AUTODESK® GREEN BUILDING STUDIO

Regression Test Validation of Autodesk Green Building Studio

Regression Test Validation Results: August 18, 2013 *Version 2014.0.30.7961 (DOE-2.2-44e4)*

Results Summary

	number of test cases	successful simulation	Check for errors	energy results differences	Pre Surface Count	Post Surface Count	Pre Surface Area	Post Surface Area	Pre Opening Count	Post Opening Count	Pre Opening Area	Post Opening Area
				percent change								
Test Suite A	464	PASS	N/A	expected & PASS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Test Suite B	201	PASS	PASS	expected & PASS	0%	0%	0%	0%	0%	0%	0%	0%

The following differences are all due to a bug fix and an improvement. The bug fix addressed the method used for floor and ceiling area calculations used for for generating the DOE-2 .inp file for simulation. The improvement revised the assignment of schedules for infiltration rates.
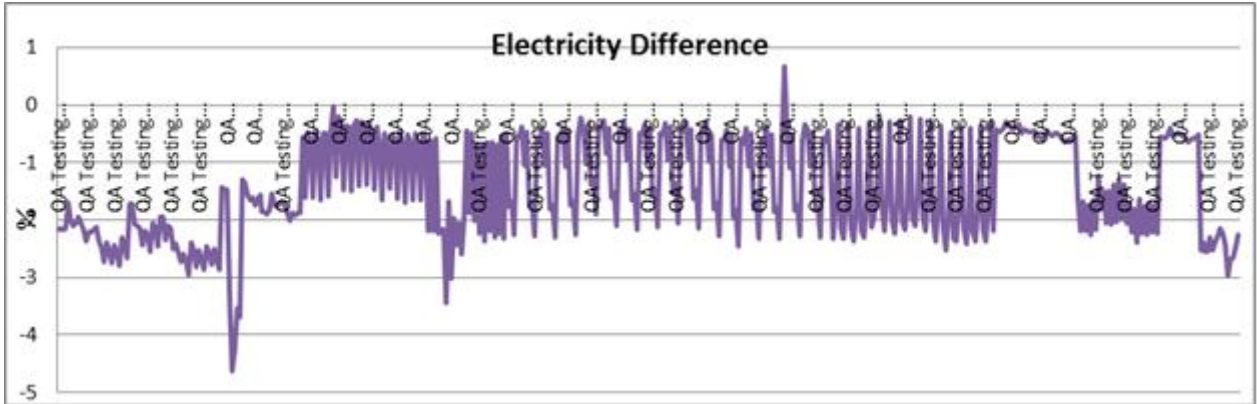
- Domestic Hot Water process flow
- Outside ventilation flow rates
- Plug loads
- Lighting loads
- Occupancy density
- Loads due to Infiltration

Cases where the DOE-2 daylighting keyword is not written to the DOE-2 file is acceptable for this release, as it has no impact on energy results. Currently daylighting energy savings are calculated using the California Energy Commission method of applying an adjustment to the lighting power density, rather than simulating the daylighting in DOE-2.
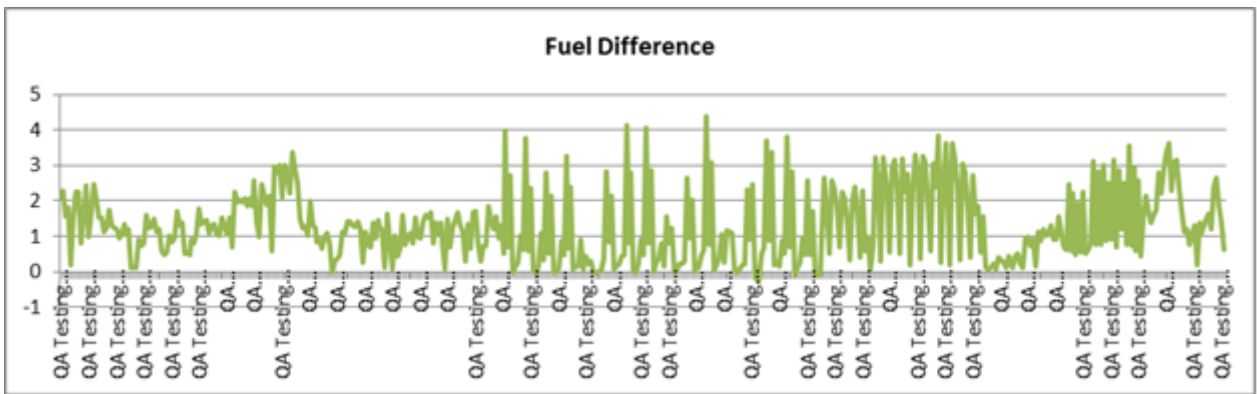
Electricity usage decreased for all runs except one. The average decrease is -1.44%, maximum decrease is -4.619%, one run increased by0.66%.

Fuel usage increased for most runs. Average increase is 1.29%, maximum increase is 4.398%

Electricity usage change:

Fuel usage change:

Difference between DOE-2 files, Infiltration schedule.

Difference between DOE-2 files, Lighting power density and daylighting

Difference between DOE-2 files, Lighting and equipment power density, and number of people

Number of surfaces, area of surfaces, number of openings, area of openings, pre- and post- gbXML processing.