

## Better Buildings Neighborhood Program Supplemental Instructions for Utility Bill Reporting

The intent of this document is to provide supplemental instructions for requesting, processing, and delivering electric and natural gas usage histories as required by the Better Buildings Neighborhood Program.

All Department of Energy (DOE) Better Buildings Neighborhood Program grant recipients are required to collect monthly electricity and natural gas (if applicable) usage histories for all building retrofit projects that are reported under the grant. Energy usage and cost data should include monthly amounts by building (or by meter) for usage during at least 12 consecutive months (preferably 15) before the retrofit project begins and at least 12 consecutive months (preferably 15 months) after the retrofit project is completed. These data should be uploaded to the Better Buildings Information System (BBIS) Web Portal. They will be used by DOE and the National Renewable Energy Laboratory (NREL) to assess the efficacy and influencing factors of the grant programs and in conducting building science research.

### ***Data Content and Format***

Data from utilities are stored in databases. When a utility generates data for you, they run a query on the database, extracting certain records and fields from the database. The way data are stored will differ from one utility to the next, but the general content is relatively consistent. The consumption data tend to be organized around utility meters. The data table can be as simple as the meter number, a read date, and the meter reading quantity. Each meter reading is commonly stored as a separate record in the database. For example:

MeterNumber	ReadDate	Reading
1000001	1/12/2011	15763
1000001	2/13/2011	16549
1000001	3/15/2011	17487

Read date and reading amount are the key information needed, along with whether the data are for electricity or natural gas, and the associated units for the reading field (e.g., kWh, therms, ccf, etc.). Note that in this example, the monthly usage must be calculated by taking the differences in the readings (e.g., the usage for the month ending 2/13/2011 is  $16549 - 15763 = 786$ ; this is a calculation that DOE can perform after the data are provided to DOE). Also note that if the utility delivers absolute levels of usage as in this example, then 13 months of readings are needed to produce 12 months of usage. If the utility delivers the actual monthly usage, no calculation will be necessary. In either case, DOE prefers to receive 15 months of data to enable flexibility and troubleshooting of this type when processing the data (see the section on “Frequency,” below).

In some cases the utility will also store and deliver other data processed from these readings, such as: billing period start date, billing period end date, number of days in billing period, energy consumption, energy cost, etc. Other than specifying which meters and for what period of time, you may not have much control over the content or format of the data provided by the utility. That is fine. What is important is that you know and convey to DOE the names (including a brief description) and order of the fields being provided.

Data queried from databases are generally made available in comma-separated variable (CSV) format, though sometimes they are made available in common spreadsheet formats (e.g., MS Excel) as well. CSV is a generic text format that can be viewed and modified using text editors, spreadsheet software and database software. The table above in CSV format would appear as follows if you viewed in a text editor:

```
MeterNumber,ReadDate,Reading  
1000001,1/12/2011,15763  
1000001,2/13/2011,16549  
1000001,3/15/2011,17487
```

You can open CSV files in Excel and save them in Excel format. Please save all files in Excel format before uploading to the BBIS. In order to upload files to the BBIS Web Portal, they should be named according to the *Better Buildings Information System (BBIS) File Naming Standards Document*.

### ***Removing Personal Information***

DOE does not need and cannot accept personal information: names, addresses, phone numbers, utility meter numbers, or utility account numbers. These data should be replaced with the retrofit identification number you assigned to the project before uploading the data to the BBIS. Please use the unique retrofit identification number to identify the building retrofit project it is for. You will use your award ID# when naming the file so that it is not confused with data from other grantees. It is very important that the energy usage data for each retrofit project be clearly identified with the unique retrofit identification number.

### ***Frequency***

DOE recommends that data be collected from utility companies on a monthly basis to simplify your data transfer process and maximize the likelihood of collecting data for all homes and months. DOE suggests that you maintain a list of meters/accounts/homes for which you need data. Add new projects to this list as you complete them. Submit this comprehensive list monthly (along with customer release forms) to the utility account representative with whom you are working, and request data for the past 15 months. In submitting this comprehensive list monthly, you (and DOE) will end up with rolling 15-month datasets for all completed projects. Over time, DOE will have data for 24-30 months for all completed projects. This approach will result in some redundant data, but DOE can organize the information into a useful dataset.

Ultimately DOE is seeking monthly usage totals, based on actual meter reads, for at least 12 consecutive months before the retrofit project and at least 12 consecutive months after the retrofit project for all homes in your program. The 15-month period recommended above provides a buffer to ensure you and DOE get at least 12 months of pre- and post-retrofit data. It will also allow DOE to handle the many accounting idiosyncrasies that can creep into billing data, such as: missed meter reads and calculated or estimated figures for estimated bills.

### **Example Language for Utility Bill Data Request from Utility**

Below is some suggested language that can be customized and used in a letter or e-mail to a utility point of contact, requesting energy usage information for a grantee's participating sites:

*Please find the attached form(s) authorizing the release of usage histories for customers in your service territory. As found in the customer release form(s), the (meter number / account number / customer name / meter address) have been provided to identify the desired records in your tracking database. Please provide a 15 month history of (electricity / natural gas) usage (prior to {date}) for these customers in one of the following formats: \*.csv, \*.txt, or \*.xls(x).*

Meter numbers are generally the most reliable way to reference consumption data in a utility's database because usage data are physically tied to the meter. Account numbers are the next best option, as these are virtually tied to the meter number in the utility's billing database. Customer name and addresses are generally less reliable. Besides being harder to query due to variations (e.g., "John Smith" vs. "J. P. Smith" or "Avenue" vs. "Ave."), sometimes the account is associated with a person not living in the home or the billing address is different than the physical address.

### **Additional Resources**

Additional suggestions for approaching your local utilities can be found on the Better Buildings Google Site:

- Southwest Energy Efficiency Project, "[Collection of Customer Data for Better Buildings](#)," presentation from webcast (December 2010)
- "[Working with Utilities Peer Exchange Kick-Off Call](#)," presentation and data sharing agreement example from Better Buildings peer exchange call (April 2011)
- "[Working Effectively with Utilities session](#)," Better Buildings Enabling Efficiency Workshop (Los Angeles, CA: February 2011)
- "[Collecting and Using Data to Improve the Program session](#)," Better Buildings What's Working in Residential Energy Efficiency Upgrade Programs Conference (Washington, D.C.: May 2011)