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# Integrated Standards Savings Model (ISSM): Versions and Errata

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## Errata

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Since the publication of the CS Evaluation Report, two errors affecting evaluated gas savings have been identified. These errors, and their effect on evaluated savings, are outlined below.

These errors were identified by the Statewide C&S Program Team during their review of the final report and ISSM.

### Standard B27, DDC to Zone

Table 44 in the evaluation report contains an incorrect value for annual gas savings.

Table 153 and Table 156 in Appendix G.11 showed the correct values for all five elements of this standard.

An error in the spreadsheet used to generate inputs for ISSM was discovered, resulting in an incorrect per-unit gas savings value being used to populate Table 44 in the Evaluation Report. The Evaluated savings of 0.4 Mtherms reported in this table is inconsistent with the correct value of 3.99 Mtherms, as shown in Appendix G.11. The impact of this error on the full year annual savings from Standard B27 is shown in the tables below.

With the error:

Reference	2008 T-24	Total Savings			Unit Savings Overall		
		Total (GWh)	Annual Demand Savings (MW)	Annual Gas Savings (Mtherms)	Energy Savings Per Unit (kWh)	Demand Savings Per Unit (kW)	Gas Savings Per Unit (therms)
Std B27	DDC to Zone	30.76	13.07	0.3901	0.5	0.00020	0.00602

Corrected:

Reference	2008 T-24	Total Savings			Unit Savings Overall		
		Total (GWh)	Annual Demand Savings (MW)	Annual Gas Savings (Mtherms)	Energy Savings Per Unit (kWh)	Demand Savings Per Unit (kW)	Gas Savings Per Unit (therms)
Std B27	DDC to Zone	30.76	13.07	3.99	0.5	0.00020	0.06149

## Interactive Effects

Table 21 in the evaluation report included an incorrect value for the average Interactive Effect for Non-CFL lighting in Existing Commercial Buildings.

This incorrect value for the gas interactive effect was used for five standards (12a, 12b, 22b, 23, and B10) in the ISSM version 7 used to produce the Evaluation Report.

Standard		Value used in Reported Savings (therms/kWh)	Corrected Value (therms/kWh)
Std12a	PSMH HID Luminaires, Tier 1	-0.0207	-0.0041
Std12b	PSMH HID Luminaires, Tier 2	-0.0207	-0.0041
Std22b	BR, ER and R20 IRLs: Commercial	-0.0207	-0.0041
Std23	Metal Halide Fixtures	-0.0207	-0.0041
Std B10	Bi-level lighting control credits	-0.0207	-0.0041

As a result of this error, the reported *statewide* annual net gas savings are 1.86 Mtherms lower than they should have been:

- 74% of delta is due to standards 12a/b
- For the IOUs, only the gas savings for PG&E and SDG&E are affected (since SCG doesn't include interactive effects and electric savings are not affected).

Note that the impact for PG&E and SDG&E is 0.76 MTherms or ~41% of the statewide total.

Annual Mtherms, Statewide							
With incorrect interactive effect values for 12a, 12b, 22b, 23, and B10							
Year	Potential Savings	Gross Savings	Net NOMAD Adjustment	Net Savings	Attribution Adjustment	Program Net Savings	
2010	(5.50)	(5.41)	3.36	(2.05)	1.60	(0.45)	
2011	(10.46)	(11.78)	6.77	(5.01)	4.20	(0.81)	
2012	(9.14)	(11.16)	7.68	(3.48)	3.79	0.32	
With correct interactive effect values for 12a, 12b, 22b, 23, and B10							
2010	(1.99)	(1.94)	2.42	0.48	0.94	1.42	1.87
2011	(6.94)	(8.31)	5.60	(2.72)	3.60	0.88	1.69
2012	(5.65)	(7.72)	6.30	(1.42)	3.25	1.83	1.51

The overall impact for the Program Years 2010-2012 of the corrections for the two errors described above is shown in the tables below.

### Tables in Evaluation Report:

**Table ES-4. Evaluated vs. IOU Estimate:  
IOU Share of 2010-2012 PY Statewide Total Savings (Mtherms)**

Mtherms IOU	Percent of Statewide Sales	IOU Estimated Savings				Evaluated Savings			
		Potential	Gross	Net	Net Program	Potential	Gross	Net	Net Program
PG&E	36.5%	(2.52)	(0.31)	2.06	1.77	(9.15)	(10.34)	(3.84)	(0.34)
SCG	58.4%	(4.03)	(0.49)	3.30	2.83	(14.66)	(16.56)	(6.16)	(0.55)
SDG&E	4.1%	(0.29)	(0.03)	0.23	0.20	(1.04)	(1.18)	(0.44)	(0.04)
<b>All IOUs</b>	<b>99.0%</b>	<b>(6.84)</b>	<b>(0.83)</b>	<b>5.59</b>	<b>4.81</b>	<b>(24.85)</b>	<b>(28.07)</b>	<b>(10.44)</b>	<b>(0.93)</b>

**Table ES-5. Evaluated vs. IOU Estimate (Excluding Interactive Effects):  
2010-2012 PY Statewide Total Savings for Title 20, Federal, and Title 24 (Mtherms)**

Mtherms IOU	Percent of Statewide Sales	IOU Estimated Savings				Evaluated Savings			
		Potential	Gross	Net	Net Program	Potential	Gross	Net	Net Program
PG&E	36.5%	24.02	21.23	17.03	12.22	14.19	13.23	10.06	7.52
SCG	58.4%	38.46	34.00	27.27	19.56	22.72	21.19	16.11	12.04
SDG&E	4.1%	2.73	2.41	1.94	1.39	1.61	1.50	1.14	0.85
<b>All IOUs</b>	<b>99.0%</b>	<b>65.20</b>	<b>57.64</b>	<b>46.23</b>	<b>33.17</b>	<b>38.53</b>	<b>35.92</b>	<b>27.32</b>	<b>20.41</b>
<b>Evaluated / IOU Estimated</b>						<b>59%</b>	<b>62%</b>	<b>59%</b>	<b>62%</b>

### Corrected tables:

**Table ES-4. Evaluated vs. IOU Estimate:  
IOU Share of 2010-2012 PY Statewide Total Savings (Mtherms)**

Mtherms IOU	Percent of Statewide Sales	IOU Estimated Savings				Evaluated Savings			
		Potential	Gross	Net	Net Program	Potential	Gross	Net	Net Program
PG&E	36.5%	(2.52)	(0.31)	2.06	1.77	(2.36)	(2.39)	1.97	3.90
SCG	58.4%	(4.03)	(0.49)	3.30	2.83	(3.79)	(3.83)	3.15	6.25
SDG&E	4.1%	(0.29)	(0.03)	0.23	0.20	(0.27)	(0.27)	0.22	0.44
<b>All IOUs</b>	<b>99.0%</b>	<b>(6.84)</b>	<b>(0.83)</b>	<b>5.59</b>	<b>4.81</b>	<b>(6.42)</b>	<b>(6.50)</b>	<b>5.34</b>	<b>10.59</b>

**Table ES-5. Evaluated vs. IOU Estimate (Excluding Interactive Effects):  
2010-2012 PY Statewide Total Savings for Title 20, Federal, and Title 24 (Mtherms)**

Mtherms IOU	Percent of Statewide Sales	IOU Estimated Savings				Evaluated Savings			
		Potential	Gross	Net	Net Program	Potential	Gross	Net	Net Program
PG&E	36.5%	24.02	21.23	17.03	12.22	17.14	17.39	13.37	9.91
SCG	58.4%	38.46	34.00	27.27	19.56	27.45	27.86	21.40	15.87
SDG&E	4.1%	2.73	2.41	1.94	1.39	1.95	1.98	1.52	1.13
<b>All IOUs</b>	<b>99.0%</b>	<b>65.20</b>	<b>57.64</b>	<b>46.23</b>	<b>33.17</b>	<b>46.55</b>	<b>47.23</b>	<b>36.29</b>	<b>26.91</b>
<b>Evaluated / IOU Estimated</b>						<b>71%</b>	<b>82%</b>	<b>78%</b>	<b>81%</b>

## **Updated ISSM Version**

An updated version of ISSM, incorporating these corrections, has been provided to the IOUs and to Navigant.

### **Version of ISSM used to populate the Evaluation Report:**

CadmusISSM\_Evaluation\_v7a\_Published

### **Corrected version of ISSM:**

CadmusISSM\_Evaluation\_v7a\_Published\_Rev2