

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.

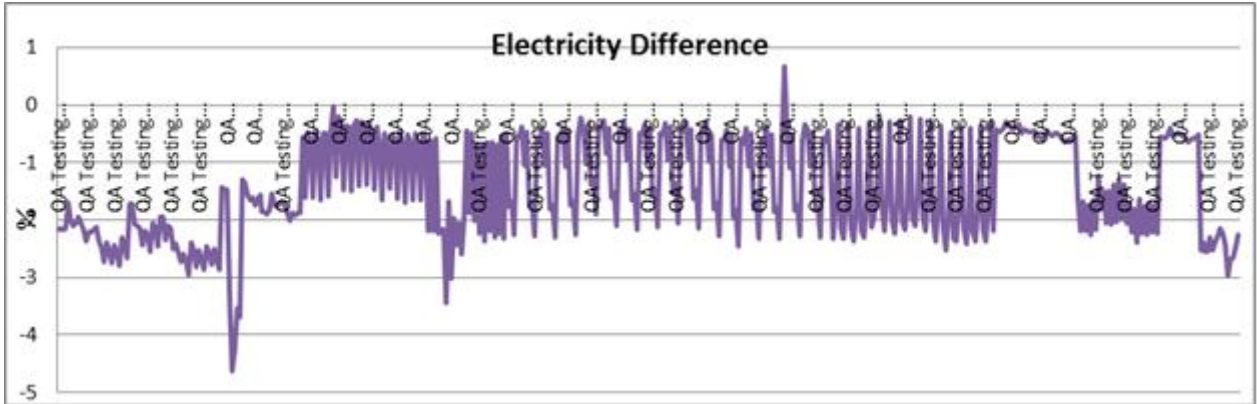
- Domestic Hot Water process flow
- Outside ventilation flow rates
- Plug loads
- Lighting loads
- Occupancy density
- Loads due to Infiltration

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.

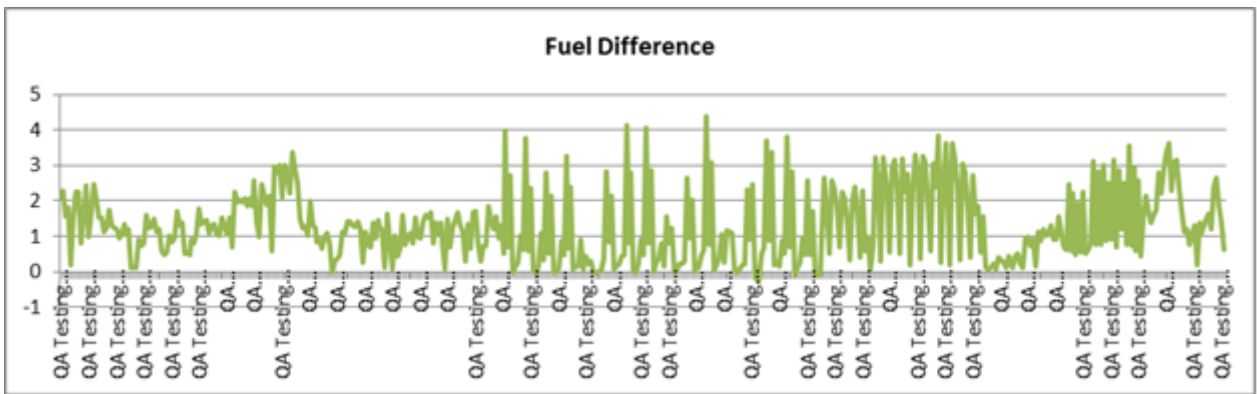
Electricity usage decreased for all runs except one. The average decrease is -1.44%, maximum decrease is -4.619%, one run increased by 0.66%.

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.

Line #	Left File (New results)	Right File (Last baseline)
583	# Infiltration =	# Infiltration =
584	"da-241-FanINF" = DAY-SCHEDULE	"da-241-FanINF" = DAY-SCHEDULE
585	TYPE = FRACTION	TYPE = FRACTION
586	HOURS = (1, 24)	HOURS = (1, 24)
587	VALUES = (1,	VALUES = (1,
588	1,	1,
589	1,	1,
590	1,	1,
591	1,	1,
592	1,	1,
593	1,	1,
594	0.25,	0,
595	0.25,	0,
596	0.25,	0,
597	0.25,	0,
598	0.25,	0,
599	0.25,	0,
600	0.25,	0,
601	0.25,	0,
602	0.25,	0,
603	0.25,	0,
604	0.25,	0,
605	0.25,	0,
606	0.25,	0,
607	0.25,	0,
608	0.25,	0,
609	1,	1,
610	1)	1)
611

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

Line	Parameter	Value	Label
6817	VOLUME	= 23944.0	
6818	LTG-SPEC-METHOD	= POWER-DEFINITION	
6820	LIGHTING-W/AREA	= (1.199)	
6821	EQUIPMENT-W/AREA	= (1.2196)	
6822	NUMBER-OF-PEOPLE	= 25.5	
6823	PEOPLE-HG-SENS	= 250.0	
6824	PEOPLE-HG-LAT	= 200.0	
6825	AZIMUTH	= 0.0	
6826	X	= 0.0	
6827	Y	= 0.0	
6828	Z	= 0.0	
6829			New Results
6830	SHAPE	= POLYGON	
6831			
6832	POLYGON	= "sp-7-SpaceGEM"	
6833			
6834	C-SUB-AREA	= 2660.444	
6835	C-OCC-TYPE	= 10	
6836			
6837			
6838	ZONE-TYPE	= CONDITIONED	
6839	LIGHTING-SCHEDULE	= "LightSched-35"	
6840	PEOPLE-SCHEDULE	= "peopleSched-34"	
6841	DAYLIGHTING	= NO	
6842			
6843	MIN-POWER-FRAC	= 0.300000	
6844	MIN-LIGHT-FRAC	= 0.100000	
6845	LIGHT-SET-POINT1	= 30.000000	
6846	ZONE-FRACTION1	= 0.295000	
6847	LIGHT-REF-POINT1	= (48.24852700,	
6848			50.07490000,
6849			9.50000000)
6850			
6851	LIGHT-SET-POINT2	= 30.000000	
6852	ZONE-FRACTION2	= 0.095000	
6853	LIGHT-REF-POINT2	= (2.71705400,	
6854			51.29447900,
6855			9.50000000)
6856			****

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

Line	Parameter	Value	Label
4041	VOLUME	= 963181.998	
4042	LTG-SPEC-METHOD	= POWER-DEFINITION	
4043	LIGHTING-W/AREA	= (1.6)	
4044	EQUIPMENT-W/AREA	= (0.5414)	
4045	NUMBER-OF-PEOPLE	= 7042.1	
4046	PEOPLE-HG-SENS	= 250.0	
4047	PEOPLE-HG-LAT	= 200.0	
4048	AZIMUTH	= 0.0	
4049	X	= 0.0	
4050	Y	= 0.0	
4051	Z	= 0.0	
4052			New results
4041	VOLUME	= 963181.998	
4042	LTG-SPEC-METHOD	= POWER-DEFINITION	
4043	LIGHTING-W/AREA	= (1.604)	
4044	EQUIPMENT-W/AREA	= (0.5414)	
4045	NUMBER-OF-PEOPLE	= 7042.2	
4046	PEOPLE-HG-SENS	= 250.0	
4047	PEOPLE-HG-LAT	= 200.0	
4048	AZIMUTH	= 0.0	
4049	X	= 0.0	
4050	Y	= 0.0	
4051	Z	= 0.0	
4052			Last baseline

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

