

## **TYNDALL AFB UTILITY SPREADSHEETS**

### **325 CES/CEOE**

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**NOTE: If you decide to download and open this file, DO NOT establish links when prompted. Click “NO” and the workbook will open with no reference errors.**

To assist in the verification of utility billings and develop a database for future reference, we at Tyndall developed a series of Excel spreadsheets, Access databases, and PowerPoint slides to enhance the utility program. With these programs we are able to verify the utility bills each month for correctness and accuracy, check information against history to see improvement or misuse, and create presentations for meetings to Energy Management Steering Group and customers.

A complete series of sheets, databases and slides have been created for each utility. This series not only includes electric, gas, and water utilities, but also includes reimbursable and reportable customers, metering, resale rates and square foot reconciliation. Due to the size of the files, we have selected to only show a one month sample of all the data on the utility spreadsheets. In addition to the utility spreadsheets the Utility Engineer maintains, Resources Flight has spreadsheets concerning utilities used to bill customers and track funding requirements. All the spreadsheets and slides are linked together so as you only have to enter data once, including the Resources sheets. Once the utility engineer completes the utility spreadsheets, they are sent to the Resources Flight where they are loaded into the same directory as the resources utility spreadsheets. When the resource person opens up the costing spreadsheets, the data is automatically updated by the links to the utility spreadsheets. Only the utility bill calculation sheets and meter sheets are available. The resources sheets can be made available upon request.

There are a few drawbacks in using Excel to track this kind of data. Adding new customers, bills, or meters can wreak havoc on links giving you #REF, #NAME, or #VALUE results which you have to track down and fix. Our biggest problem has been with pivot tables so we decided to do away with them. We are now developing an ACCESS database to replace all the spreadsheets and get more flexibility. Hopefully we will have these complete before the new fiscal year.

Tyndall Utilities.xls contains one month's data for Electricity, Gas, Water, Reimbursables, Reportables, Meter Readings, and the way we check for Energy HOGs.

There are nine sections to each month's utility spreadsheet.

- ◆ The first section is nothing more than a way to calculate the electric bill based on consumption and the rates established in our utility sales agreement with the utility companies. By setting it up this way, you can verify the accuracy of the bills received each month. Knowing your sales contract and method of calculation is very important. For instance, we are on a Real Time Pricing (RTP) sales rate for the main base. Since we buy out electricity by the hour and the rates fluctuate every hour, we must calculate the average rate for an entire month, then input it into the spreadsheet.

- ◆ The second section is our square foot calculations, which are based on the annual sq. ft. reconciliation done at the end of each fiscal year.
- ◆ The third section has the meter consumption for our reimbursable customers. These may or may not be linked to the meter reading spreadsheet. We have recently removed the links on these readings to avoid reference errors when new meters were added. Recent contracts have increased our meter numbers and we will probably reestablish the links once this work is finished.
- ◆ The fourth section concerns consumption estimates. Here is where calculations are done to estimate facilities or areas that are not metered. Some areas have been audited and others are calculated using square foot method.
- ◆ The fifth section is for sub-calculations for areas where multiple readings make up the bill for one customer or total sub-metering for subtraction from the master for that feeder.
- ◆ The next section contains sales rate calculations for reimbursable customers. These numbers should match exactly what you calculate each year during the annual sales agreement and resale rate calculation review.
- ◆ Section seven contains the calculations and data required for input into the DUERS database each month.
- ◆ Section eight is used to calculate cost per square foot for estimating purposes.
- ◆ The last section shows consumption and cost for reimbursable customers.

The remaining spreadsheets for gas and water are laid out identical to the electric sheets.

The meter reading spreadsheet is laid out in meter read order in lieu of facility number. Copies of the next month's reading sheet is made and given to the meter readers so they can input the months readings as they travel across base. A check was added to each meter reading to indicate if one month's meter reading was 20% more than the previous month. This is a quick indication of meter reading errors or possible change in facility operation. The Master Mtr spreadsheet is data available concerning type of meter and any other relevant information. We are constantly changing this sheet to meet our needs for tracking.

Reimbursable and Reportable are spreadsheets generated to help the resources folks track reimbursable and reportable customers. These sheets are linked to the utility spreadsheets for consumption and cost and are linked to the resources files to automatically update their billing data.

These are our major utility spreadsheets used to track billing, consumption, and energy. They are linked to several other sheets used in our historical database and energy tracking mechanisms.

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UTILITIES SPREASHEET PROGRAM](#)**