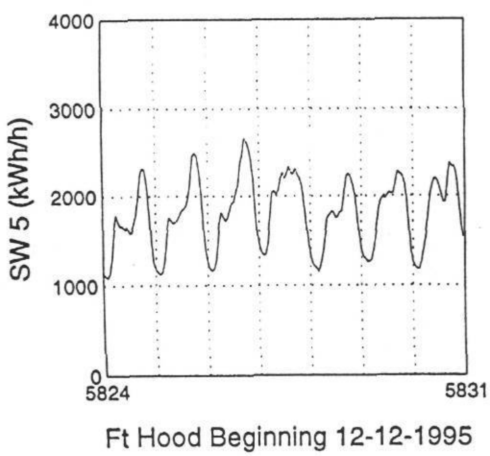

Temple RH (%)
100
80
60
40
20
0
5824
5831
Ft Hood Beginning 12-12-1995

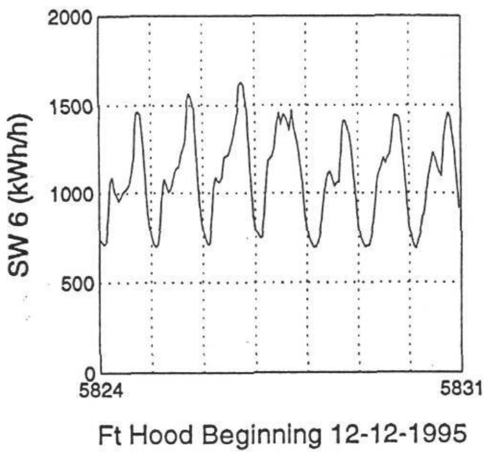

SW 1 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995

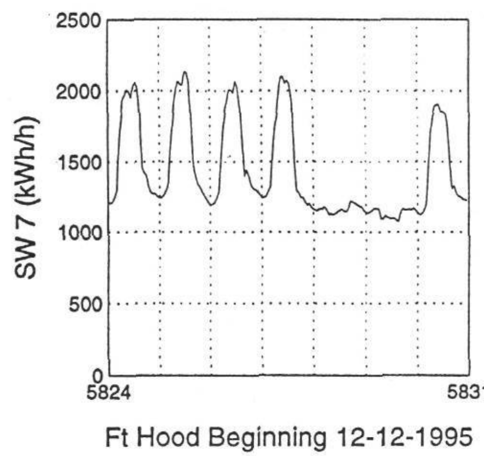

SW 2 (kWh/h)
2500
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

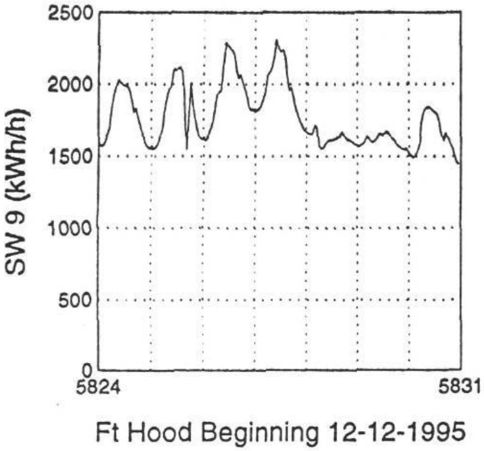

SW 3 (kWh/h)
2500
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

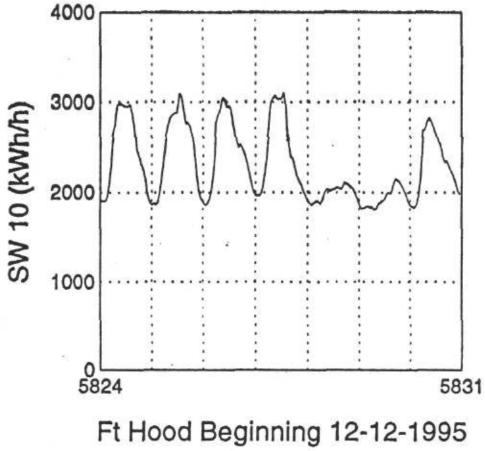

SW 4 (kWh/h)
800
700
600
500
400
300
200
100
0
5824
5831
Ft Hood Beginning 12-12-1995

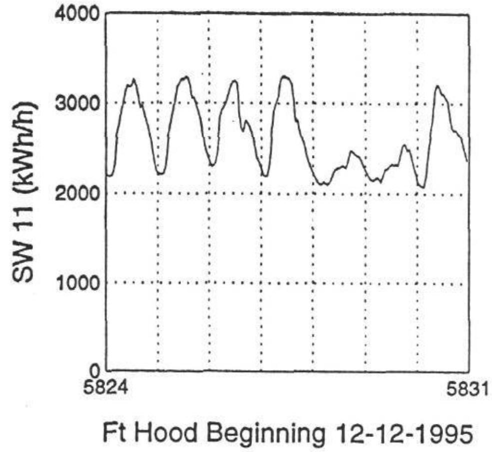

SW 5 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995

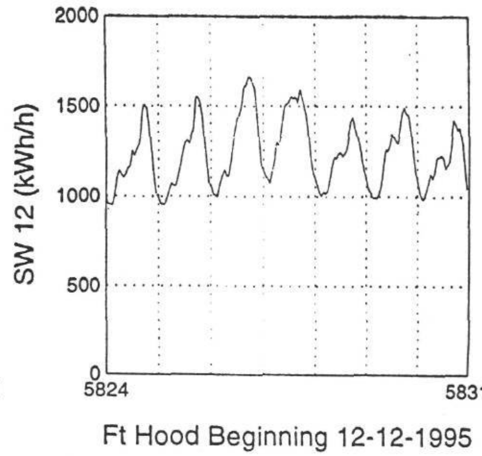

SW 6 (kWh/h)
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

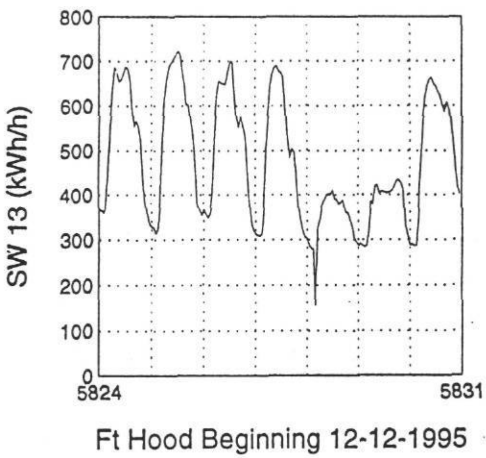

SW 7 (kWh/h)
2500
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

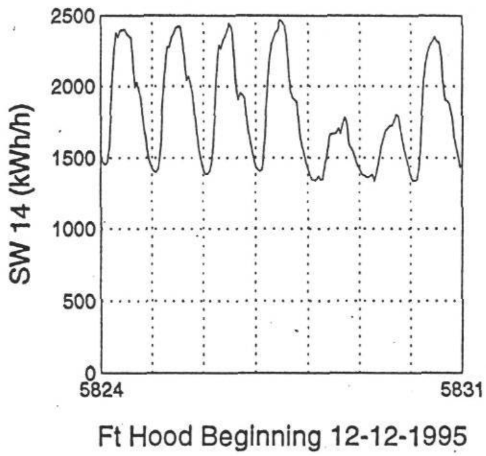

SW 9 (kWh/h)
2500
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

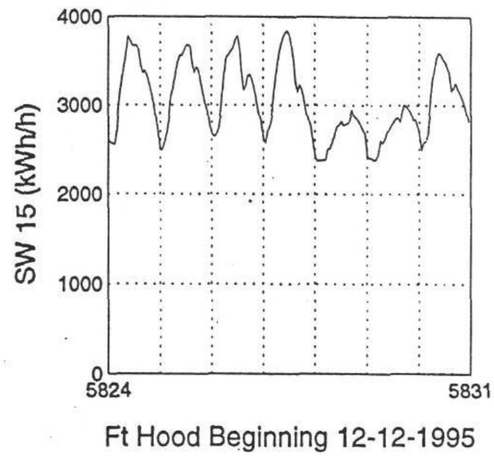

SW 10 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995

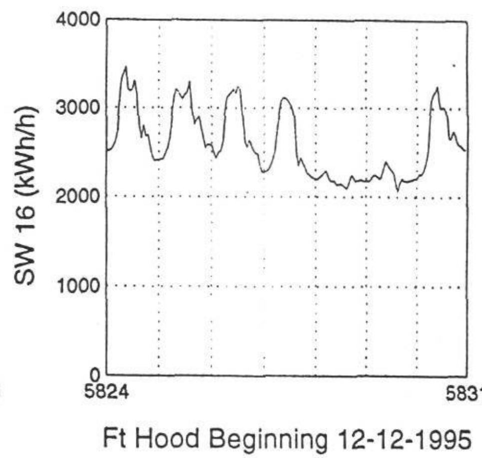

SW 11 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995

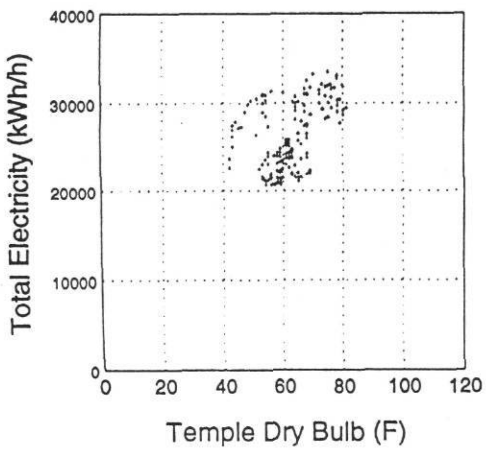

SW 12 (kWh/h)
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995

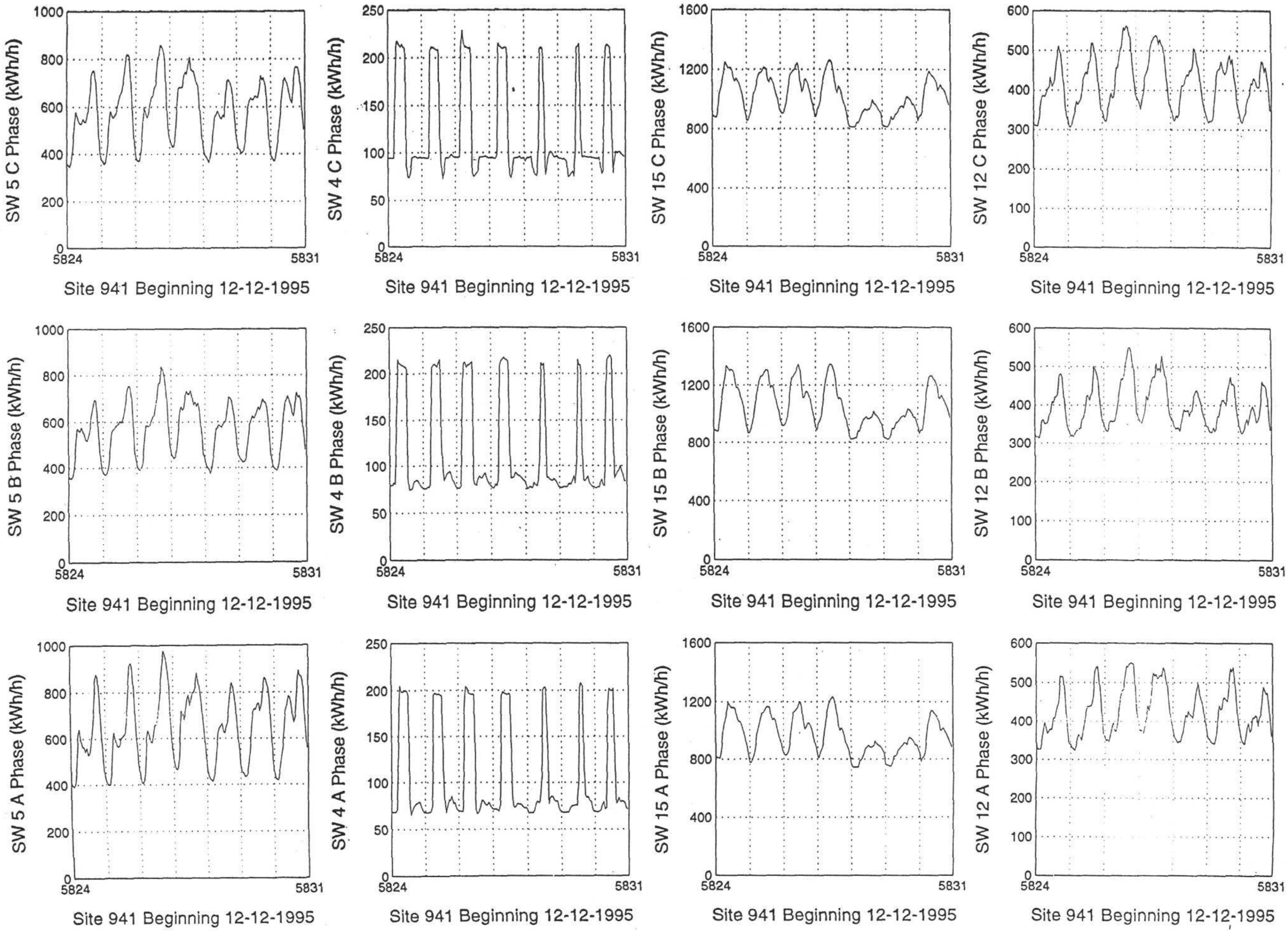

SW 13 (kWh/h)
800
700
600
500
400
300
200
100
0
5824
5831
Ft Hood Beginning 12-12-1995

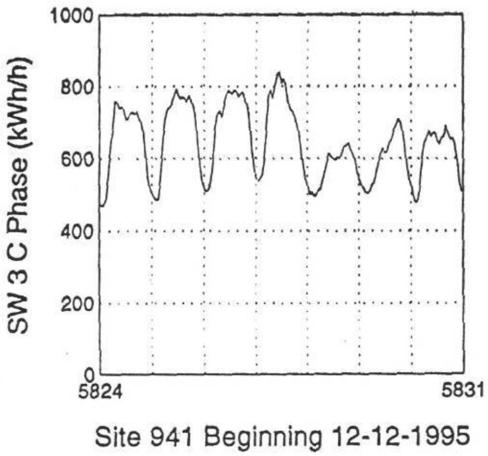

SW 14 (kWh/h)
2500
2000
1500
1000
500
0
5824
5831
Ft Hood Beginning 12-12-1995


SW 15 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995


SW 16 (kWh/h)
4000
3000
2000
1000
0
5824
5831
Ft Hood Beginning 12-12-1995


Total Electricity (kWh/h)
40000
30000
20000
10000
0
0
20
40
60
80
100
120
Temple Dry Bulb (F)


SW 5 C Phase (kWh/h)
1000
800
600
400
200
0
5824
5831
Site 941 Beginning 12-12-1995
SW 4 C Phase (kWh/h)
250
200
150
100
50
0
5824
5831
Site 941 Beginning 12-12-1995
SW 15 C Phase (kWh/h)
1600
1200
800
400
0
5824
5831
Site 941 Beginning 12-12-1995
SW 12 C Phase (kWh/h)
600
500
400
300
200
100
0
5824
5831
Site 941 Beginning 12-12-1995
SW 5 B Phase (kWh/h)
1000
800
600
400
200
0
5824
5831
Site 941 Beginning 12-12-1995
SW 4 B Phase (kWh/h)
250
200
150
100
50
0
5824
5831
Site 941 Beginning 12-12-1995
SW 15 B Phase (kWh/h)
1600
1200
800
400
0
5824
5831
Site 941 Beginning 12-12-1995
SW 12 B Phase (kWh/h)
600
500
400
300
200
100
0
5824
5831
Site 941 Beginning 12-12-1995
SW 5 A Phase (kWh/h)
1000
800
600
400
200
0
5824
5831
Site 941 Beginning 12-12-1995
SW 4 A Phase (kWh/h)
250
200
150
100
50
0
5824
5831
Site 941 Beginning 12-12-1995
SW 15 A Phase (kWh/h)
1600
1200
800
400
0
5824
5831
Site 941 Beginning 12-12-1995
SW 12 A Phase (kWh/h)
600
500
400
300
200
100
0
5824
5831
Site 941 Beginning 12-12-1995


SW 3 C Phase (kWh/h)
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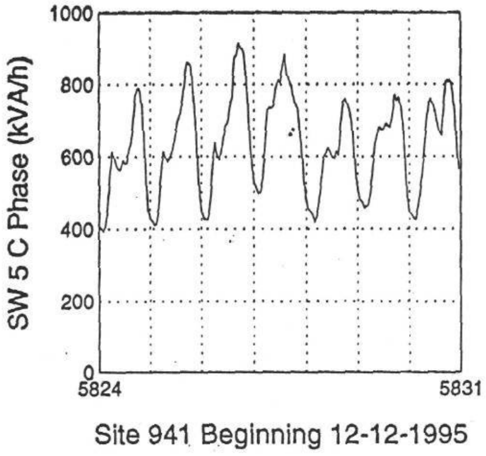
Site 941 Beginning 12-12-1995


SW 5 C Phase (kVA/h)
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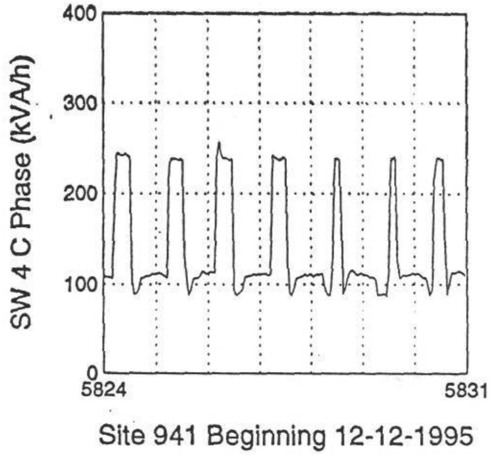
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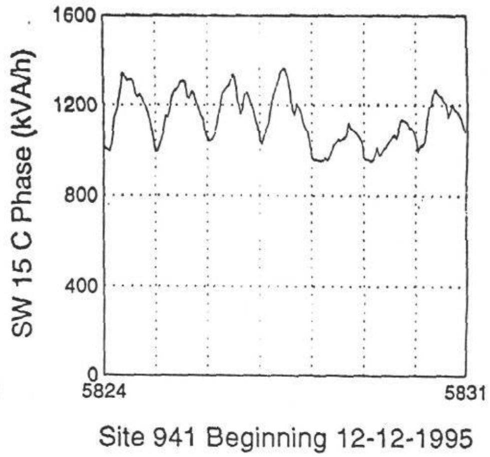
SW 15 C Phase (kVA/h)
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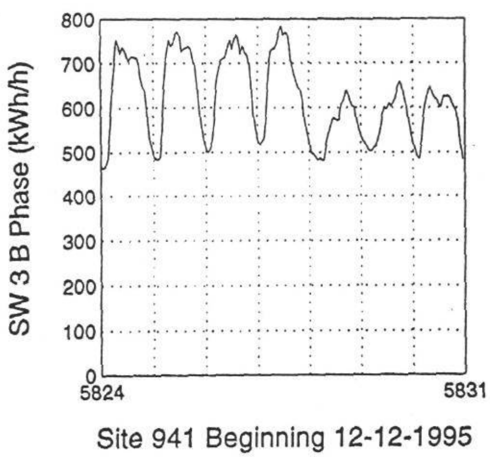
5831
Site 941 Beginning 12-12-1995


SW 3 B Phase (kWh/h)
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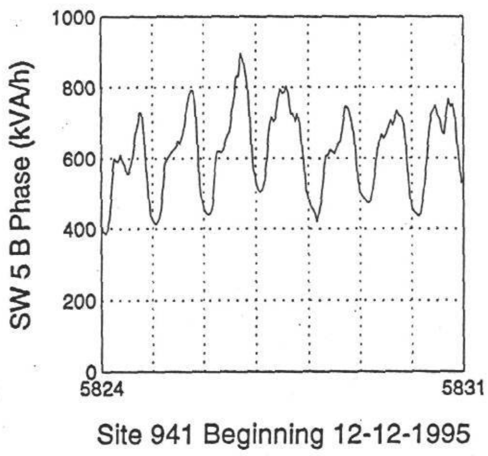
5831
Site 941 Beginning 12-12-1995


SW 5 B Phase (kVA/h)
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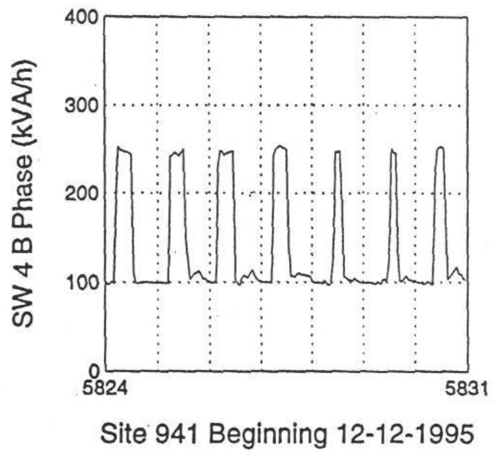
5831
Site 941 Beginning 12-12-1995


SW 4 B Phase (kVA/h)
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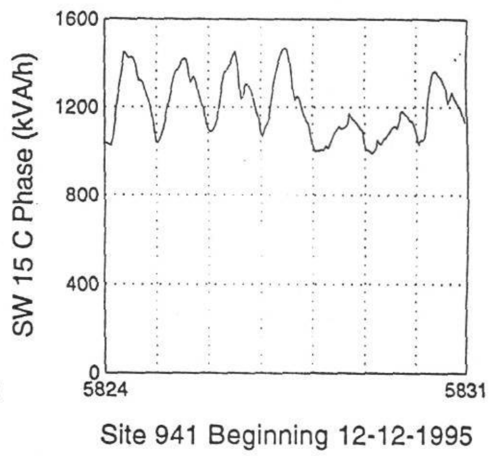
Site 941 Beginning 12-12-1995


SW 15 C Phase (kVA/h)
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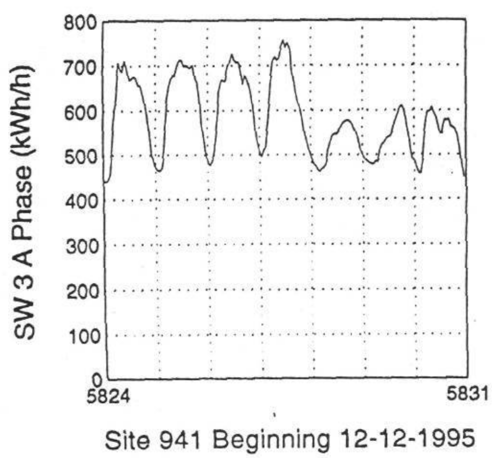
Site 941 Beginning 12-12-1995


SW 3 A Phase (kWh/h)
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5831
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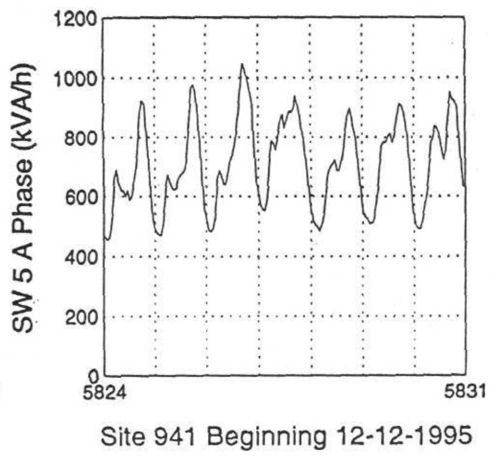
SW 5 A Phase (kVA/h)
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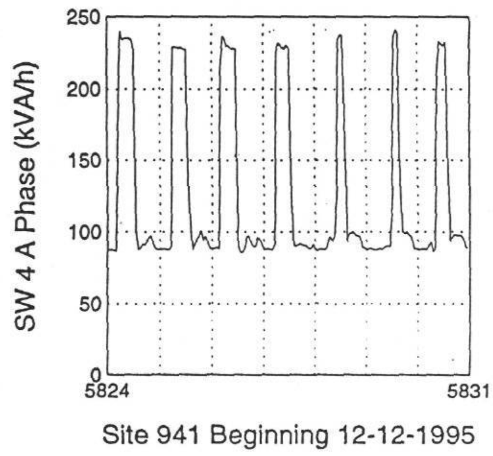
5831
Site 941 Beginning 12-12-1995


SW 4 A Phase (kVA/h)
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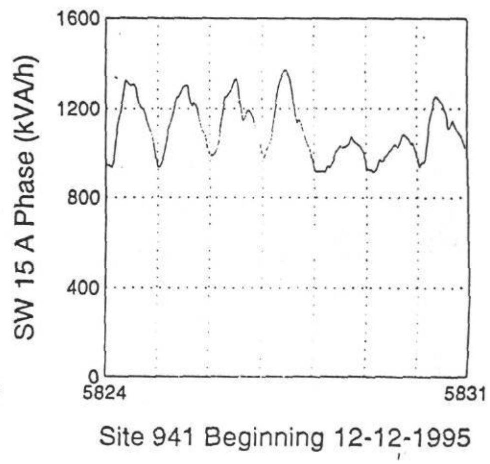
5831
Site 941 Beginning 12-12-1995


SW 15 A Phase (kVA/h)
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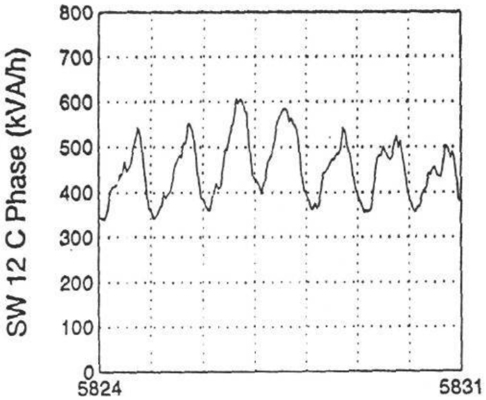
5831
Site 941 Beginning 12-12-1995



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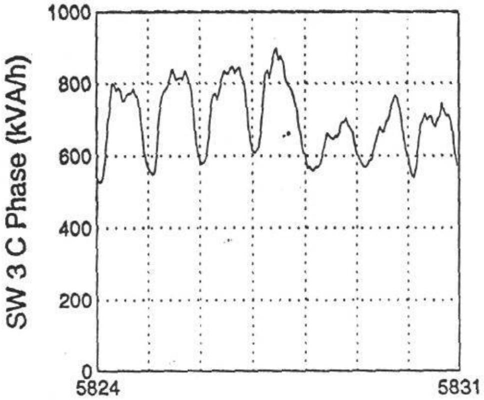

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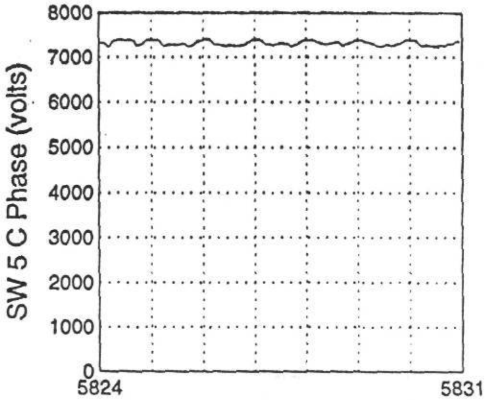

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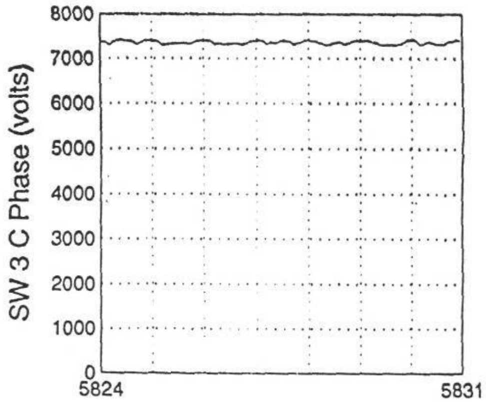

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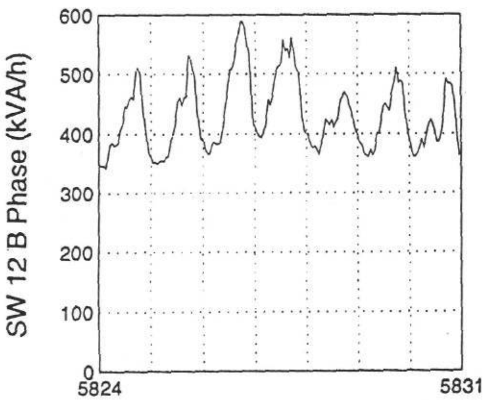

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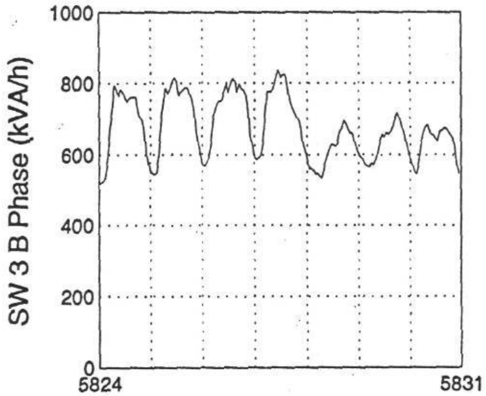

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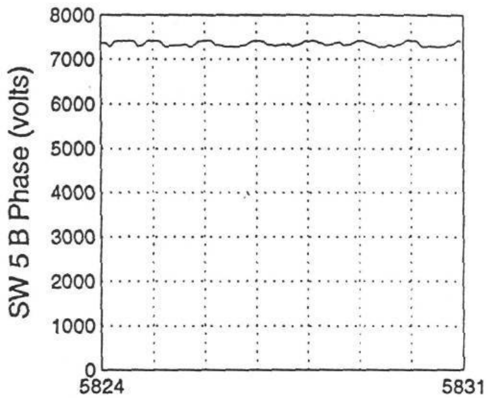

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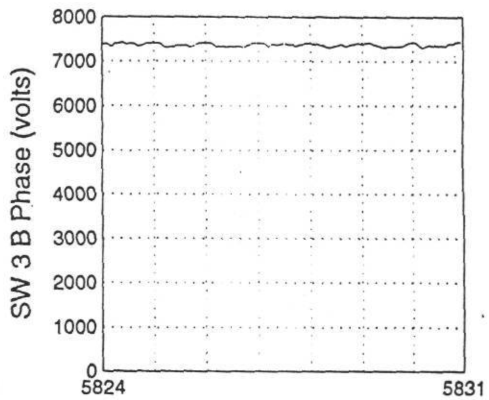

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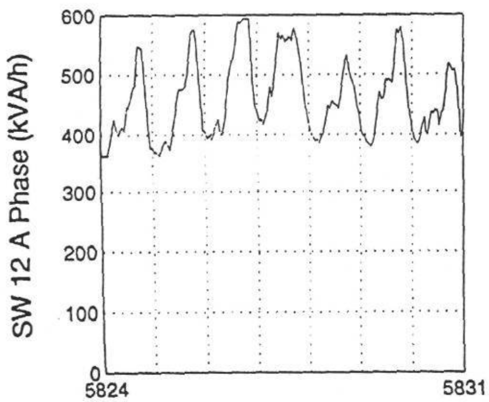

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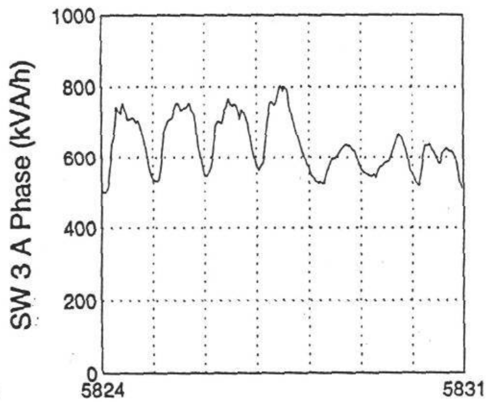

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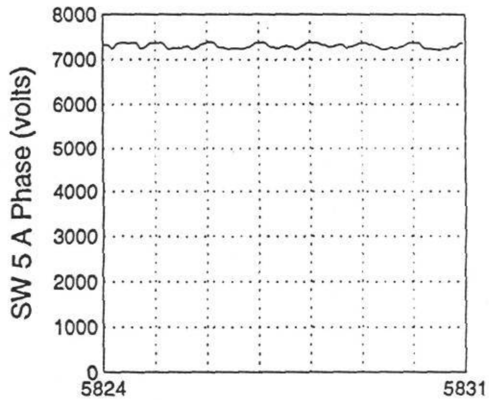

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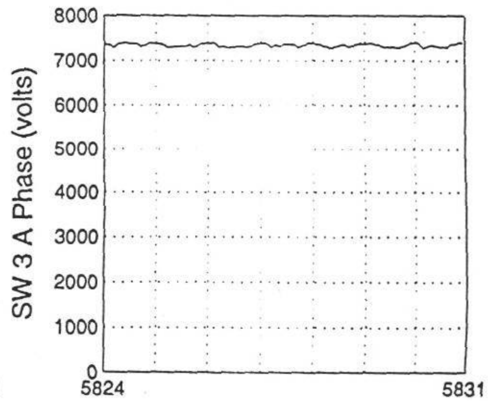

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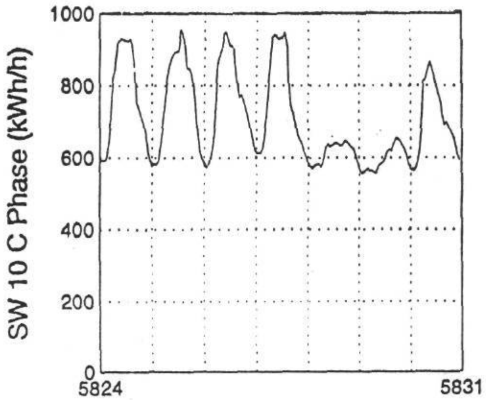

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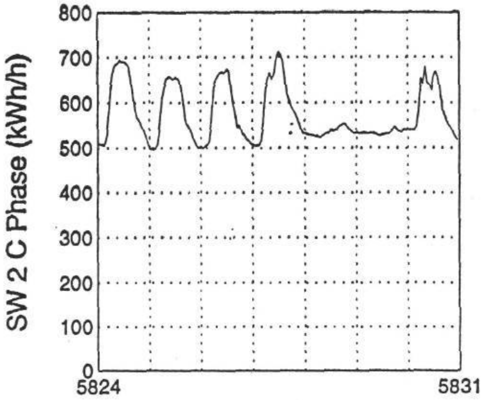

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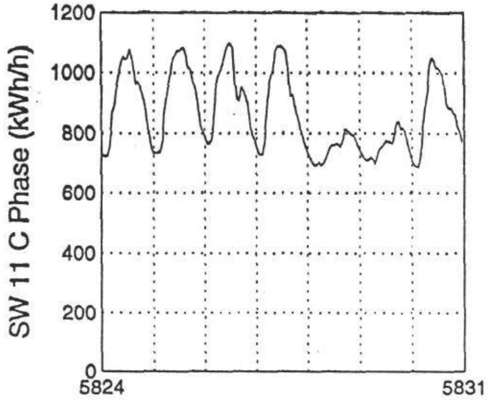

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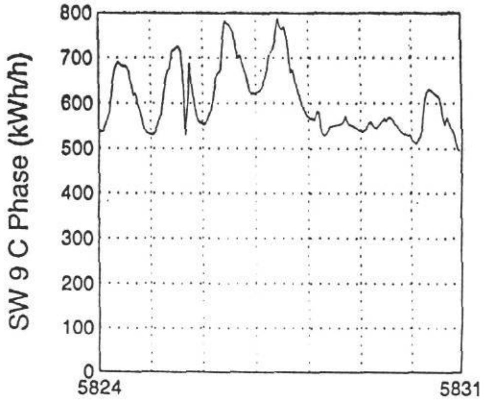

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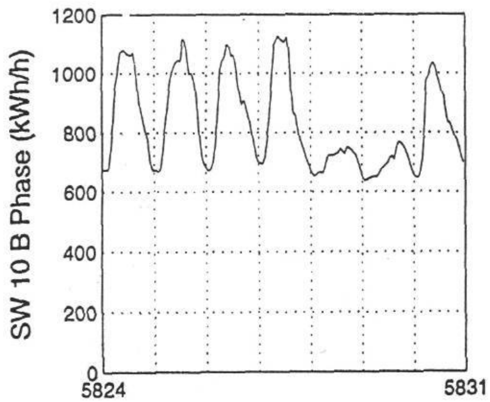

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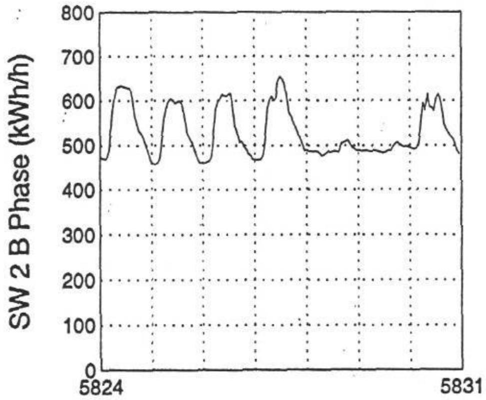

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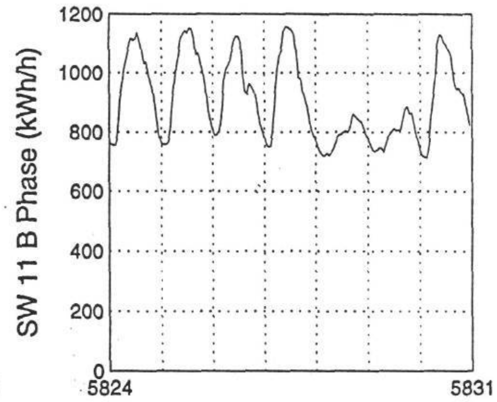

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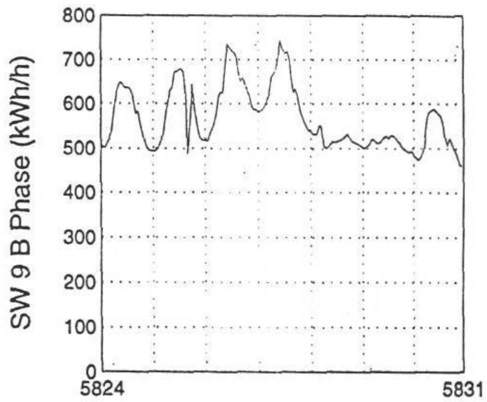

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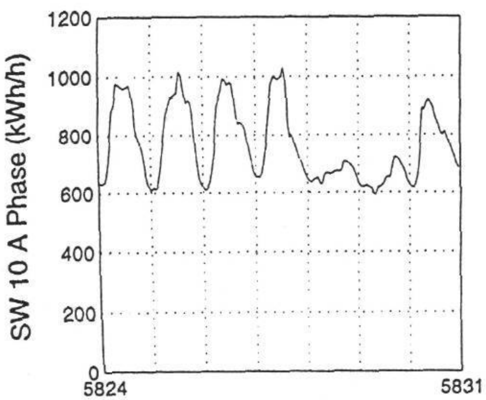

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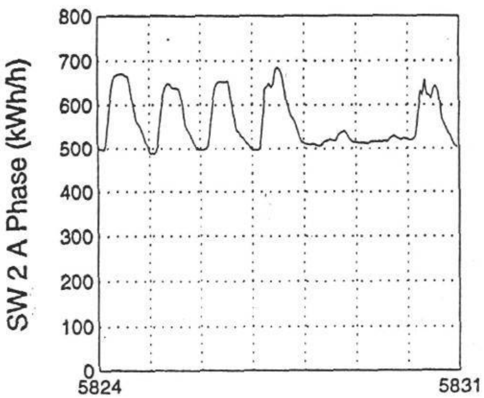

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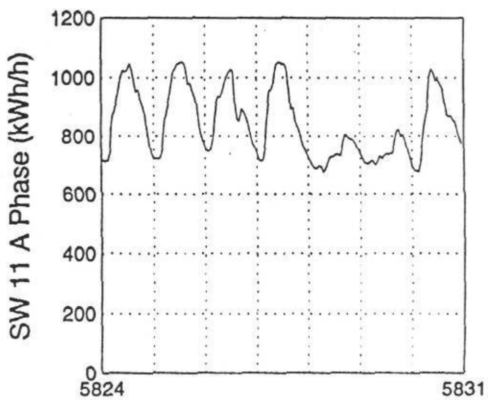

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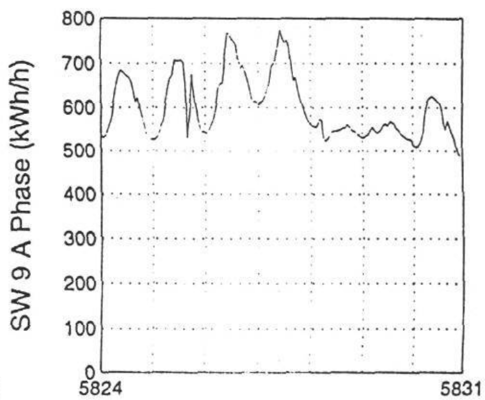

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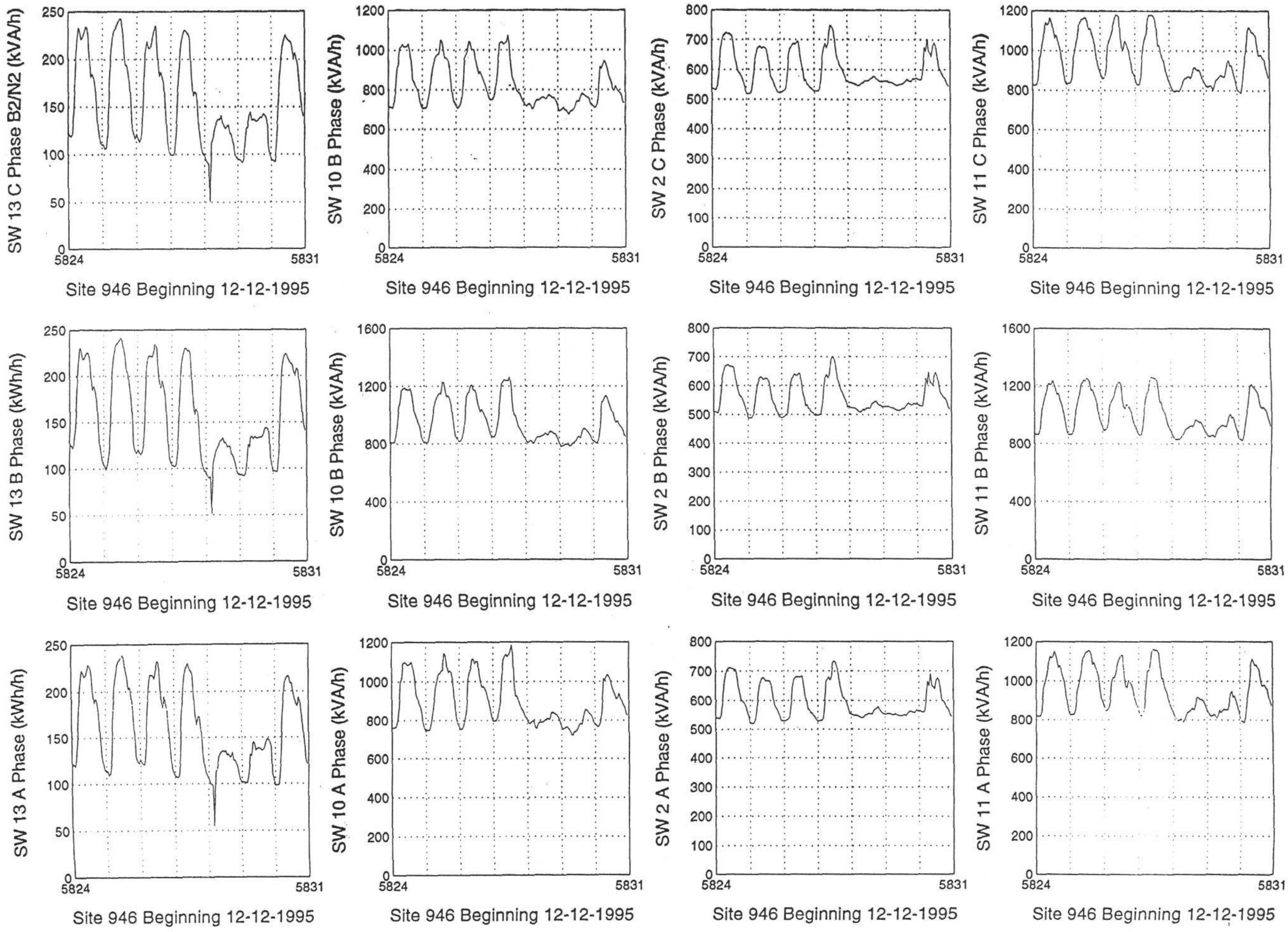

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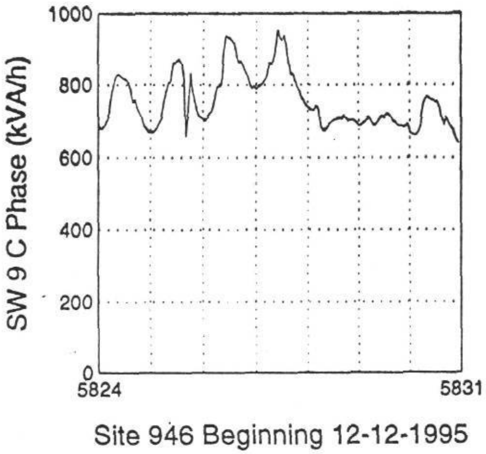
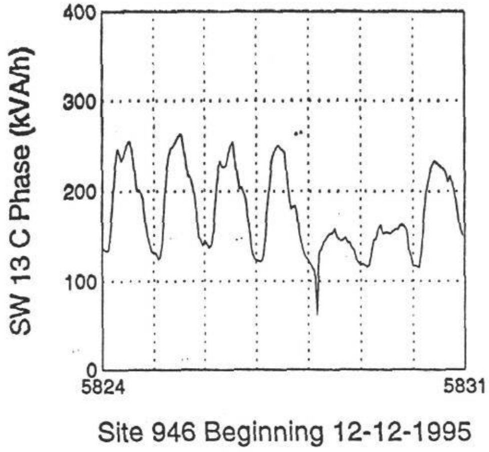
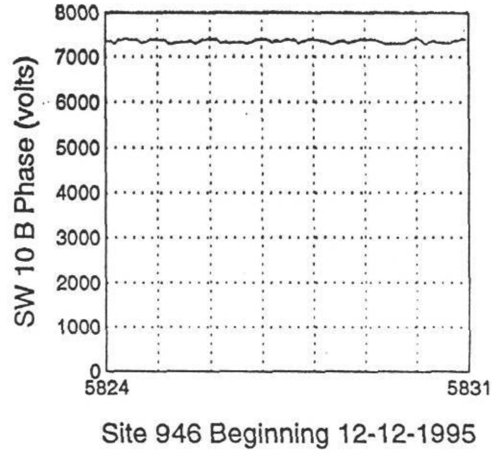
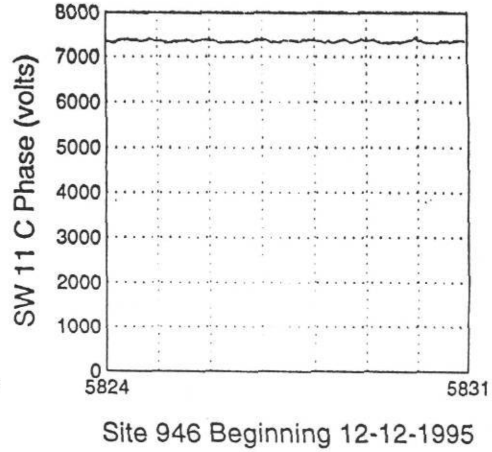
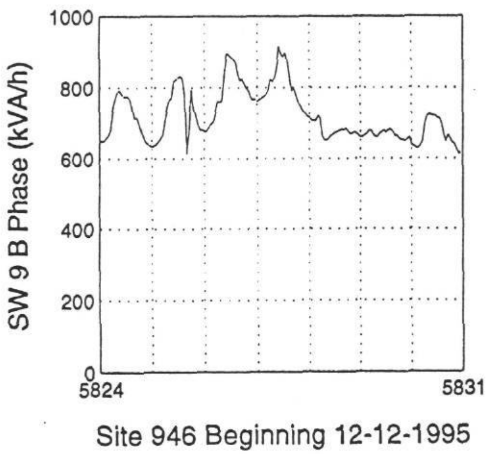
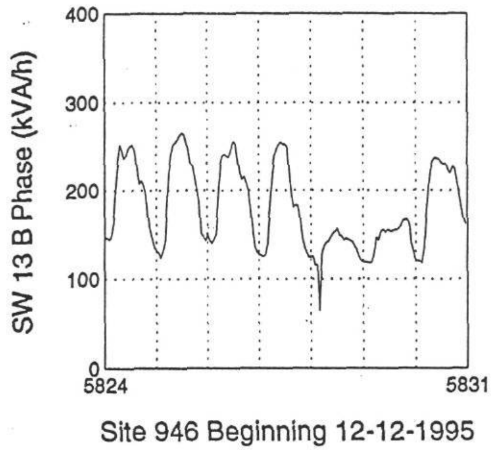

SW 9 C Phase (kVA/h)
1000
800
600
400
200
0
5824
5831
Site 946 Beginning 12-12-1995

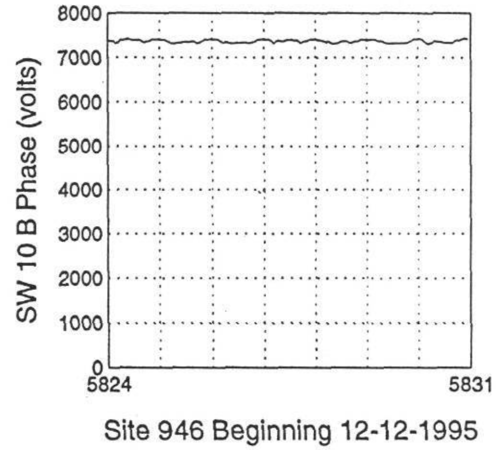

SW 13 C Phase (kVA/h)
400
300
200
100
0
5824
5831
Site 946 Beginning 12-12-1995


SW 10 B Phase (volts)
8000
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 11 C Phase (volts)
8000
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 9 B Phase (kVA/h)
1000
800
600
400
200
0
5824
5831
Site 946 Beginning 12-12-1995


SW 13 B Phase (kVA/h)
400
300
200
100
0
5824
5831
Site 946 Beginning 12-12-1995


SW 10 B Phase (volts)
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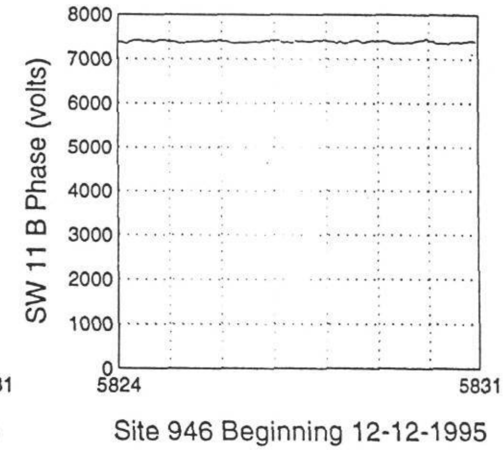
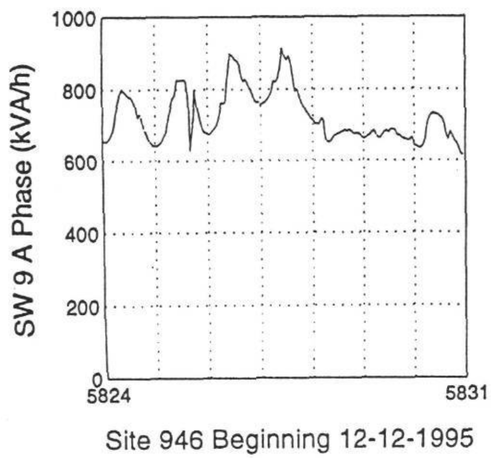
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 11 B Phase (volts)
8000
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 9 A Phase (kVA/h)
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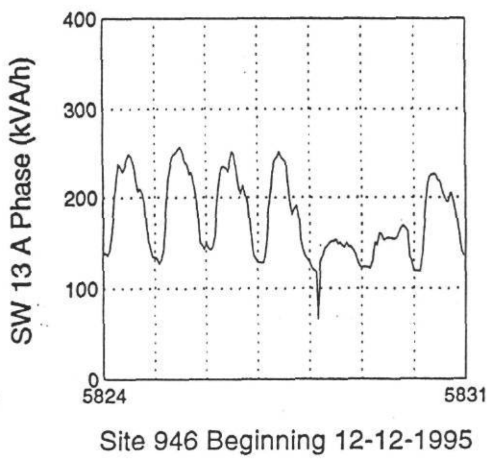
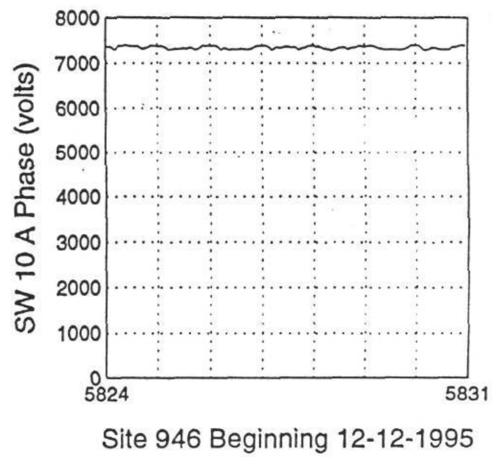
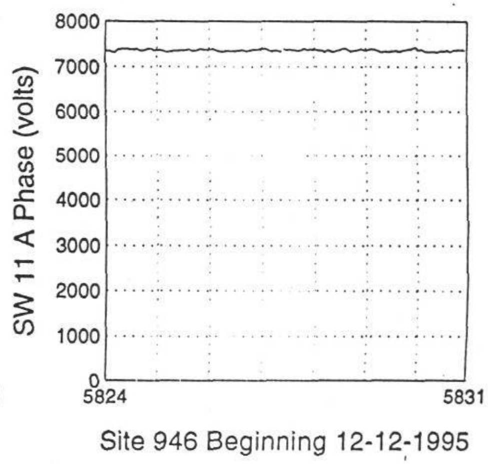
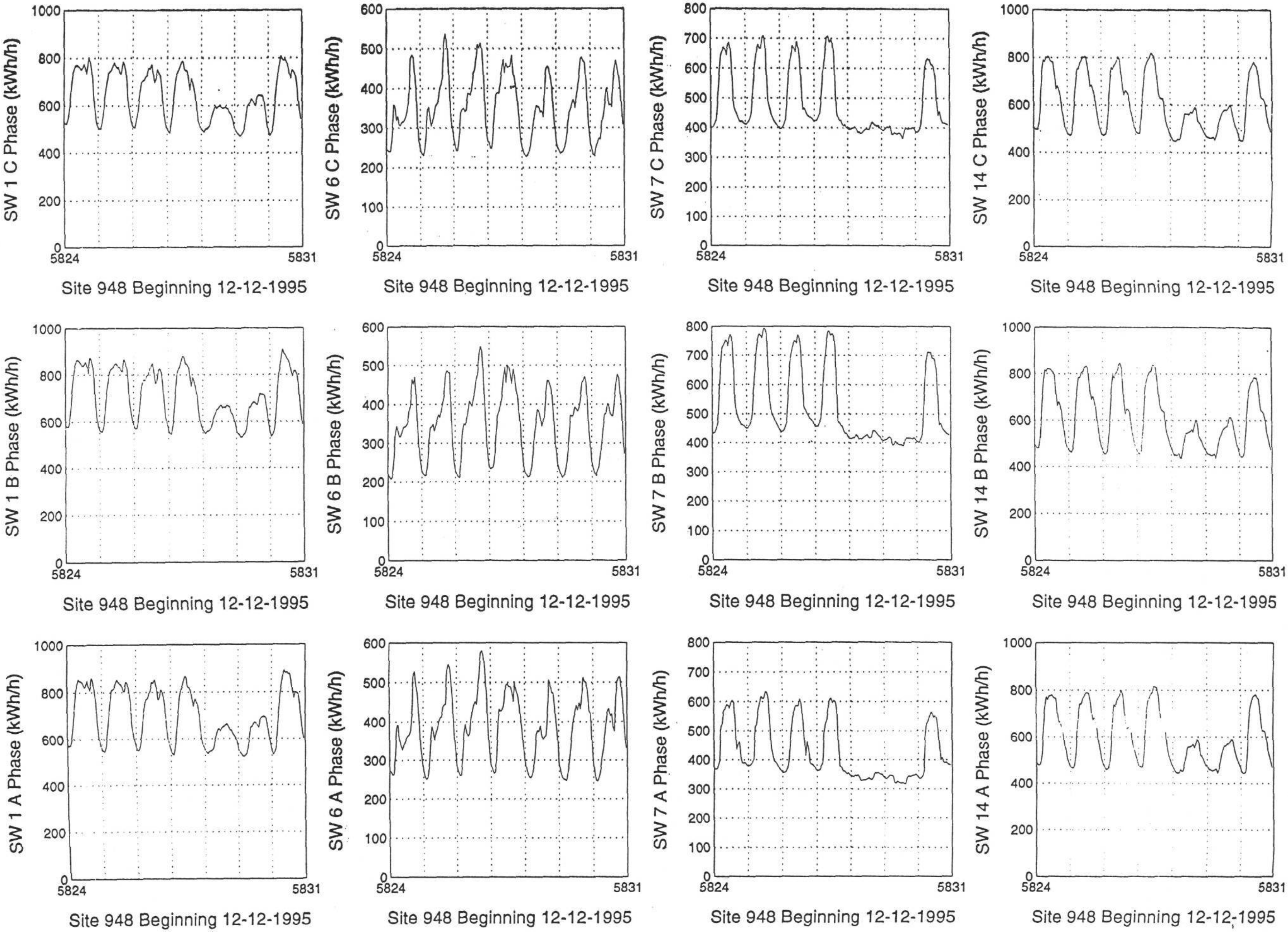
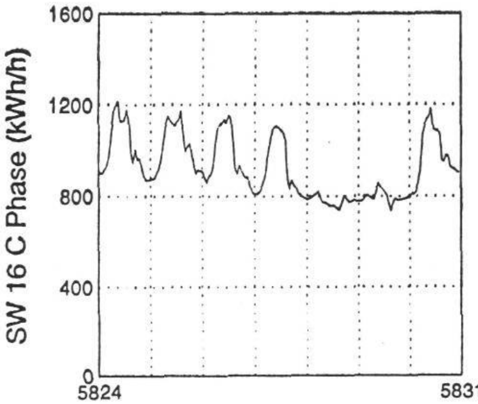
800
600
400
200
0
5824
5831
Site 946 Beginning 12-12-1995


SW 13 A Phase (kVA/h)
400
300
200
100
0
5824
5831
Site 946 Beginning 12-12-1995


SW 10 A Phase (volts)
8000
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 11 A Phase (volts)
8000
7000
6000
5000
4000
3000
2000
1000
0
5824
5831
Site 946 Beginning 12-12-1995


SW 1 C Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995
SW 6 C Phase (kWh/h)
0
100
200
300
400
500
600
5824
5831
Site 948 Beginning 12-12-1995
SW 7 C Phase (kWh/h)
0
100
200
300
400
500
600
700
800
5824
5831
Site 948 Beginning 12-12-1995
SW 14 C Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995
SW 1 B Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995
SW 6 B Phase (kWh/h)
0
100
200
300
400
500
600
5824
5831
Site 948 Beginning 12-12-1995
SW 7 B Phase (kWh/h)
0
100
200
300
400
500
600
700
800
5824
5831
Site 948 Beginning 12-12-1995
SW 14 B Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995
SW 1 A Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995
SW 6 A Phase (kWh/h)
0
100
200
300
400
500
600
5824
5831
Site 948 Beginning 12-12-1995
SW 7 A Phase (kWh/h)
0
100
200
300
400
500
600
700
800
5824
5831
Site 948 Beginning 12-12-1995
SW 14 A Phase (kWh/h)
0
200
400
600
800
1000
5824
5831
Site 948 Beginning 12-12-1995



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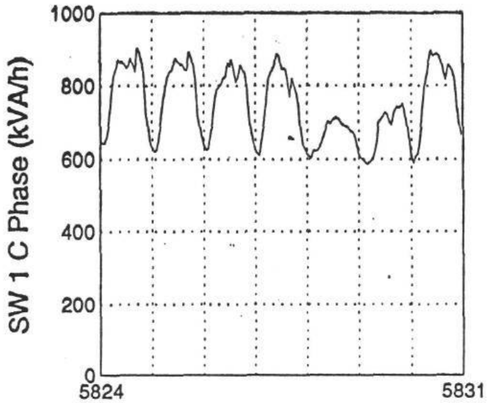

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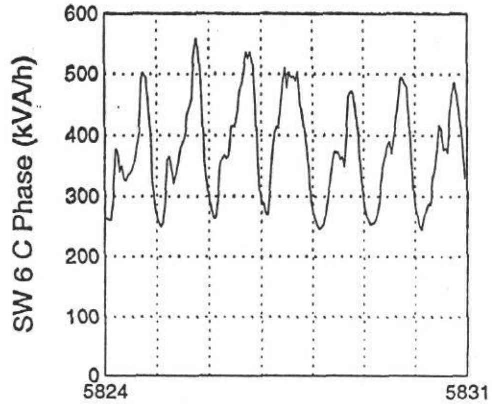

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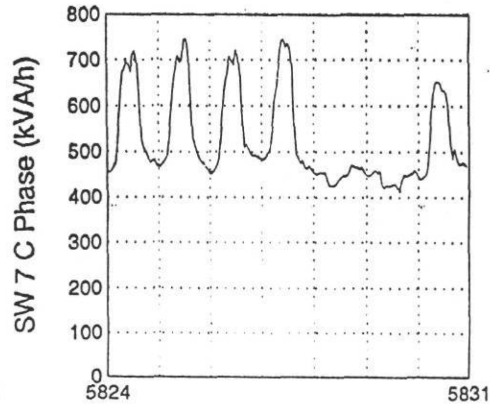

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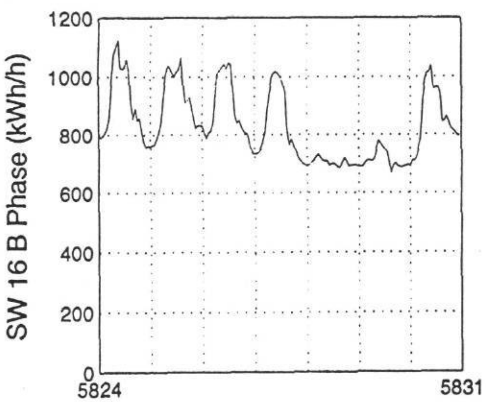

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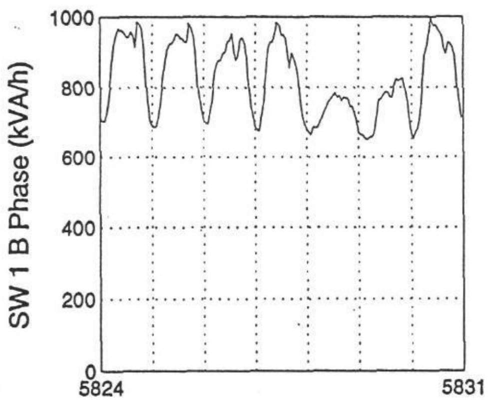

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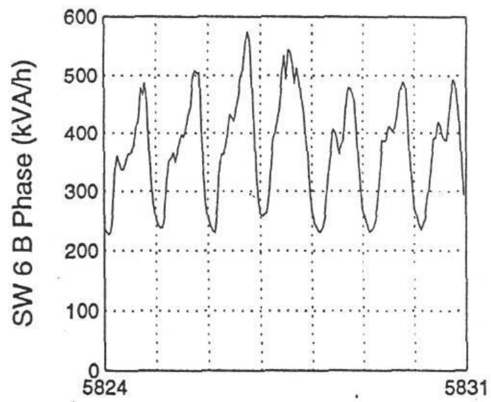

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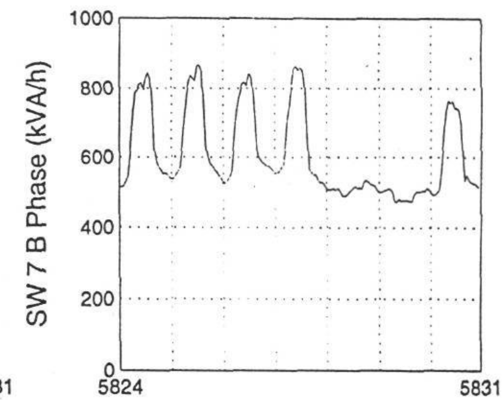

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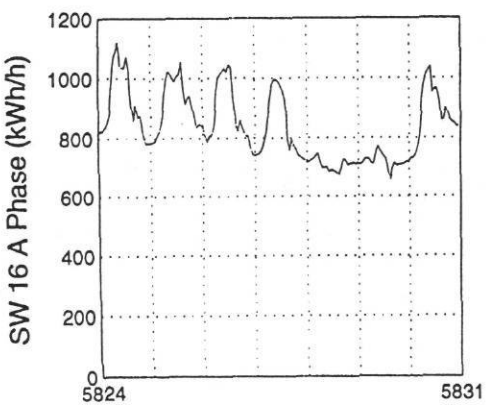

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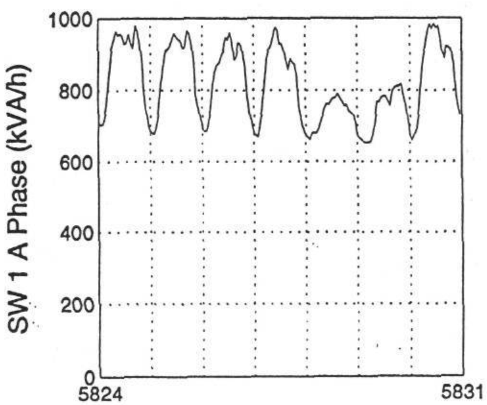

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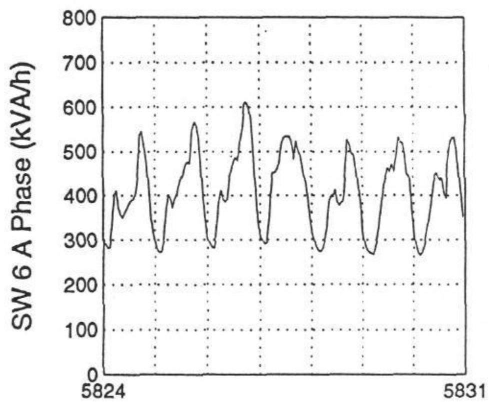

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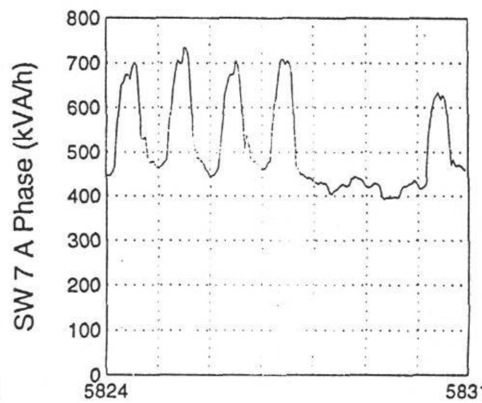

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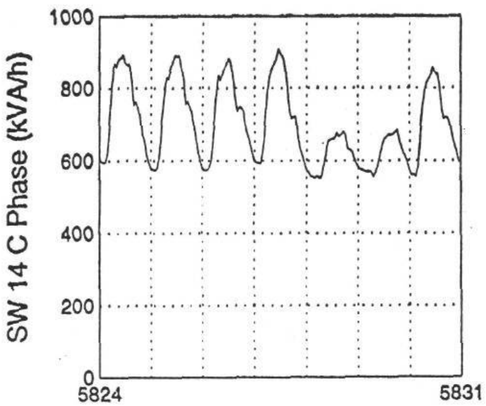

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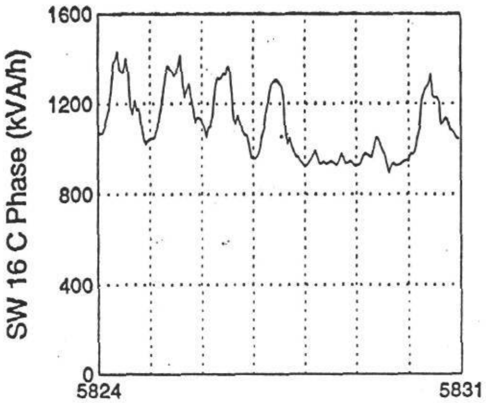

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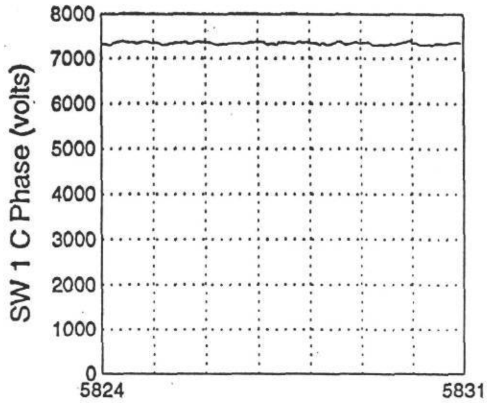

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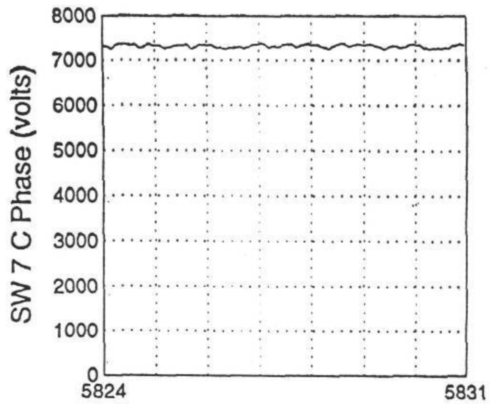

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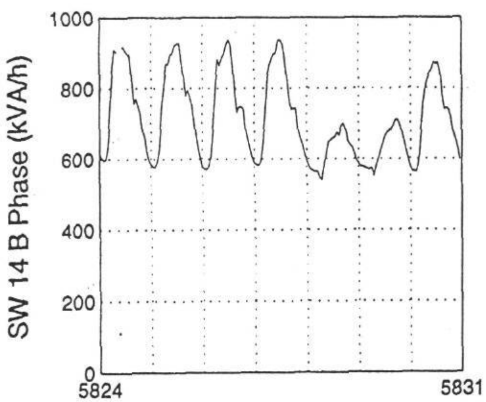

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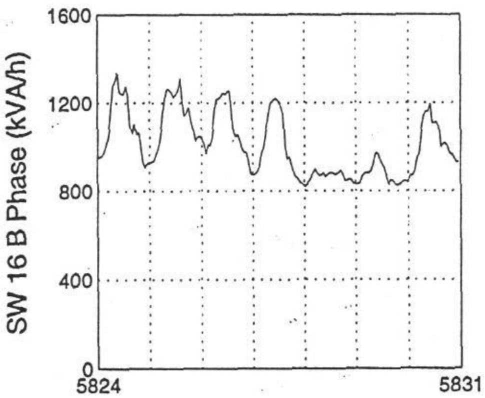

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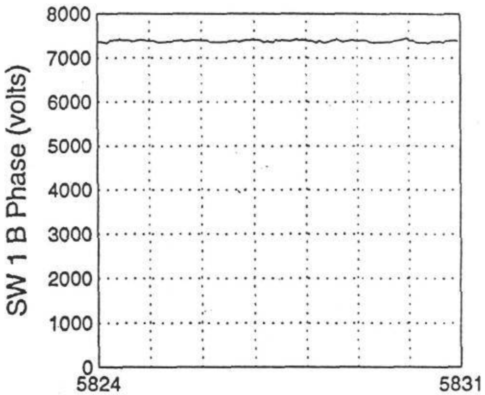

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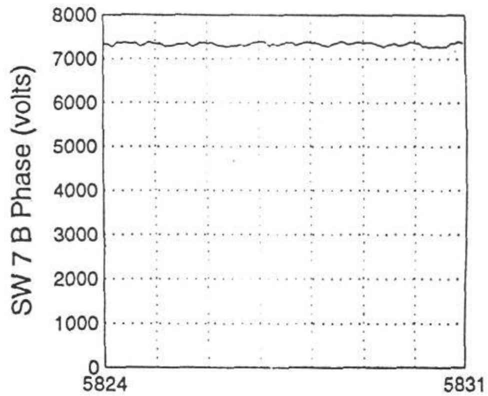

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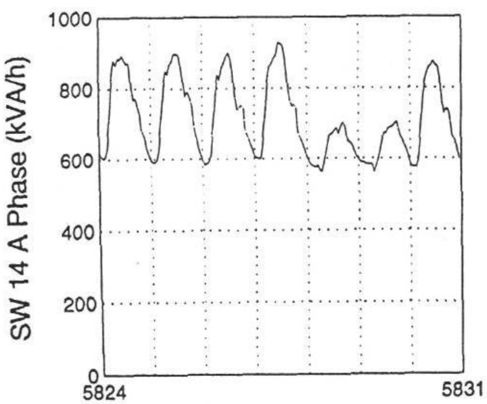

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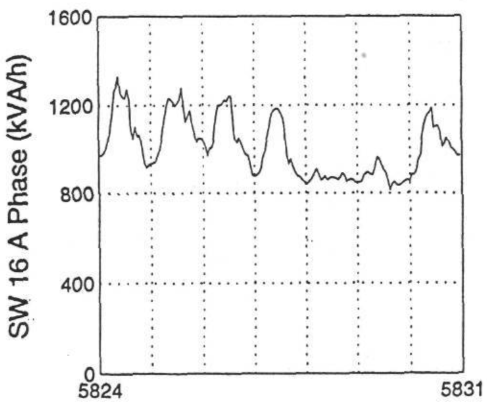

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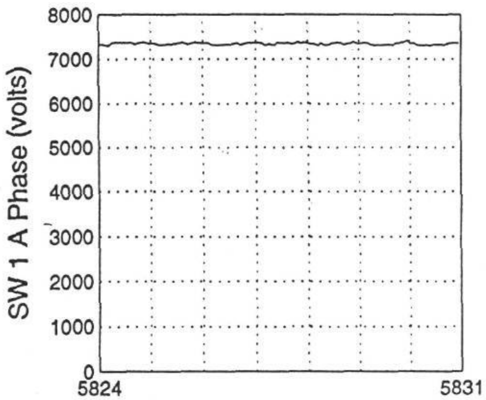

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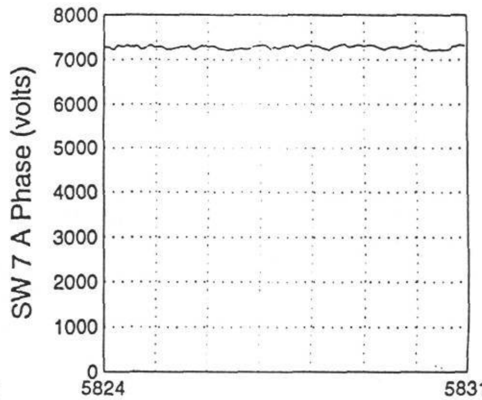

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