Stop & Shop # 599, Tarrytown Site - Data Integrator Notes

Stop & Shop # 599, Tarrytown facility has installed solar panels. It should produce a peak power output of 178.8kW. The panels have been installed with an azimuth of 213 degrees and tilt of 10 degrees.

Data Point Details

Data is collected from an Obvius Datalogger which is set to upload data to the CDH Energy server daily.

DG/CHP Solar Panel Output (total kWh)
The data for the Solar Panel output is the first point in the data file from device 10. This 15 minute accumulator data is converted to interval kWh readings and summed across each hour.

DG/CHP Solar Panel Output Demand (peak kW)
The solar panel output demand is comes from the tenth point in the data file from device 10. The maximum value is taken for each hour.

Ambient Temperature (avg °F)
The data for Ambient Temperature is collected from Weather Underground. The value is averaged for each hour.

Data Quality Checks

The Data Quality Checks consist of three levels of verification:

- the data exist (flag=1),
- the data pass range checks (flag=2)
- the data pass relational checks (flag=3).

The methodology for applying the data quality begins by creating a contiguous database. We initially assume all data are good (flag=3) and then work backwards to identify data that does not meet Relational and/or Range Checking.

The next step is to apply the relational checks. Relational checks attempt to identify data values which conflict with other data in the data set. For instance, data received indicating a DG/CHP Generator output when the gas use is zero is suspect. For data failing a relational check, the data quality level is set to 2 for “Data Passes Range Checks”.

The last step is evaluating the range checks. The range checks consist of reasonable high and low values based on facility and DG/CHP Generator information. Data that falls outside the defined range for the database value has its data quality level set to 1 for “Data Exists.”

It is necessary to work backwards when applying data quality checks to insure that data gets set to the lowest applicable data quality level. It is possible for data to pass the relational check and fail the range check and such data will be set to a data quality level of 1 for "Data Exists."

Table 1. Data Quality Definitions

Data Quality Levels	Description	Definition
3	Passes Relational Checking	This data passes Range Checks and Relational Checks. This is the highest quality data in the data set.
2	Passes Range Checks	This data passes the Range Checks but is uncorroborated by Relational Checks with other values.
1	Data Exists	This data does not pass Range Checks. This data is found to be suspect based on the facility and/or CHP equipment sizing.
0	Data Does Not Exist	This data is a placeholder for maintaining a contiguous database only.

Details on the Range and Relational Checks are found below.

Relational Checks

These checks are applied to the interval data before it is converted to hourly data. If any of the interval data points fails the relational check, the data for the entire hour is marked as failed.

Table 2. Relational Checks

Evaluated Point	Criteria	Result
None		

Notes: FG – DG/CHP Generator Gas Use
WG – DG/CHP Generator Output

Range Checks

These checks are applied to the 15-minute data before it is converted to hourly data. If any of the 15-minute data points fails the range check, the data for the entire hour is marked as failed.

Table 3. Range Checks

Data Point	Hourly Data Method	Upper Range Check	Lower Range Check
DG/CHP Generator Output	Sum	80 kWh	0 kWh
DG/CHP Generator Output Demand	Maximum	400 kW	0 kW
Ambient Temperature	Average	130°F	-30°F

Notes: Data failing the Range Check has the data quality level set to 1 for "Data Exists"

Site Notes:

3/27/2013: Data has been received and is being submitted to the NYSERDA CHP website.