

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST SUMMARY			Year 2011														
Measure Number	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
100	Base, 13 SEER Split-System Air Conditioner	Single Family	4,174.77	3,164.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####
120	Self Install Weatherization	Single Family	4,122.60	3,125.29	52.16	52.16	1%	39.54	39.54	1%	0.01	0.01	17	17	15.90		
107	Proper Refrigerant Charging and Air Flow	Single Family	3,759.47	2,850.01	363.13	415.29	10%	275.28	314.83	10%	0.05	0.04	61	55	4.39		
121	Infiltration Reduction	Single Family	3,199.55	2,425.54	559.92	975.21	23%	424.47	739.30	23%	0.06	0.05	84	72	3.19		
106	Attic Venting	Single Family	3,171.76	2,404.47	27.79	1,003.00	24%	21.07	760.36	24%	0.08	0.06	103	73	2.61		
105	Whole House Fans	Single Family	3,043.21	2,307.02	128.55	1,131.55	27%	97.45	857.82	27%	0.11	0.06	145	81	1.85		
108	Duct Repair	Single Family	2,818.28	2,136.51	224.93	1,356.48	32%	170.52	1028.33	32%	0.13	0.07	171	96	1.57		
103	Programmable Thermostat	Single Family	2,797.83	2,122.59	20.46	1,376.94	33%	13.91	1042.25	33%	0.13	0.07	194	97	1.42		
101	15 SEER Split-System Air Conditioner	Single Family	2,445.41	1,855.43	352.41	1,729.35	41%	267.16	1309.41	41%	0.16	0.09	210	120	1.27		
109	Duct Insulation	Single Family	2,395.80	1,817.82	49.61	1,778.96	43%	37.61	1347.02	43%	0.24	0.10	320	126	0.84		
102	17 SEER Split-System Air Conditioner	Single Family	2,153.63	1,634.23	242.17	2,021.14	48%	183.59	1530.61	48%	0.34	0.12	451	165	0.59		
114	Ceiling R-0 to R-38 Insulation	Single Family	2,145.14	1,627.80	8.49	2,029.62	49%	6.43	1537.04	49%	0.28	0.10	374	136	0.58		
116	Ceiling R-0 to R-49 Insulation	Single Family	2,136.05	1,620.90	9.09	2,038.72	49%	6.89	1543.93	49%	0.31	0.10	414	137	0.53		
104	Ceiling Fans	Single Family	2,097.46	1,591.65	38.59	2,077.30	50%	29.25	1573.18	50%	0.48	0.13	640	176	0.42		
110	AC maintenance and repair	Single Family	2,045.52	1,552.28	51.94	2,129.24	51%	39.37	1612.56	51%	0.51	0.14	679	189	0.39		
111	Single Pane Windows to Double Pane with Gas	Single Family	1,916.70	1,454.62	128.82	2,258.06	54%	97.66	1710.21	54%	0.13	0.13	176	173	1.40		
112	Double Pane with Glazing to Energy Star	Single Family	1,858.70	1,410.65	58.01	2,316.07	55%	43.98	1754.19	55%	0.43	0.14	565	183	0.43		
119	Wall 2x4 R-0 to Blow-In R-13 Insulation	Single Family	1,851.20	1,404.96	7.50	2,323.57	56%	5.69	1759.88	56%	0.91	0.14	1,204	186	0.20		
115	Ceiling R-11 to R-38 Insulation	Single Family	1,839.31	1,401.21	11.89	2,335.46	56%	3.75	1763.62	56%	0.97	0.13	3,074	172	0.17		
115	Ceiling R-11 to R-38 Insulation	Single Family	1,827.50	1,397.49	11.81	2,347.27	56%	3.72	1767.35	56%	0.98	0.13	3,094	178	0.17		
113	Unvented Attic w/Sprayed Foam Insulated Roof Deck	Single Family	1,812.90	1,386.42	14.60	2,361.87	57%	11.07	1778.42	56%	1.58	0.14	2,082	190	0.10		
117	Ceiling R-19 to R-49 Insulation	Single Family	1,803.84	1,379.55	9.06	2,370.92	57%	6.87	1785.28	56%	1.72	0.15	2,268	198	0.10		
118	Ceiling R-30 to R-49 Insulation	Single Family	1,796.37	1,373.89	7.48	2,378.40	57%	5.67	1790.95	57%	2.01	0.15	2,650	206	0.08		
130	Early Replacement 10 SEER Split-System Air Conditioner	Single Family	953.57	722.89	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	953.57	722.89
131	15 SEER Split-System AC Early Replacement	Single Family	760.02	576.16	193.55	193.55	20%	146.73	146.73	20%	0.06	0.06	80	80	3.36		
140	Base Room Air Conditioner - EER 9.7	Single Family	182.83	138.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	182.83	138.60
154	Self Install Weatherization	Single Family	180.55	136.87	2.28	2.28	1%	1.73	1.73	1%	0.02	0.02	26	26	10.10		
156	Ductless Split Heat Pump	Single Family	178.36	135.21	2.19	4.48	2%	1.66	3.39	2%	0.04	0.03	469	37	5.50		
142	Base Room Air Conditioner - CEE Tier 1 EER 11	Single Family	153.32	116.23	25.04	29.51	16%	18.98	22.37	16%	0.04	0.04	51	49	5.20		
144	Whole House Fans	Single Family	146.76	111.25	6.56	36.08	20%	4.97	27.35	20%	0.10	0.05	137	65	1.94		
145	Single Pane Windows to Double Pane with Gas	Single Family	137.51	104.25	9.24	45.32	25%	7.01	34.36	25%	0.13	0.06	169	82	1.45		
147	Ceiling R-0 to R-38 Insulation	Single Family	136.97	103.84	0.54	45.86	25%	0.41	34.77	25%	0.34	0.07	454	87	0.54		
155	Infiltration Reduction	Single Family	130.72	99.09	6.26	52.12	29%	4.74	39.51	29%	0.39	0.11	518	145	0.52		
150	Ceiling R-0 to R-49 Insulation	Single Family	130.16	98.67	0.55	52.67	29%	0.42	39.93	29%	0.40	0.10	527	137	0.47		
146	Double Pane with Glazing to Energy Star	Single Family	126.22	95.69	3.94	56.61	31%	2.99	42.92	31%	0.44	0.13	574	168	0.43		
143	Ceiling Fans	Single Family	123.94	93.96	2.28	58.89	32%	1.73	44.64	32%	0.57	0.16	747	205	0.36		
153	Wall 2x4 R-0 to Blow-In R-13 Insulation	Single Family	123.44	93.58	0.50	59.39	32%	0.38	45.02	32%	0.94	0.15	1,245	197	0.20		
148	Ceiling R-11 to R-38 Insulation	Single Family	122.65	92.98	0.79	60.18	33%	0.60	45.62	33%	1.13	0.16	1,486	214	0.17		
151	Ceiling R-19 to R-49 Insulation	Single Family	122.04	92.52	0.61	60.80	33%	0.46	46.09	33%	1.97	0.18	2,597	238	0.09		
152	Ceiling R-30 to R-49 Insulation	Single Family	121.53	92.13	0.51	61.30	34%	0.38	46.47	34%	2.30	0.20	3,033	261	0.08		
149	Ceiling R-19 to R-38 Insulation	Single Family	120.88	91.64	0.65	61.96	34%	0.50	46.97	34%	2.40	0.22	3,163	291	0.08		
160	Early Replacement Room Air Conditioner- EER 10	Single Family	34.76	26.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	34.76	26.35
161	8.5 AC Early Replacement, CEE Tier 1 EER	Single Family	28.44	21.56	6.33	6.33	18%	4.80	4.80	18%	0.04	0.04	46	46	5.76		
170	Base Dehumidifier (EF =1.20)	Single Family	512.99	388.89	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	512.99	388.89
171	Energy Star Dehumidifier (ROB)	Single Family	436.16	330.65	76.82	76.82	15%	58.24	58.24	15%	0.01	0.01	7	7	36.11		
180	Base Furnace Fans	Single Family	1,717.86	438.96	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	438.96
181	Variable speed furnace fans (RET)	Single Family	1,065.10	309.32	652.75	652.75	38%	129.65	129.65	30%	0.05	0.05	227	227	2.11		
200	Base Resistance Space Heating	Single Family	1,148.49	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	0.00
216	Self Install Weatherization	Single Family	1,134.14	0.00	14.35	14.35	1%	0.00	0.00	0%	0.00	0.00	N/A	N/A	24.34		
214	Programmable Thermostat	Single Family	1,104.42	0.00	29.71	44.06	4%	0.00	0.00	0%	0.01	0.01	N/A	N/A	4.98		
213	Basement Insulation	Single Family	1,007.59	0.00	96.84	140.90	12%	0.00	0.00	0%	0.01	0.01	N/A	N/A	3.82		
215	Infiltration Reduction	Single Family	961.57	0.00	46.02	186.92	16%	0.00	0.00	0%	0.04	0.02	N/A	N/A	1.46		
205	Ceiling R-0 to R-38 Insulation	Single Family	958.01	0.00	3.56	190.48	17%	0.00	0.00	0%	0.04	0.02	N/A	N/A	1.36		
208	Ceiling R-0 to R-49 Insulation	Single Family	954.34	0.00	3.67	194.15	17%	0.00	0.00	0%	0.05	0.02	N/A	N/A	1.18		
217	Ductless Split Heat Pump	Single Family	953.22	0.00	1.12	195.27	17%	0.00	0.00	0%	0.07	0.02	N/A	N/A	0.88		
201	Single Pane Windows to Double Pane with Gas	Single Family	817.48	0.00	135.74	331.01	29%	0.00	0.00	0%	0.01	0.01	N/A	N/A	9.77		
202	Double Pane with Glazing to Energy Star	Single Family	792.74	0.00	24.74	355.75	31%	0.00	0.00	0%	0.07	0.02	N/A	N/A	0.77		
211	Wall Blow-in R-0 to R-13 Insulation	Single Family	786.76	0.00	5.97	361.73	31%	0.00	0.00	0%	0.10	0.02	N/A	N/A	0.59		

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DSM ASSYST SUMMARY			Year 2011														
Measure		Building	Total	Total	GWH	Total	Percent	MW	Total	Percent	Marginal	Average	Marginal	Average	Total		
Number	Measure	Type	GWH	MW	Savings	Energy Savings GWH	GWH Savings	Savings	Capacity Savings MW	MW Savings	Energy Cost \$/kWH	Energy Cost \$/kWH	Capacity Cost \$/kW	Capacity Cost \$/kW	Resource Cost Test TRC	Base GWH	Base MW
206	Ceiling R-11 to R-38 Insulation	Single Family	782.14	0.00	4.62	366.35	32%	0.00	0.00	0%	0.15	0.02	N/A	N/A	0.37		
212	Floor R-0 to R-19 Insulation	Single Family	765.93	0.00	16.22	382.56	33%	0.00	0.00	0%	0.17	0.03	N/A	N/A	0.36		
207	Ceiling R-19 to R-38 Insulation	Single Family	761.78	0.00	4.15	386.71	34%	0.00	0.00	0%	0.29	0.03	N/A	N/A	0.19		
209	Ceiling R-19 to R-49 Insulation	Single Family	758.69	0.00	3.09	389.80	34%	0.00	0.00	0%	0.30	0.03	N/A	N/A	0.18		
204	Double Pane- Add storm windows	Single Family	710.54	0.00	48.15	437.95	38%	0.00	0.00	0%	0.44	0.08	N/A	N/A	0.12		
210	Ceiling R-30 to R-49 Insulation	Single Family	709.10	0.00	1.45	439.39	38%	0.00	0.00	0%	0.61	0.08	N/A	N/A	0.09		
203	Single Pane- Add storm windows	Single Family	697.98	0.00	11.12	450.51	39%	0.00	0.00	0%	1.23	0.11	N/A	N/A	0.04		
220	Base Electric Furnace	Single Family	3,513.84	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	0.00
236	Self Install Weatherization	Single Family	3,469.94	0.00	43.91	43.91	1%	0.00	0.00	0%	0.00	0.00	N/A	N/A	19.23		
234	Programmable Thermostat	Single Family	3,379.03	0.00	90.91	134.82	4%	0.00	0.00	0%	0.01	0.01	N/A	N/A	3.93		
233	Basement Insulation	Single Family	3,082.75	0.00	296.27	431.09	12%	0.00	0.00	0%	0.02	0.01	N/A	N/A	3.02		
228	Ceiling R-0 to R-49 Insulation	Single Family	3,064.52	0.00	18.24	449.33	13%	0.00	0.00	0%	0.06	0.02	N/A	N/A	0.92		
225	Ceiling R-0 to R-38 Insulation	Single Family	3,046.92	0.00	17.59	466.92	13%	0.00	0.00	0%	0.06	0.02	N/A	N/A	0.88		
221	ingle Pane Windows to Double Pane with Gas Infiltration Reduction	Single Family	2,613.04	0.00	433.89	900.80	26%	0.00	0.00	0%	0.01	0.01	N/A	N/A	8.06		
235	Double Pane with Glazing to Energy Star	Single Family	2,493.68	0.00	119.36	1,020.16	29%	0.00	0.00	0%	0.08	0.02	N/A	N/A	0.71		
222	Ductless Split Heat Pump	Single Family	2,418.21	0.00	75.47	1,095.63	31%	0.00	0.00	0%	0.09	0.03	N/A	N/A	0.60		
237	Wall Blow-in R-0 to R-13 Insulation	Single Family	2,344.53	0.00	73.69	1,169.32	33%	0.00	0.00	0%	0.10	0.03	N/A	N/A	0.58		
231	Floor R-0 to R-19 Insulation	Single Family	2,326.86	0.00	17.67	1,186.98	34%	0.00	0.00	0%	0.13	0.03	N/A	N/A	0.45		
232	Ceiling R-19 to R-49 Insulation	Single Family	2,278.62	0.00	48.24	1,235.23	35%	0.00	0.00	0%	0.26	0.04	N/A	N/A	0.22		
229	Ceiling R-11 to R-38 Insulation	Single Family	2,269.69	0.00	8.92	1,244.15	35%	0.00	0.00	0%	0.33	0.04	N/A	N/A	0.16		
226	Ceiling R-30 to R-49 Insulation	Single Family	2,256.46	0.00	13.23	1,257.38	36%	0.00	0.00	0%	0.37	0.04	N/A	N/A	0.15		
230	Double Pane- Add storm windows	Single Family	2,253.55	0.00	2.91	1,260.29	36%	0.00	0.00	0%	0.40	0.05	N/A	N/A	0.14		
224	Ceiling R-19 to R-38 Insulation	Single Family	2,110.54	0.00	143.01	1,403.30	40%	0.00	0.00	0%	0.58	0.10	N/A	N/A	0.09		
227	Single Pane- Add storm windows	Single Family	2,103.84	0.00	6.70	1,410.00	40%	0.00	0.00	0%	0.63	0.10	N/A	N/A	0.09		
223	ase Lighting 60-Watt incandescent, 1.8 hr/hr/day	Single Family	2,070.84	0.00	33.00	1,443.00	41%	0.00	0.00	0%	1.60	0.14	N/A	N/A	0.03		
250	CFL (15-Watt integral ballast), 1.8 hr/day	Single Family	2,728.78	152.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	152.60
251	LEDs w/ Incandescent Baseline	Single Family	886.85	49.59	1,841.92	1,841.92	67%	103.00	103.00	68%	0.01	0.01	91	91	14.98		
252	Base Lighting 15 Watt CFL, 1.8 hours per day	Single Family	356.88	19.96	529.97	2,371.89	87%	29.64	132.64	87%	0.17	0.04	3,044	736	0.35		
255	LEDs w/ CFL Baseline	Single Family	306.49	17.14	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	306.49	17.14
256	Base Lighting Fluorescent Tube, 1.8 hrs/day	Single Family	123.34	6.90	183.16	183.16	60%	10.24	10.24	60%	0.18	0.18	3,140	3,140	0.34		
260	ROB 2L4T8, 1EB	Single Family	147.43	8.24	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	147.43	8.24
262	RET 2L4T8, 1EB	Single Family	112.45	6.29	34.98	34.98	24%	1.96	1.96	24%	0.14	0.14	2,526	2,526	0.42		
261	Base Lighting Halogen and HID, 1.8 hrs/day	Single Family	85.77	4.80	26.68	61.67	42%	1.49	3.45	42%	1.39	0.68	24,837	12,180	0.04		
265	LEDs w/ Halogen Baseline	Single Family	207.88	11.63	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	207.88	11.63
266	Base Refrigerator	Single Family	16.63	0.93	191.25	191.25	92%	10.70	10.70	92%	0.06	0.06	1,010	1,010	1.25		
300	HE Refrigerator - Energy Star	Single Family	1,090.56	89.44	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	89.44
301	Base Early Replacement Refrigerator	Single Family	950.38	77.94	140.18	140.18	13%	11.50	11.50	13%	0.08	0.08	955	955	1.01		
302	igerator - Early Replacement to 2008 Energy	Single Family	891.53	73.12	58.84	199.02	18%	4.83	16.32	18%	0.71	0.26	8,650	3,230	0.11		
310	Base Second Refrigerator	Single Family	192.45	15.78	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	192.45	15.78
311	Second Refrigerator Recycling	Single Family	139.28	11.42	53.17	53.17	28%	4.36	4.36	28%	0.33	0.33	4,072	4,072	0.24		
340	Base Freezer	Single Family	462.11	37.90	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	462.11	37.90
341	Energy Star Freezer	Single Family	46.63	3.82	415.48	415.48	90%	34.07	34.07	90%	0.00	0.00	37	37	26.42		
400	Base Early Replacement Freezer to 2008 Energy Star	Single Family	450.30	37.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	450.30	37.56
401	Base 40 gal. Water Heating (EF=0.88)	Single Family	397.52	33.16	52.78	52.78	12%	4.40	4.40	12%	0.09	0.09	1,067	1,067	0.89		
410	Pipe Wrap	Single Family	79.47	6.63	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	79.47	6.63
411	Low Flow Showerhead	Single Family	67.39	5.62	12.07	12.07	15%	1.01	1.01	15%	0.11	0.11	1,372	1,372	0.69		
500	HE Water Heater (EF=0.93)	Single Family	1,985.26	121.90	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	121.90
504	Faucet Aerators	Single Family	1,965.30	120.67	19.96	19.96	1%	1.23	1.23	1%	0.00	0.00	38	38	32.61		
503	Heat Pump Water Heater (EF=2.5)	Single Family	1,904.61	116.94	60.69	80.65	4%	3.73	4.95	4%	0.04	0.03	650	498	1.89		
502	2011 Energy Star Clotheswasher (MEF 2.00)	Single Family	1,813.51	111.35	91.10	171.75	9%	5.59	10.55	9%	0.05	0.04	747	630	1.64		
505	Solar Water Heater	Single Family	1,780.47	109.32	33.04	204.79	10%	2.03	12.57	10%	0.05	0.04	861	667	1.42		
501	Energy Star Dishwasher (EF=0.68)	Single Family	1,502.02	92.23	278.45	483.24	24%	17.10	29.67	24%	0.07	0.06	1,140	940	1.07		
506	CEE Tier 2 DW (EF=0.72)	Single Family	1,463.27	89.00	38.75	521.99	26%	3.23	32.90	27%	0.21	0.07	2,548	1,097	0.39		
510	CEE Tier 3 CW (MEF=2.20)	Single Family	735.31	48.29	727.96	1,249.95	63%	40.71	73.61	60%	0.23	0.16	4,025	2,717	0.34		
508	Replacement Water Heating to Heat Pump Water Heating	Single Family	725.25	47.39	10.06	1,260.01	63%	0.90	74.50	61%	0.55	0.16	6,132	2,758	0.15		
509		Single Family	712.07	46.22	13.18	1,273.19	64%	1.17	75.68	62%	0.77	0.17	8,685	2,850	0.11		
507		Single Family	689.52	44.34	22.56	1,295.75	65%	1.88	77.56	64%	1.02	0.18	12,216	3,077	0.08		
550		Single Family	104.49	6.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	104.49	6.42

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST SUMMARY			Year		2011													
Measure		Building	Total	Total		Total	Percent		Total	Percent	Marginal	Average	Marginal	Average	Total			
Number	Measure	Type	GWH	MW	Savings	Energy Savings GWH	GWH Savings	MW Savings	Capacity Savings MW	MW Savings	Energy Cost \$/kWH	Energy Cost \$/kWH	Capacity Cost \$/kW	Capacity Cost \$/kW	Resource Cost Test TRC	Base GWH	Base MW	
551	placement Water Heating to Heat Pump Water	Single Family	97.84	6.01	6.64	6.64	6%	0.41	0.41	6%	0.07	0.07	1,164	1,164	1.05			
600	Base Clotheswasher (MEF=1.26)	Single Family	141.22	11.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	141.22	11.76	
601	Energy Star Clotheswasher (MEF 2.00)	Single Family	104.54	8.70	36.68	36.68	26%	3.05	3.05	26%	0.71	0.71	8,495	8,495	0.12			
602	Tier 3 CW (MEF=2.20)	Single Family	71.56	5.96	32.98	69.66	49%	2.75	5.80	49%	1.26	0.97	15,129	11,635	0.07			
700	Base Clothes Dryer (EF=3.01)	Single Family	1,517.49	120.23	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	120.23	
710	High Efficiency CD (EF=3.01 w/moisture sensor)	Single Family	1,382.85	109.56	134.64	134.64	9%	10.67	10.67	9%	0.19	0.19	2,450	2,450	0.43			
711	Heat Pump Dryer	Single Family	654.29	51.84	728.56	863.20	57%	57.72	68.39	57%	0.45	0.41	5,731	5,219	0.18			
800	Base Dishwasher (EF=0.65)	Single Family	222.75	19.86	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	222.75	19.86	
900	Base Single Speed Pool Pump (RET)	Single Family	5.64	0.38	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	5.64	0.38	
901	Variable Speed Pool Pump (1.5 hp)	Single Family	3.14	0.21	2.50	2.50	44%	0.17	0.17	44%	0.08	0.08	1,252	1,252	0.98			
905	Base Two Speed Pool Pump (1.5 hp) (ROB)	Single Family	2.45	0.16	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2.45	0.16	
906	Variable Speed Pool Pump (1.5 hp)	Single Family	2.09	0.14	0.37	0.37	15%	0.02	0.02	15%	0.48	0.48	7,165	7,165	0.17			
910	Base Plasma Screen TV	Single Family	182.87	14.16	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	182.87	14.16	
911	Energy Star Plasma Screen TV	Single Family	113.16	8.76	69.71	69.71	38%	5.40	5.40	38%	0.00	0.00	20	20	51.15			
912	TV Occupancy Sensor Power Strip	Single Family	99.35	7.69	13.81	83.52	46%	1.07	6.47	46%	1.17	0.20	15,158	2,524	0.07			
920	Base LCD Screen TV	Single Family	337.16	26.11	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	337.16	26.11	
921	Energy Star LCD TV	Single Family	282.78	21.90	54.37	54.37	16%	4.21	4.21	16%	0.00	0.00	42	42	24.70			
922	TV Occupancy Sensor Power Strip	Single Family	274.14	21.23	8.64	63.01	19%	0.67	4.88	19%	3.03	0.42	39,151	5,405	0.03			
930	Base Other TV	Single Family	196.91	15.25	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	196.91	15.25	
931	Energy Star LCD TV	Single Family	118.15	9.15	78.76	78.76	40%	6.10	6.10	40%	0.01	0.01	135	135	7.75			

APPENDIX F

RESIDENTIAL NEW CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST SUMMARY			Year 2011														
Measure Number	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
100	Base Code Home - 2011 Energy Star	Single Family	132.9	22.19	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	132.95	22.19
101	2011 ENERGY STAR Home	Single Family	109.1	18.22	23.814	23.814	0.17912	3.974679	3.974679	0.17912	0.046594	0.046594302	279.1664	279.166	2.0674704		
100	Base Code Home - 2011 Energy Star	Multifamily	25.37	4.234	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	25.37	4.23
101	2011 ENERGY STAR Home	Multifamily	20.83	3.476	4.54431	4.54431	0.17912	0.758469	0.758469	0.17912	0.045331	0.04533139	271.5998	271.6	2.1250692		
100	Base Code Home - 2011 Energy Star	IF Low Incom	40.6	6.777	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	40.60	6.78
101	2011 ENERGY STAR Home	IF Low Incom	33.33	5.563	7.27275	7.27275	0.17912	1.213858	1.213858	0.17912	0.049895	0.049895349	298.9444	298.944	1.9306877		
100	Base Code Home - 2011 Energy Star	IF Low Incom	8.52	1.422	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	8.52	1.42
101	2011 ENERGY STAR Home	IF Low Incom	6.994	1.167	1.52608	1.52608	0.17912	0.254711	0.254711	0.17912	0.049692	0.049692309	297.7279	297.728	1.9385764		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011															
Vintage	Batch	Measure	Building Type	Total Energy GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
100		Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	Office	86.11	10.70	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	86.11	10.70
104		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T12	Office	77.57	9.42	8.54	8.54	10%	1.28	1.28	12%	0.03	0.03	201	201	3.11		
107	gh	Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T12	Office	71.75	8.70	5.82	14.36	17%	0.72	2.01	19%	0.03	0.03	229	211	3.14		
106		Lighting Control Tuneup	Office	71.31	8.68	0.44	14.79	17%	0.02	2.02	19%	0.03	0.03	838	216	2.30		
102		RET 2L4' Premium T8, 1EB, Reflector, base 4L4'T12	Office	57.35	6.94	13.97	28.76	33%	1.74	3.76	35%	0.07	0.05	532	362	1.35		
105		Continuous Dimming, 5L4' Fluorescent Fixtures - Base 4L4'T12	Office	50.61	5.46	6.74	35.50	41%	1.48	5.24	49%	0.20	0.08	899	514	0.55		
120		Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	Office	137.95	17.15	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	137.95	17.15
127	gh	Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T12	Office	127.60	15.86	10.35	10.35	8%	1.29	1.29	8%	0.03	0.03	215	215	3.35		
124		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T12	Office	114.97	13.96	12.63	22.97	17%	1.90	3.19	19%	0.04	0.03	248	234	2.53		
126		Lighting Control Tuneup - Base 2L4'T12	Office	114.27	13.94	0.70	23.68	17%	0.02	3.21	19%	0.03	0.03	871	239	2.21		
122		RET 1L4' Premium T8, 1EB, Reflector OEM - Base 2L4'T12	Office	106.81	13.01	7.46	31.14	23%	0.93	4.14	24%	0.13	0.06	1,065	424	0.68		
125		Continuous Dimming, 10L4' Fluorescent Fixtures - Base 2L4'T12	Office	94.26	10.25	12.55	43.68	32%	2.76	6.90	40%	0.18	0.09	804	576	0.61		
130		Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	Office	66.26	8.24	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	66.26	8.24
134		Occupancy Sensor, 4L8' Fluorescent Fixtures - Base 2L8'T12	Office	59.82	7.27	6.45	6.45	10%	0.97	0.97	12%	0.03	0.03	208	208	3.01		
136	gh	Performance Lighting Remod/Renov - 25% Savings - Base 2L8'T12	Office	55.33	6.71	4.49	10.93	17%	0.56	1.53	19%	0.03	0.03	238	219	3.02		
135		Continuous Dimming, 5L8' Fluorescent Fixtures - Base 2L8'T12	Office	48.83	5.28	6.50	17.43	26%	1.43	2.96	36%	0.16	0.08	746	474	0.66		
132		RET 2 - 1L4' Premium T8, 1EB, Reflector OEM - Base 2L8'T12	Office	40.09	4.19	8.74	26.18	40%	1.09	4.05	49%	0.19	0.12	1,533	758	0.47		
140		Base Incandescent Flood, 75W to Screw-in Replacement	Office	874.33	108.69	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	874.33	108.69
141		CFL Screw-in 18W	Office	364.42	45.30	509.91	509.91	58%	63.39	63.39	58%	0.01	0.01	62	62	11.70		
143		Screw-in LED--Base Incandescent	Office	118.44	14.72	245.98	755.90	86%	30.58	93.97	86%	0.06	0.02	444	185	1.59		
142		Cold Cathode Lamps	Office	110.76	13.77	7.67	763.57	87%	0.95	94.92	87%	0.16	0.02	1,258	200	0.57		
145		Base CFL to screw-in replacement	Office	82.93	10.31	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	82.93	10.31
146		Screw-in LED--Base CFL	Office	26.95	3.35	55.98	55.98	68%	6.96	6.96	68%	0.13	0.13	1,022	1,022	0.69		
150		Base Incandescent Flood, 75W to Hardwired CFL	Office	394.92	49.09	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	394.92	49.09
151		CFL Hardwired, Modular 18W	Office	124.80	15.51	270.13	270.13	68%	33.58	33.58	68%	0.02	0.02	141	141	5.10		
153		Hardwired LED fixture--Base Incandescent	Office	36.40	4.52	88.40	358.52	91%	10.99	44.57	91%	0.05	0.03	433	211	1.63		
152		Ceramic Metal Halide	Office	35.38	4.40	1.02	359.54	91%	0.13	44.70	91%	3.63	0.04	29,184	297	0.02		
155		Base CFL to Hardwired replacement	Office	297.57	36.99	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	297.57	36.99
156		Hardwired LED fixture--Base CFL	Office	96.71	12.02	200.86	200.86	68%	24.97	24.97	68%	0.11	0.11	884	884	0.80		
160		Base High Bay Probe-start Metal Halide, 400W	Office	6.75	0.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6.75	0.84
161		High Bay T5 - Base Std MH	Office	4.46	0.55	2.30	2.30	34%	0.29	0.29	34%	0.05	0.05	398	398	1.81		
165	erformance	Lighting Remod/Renov - 25% Savings - Base High Bay	Office	4.12	0.51	0.33	2.63	39%	0.04	0.33	39%	0.05	0.05	434	402	1.66		
164		Occupancy Sensor, High Bay T5 - Base Std MH	Office	4.01	0.51	0.11	2.74	41%	0.00	0.33	39%	0.10	0.05	6,887	434	0.63		
180		Base 4L4'T8, 1EB	Office	116.96	14.54	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	116.96	14.54
181		ROB 4L4' Premium T8, 1EB - Base 4L4'T8	Office	108.80	13.52	8.17	8.17	7%	1.02	1.02	7%	0.02	0.02	200	200	3.60		
182		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T8	Office	95.79	11.91	13.00	21.17	18%	1.62	2.63	18%	0.04	0.04	336	284	2.14		
185	gh	Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T8	Office	88.61	11.02	7.18	28.36	24%	0.89	3.52	24%	0.05	0.04	394	312	1.83		
183		Lighting Control Tuneup - Base 4L4'T8	Office	88.07	11.00	0.54	28.90	25%	0.02	3.54	24%	0.05	0.04	1,438	318	1.34		
184		LED Indoor Lighting - Base 4L4'T8	Office	78.31	9.78	9.76	38.66	33%	1.21	4.76	33%	0.75	0.22	6,005	1,763	0.12		
190		Base 2L4'T8, 1EB	Office	169.19	21.03	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	169.19	21.03
191		ROB 2L4' Premium T8, 1EB - Base 2L4'T8	Office	156.18	19.42	13.00	13.00	8%	1.62	1.62	8%	0.03	0.03	251	251	2.87		
192		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	Office	137.48	17.09	18.70	31.71	19%	2.33	3.94	19%	0.04	0.04	339	303	2.12		
196	gh	Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T8	Office	127.17	15.81	10.31	42.02	25%	1.28	5.22	25%	0.05	0.04	397	326	1.81		
193		Lighting Control Tuneup - Base 2L4'T8	Office	126.39	15.78	0.78	42.80	25%	0.03	5.25	25%	0.05	0.04	1,449	332	1.33		
194		LED Indoor Lighting - Base 2L4'T8	Office	113.69	14.20	12.70	55.50	33%	1.58	6.83	32%	0.84	0.22	6,755	1,812	0.10		
200		Base Exit Sign	Office	7.36	0.92	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	7.36	0.92
201		LED Exit Sign	Office	1.67	0.21	5.69	5.69	77%	0.71	0.71	77%	0.15	0.15	1,185	1,185	0.61		
210		Base Outdoor Mercury Vapor 400W Lamp	Office	378.50	3.47	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	378.50	3.47
214		Outdoor Lighting Controls (Photocell/Timeclock)	Office	322.56	3.47	55.94	55.94	15%	0.00	0.00	0%	0.01	0.01	N/A	N/A	5.38		
211		High Pressure Sodium 250W Lamp	Office	246.22	2.77	76.34	132.29	35%	0.70	0.70	20%	0.04	0.03	4,871	5,700	1.40		
212		LED Outdoor Area Lighting	Office	182.34	2.18	63.88	196.16	52%	0.59	1.28	37%	0.05	0.04	5,834	5,591	1.10		
213		LED Outdoor Bi-level Fixtures	Office	148.83	1.88	33.51	229.67	61%	0.31	1.59	46%	0.42	0.09	45,742	13,335	0.14		
220		Base Street Lighting	Office	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
300		Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Office	499.73	228.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	499.73	228.84
301		Centrifugal Chiller, 0.51 kW/ton, 500 tons	Office	457.07	209.31	42.66	42.66	9%	19.54	19.54	9%	0.20	0.20	438	438	0.74		
306		VSD for Chiller Pumps and Towers	Office	433.88	198.69	23.20	65.86	13%	10.62	30.16	13%	0.05	0.15	112	323	2.92		
311		High Efficiency Chiller Motors	Office	426.07	195.11	7.81	73.67	15%	3.58	33.73	15%	0.06	0.14	121	301	2.69		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011																
Vintage Batch			Building Type	Total		Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings		Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW	
Measure Number	Measure	Total GWH		Total MW	Savings GWH				Savings MW	Savings GWH									Savings MW
303	EMS - Chiller	Office	383.46	175.60	42.61	116.27	23%	19.51	53.24	23%	0.08	0.12	175	255	1.85				
305	Chiller Tune Up/Diagnostics	Office	373.32	172.87	10.14	126.41	25%	2.73	55.97	24%	0.10	0.12	363	260	1.15				
307	EMS Optimization	Office	367.78	172.06	5.55	131.96	26%	0.82	56.79	25%	0.10	0.11	646	266	0.93				
308	Economizer - Chiller	Office	366.80	171.91	0.97	132.93	27%	0.14	56.93	25%	0.10	0.11	677	267	0.88				
302	Window Film (Standard)	Office	346.04	162.40	20.76	153.69	31%	9.51	66.44	29%	0.19	0.12	414	288	0.78				
304	Cool Roof - Chiller	Office	341.83	160.47	4.22	157.91	32%	1.93	68.37	30%	0.49	0.13	1,076	310	0.30				
309	Duct/Pipe Insulation - Chiller	Office	341.67	160.40	0.16	158.06	32%	0.07	68.44	30%	2.91	0.14	6,358	317	0.05				
350	Base DX Packaged System, EER=10.3, 10 tons	Office	#####	640.41	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	640.41		
363	Ceiling/roof Insulation - DX	Office	#####	637.76	5.78	5.78	0%	2.65	2.65	0%	0.02	0.02	37	37	8.87				
362	Aerosol Duct Sealing - DX	Office	#####	623.48	31.20	36.98	3%	14.29	16.93	3%	0.02	0.02	37	37	8.82				
365	DX Coil Cleaning	Office	#####	605.39	39.51	76.48	5%	18.09	35.02	5%	0.03	0.02	65	52	4.98				
352	DX Packaged System, EER=10.9, 10 tons	Office	#####	576.67	62.71	139.20	10%	28.72	63.74	10%	1.01	0.47	2,202	1,020	0.15				
353	DX Packaged System, EER=11.5, 10 tons	Office	#####	550.92	56.22	195.42	14%	25.75	89.49	14%	0.11	0.37	247	798	1.32				
357	Window Film (Standard)	Office	#####	518.46	70.89	266.31	19%	32.46	121.95	19%	0.09	0.29	205	640	1.59				
360	Optimize Controls	Office	#####	516.81	11.18	277.49	20%	1.65	123.60	19%	0.07	0.28	456	637	1.31				
358	Prog. Thermostat - DX	Office	#####	512.46	29.55	307.04	22%	4.36	127.96	20%	0.07	0.26	476	632	1.26				
361	Economizer	Office	989.23	497.39	102.21	409.26	29%	15.06	143.02	22%	0.08	0.22	551	623	1.09				
351	DX Tune Up/ Advanced Diagnostics	Office	978.50	494.51	10.73	419.98	30%	2.89	145.90	23%	0.12	0.22	457	620	0.91				
354	DX Packaged System, EER=13.4, 10 tons	Office	859.92	440.20	118.58	538.57	39%	54.30	200.21	31%	0.62	0.31	1,363	822	0.24				
359	Cool Roof - DX	Office	854.84	437.88	5.08	543.65	39%	2.33	202.53	32%	0.66	0.31	1,441	829	0.23				
364	Duct/Pipe Insulation - DX	Office	843.29	432.59	11.54	555.19	40%	5.29	207.82	32%	6.46	0.44	14,111	1,167	0.02				
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Office	469.27	90.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	469.27	90.01		
401	Fan Motor, 5hp, 1800rpm, 89.5%	Office	461.51	88.52	7.76	7.76	2%	1.49	1.49	2%	0.09	0.09	494	494	1.04				
402	Variable Speed Drive Control, 5 HP	Office	405.92	85.50	55.59	63.35	13%	3.01	4.50	5%	0.04	0.05	800	699	1.61				
403	Demand Controlled Ventilation	Office	369.75	81.75	36.17	99.52	21%	3.76	8.26	9%	0.10	0.07	956	816	0.81				
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Office	27.91	5.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	27.91	5.35		
411	Fan Motor, 15hp, 1800rpm, 92.4%	Office	27.60	5.29	0.31	0.31	1%	0.06	0.06	1%	0.05	0.05	272	272	1.89				
412	Variable Speed Drive Control, 15 HP	Office	24.28	5.11	3.32	3.64	13%	0.18	0.24	4%	0.01	0.01	205	222	6.30				
415	Electronically Commutated Motors (ECM) on an air handler unit	Office	20.76	4.44	3.51	7.15	26%	0.67	0.91	17%	0.06	0.04	293	274	1.75				
413	Air Handler Optimization, 15 HP	Office	20.22	4.41	0.55	7.70	28%	0.03	0.94	18%	0.08	0.04	1,404	310	0.92				
417	Demand Controlled Ventilation	Office	18.41	4.22	1.80	9.50	34%	0.19	1.13	21%	0.13	0.06	1,232	463	0.63				
414	Energy Recovery Ventilation	Office	17.98	4.14	0.43	9.93	36%	0.08	1.21	23%	0.61	0.08	3,162	646	0.16				
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Office	100.54	19.28	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	100.54	19.28		
422	Variable Speed Drive Control, 40 HP	Office	88.43	18.63	12.11	12.11	12%	0.66	0.66	3%	0.06	0.06	1,038	1,038	1.24				
423	Air Handler Optimization, 40 HP	Office	86.09	18.50	2.33	14.44	14%	0.13	0.78	4%	0.07	0.06	1,208	1,065	1.07				
421	Fan Motor, 40hp, 1800rpm, 94.1%	Office	85.35	18.36	0.74	15.19	15%	0.14	0.93	5%	0.52	0.08	2,699	1,317	0.19				
424	Demand Controlled Ventilation	Office	77.75	17.57	7.61	22.79	23%	0.79	1.72	9%	0.11	0.09	1,069	1,203	0.72				
500	Base Non-Commercial Refrigerator	Office	26.69	2.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	26.69	2.77		
502	HE Refrigerator - CEE Tier 2 (side by side freezer)	Office	20.02	2.08	6.67	6.67	25%	0.69	0.69	25%	3.71	3.71	35,734	35,734	0.02				
520	Base Refrigeration System	Office	26.29	2.73	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	26.29	2.73		
530	Demand Defrost Electric	Office	24.25	2.52	2.04	2.04	8%	0.21	0.21	8%	0.01	0.01	97	97	8.12				
538	Fiber Optic Display Lighting	Office	21.28	2.21	2.97	5.01	19%	0.31	0.52	19%	0.02	0.01	152	129	5.18				
533	Freezer-Cooler Replacement Gaskets	Office	20.55	2.13	0.73	5.74	22%	0.08	0.60	22%	0.03	0.02	314	153	2.50				
525	Efficient compressor motor	Office	19.15	1.99	1.40	7.14	27%	0.15	0.74	27%	0.04	0.02	380	197	2.06				
540	Reach-In Refrigerators	Office	18.94	1.97	0.21	7.35	28%	0.02	0.76	28%	0.10	0.02	950	219	0.83				
536	Oversized Air-Cooled Condenser	Office	18.15	1.88	0.80	8.15	31%	0.08	0.85	31%	0.15	0.04	1,432	337	0.55				
523	Night covers for display cases	Office	17.35	1.88	0.79	8.94	34%	0.00	0.85	31%	0.14	0.04	N/A	465	0.42				
521	High-efficiency fan motors	Office	15.27	1.67	2.08	11.02	42%	0.22	1.06	39%	0.22	0.08	2,115	800	0.37				
541	Reach-In Freezers	Office	15.14	1.66	0.13	11.15	42%	0.01	1.08	39%	0.26	0.08	2,471	821	0.32				
528	Refrigeration Commissioning	Office	15.07	1.65	0.08	11.23	43%	0.01	1.08	40%	0.40	0.08	3,870	844	0.20				
524	Evaporator fan controller for MT walk-ins	Office	15.00	1.65	0.06	11.29	43%	0.00	1.08	40%	0.39	0.08	N/A	866	0.15				
539	Beverage Merchandisers	Office	14.79	1.62	0.21	11.50	44%	0.02	1.11	40%	0.57	0.09	5,499	959	0.14				
610	Base Desktop PC	Office	575.49	53.25	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	575.49	53.25		
611	Energy Star or Better PC	Office	455.64	44.65	119.85	119.85	21%	8.60	8.60	16%	0.00	0.00	14	14	78.21				
613	PC Network Power Management Enabling	Office	256.85	31.94	198.79	318.64	55%	12.71	21.31	40%	0.00	0.00	63	43	18.42				
620	Base Monitor, CRT	Office	240.48	22.25	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	240.48	22.25		
621	Energy Star or Better Monitor - CRT	Office	112.32	10.39	128.16	128.16	53%	11.86	11.86	53%	0.00	0.00	3	3	293.88				

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011															
Vintage	Batch	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
622		Monitor Power Management Enabling - CRT	Office	92.18	9.11	20.14	148.30	62%	1.29	13.15	59%	0.00	0.00	49	8	23.82		
630		Base Monitor, LCD	Office	25.90	2.40	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	25.90	2.40
632		Monitor Power Management Enabling - LCD	Office	24.77	2.32	1.13	1.13	4%	0.07	0.07	3%	0.03	0.03	490	490	2.38		
631		Energy Star or Better Monitor - LCD	Office	24.45	2.29	0.33	1.45	6%	0.03	0.10	4%	0.06	0.04	692	549	1.28		
640		Base Copier	Office	196.36	18.17	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	196.36	18.17
641		Energy Star or Better Copier	Office	162.41	15.03	33.95	33.95	17%	3.14	3.14	17%	0.00	0.00	5	5	189.25		
642		Copier Power Management Enabling	Office	145.45	13.94	16.95	50.91	26%	1.08	4.23	23%	0.03	0.01	401	106	2.91		
650		Base Laser Printer	Office	382.03	35.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	382.03	35.35
651		Printer Power Management Enabling	Office	369.88	34.57	12.16	12.16	3%	0.78	0.78	2%	0.02	0.02	279	279	4.18		
660		Base Data Center/Server Room	Office	842.74	77.98	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	842.74	77.98
661		Data Center Improved Operations	Office	758.47	70.18	84.27	84.27	10%	7.80	7.80	10%	0.00	0.00	3	3	267.00		
662		Data Center Best Practices	Office	692.41	64.07	66.06	150.33	18%	6.11	13.91	18%	0.00	0.00	10	6	93.02		
663		Data Center State of the Art practices	Office	678.56	62.79	13.85	164.18	19%	1.28	15.19	19%	0.00	0.00	21	7	42.12		
700		Base Water Heating	Office	81.96	7.39	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	81.96	7.39
707		Heat Trap	Office	77.71	7.00	4.24	4.24	5%	0.38	0.38	5%	0.01	0.01	136	136	6.57		
702		High Efficiency Water Heater (electric)	Office	76.16	6.86	1.55	5.80	7%	0.14	0.52	7%	0.02	0.02	264	171	3.39		
708		Tankless Water Heater	Office	71.49	6.44	4.66	10.46	13%	0.42	0.94	13%	0.04	0.03	434	288	2.06		
709		Solar Water Heater	Office	35.27	3.18	36.22	46.69	57%	3.26	4.21	57%	0.04	0.04	473	432	1.89		
706		Heat Recovery Unit	Office	32.98	2.97	2.29	48.98	60%	0.21	4.41	60%	0.09	0.04	1,041	460	0.86		
704		Hot Water Pipe Insulation	Office	32.80	2.96	0.18	49.15	60%	0.02	4.43	60%	0.17	0.04	1,895	465	0.47		
701		Demand controlled circulating systems	Office	31.57	2.85	1.23	50.38	61%	0.11	4.54	61%	0.27	0.05	3,025	528	0.30		
800		Base Vending Machines	Office	68.15	6.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	68.15	6.62
801		Vending Misers (cooled machines only)	Office	50.96	5.46	17.19	17.19	25%	1.16	1.16	17%	0.02	0.02	340	340	3.32		
900		Base Oven	Office	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
905		Base Fryer	Office	0.81	0.08	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.81	0.08
906		Efficient Fryer	Office	0.76	0.08	0.05	0.05	6%	0.01	0.01	6%	0.26	0.26	2,568	2,568	0.34		
910		Base Steamer	Office	0.50	0.05	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.50	0.05
911		Efficient Steamer	Office	0.05	0.01	0.44	0.44	89%	0.04	0.04	89%	0.06	0.06	558	558	1.58		
915		Base Hot Food Holding Cabinets	Office	0.14	0.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.14	0.01
916		Energy Star Hot Food Holding Cabinets	Office	0.08	0.01	0.07	0.07	47%	0.01	0.01	47%	1.59	1.59	15,910	15,910	0.06		
940		Base Heating	Office	572.30	26.09	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	572.30	26.09
941		XHeat	Office	572.30	26.09	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
970		Base Miscellaneous	Office	#####	197.49	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	197.49
971		XMisc	Office	#####	197.49	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
100		Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	Restaurant	6.66	0.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6.66	0.88
102		RET 2L4' Premium T8, 1EB, Reflector, base 4L4'T12	Restaurant	5.79	0.76	0.87	0.87	13%	0.11	0.11	13%	0.04	0.04	288	288	2.39		
107		gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T12	Restaurant	5.36	0.70	0.43	1.30	20%	0.06	0.17	20%	0.04	0.04	289	288	2.39		
106		Lighting Control Tuneup	Restaurant	5.32	0.70	0.04	1.35	20%	0.00	0.17	20%	0.04	0.04	1,062	295	1.72		
104		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T12	Restaurant	5.23	0.69	0.09	1.43	22%	0.01	0.19	21%	0.07	0.04	458	307	1.31		
105		Continuous Dimming, 5L4' Fluorescent Fixtures - Base 4L4'T12	Restaurant	4.45	0.51	0.77	2.21	33%	0.18	0.37	42%	0.21	0.10	926	610	0.51		
120		Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	Restaurant	2.22	0.29	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2.22	0.29
127		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T12	Restaurant	2.06	0.27	0.17	0.17	7%	0.02	0.02	8%	0.04	0.04	282	282	2.44		
126		Lighting Control Tuneup - Base 2L4'T12	Restaurant	2.04	0.27	0.02	0.18	8%	0.00	0.02	8%	0.04	0.04	1,037	302	1.76		
124		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T12	Restaurant	2.01	0.26	0.03	0.22	10%	0.01	0.03	10%	0.08	0.04	491	338	1.22		
122		RET 1L4' Premium T8, 1EB, Reflector OEM - Base 2L4'T12	Restaurant	1.88	0.25	0.13	0.35	16%	0.02	0.05	15%	0.09	0.06	688	472	1.00		
125		Continuous Dimming, 10L4' Fluorescent Fixtures - Base 2L4'T12	Restaurant	1.60	0.18	0.28	0.63	28%	0.06	0.11	37%	0.22	0.13	967	763	0.49		
130		Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	Restaurant	5.93	0.78	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	5.93	0.78
136		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L8'T12	Restaurant	5.49	0.72	0.44	0.44	7%	0.06	0.06	8%	0.04	0.04	282	282	2.44		
134		Occupancy Sensor, 4L8' Fluorescent Fixtures - Base 2L8'T12	Restaurant	5.40	0.71	0.09	0.54	9%	0.01	0.07	9%	0.07	0.04	444	314	1.35		
132		RET 2 - 1L4' Premium T8, 1EB, Reflector OEM - Base 2L8'T12	Restaurant	4.43	0.58	0.97	1.50	25%	0.13	0.20	26%	0.11	0.09	875	670	0.79		
135		Continuous Dimming, 5L8' Fluorescent Fixtures - Base 2L8'T12	Restaurant	3.77	0.43	0.66	2.16	36%	0.15	0.35	45%	0.25	0.14	1,093	852	0.44		
140		Base Incandescent Flood, 75W to Screw-in Replacement	Restaurant	206.91	27.18	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	206.91	27.18
141		CFL Screw-in 18W	Restaurant	139.87	18.37	67.04	67.04	32%	8.81	8.81	32%	0.01	0.01	111	111	6.19		
142		Cold Cathode Lamps	Restaurant	134.84	17.71	5.04	72.07	35%	0.66	9.47	35%	0.04	0.02	268	122	2.57		
143		Screw-in LED-Base Incandescent	Restaurant	84.27	11.07	50.56	122.64	59%	6.64	16.11	59%	0.06	0.03	427	235	1.32		
145		Base CFL to screw-in replacement	Restaurant	0.81	0.11	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.81	0.11
146		Screw-in LED-Base CFL	Restaurant	0.26	0.03	0.55	0.55	67%	0.07	0.07	68%	0.20	0.20	1,535	1,535	0.37		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage	Batch	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
150		Base Incandescent Flood, 75W to Hardwired CFL	Restaurant	20.69	2.72	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	20.69	2.72
151		CFL Hardwired, Modular 18W	Restaurant	6.54	0.86	14.15	14.15	68%	1.86	1.86	68%	0.03	0.03	256	256	2.70		
153		Hardwired LED fixture--Base Incandescent	Restaurant	1.91	0.25	4.63	18.78	91%	0.61	2.47	91%	0.09	0.04	650	318	0.87		
152		Ceramic Metal Halide	Restaurant	1.85	0.24	0.05	18.84	91%	0.01	2.47	91%	3.81	0.06	28,997	470	0.02		
155		Base CFL to Hardwired replacement	Restaurant	0.81	0.11	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.81	0.11
156		Hardwired LED fixture--Base CFL	Restaurant	0.26	0.03	0.55	0.55	67%	0.07	0.07	68%	0.17	0.17	1,328	1,328	0.42		
160		Base High Bay Probe-start Metal Halide, 400W	Restaurant	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
180		Base 4L4'T8, 1EB	Restaurant	0.49	0.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.49	0.06
181		ROB 4L4' Premium T8, 1EB - Base 4L4'T8	Restaurant	0.45	0.06	0.04	0.04	9%	0.01	0.01	9%	0.02	0.02	145	145	4.74		
185		gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4'	Restaurant	0.42	0.05	0.03	0.08	16%	0.00	0.01	16%	0.06	0.04	464	284	1.48		
183		Lighting Control Tuneup - Base 4L4'T8	Restaurant	0.41	0.05	0.00	0.08	16%	0.00	0.01	16%	0.06	0.04	1,708	300	1.07		
182		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T8	Restaurant	0.40	0.05	0.01	0.09	18%	0.00	0.01	18%	0.10	0.04	737	342	0.93		
184		LED Indoor Lighting - Base 4L4'T8	Restaurant	0.36	0.05	0.04	0.13	27%	0.01	0.02	27%	0.42	0.17	3,232	1,283	0.17		
190		Base 2L4'T8, 1EB	Restaurant	0.49	0.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.49	0.06
191		ROB 2L4' Premium T8, 1EB - Base 2L4'T8	Restaurant	0.43	0.06	0.06	0.06	12%	0.01	0.01	12%	0.02	0.02	190	190	3.62		
196		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'	Restaurant	0.40	0.05	0.03	0.09	19%	0.00	0.01	19%	0.06	0.04	481	293	1.43		
193		Lighting Control Tuneup - Base 2L4'T8	Restaurant	0.40	0.05	0.00	0.10	19%	0.00	0.01	19%	0.07	0.04	1,769	307	1.03		
192		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	Restaurant	0.39	0.05	0.01	0.10	21%	0.00	0.01	20%	0.10	0.04	764	343	0.90		
194		LED Indoor Lighting - Base 2L4'T8	Restaurant	0.31	0.04	0.08	0.18	37%	0.01	0.02	37%	0.24	0.13	1,842	968	0.31		
200		Base Exit Sign	Restaurant	2.12	0.28	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2.12	0.28
201		LED Exit Sign	Restaurant	0.43	0.06	1.69	1.69	80%	0.22	0.22	80%	0.06	0.06	448	448	1.54		
210		Base Outdoor Mercury Vapor 400W Lamp	Restaurant	105.54	4.66	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	105.54	4.66
214		Outdoor Lighting Controls (Photocell/Timeclock)	Restaurant	90.34	4.66	15.20	15.20	14%	0.00	0.00	0%	0.01	0.01	N/A	N/A	5.30		
211		High Pressure Sodium 250W Lamp	Restaurant	67.71	3.66	22.63	37.83	36%	1.00	1.00	21%	0.05	0.03	1,021	1,182	1.54		
212		LED Outdoor Area Lighting	Restaurant	50.15	2.88	17.57	55.39	52%	0.78	1.77	38%	0.05	0.04	1,223	1,164	1.21		
213		LED Outdoor Bi-level Fixtures	Restaurant	40.93	2.48	9.21	64.61	61%	0.41	2.18	47%	0.42	0.09	9,589	2,735	0.15		
220		Base Street Lighting	Restaurant	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
300		Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Restaurant	8.78	3.44	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	8.78	3.44
302		Window Film (Standard)	Restaurant	8.23	3.22	0.56	0.56	6%	0.22	0.22	6%	0.02	0.02	56	56	6.31		
303		EMS - Chiller	Restaurant	7.40	2.90	0.82	1.38	16%	0.32	0.54	16%	0.04	0.03	101	83	3.49		
311		High Efficiency Chiller Motors	Restaurant	7.19	2.82	0.21	1.59	18%	0.08	0.62	18%	0.04	0.03	114	87	3.09		
305		Chiller Tune Up/Diagnostics	Restaurant	7.00	2.77	0.19	1.78	20%	0.04	0.67	19%	0.05	0.04	215	95	2.14		
307		EMS Optimization	Restaurant	6.90	2.76	0.11	1.89	21%	0.01	0.68	20%	0.05	0.04	383	101	1.76		
304		Cool Roof - Chiller	Restaurant	6.81	2.73	0.09	1.97	22%	0.03	0.71	21%	0.47	0.06	1,202	154	0.29		
309		Duct/Pipe Insulation - Chiller	Restaurant	6.80	2.72	0.01	1.99	23%	0.00	0.72	21%	1.39	0.06	3,555	177	0.10		
308		Economizer - Chiller	Restaurant	6.80	2.72	0.00	1.99	23%	0.00	0.72	21%	17281.77	0.06	N/A	178	0.00		
350		Base DX Packaged System, EER=10.3, 10 tons	Restaurant	294.81	115.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	294.81	115.42
362		Aerosol Duct Sealing - DX	Restaurant	288.72	113.04	6.09	6.09	2%	2.38	2.38	2%	0.01	0.01	23	23	15.26		
357		Window Film (Standard)	Restaurant	268.32	105.05	20.40	26.49	9%	7.99	10.37	9%	0.01	0.01	33	31	10.60		
365		DX Coil Cleaning	Restaurant	263.59	103.20	4.73	31.22	11%	1.85	12.22	11%	0.02	0.01	44	33	8.09		
352		DX Packaged System, EER=10.9, 10 tons	Restaurant	249.08	97.52	14.51	45.73	16%	5.68	17.90	16%	0.58	0.19	1,472	490	0.24		
363		Ceiling/roof Insulation - DX	Restaurant	245.98	96.31	3.09	48.82	17%	1.21	19.12	17%	0.02	0.18	55	462	6.35		
353		DX Packaged System, EER=11.5, 10 tons	Restaurant	233.24	91.32	12.74	61.57	21%	4.99	24.10	21%	0.07	0.16	168	401	2.09		
360		Optimize Controls	Restaurant	230.91	91.03	2.33	63.89	22%	0.29	24.40	21%	0.04	0.15	295	400	2.29		
358		Prog. Thermostat - DX	Restaurant	224.76	90.26	6.16	70.05	24%	0.77	25.16	22%	0.04	0.14	308	397	2.19		
351		DX Tune Up/ Advanced Diagnostics	Restaurant	222.30	89.70	2.45	72.50	25%	0.56	25.72	22%	0.06	0.14	268	394	1.71		
359		Cool Roof - DX	Restaurant	216.96	87.61	5.35	77.85	26%	2.09	27.82	24%	0.15	0.14	382	393	0.92		
361		Economizer	Restaurant	209.51	86.68	7.45	85.30	29%	0.93	28.74	25%	0.13	0.14	1,021	414	0.66		
354		DX Packaged System, EER=13.4, 10 tons	Restaurant	180.05	75.15	29.46	114.76	39%	11.54	40.28	35%	0.33	0.19	849	538	0.41		
364		Duct/Pipe Insulation - DX	Restaurant	177.94	74.32	2.10	116.86	40%	0.82	41.10	36%	3.49	0.25	8,912	706	0.04		
400		Base Fan Motor, 5hp, 1800rpm, 87.5%	Restaurant	82.71	13.41	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	82.71	13.41
403		Demand Controlled Ventilation	Restaurant	74.35	12.68	8.36	8.36	10%	0.73	0.73	5%	0.03	0.03	346	346	2.55		
401		Fan Motor, 5hp, 1800rpm, 89.5%	Restaurant	73.04	12.47	1.30	9.66	12%	0.21	0.94	7%	0.20	0.05	1,209	539	0.48		
402		Variable Speed Drive Control, 5 HP	Restaurant	53.55	11.58	19.50	29.16	35%	0.89	1.83	14%	0.10	0.09	2,281	1,384	0.66		
410		Base Fan Motor, 15hp, 1800rpm, 91.0%	Restaurant	12.74	2.07	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	12.74	2.07
416		Separate Makeup Air/Exhaust Hoods AC	Restaurant	9.56	1.55	3.19	3.19	25%	0.52	0.52	25%	0.00	0.00	3	3	206.45		
411		Fan Motor, 15hp, 1800rpm, 92.4%	Restaurant	9.44	1.53	0.11	3.30	26%	0.02	0.53	26%	0.15	0.01	951	35	0.61		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage	Batch	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
415		Electronically Commutated Motors (ECM) on an air handler unit	Restaurant	8.42	1.37	1.02	4.32	34%	0.17	0.70	34%	0.03	0.01	214	78	2.69		
413		Air Handler Optimization, 15 HP	Restaurant	8.24	1.36	0.18	4.50	35%	0.01	0.71	34%	0.03	0.01	691	85	2.17		
412		Variable Speed Drive Control, 15 HP	Restaurant	6.04	1.26	2.20	6.70	53%	0.10	0.81	39%	0.04	0.02	956	193	1.57		
417		Demand Controlled Ventilation	Restaurant	5.43	1.20	0.61	7.31	57%	0.05	0.86	42%	0.07	0.03	787	229	1.12		
414		Energy Recovery Ventilation	Restaurant	5.05	1.14	0.38	7.69	60%	0.06	0.92	45%	0.53	0.05	3,264	432	0.18		
420		Base Fan Motor, 40hp, 1800rpm, 93.0%	Restaurant	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
500		Base Non-Commercial Refrigerator	Restaurant	5.62	0.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	5.62	0.62
501		Energy Star Refrigerator	Restaurant	4.50	0.50	1.12	1.12	20%	0.12	0.12	20%	1.06	1.06	9,607	9,607	0.08		
502		HE Refrigerator - CEE Tier 2 (side by side freezer)	Restaurant	3.37	0.37	1.12	2.25	40%	0.12	0.25	40%	1.16	1.11	10,457	10,032	0.07		
520		Base Refrigeration System	Restaurant	330.93	36.68	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	330.93	36.68
530		Demand Defrost Electric	Restaurant	305.24	33.84	25.69	25.69	8%	2.85	2.85	8%	0.00	0.00	27	27	27.19		
538		Fiber Optic Display Lighting	Restaurant	267.85	29.69	37.39	63.08	19%	4.14	6.99	19%	0.00	0.00	43	37	17.33		
533		Freezer-Cooler Replacement Gaskets	Restaurant	258.71	28.68	9.14	72.23	22%	1.01	8.01	22%	0.01	0.00	89	43	8.35		
525		Efficient compressor motor	Restaurant	241.04	26.72	17.66	89.89	27%	1.96	9.96	27%	0.01	0.01	108	56	6.90		
529		Demand Hot Gas Defrost	Restaurant	235.00	26.05	6.04	95.93	29%	0.67	10.63	29%	0.01	0.01	117	60	6.39		
527		Floating head pressure controls	Restaurant	220.84	26.05	14.16	110.09	33%	0.00	10.63	29%	0.02	0.01	N/A	81	3.58		
522		Strip curtains for walk-ins	Restaurant	213.72	25.26	7.12	117.22	35%	0.79	11.42	31%	0.03	0.01	263	94	2.84		
539		Beverage Merchandisers	Restaurant	210.68	24.92	3.03	120.25	36%	0.34	11.76	32%	0.04	0.01	326	101	2.29		
540		Reach-In Refrigerators	Restaurant	208.40	24.67	2.29	122.54	37%	0.25	12.01	33%	0.04	0.01	346	106	2.16		
531		Anti-sweat (humidistat) controls	Restaurant	198.60	24.09	9.79	132.33	40%	0.58	12.59	34%	0.03	0.01	575	127	2.10		
536		Oversized Air-Cooled Condenser	Restaurant	190.24	23.17	8.37	140.69	43%	0.93	13.52	37%	0.05	0.01	489	152	1.53		
521		High-efficiency fan motors	Restaurant	167.45	20.64	22.79	163.48	49%	2.53	16.04	44%	0.08	0.02	691	237	1.08		
526		Compressor VSD retrofit	Restaurant	157.68	20.06	9.77	173.26	52%	0.58	16.62	45%	0.08	0.03	1,356	276	0.89		
528		Refrigeration Commissioning	Restaurant	156.87	19.98	0.81	174.07	53%	0.09	16.71	46%	0.15	0.03	1,332	281	0.56		
541		Reach-In Freezers	Restaurant	155.53	19.83	1.34	175.40	53%	0.15	16.86	46%	0.16	0.03	1,468	292	0.51		
524		Evaporator fan controller for MT walk-ins	Restaurant	154.82	19.83	0.71	176.11	53%	0.00	16.86	46%	0.14	0.03	N/A	298	0.40		
535		Multiplex Compressor System	Restaurant	132.74	17.38	22.08	198.19	60%	2.45	19.30	53%	0.22	0.05	2,022	517	0.37		
610		Base Desktop PC	Restaurant	3.67	0.48	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	3.67	0.48
611		Energy Star or Better PC	Restaurant	2.66	0.37	1.01	1.01	28%	0.10	0.10	22%	0.00	0.00	45	45	18.14		
613		PC Network Power Management Enabling	Restaurant	1.51	0.27	1.15	2.16	59%	0.10	0.21	43%	0.02	0.01	230	138	3.87		
620		Base Monitor, CRT	Restaurant	1.55	0.20	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.55	0.20
621		Energy Star or Better Monitor - CRT	Restaurant	0.68	0.09	0.87	0.87	56%	0.11	0.11	56%	0.00	0.00	27	27	25.51		
622		Monitor Power Management Enabling - CRT	Restaurant	0.56	0.08	0.12	0.99	64%	0.01	0.12	62%	0.04	0.01	445	64	2.00		
630		Base Monitor, LCD	Restaurant	0.58	0.08	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.58	0.08
632		Monitor Power Management Enabling - LCD	Restaurant	0.55	0.07	0.02	0.02	4%	0.00	0.00	3%	0.10	0.10	1,094	1,094	0.81		
631		Energy Star or Better Monitor - LCD	Restaurant	0.54	0.07	0.01	0.04	7%	0.00	0.00	5%	0.20	0.13	1,556	1,290	0.45		
640		Base Copier	Restaurant	0.44	0.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.44	0.06
641		Energy Star or Better Copier	Restaurant	0.37	0.05	0.08	0.08	17%	0.01	0.01	17%	0.00	0.00	2	2	298.31		
642		Copier Power Management Enabling	Restaurant	0.33	0.04	0.04	0.11	26%	0.00	0.01	23%	0.02	0.01	199	53	4.47		
650		Base Laser Printer	Restaurant	5.90	0.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	5.90	0.77
651		Printer Power Management Enabling	Restaurant	5.71	0.75	0.18	0.18	3%	0.02	0.02	2%	0.01	0.01	127	127	7.02		
660		Base Data Center/Server Room	Restaurant	10.04	1.31	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10.04	1.31
661		Data Center Improved Operations	Restaurant	9.04	1.18	1.00	1.00	10%	0.13	0.13	10%	0.00	0.00	2	2	331.54		
662		Data Center Best Practices	Restaurant	8.25	1.07	0.79	1.79	18%	0.10	0.23	18%	0.00	0.00	6	4	115.50		
663		Data Center State of the Art practices	Restaurant	8.09	1.05	0.17	1.96	19%	0.02	0.25	19%	0.00	0.00	13	5	52.30		
700		Base Water Heating	Restaurant	44.82	5.07	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	44.82	5.07
707		Heat Trap	Restaurant	42.50	4.80	2.32	2.32	5%	0.26	0.26	5%	0.00	0.00	16	16	48.07		
706		Heat Recovery Unit	Restaurant	20.40	2.31	22.10	24.42	54%	2.50	2.76	54%	0.00	0.00	30	29	25.74		
702		High Efficiency Water Heater (electric)	Restaurant	19.99	2.26	0.41	24.83	55%	0.05	2.81	55%	0.01	0.00	65	29	11.90		
708		Tankless Water Heater	Restaurant	18.77	2.12	1.22	26.05	58%	0.14	2.95	58%	0.01	0.00	106	33	7.25		
709		Solar Water Heater	Restaurant	16.27	1.84	2.50	28.56	64%	0.28	3.23	64%	0.01	0.00	116	40	6.65		
704		Hot Water Pipe Insulation	Restaurant	16.25	1.84	0.02	28.57	64%	0.00	3.23	64%	0.03	0.00	247	40	3.11		
701		Demand controlled circulating systems	Restaurant	15.64	1.77	0.61	29.18	65%	0.07	3.30	65%	0.05	0.01	422	48	1.82		
800		Base Vending Machines	Restaurant	1.79	0.23	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.79	0.23
900		Base Oven	Restaurant	16.82	2.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	16.82	2.30
901		Convection Oven	Restaurant	14.23	1.95	2.59	2.59	15%	0.35	0.35	15%	0.37	0.37	2,670	2,670	0.25		
905		Base Fryer	Restaurant	149.83	20.49	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	149.83	20.49

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage	Batch	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
906		Efficient Fryer	Restaurant	140.22	19.18	9.61	9.61	6%	1.31	1.31	6%	0.01	0.01	60	60	11.06		
910		Base Steamer	Restaurant	92.07	12.59	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	92.07	12.59
911		Efficient Steamer	Restaurant	10.13	1.39	81.94	81.94	89%	11.21	11.21	89%	0.02	0.02	149	149	4.46		
915		Base Hot Food Holding Cabinets	Restaurant	26.34	3.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	26.34	3.60
916		Energy Star Hot Food Holding Cabinets	Restaurant	22.94	3.14	3.39	3.39	13%	0.46	0.46	13%	0.04	0.04	274	274	2.43		
940		Base Heating	Restaurant	39.72	0.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	39.72	0.06
941		XHeat	Restaurant	39.72	0.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
970		Base Miscellaneous	Restaurant	165.30	21.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	165.30	21.60
971		XMisc	Restaurant	165.30	21.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
100		Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	Retail	35.20	4.24	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	35.20	4.24
107		gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T	Retail	32.56	3.93	2.64	2.64	8%	0.32	0.32	8%	0.02	0.02	177	177	4.12		
106		Lighting Control Tuneup	Retail	32.32	3.92	0.25	2.89	8%	0.01	0.33	8%	0.02	0.02	649	189	3.05		
102		RET 2L4' Premium T8, 1EB, Reflector, base 4L4'T12	Retail	28.10	3.41	4.22	7.10	20%	0.51	0.84	20%	0.04	0.03	344	283	2.12		
104		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T12	Retail	27.63	3.34	0.47	7.58	22%	0.07	0.90	21%	0.05	0.03	323	286	1.97		
105		Continuous Dimming, 5L4' Fluorescent Fixtures - Base 4L4'T12	Retail	26.62	3.13	1.01	8.58	24%	0.21	1.11	26%	0.13	0.05	652	355	0.77		
120		Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	Retail	68.19	8.22	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	68.19	8.22
127		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T	Retail	63.08	7.61	5.11	5.11	8%	0.62	0.62	8%	0.02	0.02	185	185	3.93		
126		Lighting Control Tuneup - Base 2L4'T12	Retail	62.60	7.59	0.48	5.59	8%	0.02	0.63	8%	0.02	0.02	679	198	2.91		
124		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T12	Retail	61.55	7.44	1.05	6.64	10%	0.15	0.78	10%	0.05	0.03	322	222	1.98		
122		RET 1L4' Premium T8, 1EB, Reflector OEM - Base 2L4'T12	Retail	57.54	6.95	4.02	10.66	16%	0.48	1.27	15%	0.08	0.05	704	406	1.03		
125		Continuous Dimming, 10L4' Fluorescent Fixtures - Base 2L4'T12	Retail	55.44	6.52	2.10	12.76	19%	0.43	1.70	21%	0.13	0.06	635	464	0.80		
130		Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	Retail	46.09	5.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	46.09	5.56
136		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L8'T	Retail	42.64	5.14	3.46	3.46	8%	0.42	0.42	8%	0.02	0.02	185	185	3.93		
134		Occupancy Sensor, 4L8' Fluorescent Fixtures - Base 2L8'T12	Retail	41.92	5.04	0.72	4.17	9%	0.10	0.52	9%	0.04	0.03	292	206	2.18		
132		RET 2 - 1L4' Premium T8, 1EB, Reflector OEM - Base 2L8'T12	Retail	34.42	4.13	7.51	11.68	25%	0.90	1.42	26%	0.11	0.08	894	643	0.81		
135		Continuous Dimming, 5L8' Fluorescent Fixtures - Base 2L8'T12	Retail	33.16	3.87	1.25	12.93	28%	0.26	1.68	30%	0.15	0.09	718	655	0.70		
140		Base Incandescent Flood, 75W to Screw-in Replacement	Retail	352.51	42.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	352.51	42.50
141		CFL Screw-in 18W	Retail	238.30	28.73	114.21	114.21	32%	13.77	13.77	32%	0.01	0.01	115	115	6.33		
142		Cold Cathode Lamps	Retail	229.72	27.70	8.58	122.79	35%	1.03	14.81	35%	0.04	0.02	292	127	2.49		
143		Screw-in LED--Base Incandescent	Retail	143.57	17.31	86.14	208.94	59%	10.39	25.19	59%	0.05	0.03	446	245	1.34		
145		Base CFL to screw-in replacement	Retail	4.65	0.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	4.65	0.56
146		Screw-in LED--Base CFL	Retail	1.51	0.18	3.14	3.14	68%	0.38	0.38	68%	0.19	0.19	1,603	1,603	0.37		
150		Base Incandescent Flood, 75W to Hardwired CFL	Retail	102.40	12.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	102.40	12.35
151		CFL Hardwired, Modular 18W	Retail	32.36	3.90	70.05	70.05	68%	8.45	8.45	68%	0.03	0.03	264	264	2.76		
153		Hardwired LED fixture--Base Incandescent	Retail	9.44	1.14	22.92	92.97	91%	2.76	11.21	91%	0.08	0.04	679	331	0.88		
152		Ceramic Metal Halide	Retail	8.96	1.08	0.48	93.44	91%	0.06	11.27	91%	3.81	0.07	31,594	561	0.02		
155		Base CFL to Hardwired replacement	Retail	2.14	0.26	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2.14	0.26
156		Hardwired LED fixture--Base CFL	Retail	0.70	0.08	1.45	1.45	68%	0.17	0.17	68%	0.17	0.17	1,386	1,386	0.43		
160		Base High Bay Probe-start Metal Halide, 400W	Retail	56.21	6.78	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	56.21	6.78
161		High Bay T5 - Base Std MH	Retail	38.39	4.63	17.83	17.83	32%	2.15	2.15	32%	0.03	0.03	269	269	2.70		
164		Occupancy Sensor, High Bay T5 - Base Std MH	Retail	37.34	4.61	1.04	18.87	34%	0.01	2.16	32%	0.05	0.03	3,351	290	1.34		
165		Performance Lighting Remod/Renov - 25% Savings - Base High Bay	Retail	34.54	4.28	2.80	21.67	39%	0.34	2.50	37%	0.04	0.03	371	301	1.96		
180		Base 4L4'T8, 1EB	Retail	102.88	12.40	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	102.88	12.40
181		ROB 4L4' Premium T8, 1EB - Base 4L4'T8	Retail	95.35	11.50	7.54	7.54	7%	0.91	0.91	7%	0.02	0.02	145	145	5.02		
185		gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4"	Retail	88.20	10.63	7.15	14.69	14%	0.86	1.77	14%	0.04	0.03	299	220	2.43		
183		Lighting Control Tuneup - Base 4L4'T8	Retail	87.53	10.61	0.66	15.35	15%	0.02	1.79	14%	0.04	0.03	1,099	231	1.80		
182		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T8	Retail	85.78	10.40	1.75	17.10	17%	0.21	2.00	16%	0.06	0.03	475	257	1.53		
184		LED Indoor Lighting - Base 4L4'T8	Retail	76.28	9.25	9.51	26.61	26%	1.15	3.15	25%	0.40	0.16	3,284	1,329	0.18		
190		Base 2L4'T8, 1EB	Retail	217.91	26.27	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	217.91	26.27
191		ROB 2L4' Premium T8, 1EB - Base 2L4'T8	Retail	200.13	24.13	17.78	17.78	8%	2.14	2.14	8%	0.02	0.02	182	182	3.99		
196		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4"	Retail	185.12	22.32	15.01	32.79	15%	1.81	3.95	15%	0.04	0.03	302	237	2.41		
193		Lighting Control Tuneup - Base 2L4'T8	Retail	183.73	22.27	1.39	34.19	16%	0.05	4.00	15%	0.04	0.03	1,109	247	1.78		
192		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	Retail	180.14	21.84	3.59	37.78	17%	0.43	4.43	17%	0.06	0.03	477	270	1.53		
194		LED Indoor Lighting - Base 2L4'T8	Retail	143.42	17.41	36.72	74.50	34%	4.43	8.86	34%	0.22	0.12	1,822	1,022	0.33		
200		Base Exit Sign	Retail	3.93	0.47	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	3.93	0.47
201		LED Exit Sign	Retail	0.77	0.09	3.16	3.16	80%	0.38	0.38	80%	0.08	0.08	680	680	1.07		
210		Base Outdoor Mercury Vapor 400W Lamp	Retail	221.76	9.66	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	221.76	9.66

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage		Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW	
Batch	Measure																	
Measure Number	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW	
214	Outdoor Lighting Controls (Photocell/Timeclock)	Retail	189.95	9.66	31.80	31.80	14%	0.00	0.00	0%	0.01	0.01	N/A	N/A	5.77			
211	High Pressure Sodium 250W Lamp	Retail	140.53	7.51	49.42	81.23	37%	2.15	2.15	22%	0.04	0.03	959	1,103	1.67			
212	LED Outdoor Area Lighting	Retail	104.07	5.92	36.46	117.69	53%	1.59	3.74	39%	0.05	0.03	1,148	1,087	1.32			
213	LED Outdoor Bi-level Fixtures	Retail	84.95	5.09	19.12	136.81	62%	0.83	4.58	47%	0.39	0.08	9,003	2,529	0.17			
220	Base Street Lighting	Retail	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Retail	77.19	40.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	77.19	40.06	
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Retail	70.60	36.64	6.59	6.59	9%	3.42	3.42	9%	0.25	0.25	476	476	0.65			
311	High Efficiency Chiller Motors	Retail	68.59	35.60	2.01	8.60	11%	1.04	4.46	11%	0.06	0.20	108	390	2.87			
303	EMS - Chiller	Retail	61.73	32.04	6.86	15.46	20%	3.56	8.02	20%	0.10	0.15	183	298	1.70			
305	Chiller Tune Up/Diagnostics	Retail	60.15	31.54	1.58	17.05	22%	0.50	8.52	21%	0.12	0.15	379	303	1.02			
307	EMS Optimization	Retail	59.30	31.39	0.85	17.90	23%	0.15	8.67	22%	0.12	0.15	675	309	0.79			
308	Economizer - Chiller	Retail	59.19	31.37	0.11	18.01	23%	0.02	8.69	22%	0.17	0.15	968	311	0.55			
302	Window Film (Standard)	Retail	58.60	31.07	0.59	18.59	24%	0.30	8.99	22%	0.40	0.16	765	326	0.41			
304	Cool Roof - Chiller	Retail	57.91	30.71	0.69	19.29	25%	0.36	9.35	23%	1.11	0.19	2,133	396	0.15			
309	Duct/Pipe Insulation - Chiller	Retail	57.22	30.35	0.69	19.98	26%	0.36	9.71	24%	3.32	0.30	6,403	617	0.05			
350	Base DX Packaged System, EER=10.3, 10 tons	Retail	802.22	416.34	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	802.22	416.34	
362	Aerosol Duct Sealing - DX	Retail	784.25	407.01	17.97	17.97	2%	9.33	9.33	2%	0.02	0.02	40	40	7.78			
365	DX Coil Cleaning	Retail	769.11	399.15	15.13	33.10	4%	7.85	17.18	4%	0.04	0.03	70	54	4.45			
352	DX Packaged System, EER=10.9, 10 tons	Retail	726.78	377.18	42.34	75.44	9%	21.97	39.15	9%	1.23	0.70	2,361	1,348	0.13			
363	Ceiling/roof Insulation - DX	Retail	711.05	369.02	15.72	91.16	11%	8.16	47.31	11%	0.05	0.59	88	1,131	3.52			
353	DX Packaged System, EER=11.5, 10 tons	Retail	674.22	349.91	36.84	128.00	16%	19.12	66.43	16%	0.14	0.46	273	884	1.14			
360	Optimize Controls	Retail	667.88	348.80	6.34	134.34	17%	1.11	67.54	16%	0.08	0.44	478	877	1.12			
358	Prog. Thermostat - DX	Retail	651.09	345.86	16.78	151.12	19%	2.94	70.48	17%	0.09	0.40	498	862	1.07			
359	Cool Roof - DX	Retail	623.19	331.37	27.91	179.03	22%	14.48	84.96	20%	0.16	0.36	317	769	0.98			
351	DX Tune Up/ Advanced Diagnostics	Retail	616.62	329.32	6.56	185.59	23%	2.06	87.02	21%	0.14	0.36	453	761	0.85			
357	Window Film (Standard)	Retail	611.30	326.55	5.32	190.91	24%	2.76	89.78	22%	0.23	0.35	439	751	0.71			
361	Economizer	Retail	567.92	318.96	43.38	234.30	29%	7.60	97.38	23%	0.14	0.31	773	753	0.69			
354	DX Packaged System, EER=13.4, 10 tons	Retail	488.06	277.51	79.86	314.16	39%	41.45	138.83	33%	0.76	0.43	1,466	966	0.21			
364	Duct/Pipe Insulation - DX	Retail	483.55	275.17	4.50	318.66	40%	2.34	141.16	34%	7.96	0.53	15,332	1,204	0.02			
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Retail	174.92	30.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	174.92	30.77	
401	Fan Motor, 5hp, 1800rpm, 89.5%	Retail	172.11	30.28	2.81	2.81	2%	0.49	0.49	2%	0.09	0.09	536	536	1.02			
402	Variable Speed Drive Control, 5 HP	Retail	132.69	28.32	39.41	42.23	24%	1.96	2.46	8%	0.05	0.05	963	877	1.45			
403	Demand Controlled Ventilation	Retail	119.85	27.09	12.84	55.07	31%	1.23	3.68	12%	0.15	0.07	1,532	1,095	0.54			
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Retail	19.86	3.49	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	19.86	3.49	
415	Electronically Commutated Motors (ECM) on an air handler unit	Retail	16.99	2.99	2.87	2.87	14%	0.51	0.51	14%	0.04	0.04	228	228	2.40			
413	Air Handler Optimization, 15 HP	Retail	16.44	2.96	0.54	3.42	17%	0.03	0.53	15%	0.09	0.05	1,731	305	0.81			
411	Fan Motor, 15hp, 1800rpm, 92.4%	Retail	16.27	2.93	0.18	3.60	18%	0.03	0.56	16%	0.66	0.08	3,734	496	0.15			
417	Demand Controlled Ventilation	Retail	14.69	2.78	1.57	5.17	26%	0.15	0.71	20%	0.15	0.10	1,531	714	0.54			
412	Variable Speed Drive Control, 15 HP	Retail	11.33	2.61	3.36	8.54	43%	0.17	0.88	25%	0.17	0.13	3,455	1,235	0.40			
414	Energy Recovery Ventilation	Retail	10.55	2.48	0.78	9.31	47%	0.14	1.02	29%	0.59	0.17	3,371	1,521	0.16			
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Retail	29.70	5.23	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	29.70	5.23	
423	Air Handler Optimization, 40 HP	Retail	28.75	5.18	0.95	0.95	3%	0.05	0.05	1%	0.07	0.07	1,505	1,505	0.93			
424	Demand Controlled Ventilation	Retail	25.97	4.91	2.78	3.73	13%	0.27	0.31	6%	0.13	0.11	1,317	1,346	0.63			
422	Variable Speed Drive Control, 40 HP	Retail	20.02	4.62	5.95	9.68	33%	0.30	0.61	12%	0.14	0.13	2,909	2,106	0.48			
421	Fan Motor, 40hp, 1800rpm, 94.1%	Retail	19.86	4.59	0.17	9.85	33%	0.03	0.64	12%	1.33	0.15	7,581	2,360	0.07			
500	Base Non-Commercial Refrigerator	Retail	10.11	1.14	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10.11	1.14	
501	Energy Star Refrigerator	Retail	8.09	0.91	2.02	2.02	20%	0.23	0.23	20%	1.09	1.09	9,683	9,683	0.08			
502	HE Refrigerator - CEE Tier 2 (side by side freezer)	Retail	6.07	0.68	2.02	4.04	40%	0.23	0.46	40%	1.19	1.14	10,539	10,111	0.07			
520	Base Refrigeration System	Retail	56.02	6.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	56.02	6.30	
530	Demand Defrost Electric	Retail	51.67	5.81	4.35	4.35	8%	0.49	0.49	8%	0.02	0.02	189	189	3.90			
538	Fiber Optic Display Lighting	Retail	45.34	5.10	6.33	10.68	19%	0.71	1.20	19%	0.03	0.03	297	253	2.49			
533	Freezer-Cooler Replacement Gaskets	Retail	43.79	4.93	1.55	12.23	22%	0.17	1.38	22%	0.07	0.03	617	299	1.20			
525	Efficient compressor motor	Retail	40.80	4.59	2.99	15.22	27%	0.34	1.71	27%	0.08	0.04	746	387	0.99			
529	Demand Hot Gas Defrost	Retail	39.78	4.48	1.02	16.24	29%	0.12	1.83	29%	0.09	0.05	806	413	0.92			
527	Floating head pressure controls	Retail	37.39	4.48	2.39	18.63	33%	0.00	1.83	29%	0.11	0.06	N/A	561	0.51			
522	Strip curtains for walk-ins	Retail	35.88	4.31	1.50	20.14	36%	0.17	2.00	32%	0.21	0.07	1,830	669	0.40			
531	Anti-sweat (humidistat) controls	Retail	34.22	4.21	1.66	21.79	39%	0.10	2.10	33%	0.23	0.08	3,888	821	0.31			

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage Batch	Measure Number	Measure	Building Type	Total	Total	GWH	Total	Percent	MW	Total	Percent	Marginal	Average	Marginal	Average	Total	Base GWH	Base MW
				GWH	MW	Savings	Energy Savings GWH	GWH Savings	Savings	Capacity Savings MW	MW Savings	Energy Cost \$/kWh	Energy Cost \$/kWh	Capacity Cost \$/kW	Capacity Cost \$/kW	Resource Cost Test TRC		
	536	Oversized Air-Cooled Condenser	Retail	32.78	4.05	1.44	23.24	41%	0.16	2.26	36%	0.37	0.10	3,312	1,000	0.22		
	523	Night covers for display cases	Retail	31.11	4.05	1.67	24.91	44%	0.00	2.26	36%	0.35	0.11	N/A	1,256	0.17		
	521	High-efficiency fan motors	Retail	27.38	3.63	3.73	28.64	51%	0.42	2.68	42%	0.55	0.17	4,930	1,832	0.15		
	526	Compressor VSD retrofit	Retail	25.81	3.53	1.57	30.21	54%	0.09	2.77	44%	0.58	0.19	9,661	2,097	0.12		
	534	High R-Value Glass Doors	Retail	25.39	3.49	0.42	30.63	55%	0.05	2.82	45%	0.88	0.20	7,859	2,194	0.09		
	528	Refrigeration Commissioning	Retail	25.26	3.47	0.13	30.76	55%	0.01	2.83	45%	1.09	0.21	9,646	2,233	0.08		
	540	Reach-In Refrigerators	Retail	24.98	3.44	0.27	31.03	55%	0.03	2.86	45%	1.18	0.21	10,486	2,322	0.07		
	524	Evaporator fan controller for MT walk-ins	Retail	24.87	3.44	0.11	31.15	56%	0.00	2.86	45%	1.06	0.22	N/A	2,364	0.05		
	535	Multiplex Compressor System	Retail	21.32	3.04	3.55	34.70	62%	0.40	3.26	52%	1.65	0.36	14,679	3,870	0.05		
	541	Reach-In Freezers	Retail	21.14	3.02	0.18	34.88	62%	0.02	3.28	52%	6.67	0.40	59,250	4,215	0.01		
	539	Beverage Merchandisers	Retail	20.84	2.99	0.30	35.18	63%	0.03	3.32	53%	17.18	0.54	152,618	5,725	0.00		
	610	Base Desktop PC	Retail	70.03	8.33	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	70.03	8.33
	611	Energy Star or Better PC	Retail	55.53	6.98	14.51	14.51	21%	1.34	1.34	16%	0.00	0.00	21	21	42.83		
	613	PC Network Power Management Enabling	Retail	31.50	5.00	24.03	38.53	55%	1.99	3.33	40%	0.01	0.01	95	65	10.03		
	620	Base Monitor, CRT	Retail	44.58	5.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	44.58	5.30
	621	Energy Star or Better Monitor - CRT	Retail	20.44	2.43	24.13	24.13	54%	2.87	2.87	54%	0.00	0.00	5	5	134.46		
	622	Monitor Power Management Enabling - CRT	Retail	16.82	2.13	3.62	27.76	62%	0.30	3.17	60%	0.01	0.00	90	13	10.64		
	630	Base Monitor, LCD	Retail	2.59	0.31	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2.59	0.31
	632	Monitor Power Management Enabling - LCD	Retail	2.48	0.30	0.11	0.11	4%	0.01	0.01	3%	0.06	0.06	685	685	1.40		
	631	Energy Star or Better Monitor - LCD	Retail	2.43	0.29	0.05	0.16	6%	0.01	0.02	5%	0.12	0.07	972	798	0.76		
	640	Base Copier	Retail	32.69	3.89	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	32.69	3.89
	641	Energy Star or Better Copier	Retail	27.04	3.22	5.65	5.65	17%	0.67	0.67	17%	0.00	0.00	1	1	795.63		
	642	Copier Power Management Enabling	Retail	24.24	2.98	2.80	8.46	26%	0.23	0.90	23%	0.01	0.00	80	21	12.00		
	650	Base Laser Printer	Retail	94.08	11.19	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	94.08	11.19
	651	Printer Power Management Enabling	Retail	91.13	10.94	2.96	2.96	3%	0.24	0.24	2%	0.00	0.00	45	45	21.03		
	660	Base Data Center/Server Room	Retail	19.18	2.28	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	19.18	2.28
	661	Data Center Improved Operations	Retail	17.26	2.05	1.92	1.92	10%	0.23	0.23	10%	0.00	0.00	2	2	342.69		
	662	Data Center Best Practices	Retail	15.76	1.87	1.50	3.42	18%	0.18	0.41	18%	0.00	0.00	6	4	119.39		
	663	Data Center State of the Art practices	Retail	15.44	1.84	0.32	3.74	19%	0.04	0.44	19%	0.00	0.00	14	5	54.06		
	700	Base Water Heating	Retail	74.81	8.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	74.81	8.01
	707	Heat Trap	Retail	70.94	7.59	3.87	3.87	5%	0.41	0.41	5%	0.01	0.01	60	60	13.21		
	702	High Efficiency Water Heater (electric)	Retail	69.62	7.45	1.32	5.19	7%	0.14	0.56	7%	0.01	0.01	116	74	6.82		
	708	Tankless Water Heater	Retail	65.36	7.00	4.26	9.46	13%	0.46	1.01	13%	0.02	0.01	191	127	4.15		
	709	Solar Water Heater	Retail	63.62	6.81	1.74	11.20	15%	0.19	1.20	15%	0.02	0.01	208	140	3.81		
	706	Heat Recovery Unit	Retail	61.55	6.59	2.07	13.27	18%	0.22	1.42	18%	0.03	0.02	260	158	3.06		
	701	Demand controlled circulating systems	Retail	59.24	6.34	2.31	15.57	21%	0.25	1.67	21%	0.04	0.02	363	189	2.19		
	704	Hot Water Pipe Insulation	Retail	58.48	6.26	0.76	16.33	22%	0.08	1.75	22%	0.05	0.02	425	200	1.87		
	800	Base Vending Machines	Retail	10.27	1.22	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10.27	1.22
	801	Vending Misers (cooled machines only)	Retail	7.66	1.01	2.61	2.61	25%	0.22	0.22	18%	0.03	0.03	420	420	2.27		
	900	Base Oven	Retail	6.88	0.83	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6.88	0.83
	901	Convection Oven	Retail	5.82	0.70	1.06	1.06	15%	0.13	0.13	15%	0.03	0.03	216	216	3.42		
	905	Base Fryer	Retail	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
	910	Base Steamer	Retail	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
	915	Base Hot Food Holding Cabinets	Retail	10.76	1.29	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10.76	1.29
	940	Base Heating	Retail	226.63	1.03	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	226.63	1.03
	941	XHeat	Retail	226.63	1.03	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
	970	Base Miscellaneous	Retail	660.56	78.72	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	660.56	78.72
	971	XMisc	Retail	660.56	78.72	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
	100	Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
	120	Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	Grocery	39.18	3.98	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	39.18	3.98
	127	gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T12	Grocery	36.24	3.68	2.94	2.94	8%	0.30	0.30	8%	0.01	0.01	90	90	9.04		
	126	Lighting Control Tuneup - Base 2L4'T12	Grocery	35.97	3.68	0.27	3.21	8%	0.01	0.31	8%	0.01	0.01	335	96	6.90		
	124	Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T12	Grocery	35.54	3.62	0.43	3.64	9%	0.05	0.36	9%	0.02	0.01	157	105	4.59		
	122	RET 1L4' Premium T8, 1EB, Reflector OEM - Base 2L4'T12	Grocery	33.22	3.39	2.32	5.96	15%	0.24	0.59	15%	0.04	0.02	405	225	2.01		
	125	Continuous Dimming, 10L4' Fluorescent Fixtures - Base 2L4'T12	Grocery	31.30	3.07	1.92	7.89	20%	0.32	0.91	23%	0.05	0.03	309	254	1.86		
	130	Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	Grocery	164.53	16.72	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	164.53	16.72
	136	gh Performance Lighting Remod/Renov - 25% Savings - Base 2L8'T12	Grocery	152.19	15.47	12.34	12.34	8%	1.25	1.25	8%	0.01	0.01	90	90	9.04		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011															
Vintage	Batch		Building	Total	Total	GWH	Total	Percent	MW	Total	Percent	Marginal	Average	Marginal	Average	Total		
Measure	Number	Measure	Type	GWH	MW	Savings	Energy Savings GWH	GWH Savings	Savings	Capacity Savings MW	MW Savings	Energy Cost \$/kWh	Energy Cost \$/kWh	Capacity Cost \$/kW	Capacity Cost \$/kW	Resource Cost Test TRC	Base GWH	Base MW
134		Occupancy Sensor, 4L8' Fluorescent Fixtures - Base 2L8'T12	Grocery	150.36	15.25	1.83	14.17	9%	0.22	1.47	9%	0.02	0.01	142	98	5.07		
135		Continuous Dimming, 5L8' Fluorescent Fixtures - Base 2L8'T12	Grocery	141.66	13.81	8.71	22.87	14%	1.45	2.92	17%	0.05	0.02	286	191	2.00		
132		RET 2 - 1L4' Premium T8, 1EB, Reflector OEM - Base 2L8'T12	Grocery	116.30	11.23	25.36	48.24	29%	2.58	5.49	33%	0.06	0.04	547	358	1.49		
140		Base Incandescent Flood, 75W to Screw-in Replacement	Grocery	195.26	19.85	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	195.26	19.85
141		CFL Screw-in 18W	Grocery	81.38	8.27	113.87	113.87	58%	11.57	11.57	58%	0.01	0.01	82	82	9.96		
142		Cold Cathode Lamps	Grocery	76.11	7.74	5.27	119.15	61%	0.54	12.11	61%	0.05	0.01	509	101	1.60		
143		Screw-in LED--Base Incandescent	Grocery	24.74	2.51	51.37	170.52	87%	5.22	17.33	87%	0.06	0.03	614	252	1.26		
145		Base CFL to screw-in replacement	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
150		Base Incandescent Flood, 75W to Hardwired CFL	Grocery	39.05	3.97	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	39.05	3.97
151		CFL Hardwired, Modular 18W	Grocery	12.34	1.25	26.71	26.71	68%	2.71	2.71	68%	0.02	0.02	188	188	4.34		
153		Hardwired LED fixture--Base Incandescent	Grocery	3.60	0.37	8.74	35.45	91%	0.89	3.60	91%	0.06	0.03	559	272	1.38		
152		Ceramic Metal Halide	Grocery	3.42	0.35	0.18	35.63	91%	0.02	3.62	91%	3.63	0.05	35,695	468	0.02		
155		Base CFL to Hardwired replacement	Grocery	1.83	0.19	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.83	0.19
156		Hardwired LED fixture--Base CFL	Grocery	0.59	0.06	1.23	1.23	68%	0.13	0.13	68%	0.12	0.12	1,142	1,142	0.68		
160		Base High Bay Probe-start Metal Halide, 400W	Grocery	17.37	1.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	17.37	1.77
161		High Bay T5 - Base Std MH	Grocery	11.46	1.17	5.91	5.91	34%	0.60	0.60	34%	0.02	0.02	166	166	4.92		
165		Performance Lighting Remod/Renov - 25% Savings - Base High Bay	Grocery	10.60	1.08	0.86	6.76	39%	0.09	0.69	39%	0.02	0.02	183	168	4.48		
164		Occupancy Sensor, High Bay T5 - Base Std MH	Grocery	10.31	1.07	0.29	7.06	41%	0.00	0.69	39%	0.03	0.02	2,723	181	1.95		
180		Base 4L4'T8, 1EB	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
190		Base 2L4'T8, 1EB	Grocery	26.12	2.65	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	26.12	2.65
196		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'	Grocery	24.16	2.46	1.96	1.96	8%	0.20	0.20	8%	0.01	0.01	136	136	6.03		
193		Lighting Control Tuneup - Base 2L4'T8	Grocery	23.98	2.45	0.18	2.14	8%	0.01	0.20	8%	0.01	0.01	503	145	4.60		
192		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	Grocery	23.64	2.42	0.34	2.48	9%	0.03	0.24	9%	0.02	0.01	215	155	3.80		
194		LED Indoor Lighting - Base 2L4'T8	Grocery	18.82	1.93	4.82	7.30	28%	0.49	0.73	27%	0.14	0.09	1,344	952	0.57		
200		Base Exit Sign	Grocery	0.44	0.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.44	0.04
201		LED Exit Sign	Grocery	0.08	0.01	0.36	0.36	81%	0.04	0.04	81%	0.05	0.05	491	491	1.66		
210		Base Outdoor Mercury Vapor 400W Lamp	Grocery	31.27	0.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	31.27	0.50
214		Outdoor Lighting Controls (Photocell/Timeclock)	Grocery	26.67	0.50	4.60	4.60	15%	0.00	0.00	0%	0.01	0.01	N/A	N/A	6.04		
212		LED Outdoor Area Lighting	Grocery	19.75	0.39	6.92	11.52	37%	0.11	0.11	22%	0.04	0.03	2,278	2,643	1.66		
211		High Pressure Sodium 250W Lamp	Grocery	12.83	0.28	6.92	18.44	59%	0.11	0.22	44%	0.06	0.04	3,952	3,374	1.01		
213		LED Outdoor Bi-level Fixtures	Grocery	10.48	0.24	2.36	20.80	67%	0.04	0.26	52%	0.44	0.08	27,483	6,727	0.14		
220		Base Street Lighting	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
300		Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
350		Base DX Packaged System, EER=10.3, 10 tons	Grocery	382.99	159.10	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	382.99	159.10
362		Aerosol Duct Sealing - DX	Grocery	374.41	155.54	8.58	8.58	2%	3.56	3.56	2%	0.01	0.01	16	16	21.10		
365		DX Coil Cleaning	Grocery	372.90	154.91	1.51	10.09	3%	0.63	4.19	3%	0.01	0.01	28	18	12.32		
352		DX Packaged System, EER=10.9, 10 tons	Grocery	352.37	146.38	20.53	30.61	8%	8.53	12.72	8%	0.39	0.26	938	635	0.36		
363		Ceiling/roof Insulation - DX	Grocery	337.05	140.02	15.32	45.94	12%	6.37	19.08	12%	0.02	0.18	44	438	7.76		
353		DX Packaged System, EER=11.5, 10 tons	Grocery	319.59	132.76	17.46	63.40	17%	7.25	26.34	17%	0.05	0.14	111	348	3.07		
358		Prog. Thermostat - DX	Grocery	311.10	131.64	8.49	71.89	19%	1.13	27.46	17%	0.03	0.13	200	342	3.19		
360		Optimize Controls	Grocery	308.00	131.23	3.10	74.98	20%	0.41	27.87	18%	0.03	0.13	243	340	2.62		
359		Cool Roof - DX	Grocery	291.62	124.42	16.39	91.37	24%	6.81	34.68	22%	0.07	0.12	162	305	2.10		
351		DX Tune Up/ Advanced Diagnostics	Grocery	288.44	123.65	3.18	94.55	25%	0.77	35.45	22%	0.06	0.11	228	303	1.93		
357		Window Film (Standard)	Grocery	283.10	121.43	5.34	99.89	26%	2.22	37.67	24%	0.10	0.11	250	300	1.36		
354		DX Packaged System, EER=13.4, 10 tons	Grocery	243.29	104.89	39.81	139.70	36%	16.54	54.21	34%	0.24	0.15	566	381	0.60		
361		Economizer	Grocery	242.27	104.76	1.01	140.71	37%	0.13	54.34	34%	0.89	0.15	6,736	397	0.09		
364		Duct/Pipe Insulation - DX	Grocery	239.12	103.44	3.16	143.87	38%	1.31	55.65	35%	3.04	0.22	7,306	560	0.05		
400		Base Fan Motor, 5hp, 1800rpm, 87.5%	Grocery	153.19	20.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	153.19	20.62
401		Fan Motor, 5hp, 1800rpm, 89.5%	Grocery	150.51	20.26	2.68	2.68	2%	0.36	0.36	2%	0.02	0.02	143	143	4.54		
402		Variable Speed Drive Control, 5 HP	Grocery	109.66	18.74	40.85	43.54	28%	1.52	1.88	9%	0.01	0.01	270	245	6.58		
403		Demand Controlled Ventilation	Grocery	100.48	18.08	9.18	52.72	34%	0.66	2.54	12%	0.02	0.01	225	240	4.55		
410		Base Fan Motor, 15hp, 1800rpm, 91.0%	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
420		Base Fan Motor, 40hp, 1800rpm, 93.0%	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
500		Base Non-Commercial Refrigerator	Grocery	0.60	0.07	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.60	0.07
501		Energy Star Refrigerator	Grocery	0.48	0.06	0.12	0.12	20%	0.01	0.01	20%	0.88	0.88	7,335	7,335	0.10		
502		HE Refrigerator - CEE Tier 2 (side by side freezer)	Grocery	0.36	0.04	0.12	0.24	40%	0.01	0.03	40%	0.95	0.91	7,983	7,659	0.09		
520		Base Refrigeration System	Grocery	#####	121.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	121.60

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011																		
Vintage Batch			Building Type	Total		GWH Savings	Total Energy Savings		Percent GWH Savings	MW Savings	Total Capacity Savings		Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test		Base GWH	Base MW
Measure Number	Measure	Total GWH		Total MW	GWH		MW	Savings			MW	Savings						TRC			
540	Reach-In Refrigerators	Grocery	#####	120.28	11.06	11.06	1.32	1%	1.32	1.32	1%	0.00	0.00	14	14	50.24					
530	Demand Defrost Electric	Grocery	929.06	110.94	78.19	89.24	9%	9.34	10.66	9%	0.00	0.00	20	19	35.09						
538	Fiber Optic Display Lighting	Grocery	815.25	97.35	113.81	203.05	20%	13.59	24.25	20%	0.00	0.00	32	26	22.37						
533	Freezer-Cooler Replacement Gaskets	Grocery	787.42	94.03	27.83	230.89	23%	3.32	27.57	23%	0.01	0.00	66	31	10.78						
529	Demand Hot Gas Defrost	Grocery	773.41	92.36	14.01	244.89	24%	1.67	29.24	24%	0.01	0.00	79	34	8.92						
525	Efficient compressor motor	Grocery	720.60	86.05	52.81	297.70	29%	6.31	35.55	29%	0.01	0.01	81	42	8.75						
539	Beverage Merchandisers	Grocery	710.37	84.83	10.23	307.93	30%	1.22	36.77	30%	0.01	0.01	101	44	7.00						
527	Floating head pressure controls	Grocery	688.17	84.83	22.20	330.13	32%	0.00	36.77	30%	0.01	0.01	N/A	52	4.59						
522	Strip curtains for walk-ins	Grocery	665.23	82.09	22.94	353.07	35%	2.74	39.51	32%	0.02	0.01	189	61	3.75						
531	Anti-sweat (humidistat) controls	Grocery	654.61	81.41	10.62	363.69	36%	0.68	40.19	33%	0.02	0.01	390	67	2.90						
536	Oversized Air-Cooled Condenser	Grocery	627.04	78.12	27.58	391.26	38%	3.29	43.48	36%	0.04	0.01	332	87	2.14						
523	Night covers for display cases	Grocery	600.62	78.12	26.42	417.69	41%	0.00	43.48	36%	0.04	0.01	N/A	109	1.57						
521	High-efficiency fan motors	Grocery	528.67	69.53	71.94	489.63	48%	8.59	52.07	43%	0.06	0.02	490	172	1.45						
526	Compressor VSD retrofit	Grocery	497.93	67.57	30.75	520.38	51%	1.96	54.03	44%	0.06	0.02	960	200	1.18						
534	High R-Value Glass Doors	Grocery	492.18	66.88	5.75	526.12	52%	0.69	54.71	45%	0.09	0.02	777	208	0.91						
528	Refrigeration Commissioning	Grocery	479.56	65.38	12.62	538.74	53%	1.51	56.22	46%	0.11	0.02	954	228	0.74						
524	Evaporator fan controller for MT walk-ins	Grocery	477.25	65.38	2.31	541.05	53%	0.00	56.22	46%	0.11	0.02	N/A	232	0.51						
535	Multiplex Compressor System	Grocery	427.19	59.40	50.06	591.11	58%	5.98	62.20	51%	0.17	0.04	1,405	345	0.50						
541	Reach-In Freezers	Grocery	423.56	58.97	3.64	594.74	58%	0.43	62.63	52%	1.31	0.04	10,930	418	0.06						
610	Base Desktop PC	Grocery	4.57	0.55	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				4.57	0.55	
611	Energy Star or Better PC	Grocery	3.31	0.43	1.26	1.26	28%	0.12	0.12	22%	0.00	0.00	13	13	66.14						
613	PC Network Power Management Enabling	Grocery	1.87	0.31	1.43	2.70	59%	0.12	0.24	43%	0.01	0.00	67	40	14.15						
620	Base Monitor, CRT	Grocery	2.50	0.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				2.50	0.30	
621	Energy Star or Better Monitor - CRT	Grocery	1.10	0.13	1.40	1.40	56%	0.17	0.17	56%	0.00	0.00	12	12	62.09						
622	Monitor Power Management Enabling - CRT	Grocery	0.90	0.11	0.20	1.60	64%	0.02	0.18	62%	0.02	0.00	192	28	4.93						
630	Base Monitor, LCD	Grocery	1.03	0.12	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				1.03	0.12	
632	Monitor Power Management Enabling - LCD	Grocery	0.99	0.12	0.04	0.04	4%	0.00	0.00	3%	0.02	0.02	225	225	4.22						
631	Energy Star or Better Monitor - LCD	Grocery	0.97	0.12	0.02	0.06	6%	0.00	0.01	5%	0.04	0.02	318	257	2.30						
640	Base Copier	Grocery	5.85	0.70	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				5.85	0.70	
641	Energy Star or Better Copier	Grocery	4.84	0.58	1.01	1.01	17%	0.12	0.12	17%	0.00	0.00	1	1	573.56						
642	Copier Power Management Enabling	Grocery	4.34	0.54	0.50	1.51	26%	0.04	0.16	23%	0.01	0.00	109	29	8.67						
650	Base Laser Printer	Grocery	7.07	0.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				7.07	0.84	
651	Printer Power Management Enabling	Grocery	6.84	0.82	0.22	0.22	3%	0.02	0.02	2%	0.02	0.02	194	194	4.90						
660	Base Data Center/Server Room	Grocery	20.67	2.46	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				20.67	2.46	
661	Data Center Improved Operations	Grocery	18.60	2.22	2.07	2.07	10%	0.25	0.25	10%	0.00	0.00	1	1	491.38						
662	Data Center Best Practices	Grocery	16.98	2.03	1.62	3.69	18%	0.19	0.44	18%	0.00	0.00	4	3	171.19						
663	Data Center State of the Art practices	Grocery	16.64	1.98	0.34	4.03	19%	0.04	0.48	19%	0.00	0.00	9	3	77.51						
700	Base Water Heating	Grocery	17.90	1.91	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				17.90	1.91	
707	Heat Trap	Grocery	16.97	1.81	0.93	0.93	5%	0.10	0.10	5%	0.00	0.00	14	14	56.81						
702	High Efficiency Water Heater (electric)	Grocery	16.63	1.78	0.34	1.27	7%	0.04	0.14	7%	0.00	0.00	27	17	29.30						
706	Heat Recovery Unit	Grocery	7.98	0.85	8.65	9.92	55%	0.92	1.06	55%	0.00	0.00	34	32	23.38						
708	Tankless Water Heater	Grocery	7.50	0.80	0.49	10.40	58%	0.05	1.11	58%	0.01	0.00	92	34	8.57						
701	Demand controlled circulating systems	Grocery	7.21	0.77	0.28	10.69	60%	0.03	1.14	60%	0.01	0.00	101	36	7.80						
709	Solar Water Heater	Grocery	6.25	0.67	0.96	11.65	65%	0.10	1.24	65%	0.01	0.00	104	42	7.56						
704	Hot Water Pipe Insulation	Grocery	6.23	0.67	0.02	11.67	65%	0.00	1.25	65%	0.02	0.00	223	42	3.54						
800	Base Vending Machines	Grocery	9.37	0.99	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				9.37	0.99	
801	Vending Misers (cooled machines only)	Grocery	6.86	0.81	2.51	2.51	27%	0.18	0.18	18%	0.01	0.01	118	118	8.82						
900	Base Oven	Grocery	19.43	1.80	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				19.43	1.80	
901	Convection Oven	Grocery	16.43	1.52	2.99	2.99	15%	0.28	0.28	15%	0.03	0.03	279	279	3.15						
905	Base Fryer	Grocery	173.01	16.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				173.01	16.04	
906	Efficient Fryer	Grocery	161.92	15.01	11.10	11.10	6%	1.03	1.03	6%	0.01	0.01	135	135	6.51						
910	Base Steamer	Grocery	106.32	9.86	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				106.32	9.86	
911	Efficient Steamer	Grocery	11.70	1.08	94.62	94.62	89%	8.77	8.77	89%	0.00	0.00	44	44	19.99						
915	Base Hot Food Holding Cabinets	Grocery	30.41	2.82	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				30.41	2.82	
916	Energy Star Hot Food Holding Cabinets	Grocery	27.50	2.55	2.91	2.91	10%	0.27	0.27	10%	0.00	0.00	36	36	24.32						
940	Base Heating	Grocery	44.19	0.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				44.19	0.04	
941	XHeat	Grocery	44.19	0.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A				99999.00		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS				Year 2011																
Vintage		Batch	Measure	Building Type	Total	Total	GWH Savings	Total	Percent	MW Savings	Total	Percent	Marginal Energy Cost \$/kWH	Average	Marginal Capacity Cost \$/kW	Average	Total Resource Cost Test TRC	Base GWH	Base MW	
Measure Number	Measure				GWH	MW		GWH	Savings		GWH	Savings		Capacity Savings MW		Capacity Savings				Energy Cost \$/kWH
970			Base Miscellaneous	Grocery	198.75	21.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	198.75	21.04
971			XMisc	Grocery	198.75	21.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00			
100			Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	Warehouse	71.21	8.41	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	71.21	8.41	
104			Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T12	Warehouse	67.66	7.90	3.56	3.56	5%	0.50	0.50	6%	0.03	0.03	214	214	3.03			
107			gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T12	Warehouse	62.58	7.31	5.07	8.63	12%	0.60	1.10	13%	0.03	0.03	232	224	3.21			
106			Lighting Control Tuneup - Base 2L4'T12	Warehouse	62.15	7.29	0.43	9.06	13%	0.01	1.12	13%	0.03	0.03	848	232	2.38			
105			Continuous Dimming, 5L4' Fluorescent Fixtures - Base 4L4'T12	Warehouse	54.73	5.76	7.42	16.48	23%	1.53	2.64	31%	0.15	0.08	730	520	0.70			
102			RET 2L4' Premium T8, 1EB, Reflector, base 4L4'T12	Warehouse	47.58	4.92	7.15	23.63	33%	0.84	3.49	41%	0.37	0.17	3,150	1,156	0.24			
120			Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	Warehouse	55.38	6.54	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	55.38	6.54	
127			gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T12	Warehouse	51.22	6.05	4.15	4.15	8%	0.49	0.49	8%	0.02	0.02	180	180	4.14			
124			Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T12	Warehouse	48.67	5.69	2.56	6.71	12%	0.36	0.85	13%	0.03	0.02	207	191	3.13			
126			Lighting Control Tuneup - Base 2L4'T12	Warehouse	48.33	5.67	0.33	7.05	13%	0.01	0.86	13%	0.02	0.02	693	198	2.92			
122			RET 1L4' Premium T8, 1EB, Reflector OEM - Base 2L4'T12	Warehouse	45.18	5.30	3.15	10.20	18%	0.37	1.24	19%	0.51	0.18	4,357	1,450	0.17			
130			Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	Warehouse	30.34	3.58	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	30.34	3.58	
134			Occupancy Sensor, 4L8' Fluorescent Fixtures - Base 2L8'T12	Warehouse	28.83	3.37	1.52	1.52	5%	0.21	0.21	6%	0.02	0.02	175	175	3.71			
136			gh Performance Lighting Remod/Renov - 25% Savings - Base 2L8'T12	Warehouse	26.67	3.11	2.16	3.68	12%	0.26	0.47	13%	0.02	0.02	189	183	3.93			
132			RET 2 - 1L4' Premium T8, 1EB, Reflector OEM - Base 2L8'T12	Warehouse	21.89	2.55	4.77	8.45	28%	0.56	1.03	29%	0.65	0.38	5,541	3,104	0.13			
140			Base Incandescent Flood, 75W to Screw-in Replacement	Warehouse	17.31	2.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	17.31	2.04	
141			CFL Screw-in 18W	Warehouse	7.22	0.85	10.10	10.10	58%	1.19	1.19	58%	0.01	0.01	110	110	6.79			
142			Cold Cathode Lamps	Warehouse	6.75	0.80	0.47	10.57	61%	0.06	1.25	61%	0.06	0.01	469	126	1.59			
143			Screw-in LED--Base Incandescent	Warehouse	2.19	0.26	4.56	15.12	87%	0.54	1.79	87%	0.09	0.03	728	292	0.85			
145			Base CFL to screw-in replacement	Warehouse	7.90	0.93	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	7.90	0.93	
146			Screw-in LED--Base CFL	Warehouse	2.57	0.30	5.33	5.33	68%	0.63	0.63	68%	0.18	0.18	1,566	1,566	0.40			
150			Base Incandescent Flood, 75W to Hardwired CFL	Warehouse	1.29	0.15	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.29	0.15	
151			CFL Hardwired, Modular 18W	Warehouse	0.41	0.05	0.88	0.88	68%	0.10	0.10	68%	0.03	0.03	252	252	2.96			
153			Hardwired LED fixture--Base Incandescent	Warehouse	0.12	0.01	0.29	1.17	91%	0.03	0.14	91%	0.08	0.04	663	321	0.93			
152			Ceramic Metal Halide	Warehouse	0.11	0.01	0.01	1.18	91%	0.00	0.14	91%	3.81	0.06	32,258	548	0.02			
155			Base CFL to Hardwired replacement	Warehouse	0.59	0.07	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.59	0.07	
156			Hardwired LED fixture--Base CFL	Warehouse	0.19	0.02	0.40	0.40	68%	0.05	0.05	68%	0.16	0.16	1,355	1,355	0.46			
160			Base High Bay Probe-start Metal Halide, 400W	Warehouse	41.30	4.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	41.30	4.88	
164			Occupancy Sensor, High Bay T5 - Base Std MH	Warehouse	40.19	4.86	1.12	1.12	3%	0.02	0.02	0%	0.03	0.03	2,328	2,328	1.96			
165			gh Performance Lighting Remod/Renov - 25% Savings - Base High Bay	Warehouse	37.17	4.51	3.01	4.13	10%	0.36	0.37	8%	0.03	0.03	246	332	3.02			
161			High Bay T5 - Base Std MH	Warehouse	29.25	3.57	7.92	12.05	29%	0.93	1.31	27%	0.17	0.12	1,409	1,103	0.53			
180			Base 4L4'T8, 1EB	Warehouse	82.64	9.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	82.64	9.76	
182			Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T8	Warehouse	77.68	9.17	4.96	4.96	6%	0.59	0.59	6%	0.03	0.03	262	262	2.84			
185			gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4'T8	Warehouse	71.85	8.49	5.83	10.78	13%	0.69	1.27	13%	0.03	0.03	287	275	2.60			
183			Lighting Control Tuneup - Base 4L4'T8	Warehouse	71.36	8.47	0.49	11.28	14%	0.02	1.29	13%	0.03	0.03	1,050	285	1.92			
181			ROB 4L4' Premium T8, 1EB - Base 4L4'T8	Warehouse	67.95	8.07	3.41	14.68	18%	0.40	1.69	17%	0.21	0.07	1,801	646	0.41			
184			LED Indoor Lighting - Base 4L4'T8	Warehouse	60.42	7.18	7.53	22.21	27%	0.89	2.58	26%	4.50	1.57	38,116	13,483	0.02			
190			Base 2L4'T8, 1EB	Warehouse	24.03	2.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	24.03	2.84	
192			Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	Warehouse	20.43	2.41	3.60	3.60	15%	0.43	0.43	15%	0.03	0.03	262	262	2.84			
196			gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4'T8	Warehouse	18.89	2.23	1.53	5.14	21%	0.18	0.61	21%	0.04	0.03	317	279	2.35			
193			Lighting Control Tuneup - Base 2L4'T8	Warehouse	18.76	2.23	0.13	5.27	22%	0.00	0.61	22%	0.04	0.03	1,161	285	1.74			
191			ROB 2L4' Premium T8, 1EB - Base 2L4'T8	Warehouse	16.50	1.96	2.26	7.53	31%	0.27	0.88	31%	0.21	0.09	1,802	747	0.41			
194			LED Indoor Lighting - Base 2L4'T8	Warehouse	13.14	1.56	3.36	10.89	45%	0.40	1.28	45%	1.92	0.64	16,256	5,490	0.04			
200			Base Exit Sign	Warehouse	1.00	0.12	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.00	0.12	
201			LED Exit Sign	Warehouse	0.21	0.02	0.79	0.79	79%	0.09	0.09	79%	0.65	0.65	5,475	5,475	0.14			
210			Base Outdoor Mercury Vapor 400W Lamp	Warehouse	84.46	0.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	84.46	0.76	
214			Outdoor Lighting Controls (Photocell/Timeclock)	Warehouse	71.92	0.76	12.54	12.54	15%	0.00	0.00	0%	0.05	0.05	N/A	N/A	1.18			
211			High Pressure Sodium 250W Lamp	Warehouse	48.69	0.55	23.23	35.77	42%	0.21	0.21	27%	0.23	0.17	25,440	28,253	0.27			
212			LED Outdoor Area Lighting	Warehouse	36.06	0.44	12.63	48.40	57%	0.11	0.32	42%	0.28	0.19	30,471	28,030	0.21			
213			LED Outdoor Bi-level Fixtures	Warehouse	29.43	0.38	6.63	55.03	65%	0.06	0.38	50%	2.16	0.42	238,893	60,919	0.03			
220			Base Street Lighting	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	
300			Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Warehouse	45.97	27.97	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	45.97	27.97	
311			High Efficiency Chiller Motors	Warehouse	44.66	27.17	1.31	1.31	3%	0.80	0.80	3%	0.04	0.04	68	68	4.40			
304			Cool Roof - Chiller	Warehouse	44.27	26.93	0.40	1.71	4%	0.24	1.04	4%	0.07	0.05	110	77	2.70			
305			Chiller Tune Up/Diagnostics	Warehouse	43.19	26.51	1.08	2.78	6%	0.42	1.46	5%	0.10	0.07	252	128	1.40			

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011															
Vintage	Batch	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
Measure Number	Measure																
307	EMS Optimization	Warehouse	42.63	26.39	0.56	3.34	7%	0.13	1.58	6%	0.10	0.07	448	153	1.04		
302	Window Film (Standard)	Warehouse	40.22	24.92	2.41	5.75	13%	1.47	3.05	11%	0.19	0.12	307	227	0.97		
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Warehouse	36.79	22.83	3.43	9.19	20%	2.09	5.14	18%	1.67	0.70	2,744	1,251	0.11		
303	EMS - Chiller	Warehouse	33.11	20.59	3.68	12.87	28%	2.24	7.38	26%	0.62	0.68	1,026	1,182	0.29		
308	Economizer - Chiller	Warehouse	33.03	20.58	0.07	12.94	28%	0.02	7.39	26%	0.88	0.68	3,920	1,188	0.12		
309	Duct/Pipe Insulation - Chiller	Warehouse	32.62	20.33	0.41	13.35	29%	0.25	7.64	27%	3.25	0.76	5,346	1,325	0.06		
350	Base DX Packaged System, EER=10.3, 10 tons	Warehouse	809.35	492.39	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	809.35	492.39
363	Ceiling/roof Insulation - DX	Warehouse	753.63	458.49	55.73	55.73	7%	33.90	33.90	7%	0.00	0.00	6	6	53.17		
359	Cool Roof - DX	Warehouse	750.40	456.53	3.23	58.96	7%	1.97	35.87	7%	0.08	0.01	137	13	2.16		
362	Aerosol Duct Sealing - DX	Warehouse	734.00	446.55	16.40	75.35	9%	9.97	45.84	9%	0.13	0.03	217	57	1.37		
360	Optimize Controls	Warehouse	727.71	445.14	6.29	81.65	10%	1.41	47.26	10%	0.08	0.04	355	66	1.31		
351	DX Tune Up/ Advanced Diagnostics	Warehouse	720.45	442.32	7.26	88.91	11%	2.81	50.07	10%	0.12	0.05	313	80	1.13		
365	DX Coil Cleaning	Warehouse	696.03	427.47	24.42	113.32	14%	14.86	64.93	13%	0.24	0.09	395	152	0.75		
352	DX Packaged System, EER=10.9, 10 tons	Warehouse	657.71	404.16	38.31	151.64	19%	23.31	88.23	18%	8.08	2.11	13,276	3,619	0.02		
353	DX Packaged System, EER=11.5, 10 tons	Warehouse	623.64	383.43	34.07	185.71	23%	20.73	108.96	22%	0.91	1.89	1,500	3,216	0.20		
358	Prog. Thermostat - DX	Warehouse	609.33	380.22	14.31	200.02	25%	3.21	112.18	23%	0.61	1.80	2,719	3,202	0.17		
357	Window Film (Standard)	Warehouse	568.95	355.65	40.38	240.40	30%	24.57	136.74	28%	1.45	1.74	2,382	3,054	0.12		
354	DX Packaged System, EER=13.4, 10 tons	Warehouse	488.94	306.97	80.01	320.41	40%	48.68	185.42	38%	4.53	2.43	7,444	4,207	0.04		
364	Duct/Pipe Insulation - DX	Warehouse	482.68	303.17	6.26	326.67	40%	3.81	189.23	38%	7.54	2.53	12,397	4,372	0.02		
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Warehouse	118.45	23.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	118.45	23.06
401	Fan Motor, 5hp, 1800rpm, 89.5%	Warehouse	116.37	22.66	2.07	2.07	2%	0.40	0.40	2%	0.12	0.12	634	634	0.81		
402	Variable Speed Drive Control, 5 HP	Warehouse	86.02	20.96	30.35	32.43	27%	1.70	2.10	9%	0.07	0.07	1,197	1,089	1.06		
403	Demand Controlled Ventilation	Warehouse	74.24	19.70	11.78	44.21	37%	1.26	3.36	15%	0.20	0.11	1,909	1,395	0.40		
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Warehouse	9.01	1.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	9.01	1.75
421	Fan Motor, 40hp, 1800rpm, 94.1%	Warehouse	8.93	1.74	0.08	0.08	1%	0.02	0.02	1%	0.22	0.22	1,111	1,111	0.46		
422	Variable Speed Drive Control, 40 HP	Warehouse	6.60	1.61	2.33	2.41	27%	0.13	0.15	8%	0.03	0.04	585	643	2.16		
423	Air Handler Optimization, 40 HP	Warehouse	6.46	1.60	0.14	2.55	28%	0.01	0.15	9%	0.14	0.04	2,457	735	0.51		
424	Demand Controlled Ventilation	Warehouse	5.58	1.51	0.88	3.44	38%	0.09	0.25	14%	0.23	0.09	2,121	1,261	0.36		
500	Base Non-Commercial Refrigerator	Warehouse	1.97	0.28	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.97	0.28
502	HE Refrigerator - CEE Tier 2 (side by side freezer)	Warehouse	1.48	0.21	0.49	0.49	25%	0.07	0.07	25%	2.05	2.05	14,519	14,519	0.04		
520	Base Refrigeration System	Warehouse	225.61	31.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	225.61	31.84
530	Demand Defrost Electric	Warehouse	208.10	29.37	17.51	17.51	8%	2.47	2.47	8%	0.00	0.00	34	34	18.31		
538	Fiber Optic Display Lighting	Warehouse	182.61	25.77	25.49	43.01	19%	3.60	6.07	19%	0.01	0.01	54	46	11.67		
533	Freezer-Cooler Replacement Gaskets	Warehouse	176.37	24.89	6.23	49.24	22%	0.88	6.95	22%	0.02	0.01	112	54	5.62		
525	Efficient compressor motor	Warehouse	164.33	23.19	12.04	61.28	27%	1.70	8.65	27%	0.02	0.01	136	70	4.65		
529	Demand Hot Gas Defrost	Warehouse	160.21	22.61	4.12	65.40	29%	0.58	9.23	29%	0.02	0.01	146	75	4.30		
527	Floating head pressure controls	Warehouse	150.82	22.61	9.39	74.80	33%	0.00	9.23	29%	0.03	0.01	N/A	102	2.18		
522	Strip curtains for walk-ins	Warehouse	145.08	21.80	5.73	80.53	36%	0.81	10.04	32%	0.05	0.02	331	120	1.90		
531	Anti-sweat (humidistat) controls	Warehouse	138.35	21.29	6.73	87.26	39%	0.51	10.55	33%	0.05	0.02	704	149	1.39		
536	Oversized Air-Cooled Condenser	Warehouse	132.52	20.47	5.83	93.09	41%	0.82	11.37	36%	0.08	0.02	600	181	1.05		
521	High-efficiency fan motors	Warehouse	116.65	18.23	15.87	108.96	48%	2.24	13.61	43%	0.12	0.04	847	291	0.74		
526	Compressor VSD retrofit	Warehouse	109.93	17.72	6.72	115.69	51%	0.51	14.12	44%	0.13	0.04	1,661	340	0.59		
534	High R-Value Glass Doors	Warehouse	108.23	17.48	1.69	117.38	52%	0.24	14.36	45%	0.19	0.04	1,349	357	0.47		
528	Refrigeration Commissioning	Warehouse	107.68	17.40	0.56	117.93	52%	0.08	14.44	45%	0.23	0.04	1,656	364	0.38		
535	Multiplex Compressor System	Warehouse	92.32	15.23	15.36	133.29	59%	2.17	16.61	52%	0.35	0.08	2,481	640	0.25		
524	Evaporator fan controller for MT walk-ins	Warehouse	91.94	15.23	0.39	133.68	59%	0.00	16.61	52%	0.27	0.08	N/A	647	0.21		
610	Base Desktop PC	Warehouse	16.13	1.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	16.13	1.79
611	Energy Star or Better PC	Warehouse	11.68	1.41	4.45	4.45	28%	0.39	0.39	22%	0.00	0.00	29	29	31.95		
613	PC Network Power Management Enabling	Warehouse	6.64	1.02	5.04	9.49	59%	0.39	0.78	43%	0.01	0.01	149	90	6.84		
620	Base Monitor, CRT	Warehouse	16.51	1.83	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	16.51	1.83
621	Energy Star or Better Monitor - CRT	Warehouse	7.34	0.82	9.17	9.17	56%	1.02	1.02	56%	0.00	0.00	4	4	174.98		
622	Monitor Power Management Enabling - CRT	Warehouse	6.04	0.71	1.30	10.47	63%	0.10	1.12	61%	0.01	0.00	74	11	13.85		
630	Base Monitor, LCD	Warehouse	0.90	0.10	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.90	0.10
632	Monitor Power Management Enabling - LCD	Warehouse	0.86	0.10	0.04	0.04	4%	0.00	0.00	3%	0.05	0.05	599	599	1.70		
631	Energy Star or Better Monitor - LCD	Warehouse	0.85	0.10	0.01	0.05	5%	0.00	0.00	4%	0.09	0.05	840	653	0.94		
640	Base Copier	Warehouse	6.20	0.69	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6.20	0.69

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																
Vintage	Batch	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
641		Energy Star or Better Copier	Warehouse	5.13	0.57	1.07	1.07	17%	0.12	0.12	17%	0.00	0.00	6	6	124.81		
642		Copier Power Management Enabling	Warehouse	4.60	0.53	0.53	1.60	26%	0.04	0.16	23%	0.04	0.01	540	143	1.88		
650		Base Laser Printer	Warehouse	11.69	1.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	11.69	1.30
651		Printer Power Management Enabling	Warehouse	11.32	1.27	0.37	0.37	3%	0.03	0.03	2%	0.03	0.03	409	409	2.49		
660		Base Data Center/Server Room	Warehouse	11.89	1.32	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	11.89	1.32
661		Data Center Improved Operations	Warehouse	10.70	1.19	1.19	1.19	10%	0.13	0.13	10%	0.00	0.00	25	25	31.23		
662		Data Center Best Practices	Warehouse	9.77	1.08	0.93	2.12	18%	0.10	0.24	18%	0.01	0.01	72	46	10.88		
663		Data Center State of the Art practices	Warehouse	9.57	1.06	0.20	2.32	19%	0.02	0.26	19%	0.02	0.01	160	55	4.93		
700		Base Water Heating	Warehouse	35.11	3.66	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	35.11	3.66
706		Heat Recovery Unit	Warehouse	32.83	3.42	2.28	2.28	6%	0.24	0.24	7%	0.04	0.04	406	406	2.00		
707		Heat Trap	Warehouse	31.13	3.25	1.70	3.98	11%	0.18	0.42	11%	0.08	0.06	722	541	1.12		
702		High Efficiency Water Heater (electric)	Warehouse	30.51	3.18	0.62	4.61	13%	0.06	0.48	13%	0.15	0.07	1,400	657	0.58		
708		Tankless Water Heater	Warehouse	28.64	2.99	1.87	6.47	18%	0.19	0.67	18%	0.24	0.12	2,298	1,131	0.35		
709		Solar Water Heater	Warehouse	19.28	2.01	9.36	15.83	45%	0.98	1.65	45%	0.26	0.20	2,505	1,943	0.32		
701		Demand controlled circulating systems	Warehouse	18.56	1.94	0.72	16.55	47%	0.08	1.73	47%	0.45	0.21	4,301	2,046	0.19		
704		Hot Water Pipe Insulation	Warehouse	18.43	1.92	0.13	16.68	48%	0.01	1.74	48%	0.74	0.22	7,086	2,085	0.11		
800		Base Vending Machines	Warehouse	28.34	3.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	28.34	3.56
801		Vending Misers (cooled machines only)	Warehouse	20.88	2.90	7.46	7.46	26%	0.65	0.65	18%	0.05	0.05	620	620	1.47		
900		Base Oven	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
905		Base Fryer	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
910		Base Steamer	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
915		Base Hot Food Holding Cabinets	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
940		Base Heating	Warehouse	37.49	0.02	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	37.49	0.02
941		XHeat	Warehouse	37.49	0.02	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
970		Base Miscellaneous	Warehouse	162.72	20.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	162.72	20.42
971		XMisc	Warehouse	162.72	20.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	99999.00		
100		Base Fluorescent Fixture, 4L4'T12, 34W, 2EEMAG	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
120		Base Fluorescent Fixture, 2L4'T12, 34W, 1EEMAG	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
130		Base Fluorescent Fixture, 2L8'T12, 60W, 1EEMAG	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00
140		Base Incandescent Flood, 75W to Screw-in Replacement	School	105.01	9.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	105.01	9.60
141		CFL Screw-in 18W	School	43.77	4.00	61.24	61.24	58%	5.60	5.60	58%	0.01	0.01	160	160	5.71		
142		Cold Cathode Lamps	School	40.93	3.74	2.84	64.08	61%	0.26	5.86	61%	0.06	0.02	625	180	1.46		
143		Screw-in LED--Base Incandescent	School	13.30	1.22	27.63	91.70	87%	2.53	8.38	87%	0.09	0.04	1,026	412	0.73		
145		Base CFL to screw-in replacement	School	1.70	0.16	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.70	0.16
146		Screw-in LED--Base CFL	School	0.55	0.05	1.15	1.15	67%	0.10	0.10	68%	0.20	0.20	2,206	2,206	0.34		
150		Base Incandescent Flood, 75W to Hardwired CFL	School	7.07	0.65	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	7.07	0.65
151		CFL Hardwired, Modular 18W	School	2.23	0.20	4.83	4.83	68%	0.44	0.44	68%	0.03	0.03	366	366	2.49		
153		Hardwired LED fixture--Base Incandescent	School	0.65	0.06	1.58	6.42	91%	0.14	0.59	91%	0.09	0.04	934	456	0.80		
152		Ceramic Metal Halide	School	0.62	0.06	0.03	6.45	91%	0.00	0.59	91%	3.81	0.07	41,668	767	0.02		
155		Base CFL to Hardwired replacement	School	1.20	0.11	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1.20	0.11
156		Hardwired LED fixture--Base CFL	School	0.39	0.04	0.81	0.81	67%	0.07	0.07	68%	0.17	0.17	1,908	1,908	0.39		
160		Base High Bay Probe-start Metal Halide, 400W	School	66.52	6.08	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	66.52	6.08
161		High Bay T5 - Base Std MH	School	54.70	5.00	11.82	11.82	18%	1.08	1.08	18%	0.02	0.02	241	241	3.78		
164		Occupancy Sensor, High Bay T5 - Base Std MH	School	53.20	4.99	1.50	13.33	20%	0.02	1.10	18%	0.03	0.02	2,452	273	2.44		
165		Performance Lighting Remod/Renov - 25% Savings - Base High Bay	School	49.21	4.62	3.99	17.32	26%	0.36	1.46	24%	0.03	0.02	279	274	3.26		
180		Base 4L4'T8, 1EB	School	158.54	14.49	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	158.54	14.49
181		ROB 4L4' Premium T8, 1EB - Base 4L4'T8	School	141.01	12.89	17.52	17.52	11%	1.60	1.60	11%	0.02	0.02	188	188	4.84		
182		Occupancy Sensor, 4L4' Fluorescent Fixtures - Base 4L4'T8	School	122.57	11.21	18.44	35.96	23%	1.69	3.29	23%	0.02	0.02	260	225	3.50		
185		gh Performance Lighting Remod/Renov - 25% Savings - Base 4L4"	School	113.38	10.37	9.19	45.15	28%	0.84	4.13	28%	0.03	0.02	325	245	2.80		
183		Lighting Control Tuneup - Base 4L4'T8	School	113.10	10.36	0.29	45.44	29%	0.01	4.14	29%	0.03	0.02	1,176	247	2.21		
184		LED Indoor Lighting - Base 4L4'T8	School	100.56	9.21	12.53	57.97	37%	1.15	5.28	36%	0.42	0.11	4,648	1,167	0.16		
190		Base 2L4'T8, 1EB	School	131.33	12.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	131.33	12.01
192		Occupancy Sensor, 8L4' Fluorescent Fixtures - Base 2L4'T8	School	113.43	10.37	17.90	17.90	14%	1.64	1.64	14%	0.02	0.02	235	235	3.88		
191		ROB 2L4' Premium T8, 1EB - Base 2L4'T8	School	99.74	9.12	13.69	31.59	24%	1.25	2.89	24%	0.03	0.02	275	252	3.31		
196		gh Performance Lighting Remod/Renov - 25% Savings - Base 2L4"	School	92.26	8.43	7.48	39.07	30%	0.68	3.57	30%	0.03	0.02	331	267	2.75		
193		Lighting Control Tuneup - Base 2L4'T8	School	92.03	8.43	0.23	39.30	30%	0.01	3.58	30%	0.03	0.02	1,197	269	2.17		
194		LED Indoor Lighting - Base 2L4'T8	School	73.27	6.71	18.76	58.06	44%	1.72	5.29	44%	0.24	0.09	2,603	992	0.29		

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011																	
Vintage Batch			Building Type	Total		GWH Savings	Total Energy Savings		Percent GWH Savings	MW Savings	Total Capacity Savings		Percent MW Savings	Marginal Energy Cost \$/kWh	Average Energy Cost \$/kWh	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW
Measure Number	Measure	Total GWH		Total MW	GWH		MW	MW			Savings									
200	Base Exit Sign	School	1.70	0.16	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	1.70	0.16	
201	LED Exit Sign	School	0.36	0.03	1.34	1.34	79%	0.12	0.12	0.12	79%	0.08	0.08	822	822	1.11				
210	Base Outdoor Mercury Vapor 400W Lamp	School	107.81	2.86	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	107.81	2.86	
214	Outdoor Lighting Controls (Photocell/Timeclock)	School	92.05	2.86	15.76	15.76	15%	0.00	0.00	0.00	0%	0.01	0.01	N/A	N/A	N/A	N/A			
211	High Pressure Sodium 250W Lamp	School	74.25	2.39	17.79	33.55	31%	0.47	0.47	0.47	17%	0.04	0.03	1,688	2,060	1.46				
212	LED Outdoor Area Lighting	School	54.99	1.88	19.26	52.82	49%	0.51	0.98	0.98	34%	0.05	0.04	2,022	1,986	1.16				
213	LED Outdoor Bi-level Fixtures	School	44.88	1.61	10.11	62.92	58%	0.27	1.25	1.25	44%	0.42	0.10	15,856	4,958	0.15				
220	Base Street Lighting	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	School	50.40	16.17	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	50.40	16.17	
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	School	46.10	14.79	4.30	4.30	9%	1.38	1.38	1.38	9%	0.33	0.33	1,016	1,016	0.42				
303	EMS - Chiller	School	41.49	13.31	4.61	8.91	18%	1.48	2.86	2.86	18%	0.12	0.22	380	687	1.12				
311	High Efficiency Chiller Motors	School	40.30	12.93	1.18	10.09	20%	0.38	3.24	3.24	20%	0.16	0.21	494	665	0.87				
302	Window Film (Standard)	School	39.36	12.62	0.95	11.04	22%	0.30	3.54	3.54	22%	0.23	0.21	705	668	0.61				
305	Chiller Tune Up/Diagnostics	School	38.38	12.43	0.98	12.02	24%	0.20	3.74	3.74	23%	0.20	0.21	996	685	0.55				
307	EMS Optimization	School	37.86	12.37	0.52	12.54	25%	0.06	3.80	3.80	23%	0.20	0.21	1,771	702	0.44				
308	Economizer - Chiller	School	37.82	12.37	0.03	12.57	25%	0.00	3.80	3.80	24%	0.46	0.21	4,005	705	0.19				
304	Cool Roof - Chiller	School	37.26	12.18	0.56	13.14	26%	0.18	3.98	3.98	25%	0.89	0.24	2,782	800	0.15				
309	Duct/Pipe Insulation - Chiller	School	37.24	12.18	0.02	13.16	26%	0.01	3.99	3.99	25%	5.26	0.25	16,395	821	0.03				
350	Base DX Packaged System, EER=10.3, 10 tons	School	256.12	82.15	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	256.12	82.15	
362	Aerosol Duct Sealing - DX	School	250.38	80.31	5.74	5.74	2%	1.84	1.84	1.84	2%	0.03	0.03	85	85	5.01				
363	Ceiling/roof Insulation - DX	School	250.17	80.25	0.21	5.95	2%	0.07	1.91	1.91	2%	0.03	0.03	105	86	4.05				
365	DX Coil Cleaning	School	245.05	78.60	5.12	11.07	4%	1.64	3.55	3.55	4%	0.05	0.04	150	115	2.86				
352	DX Packaged System, EER=10.9, 10 tons	School	231.56	74.28	13.49	24.56	10%	4.33	7.88	7.88	10%	1.62	0.91	5,052	2,827	0.08				
357	Window Film (Standard)	School	224.81	72.11	6.75	31.31	12%	2.17	10.04	10.04	12%	0.12	0.74	363	2,295	1.18				
353	DX Packaged System, EER=11.5, 10 tons	School	213.16	68.37	11.65	42.96	17%	3.74	13.78	13.78	17%	0.19	0.59	588	1,833	0.73				
358	Prog. Thermostat - DX	School	208.06	67.79	5.10	48.05	19%	0.58	14.36	14.36	17%	0.12	0.54	1,065	1,802	0.73				
360	Optimize Controls	School	206.20	67.58	1.86	49.91	19%	0.21	14.57	14.57	18%	0.14	0.52	1,269	1,794	0.61				
351	DX Tune Up/ Advanced Diagnostics	School	204.10	67.16	2.11	52.02	20%	0.42	14.99	14.99	18%	0.22	0.51	1,121	1,775	0.48				
359	Cool Roof - DX	School	199.02	65.53	5.08	57.10	22%	1.63	16.62	16.62	20%	0.29	0.49	906	1,690	0.47				
361	Economizer	School	191.32	64.66	7.70	64.79	25%	0.87	17.49	17.49	21%	0.32	0.47	2,829	1,747	0.27				
354	DX Packaged System, EER=13.4, 10 tons	School	164.42	56.03	26.90	91.70	36%	8.63	26.12	26.12	32%	0.95	0.61	2,966	2,150	0.14				
364	Duct/Pipe Insulation - DX	School	162.23	55.33	2.19	93.89	37%	0.70	26.83	33%	12.01	0.88	37,439	3,074	0.01					
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	School	95.62	11.68	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	95.62	11.68	
401	Fan Motor, 5hp, 1800rpm, 89.5%	School	93.95	11.48	1.67	1.67	2%	0.20	0.20	0.20	2%	0.15	0.15	1,203	1,203	0.61				
402	Variable Speed Drive Control, 5 HP	School	69.30	10.61	24.65	26.32	28%	0.86	1.07	0.86	9%	0.08	0.08	2,269	2,064	0.87				
403	Demand Controlled Ventilation	School	63.33	10.22	5.97	32.30	34%	0.40	1.46	1.46	13%	0.17	0.10	2,521	2,188	0.46				
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	School	47.96	5.86	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	47.96	5.86	
411	Fan Motor, 15hp, 1800rpm, 92.4%	School	47.39	5.79	0.57	0.57	1%	0.07	0.07	0.07	1%	0.35	0.35	2,826	2,826	0.26				
415	Electronically Commutated Motors (ECM) on an air handler unit	School	42.75	5.22	4.64	5.21	11%	0.57	0.64	11%	0.08	0.11	624	864	1.19					
412	Variable Speed Drive Control, 15 HP	School	31.53	4.83	11.21	16.43	34%	0.39	1.03	1.03	18%	0.10	0.10	2,749	1,582	0.71				
413	Air Handler Optimization, 15 HP	School	29.72	4.77	1.81	18.24	38%	0.06	1.09	1.09	19%	0.13	0.10	3,758	1,708	0.52				
417	Demand Controlled Ventilation	School	27.16	4.60	2.56	20.80	43%	0.17	1.26	22%	0.21	0.12	3,180	1,907	0.36					
414	Energy Recovery Ventilation	School	25.84	4.43	1.32	22.12	46%	0.16	1.42	24%	1.15	0.18	9,436	2,759	0.08					
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	
500	Base Non-Commercial Refrigerator	School	15.05	1.54	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	15.05	1.54	
502	HE Refrigerator - CEE Tier 2 (side by side freezer)	School	11.29	1.16	3.76	3.76	25%	0.39	0.39	25%	1.49	1.49	14,506	14,506	0.05					
520	Base Refrigeration System	School	62.38	6.39	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	62.38	6.39	
530	Demand Defrost Electric	School	57.54	5.89	4.84	4.84	8%	0.50	0.50	8%	0.01	0.01	137	137	5.78					
540	Reach-In Refrigerators	School	56.91	5.83	0.62	5.47	9%	0.06	0.56	9%	0.02	0.01	153	139	5.18					
538	Fiber Optic Display Lighting	School	49.94	5.11	6.97	12.44	20%	0.71	1.27	20%	0.02	0.02	218	183	3.64					
539	Beverage Merchandisers	School	49.23	5.04	0.71	13.15	21%	0.07	1.35	21%	0.04	0.02	373	194	2.13					
533	Freezer-Cooler Replacement Gaskets	School	47.55	4.87	1.68	14.83	24%	0.17	1.52	24%	0.05	0.02	459	224	1.73					
525	Efficient compressor motor	School	44.31	4.54	3.25	18.08	29%	0.33	1.85	29%	0.06	0.03	555	283	1.43					
529	Demand Hot Gas Defrost	School	43.19	4.42	1.11	19.19	31%	0.11	1.96	31%	0.06	0.03	599	301	1.33					
541	Reach-In Freezers	School	42.83	4.39	0.37	19.55	31%	0.04	2.00	31%	0.09	0.03	907	313	0.88					
527	Floating head pressure controls	School	40.24	4.39	2.59	22.15	36%	0.00	2.00	31%	0.08	0.04	N/A	412	0.75					
522	Strip curtains for walk-ins	School	38.62	4.22	1.62	23.76	38%	0.17	2.17	34%	0.14	0.04	1,373	485	0.58					

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIV MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS					Year 2011														
Vintage		Building Type	Total		Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings		Percent MW Savings	Marginal Energy Cost \$/kWH	Average Energy Cost \$/kWH	Marginal Capacity Cost \$/kW	Average Capacity Cost \$/kW	Total Resource Cost Test TRC	Base GWH	Base MW		
Batch	Measure Number		GWH	MW				MW	Savings										

APPENDIX F

COMMERCIAL NEW CONSTRUCTIONNON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS						Year	2011								
Vintage	Batch						Total Energy Savings	Percent GWH	MW	Total Capacity Savings	Percent MW	Marginal Energy Cost	Average Energy Cost	Marginal Capacity Cost	Average Capacity Cost
Measure Number		Measure	Building Type	Total GWH	Total MW	GWH Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW	\$/kW
100		Base Bldg Design - 30%	Office	69.54	10.77	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Office	48.68	7.54	20.86	20.86	0.3	3.23	3.23	0.3	0.04	0.04	240.71	240.71
200		Base Bldg Design - 50%	Office	46.36	7.18	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Office	23.18	3.59	23.18	23.18	0.5	3.59	3.59	0.5	0.04	0.04	288.86	288.86
300		Base Bldg Design - 70%	Office	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Restaurant	11.04	1.56	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Restaurant	7.73	1.09	3.31	3.31	0.3	0.47	0.47	0.3	0.02	0.02	141.52	141.52
200		Base Bldg Design - 50%	Restaurant	7.36	1.04	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Restaurant	3.68	0.52	3.68	3.68	0.5	0.52	0.52	0.5	0.02	0.02	169.83	169.83
300		Base Bldg Design - 70%	Restaurant	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Retail	24.92	3.90	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Retail	17.44	2.73	7.48	7.48	0.3	1.17	1.17	0.3	0.04	0.04	241.36	241.36
200		Base Bldg Design - 50%	Retail	16.61	2.60	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Retail	8.31	1.30	8.31	8.31	0.5	1.30	1.30	0.5	0.05	0.05	289.63	289.63
300		Base Bldg Design - 70%	Retail	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Grocery	18.59	2.10	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Grocery	13.01	1.47	5.58	5.58	0.3	0.63	0.63	0.3	0.01	0.01	60.08	60.08
200		Base Bldg Design - 50%	Grocery	10.84	1.22	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Grocery	5.42	0.61	5.42	5.42	0.5	0.61	0.61	0.5	0.01	0.01	72.09	72.09
300		Base Bldg Design - 70%	Grocery	1.55	0.17	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
301		Near Zero Energy (60-75%)	Grocery	0.46	0.05	1.08	1.08	0.7	0.12	0.12	0.7	0.02	0.02	154.48	154.48
100		Base Bldg Design - 30%	Warehouse	23.76	3.11	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Warehouse	16.63	2.17	7.13	7.13	0.3	0.93	0.93	0.3	0.05	0.05	385.43	385.43
200		Base Bldg Design - 50%	Warehouse	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
300		Base Bldg Design - 70%	Warehouse	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	School	17.45	1.78	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	School	12.22	1.24	5.24	5.24	0.3	0.53	0.53	0.3	0.08	0.08	746.54	746.54
200		Base Bldg Design - 50%	School	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
300		Base Bldg Design - 70%	School	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	College	10.49	1.50	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	College	7.34	1.05	3.15	3.15	0.3	0.45	0.45	0.3	0.08	0.08	567.10	567.10
200		Base Bldg Design - 50%	College	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
300		Base Bldg Design - 70%	College	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Health	21.02	2.63	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Health	14.71	1.84	6.31	6.31	0.3	0.79	0.79	0.3	0.06	0.06	449.10	449.10
200		Base Bldg Design - 50%	Health	14.01	1.76	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Health	7.01	0.88	7.01	7.01	0.5	0.88	0.88	0.5	0.07	0.07	538.93	538.93
300		Base Bldg Design - 70%	Health	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Lodging	6.01	0.77	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Lodging	4.21	0.54	1.80	1.80	0.3	0.23	0.23	0.3	0.06	0.06	478.18	478.18
200		Base Bldg Design - 50%	Lodging	4.01	0.52	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
201		High Performance Building/Int Design - Tier 2 50%	Lodging	2.00	0.26	2.00	2.00	0.5	0.26	0.26	0.5	0.07	0.07	573.81	573.81
300		Base Bldg Design - 70%	Lodging	0.00	0.00	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
100		Base Bldg Design - 30%	Other	26.53	3.55	0.00	0.00	0	0.00	0.00	0	N/A	N/A	N/A	N/A
101		High Performance Building/Int Design - Tier 1 30%	Other	18.57	2.48	7.96	7.96	0.3	1.06	1.06	0.3	0.07	0.07	547.23	547.23

APPENDIX F

COMMERCIAL NEW CONSTRUCTIONNON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS						Year	2011									
Vintage						Total	Percent	Total	Percent	Marginal	Average	Marginal	Average			
Batch						Energy	GWH	Capacity	MW	Energy	Energy	Capacity	Capacity			
Measure	Building					Savings	Savings	Savings	Savings	Cost	Cost	Cost	Cost			
Number	Measure					Type	GWH	MW	MW	\$/kWH	\$/kWH	\$/kW	\$/kW			
200	Base Bldg Design - 50%					Other	17.69	2.36	0.00	0.00	0	N/A	N/A	N/A	N/A	
201	High Performance Building/Int Design - Tier 2 50%					Other	8.84	1.18	8.84	0.5	1.18	0.09	0.09	656.67	656.67	
300	Base Bldg Design - 70%					Other	0.00	0.00	0.00	0	0	0	N/A	N/A	N/A	N/A

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
100	Base Compressed Air	Food	109.11	13.17	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Food	108.08	13.04	1.04	1.04	1%	0.13	0.13	1%	0.01	0.01	61
101	Compressed Air-O&M	Food	101.71	12.27	6.37	7.40	7%	0.77	0.89	7%	0.01	0.01	69
109	Comp Air - ASD (6-100 hp)	Food	96.11	12.21	5.60	13.00	12%	0.07	0.96	7%	0.01	0.01	615
103	Compressed Air - System Optimization	Food	85.43	10.92	10.68	23.68	22%	1.29	2.25	17%	0.01	0.01	106
102	Compressed Air - Controls	Food	82.61	10.58	2.82	26.50	24%	0.34	2.59	20%	0.03	0.01	215
112	Comp Air - ASD (100+ hp)	Food	79.75	10.54	2.87	29.36	27%	0.03	2.63	20%	0.03	0.01	2,502
113	Comp Air - Motor practices-1 (100+ HP)	Food	79.29	10.49	0.46	29.82	27%	0.06	2.68	20%	0.05	0.01	385
110	Comp Air - Motor practices-1 (6-100 HP)	Food	79.19	10.48	0.10	29.92	27%	0.01	2.69	20%	0.05	0.01	388
107	Comp Air - Motor practices-1 (1-5 HP)	Food	79.01	10.45	0.18	30.10	28%	0.02	2.71	21%	0.07	0.01	593
111	Comp Air - Replace 100+ HP motor	Food	78.62	10.41	0.39	30.49	28%	0.05	2.76	21%	0.09	0.02	756
108	Comp Air - Replace 6-100 HP motor	Food	77.99	10.33	0.63	31.12	29%	0.08	2.84	22%	0.18	0.02	1,507
106	Comp Air - ASD (1-5 hp)	Food	77.78	10.33	0.21	31.34	29%	0.00	2.84	22%	0.22	0.02	18,093
105	Comp Air - Replace 1-5 HP motor	Food	77.68	10.32	0.09	31.43	29%	0.01	2.85	22%	0.31	0.02	2,589
200	Base Fans	Food	119.42	14.41	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Food	117.40	14.17	2.02	2.02	2%	0.24	0.24	2%	0.01	0.01	64
204	Fans- Improve components	Food	113.34	13.68	4.06	6.09	5%	0.49	0.73	5%	0.02	0.01	131
209	Fans - ASD (6-100 hp)	Food	112.07	13.65	1.27	7.36	6%	0.03	0.76	5%	0.01	0.01	602
210	Fans - Motor practices-1 (6-100 HP)	Food	111.21	13.55	0.86	8.22	7%	0.10	0.86	6%	0.04	0.02	306
212	Fans - ASD (100+ hp)	Food	108.18	13.51	3.03	11.25	9%	0.04	0.91	6%	0.03	0.02	2,066
202	Fans - Controls	Food	87.08	10.96	21.10	32.35	27%	2.55	3.45	24%	0.05	0.04	404
213	Fans - Motor practices-1 (100+ HP)	Food	86.59	10.87	0.49	32.84	27%	0.09	3.55	25%	0.07	0.04	388
207	Fans - Motor practices-1 (1-5 HP)	Food	86.39	10.84	0.20	33.04	28%	0.02	3.57	25%	0.07	0.04	593
203	Fans - System Optimization	Food	73.82	10.08	12.57	45.61	38%	0.76	4.33	30%	0.06	0.05	1,046
211	Fans - Replace 100+ HP motor	Food	72.54	9.92	1.27	46.88	39%	0.15	4.49	31%	0.11	0.05	905
208	Fans - Replace 6-100 HP motor	Food	71.84	9.83	0.71	47.59	40%	0.10	4.59	32%	0.25	0.05	1,805
206	Fans - ASD (1-5 hp)	Food	71.64	9.82	0.20	47.79	40%	0.00	4.59	32%	0.26	0.05	21,495
205	Fans - Replace 1-5 HP motor	Food	71.54	9.81	0.10	47.88	40%	0.01	4.60	32%	0.37	0.05	3,087
300	Base Pumps	Food	210.15	25.36	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Food	206.12	24.88	4.03	4.03	2%	0.49	0.49	2%	0.01	0.01	60
309	Pumps - ASD (6-100 hp)	Food	201.98	24.82	4.14	8.17	4%	0.05	0.54	2%	0.01	0.01	584
302	Pumps - Controls	Food	190.90	23.49	11.08	19.25	9%	1.34	1.87	7%	0.01	0.01	90
304	Pumps - Sizing	Food	181.81	22.39	9.09	28.34	13%	1.10	2.97	12%	0.01	0.01	120
303	Pumps - System Optimization	Food	169.48	20.90	12.33	40.67	19%	1.49	4.46	18%	0.03	0.02	216
312	Pumps - ASD (100+ hp)	Food	163.72	20.83	5.76	46.43	22%	0.07	4.53	18%	0.03	0.02	2,393
313	Pumps - Motor practices-1 (100+ HP)	Food	162.26	20.66	1.46	47.89	23%	0.18	4.71	19%	0.04	0.02	363
310	Pumps - Motor practices-1 (6-100 HP)	Food	161.38	20.55	0.88	48.77	23%	0.11	4.81	19%	0.04	0.02	369
307	Pumps - Motor practices-1 (1-5 HP)	Food	161.22	20.53	0.15	48.93	23%	0.02	4.83	19%	0.07	0.02	544
311	Pumps - Replace 100+ HP motor	Food	160.08	20.39	1.15	50.07	24%	0.14	4.97	20%	0.09	0.02	716
308	Pumps - Replace 6-100 HP motor	Food	158.14	20.16	1.94	52.01	25%	0.23	5.20	21%	0.17	0.03	1,442
306	Pumps - ASD (1-5 hp)	Food	157.70	20.15	0.44	52.45	25%	0.01	5.21	21%	0.21	0.03	17,185
305	Pumps - Replace 1-5 HP motor	Food	157.51	20.13	0.19	52.64	25%	0.02	5.23	21%	0.30	0.03	2,461
400	Base Drives	Food	201.92	24.37	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
401	Bakery - Process (Mixing) - O&M	Food	187.35	22.61	14.57	14.57	7%	1.76	1.76	7%	0.01	0.01	63
500	Base Heating	Food	117.78	14.21	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
501	Bakery - Process	Food	91.15	11.00	26.64	26.64	23%	3.21	3.21	23%	0.01	0.01	103
550	Base Refrigeration	Food	372.00	53.87	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
551	Efficient Refrigeration - Operations	Food	334.07	48.38	37.93	37.93	10%	5.49	5.49	10%	0.01	0.01	64
552	Optimization Refrigeration	Food	250.43	36.27	83.64	121.57	33%	12.11	17.61	33%	0.05	0.04	360
600	Base Other Process	Food	14.33	1.73	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	MW	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Food	15.54	2.25	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Food	13.67	1.98	1.88	1.88	12%	0.27	0.27	12%	0.03	0.03	175
702	Window Film - Chiller	Food	13.11	1.90	0.56	2.44	16%	0.08	0.35	16%	0.09	0.04	650
705	Chiller Tune Up/Diagnostics	Food	12.97	1.88	0.14	2.57	17%	0.02	0.37	17%	0.12	0.05	807
703	EMS - Chiller	Food	12.12	1.76	0.85	3.42	22%	0.12	0.50	22%	0.16	0.07	1,110
706	Cooling Circ. Pumps - VSD	Food	11.70	1.69	0.42	3.84	25%	0.06	0.56	25%	0.23	0.09	1,581
704	Cool Roof - Chiller	Food	11.36	1.65	0.34	4.18	27%	0.05	0.61	27%	0.32	0.11	2,221
710	Base DX Packaged System, EER=10.3, 10 tons	Food	105.71	15.31	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Food	102.26	15.17	3.45	3.45	3%	0.14	0.14	1%	0.01	0.01	195
713	Window Film - DX	Food	99.65	14.79	2.61	6.06	6%	0.38	0.51	3%	0.05	0.03	337
712	DX Packaged System, EER=10.9, 10 tons	Food	94.17	14.00	5.49	11.55	11%	0.79	1.31	9%	0.10	0.06	670
716	Cool Roof - DX	Food	91.28	13.58	2.89	14.43	14%	0.42	1.73	11%	0.16	0.08	1,098
714	Evaporative Pre-Cooler	Food	89.10	13.27	2.18	16.61	16%	0.32	2.04	13%	0.21	0.10	1,436
711	DX Tune Up/ Advanced Diagnostics	Food	85.58	12.76	3.52	20.13	19%	0.51	2.55	17%	0.34	0.14	2,318
800	Base Lighting	Food	105.76	12.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Food	93.00	11.22	12.76	12.76	12%	1.54	1.54	12%	0.04	0.04	295
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Food	91.25	10.98	1.76	14.52	14%	0.24	1.78	14%	0.05	0.04	389
802	CFL Hardwired, Modular 36W	Food	91.03	10.95	0.22	14.74	14%	0.03	1.81	14%	0.05	0.04	453
803	Metal Halide, 50W	Food	72.71	8.74	18.32	33.06	31%	2.21	4.02	32%	0.31	0.19	2,575
900	Base Other	Food	60.75	7.33	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Food	60.74	7.33	0.01	0.01	0%	0.00	0.00	0%	0.05	0.05	379
100	Base Compressed Air	Textiles-Apparel	0.71	0.29	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Textiles-Apparel	0.68	0.28	0.03	0.03	4%	0.01	0.01	4%	0.01	0.01	19
101	Compressed Air-O&M	Textiles-Apparel	0.65	0.27	0.03	0.06	8%	0.01	0.02	8%	0.01	0.01	21
103	Compressed Air - System Optimization	Textiles-Apparel	0.58	0.24	0.07	0.13	18%	0.03	0.05	18%	0.01	0.01	30
102	Compressed Air - Controls	Textiles-Apparel	0.56	0.23	0.02	0.15	21%	0.01	0.06	21%	0.02	0.01	61
109	Comp Air - ASD (6-100 hp)	Textiles-Apparel	0.55	0.23	0.01	0.16	22%	0.00	0.06	21%	0.01	0.01	213
113	Comp Air - Motor practices-1 (100+ HP)	Textiles-Apparel	0.55	0.23	0.00	0.16	23%	0.00	0.06	22%	0.04	0.01	106
110	Comp Air - Motor practices-1 (6-100 HP)	Textiles-Apparel	0.55	0.23	0.00	0.17	23%	0.00	0.07	22%	0.04	0.01	109
107	Comp Air - Motor practices-1 (1-5 HP)	Textiles-Apparel	0.55	0.23	0.00	0.17	23%	0.00	0.07	22%	0.07	0.01	164
111	Comp Air - Replace 100+ HP motor	Textiles-Apparel	0.54	0.23	0.00	0.17	24%	0.00	0.07	23%	0.09	0.02	210
112	Comp Air - ASD (100+ hp)	Textiles-Apparel	0.52	0.23	0.02	0.19	27%	0.00	0.07	23%	0.04	0.02	742
108	Comp Air - Replace 6-100 HP motor	Textiles-Apparel	0.52	0.22	0.00	0.19	27%	0.00	0.07	24%	0.18	0.02	429
105	Comp Air - Replace 1-5 HP motor	Textiles-Apparel	0.52	0.22	0.00	0.20	27%	0.00	0.07	24%	0.31	0.02	743
106	Comp Air - ASD (1-5 hp)	Textiles-Apparel	0.52	0.22	0.00	0.20	28%	0.00	0.07	24%	0.30	0.02	5,210
200	Base Fans	Textiles-Apparel	1.35	0.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Textiles-Apparel	1.35	0.56	0.00	0.00	0%	0.00	0.00	0%	0.01	0.01	18
204	Fans- Improve components	Textiles-Apparel	1.32	0.55	0.02	0.03	2%	0.01	0.01	2%	0.02	0.01	37
210	Fans - Motor practices-1 (6-100 HP)	Textiles-Apparel	1.32	0.54	0.00	0.03	2%	0.00	0.01	2%	0.03	0.02	85
209	Fans - ASD (6-100 hp)	Textiles-Apparel	1.31	0.54	0.01	0.04	3%	0.00	0.01	3%	0.02	0.02	172
202	Fans - Controls	Textiles-Apparel	1.21	0.50	0.10	0.14	10%	0.04	0.05	10%	0.04	0.03	92
213	Fans - Motor practices-1 (100+ HP)	Textiles-Apparel	1.20	0.50	0.01	0.15	11%	0.00	0.06	11%	0.06	0.03	92
207	Fans - Motor practices-1 (1-5 HP)	Textiles-Apparel	1.20	0.50	0.00	0.15	11%	0.00	0.06	11%	0.06	0.03	141
203	Fans - System Optimization	Textiles-Apparel	1.16	0.49	0.04	0.19	14%	0.01	0.07	13%	0.05	0.04	222
211	Fans - Replace 100+ HP motor	Textiles-Apparel	1.14	0.48	0.02	0.21	16%	0.01	0.08	14%	0.08	0.04	191
212	Fans - ASD (100+ hp)	Textiles-Apparel	1.14	0.48	0.00	0.22	16%	0.00	0.08	14%	0.04	0.04	647
208	Fans - Replace 6-100 HP motor	Textiles-Apparel	1.13	0.48	0.01	0.22	16%	0.00	0.08	15%	0.16	0.05	376
205	Fans - Replace 1-5 HP motor	Textiles-Apparel	1.13	0.47	0.00	0.22	17%	0.00	0.08	15%	0.27	0.05	646
206	Fans - ASD (1-5 hp)	Textiles-Apparel	1.13	0.47	0.00	0.23	17%	0.00	0.08	15%	0.26	0.05	4,496
300	Base Pumps	Textiles-Apparel	1.81	0.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
301	Pumps - O&M	Textiles-Apparel	1.70	0.70	0.10	0.10	6%	0.04	0.04	6%	0.01	0.01	18
302	Pumps - Controls	Textiles-Apparel	1.58	0.65	0.13	0.23	13%	0.05	0.10	13%	0.01	0.01	28
304	Pumps - Sizing	Textiles-Apparel	1.50	0.62	0.08	0.31	17%	0.03	0.13	17%	0.02	0.01	37
309	Pumps - ASD (6-100 hp)	Textiles-Apparel	1.49	0.62	0.01	0.32	18%	0.00	0.13	17%	0.01	0.01	197
303	Pumps - System Optimization	Textiles-Apparel	1.17	0.49	0.32	0.64	35%	0.13	0.26	35%	0.04	0.02	86
313	Pumps - Motor practices-1 (100+ HP)	Textiles-Apparel	1.16	0.48	0.01	0.65	36%	0.00	0.26	35%	0.05	0.02	128
310	Pumps - Motor practices-1 (6-100 HP)	Textiles-Apparel	1.15	0.48	0.01	0.66	36%	0.00	0.27	36%	0.05	0.02	131
307	Pumps - Motor practices-1 (1-5 HP)	Textiles-Apparel	1.15	0.48	0.00	0.66	36%	0.00	0.27	36%	0.08	0.02	193
311	Pumps - Replace 100+ HP motor	Textiles-Apparel	1.14	0.47	0.01	0.67	37%	0.00	0.27	36%	0.10	0.03	253
312	Pumps - ASD (100+ hp)	Textiles-Apparel	1.11	0.47	0.03	0.69	38%	0.00	0.27	37%	0.05	0.03	894
308	Pumps - Replace 6-100 HP motor	Textiles-Apparel	1.10	0.47	0.01	0.71	39%	0.01	0.28	37%	0.21	0.03	520
305	Pumps - Replace 1-5 HP motor	Textiles-Apparel	1.10	0.47	0.00	0.71	39%	0.00	0.28	37%	0.37	0.03	888
306	Pumps - ASD (1-5 hp)	Textiles-Apparel	1.10	0.47	0.00	0.71	39%	0.00	0.28	37%	0.36	0.03	6,169
400	Base Drives	Textiles-Apparel	6.18	2.55	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
402	O&M/drives spinning machines	Textiles-Apparel	5.92	2.44	0.26	0.26	4%	0.11	0.11	4%	0.03	0.03	69
500	Base Heating	Textiles-Apparel	2.13	0.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
502	Drying (UV/IR)	Textiles-Apparel	2.01	0.85	0.11	0.11	5%	0.03	0.03	4%	0.05	0.05	185
550	Base Refrigeration	Textiles-Apparel	2.37	1.17	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Textiles-Apparel	0.30	0.13	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Textiles-Apparel	1.48	0.73	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Textiles-Apparel	1.30	0.65	0.18	0.18	12%	0.09	0.09	12%	0.03	0.03	51
702	Window Film - Chiller	Textiles-Apparel	1.25	0.62	0.05	0.23	16%	0.03	0.12	16%	0.09	0.04	190
705	Chiller Tune Up/Diagnostics	Textiles-Apparel	1.24	0.61	0.01	0.25	17%	0.01	0.12	17%	0.12	0.05	236
703	EMS - Chiller	Textiles-Apparel	1.16	0.57	0.08	0.33	22%	0.04	0.16	22%	0.16	0.07	325
706	Cooling Circ. Pumps - VSD	Textiles-Apparel	1.12	0.55	0.04	0.37	25%	0.02	0.18	25%	0.23	0.09	462
704	Cool Roof - Chiller	Textiles-Apparel	1.08	0.54	0.03	0.40	27%	0.02	0.20	27%	0.32	0.11	650
710	Base DX Packaged System, EER=10.3, 10 tons	Textiles-Apparel	1.28	0.63	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Textiles-Apparel	1.24	0.63	0.03	0.03	3%	0.01	0.01	1%	0.01	0.01	58
713	Window Film - DX	Textiles-Apparel	1.21	0.61	0.03	0.06	5%	0.02	0.02	3%	0.05	0.03	98
712	DX Packaged System, EER=10.9, 10 tons	Textiles-Apparel	1.14	0.58	0.07	0.13	10%	0.03	0.05	9%	0.10	0.06	194
716	Cool Roof - DX	Textiles-Apparel	1.11	0.56	0.04	0.17	13%	0.02	0.07	11%	0.16	0.08	319
714	Evaporative Pre-Cooler	Textiles-Apparel	1.08	0.55	0.03	0.19	15%	0.01	0.08	13%	0.21	0.10	417
711	DX Tune Up/ Advanced Diagnostics	Textiles-Apparel	1.04	0.53	0.04	0.23	18%	0.02	0.11	17%	0.33	0.14	672
800	Base Lighting	Textiles-Apparel	2.12	0.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Textiles-Apparel	1.83	0.76	0.29	0.29	14%	0.12	0.12	14%	0.04	0.04	86
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Textiles-Apparel	1.80	0.74	0.04	0.33	15%	0.02	0.14	16%	0.05	0.04	116
802	CFL Hardwired, Modular 36W	Textiles-Apparel	1.79	0.74	0.00	0.33	16%	0.00	0.14	16%	0.06	0.04	135
803	Metal Halide, 50W	Textiles-Apparel	1.43	0.59	0.36	0.69	33%	0.15	0.29	33%	0.32	0.18	768
900	Base Other	Textiles-Apparel	0.61	0.25	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
902	Membranes for wastewater	Textiles-Apparel	0.60	0.25	0.01	0.01	2%	0.00	0.00	2%	0.04	0.04	88
901	Replace V-belts	Textiles-Apparel	0.60	0.25	0.00	0.01	2%	0.00	0.00	2%	0.05	0.04	113
100	Base Compressed Air	Lumber-Furniture	25.22	3.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Lumber-Furniture	24.17	3.59	1.06	1.06	4%	0.16	0.16	4%	0.01	0.01	53
101	Compressed Air-O&M	Lumber-Furniture	23.14	3.44	1.03	2.08	8%	0.15	0.31	8%	0.01	0.01	57
109	Comp Air - ASD (6-100 hp)	Lumber-Furniture	22.68	3.43	0.46	2.55	10%	0.01	0.32	8%	0.01	0.01	508
103	Compressed Air - System Optimization	Lumber-Furniture	20.16	3.06	2.52	5.07	20%	0.37	0.69	18%	0.01	0.01	84
102	Compressed Air - Controls	Lumber-Furniture	19.49	2.96	0.66	5.73	23%	0.10	0.79	21%	0.03	0.01	172
113	Comp Air - Motor practices-1 (100+ HP)	Lumber-Furniture	19.42	2.95	0.07	5.80	23%	0.01	0.80	21%	0.04	0.01	295
110	Comp Air - Motor practices-1 (6-100 HP)	Lumber-Furniture	19.26	2.92	0.17	5.97	24%	0.02	0.82	22%	0.05	0.01	304
112	Comp Air - ASD (100+ hp)	Lumber-Furniture	18.18	2.91	1.08	7.04	28%	0.02	0.84	22%	0.03	0.02	2,054

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure	Building		Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Type		GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kWH
107	Comp Air - Motor practices-1 (1-5 HP)	Lumber-Furniture	18.14	2.90	0.04	7.08	28%	0.01	0.85	23%	0.07	0.02	485
111	Comp Air - Replace 100+ HP motor	Lumber-Furniture	18.01	2.88	0.13	7.21	29%	0.02	0.87	23%	0.09	0.02	621
108	Comp Air - Replace 6-100 HP motor	Lumber-Furniture	17.96	2.87	0.05	7.26	29%	0.01	0.87	23%	0.18	0.02	1,216
105	Comp Air - Replace 1-5 HP motor	Lumber-Furniture	17.94	2.87	0.02	7.28	29%	0.00	0.88	23%	0.31	0.02	2,106
106	Comp Air - ASD (1-5 hp)	Lumber-Furniture	17.89	2.87	0.05	7.33	29%	0.00	0.88	23%	0.23	0.02	14,771
200	Base Fans	Lumber-Furniture	47.74	7.09	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Lumber-Furniture	47.62	7.07	0.13	0.13	0%	0.02	0.02	0%	0.01	0.01	51
204	Fans- Improve components	Lumber-Furniture	46.74	6.94	0.88	1.00	2%	0.13	0.15	2%	0.02	0.01	103
209	Fans - ASD (6-100 hp)	Lumber-Furniture	46.25	6.93	0.49	1.49	3%	0.01	0.16	2%	0.01	0.01	474
210	Fans - Motor practices-1 (6-100 HP)	Lumber-Furniture	46.09	6.91	0.17	1.66	3%	0.02	0.19	3%	0.04	0.02	238
202	Fans - Controls	Lumber-Furniture	42.68	6.40	3.41	5.06	11%	0.51	0.69	10%	0.04	0.03	257
214	Optimize drying process	Lumber-Furniture	35.56	5.34	7.12	12.19	26%	1.06	1.75	25%	0.04	0.04	283
212	Fans - ASD (100+ hp)	Lumber-Furniture	35.44	5.34	0.11	12.30	26%	0.00	1.75	25%	0.04	0.04	2,017
213	Fans - Motor practices-1 (100+ HP)	Lumber-Furniture	35.25	5.29	0.20	12.50	26%	0.05	1.80	25%	0.07	0.04	310
203	Fans - System Optimization	Lumber-Furniture	33.70	5.17	1.55	14.05	29%	0.12	1.92	27%	0.06	0.04	726
207	Fans - Motor practices-1 (1-5 HP)	Lumber-Furniture	33.62	5.16	0.08	14.12	30%	0.01	1.93	27%	0.07	0.04	495
211	Fans - Replace 100+ HP motor	Lumber-Furniture	33.06	5.08	0.56	14.68	31%	0.08	2.01	28%	0.10	0.04	644
208	Fans - Replace 6-100 HP motor	Lumber-Furniture	32.89	5.05	0.17	14.85	31%	0.03	2.04	29%	0.22	0.04	1,269
205	Fans - Replace 1-5 HP motor	Lumber-Furniture	32.85	5.05	0.04	14.89	31%	0.01	2.05	29%	0.32	0.04	2,176
206	Fans - ASD (1-5 hp)	Lumber-Furniture	32.78	5.04	0.07	14.96	31%	0.00	2.05	29%	0.23	0.05	15,113
300	Base Pumps	Lumber-Furniture	62.61	9.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Lumber-Furniture	58.98	8.76	3.62	3.62	6%	0.54	0.54	6%	0.01	0.01	51
309	Pumps - ASD (6-100 hp)	Lumber-Furniture	58.42	8.75	0.57	4.19	7%	0.01	0.55	6%	0.01	0.01	480
302	Pumps - Controls	Lumber-Furniture	54.09	8.11	4.33	8.52	14%	0.64	1.19	13%	0.01	0.01	79
304	Pumps - Sizing	Lumber-Furniture	51.51	7.73	2.58	11.09	18%	0.38	1.57	17%	0.02	0.01	103
303	Pumps - System Optimization	Lumber-Furniture	40.36	6.07	11.15	22.24	36%	1.66	3.23	35%	0.04	0.02	239
313	Pumps - Motor practices-1 (100+ HP)	Lumber-Furniture	40.01	6.02	0.36	22.60	36%	0.05	3.28	35%	0.05	0.02	357
310	Pumps - Motor practices-1 (6-100 HP)	Lumber-Furniture	39.73	5.98	0.28	22.88	37%	0.04	3.32	36%	0.05	0.02	364
312	Pumps - ASD (100+ hp)	Lumber-Furniture	38.44	5.96	1.29	24.17	39%	0.02	3.34	36%	0.04	0.02	2,468
307	Pumps - Motor practices-1 (1-5 HP)	Lumber-Furniture	38.39	5.95	0.05	24.22	39%	0.01	3.35	36%	0.08	0.02	557
311	Pumps - Replace 100+ HP motor	Lumber-Furniture	38.12	5.91	0.27	24.49	39%	0.04	3.39	36%	0.11	0.03	728
308	Pumps - Replace 6-100 HP motor	Lumber-Furniture	37.69	5.85	0.43	24.92	40%	0.06	3.45	37%	0.22	0.03	1,462
305	Pumps - Replace 1-5 HP motor	Lumber-Furniture	37.64	5.84	0.05	24.96	40%	0.01	3.46	37%	0.37	0.03	2,495
306	Pumps - ASD (1-5 hp)	Lumber-Furniture	37.56	5.84	0.08	25.05	40%	0.00	3.46	37%	0.27	0.03	17,282
400	Base Drives	Lumber-Furniture	225.21	33.45	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
403	Air conveying systems	Lumber-Furniture	216.60	33.11	8.61	8.61	4%	0.35	0.35	1%	0.01	0.01	219
404	Replace V-Belts	Lumber-Furniture	214.60	32.81	2.00	10.61	5%	0.30	0.64	2%	0.02	0.01	105
405	Drives - EE motor	Lumber-Furniture	214.30	32.77	0.30	10.91	5%	0.04	0.69	2%	0.03	0.01	193
500	Base Heating	Lumber-Furniture	51.61	7.67	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
503	Heat Pumps - Drying	Lumber-Furniture	48.85	7.26	2.76	2.76	5%	0.41	0.41	5%	0.07	0.07	501
550	Base Refrigeration	Lumber-Furniture	7.47	1.33	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Lumber-Furniture	4.47	0.66	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Lumber-Furniture	19.89	3.55	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Lumber-Furniture	17.49	3.12	2.40	2.40	12%	0.43	0.43	12%	0.03	0.03	142
702	Window Film - Chiller	Lumber-Furniture	16.77	2.99	0.72	3.12	16%	0.13	0.56	16%	0.09	0.04	528
705	Chiller Tune Up/Diagnostics	Lumber-Furniture	16.60	2.96	0.17	3.29	17%	0.03	0.59	17%	0.12	0.05	656
703	EMS - Chiller	Lumber-Furniture	15.51	2.76	1.09	4.38	22%	0.19	0.78	22%	0.16	0.07	902
706	Cooling Circ. Pumps - VSD	Lumber-Furniture	14.98	2.67	0.53	4.91	25%	0.09	0.88	25%	0.23	0.09	1,285
704	Cool Roof - Chiller	Lumber-Furniture	14.54	2.59	0.44	5.35	27%	0.08	0.95	27%	0.32	0.11	1,805
710	Base DX Packaged System, EER=10.3, 10 tons	Lumber-Furniture	17.12	3.05	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage					Total		Percent	Total		Percent	Marginal	Average	Marginal
Batch					Energy		GWH	Capacity		GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	MW	Savings	MW	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW
715	Prog. Thermostat - DX	Lumber-Furniture	16.57	3.02	0.55	0.55	3%	0.03	0.03	1%	0.01	0.01	159
713	Window Film - DX	Lumber-Furniture	16.15	2.95	0.42	0.97	6%	0.08	0.10	3%	0.05	0.03	274
712	DX Packaged System, EER=10.9, 10 tons	Lumber-Furniture	15.26	2.79	0.89	1.86	11%	0.16	0.26	9%	0.10	0.06	544
716	Cool Roof - DX	Lumber-Furniture	14.79	2.71	0.47	2.33	14%	0.08	0.34	11%	0.16	0.08	892
714	Evaporative Pre-Cooler	Lumber-Furniture	14.44	2.64	0.35	2.68	16%	0.06	0.41	13%	0.21	0.10	1,166
711	DX Tune Up/ Advanced Diagnostics	Lumber-Furniture	13.87	2.54	0.57	3.25	19%	0.10	0.51	17%	0.34	0.14	1,882
800	Base Lighting	Lumber-Furniture	46.89	6.96	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Lumber-Furniture	40.47	6.01	6.42	6.42	14%	0.95	0.95	14%	0.04	0.04	240
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Lumber-Furniture	39.71	5.88	0.76	7.18	15%	0.13	1.08	16%	0.06	0.04	322
802	CFL Hardwired, Modular 36W	Lumber-Furniture	39.61	5.87	0.10	7.27	16%	0.01	1.10	16%	0.06	0.04	375
803	Metal Halide, 50W	Lumber-Furniture	31.64	4.68	7.97	15.25	33%	1.18	2.28	33%	0.32	0.18	2,131
900	Base Other	Lumber-Furniture	47.67	7.08	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Lumber-Furniture	47.66	7.08	0.01	0.01	0%	0.00	0.00	0%	0.05	0.05	308
100	Base Compressed Air	Paper	118.41	9.47	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Paper	117.28	9.38	1.13	1.13	1%	0.09	0.09	1%	0.01	0.01	91
101	Compressed Air-O&M	Paper	110.37	8.82	6.91	8.03	7%	0.55	0.64	7%	0.01	0.01	105
109	Comp Air - ASD (6-100 hp)	Paper	104.07	8.77	6.31	14.34	12%	0.05	0.69	7%	0.01	0.01	928
103	Compressed Air - System Optimization	Paper	92.50	7.85	11.56	25.90	22%	0.92	1.62	17%	0.01	0.01	160
102	Compressed Air - Controls	Paper	89.45	7.61	3.05	28.95	24%	0.24	1.86	20%	0.03	0.01	326
112	Comp Air - ASD (100+ hp)	Paper	86.23	7.58	3.22	32.18	27%	0.03	1.88	20%	0.03	0.01	3,784
113	Comp Air - Motor practices-1 (100+ HP)	Paper	85.74	7.54	0.49	32.67	28%	0.04	1.92	20%	0.05	0.01	584
110	Comp Air - Motor practices-1 (6-100 HP)	Paper	85.63	7.53	0.11	32.78	28%	0.01	1.93	20%	0.05	0.01	587
107	Comp Air - Motor practices-1 (1-5 HP)	Paper	85.43	7.52	0.20	32.97	28%	0.02	1.95	21%	0.07	0.01	898
111	Comp Air - Replace 100+ HP motor	Paper	85.01	7.48	0.42	33.39	28%	0.03	1.98	21%	0.09	0.02	1,146
108	Comp Air - Replace 6-100 HP motor	Paper	84.33	7.43	0.68	34.08	29%	0.05	2.04	22%	0.18	0.02	2,283
106	Comp Air - ASD (1-5 hp)	Paper	84.09	7.43	0.24	34.32	29%	0.00	2.04	22%	0.21	0.02	27,413
105	Comp Air - Replace 1-5 HP motor	Paper	83.99	7.42	0.10	34.42	29%	0.01	2.05	22%	0.31	0.02	3,924
200	Base Fans	Paper	480.80	38.44	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Paper	472.66	37.78	8.15	8.15	2%	0.65	0.65	2%	0.01	0.01	96
209	Fans - ASD (6-100 hp)	Paper	466.89	37.71	5.77	13.91	3%	0.07	0.72	2%	0.01	0.01	878
204	Fans- Improve components	Paper	450.74	36.42	16.15	30.07	6%	1.29	2.02	5%	0.02	0.01	200
212	Fans - ASD (100+ hp)	Paper	437.99	36.30	12.75	42.81	9%	0.12	2.13	6%	0.03	0.02	3,098
210	Fans - Motor practices-1 (6-100 HP)	Paper	434.64	36.04	3.35	46.16	10%	0.27	2.40	6%	0.04	0.02	476
202	Fans - Controls	Paper	349.87	29.26	84.77	130.93	27%	6.78	9.18	24%	0.05	0.04	611
213	Fans - Motor practices-1 (100+ HP)	Paper	347.87	29.01	2.01	132.94	28%	0.25	9.42	25%	0.07	0.04	587
203	Fans - System Optimization	Paper	296.16	26.97	51.71	184.65	38%	2.04	11.46	30%	0.06	0.05	1,578
207	Fans - Motor practices-1 (1-5 HP)	Paper	295.48	26.92	0.68	185.33	39%	0.05	11.52	30%	0.08	0.05	1,055
211	Fans - Replace 100+ HP motor	Paper	290.38	26.51	5.10	190.43	40%	0.41	11.92	31%	0.11	0.05	1,374
208	Fans - Replace 6-100 HP motor	Paper	287.56	26.25	2.81	193.24	40%	0.26	12.18	32%	0.25	0.05	2,740
206	Fans - ASD (1-5 hp)	Paper	286.74	26.24	0.82	194.06	40%	0.01	12.19	32%	0.25	0.05	32,637
205	Fans - Replace 1-5 HP motor	Paper	286.36	26.21	0.38	194.44	40%	0.03	12.22	32%	0.37	0.05	4,687
300	Base Pumps	Paper	800.14	63.96	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Paper	784.79	62.74	15.36	15.36	2%	1.23	1.23	2%	0.01	0.01	90
309	Pumps - ASD (6-100 hp)	Paper	768.45	62.61	16.34	31.70	4%	0.13	1.35	2%	0.01	0.01	881
302	Pumps - Controls	Paper	726.28	59.24	42.17	73.86	9%	3.37	4.73	7%	0.01	0.01	136
304	Pumps - Sizing	Paper	691.70	56.47	34.58	108.45	14%	2.76	7.49	12%	0.01	0.01	181
303	Pumps - System Optimization	Paper	644.80	52.72	46.90	155.35	19%	3.75	11.24	18%	0.03	0.02	326
312	Pumps - ASD (100+ hp)	Paper	622.04	52.55	22.76	178.10	22%	0.18	11.42	18%	0.03	0.02	3,616
313	Pumps - Motor practices-1 (100+ HP)	Paper	616.51	52.10	5.53	183.64	23%	0.44	11.86	19%	0.04	0.02	550
310	Pumps - Motor practices-1 (6-100 HP)	Paper	613.16	51.84	3.35	186.99	23%	0.27	12.13	19%	0.04	0.02	559

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure			Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
307	Pumps - Motor practices-1 (1-5 HP)	Paper	612.57	51.79	0.59	187.57	23%	0.05	12.17	19%	0.07	0.02	824
311	Pumps - Replace 100+ HP motor	Paper	608.21	51.44	4.36	191.94	24%	0.35	12.52	20%	0.09	0.02	1,084
308	Pumps - Replace 6-100 HP motor	Paper	600.85	50.85	7.36	199.30	25%	0.59	13.11	20%	0.17	0.03	2,181
306	Pumps - ASD (1-5 hp)	Paper	599.13	50.84	1.72	201.01	25%	0.01	13.12	21%	0.20	0.03	25,999
305	Pumps - Replace 1-5 HP motor	Paper	598.41	50.78	0.73	201.74	25%	0.06	13.18	21%	0.30	0.03	3,724
400	Base Drives	Paper	1,051.31	84.04	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
406	Gap Forming papermachine	Paper	1,042.37	83.33	8.94	8.94	1%	0.71	0.71	1%	0.01	0.01	113
407	High Consistency forming	Paper	1,033.87	82.65	8.50	17.44	2%	0.68	1.39	2%	0.01	0.01	114
405	Drives - EE motor	Paper	1,018.96	81.46	14.90	32.35	3%	1.19	2.59	3%	0.03	0.02	355
408	Optimization control PM	Paper	994.80	79.52	24.16	56.51	5%	1.93	4.52	5%	0.04	0.03	495
500	Base Heating	Paper	384.81	30.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
550	Base Refrigeration	Paper	52.16	5.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Paper	68.47	5.47	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Paper	18.30	1.76	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Paper	16.09	1.54	2.21	2.21	12%	0.21	0.21	12%	0.03	0.03	264
702	Window Film - Chiller	Paper	15.43	1.48	0.66	2.87	16%	0.06	0.28	16%	0.09	0.04	981
705	Chiller Tune Up/Diagnostics	Paper	15.27	1.46	0.16	3.03	17%	0.02	0.29	17%	0.12	0.05	1,219
703	EMS - Chiller	Paper	14.26	1.37	1.00	4.03	22%	0.10	0.39	22%	0.16	0.07	1,676
706	Cooling Circ. Pumps - VSD	Paper	13.78	1.32	0.49	4.52	25%	0.05	0.43	25%	0.23	0.09	2,387
704	Cool Roof - Chiller	Paper	13.37	1.28	0.40	4.92	27%	0.04	0.47	27%	0.32	0.11	3,354
710	Base DX Packaged System, EER=10.3, 10 tons	Paper	124.43	11.94	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Paper	120.24	11.83	4.19	4.19	3%	0.11	0.11	1%	0.01	0.01	294
713	Window Film - DX	Paper	117.17	11.54	3.07	7.26	6%	0.29	0.40	3%	0.05	0.02	510
712	DX Packaged System, EER=10.9, 10 tons	Paper	110.72	10.92	6.45	13.71	11%	0.62	1.02	9%	0.10	0.06	1,012
716	Cool Roof - DX	Paper	107.33	10.59	3.39	17.10	14%	0.33	1.35	11%	0.16	0.08	1,660
714	Evaporative Pre-Cooler	Paper	104.77	10.35	2.56	19.67	16%	0.25	1.59	13%	0.21	0.10	2,171
711	DX Tune Up/ Advanced Diagnostics	Paper	100.63	9.95	4.14	23.80	19%	0.40	1.99	17%	0.34	0.14	3,503
800	Base Lighting	Paper	129.96	10.39	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Paper	113.55	9.08	16.42	16.42	13%	1.31	1.31	13%	0.04	0.04	446
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Paper	111.41	8.88	2.13	18.55	14%	0.20	1.51	15%	0.05	0.04	591
802	CFL Hardwired, Modular 36W	Paper	111.15	8.86	0.27	18.82	14%	0.02	1.53	15%	0.05	0.04	688
803	Metal Halide, 50W	Paper	88.78	7.07	22.37	41.19	32%	1.79	3.32	32%	0.31	0.19	3,913
900	Base Other	Paper	74.91	5.99	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Paper	74.89	5.99	0.02	0.02	0%	0.00	0.00	0%	0.05	0.05	572
100	Base Compressed Air	Printing	15.20	1.99	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Printing	15.06	1.97	0.14	0.14	1%	0.02	0.02	1%	0.01	0.01	56
101	Compressed Air-O&M	Printing	14.17	1.86	0.89	1.03	7%	0.12	0.14	7%	0.01	0.01	64
109	Comp Air - ASD (6-100 hp)	Printing	13.40	1.85	0.77	1.80	12%	0.01	0.15	7%	0.01	0.01	566
103	Compressed Air - System Optimization	Printing	11.91	1.65	1.49	3.29	22%	0.20	0.34	17%	0.01	0.01	97
102	Compressed Air - Controls	Printing	11.52	1.60	0.39	3.68	24%	0.05	0.39	20%	0.03	0.01	198
112	Comp Air - ASD (100+ hp)	Printing	11.12	1.59	0.39	4.08	27%	0.01	0.40	20%	0.03	0.01	2,303
113	Comp Air - Motor practices-1 (100+ HP)	Printing	11.06	1.59	0.06	4.14	27%	0.01	0.41	20%	0.05	0.01	354
110	Comp Air - Motor practices-1 (6-100 HP)	Printing	11.04	1.58	0.01	4.16	27%	0.00	0.41	20%	0.05	0.01	357
107	Comp Air - Motor practices-1 (1-5 HP)	Printing	11.02	1.58	0.03	4.18	28%	0.00	0.41	21%	0.07	0.01	545
111	Comp Air - Replace 100+ HP motor	Printing	10.96	1.57	0.05	4.24	28%	0.01	0.42	21%	0.09	0.02	695
108	Comp Air - Replace 6-100 HP motor	Printing	10.88	1.56	0.09	4.32	28%	0.01	0.43	22%	0.18	0.02	1,386
105	Comp Air - Replace 1-5 HP motor	Printing	10.86	1.56	0.01	4.34	29%	0.00	0.43	22%	0.31	0.02	2,375
106	Comp Air - ASD (1-5 hp)	Printing	10.83	1.56	0.03	4.37	29%	0.00	0.43	22%	0.22	0.02	16,661
200	Base Fans	Printing	28.77	3.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Printing	28.28	3.71	0.49	0.49	2%	0.06	0.06	2%	0.01	0.01	59

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	MW	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW
204	Fans- Improve components	Printing	27.31	3.58	0.98	1.47	5%	0.13	0.19	5%	0.02	0.01	120
209	Fans - ASD (6-100 hp)	Printing	27.00	3.57	0.30	1.77	6%	0.01	0.20	5%	0.01	0.01	555
210	Fans - Motor practices-1 (6-100 HP)	Printing	26.80	3.55	0.21	1.98	7%	0.03	0.23	6%	0.04	0.02	282
212	Fans - ASD (100+ hp)	Printing	26.07	3.53	0.73	2.71	9%	0.01	0.24	6%	0.03	0.02	1,902
202	Fans - Controls	Printing	20.98	2.87	5.08	7.79	27%	0.67	0.90	24%	0.05	0.04	372
213	Fans - Motor practices-1 (100+ HP)	Printing	20.86	2.84	0.12	7.91	27%	0.02	0.93	25%	0.07	0.04	357
207	Fans - Motor practices-1 (1-5 HP)	Printing	20.81	2.84	0.05	7.96	28%	0.01	0.93	25%	0.07	0.04	546
203	Fans - System Optimization	Printing	17.80	2.64	3.01	10.97	38%	0.20	1.13	30%	0.06	0.05	963
211	Fans - Replace 100+ HP motor	Printing	17.50	2.60	0.31	11.28	39%	0.04	1.17	31%	0.11	0.05	832
208	Fans - Replace 6-100 HP motor	Printing	17.33	2.57	0.17	11.45	40%	0.03	1.20	32%	0.25	0.05	1,660
205	Fans - Replace 1-5 HP motor	Printing	17.30	2.57	0.02	11.47	40%	0.00	1.20	32%	0.37	0.05	2,831
206	Fans - ASD (1-5 hp)	Printing	17.25	2.57	0.05	11.52	40%	0.00	1.20	32%	0.27	0.05	19,798
300	Base Pumps	Printing	37.73	4.95	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Printing	37.01	4.85	0.72	0.72	2%	0.09	0.09	2%	0.01	0.01	55
309	Pumps - ASD (6-100 hp)	Printing	36.27	4.84	0.73	1.46	4%	0.01	0.10	2%	0.01	0.01	537
302	Pumps - Controls	Printing	34.28	4.58	1.99	3.45	9%	0.26	0.37	7%	0.01	0.01	83
304	Pumps - Sizing	Printing	32.65	4.37	1.63	5.08	13%	0.21	0.58	12%	0.01	0.01	110
303	Pumps - System Optimization	Printing	30.44	4.08	2.21	7.29	19%	0.29	0.87	18%	0.03	0.02	199
312	Pumps - ASD (100+ hp)	Printing	29.41	4.06	1.02	8.32	22%	0.01	0.88	18%	0.03	0.02	2,203
313	Pumps - Motor practices-1 (100+ HP)	Printing	29.15	4.03	0.26	8.58	23%	0.03	0.92	19%	0.04	0.02	334
310	Pumps - Motor practices-1 (6-100 HP)	Printing	28.99	4.01	0.16	8.74	23%	0.02	0.94	19%	0.04	0.02	340
307	Pumps - Motor practices-1 (1-5 HP)	Printing	28.96	4.00	0.03	8.77	23%	0.00	0.94	19%	0.07	0.02	501
311	Pumps - Replace 100+ HP motor	Printing	28.76	3.98	0.21	8.97	24%	0.03	0.97	20%	0.09	0.02	659
308	Pumps - Replace 6-100 HP motor	Printing	28.41	3.93	0.35	9.32	25%	0.05	1.01	21%	0.12	0.03	1,327
305	Pumps - Replace 1-5 HP motor	Printing	28.38	3.93	0.03	9.35	25%	0.00	1.02	21%	0.30	0.03	2,258
306	Pumps - ASD (1-5 hp)	Printing	28.30	3.93	0.08	9.43	25%	0.00	1.02	21%	0.21	0.03	15,833
400	Base Drives	Printing	135.72	17.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
409	Efficient practices printing press	Printing	128.58	16.85	7.14	7.14	5%	0.94	0.94	5%	0.01	0.01	71
412	Efficient drives	Printing	127.19	16.67	1.38	8.53	6%	0.18	1.12	6%	0.03	0.01	197
410	Efficient Printing press (fewer cylinders)	Printing	121.14	15.88	6.06	14.58	11%	0.79	1.91	11%	0.04	0.02	321
411	Light cylinders	Printing	118.50	15.53	2.63	17.22	13%	0.35	2.26	13%	0.11	0.04	863
500	Base Heating	Printing	15.23	2.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
550	Base Refrigeration	Printing	24.75	3.89	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Printing	3.23	0.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Printing	42.20	6.64	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Printing	37.11	5.84	5.09	5.09	12%	0.80	0.80	12%	0.03	0.03	161
702	Window Film - Chiller	Printing	35.58	5.60	1.52	6.62	16%	0.24	1.04	16%	0.09	0.04	598
705	Chiller Tune Up/Diagnostics	Printing	35.21	5.54	0.37	6.99	17%	0.06	1.10	17%	0.12	0.05	743
703	EMS - Chiller	Printing	32.90	5.18	2.31	9.30	22%	0.36	1.46	22%	0.16	0.07	1,022
706	Cooling Circ. Pumps - VSD	Printing	31.78	5.00	1.13	10.43	25%	0.18	1.64	25%	0.23	0.09	1,456
704	Cool Roof - Chiller	Printing	30.84	4.85	0.93	11.36	27%	0.15	1.79	27%	0.32	0.11	2,045
710	Base DX Packaged System, EER=10.3, 10 tons	Printing	36.31	5.71	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Printing	35.13	5.66	1.17	1.17	3%	0.05	0.05	1%	0.01	0.01	180
713	Window Film - DX	Printing	34.24	5.52	0.90	2.07	6%	0.14	0.19	3%	0.05	0.03	310
712	DX Packaged System, EER=10.9, 10 tons	Printing	32.35	5.22	1.88	3.96	11%	0.30	0.49	9%	0.10	0.06	616
716	Cool Roof - DX	Printing	31.36	5.07	0.99	4.95	14%	0.16	0.64	11%	0.16	0.08	1,011
714	Evaporative Pre-Cooler	Printing	30.61	4.95	0.75	5.70	16%	0.12	0.76	13%	0.21	0.10	1,322
711	DX Tune Up/ Advanced Diagnostics	Printing	29.40	4.76	1.21	6.90	19%	0.19	0.95	17%	0.34	0.14	2,133
800	Base Lighting	Printing	50.66	6.64	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Printing	42.97	5.63	7.69	7.69	15%	1.01	1.01	15%	0.04	0.04	272

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage						Total	Percent		Total	Percent	Marginal	Average	Marginal
Batch						Energy	GWH	MW	Capacity	MW	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Printing	42.15	5.51	0.82	8.51	17%	0.12	1.13	17%	0.06	0.04	371
802	CFL Hardwired, Modular 36W	Printing	42.05	5.50	0.10	8.61	17%	0.01	1.14	17%	0.06	0.04	432
803	Metal Halide, 50W	Printing	33.59	4.39	8.46	17.07	34%	1.11	2.25	34%	0.32	0.18	2,459
900	Base Other	Printing	29.85	3.91	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Printing	29.84	3.91	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	349
100	Base Compressed Air	Chemicals	110.46	12.57	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Chemicals	109.41	12.45	1.05	1.05	1%	0.12	0.12	1%	0.01	0.01	64
101	Compressed Air-O&M	Chemicals	102.96	11.71	6.45	7.50	7%	0.73	0.85	7%	0.01	0.01	73
109	Comp Air - ASD (6-100 hp)	Chemicals	97.30	11.65	5.67	13.16	12%	0.07	0.92	7%	0.01	0.01	652
103	Compressed Air - System Optimization	Chemicals	86.49	10.42	10.81	23.97	22%	1.23	2.15	17%	0.01	0.01	112
102	Compressed Air - Controls	Chemicals	83.63	10.10	2.85	26.82	24%	0.32	2.47	20%	0.03	0.01	229
112	Comp Air - ASD (100+ hp)	Chemicals	80.74	10.06	2.90	29.72	27%	0.03	2.51	20%	0.03	0.01	2,654
113	Comp Air - Motor practices-1 (100+ HP)	Chemicals	80.27	10.01	0.46	30.18	27%	0.05	2.56	20%	0.05	0.01	409
110	Comp Air - Motor practices-1 (6-100 HP)	Chemicals	80.17	10.00	0.10	30.28	27%	0.01	2.57	20%	0.05	0.01	411
107	Comp Air - Motor practices-1 (1-5 HP)	Chemicals	79.99	9.98	0.18	30.47	28%	0.02	2.59	21%	0.07	0.01	629
111	Comp Air - Replace 100+ HP motor	Chemicals	79.60	9.93	0.39	30.86	28%	0.04	2.64	21%	0.09	0.02	802
108	Comp Air - Replace 6-100 HP motor	Chemicals	78.96	9.86	0.64	31.50	29%	0.07	2.71	22%	0.18	0.02	1,598
106	Comp Air - ASD (1-5 hp)	Chemicals	78.74	9.86	0.22	31.72	29%	0.00	2.71	22%	0.22	0.02	19,190
105	Comp Air - Replace 1-5 HP motor	Chemicals	78.65	9.85	0.09	31.81	29%	0.01	2.72	22%	0.31	0.02	2,746
200	Base Fans	Chemicals	280.18	31.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Chemicals	275.44	31.34	4.75	4.75	2%	0.54	0.54	2%	0.01	0.01	68
204	Fans- Improve components	Chemicals	265.91	30.25	9.53	14.28	5%	1.08	1.62	5%	0.02	0.01	138
209	Fans - ASD (6-100 hp)	Chemicals	262.83	30.20	3.08	17.35	6%	0.06	1.68	5%	0.01	0.01	639
210	Fans - Motor practices-1 (6-100 HP)	Chemicals	260.82	29.97	2.01	19.36	7%	0.23	1.91	6%	0.04	0.02	324
212	Fans - ASD (100+ hp)	Chemicals	253.40	29.87	7.42	26.78	10%	0.10	2.01	6%	0.03	0.02	2,192
202	Fans - Controls	Chemicals	203.98	24.25	49.42	76.20	27%	5.62	7.63	24%	0.05	0.04	429
213	Fans - Motor practices-1 (100+ HP)	Chemicals	202.80	24.04	1.18	77.38	28%	0.21	7.84	25%	0.07	0.04	412
207	Fans - Motor practices-1 (1-5 HP)	Chemicals	202.33	23.99	0.47	77.85	28%	0.05	7.89	25%	0.07	0.04	631
203	Fans - System Optimization	Chemicals	172.90	22.30	29.43	107.28	38%	1.69	9.58	30%	0.06	0.05	1,111
211	Fans - Replace 100+ HP motor	Chemicals	169.92	21.96	2.98	110.27	39%	0.34	9.91	31%	0.11	0.05	961
208	Fans - Replace 6-100 HP motor	Chemicals	168.20	21.75	1.72	111.99	40%	0.22	10.13	32%	0.24	0.05	1,917
206	Fans - ASD (1-5 hp)	Chemicals	167.74	21.74	0.46	112.45	40%	0.01	10.14	32%	0.26	0.05	22,846
205	Fans - Replace 1-5 HP motor	Chemicals	167.51	21.72	0.22	112.67	40%	0.03	10.16	32%	0.37	0.05	3,281
300	Base Pumps	Chemicals	1,136.90	129.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Chemicals	1,115.08	126.87	21.82	21.82	2%	2.48	2.48	2%	0.01	0.01	63
309	Pumps - ASD (6-100 hp)	Chemicals	1,092.72	126.61	22.36	44.18	4%	0.26	2.74	2%	0.01	0.01	619
302	Pumps - Controls	Chemicals	1,032.76	119.79	59.96	104.14	9%	6.82	9.56	7%	0.01	0.01	95
304	Pumps - Sizing	Chemicals	983.58	114.20	49.18	153.32	13%	5.60	15.16	12%	0.01	0.01	127
303	Pumps - System Optimization	Chemicals	916.89	106.61	66.69	220.00	19%	7.59	22.75	18%	0.03	0.02	229
312	Pumps - ASD (100+ hp)	Chemicals	885.73	106.25	31.16	251.17	22%	0.36	23.10	18%	0.03	0.02	2,539
313	Pumps - Motor practices-1 (100+ HP)	Chemicals	877.85	105.35	7.88	259.04	23%	0.90	24.00	19%	0.04	0.02	385
310	Pumps - Motor practices-1 (6-100 HP)	Chemicals	873.09	104.81	4.77	263.81	23%	0.54	24.54	19%	0.04	0.02	392
307	Pumps - Motor practices-1 (1-5 HP)	Chemicals	872.25	104.72	0.84	264.65	23%	0.10	24.64	19%	0.07	0.02	577
311	Pumps - Replace 100+ HP motor	Chemicals	866.04	104.01	6.21	270.86	24%	0.71	25.35	20%	0.09	0.02	760
308	Pumps - Replace 6-100 HP motor	Chemicals	855.56	102.82	10.48	281.34	25%	1.19	26.54	21%	0.17	0.03	1,529
306	Pumps - ASD (1-5 hp)	Chemicals	853.21	102.79	2.35	283.69	25%	0.03	26.56	21%	0.21	0.03	18,228
305	Pumps - Replace 1-5 HP motor	Chemicals	852.17	102.67	1.03	284.73	25%	0.12	26.68	21%	0.30	0.03	2,610
400	Base Drives	Chemicals	907.90	103.30	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
413	Clean Room - Controls	Chemicals	893.57	101.67	14.34	14.34	2%	1.63	1.63	2%	0.03	0.03	287
415	Drives - Process Controls (batch + site)	Chemicals	861.55	98.03	32.02	46.35	5%	3.64	5.27	5%	0.05	0.04	403

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	MW	Energy	Energy	Capacity
Measure	Measure	Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number		Type	GWH	MW	Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW
416	Process Drives - ASD	Chemicals	858.13	97.64	3.42	49.77	5%	0.39	5.66	5%	0.05	0.04	443
414	Clean Room - New Designs	Chemicals	837.81	95.32	20.32	70.10	8%	2.31	7.98	8%	0.06	0.05	487
500	Base Heating	Chemicals	402.43	45.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
550	Base Refrigeration	Chemicals	346.29	47.28	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Chemicals	622.81	70.86	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
601	Other Process Controls (batch + site)	Chemicals	600.49	68.32	22.32	22.32	4%	2.54	2.54	4%	0.05	0.05	397
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Chemicals	32.72	4.47	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Chemicals	28.77	3.93	3.95	3.95	12%	0.54	0.54	12%	0.03	0.03	185
702	Window Film - Chiller	Chemicals	27.59	3.77	1.18	5.13	16%	0.16	0.70	16%	0.09	0.04	689
705	Chiller Tune Up/Diagnostics	Chemicals	27.30	3.73	0.29	5.42	17%	0.04	0.74	17%	0.12	0.05	856
703	EMS - Chiller	Chemicals	25.51	3.48	1.79	7.21	22%	0.24	0.98	22%	0.16	0.07	1,177
706	Cooling Circ. Pumps - VSD	Chemicals	24.64	3.36	0.87	8.08	25%	0.12	1.10	25%	0.23	0.09	1,677
704	Cool Roof - Chiller	Chemicals	23.91	3.26	0.72	8.80	27%	0.10	1.20	27%	0.32	0.11	2,356
710	Base DX Packaged System, EER=10.3, 10 tons	Chemicals	222.52	30.38	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Chemicals	215.26	30.11	7.26	7.26	3%	0.27	0.27	1%	0.01	0.01	207
713	Window Film - DX	Chemicals	209.77	29.36	5.49	12.75	6%	0.75	1.02	3%	0.05	0.03	358
712	DX Packaged System, EER=10.9, 10 tons	Chemicals	198.22	27.78	11.55	24.30	11%	1.58	2.60	9%	0.10	0.06	710
716	Cool Roof - DX	Chemicals	192.15	26.95	6.07	30.37	14%	0.83	3.43	11%	0.16	0.08	1,165
714	Evaporative Pre-Cooler	Chemicals	187.56	26.33	4.59	34.96	16%	0.63	4.05	13%	0.21	0.10	1,523
711	DX Tune Up/ Advanced Diagnostics	Chemicals	180.16	25.32	7.40	42.36	19%	1.01	5.06	17%	0.34	0.14	2,458
800	Base Lighting	Chemicals	158.97	18.09	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Chemicals	139.51	15.87	19.46	19.46	12%	2.21	2.21	12%	0.04	0.04	313
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Chemicals	136.77	15.53	2.74	22.20	14%	0.35	2.56	14%	0.05	0.04	413
802	CFL Hardwired, Modular 36W	Chemicals	136.45	15.49	0.33	22.53	14%	0.04	2.60	14%	0.05	0.04	482
803	Metal Halide, 50W	Chemicals	108.98	12.37	27.46	49.99	31%	3.12	5.72	32%	0.31	0.19	2,739
900	Base Other	Chemicals	112.06	12.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
100	Base Compressed Air	Petroleum	166.74	18.97	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Petroleum	165.15	18.79	1.59	1.59	1%	0.18	0.18	1%	0.01	0.01	64
101	Compressed Air-O&M	Petroleum	155.42	17.68	9.73	11.31	7%	1.11	1.29	7%	0.01	0.01	73
109	Comp Air - ASD (6-100 hp)	Petroleum	146.87	17.59	8.55	19.87	12%	0.10	1.39	7%	0.01	0.01	652
103	Compressed Air - System Optimization	Petroleum	130.55	15.73	16.32	36.18	22%	1.86	3.24	17%	0.01	0.01	112
102	Compressed Air - Controls	Petroleum	126.25	15.24	4.30	40.49	24%	0.49	3.73	20%	0.03	0.01	229
112	Comp Air - ASD (100+ hp)	Petroleum	121.87	15.19	4.38	44.86	27%	0.05	3.78	20%	0.03	0.01	2,654
113	Comp Air - Motor practices-1 (100+ HP)	Petroleum	121.17	15.11	0.70	45.56	27%	0.08	3.86	20%	0.05	0.01	409
110	Comp Air - Motor practices-1 (6-100 HP)	Petroleum	121.03	15.09	0.15	45.71	27%	0.02	3.88	20%	0.05	0.01	411
114	Power recovery	Petroleum	119.98	14.97	1.04	46.76	28%	0.12	4.00	21%	0.06	0.02	560
107	Comp Air - Motor practices-1 (1-5 HP)	Petroleum	119.71	14.94	0.28	47.03	28%	0.03	4.03	21%	0.07	0.02	634
111	Comp Air - Replace 100+ HP motor	Petroleum	119.12	14.88	0.59	47.62	29%	0.07	4.10	22%	0.09	0.02	809
108	Comp Air - Replace 6-100 HP motor	Petroleum	118.16	14.77	0.96	48.58	29%	0.11	4.21	22%	0.18	0.02	1,612
106	Comp Air - ASD (1-5 hp)	Petroleum	117.83	14.76	0.33	48.90	29%	0.00	4.21	22%	0.22	0.02	19,356
105	Comp Air - Replace 1-5 HP motor	Petroleum	117.69	14.75	0.14	49.04	29%	0.02	4.22	22%	0.32	0.02	2,770
200	Base Fans	Petroleum	100.04	11.38	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Petroleum	98.35	11.19	1.70	1.70	2%	0.19	0.19	2%	0.01	0.01	68
204	Fans- Improve components	Petroleum	94.94	10.80	3.40	5.10	5%	0.39	0.58	5%	0.02	0.01	138
209	Fans - ASD (6-100 hp)	Petroleum	93.85	10.78	1.10	6.20	6%	0.02	0.60	5%	0.01	0.01	639
210	Fans - Motor practices-1 (6-100 HP)	Petroleum	93.13	10.70	0.72	6.91	7%	0.08	0.68	6%	0.04	0.02	324
212	Fans - ASD (100+ hp)	Petroleum	90.48	10.67	2.65	9.56	10%	0.03	0.72	6%	0.03	0.02	2,192
202	Fans - Controls	Petroleum	72.83	8.66	17.65	27.21	27%	2.01	2.72	24%	0.05	0.04	429
215	Power recovery	Petroleum	72.65	8.64	0.18	27.39	27%	0.02	2.75	24%	0.06	0.04	555
213	Fans - Motor practices-1 (100+ HP)	Petroleum	72.23	8.56	0.42	27.81	28%	0.07	2.82	25%	0.07	0.04	413

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure			Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
207	Fans - Motor practices-1 (1-5 HP)	Petroleum	72.06	8.55	0.17	27.98	28%	0.02	2.84	25%	0.07	0.04	632
203	Fans - System Optimization	Petroleum	61.58	7.94	10.48	38.46	38%	0.60	3.44	30%	0.06	0.05	1,114
211	Fans - Replace 100+ HP motor	Petroleum	60.52	7.82	1.06	39.52	40%	0.12	3.56	31%	0.11	0.05	964
208	Fans - Replace 6-100 HP motor	Petroleum	59.91	7.75	0.61	40.14	40%	0.08	3.64	32%	0.24	0.05	1,922
206	Fans - ASD (1-5 hp)	Petroleum	59.74	7.74	0.16	40.30	40%	0.00	3.64	32%	0.26	0.05	22,904
205	Fans - Replace 1-5 HP motor	Petroleum	59.66	7.74	0.08	40.38	40%	0.01	3.65	32%	0.37	0.05	3,289
300	Base Pumps	Petroleum	666.95	75.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Petroleum	654.15	74.43	12.80	12.80	2%	1.46	1.46	2%	0.01	0.01	63
309	Pumps - ASD (6-100 hp)	Petroleum	641.03	74.28	13.12	25.92	4%	0.15	1.61	2%	0.01	0.01	619
302	Pumps - Controls	Petroleum	605.86	70.28	35.17	61.09	9%	4.00	5.61	7%	0.01	0.01	95
304	Pumps - Sizing	Petroleum	577.01	66.99	28.85	89.94	13%	3.28	8.89	12%	0.01	0.01	127
303	Pumps - System Optimization	Petroleum	537.89	62.54	39.12	129.06	19%	4.45	13.34	18%	0.03	0.02	229
312	Pumps - ASD (100+ hp)	Petroleum	519.61	62.33	18.28	147.34	22%	0.21	13.55	18%	0.03	0.02	2,539
313	Pumps - Motor practices-1 (100+ HP)	Petroleum	514.98	61.81	4.62	151.97	23%	0.53	14.08	19%	0.04	0.02	385
310	Pumps - Motor practices-1 (6-100 HP)	Petroleum	512.19	61.49	2.80	154.76	23%	0.32	14.40	19%	0.04	0.02	392
314	Power recovery	Petroleum	510.90	61.34	1.29	156.05	23%	0.15	14.54	19%	0.06	0.02	526
307	Pumps - Motor practices-1 (1-5 HP)	Petroleum	510.41	61.28	0.49	156.54	23%	0.06	14.60	19%	0.07	0.02	579
311	Pumps - Replace 100+ HP motor	Petroleum	506.77	60.87	3.64	160.18	24%	0.41	15.01	20%	0.09	0.02	762
308	Pumps - Replace 6-100 HP motor	Petroleum	500.64	60.17	6.13	166.31	25%	0.70	15.71	21%	0.17	0.03	1,533
306	Pumps - ASD (1-5 hp)	Petroleum	499.26	60.16	1.38	167.69	25%	0.02	15.73	21%	0.21	0.03	18,274
305	Pumps - Replace 1-5 HP motor	Petroleum	498.66	60.09	0.61	168.29	25%	0.07	15.80	21%	0.30	0.03	2,617
400	Base Drives	Petroleum	177.85	20.24	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
500	Base Heating	Petroleum	68.15	7.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
550	Base Refrigeration	Petroleum	73.33	10.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Petroleum	7.55	0.86	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
602	Efficient desalter	Petroleum	6.71	0.76	0.84	0.84	11%	0.10	0.10	11%	0.03	0.03	248
606	Power recovery	Petroleum	6.69	0.76	0.02	0.86	11%	0.00	0.10	11%	0.05	0.03	454
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Petroleum	6.18	0.84	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Petroleum	5.44	0.74	0.75	0.75	12%	0.10	0.10	12%	0.03	0.03	185
702	Window Film - Chiller	Petroleum	5.21	0.71	0.22	0.97	16%	0.03	0.13	16%	0.09	0.04	689
705	Chiller Tune Up/Diagnostics	Petroleum	5.16	0.70	0.05	1.02	17%	0.01	0.14	17%	0.12	0.05	856
703	EMS - Chiller	Petroleum	4.82	0.66	0.34	1.36	22%	0.05	0.19	22%	0.16	0.07	1,177
706	Cooling Circ. Pumps - VSD	Petroleum	4.65	0.64	0.17	1.53	25%	0.02	0.21	25%	0.23	0.09	1,677
704	Cool Roof - Chiller	Petroleum	4.52	0.62	0.14	1.66	27%	0.02	0.23	27%	0.32	0.11	2,356
710	Base DX Packaged System, EER=10.3, 10 tons	Petroleum	42.05	5.74	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Petroleum	40.67	5.69	1.37	1.37	3%	0.05	0.05	1%	0.01	0.01	207
713	Window Film - DX	Petroleum	39.64	5.55	1.04	2.41	6%	0.14	0.19	3%	0.05	0.03	358
712	DX Packaged System, EER=10.9, 10 tons	Petroleum	37.46	5.25	2.18	4.59	11%	0.30	0.49	9%	0.10	0.06	710
716	Cool Roof - DX	Petroleum	36.31	5.09	1.15	5.74	14%	0.16	0.65	11%	0.16	0.08	1,165
714	Evaporative Pre-Cooler	Petroleum	35.44	4.97	0.87	6.61	16%	0.12	0.77	13%	0.21	0.10	1,523
711	DX Tune Up/ Advanced Diagnostics	Petroleum	34.04	4.78	1.40	8.00	19%	0.19	0.96	17%	0.34	0.14	2,458
800	Base Lighting	Petroleum	31.55	3.59	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Petroleum	27.69	3.15	3.86	3.86	12%	0.44	0.44	12%	0.04	0.04	313
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Petroleum	27.15	3.08	0.54	4.41	14%	0.07	0.51	14%	0.05	0.04	413
802	CFL Hardwired, Modular 36W	Petroleum	27.08	3.07	0.07	4.47	14%	0.01	0.52	14%	0.05	0.04	482
803	Metal Halide, 50W	Petroleum	21.63	2.45	5.45	9.92	31%	0.62	1.14	32%	0.31	0.19	2,739
900	Base Other	Petroleum	15.17	1.73	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Petroleum	15.17	1.73	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	402
100	Base Compressed Air	Rubber-Plastics	25.25	3.48	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Rubber-Plastics	25.01	3.45	0.24	0.24	1%	0.03	0.03	1%	0.01	0.01	53

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	MW	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kWH
101	Compressed Air-O&M	Rubber-Plastics	23.54	3.24	1.47	1.71	7%	0.20	0.24	7%	0.01	0.01	61
109	Comp Air - ASD (6-100 hp)	Rubber-Plastics	22.26	3.22	1.28	2.99	12%	0.02	0.25	7%	0.01	0.01	539
103	Compressed Air - System Optimization	Rubber-Plastics	19.79	2.88	2.47	5.46	22%	0.34	0.59	17%	0.01	0.01	93
102	Compressed Air - Controls	Rubber-Plastics	19.14	2.79	0.65	6.11	24%	0.09	0.68	20%	0.03	0.01	189
113	Comp Air - Motor practices-1 (100+ HP)	Rubber-Plastics	19.03	2.78	0.11	6.22	25%	0.02	0.70	20%	0.04	0.01	325
110	Comp Air - Motor practices-1 (6-100 HP)	Rubber-Plastics	19.00	2.78	0.02	6.25	25%	0.00	0.70	20%	0.05	0.01	328
112	Comp Air - ASD (100+ hp)	Rubber-Plastics	18.35	2.77	0.65	6.90	27%	0.01	0.71	20%	0.03	0.01	2,206
107	Comp Air - Motor practices-1 (1-5 HP)	Rubber-Plastics	18.31	2.76	0.04	6.94	27%	0.01	0.72	21%	0.07	0.01	519
111	Comp Air - Replace 100+ HP motor	Rubber-Plastics	18.22	2.75	0.09	7.03	28%	0.01	0.73	21%	0.09	0.02	661
108	Comp Air - Replace 6-100 HP motor	Rubber-Plastics	18.08	2.73	0.15	7.17	28%	0.02	0.75	22%	0.18	0.02	1,318
105	Comp Air - Replace 1-5 HP motor	Rubber-Plastics	18.05	2.73	0.02	7.20	28%	0.00	0.75	22%	0.31	0.02	2,259
106	Comp Air - ASD (1-5 hp)	Rubber-Plastics	18.01	2.72	0.05	7.25	29%	0.00	0.75	22%	0.22	0.02	15,844
200	Base Fans	Rubber-Plastics	47.80	6.58	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Rubber-Plastics	46.99	6.47	0.81	0.81	2%	0.11	0.11	2%	0.01	0.01	56
204	Fans- Improve components	Rubber-Plastics	45.36	6.25	1.63	2.44	5%	0.22	0.34	5%	0.02	0.01	114
209	Fans - ASD (6-100 hp)	Rubber-Plastics	44.87	6.24	0.49	2.93	6%	0.01	0.35	5%	0.01	0.01	528
210	Fans - Motor practices-1 (6-100 HP)	Rubber-Plastics	44.52	6.19	0.34	3.27	7%	0.05	0.39	6%	0.04	0.02	268
212	Fans - ASD (100+ hp)	Rubber-Plastics	43.32	6.17	1.20	4.47	9%	0.02	0.41	6%	0.03	0.02	1,810
202	Fans - Controls	Rubber-Plastics	34.87	5.01	8.45	12.92	27%	1.16	1.58	24%	0.05	0.04	354
213	Fans - Motor practices-1 (100+ HP)	Rubber-Plastics	34.68	4.96	0.20	13.12	27%	0.04	1.62	25%	0.07	0.04	340
207	Fans - Motor practices-1 (1-5 HP)	Rubber-Plastics	34.60	4.95	0.08	13.20	28%	0.01	1.63	25%	0.07	0.04	520
203	Fans - System Optimization	Rubber-Plastics	29.61	4.60	4.99	18.19	38%	0.35	1.98	30%	0.06	0.05	916
211	Fans - Replace 100+ HP motor	Rubber-Plastics	29.10	4.53	0.51	18.70	39%	0.07	2.05	31%	0.11	0.05	791
208	Fans - Replace 6-100 HP motor	Rubber-Plastics	28.81	4.49	0.29	18.98	40%	0.04	2.10	32%	0.25	0.05	1,577
205	Fans - Replace 1-5 HP motor	Rubber-Plastics	28.77	4.48	0.04	19.02	40%	0.01	2.10	32%	0.37	0.05	2,691
206	Fans - ASD (1-5 hp)	Rubber-Plastics	28.70	4.48	0.08	19.10	40%	0.00	2.10	32%	0.27	0.05	18,815
300	Base Pumps	Rubber-Plastics	62.68	8.63	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Rubber-Plastics	61.47	8.47	1.20	1.20	2%	0.17	0.17	2%	0.01	0.01	52
309	Pumps - ASD (6-100 hp)	Rubber-Plastics	60.26	8.45	1.21	2.42	4%	0.02	0.18	2%	0.01	0.01	511
302	Pumps - Controls	Rubber-Plastics	56.95	8.00	3.31	5.72	9%	0.46	0.64	7%	0.01	0.01	79
304	Pumps - Sizing	Rubber-Plastics	54.24	7.62	2.71	8.43	13%	0.37	1.01	12%	0.01	0.01	105
303	Pumps - System Optimization	Rubber-Plastics	50.56	7.12	3.68	12.11	19%	0.51	1.52	18%	0.03	0.02	189
313	Pumps - Motor practices-1 (100+ HP)	Rubber-Plastics	50.11	7.05	0.45	12.56	20%	0.06	1.58	18%	0.04	0.02	307
310	Pumps - Motor practices-1 (6-100 HP)	Rubber-Plastics	49.84	7.02	0.27	12.83	20%	0.04	1.62	19%	0.04	0.02	312
312	Pumps - ASD (100+ hp)	Rubber-Plastics	48.17	6.99	1.67	14.50	23%	0.02	1.64	19%	0.03	0.02	2,126
307	Pumps - Motor practices-1 (1-5 HP)	Rubber-Plastics	48.13	6.99	0.05	14.55	23%	0.01	1.65	19%	0.07	0.02	476
311	Pumps - Replace 100+ HP motor	Rubber-Plastics	47.78	6.94	0.34	14.89	24%	0.05	1.70	20%	0.09	0.02	627
308	Pumps - Replace 6-100 HP motor	Rubber-Plastics	47.21	6.86	0.58	15.47	25%	0.08	1.78	21%	0.17	0.03	1,262
305	Pumps - Replace 1-5 HP motor	Rubber-Plastics	47.15	6.85	0.06	15.53	25%	0.01	1.78	21%	0.30	0.03	2,148
306	Pumps - ASD (1-5 hp)	Rubber-Plastics	47.02	6.85	0.13	15.65	25%	0.00	1.78	21%	0.21	0.03	15,059
400	Base Drives	Rubber-Plastics	225.45	31.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
417	O&M - Extruders/Injection Moulding	Rubber-Plastics	212.00	29.21	13.46	13.46	6%	1.85	1.85	6%	0.01	0.01	46
418	Extruders/injection Moulding-multipump	Rubber-Plastics	158.34	21.81	53.65	67.11	30%	7.39	9.25	30%	0.04	0.04	318
420	Injection Moulding - Impulse Cooling	Rubber-Plastics	145.46	20.04	12.88	79.99	35%	1.77	11.02	35%	0.06	0.04	438
421	Injection Moulding - Direct drive	Rubber-Plastics	133.10	18.34	12.36	92.35	41%	1.70	12.72	41%	0.10	0.05	710
419	Direct drive Extruders	Rubber-Plastics	107.78	14.85	25.32	117.68	52%	3.49	16.21	52%	0.13	0.07	960
500	Base Heating	Rubber-Plastics	114.73	15.81	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
550	Base Refrigeration	Rubber-Plastics	64.60	10.68	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Rubber-Plastics	12.15	1.67	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Rubber-Plastics	41.45	6.85	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kWH
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Rubber-Plastics	36.45	6.03	5.00	5.00	12%	0.83	0.83	12%	0.03	0.03	153
702	Window Film - Chiller	Rubber-Plastics	34.95	5.78	1.50	6.50	16%	0.25	1.07	16%	0.09	0.04	569
705	Chiller Tune Up/Diagnostics	Rubber-Plastics	34.59	5.72	0.36	6.86	17%	0.06	1.13	17%	0.12	0.05	707
703	EMS - Chiller	Rubber-Plastics	32.32	5.34	2.27	9.13	22%	0.38	1.51	22%	0.16	0.07	972
706	Cooling Circ. Pumps - VSD	Rubber-Plastics	31.21	5.16	1.11	10.24	25%	0.18	1.69	25%	0.23	0.09	1,385
704	Cool Roof - Chiller	Rubber-Plastics	30.30	5.01	0.92	11.16	27%	0.15	1.84	27%	0.32	0.11	1,946
710	Base DX Packaged System, EER=10.3, 10 tons	Rubber-Plastics	35.66	5.90	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Rubber-Plastics	34.52	5.84	1.15	1.15	3%	0.05	0.05	1%	0.01	0.01	171
713	Window Film - DX	Rubber-Plastics	33.64	5.70	0.88	2.03	6%	0.15	0.20	3%	0.05	0.03	295
712	DX Packaged System, EER=10.9, 10 tons	Rubber-Plastics	31.78	5.39	1.85	3.88	11%	0.31	0.50	9%	0.10	0.06	586
716	Cool Roof - DX	Rubber-Plastics	30.81	5.23	0.97	4.85	14%	0.16	0.67	11%	0.16	0.08	962
714	Evaporative Pre-Cooler	Rubber-Plastics	30.07	5.11	0.74	5.59	16%	0.12	0.79	13%	0.21	0.10	1,258
711	DX Tune Up/ Advanced Diagnostics	Rubber-Plastics	28.89	4.91	1.19	6.78	19%	0.20	0.98	17%	0.34	0.14	2,029
800	Base Lighting	Rubber-Plastics	61.53	8.48	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Rubber-Plastics	53.73	7.40	7.81	7.81	13%	1.08	1.08	13%	0.04	0.04	259
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Rubber-Plastics	52.71	7.24	1.02	8.83	14%	0.16	1.24	15%	0.05	0.04	343
802	CFL Hardwired, Modular 36W	Rubber-Plastics	52.58	7.22	0.13	8.96	15%	0.02	1.25	15%	0.06	0.04	400
803	Metal Halide, 50W	Rubber-Plastics	42.00	5.77	10.58	19.54	32%	1.46	2.71	32%	0.31	0.19	2,273
900	Base Other	Rubber-Plastics	27.56	3.80	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Rubber-Plastics	27.55	3.80	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	332
100	Base Compressed Air	Stone-Clay-Glass	43.90	4.90	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Stone-Clay-Glass	43.48	4.86	0.42	0.42	1%	0.05	0.05	1%	0.01	0.01	65
101	Compressed Air-O&M	Stone-Clay-Glass	40.92	4.57	2.56	2.98	7%	0.29	0.33	7%	0.01	0.01	75
109	Comp Air - ASD (6-100 hp)	Stone-Clay-Glass	38.64	4.54	2.27	5.25	12%	0.03	0.36	7%	0.01	0.01	665
103	Compressed Air - System Optimization	Stone-Clay-Glass	34.35	4.06	4.29	9.54	22%	0.48	0.84	17%	0.01	0.01	114
102	Compressed Air - Controls	Stone-Clay-Glass	33.22	3.94	1.13	10.68	24%	0.13	0.96	20%	0.03	0.01	233
112	Comp Air - ASD (100+ hp)	Stone-Clay-Glass	32.06	3.92	1.16	11.84	27%	0.01	0.98	20%	0.03	0.01	2,705
113	Comp Air - Motor practices-1 (100+ HP)	Stone-Clay-Glass	31.87	3.90	0.18	12.02	27%	0.02	1.00	20%	0.05	0.01	417
110	Comp Air - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	31.83	3.90	0.04	12.06	27%	0.00	1.00	20%	0.05	0.01	419
107	Comp Air - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	31.76	3.89	0.07	12.14	28%	0.01	1.01	21%	0.07	0.01	641
111	Comp Air - Replace 100+ HP motor	Stone-Clay-Glass	31.60	3.87	0.16	12.29	28%	0.02	1.03	21%	0.09	0.02	818
108	Comp Air - Replace 6-100 HP motor	Stone-Clay-Glass	31.35	3.85	0.25	12.55	29%	0.03	1.06	22%	0.18	0.02	1,630
106	Comp Air - ASD (1-5 hp)	Stone-Clay-Glass	31.26	3.84	0.09	12.63	29%	0.00	1.06	22%	0.22	0.02	19,568
105	Comp Air - Replace 1-5 HP motor	Stone-Clay-Glass	31.23	3.84	0.04	12.67	29%	0.00	1.06	22%	0.31	0.02	2,801
200	Base Fans	Stone-Clay-Glass	103.15	11.52	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Stone-Clay-Glass	101.41	11.32	1.75	1.75	2%	0.20	0.20	2%	0.01	0.01	69
204	Fans- Improve components	Stone-Clay-Glass	97.90	10.93	3.51	5.26	5%	0.39	0.59	5%	0.02	0.01	141
209	Fans - ASD (6-100 hp)	Stone-Clay-Glass	96.75	10.91	1.15	6.40	6%	0.02	0.61	5%	0.01	0.01	651
210	Fans - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	96.01	10.83	0.74	7.14	7%	0.08	0.69	6%	0.04	0.02	331
212	Fans - ASD (100+ hp)	Stone-Clay-Glass	93.33	10.79	2.68	9.82	10%	0.03	0.73	6%	0.03	0.02	2,234
202	Fans - Controls	Stone-Clay-Glass	75.13	8.76	18.20	28.03	27%	2.03	2.76	24%	0.05	0.04	437
213	Fans - Motor practices-1 (100+ HP)	Stone-Clay-Glass	74.69	8.69	0.43	28.46	28%	0.07	2.83	25%	0.07	0.04	420
207	Fans - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	74.52	8.67	0.17	28.63	28%	0.02	2.85	25%	0.07	0.04	642
203	Fans - System Optimization	Stone-Clay-Glass	63.63	8.06	10.90	39.53	38%	0.61	3.46	30%	0.06	0.05	1,132
211	Fans - Replace 100+ HP motor	Stone-Clay-Glass	62.53	7.94	1.10	40.63	39%	0.12	3.58	31%	0.11	0.05	980
208	Fans - Replace 6-100 HP motor	Stone-Clay-Glass	61.91	7.86	0.62	41.24	40%	0.08	3.66	32%	0.25	0.05	1,954
206	Fans - ASD (1-5 hp)	Stone-Clay-Glass	61.74	7.86	0.17	41.42	40%	0.00	3.66	32%	0.26	0.05	23,282
205	Fans - Replace 1-5 HP motor	Stone-Clay-Glass	61.66	7.85	0.08	41.50	40%	0.01	3.67	32%	0.37	0.05	3,343
300	Base Pumps	Stone-Clay-Glass	130.95	14.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Stone-Clay-Glass	128.44	14.34	2.51	2.51	2%	0.28	0.28	2%	0.01	0.01	65

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure	Measure	Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number		Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kWH
309	Pumps - ASD (6-100 hp)	Stone-Clay-Glass	125.84	14.31	2.60	5.11	4%	0.03	0.31	2%	0.01	0.01	631
302	Pumps - Controls	Stone-Clay-Glass	118.94	13.54	6.91	12.02	9%	0.77	1.08	7%	0.01	0.01	97
304	Pumps - Sizing	Stone-Clay-Glass	113.27	12.91	5.66	17.68	14%	0.63	1.71	12%	0.01	0.01	130
303	Pumps - System Optimization	Stone-Clay-Glass	105.59	12.05	7.68	25.36	19%	0.86	2.57	18%	0.03	0.02	233
312	Pumps - ASD (100+ hp)	Stone-Clay-Glass	101.97	12.01	3.62	28.98	22%	0.04	2.61	18%	0.03	0.02	2,587
313	Pumps - Motor practices-1 (100+ HP)	Stone-Clay-Glass	101.06	11.91	0.91	29.89	23%	0.10	2.71	19%	0.04	0.02	393
310	Pumps - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	100.52	11.85	0.55	30.44	23%	0.06	2.77	19%	0.04	0.02	399
307	Pumps - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	100.42	11.84	0.10	30.54	23%	0.01	2.78	19%	0.07	0.02	589
311	Pumps - Replace 100+ HP motor	Stone-Clay-Glass	99.70	11.76	0.72	31.25	24%	0.08	2.86	20%	0.09	0.02	775
308	Pumps - Replace 6-100 HP motor	Stone-Clay-Glass	98.50	11.62	1.21	32.46	25%	0.13	3.00	21%	0.17	0.03	1,559
306	Pumps - ASD (1-5 hp)	Stone-Clay-Glass	98.22	11.62	0.27	32.73	25%	0.00	3.00	21%	0.21	0.03	18,581
305	Pumps - Replace 1-5 HP motor	Stone-Clay-Glass	98.11	11.61	0.12	32.85	25%	0.01	3.02	21%	0.30	0.03	2,661
400	Base Drives	Stone-Clay-Glass	148.51	16.58	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
423	Process control	Stone-Clay-Glass	147.01	16.42	1.50	1.50	1%	0.17	0.17	1%	0.02	0.02	137
405	Drives - EE motor	Stone-Clay-Glass	144.62	16.15	2.40	3.90	3%	0.27	0.44	3%	0.02	0.02	210
424	Process optimization	Stone-Clay-Glass	143.64	16.04	0.98	4.87	3%	0.11	0.54	3%	0.04	0.03	400
422	Efficient grinding	Stone-Clay-Glass	136.39	15.23	7.25	12.12	8%	0.81	1.35	8%	0.11	0.07	957
415	Drives - Process Controls (batch + site)	Stone-Clay-Glass	135.01	15.08	1.38	13.50	9%	0.15	1.51	9%	0.20	0.09	1,817
500	Base Heating	Stone-Clay-Glass	161.94	18.08	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
504	Top-heating (glass)	Stone-Clay-Glass	159.16	17.77	2.78	2.78	2%	0.31	0.31	2%	0.02	0.02	164
550	Base Refrigeration	Stone-Clay-Glass	19.96	2.67	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Stone-Clay-Glass	24.58	2.75	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Stone-Clay-Glass	5.93	0.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Stone-Clay-Glass	5.21	0.70	0.72	0.72	12%	0.10	0.10	12%	0.03	0.03	189
702	Window Film - Chiller	Stone-Clay-Glass	5.00	0.67	0.21	0.93	16%	0.03	0.12	16%	0.09	0.04	702
705	Chiller Tune Up/Diagnostics	Stone-Clay-Glass	4.95	0.66	0.05	0.98	17%	0.01	0.13	17%	0.12	0.05	873
703	EMS - Chiller	Stone-Clay-Glass	4.62	0.62	0.32	1.31	22%	0.04	0.17	22%	0.16	0.07	1,199
706	Cooling Circ. Pumps - VSD	Stone-Clay-Glass	4.46	0.60	0.16	1.46	25%	0.02	0.20	25%	0.23	0.09	1,709
704	Cool Roof - Chiller	Stone-Clay-Glass	4.33	0.58	0.13	1.60	27%	0.02	0.21	27%	0.32	0.11	2,401
710	Base DX Packaged System, EER=10.3, 10 tons	Stone-Clay-Glass	40.31	5.40	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Stone-Clay-Glass	38.99	5.35	1.33	1.33	3%	0.05	0.05	1%	0.01	0.01	211
713	Window Film - DX	Stone-Clay-Glass	37.99	5.22	0.99	2.32	6%	0.13	0.18	3%	0.05	0.03	365
712	DX Packaged System, EER=10.9, 10 tons	Stone-Clay-Glass	35.90	4.94	2.09	4.41	11%	0.28	0.46	9%	0.10	0.06	724
716	Cool Roof - DX	Stone-Clay-Glass	34.80	4.79	1.10	5.51	14%	0.15	0.61	11%	0.16	0.08	1,187
714	Evaporative Pre-Cooler	Stone-Clay-Glass	33.97	4.68	0.83	6.34	16%	0.11	0.72	13%	0.21	0.10	1,552
711	DX Tune Up/ Advanced Diagnostics	Stone-Clay-Glass	32.63	4.50	1.34	7.68	19%	0.18	0.90	17%	0.34	0.14	2,505
800	Base Lighting	Stone-Clay-Glass	38.16	4.26	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Stone-Clay-Glass	34.43	3.85	3.73	3.73	10%	0.42	0.42	10%	0.04	0.04	319
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Stone-Clay-Glass	33.77	3.76	0.66	4.39	11%	0.08	0.50	12%	0.05	0.04	410
802	CFL Hardwired, Modular 36W	Stone-Clay-Glass	33.69	3.75	0.08	4.47	12%	0.01	0.51	12%	0.05	0.04	477
803	Metal Halide, 50W	Stone-Clay-Glass	26.91	3.00	6.78	11.25	29%	0.76	1.27	30%	0.30	0.20	2,713
900	Base Other	Stone-Clay-Glass	22.40	2.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Stone-Clay-Glass	22.40	2.50	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	410
100	Base Compressed Air	Prim Metals	95.07	13.55	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Prim Metals	94.16	13.43	0.90	0.90	1%	0.13	0.13	1%	0.01	0.01	51
101	Compressed Air-O&M	Prim Metals	88.62	12.63	5.55	6.45	7%	0.79	0.92	7%	0.01	0.01	59
109	Comp Air - ASD (6-100 hp)	Prim Metals	83.85	12.56	4.77	11.22	12%	0.07	0.99	7%	0.01	0.01	520
103	Compressed Air - System Optimization	Prim Metals	74.53	11.24	9.32	20.54	22%	1.33	2.32	17%	0.01	0.01	89
102	Compressed Air - Controls	Prim Metals	72.07	10.89	2.46	22.99	24%	0.35	2.67	20%	0.03	0.01	182
113	Comp Air - Motor practices-1 (100+ HP)	Prim Metals	71.66	10.83	0.41	23.41	25%	0.06	2.73	20%	0.04	0.01	314

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure			Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	Savings	MW	Savings	\$/kWH	\$/kWH	\$/kW
110	Comp Air - Motor practices-1 (6-100 HP)	Prim Metals	71.57	10.81	0.09	23.49	25%	0.01	2.74	20%	0.05	0.01	316
112	Comp Air - ASD (100+ hp)	Prim Metals	69.15	10.78	2.42	25.92	27%	0.04	2.78	20%	0.03	0.01	2,131
107	Comp Air - Motor practices-1 (1-5 HP)	Prim Metals	68.99	10.76	0.16	26.08	27%	0.02	2.80	21%	0.07	0.01	501
111	Comp Air - Replace 100+ HP motor	Prim Metals	68.65	10.71	0.34	26.42	28%	0.05	2.85	21%	0.09	0.02	639
108	Comp Air - Replace 6-100 HP motor	Prim Metals	68.10	10.63	0.55	26.97	28%	0.08	2.93	22%	0.18	0.02	1,273
105	Comp Air - Replace 1-5 HP motor	Prim Metals	68.02	10.62	0.08	27.05	28%	0.01	2.94	22%	0.31	0.02	2,181
106	Comp Air - ASD (1-5 hp)	Prim Metals	67.83	10.61	0.18	27.23	29%	0.00	2.94	22%	0.23	0.02	15,299
200	Base Fans	Prim Metals	223.41	31.85	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Prim Metals	219.62	31.31	3.79	3.79	2%	0.54	0.54	2%	0.01	0.01	54
204	Fans- Improve components	Prim Metals	212.02	30.23	7.60	11.38	5%	1.08	1.62	5%	0.02	0.01	111
209	Fans - ASD (6-100 hp)	Prim Metals	209.91	30.17	2.11	13.50	6%	0.06	1.68	5%	0.01	0.01	510
210	Fans - Motor practices-1 (6-100 HP)	Prim Metals	208.31	29.94	1.61	15.10	7%	0.23	1.91	6%	0.04	0.02	258
212	Fans - ASD (100+ hp)	Prim Metals	202.96	29.85	5.34	20.44	9%	0.10	2.01	6%	0.03	0.02	1,747
202	Fans - Controls	Prim Metals	163.38	24.20	39.58	60.03	27%	5.64	7.65	24%	0.05	0.04	341
213	Fans - Motor practices-1 (100+ HP)	Prim Metals	162.51	24.00	0.86	60.89	27%	0.21	7.86	25%	0.08	0.04	328
207	Fans - Motor practices-1 (1-5 HP)	Prim Metals	162.14	23.94	0.37	61.27	27%	0.05	7.91	25%	0.07	0.04	501
203	Fans - System Optimization	Prim Metals	138.85	22.25	23.29	84.56	38%	1.69	9.60	30%	0.06	0.05	883
211	Fans - Replace 100+ HP motor	Prim Metals	136.45	21.91	2.40	86.95	39%	0.34	9.94	31%	0.11	0.05	762
208	Fans - Replace 6-100 HP motor	Prim Metals	135.16	21.69	1.29	88.24	39%	0.22	10.16	32%	0.26	0.05	1,519
205	Fans - Replace 1-5 HP motor	Prim Metals	134.98	21.67	0.18	88.42	40%	0.03	10.19	32%	0.37	0.05	2,591
206	Fans - ASD (1-5 hp)	Prim Metals	134.62	21.66	0.36	88.79	40%	0.01	10.19	32%	0.27	0.05	18,114
300	Base Pumps	Prim Metals	283.62	40.44	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Prim Metals	278.17	39.66	5.44	5.44	2%	0.78	0.78	2%	0.01	0.01	51
309	Pumps - ASD (6-100 hp)	Prim Metals	272.72	39.58	5.45	10.90	4%	0.08	0.86	2%	0.01	0.01	494
302	Pumps - Controls	Prim Metals	257.75	37.45	14.96	25.86	9%	2.13	2.99	7%	0.01	0.01	76
304	Pumps - Sizing	Prim Metals	245.48	35.70	12.27	38.14	13%	1.75	4.74	12%	0.01	0.01	102
303	Pumps - System Optimization	Prim Metals	228.84	33.33	16.64	54.78	19%	2.37	7.11	18%	0.03	0.02	183
313	Pumps - Motor practices-1 (100+ HP)	Prim Metals	226.80	33.03	2.04	56.82	20%	0.29	7.40	18%	0.04	0.02	297
310	Pumps - Motor practices-1 (6-100 HP)	Prim Metals	225.57	32.86	1.23	58.05	20%	0.18	7.58	19%	0.04	0.02	302
312	Pumps - ASD (100+ hp)	Prim Metals	218.07	32.75	7.50	65.55	23%	0.11	7.69	19%	0.03	0.02	2,054
307	Pumps - Motor practices-1 (1-5 HP)	Prim Metals	217.86	32.72	0.21	65.75	23%	0.03	7.72	19%	0.07	0.02	460
311	Pumps - Replace 100+ HP motor	Prim Metals	216.31	32.50	1.55	67.31	24%	0.22	7.94	20%	0.09	0.02	606
308	Pumps - Replace 6-100 HP motor	Prim Metals	213.69	32.12	2.62	69.92	25%	0.37	8.31	21%	0.17	0.03	1,219
305	Pumps - Replace 1-5 HP motor	Prim Metals	213.43	32.09	0.26	70.18	25%	0.04	8.35	21%	0.30	0.03	2,075
306	Pumps - ASD (1-5 hp)	Prim Metals	212.86	32.08	0.57	70.76	25%	0.01	8.36	21%	0.21	0.03	14,545
400	Base Drives	Prim Metals	321.64	45.86	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
426	Efficient drives - rolling	Prim Metals	312.48	44.55	9.17	9.17	3%	1.31	1.31	3%	0.02	0.02	170
425	Drives - Process Control	Prim Metals	304.47	43.41	8.01	17.18	5%	1.14	2.45	5%	0.03	0.03	238
415	Drives - Process Controls (batch + site)	Prim Metals	296.66	42.30	7.81	24.98	8%	1.11	3.56	8%	0.08	0.04	544
500	Base Heating	Prim Metals	852.18	121.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
507	Near Net Shape Casting	Prim Metals	846.56	120.70	5.62	5.62	1%	0.80	0.80	1%	0.01	0.01	72
505	Efficient electric melting	Prim Metals	770.52	109.86	76.04	81.66	10%	10.84	11.64	10%	0.03	0.03	227
508	Heating - Process Control	Prim Metals	750.77	107.05	19.76	101.41	12%	2.82	14.46	12%	0.04	0.03	256
506	Intelligent extruder (DOE)	Prim Metals	750.39	106.99	0.38	101.79	12%	0.05	14.51	12%	0.14	0.03	980
550	Base Refrigeration	Prim Metals	27.12	4.64	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Prim Metals	936.39	133.51	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Prim Metals	12.83	2.19	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Prim Metals	11.28	1.93	1.55	1.55	12%	0.26	0.26	12%	0.03	0.03	148
702	Window Film - Chiller	Prim Metals	10.81	1.85	0.46	2.01	16%	0.08	0.34	16%	0.09	0.04	550
705	Chiller Tune Up/Diagnostics	Prim Metals	10.70	1.83	0.11	2.12	17%	0.02	0.36	17%	0.12	0.05	683

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kWH
703	EMS - Chiller	Prim Metals	10.00	1.71	0.70	2.83	22%	0.12	0.48	22%	0.16	0.07	939
706	Cooling Circ. Pumps - VSD	Prim Metals	9.66	1.65	0.34	3.17	25%	0.06	0.54	25%	0.23	0.09	1,338
704	Cool Roof - Chiller	Prim Metals	9.37	1.60	0.28	3.45	27%	0.05	0.59	27%	0.32	0.11	1,880
710	Base DX Packaged System, EER=10.3, 10 tons	Prim Metals	87.23	14.92	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Prim Metals	84.44	14.79	2.79	2.79	3%	0.13	0.13	1%	0.01	0.01	166
713	Window Film - DX	Prim Metals	82.28	14.42	2.15	4.95	6%	0.37	0.50	3%	0.05	0.03	285
712	DX Packaged System, EER=10.9, 10 tons	Prim Metals	77.75	13.65	4.53	9.48	11%	0.77	1.28	9%	0.10	0.06	567
716	Cool Roof - DX	Prim Metals	75.37	13.24	2.38	11.86	14%	0.41	1.68	11%	0.16	0.08	929
714	Evaporative Pre-Cooler	Prim Metals	73.57	12.93	1.80	13.66	16%	0.31	1.99	13%	0.21	0.10	1,215
711	DX Tune Up/ Advanced Diagnostics	Prim Metals	70.67	12.44	2.90	16.56	19%	0.50	2.49	17%	0.34	0.14	1,961
800	Base Lighting	Prim Metals	102.54	14.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Prim Metals	91.81	13.09	10.73	10.73	10%	1.53	1.53	10%	0.04	0.04	250
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Prim Metals	90.13	12.81	1.68	12.42	12%	0.28	1.82	12%	0.05	0.04	323
802	CFL Hardwired, Modular 36W	Prim Metals	89.91	12.78	0.22	12.63	12%	0.03	1.85	13%	0.05	0.04	376
803	Metal Halide, 50W	Prim Metals	71.81	10.19	18.10	30.73	30%	2.58	4.43	30%	0.31	0.20	2,140
900	Base Other	Prim Metals	35.50	5.06	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Prim Metals	35.50	5.06	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	321
100	Base Compressed Air	Fab Metals	78.08	10.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Fab Metals	74.81	10.34	3.27	3.27	4%	0.45	0.45	4%	0.01	0.01	57
101	Compressed Air-O&M	Fab Metals	71.63	9.90	3.18	6.45	8%	0.44	0.89	8%	0.01	0.01	61
109	Comp Air - ASD (6-100 hp)	Fab Metals	70.19	9.88	1.44	7.89	10%	0.02	0.91	8%	0.01	0.01	545
103	Compressed Air - System Optimization	Fab Metals	62.39	8.80	7.80	15.69	20%	1.08	1.99	18%	0.01	0.01	91
102	Compressed Air - Controls	Fab Metals	60.34	8.52	2.06	17.75	23%	0.28	2.27	21%	0.03	0.01	184
113	Comp Air - Motor practices-1 (100+ HP)	Fab Metals	60.12	8.49	0.21	17.96	23%	0.03	2.30	21%	0.04	0.01	317
110	Comp Air - Motor practices-1 (6-100 HP)	Fab Metals	59.61	8.42	0.52	18.48	24%	0.07	2.38	22%	0.05	0.01	326
112	Comp Air - ASD (100+ hp)	Fab Metals	56.25	8.37	3.35	21.83	28%	0.05	2.42	22%	0.03	0.02	2,207
107	Comp Air - Motor practices-1 (1-5 HP)	Fab Metals	56.12	8.35	0.13	21.96	28%	0.02	2.44	23%	0.07	0.02	522
111	Comp Air - Replace 100+ HP motor	Fab Metals	55.72	8.30	0.40	22.36	29%	0.06	2.50	23%	0.09	0.02	668
108	Comp Air - Replace 6-100 HP motor	Fab Metals	55.57	8.28	0.15	22.51	29%	0.02	2.52	23%	0.18	0.02	1,308
105	Comp Air - Replace 1-5 HP motor	Fab Metals	55.51	8.27	0.07	22.57	29%	0.01	2.53	23%	0.31	0.02	2,264
106	Comp Air - ASD (1-5 hp)	Fab Metals	55.36	8.27	0.15	22.72	29%	0.00	2.53	23%	0.23	0.02	15,882
200	Base Fans	Fab Metals	43.49	6.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Fab Metals	43.38	6.00	0.11	0.11	0%	0.02	0.02	0%	0.01	0.01	55
204	Fans- Improve components	Fab Metals	42.58	5.89	0.80	0.91	2%	0.11	0.13	2%	0.02	0.01	110
209	Fans - ASD (6-100 hp)	Fab Metals	42.13	5.87	0.45	1.36	3%	0.01	0.14	2%	0.01	0.01	510
210	Fans - Motor practices-1 (6-100 HP)	Fab Metals	41.98	5.85	0.15	1.52	3%	0.02	0.16	3%	0.04	0.02	256
202	Fans - Controls	Fab Metals	38.87	5.42	3.10	4.62	11%	0.43	0.59	10%	0.04	0.03	276
212	Fans - ASD (100+ hp)	Fab Metals	38.75	5.42	0.13	4.74	11%	0.00	0.59	10%	0.03	0.03	1,805
213	Fans - Motor practices-1 (100+ HP)	Fab Metals	38.53	5.37	0.22	4.96	11%	0.05	0.64	11%	0.06	0.03	277
203	Fans - System Optimization	Fab Metals	36.83	5.26	1.70	6.66	15%	0.12	0.76	13%	0.05	0.04	649
207	Fans - Motor practices-1 (1-5 HP)	Fab Metals	36.75	5.24	0.08	6.74	16%	0.01	0.77	13%	0.06	0.04	444
211	Fans - Replace 100+ HP motor	Fab Metals	36.14	5.16	0.61	7.35	17%	0.08	0.85	14%	0.08	0.04	577
208	Fans - Replace 6-100 HP motor	Fab Metals	35.95	5.13	0.19	7.54	17%	0.03	0.88	15%	0.18	0.04	1,137
205	Fans - Replace 1-5 HP motor	Fab Metals	35.91	5.12	0.04	7.58	17%	0.01	0.89	15%	0.27	0.04	1,949
206	Fans - ASD (1-5 hp)	Fab Metals	35.83	5.12	0.08	7.66	18%	0.00	0.89	15%	0.19	0.05	13,536
300	Base Pumps	Fab Metals	57.03	7.88	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
301	Pumps - O&M	Fab Metals	53.73	7.43	3.30	3.30	6%	0.46	0.46	6%	0.01	0.01	54
309	Pumps - ASD (6-100 hp)	Fab Metals	53.21	7.42	0.52	3.82	7%	0.01	0.46	6%	0.01	0.01	515
302	Pumps - Controls	Fab Metals	49.27	6.87	3.94	7.76	14%	0.54	1.01	13%	0.01	0.01	84
304	Pumps - Sizing	Fab Metals	46.92	6.55	2.35	10.11	18%	0.32	1.33	17%	0.02	0.01	110

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										
Vintage							Total	Percent	Total	Percent	Marginal	Average	Marginal
Batch							Energy	GWH	Capacity	GWH	Energy	Energy	Capacity
Measure		Building	Total	Total	GWH	Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
Number	Measure	Type	GWH	MW	Savings	GWH	Savings	MW	MW	MW	\$/kWH	\$/kWH	\$/kW
303	Pumps - System Optimization	Fab Metals	36.77	5.15	10.16	20.26	36%	1.40	2.74	35%	0.04	0.02	257
313	Pumps - Motor practices-1 (100+ HP)	Fab Metals	36.44	5.10	0.33	20.59	36%	0.05	2.78	35%	0.05	0.02	383
310	Pumps - Motor practices-1 (6-100 HP)	Fab Metals	36.19	5.07	0.25	20.84	37%	0.04	2.82	36%	0.05	0.02	391
312	Pumps - ASD (100+ hp)	Fab Metals	35.00	5.05	1.18	22.03	39%	0.02	2.83	36%	0.04	0.02	2,652
307	Pumps - Motor practices-1 (1-5 HP)	Fab Metals	34.96	5.04	0.04	22.07	39%	0.01	2.84	36%	0.08	0.02	599
311	Pumps - Replace 100+ HP motor	Fab Metals	34.71	5.01	0.25	22.32	39%	0.03	2.87	36%	0.11	0.03	783
308	Pumps - Replace 6-100 HP motor	Fab Metals	34.32	4.96	0.39	22.71	40%	0.05	2.93	37%	0.22	0.03	1,571
305	Pumps - Replace 1-5 HP motor	Fab Metals	34.28	4.95	0.04	22.75	40%	0.01	2.93	37%	0.37	0.03	2,682
306	Pumps - ASD (1-5 hp)	Fab Metals	34.21	4.95	0.08	22.83	40%	0.00	2.94	37%	0.26	0.03	18,577
400	Base Drives	Fab Metals	144.45	19.97	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
427	Drives - Optimization process (M&T)	Fab Metals	141.41	19.55	3.04	3.04	2%	0.42	0.42	2%	0.01	0.01	86
429	Machinery	Fab Metals	140.11	19.37	1.31	4.35	3%	0.18	0.60	3%	0.03	0.02	198
428	Drives - Scheduling	Fab Metals	139.29	19.34	0.82	5.17	4%	0.02	0.62	3%	0.03	0.02	1,133
500	Base Heating	Fab Metals	131.57	18.19	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
510	Heating - Optimization process (M&T)	Fab Metals	128.80	17.80	2.77	2.77	2%	0.38	0.38	2%	0.01	0.01	86
509	Efficient Curing ovens	Fab Metals	123.50	17.07	5.30	8.07	6%	0.73	1.12	6%	0.04	0.03	284
511	Heating - Scheduling	Fab Metals	122.75	17.05	0.75	8.82	7%	0.02	1.14	6%	0.03	0.03	1,172
550	Base Refrigeration	Fab Metals	23.20	3.85	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
600	Base Other Process	Fab Metals	31.44	4.35	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
603	New transformers welding	Fab Metals	26.95	3.72	4.49	4.49	14%	0.62	0.62	14%	0.02	0.02	143
700	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Fab Metals	35.51	5.89	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Fab Metals	31.22	5.18	4.29	4.29	12%	0.71	0.71	12%	0.03	0.03	153
702	Window Film - Chiller	Fab Metals	29.94	4.97	1.28	5.57	16%	0.21	0.92	16%	0.09	0.04	567
705	Chiller Tune Up/Diagnostics	Fab Metals	29.63	4.91	0.31	5.88	17%	0.05	0.98	17%	0.12	0.05	705
703	EMS - Chiller	Fab Metals	27.69	4.59	1.94	7.82	22%	0.32	1.30	22%	0.16	0.07	969
706	Cooling Circ. Pumps - VSD	Fab Metals	26.74	4.44	0.95	8.77	25%	0.16	1.46	25%	0.23	0.09	1,380
704	Cool Roof - Chiller	Fab Metals	25.95	4.31	0.78	9.56	27%	0.13	1.59	27%	0.32	0.11	1,939
710	Base DX Packaged System, EER=10.3, 10 tons	Fab Metals	30.55	5.07	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
715	Prog. Thermostat - DX	Fab Metals	29.57	5.02	0.98	0.98	3%	0.05	0.05	1%	0.01	0.01	171
713	Window Film - DX	Fab Metals	28.81	4.90	0.75	1.74	6%	0.13	0.17	3%	0.05	0.03	294
712	DX Packaged System, EER=10.9, 10 tons	Fab Metals	27.23	4.63	1.59	3.32	11%	0.26	0.43	9%	0.10	0.06	584
716	Cool Roof - DX	Fab Metals	26.39	4.50	0.83	4.16	14%	0.14	0.57	11%	0.16	0.08	958
714	Evaporative Pre-Cooler	Fab Metals	25.76	4.39	0.63	4.79	16%	0.10	0.68	13%	0.21	0.10	1,253
711	DX Tune Up/ Advanced Diagnostics	Fab Metals	24.75	4.22	1.02	5.80	19%	0.17	0.85	17%	0.34	0.14	2,023
800	Base Lighting	Fab Metals	61.89	8.56	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Fab Metals	53.60	7.41	8.29	8.29	13%	1.15	1.15	13%	0.04	0.04	258
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Fab Metals	52.59	7.25	1.01	9.30	15%	0.16	1.31	15%	0.05	0.04	345
802	CFL Hardwired, Modular 36W	Fab Metals	52.47	7.23	0.13	9.43	15%	0.02	1.32	15%	0.06	0.04	401
803	Metal Halide, 50W	Fab Metals	41.91	5.77	10.56	19.99	32%	1.46	2.78	33%	0.32	0.18	2,283
900	Base Other	Fab Metals	21.80	3.01	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
901	Replace V-belts	Fab Metals	21.79	3.01	0.00	0.00	0%	0.00	0.00	0%	0.05	0.05	331
100	Base Compressed Air	Ind Mach	84.89	18.79	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
104	Compressed Air- Sizing	Ind Mach	81.34	18.00	3.55	3.55	4%	0.79	0.79	4%	0.01	0.01	36
101	Compressed Air-O&M	Ind Mach	77.88	17.24	3.46	7.01	8%	0.77	1.55	8%	0.01	0.01	38
103	Compressed Air - System Optimization	Ind Mach	69.22	15.32	8.65	15.67	18%	1.92	3.47	18%	0.01	0.01	55
109	Comp Air - ASD (6-100 hp)	Ind Mach	67.91	15.29	1.31	16.98	20%	0.03	3.50	19%	0.01	0.01	383
102	Compressed Air - Controls	Ind Mach	65.67	14.79	2.24	19.22	23%	0.50	3.99	21%	0.03	0.01	115
113	Comp Air - Motor practices-1 (100+ HP)	Ind Mach	65.44	14.74	0.23	19.45	23%	0.05	4.05	22%	0.04	0.01	198
110	Comp Air - Motor practices-1 (6-100 HP)	Ind Mach	64.88	14.62	0.56	20.01	24%	0.12	4.17	22%	0.05	0.01	203
112	Comp Air - ASD (100+ hp)	Ind Mach	61.43	14.54	3.44	23.46	28%	0.08	4.25	23%	0.03	0.02	1,377

APPENDIX F

INDUSTRIAL

NON-ADDITIVIE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year		2011								
Vintage	Batch	Building	Total	Total	GWH	Total	Percent		Total	Percent	Marginal	Average	Marginal
Measure	Measure	Type	GWH	MW	Savings	Energy	GWH	MW	Capacity	MW	Energy	Energy	Capacity
Number						Savings	Savings	Savings	Savings	Savings	Cost	Cost	Cost
											\$/kWH	\$/kWH	\$/kW
107	Comp Air - Motor practices-1 (1-5 HP)	Ind Mach	61.29	14.50	0.14	23.60	28%	0.03	4.29	23%	0.07	0.02	324
111	Comp Air - Replace 100+ HP motor	Ind Mach	60.86	14.41	0.44	24.03	28%	0.10	4.38	23%	0.09	0.02	415
108	Comp Air - Replace 6-100 HP motor	Ind Mach	60.69	14.37	0.16	24.20	29%	0.04	4.42	24%	0.18	0.02	813
105	Comp Air - Replace 1-5 HP motor	Ind Mach	60.62	14.36	0.07	24.27	29%	0.02	4.43	24%	0.31	0.02	1,408
106	Comp Air - ASD (1-5 hp)	Ind Mach	60.47	14.35	0.15	24.42	29%	0.00	4.44	24%	0.24	0.02	9,874
200	Base Fans	Ind Mach	30.74	6.80	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A
201	Fans - O&M	Ind Mach	30.66	6.79	0.08	0.08	0%	0.02	0.02	0%	0.01	0.01	34
204	Fans- Improve components	Ind Mach	30.09	6.66	0.57	0.65	2%	0.13	0.14	2%	0.02	0.01	69

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year	2011																SUPPLY			
Vintage	1																					
Batch		Building	Total	Total	Therms	Total	Percent	Therms	Total	Percent	Marginal	Average	Marginal	Average	Total		Base	Base	Economic			
Measure	Measure	Type	Therms	Therms/Day	Savings	Energy Savings Therms	Therms Savings	Savings/Day	Savings/Day	Savings/Day	Cost \$/Therm	Cost \$/Therm	Cost \$/Therm/Day	Cost \$/Therm/Day	Resource Cost Test TRC		Therms	Therms/Day	Therms			
Number	Number																					
100	Base Furnace	Single Family	467,635,239	6,059,820	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
121	Self Install Weatherization	Single Family	461,792,155	5,984,103	5,843,084	5,843,084	1%	75717.22	75717.22	1%	0.10	0.10	8	8	9.11			5,843,084.50	75,717.22			
113	ENERGY STAR Programmable Thermostat	Single Family	449,703,355	5,827,451	12,088,800	17,931,885	4%	156651.90	232369.12	4%	0.33	0.26	26	20	2.78			12,088,800.05	156,651.90			
108	Comprehensive Shell Air Sealing - Inf. Reducti	Single Family	434,297,530	5,627,815	15,405,825	33,337,709	7%	199635.34	432004.46	7%	0.62	0.43	48	33	1.47			15,405,824.80	199,635.34			
118	Diagnostic Testing, Repair and Maintena	Single Family	420,287,932	5,446,273	14,009,598	47,347,307	10%	181542.43	613546.89	10%	0.67	0.50	52	38	1.37			14,009,597.95	181,542.43			
101	Basement insulation R-13 (Furnace)	Single Family	402,530,863	5,216,169	17,757,069	65,104,376	14%	230103.78	843650.66	14%	0.66	0.49	51	38	1.21			17,757,068.61	230,103.78			
102	Ceiling R-0 to R-38 Insulation	Single Family	400,944,921	5,195,618	1,585,942	66,690,318	14%	20551.33	864201.99	14%	0.72	0.50	56	39	1.10			1,585,942.23	20,551.33			
103	Ceiling R-0 to R-49 Insulation	Single Family	399,245,280	5,173,593	1,699,642	68,389,960	15%	22024.69	886226.68	15%	0.82	0.51	63	39	0.98			1,699,641.58	22,024.69			
112	Duct Repair and Sealing	Single Family	361,126,383	4,679,632	38,118,897	106,508,856	23%	493961.15	1380187.83	23%	0.95	0.71	73	55	0.97			38,118,896.66	493,961.15			
109	Condensing Furnace - 94 AFUE (Tier 2)	Single Family	314,970,958	4,081,530	46,155,425	152,664,281	33%	598101.96	1978289.79	33%	1.13	0.84	87	65	0.81			0.00	0.00			
126	Single Pane to Double Pane with Gas	Single Family	270,118,688	3,500,315	44,852,271	197,516,551	42%	581215.12	2559504.91	42%	0.33	0.73	26	56	2.76			44,852,270.57	581,215.12			
105	Ceiling R-11 to R-49 Insulation	Single Family	267,529,001	3,466,757	2,589,687	200,106,239	43%	33558.29	2593063.20	43%	1.58	0.64	122	50	0.51			0.00	0.00			
110	Crawlspace insulation	Single Family	261,082,889	3,383,225	6,446,111	206,552,350	44%	83531.50	2676594.70	44%	1.91	0.68	148	53	0.42			0.00	0.00			
120	Radiant Barrier	Single Family	257,192,099	3,332,807	3,890,790	210,443,140	45%	50418.54	2727013.24	45%	2.08	0.75	160	58	0.41			0.00	0.00			
127	Windows - Double-Glazed to Energy Star	Single Family	243,939,574	3,161,075	13,252,526	223,695,686	48%	171731.96	2898745.20	48%	2.62	0.92	202	71	0.35			0.00	0.00			
122	Slab insulation R-0 to R-5 (4 ft)	Single Family	243,352,198	3,153,463	587,376	224,283,042	48%	7611.47	2906356.67	48%	2.56	0.80	198	62	0.31			0.00	0.00			
123	Wall 2x4 R-0 to Blow-In R-13 Insulation	Single Family	241,756,585	3,132,786	1,595,613	225,878,655	48%	20676.64	2927033.31	48%	3.19	0.82	246	63	0.25			0.00	0.00			
104	Ceiling R-11 to R-38 Insulatn	Single Family	240,204,291	3,112,671	1,552,294	227,430,949	49%	20115.30	2947148.61	49%	3.45	0.84	267	65	0.23			0.00	0.00			
107	Ceiling R-19 to R-49 Insulation	Single Family	238,212,202	3,086,857	1,992,088	229,423,037	49%	25814.34	2972962.95	49%	6.09	0.88	470	68	0.13			0.00	0.00			
114	Floor R-0 to R-19 Insulation-Batts	Single Family	237,683,891	3,080,011	528,312	229,951,349	49%	6846.09	2979809.04	49%	6.27	0.90	484	69	0.13			0.00	0.00			
115	Floor R-0 to R-30 Insulation-Batts	Single Family	237,050,929	3,071,809	632,962	230,584,310	49%	8202.19	2988011.23	49%	7.02	0.91	541	70	0.11			0.00	0.00			
106	Ceiling R-19 to R-38 Insulation	Single Family	235,775,265	3,055,778	1,275,664	231,859,975	50%	16530.61	3004541.84	50%	16.18	0.95	554	73	0.11			0.00	0.00			
119	Plastic Film (1-2 yr measure, window kit)	Single Family	232,002,861	3,006,394	3,772,404	235,632,379	50%	48884.45	3053426.29	50%	7.47	1.34	1,271	103	0.06			0.00	0.00			
125	Windows - Add Storm Windows to Single-Glaz	Single Family	217,279,588	2,815,603	14,723,272	250,355,651	54%	190790.53	3244216.82	54%	28.84	2.95	2,225	228	0.03			0.00	0.00			
116	Floor R-19 to R-30 Insulation-Batts	Single Family	217,276,454	2,815,562	3,134	250,358,785	54%	40.62	3244257.43	54%	32.94	2.56	2,542	198	0.02			0.00	0.00			
124	Windows - Add Storm Windows to Double-Glaz	Single Family	213,868,596	2,771,402	3,407,858	253,766,644	54%	44160.50	3288417.93	54%	79.92	3.99	6,167	308	0.01			0.00	0.00			
111	Duct insulation	Single Family	209,694,307	2,717,310	4,174,288	257,940,932	55%	54092.24	3342510.17	55%	103.81	5.60	8,011	432	0.01			0.00	0.00			
200	Base Boiler	Single Family	8,105,458	105,034	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
220	Self Install Weatherization	Single Family	8,004,180	103,722	101,277	101,277	1%	1312.40	1312.40	1%	0.06	0.06	4	4	16.02			101,277.38	1,312.40			
212	ENERGY STAR Programmable Thermostat	Single Family	7,794,647	101,006	209,534	310,811	4%	2715.23	4027.62	4%	0.19	0.15	15	11	4.89			209,533.52	2,715.23			
210	Comprehensive Shell Air Sealing - Inf. Reducti	Single Family	7,438,611	96,393	356,036	666,847	8%	4613.67	8641.29	8%	0.36	0.26	27	20	2.59			356,036.07	4,613.67			
203	Diagnostic Testing, Repair and Maintena	Single Family	7,198,655	93,283	239,955	906,802	11%	3109.44	11750.73	11%	0.39	0.29	30	22	2.39			239,955.18	3,109.44			
201	Basement insulation R-13 (Boiler)	Single Family	6,964,700	90,252	233,955	1,140,757	14%	3031.69	14782.42	14%	0.38	0.28	29	22	2.10			233,955.03	3,031.69			
204	Ceiling R-0 to R-38 Insulation	Single Family	6,937,260	89,896	27,440	1,168,198	14%	355.58	15138.01	14%	0.41	0.28	32	22	1.93			27,440.41	355.58			
205	Ceiling R-0 to R-49 Insulation	Single Family	6,907,852	89,515	29,408	1,197,605	15%	381.08	15519.09	15%	0.47	0.29	36	22	1.72			29,407.67	381.08			
202	Boiler controls	Single Family	6,147,989	79,668	759,864	1,957,469	24%	9846.64	25365.73	24%	0.55	0.42	43	32	1.66			759,863.76	9,846.64			
207	Ceiling R-11 to R-49 Insulation	Single Family	6,089,046	78,904	58,942	2,016,411	25%	763.80	26129.53	25%	0.68	0.37	53	29	1.17			58,942.12	763.80			
221	Slab insulation R-0 to R-5 (4 ft)	Single Family	6,070,420	78,663	18,627	2,035,038	25%	241.37	26370.90	25%	0.80	0.38	61	29	1.00			18,626.50	241.37			
211	Crawlspace insulation	Single Family	5,924,153	76,768	146,267	2,181,304	27%	1895.39	28266.29	27%	0.83	0.41	64	31	0.96			146,266.77	1,895.39			
219	Radiant Barrier	Single Family	5,835,868	75,624	88,285	2,269,589	28%	1144.03	29410.32	28%	0.90	0.45	70	35	0.94			88,284.74	1,144.03			
216	High Efficiency Condensing Boiler (AFUE = 90)	Single Family	5,226,115	67,722	609,753	2,879,342	36%	7901.44	37311.76	36%	0.98	0.59	76	46	0.94			609,753.13	7,901.44			
227	Windows - Double-Glazed to Energy Star	Single Family	4,956,825	64,233	269,290	3,148,632	39%	3489.57	40801.34	39%	1.27	0.65	98	50	0.72			0.00	0.00			
226	Single Pane to Double Pane with Gas	Single Family	4,250,967	55,086	705,858	3,854,490	48%	9146.82	49948.16	48%	0.21	0.57	16	44	4.40			705,858.33	9,146.82			
223	Wall 2x4 R-0 to Blow-In R-13 Insulation	Single Family	4,223,094	54,725	27,873	3,882,363	48%	361.19	50309.34	48%	1.80	0.50	139	39	0.44			0.00	0.00			
206	Ceiling R-11 to R-38 Insulation	Single Family	4,195,978	54,373	27,116	3,909,479	48%	351.38	50660.72	48%	1.95	0.51	150	40	0.41			0.00	0.00			
222	Stack Damper	Single Family	4,028,139	52,198	167,839	4,077,318	50%	2174.93	52835.66	50%	2.68	0.68	207	52	0.34			0.00	0.00			
217	Pipe Insulation (Boiler)	Single Family	3,949,187	51,175	78,952	4,156,271	51%	1023.10	53858.75	51%	2.70	0.63	208	48	0.30			0.00	0.00</			

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year		2011																SUPPLY			
Vintage	Batch	1	Building	Total	Therms	Total	Percent	Therms	Total	Percent	Marginal	Average	Marginal	Average	Total		Base	Base	Economic	Economic			
Measure		Measure	Type	Therms	Therms/Day	Energy Savings Therms	Therms Savings	Therms/Day Savings	Capacity Savings Therms/Day	Therms/Day Savings	Energy Cost \$/Therm	Energy Cost \$/Therm	Capacity Cost \$/Therm/Day	Capacity Cost \$/Therm/Day	Resource Cost TRC		Therms	Therms/Day	Therms	Therms/Day			
324		Windows - Double-Glazed to Energy Star	Single Family	5,483,872	71,062	297,923	5,150,091	48%	3860.61	66737.11	48%	2.98	0.72	230	56	0.31			0.00	0.00			
320		Wall 2x4 R-0 to Blow-In R-13 Insulation	Single Family	5,447,915	70,596	35,957	5,186,048	49%	465.94	67203.05	49%	3.62	0.65	279	50	0.22			0.00	0.00			
304		Ceiling R-11 to R-38 Insulation	Single Family	5,412,935	70,143	34,980	5,221,028	49%	453.29	67656.34	49%	3.92	0.67	302	51	0.20			0.00	0.00			
307		Ceiling R-19 to R-49 Insulation	Single Family	5,368,043	69,561	44,891	5,265,919	50%	581.72	68238.06	50%	6.91	0.72	533	56	0.12			0.00	0.00			
311		Floor R-0 to R-19 Insulation-Batts	Single Family	5,356,138	69,407	11,905	5,277,825	50%	154.27	68392.33	50%	7.11	0.73	549	57	0.11			0.00	0.00			
312		Floor R-0 to R-30 Insulation-Batts	Single Family	5,341,874	69,222	14,264	5,292,088	50%	184.83	68577.17	50%	7.96	0.75	614	58	0.10			0.00	0.00			
306		Ceiling R-19 to R-38 Insulation	Single Family	5,313,128	68,850	28,747	5,320,835	50%	372.51	68949.68	50%	8.15	0.79	629	61	0.10			0.00	0.00			
322		ndows - Add Storm Windows to Single-Glaz	Single Family	4,975,948	64,480	337,180	5,658,015	53%	4369.32	73319.00	53%	32.20	2.78	2,485	214	0.03			0.00	0.00			
313		Floor R-19 to R-30 Insulation-Batts	Single Family	4,975,876	64,480	72	5,658,086	53%	0.93	73319.93	53%	36.78	2.41	2,838	186	0.02			0.00	0.00			
321		ndows - Add Storm Windows to Double-Glaz	Single Family	4,897,833	63,468	78,044	5,736,130	54%	1011.33	74331.26	54%	89.23	3.96	6,886	305	0.01			0.00	0.00			
317		Plastic Film (1-2 yr measure, window kit)	Single Family	4,876,206	63,188	21,627	5,757,757	54%	280.25	74611.50	54%	91.12	4.28	7,032	331	0.01			0.00	0.00			
400		Base Water Heating (.58)	Single Family	226,835,946	625,927	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
411		Pipe Wrap	Single Family	222,986,120	615,304	3,849,826	3,849,826	2%	10623.14	10623.14	2%	0.16	0.16	59	59	5.67			3,849,825.96	10,623.14			
409		Faucet Aerators	Single Family	212,641,403	586,759	10,344,717	14,194,543	6%	28545.02	39168.16	6%	0.28	0.25	100	89	3.33			10,344,716.57	28,545.02			
408		Energy Star Water Heater (EF = .67)	Single Family	192,897,059	532,277	19,744,345	33,938,887	15%	54482.19	93650.35	15%	0.37	0.32	133	114	2.51			19,744,344.70	54,482.19			
410		Low-Flow Showerheads	Single Family	189,789,260	523,701	3,107,799	37,046,686	16%	8575.60	102225.96	16%	1.18	0.39	428	141	0.78			0.00	0.00			
403		Drain Water Heat Recovery (GFX)	Single Family	182,700,029	504,139	7,089,231	44,135,917	19%	19561.89	121787.85	19%	0.66	0.39	238	141	1.22			7,089,230.53	19,561.89			
413		F Tankless Hot Water Heater Energy Star St	Single Family	157,839,656	435,540	24,860,373	68,996,290	30%	68599.26	190387.11	30%	1.36	0.77	491	281	0.68			0.00	0.00			
402		ondensing Gas Storage water heater (>0.8 E	Single Family	150,754,763	415,990	7,084,893	76,081,183	34%	19549.93	209937.04	34%	4.39	1.11	1,592	403	0.21			0.00	0.00			
404		2011 Energy Star Clotheswasher (MEF=2.00)	Single Family	147,534,254	407,103	3,220,509	79,301,692	35%	8886.61	218823.65	35%	3.76	1.22	1,362	442	0.24			0.00	0.00			
406		Energy Star Dishwasher (EF=0.68)	Single Family	145,515,960	401,534	2,018,294	81,319,986	36%	5569.24	224392.90	36%	4.24	1.29	1,535	469	0.22			0.00	0.00			
405		Energy Star CW CEE Tier 3 (MEF=2.20)	Single Family	142,500,716	393,214	3,015,243	84,335,229	37%	8320.21	232713.11	37%	11.20	1.65	4,059	597	0.08			0.00	0.00			
412		Solar Water Heater	Single Family	89,331,481	246,500	53,169,235	137,504,465	61%	146714.23	379427.33	61%	5.31	3.06	1,924	1,110	0.17			0.00	0.00			
407		CEE Tier 2 DW (EF=0.72)	Single Family	87,708,107	242,020	1,623,375	139,127,839	61%	4479.51	383906.84	61%	9.77	3.14	3,542	1,139	0.09			0.00	0.00			
500		Base Clothes Drying	Single Family	10,868,375	29,990	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
501		Efficient Clothes Dryer (EF = 2.67)	Single Family	10,679,906	29,470	188,469	188,469	2%	520.06	520.06	2%	0.32	0.32	114	114	2.91			188,468.92	520.06			
600		Base Cooking	Single Family	20,069,445	55,379	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
601		Convection Oven	Single Family	13,491,049	37,227	6,578,396	6,578,396	33%	18152.31	18152.31	33%	1.21	1.21	438	438	0.76			0.00	0.00			
602		EE Gas Range	Single Family	12,154,098	33,538	1,336,951	7,915,347	39%	3689.16	21841.47	39%	2.92	1.50	1,057	543	0.32			0.00	0.00			
700		Base Other	Single Family	6,094,952	16,818	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
800		Base House Use	Single Family	750,243,381	7,543,050	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
801		Conservation- Powper	Single Family	742,740,947	7,467,619	7,502,434	7,502,434	1%	75430.50	75430.50	1%	0.49	0.49	48	48	1.89			7,502,434.04	75,430.50			
100		Base Furnace	Multifamily	33,655,591	436,124	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00			
121		Self Install Weatherization	Multifamily	33,235,066	430,674	420,525	420,525	1%	5449.35	5449.35	1%	0.11	0.11	8	8	8.66			420,525.33	5,449.35			
102		Ceiling R-0 to R-38 Insulation	Multifamily	33,186,203	430,041	48,862	469,388	1%	633.18	6082.53	1%	0.17	0.10	13	8	4.68			48,862.36	633.18			
103		Ceiling R-0 to R-49 Insulation	Multifamily	33,133,708	429,361	52,495	521,883	2%	680.26	6762.78	2%	0.19	0.11	15	8	4.16			52,495.24	680.26			
101		Basement insulation R-13 (Furnace)	Multifamily	32,980,181	427,371	153,527	675,410	2%	1989.47	8752.25	2%	0.19	0.13	15	10	4.13			153,526.97	1,989.47			
105		Ceiling R-11 to R-49 Insulation	Multifamily	32,862,194	425,843	117,987	793,397	2%	1528.93	10281.18	2%	0.25	0.15	19	11	3.17			117,987.35	1,528.93			
113		ENERGY STAR Programmable Thermostat	Multifamily	31,670,301	410,397	1,191,893	1,985,290	6%	15445.07	25726.25	6%	0.36	0.28	27	22	2.58			1,191,893.05	15,445.07			
110		Crawlspace insulation	Multifamily	31,621,982	409,771	48,318	2,033,068	6%	626.13	26352.38	6%	0.39	0.25	30	19	2.07			48,318.17	626.13			
122		Slab insulation R-0 to R-5 (4 ft)	Multifamily	31,165,417	403,855	456,565	2,490,173	7%	5916.37	32268.74	7%	0.45	0.28	34	22	1.79			456,565.00	5,916.37			
108		mprehensive Shell Air Sealing - Inf. Reducti	Multifamily	29,807,101	386,253	1,358,316	3,848,490	11%	17601.65	49870.40	11%	0.54	0.40	41	31	1.71			1,358,316.49	17,601.65			
104		Ceiling R-11 to R-38 Insulation	Multifamily	29,735,683	385,328	71,418	3,919,908	12%	925.46	50795.86	12%	0.54	0.35	42	27	1.47			71,417.58	925.46			
118		ace Diagnostic Testing, Repair and Maintene	Multifamily	28,776,468	372,898	959,216	4,879,123	14%	12429.93	63225.79	14%	0.74	0.47	57	36	1.24			959,216.61	12,429.93			
112		Duct Repair and Sealing	Multifamily	26,028,966	337,295	2,747,502	7,626,625	23%	35603.32	98829.11	23%	0.99	0.66	77	51	0.93			2,747,501.99	35,603.32			
127		Windows - Double-Glazed to Energy Star	Multifamily	25,013,624	324,137	1,015,342	8,641,967	26%	13157.24	111986.35	26%	0.62	0.65	48	51	1.49			1,015,342.11	13,157.24			
126		Single Pane to Double Pane with Gas	Multifamily	21,679,879	280,937	3,333,745	11,975,712	36%	43200.11	155186.46	36%	0.06	0.49	4	38	15.95			3,333,744.79	43,200.11			
107		Ceiling R-19 to R-49 Insulation	Multifamily	21,612,786	280,068	67,093	12,042,805	36%	869.41	156055.87	36%	1.31	0.43	101	33	0.61			0.00	0.00			
109		Condensing Furnace - 94 AFUE (Tier 2)	Multifamily	18,378,730	238,160	3,234,056	15,276,861	45%															

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS															Year					2011		SUPPLY																		
Vintage	Batch	1	Building		Total	Total	Therms	Total	Percent	Therms/Day	Total	Percent	Marginal	Average	Marginal	Average	Total																							
Measure			Type	Therms	Therms/Day	Savings	Energy Savings	Therms	Savings	Savings	Therms/Day	Savings	Energy Cost	Energy Cost	Capacity	Capacity	Resource	Cost Test	Base	Base	Economic	Economic																		
Number													\$/Therm	\$/Therm	\$/Therm/Day	\$/Therm/Day	TRC	Therms	Therms/Day	Therms	Therms/Day																			
203	ler	Diagnostic Testing, Repair and Maintenan	Multifamily	255,835	3,315	8,528	48,874	16%	110.51	633.33	16%	0.82	0.51	63	39	1.12					8,527.84	110.51																		
227	Windows - Double-Glazed to Energy Star		Multifamily	245,856	3,186	9,980	58,853	19%	129.32	762.65	19%	0.62	0.53	48	41	1.49					9,979.66	129.32																		
226	Single Pane to Double Pane with Gas		Multifamily	213,089	2,761	32,767	91,620	30%	424.61	1187.26	30%	0.06	0.36	4	28	15.90					32,766.93	424.61																		
202	Boiler controls		Multifamily	189,649	2,458	23,440	115,060	38%	303.74	1491.00	38%	1.36	0.56	105	44	0.68					0.00	0.00																		
209	Ceiling R-19 to R-49 Insulation		Multifamily	189,062	2,450	587	115,647	38%	7.61	1498.60	38%	1.48	0.49	114	38	0.54					0.00	0.00																		
223	Wall 2x4 R-0 to Blow-In R-13 Insulation		Multifamily	188,214	2,439	848	116,495	38%	10.99	1509.59	38%	1.65	0.50	128	39	0.48					0.00	0.00																		
208	Ceiling R-19 to R-38 Insulation		Multifamily	187,836	2,434	378	116,873	38%	4.90	1514.49	38%	1.73	0.51	134	39	0.46					0.00	0.00																		
213	Floor R-0 to R-19 Insulation-Batts		Multifamily	187,244	2,426	592	117,465	39%	7.67	1522.16	39%	1.91	0.51	148	40	0.42					0.00	0.00																		
216	gh Efficiency Condensing Boiler (AFUE = 90%)		Multifamily	167,501	2,171	19,743	137,208	45%	255.84	1778.01	45%	2.31	0.84	178	65	0.40					0.00	0.00																		
214	Floor R-0 to R-30 Insulation-Batts		Multifamily	166,861	2,162	640	137,848	45%	8.29	1786.29	45%	2.38	0.74	183	57	0.34					0.00	0.00																		
222	Stack Damper		Multifamily	160,187	2,076	6,674	144,522	47%	86.49	1872.78	47%	5.11	1.05	394	81	0.18					0.00	0.00																		
225	indows - Add Storm Windows to Single-Glaz		Multifamily	147,212	1,908	12,974	157,497	52%	168.13	2040.91	52%	5.82	1.44	449	111	0.16					0.00	0.00																		
217	Pipe Insulation (Boiler)		Multifamily	144,327	1,870	2,885	160,382	53%	37.39	2078.30	53%	6.34	1.34	489	103	0.13					0.00	0.00																		
218	Plastic Film (1-2 yr measure, window kit)		Multifamily	142,018	1,840	2,309	162,691	53%	29.92	2108.22	53%	7.53	1.63	581	126	0.12					0.00	0.00																		
215	Floor R-19 to R-30 Insulation-Batts		Multifamily	142,005	1,840	13	162,704	53%	0.16	2108.39	53%	12.68	1.41	979	109	0.06					0.00	0.00																		
224	ndows - Add Storm Windows to Double-Glaz		Multifamily	139,940	1,813	2,065	164,769	54%	26.76	2135.15	54%	16.69	1.82	1,288	140	0.06					0.00	0.00																		
300	Base Room Heat		Multifamily	315,032	4,082	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####			0.00	0.00																		
318	Self Install Weatherization		Multifamily	311,096	4,031	3,936	3,936	1%	51.01	51.01	1%	0.29	0.29	22	22	3.17					3,936.32	51.01																		
316	Radiant Barrier		Multifamily	294,297	3,814	16,799	20,735	7%	217.69	268.70	7%	0.28	0.28	22	22	3.00					16,799.18	217.69																		
302	Ceiling R-0 to R-38 Insulation		Multifamily	293,864	3,808	433	21,168	7%	5.61	274.31	7%	0.49	0.27	38	21	1.62					432.68	5.61																		
303	Ceiling R-0 to R-49 Insulation		Multifamily	293,399	3,802	465	21,633	7%	6.02	280.33	7%	0.55	0.27	43	21	1.44					464.85	6.02																		
301	Basement insulation R-13 (Room Heater)		Multifamily	292,354	3,788	1,046	22,679	7%	13.55	293.88	7%	0.56	0.29	43	22	1.43					1,045.76	13.55																		
305	Ceiling R-11 to R-49 Insulation		Multifamily	291,308	3,775	1,046	23,725	8%	13.55	307.43	8%	0.73	0.31	56	24	1.10					1,045.90	13.55																		
314	ter Diagnostic Testing, Repair and Maintenan		Multifamily	281,911	3,653	9,397	33,122	11%	121.77	429.21	11%	0.89	0.51	69	39	1.03					9,397.02	121.77																		
323	Single Pane to Double Pane with Gas		Multifamily	244,338	3,166	37,572	70,694	22%	486.88	916.08	22%	0.13	0.31	10	24	7.03					37,572.24	486.88																		
310	ENERGY STAR Programmable Thermostat		Multifamily	239,907	3,109	4,431	75,125	24%	57.42	973.50	24%	1.22	0.36	94	28	0.75					0.00	0.00																		
319	Slab insulation R-0 to R-5 (4 ft)		Multifamily	235,507	3,052	4,401	79,525	25%	57.02	1030.53	25%	1.19	0.36	92	28	0.67					0.00	0.00																		
315	High efficiency gas room heater		Multifamily	189,269	2,453	46,238	125,764	40%	599.17	1629.70	40%	1.45	0.80	112	62	0.63					0.00	0.00																		
309	Crawlspace insulation		Multifamily	188,980	2,449	289	126,052	40%	3.74	1633.44	40%	1.65	0.69	127	54	0.48					0.00	0.00																		
324	Windows - Double-Glazed to Energy Star		Multifamily	181,608	2,353	7,372	133,424	42%	95.53	1728.97	42%	2.17	0.88	168	68	0.42					0.00	0.00																		
308	mprehensive Shell Air Sealing - Inf. Reductio		Multifamily	171,055	2,217	10,554	143,978	46%	136.76	1865.73	46%	2.35	0.98	182	76	0.39					0.00	0.00																		
304	Ceiling R-11 to R-38 Insulation		Multifamily	170,645	2,211	410	144,388	46%	5.31	1871.04	46%	2.43	0.86	187	66	0.33					0.00	0.00																		
307	Ceiling R-19 to R-49 Insulation		Multifamily	170,117	2,204	528	144,916	46%	6.84	1877.88	46%	4.26	0.87	329	67	0.19					0.00	0.00																		
320	Wall 2x4 R-0 to Blow-In R-13 Insulation		Multifamily	169,353	2,195	763	145,679	46%	9.89	1887.77	46%	4.77	0.89	368	69	0.17					0.00	0.00																		
306	Ceiling R-19 to R-38 Insulation		Multifamily	169,013	2,190	340	146,019	46%	4.41	1892.18	46%	5.00	0.90	386	70	0.16					0.00	0.00																		
311	Floor R-0 to R-19 Insulation-Batts		Multifamily	168,481	2,183	533	146,552	47%	6.90	1899.08	47%	5.52	0.92	426	71	0.14					0.00	0.00																		
312	Floor R-0 to R-30 Insulation-Batts		Multifamily	167,837	2,175	643	147,195	47%	8.34	1907.42	47%	6.13	0.94	473	73	0.13					0.00	0.00																		
322	indows - Add Storm Windows to Single-Glaz		Multifamily	154,243	1,999	13,594	160,789	51%	176.16	2083.57	51%	14.40	2.21	1,112	171	0.06					0.00	0.00																		
313	Floor R-19 to R-30 Insulation-Batts		Multifamily	154,230	1,999	14	160,803	51%	0.18	2083.75	51%	30.29	1.92	2,337	148	0.03					0.00	0.00																		
321	ndows - Add Storm Windows to Double-Glaz		Multifamily	151,987	1,970	2,243	163,045	52%	29.06	2112.81	52%	39.88	2.73	3,077	211	0.02					0.00	0.00																		
400	Base Water Heating (.58)		Multifamily	8,409,431	23,205	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####			0.00	0.00																		
401	Commercial Clotheswasher (MEF = 2.0)		Multifamily	7,862,619	21,696	546,812	546,812	7%	1508.86	1508.86	7%	0.02	0.02	8	8	42.72					546,811.98	1,508.86																		
411	Pipe Wrap		Multifamily	7,599,723	20,971	262,896	809,708	10%	725.43	2234.29	10%	0.36	0.13	131	48	2.54					262,895.62	725.43																		
409	Faucet Aerators		Multifamily	7,296,379	20,133	303,344	1,113,052	13%	837.04	3071.34	13%	0.34	0.19	124	69	2.68					303,344.44	837.04																		
408	Energy Star Water Heater (EF = .67)		Multifamily	6,618,890	18,264	677,489	1,790,541	21%	1869.45	4940.79	21%	0.81	0.42	293	154	1.14					677,489.02	1,869.45																		
410	Low-Flow Showerheads		Multifamily	6,528,229	18,014	90,661	1,881,202	22%	250.17	5190.95	22%	1.86	0.49	674	179	0.49					0.00	0.00																		
403	Drain Water Heat Recovery (GFX)		Multifamily	6,284,379	17,341	243,850	2,125,052	25%	672.88	5863.83	25%	1.45	0.54	524	197	0.55					0.00	0.00																		
404	2011 Energy Star Clotheswasher (MEF 2.00)		Multifamily	6,044,686	16,680	239,693	2,364,745	28%	661.40	6525.23	28%	2.65	0.83	961	302	0.35					0.00	0.00																		
413	F Tankless Hot Water Heater Energy Star St		Multifamily	5,222,173	14,410	822,513	3,187,258	38%	2269.63	8794.86	38%	3.10	1.42	1,124	514	0.30					0.0																			

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS															SUPPLY				
Year 2011																			
Vintage																			
Batch	1																		
Measure	Building	Total	Total	Therms	Total	Percent	Total	Percent	Marginal	Average	Marginal	Average	Total						
Number	Type	Therms	Therms/Day	Savings	Energy Savings	Therms Savings	Therms/Day Savings	Therms Savings	Energy Cost	Energy Cost	Capacity Cost	Capacity Cost	Resource Cost	Base	Base	Economic	Economic		
														Therms	Therms/Day	Therms	Therms/Day		
118	Diagnostic Testing, Repair and Maintenance	128,645,076	1,667,039	4,288,169	22,299,147	15%	55,567.95	288,961.99	0.72	0.56	55	43	1.28			4,288,169.27	55,567.95		
112	Duct Repair and Sealing	116,362,380	1,507,874	12,282,696	34,581,842	23%	159,164.49	448,126.47	0.96	0.70	74	54	0.96			12,282,695.90	159,164.49		
105	Ceiling R-11 to R-49 Insulation	115,246,788	1,493,418	1,115,592	35,697,434	24%	144,566.32	462,582.79	0.93	0.62	71	48	0.86			0.00	0.00		
126	Single Pane to Double Pane with Gas	96,888,802	1,255,527	18,357,986	54,055,420	36%	237,890.73	700,473.52	0.23	0.55	18	42	3.92			18,357,986.29	237,890.73		
109	Condensing Furnace - 94 AFUE (Tier 2)	84,505,481	1,095,059	12,383,321	66,438,741	44%	160,468.43	860,941.95	1.38	0.70	107	54	0.67			0.00	0.00		
110	Crawlspace insulation	82,453,651	1,068,470	2,051,830	68,490,571	45%	265,880.50	887,530.45	1.72	0.64	132	50	0.47			0.00	0.00		
127	Windows - Double-Glazed to Energy Star	78,068,462	1,011,645	4,385,189	72,875,760	48%	568,255.18	944,355.62	2.07	0.82	160	63	0.44			0.00	0.00		
120	Radiant Barrier	77,417,944	1,003,215	650,518	73,526,278	49%	842,969.69	952,785.32	2.21	0.77	170	59	0.38			0.00	0.00		
122	Slab insulation R-0 to R-5 (4 ft)	76,972,673	997,445	445,272	73,971,550	49%	577,003.33	958,555.34	2.21	0.73	170	57	0.36			0.00	0.00		
104	Ceiling R-11 to R-38 Insulation	76,478,439	991,041	494,234	74,465,784	49%	640,449.96	964,959.83	2.74	0.75	211	58	0.29			0.00	0.00		
123	Wall 2x4 R-0 to Blow-In R-13 Insulation	76,081,463	985,897	396,976	74,862,760	50%	514,419.97	970,104.02	2.76	0.76	213	59	0.29			0.00	0.00		
107	Ceiling R-19 to R-49 Insulation	75,450,496	977,720	630,967	75,493,727	50%	817,634.97	978,280.37	5.05	0.79	374	61	0.16			0.00	0.00		
114	Floor R-0 to R-19 Insulation-Batts	75,150,726	973,836	299,770	75,793,497	50%	388,455.99	982,164.91	5.61	0.81	433	63	0.14			0.00	0.00		
106	Ceiling R-19 to R-38 Insulation	74,746,310	968,595	404,416	76,197,912	50%	524,059.99	987,405.50	5.71	0.84	441	65	0.14			0.00	0.00		
115	Floor R-0 to R-30 Insulation-Batts	74,389,722	963,974	356,588	76,554,500	51%	462,082.92	992,026.33	6.32	0.86	488	67	0.13			0.00	0.00		
119	Plastic Film (1-2 yr measure, window kit)	73,199,487	948,551	1,190,236	77,744,736	52%	154,233.59	1,007,449.91	9.48	1.12	731	87	0.10			0.00	0.00		
125	Indows - Add Storm Windows to Single-Glazed	68,406,780	886,445	4,792,707	82,537,443	55%	62,105.97	1,069,555.88	23.11	2.40	1,783	185	0.04			0.00	0.00		
116	Floor R-19 to R-30 Insulation-Batts	68,405,012	886,422	1,768	82,539,210	55%	22.91	1,069,578.79	29.66	2.08	2,288	161	0.03			0.00	0.00		
124	Indows - Add Storm Windows to Double-Glazed	67,183,442	870,592	1,221,570	83,760,781	55%	158,299.64	1,085,408.43	64.19	3.30	4,953	255	0.01			0.00	0.00		
111	Duct insulation	65,199,832	844,888	1,983,610	85,744,391	57%	257,044.88	1,111,112.90	84.23	5.17	6,500	399	0.01			0.00	0.00		
200	Base Boiler	2,742,773	35,542	0	0	0%	0.00	0.00	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00		
220	Self Install Weatherization	2,708,502	35,098	34,271	34,271	1%	444.10	444.10	0.06	0.06	4	4	16.58			34,270.85	444.10		
212	ENERGY STAR Programmable Thermostat	2,637,599	34,179	70,903	105,174	4%	918.79	1,362.89	0.18	0.18	14	11	5.06			70,903.21	918.79		
204	Ceiling R-0 to R-38 Insulation	2,627,207	34,044	10,392	115,566	4%	134.66	1,497.55	0.47	0.27	21	10	2.90			10,391.95	134.66		
201	Basement insulation R-13 (Boiler)	2,538,458	32,894	88,750	204,316	7%	1,150.06	2,647.61	0.29	0.20	22	16	2.75			88,749.65	1,150.06		
210	Comprehensive Shell Air Sealing - Inf. Reducti	2,422,509	31,392	115,949	320,265	12%	1,502.52	4,150.13	0.36	0.28	28	21	2.58			115,949.13	1,502.52		
205	Ceiling R-0 to R-49 Insulation	2,412,239	31,259	10,269	330,534	12%	133.07	4,283.20	0.34	0.24	26	19	2.38			10,269.23	133.07		
203	Diagnostic Testing, Repair and Maintenance	2,334,425	30,250	77,814	408,348	15%	1,008.35	5,291.55	0.39	0.30	30	23	2.37			77,814.17	1,008.35		
207	Ceiling R-11 to R-49 Insulation	2,312,044	29,960	22,381	430,729	16%	290.02	5,581.57	0.45	0.27	35	21	1.76			22,380.65	290.02		
202	Boiler controls	2,057,720	26,665	254,325	685,054	25%	32,955.65	8,877.22	0.54	0.40	42	31	1.70			254,324.90	3,295.65		
221	Slab insulation R-0 to R-5 (4 ft)	2,042,684	26,470	15,036	700,089	26%	194.84	9,072.06	0.64	0.35	50	27	1.24			15,035.50	194.84		
211	Crawlspace insulation	1,993,087	25,827	49,597	749,686	27%	642.70	9,714.76	0.70	0.38	54	29	1.14			49,597.26	642.70		
219	Radiant Barrier	1,976,479	25,612	16,608	766,294	28%	215.21	9,929.97	0.85	0.41	66	31	0.99			16,607.71	215.21		
216	gh Efficiency Condensing Boiler (AFUE = 90%)	1,769,969	22,936	206,510	972,804	35%	267.04	12,606.02	0.95	0.55	73	42	0.97			206,509.85	2,676.04		
206	Ceiling R-11 to R-38 Insulation	1,758,604	22,789	11,365	984,169	36%	147.27	12,753.29	1.17	0.48	91	37	0.68			0.00	0.00		
223	Wall 2x4 R-0 to Blow-In R-13 Insulation	1,749,476	22,670	9,128	993,297	36%	118.29	12,871.58	1.18	0.49	91	38	0.67			0.00	0.00		
227	Windows - Double-Glazed to Energy Star	1,656,433	21,465	93,044	1,086,341	40%	1,205.70	14,077.27	0.96	0.60	74	46	0.96			93,043.59	1,205.70		
226	Single Pane to Double Pane with Gas	1,392,575	18,046	263,858	1,350,199	49%	341,918.18	17,496.46	0.16	0.51	12	40	5.71			263,857.81	3,419.18		
217	Pipe Insulation (Boiler)	1,365,280	17,692	27,295	1,377,493	50%	353.70	17,850.15	2.23	0.48	172	37	0.36			0.00	0.00		
222	Stack Damper	1,310,669	16,984	54,611	1,432,104	52%	707.68	18,557.83	2.70	0.64	208	49	0.34			0.00	0.00		
209	Ceiling R-19 to R-49 Insulation	1,299,799	16,843	10,870	1,442,974	53%	140.86	18,698.68	2.77	0.57	214	44	0.29			0.00	0.00		
213	Floor R-0 to R-19 Insulation-Batts	1,294,635	16,776	5,164	1,448,138	53%	66.92	18,765.60	3.21	0.58	248	45	0.25			0.00	0.00		
208	Ceiling R-19 to R-38 Insulation	1,287,668	16,686	6,967	1,455,105	53%	90.28	18,855.88	3.27	0.59	252	46	0.24			0.00	0.00		
214	Floor R-0 to R-30 Insulation-Batts	1,281,525	16,607	6,143	1,461,248	53%	79.60	18,935.49	5.34	0.60	279	47	0.22			0.00	0.00		
218	Plastic Film (1-2 yr measure, window kit)	1,261,021	16,341	20,504	1,481,753	54%	265.70	19,201.19	5.42	0.76	418	59	0.17			0.00	0.00		
225	Indows - Add Storm Windows to Single-Glazed	1,178,456	15,271	82,565	1,564,318	57%	1,069.91	20,271.10	13.22	1.42	1,020	110	0.07			0.00	0.00		
215	Floor R-19 to R-30 Insulation-Batts	1,178,425	15,271	30	1,564,348	57%	0.39	20,271.50	16.97	1.23	1,309	95	0.05			0.00	0.00		
224	Indows - Add Storm Windows to Double-Glazed	1,157,381	14,998	21,044	1,585,392	58%	272.70	20,544.20	36.72	1.89	2,834	146	0.03			0.00	0.00		
300	Base Room Heat	5,411,406	70,123	0	0	0%	0.00	0.00	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00		
318	Self Install Weatherization	5,343,791	69,247	67,615	67,615	1%	876.19	876.19	0.07	0.07	6	6	12.61			67,615.32	876.19		
316	Radiant Barrier	5,055,226	65,508	288,565	356,180	7%	373,335.35	461,553.73	0.10	0.10	8	8	8.05			288			

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS															SUPPLY						
Vintage	Year	2011																			
Batch	1																				
Measure	Building	Total	Total	Therms	Total	Percent	Therms	Total	Percent	Marginal	Average	Marginal	Average	Total	Base	Base	Economic	Economic			
Number	Type	Therms	Therms/Day	Savings	Energy Savings	Therms Savings	Therms/Day Savings	Therms/Day Savings	Therms/Day Savings	Cost	Cost	Cost	Cost	Resource	Therms	Therms/Day	Therms	Therms/Day			
										\$/Therm	\$/Therm	\$/Therm/Day	\$/Therm/Day	TRC							
322	Indows - Add Storm Windows to Single-Glaze	SF Low Income	2,452,218	31,777	171,807	2,959,188	55%	2228.35	38346.44	55%	16.48	1.44	1,272	111	0.06			0.00			
313	Floor R-19 to R-30 Insulation-Batts	SF Low Income	2,452,155	31,776	63	2,959,252	55%	0.82	38347.26	55%	21.15	1.25	1,632	97	0.04			0.00			
321	Indows - Add Storm Windows to Double-Glaze	SF Low Income	2,408,364	31,209	43,790	3,003,402	55%	567.45	38914.72	55%	45.78	2.09	3,533	161	0.02			0.00			
317	Plastic Film (1-2 yr measure, window kit)	SF Low Income	2,402,418	31,132	5,946	3,008,988	56%	77.05	38991.77	56%	58.85	2.20	4,541	170	0.02			0.00			
400	Base Water Heating (.58)	SF Low Income	66,125,192	182,465	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
411	Pipe Wrap	SF Low Income	64,708,224	178,555	1,416,968	1,416,968	2%	3909.96	3909.96	2%	0.18	0.18	66	66	5.03			1,416,968.36			
409	Faucet Aerators	SF Low Income	60,784,488	167,728	3,923,735	5,340,704	8%	10827.08	14737.04	8%	0.21	0.20	75	73	4.45			3,923,735.42			
408	Energy Star Water Heater (EF = .67)	SF Low Income	55,140,480	152,154	5,644,009	10,984,712	17%	15573.98	30311.02	17%	0.42	0.31	152	113	2.19			5,644,008.51			
410	Low-Flow Showerheads	SF Low Income	54,113,017	149,318	1,027,462	12,012,175	18%	2835.16	33146.18	18%	0.97	0.37	352	134	0.95			1,027,462.36			
403	Drain Water Heat Recovery (GFX)	SF Low Income	52,091,725	143,741	2,021,293	14,033,467	21%	5577.52	38723.70	21%	0.75	0.38	273	139	1.06			2,021,292.75			
413	F Tankless Hot Water Heater Energy Star St	SF Low Income	45,003,495	124,182	7,088,229	21,121,697	32%	19559.13	58282.83	32%	1.55	0.81	563	295	0.59			0.00			
402	ondensing Gas Storage water heater (>0.8 E	SF Low Income	42,983,439	118,608	2,020,056	23,141,753	35%	5574.11	63856.93	35%	5.04	1.18	1,825	429	0.18			0.00			
404	2011 Energy Star Clotheswasher (MEF 2.00)	SF Low Income	42,394,210	116,982	589,229	23,730,982	36%	1625.91	65482.84	36%	6.72	1.32	2,434	479	0.14			0.00			
406	Energy Star Dishwasher (EF=0.68)	SF Low Income	41,997,395	115,887	396,815	24,127,797	36%	1094.96	66577.81	36%	4.82	1.38	1,747	499	0.19			0.00			
405	Energy Star CW CEE Tier 3 (MEF=2.20)	SF Low Income	41,127,165	113,486	870,230	24,998,027	38%	2401.30	68979.10	38%	12.69	1.77	4,599	642	0.07			0.00			
412	Solar Water Heater	SF Low Income	25,781,980	71,142	15,345,186	40,343,212	61%	42343.23	111322.33	61%	6.02	3.39	2,180	1,227	0.15			0.00			
407	CEE Tier 2 DW (EF=0.72)	SF Low Income	25,461,412	70,258	320,568	40,663,780	61%	884.57	112206.90	61%	11.07	3.45	4,013	1,249	0.08			0.00			
500	Base Clothes Drying	SF Low Income	1,466,013	4,045	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
501	Efficient Clothes Dryer (EF = 2.67)	SF Low Income	1,440,591	3,975	25,422	25,422	2%	70.15	70.15	2%	0.77	0.77	277	277	1.20			25,422.19			
600	Base Cooking	SF Low Income	6,967,066	19,225	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
601	Convection Oven	SF Low Income	4,683,389	12,923	2,283,676	2,283,676	33%	6301.54	6301.54	33%	1.46	1.46	529	529	0.63			0.00			
602	EE Gas Range	SF Low Income	4,219,270	11,643	464,120	2,747,796	39%	1280.68	7582.22	39%	3.52	1.81	1,275	655	0.26			0.00			
700	Base Other	SF Low Income	100,224	277	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	276.56	0.00			
800	Base House Use	SF Low Income	233,756,897	2,350,224	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
801	Conservation- Opower	SF Low Income	231,419,328	2,326,722	2,337,569	2,337,569	1%	23502.24	23502.24	1%	0.51	0.51	51	51	1.80			2,337,569.04			
100	Base Furnace	MF Low Income	15,315,299	198,462	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
121	Self Install Weatherization	MF Low Income	15,123,935	195,982	191,364	191,364	1%	2479.78	2479.78	1%	0.09	0.09	7	7	10.70			191,364.07			
102	Ceiling R-0 to R-38 Insulation	MF Low Income	15,101,699	195,694	22,235	213,599	1%	288.13	2767.91	1%	0.15	0.08	11	6	5.49			22,235.28			
103	Ceiling R-0 to R-49 Insulation	MF Low Income	15,077,811	195,385	23,888	237,488	2%	309.56	3077.47	2%	0.16	0.09	13	7	4.88			23,888.46			
105	Ceiling R-11 to R-49 Insulation	MF Low Income	15,023,870	194,686	53,941	291,429	2%	698.99	3776.46	2%	0.21	0.11	16	9	3.74			53,941.21			
101	Basement insulation R-13 (Furnace)	MF Low Income	14,927,073	193,431	96,796	388,225	3%	1254.33	5030.79	3%	0.24	0.14	19	11	3.31			96,796.36			
113	ENERGY STAR Programmable Thermostat	MF Low Income	14,536,312	188,368	390,761	778,986	5%	5063.65	10094.44	5%	0.29	0.23	22	17	3.22			390,761.09			
110	Crawspace insulation	MF Low Income	14,528,604	188,268	7,708	786,695	5%	99.89	10194.33	5%	0.33	0.20	26	15	2.40			7,708.30			
104	Ceiling R-11 to R-38 Insulat	MF Low Income	14,493,794	187,817	34,810	821,505	5%	451.09	10645.42	5%	0.43	0.21	33	16	1.84			34,810.42			
108	mprehensive Shell Air Sealing - Inf. Reducti	MF Low Income	13,997,269	181,383	496,525	1,318,030	9%	6434.18	17079.60	9%	0.54	0.35	42	27	1.70			496,524.74			
118	ace Diagnostic Testing, Repair and Maintena	MF Low Income	13,545,744	175,532	451,525	1,769,555	12%	5851.05	22930.66	12%	0.58	0.41	45	32	1.59			451,524.81			
122	Slab insulation R-0 to R-5 (4 ft)	MF Low Income	13,343,597	172,912	202,147	1,971,702	13%	2619.51	25550.17	13%	0.59	0.38	45	29	1.36			202,147.19			
112	Duct Repair and Sealing	MF Low Income	12,069,585	156,403	1,274,012	3,245,714	21%	16509.20	42059.36	21%	0.79	0.58	61	44	1.17			1,274,011.77			
109	Condensing Furnace - 94 AFUE (Tier 2)	MF Low Income	10,263,537	132,999	1,806,048	5,051,761	33%	23403.54	65462.91	33%	0.97	0.72	75	55	0.95			1,806,047.52			
107	Ceiling R-19 to R-49 Insulation	MF Low Income	10,231,775	132,588	31,762	5,083,524	33%	411.59	65874.50	33%	1.08	0.63	83	48	0.74			0.00			
123	Wall 2x4 R-0 to Blow-In R-13 Insulation	MF Low Income	10,159,101	131,646	72,674	5,156,198	34%	941.74	66816.24	34%	1.15	0.63	89	49	0.69			0.00			
127	Windows - Double-Glazed to Energy Star	MF Low Income	9,869,181	127,889	289,920	5,446,118	36%	3756.90	70573.15	36%	0.61	0.72	47	56	1.52			289,919.65			
126	Single Pane to Double Pane with Gas	MF Low Income	8,189,504	106,123	1,679,677	7,125,795	47%	21765.98	92339.13	47%	0.06	0.57	5	44	15.52			1,679,677.19			
106	Ceiling R-19 to R-38 Insulation	MF Low Income	8,173,059	105,910	16,445	7,142,240	47%	213.11	92552.24	47%	1.57	0.49	121	38	0.51			0.00			
114	Floor R-0 to R-19 Insulation-Batts	MF Low Income	8,123,138	105,263	49,920	7,192,161	47%	646.89	93199.13	47%	1.77	0.50	136	39	0.45			0.00			
115	Floor R-0 to R-30 Insulation-Batts	MF Low Income	8,063,033	104,484	60,105	7,252,266	47%	778.87	93978.00	47%	1.97	0.51	152	40	0.41			0.00			
125	Indows - Add Storm Windows to Single-Glaze	MF Low Income	7,579,590	98,220	483,443	7,735,709	51%	6264.66	100242.66	51%	4.45	0.83	343	64	0.21			0.00			
119	Plastic Film (1-2 yr measure, window kit)	MF Low Income	7,458,317	96,648	121,273	7,856,982	51%	1571.51	101814.17	51%	8.39	0.95	648	73	0.11			0.00			
116	Floor R-19 to R-30 Insulation-Batts	MF Low Income	7,457,027	96,631	1,289	7,858,271	51%	16.71	101830.88	51%	9.69	0.83	748	64	0.08			0.00			
124	Indows - Add Storm Windows to Double-Glaze	MF Low Income	7,313,090	94,766	143,937	8,002,209	52%	1865.20	103696.08	52%	12.58	1.16	971	90	0.07			0.00			
111	Duct insulation	MF Low Income	7,097,169	91,968	215,921	8,218,130	54%	2798.00	106494.08	54%	49.05	2.42	3,785	187	0.02			0.00			
200	Base Boiler	MF Low Income	125,821	1,630	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A		#####	#####	0.00			
220	Self Install Weatherization	MF Low Income	124,249	1,610	1,572	1,572	1%	20.37	20.37	1%	0.10	0.10	8	8	8.92						

APPENDIX F

RESIDENTIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year	2011		SUPPLY															
Vintage	Batch	Measure	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day
213		Floor R-0 to R-19 Insulation-Batts	MF Low Income	76,106	986	468	49,715	40%	6.06	644.23	40%	1.86	0.46	143	36	0.43			0.00	0.00
216		gh Efficiency Condensing Boiler (AFUE = 90%)	MF Low Income	68,081	882	8,025	57,740	46%	103.99	748.22	46%	2.09	0.75	162	58	0.44			0.00	0.00
214		Floor R-0 to R-30 Insulation-Batts	MF Low Income	67,578	876	504	58,244	46%	6.53	754.75	46%	2.31	0.66	178	51	0.35			0.00	0.00
217		Pipe Insulation (Boiler)	MF Low Income	66,253	859	1,325	59,568	47%	17.16	771.91	47%	3.92	0.74	302	57	0.20			0.00	0.00
222		Stack Damper	MF Low Income	63,603	824	2,650	62,218	49%	34.34	806.25	49%	4.74	1.01	366	78	0.19			0.00	0.00
225		indows - Add Storm Windows to Single-Glaze	MF Low Income	59,789	775	3,813	66,032	52%	49.42	855.67	52%	5.56	1.28	429	99	0.17			0.00	0.00
218		Plastic Film (1-2 yr measure, window kit)	MF Low Income	58,833	762	957	66,988	53%	12.40	868.07	53%	10.49	1.41	809	109	0.09			0.00	0.00
215		Floor R-19 to R-30 Insulation-Batts	MF Low Income	58,823	762	10	66,999	53%	0.13	868.20	53%	12.11	1.22	935	94	0.07			0.00	0.00
224		ndows - Add Storm Windows to Double-Glaze	MF Low Income	57,687	748	1,135	68,134	54%	14.71	882.91	54%	15.71	1.65	1,213	127	0.06			0.00	0.00
300		Base Room Heat	MF Low Income	115,973	1,503	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
318		Self Install Weatherization	MF Low Income	114,524	1,484	1,449	1,449	1%	18.78	18.78	1%	0.29	0.29	22	22	3.17			1,449.07	18.78
316		Radiant Barrier	MF Low Income	108,339	1,404	6,184	7,633	7%	80.14	98.92	7%	0.44	0.41	34	31	1.91			6,184.27	80.14
302		Ceiling R-0 to R-38 Insulation	MF Low Income	108,180	1,402	159	7,793	7%	2.06	100.98	7%	0.52	0.39	40	30	1.54			159.28	2.06
303		Ceiling R-0 to R-49 Insulation	MF Low Income	108,009	1,400	171	7,964	7%	2.22	103.20	7%	0.58	0.39	45	30	1.37			171.12	2.22
305		Ceiling R-11 to R-49 Insulation	MF Low Income	107,623	1,395	386	8,350	7%	5.01	108.20	7%	0.76	0.41	59	32	1.05			386.40	5.01
314		ster Diagnostic Testing, Repair and Maintena	MF Low Income	104,151	1,350	3,472	11,822	10%	44.99	153.19	10%	0.89	0.59	69	46	1.04			3,471.69	44.99
301		Basement insulation R-13 (Room Heater)	MF Low Income	103,635	1,343	516	12,338	11%	6.69	159.88	11%	0.89	0.53	69	41	0.90			0.00	0.00
323		Single Pane to Double Pane with Gas	MF Low Income	85,997	1,114	17,638	29,976	26%	228.56	388.44	26%	0.14	0.34	11	26	6.38			17,638.01	228.56
310		ENERGY STAR Programmable Thermostat	MF Low Income	84,871	1,100	1,126	31,102	27%	14.59	403.03	27%	1.27	0.37	98	29	0.73			0.00	0.00
315		High efficiency gas room heater	MF Low Income	68,208	884	16,663	47,765	41%	215.93	618.96	41%	1.49	0.76	115	59	0.62			0.00	0.00
309		Crawlspace insulation	MF Low Income	68,172	883	36	47,801	41%	0.47	619.43	41%	1.81	0.66	140	51	0.44			0.00	0.00
324		Windows - Double-Glazed to Energy Star	MF Low Income	66,226	858	1,945	49,746	43%	25.21	644.64	43%	2.31	0.82	179	63	0.40			0.00	0.00
319		Slab insulation R-0 to R-5 (4 ft)	MF Low Income	64,971	842	1,256	51,002	44%	16.27	660.91	44%	2.43	0.76	187	58	0.33			0.00	0.00
304		Ceiling R-11 to R-38 Insulation	MF Low Income	64,815	840	156	51,158	44%	2.02	662.92	44%	2.48	0.76	191	59	0.32			0.00	0.00
308		mprehensive Shell Air Sealing - Inf. Reductio	MF Low Income	61,854	802	2,961	54,118	47%	38.36	701.29	47%	3.09	1.00	238	77	0.30			0.00	0.00
307		Ceiling R-19 to R-49 Insulation	MF Low Income	61,663	799	191	54,310	47%	2.48	703.77	47%	4.56	0.88	352	68	0.18			0.00	0.00
320		Wall 2x4 R-0 to Blow-In R-13 Insulation	MF Low Income	61,225	793	438	54,748	47%	5.68	709.44	47%	4.90	0.91	378	70	0.16			0.00	0.00
306		Ceiling R-19 to R-38 Insulation	MF Low Income	61,102	792	123	54,871	47%	1.59	711.04	47%	5.36	0.92	414	71	0.15			0.00	0.00
311		Floor R-0 to R-19 Insulation-Batts	MF Low Income	60,729	787	373	55,244	48%	4.84	715.87	48%	6.04	0.96	466	74	0.13			0.00	0.00
312		Floor R-0 to R-30 Insulation-Batts	MF Low Income	60,280	781	449	55,693	48%	5.82	721.70	48%	6.73	1.00	519	77	0.12			0.00	0.00
322		indows - Add Storm Windows to Single-Glaze	MF Low Income	56,665	734	3,614	59,307	51%	46.83	768.53	51%	15.21	2.01	1,174	155	0.06			0.00	0.00
313		Floor R-19 to R-30 Insulation-Batts	MF Low Income	56,656	734	10	59,317	51%	0.13	768.66	51%	32.62	1.75	2,517	135	0.02			0.00	0.00
321		ndows - Add Storm Windows to Double-Glaze	MF Low Income	55,562	720	1,094	60,411	52%	14.17	782.83	52%	42.33	2.75	3,266	212	0.02			0.00	0.00
400		Base Water Heating (.58)	MF Low Income	4,779,792	13,189	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
411		Pipe Wrap	MF Low Income	4,677,367	12,907	102,424	102,424	2%	282.63	282.63	2%	0.22	0.22	78	78	4.26			102,424.10	282.63
409		Faucet Aerators	MF Low Income	4,432,830	12,232	244,538	346,962	7%	674.77	957.40	7%	0.22	0.22	81	80	4.13			244,537.74	674.77
408		Energy Star Water Heater (EF = .67)	MF Low Income	4,021,229	11,096	411,601	758,562	16%	1135.76	2093.16	16%	0.49	0.37	178	133	1.88			411,600.55	1,135.76
410		Low-Flow Showerheads	MF Low Income	3,946,299	10,889	74,930	833,492	17%	206.76	2299.92	17%	1.05	0.43	380	155	0.88			0.00	0.00
403		Drain Water Heat Recovery (GFX)	MF Low Income	3,798,893	10,483	147,407	980,899	21%	406.75	2706.67	21%	0.88	0.45	319	162	0.91			147,406.79	406.75
413		F Tankless Hot Water Heater Energy Star Sta	MF Low Income	3,281,969	9,056	516,923	1,497,822	31%	1426.39	4133.06	31%	1.82	0.97	658	350	0.51			0.00	0.00
402		ondensing Gas Storage water heater (>0.8 EM	MF Low Income	3,132,199	8,643	149,770	1,647,593	34%	413.27	4546.34	34%	5.90	1.41	2,137	512	0.16			0.00	0.00
404		2011 Energy Star Clotheswasher (MEF=2.00)	MF Low Income	3,012,734	8,313	119,465	1,767,058	37%	329.65	4875.99	37%	1.96	1.45	710	526	0.47			0.00	0.00
405		Energy Star CW CEE Tier 3 (MEF=2.20)	MF Low Income	2,969,417	8,194	43,317	1,810,375	38%	119.53	4995.51	38%	15.08	1.78	5,465	644	0.06			0.00	0.00
406		Energy Star Dishwasher (EF=0.68)	MF Low Income	2,954,430	8,152	14,986	1,825,361	38%	41.35	5036.87	38%	5.86	1.81	2,123	656	0.16			0.00	0.00
412		Solar Water Heater	MF Low Income	1,852,086	5,111	1,102,344	2,927,705	61%	3041.79	8078.66	61%	7.14	3.82	2,587	1,383	0.13			0.00	0.00
407		CEE Tier 2 DW (EF=0.72)	MF Low Income	1,838,331	5,073	13,756	2,941,461	62%	37.96	8116.61	62%	13.14	3.86	4,763	1,399	0.07			0.00	0.00
500		Base Clothes Drying	MF Low Income	124,975	345	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	344.85	0.00	0.00
501		Efficient Clothes Dryer (EF = 2.67)	MF Low Income	122,808	339	2,167	2,167	2%	5.98	5.98	2%	0.77	0.77	277	277	1.20			2,167.20	5.98
600		Base Cooking	MF Low Income	643,285	1,775	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
601		Convection Oven	MF Low Income	432,428	1,193	210,857	210,857	33%	581.83	581.83	33%	1.15	1.15	418	418	0.80			0.00	0.00
602		EE Gas Range	MF Low Income	389,575	1,075	42,853	253,710	39%	118.25	700.08	39%	2.79	1.43	1,009	518	0.33			0.00	0.00
700		Base Other	MF Low Income	3,435	9	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	9.48	0.00	0.00
800		Base House Use	MF Low Income	21,108,579	212,229	0	0	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
801		Conservation- Opower	MF Low Income	20,897,493	210,106	211,086	211,086	1%	2122.29	2122.29	1%	0.48	0.48	48	48	1.91			211,085.80	2,122.29

APPENDIX F

RESIDENTIAL NEW CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST SUMMARY		Year 2011														SUPPLY			
Measure Number	Measure	Building Type	Total GWH	Total MW	GWH Savings	Total Energy Savings GWH	Percent GWH Savings	MW Savings	Total Capacity Savings MW	Percent MW Savings	Marginal Energy Cost \$/KWH	Average Energy Cost \$/KWH	Marginal Capacity Cost \$/KW	Average Capacity Cost \$/KW	Total Resource Cost Test TRC	Base GWH	Base MW	Economic GWH	Economic MW
100	Base Code Home - ES	Single Family	1E+07	1E+05	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
101	ENERGY STAR Home	Single Family	1E+07	99563	2375563	2375563	0.19348	23884.2	23884.23	0.19348	0.485333	0.485333125	48.27199	48.272	1.8954334	#####	#####	#####	#####
100	Base Code Home - ES	Multifamily	6E+05	5859	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
101	ENERGY STAR Home	Multifamily	5E+05	4725	112750	112750	0.19348	1133.6	1133.599	0.19348	0.555342	0.55534243	55.23522	55.2352	1.6564853			112,749.54	1,133.60
100	Base Code Home - ES	F Low Incorr	4E+06	41627	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
101	ENERGY STAR Home	F Low Incorr	3E+06	33573	801054	801054	0.19348	8053.91	8053.907	0.19348	0.470693	0.470693142	46.81587	46.8159	1.9543871			801,054.05	8,053.91
100	Base Code Home - ES	IF Low Incon	2E+05	2270	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	#####	#####	0.00	0.00
101	ENERGY STAR Home	IF Low Incon	2E+05	1831	43692.4	43692.4	0.19348	439.289	439.2895	0.19348	0.527558	0.527558012	52.47174	52.4717	1.743726			43,692.41	439.29

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS														SUPPLY					
Vintage Batch		Year 2011																	
Existing 1		Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Capacity Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day
Measure Number	Measure																		
100	Base Cooking - Fryer	Office	524,248.44	1,446.60	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	524,248.44	1,446.60	0.00	0.00	
101	Energy Star Fryer	Office	369,755.12	1,020.30	154,493.33	154,493.33	29%	426.31	426.31	29%	7.35	7.35	2,664	2,664	0.13	0.00	0.00	0.00	0.00
110	Base Cooking - Steamer	Office	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00
120	Base Cooking - Convection Oven	Office	116,149.36	320.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	116,149.36	320.50	0.00	0.00
121	High-Efficiency Convection Oven	Office	83,374.54	230.06	32,774.82	32,774.82	28%	90.44	90.44	28%	114.32	114.32	41,430	41,430	0.01	0.00	0.00	0.00	0.00
130	Base Cooking - Griddle	Office	208,889.68	576.41	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	208,889.68	576.41	0.00	0.00
131	High-Efficiency Griddle	Office	198,682.52	548.24	10,207.16	10,207.16	5%	28.17	28.17	5%	35.64	35.64	12,914	12,914	0.03	0.00	0.00	0.00	0.00
140	Base Cooking - Range	Office	294,450.38	812.50	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	294,450.38	812.50	0.00	0.00
141	High-Efficiency Range	Office	245,875.06	678.46	48,575.32	48,575.32	16%	134.04	134.04	16%	17.74	17.74	6,428	6,428	0.05	0.00	0.00	0.00	0.00
200	Base Heating	Office	189,879,323.58	3,001,385.21	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	189,879,323.58	3,001,385.21	0.00	0.00
232	Hot water temperature reset	Office	189,813,485.09	2,997,183.15	265,838.49	265,838.49	0%	4202.06	4202.06	0%	0.02	0.02	1	1	47.31	0.00	0.00	265,838.49	4,202.06
202	Insulation (ceiling)	Office	186,727,734.42	2,951,568.65	2,885,750.66	3,151,589.16	2%	45614.49	49816.55	2%	0.07	0.07	4	4	12.94	0.00	0.00	2,885,750.66	45,614.49
229	Stack Heat Exchanger	Office	184,876,921.24	2,922,313.21	1,850,813.18	5,002,402.34	3%	29255.44	79071.99	3%	0.10	0.08	7	5	8.83	0.00	0.00	1,850,813.18	29,255.44
212	Boiler Tune-Up	Office	184,691,662.59	2,919,384.87	185,258.65	5,187,660.99	3%	2928.35	82000.34	3%	0.11	0.08	7	5	8.04	0.00	0.00	185,258.65	2,928.35
203	Insulation (wall)	Office	178,837,324.29	2,826,846.49	5,854,338.31	11,041,999.29	6%	92538.38	174538.72	6%	0.12	0.10	8	7	7.44	0.00	0.00	5,854,338.31	92,538.38
216	Clock / Programmable Thermostat	Office	158,924,961.40	2,512,095.68	19,912,362.89	30,954,362.18	16%	314750.81	489289.53	16%	0.20	0.16	12	10	4.70	0.00	0.00	19,912,362.89	314,750.81
228	High Efficiency (Power Burner/ Premium) Boiler 95% efficiency (in situ bas	Office	140,627,022.56	2,222,863.75	18,297,938.84	49,252,301.02	26%	289231.93	778521.46	26%	0.30	0.21	19	14	3.06	0.00	0.00	18,297,938.84	289,231.93
235	Retrocommissioning	Office	139,452,950.87	2,204,305.43	1,174,071.69	50,426,372.71	27%	18558.32	797079.78	27%	0.46	0.22	29	14	1.99	0.00	0.00	1,174,071.69	18,558.32
218	Installation of Energy Management Systems (EMS)	Office	132,953,025.19	2,101,562.38	6,499,925.68	56,926,298.39	30%	102743.05	899822.83	30%	0.49	0.25	31	16	1.87	0.00	0.00	6,499,925.68	102,743.05
201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	Office	128,233,649.48	2,026,964.13	4,719,375.72	61,645,674.10	32%	74598.25	974421.07	32%	0.64	0.28	41	18	1.43	0.00	0.00	4,719,375.72	74,598.25
219	EMS Optimization	Office	127,262,182.43	2,011,608.34	971,467.04	62,617,141.15	33%	15355.79	989776.86	33%	0.99	0.29	63	18	0.93	0.00	0.00	971,467.04	153,557.9
227	High Efficiency (Power Burner/ Premium) Furnace 95% efficiency (in situ be	Office	125,173,587.24	1,978,594.33	2,088,595.19	64,705,736.34	34%	33014.01	*****	34%	1.28	0.32	81	20	0.72	0.00	0.00	2,088,595.19	33,014.01
222	Installation of Air Side Heat Recovery Systems	Office	123,618,613.31	1,954,015.16	1,554,973.93	66,260,710.27	35%	24579.17	*****	35%	1.38	0.35	87	22	0.67	0.00	0.00	1,554,973.93	24,579.17
209	Insulation of Pipes	Office	123,381,177.95	1,950,262.07	237,435.37	66,498,145.63	35%	3753.09	*****	35%	1.40	0.35	89	22	0.66	0.00	0.00	237,435.37	3,753.09
207	Duct Insulation	Office	123,140,948.59	1,946,464.81	240,229.36	66,738,374.99	35%	3797.26	*****	35%	1.82	0.36	115	23	0.50	0.00	0.00	240,229.36	3,797.26
206	Duct Repair and Sealing	Office	123,093,146.78	1,945,709.21	47,801.82	66,786,176.80	35%	755.59	*****	35%	2.00	0.36	127	23	0.46	0.00	0.00	47,801.82	755.59
233	Demand controlled ventilation (DCV)	Office	121,755,448.46	1,924,564.48	1,337,698.32	68,123,875.12	36%	21144.73	*****	36%	2.38	0.40	151	25	0.39	0.00	0.00	1,337,698.32	21,144.73
221	Heat Recovery from AC	Office	120,797,468.43	1,909,421.88	957,980.03	69,081,855.15	36%	15142.60	*****	36%	2.46	0.43	156	27	0.37	0.00	0.00	957,980.03	15,142.60
300	Base Miscellaneous	Office	0.01	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.01	0.00	0.00	0.00
400	Base Water Heating - high standby loss (as % of load)	Office	19,331,667.48	53,343.45	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	19,331,667.48	53,343.45	0.00	0.00
402	Demand controlled circulating systems	Office	18,610,277.92	51,352.86	721,389.56	721,389.56	4%	1990.59	1990.59	4%	0.04	0.04	13	13	24.71	0.00	0.00	721,389.56	1,990.59
403	Tankless Water Heater	Office	11,468,772.37	31,646.72	7,141,505.55	7,862,895.11	41%	19706.14	21696.73	41%	0.18	0.17	66	61	5.08	0.00	0.00	7,141,505.55	19,706.14
401	Hot Water Pipe Insulation	Office	11,468,344.00	31,645.54	428.37	7,863,323.48	41%	1.18	21697.91	41%	0.55	0.17	198	61	1.69	0.00	0.00	428.37	1.18
500	Base Water Heating - low standby loss (as % of load)	Office	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00
100	Base Cooking - Fryer	Restaurant	19,315,784.35	53,299.62	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	19,315,784.35	53,299.62	0.00	0.00
101	Energy Star Fryer	Restaurant	13,623,521.80	37,592.50	5,692,262.54	5,692,262.54	29%	15707.13	15707.13	29%	0.51	0.51	186	186	1.80	0.00	0.00	5,692,262.54	15,707.13
110	Base Cooking - Steamer	Restaurant	2,107,598.92	5,815.67	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2,107,598.92	5,815.67	0.00	0.00
111	Energy Star Steamer	Restaurant	443,557.64	1,223.94	1,664,041.28	1,664,041.28	79%	4591.73	4591.73	79%	0.23	0.23	83	83	3.99	0.00	0.00	1,664,041.28	4,591.73
120	Base Cooking - Convection Oven	Restaurant	1,037,267.74	2,862.22	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1,037,267.74	2,862.22	0.00	0.00
121	High-Efficiency Convection Oven	Restaurant	744,573.39	2,054.56	292,694.36	292,694.36	28%	807.66	807.66	28%	0.82	0.82	297	297	1.12	0.00	0.00	292,694.36	807.66
130	Base Cooking - Griddle	Restaurant	6,395,314.13	17,647.11	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6,395,314.13	17,647.11	0.00	0.00
131	High-Efficiency Griddle	Restaurant	6,082,814.37	16,784.81	312,499.76	312,499.76	5%	862.31	862.31	5%	3.31	3.31	1,199	1,199	0.28	0.00	0.00	312,499.76	8,623.1
140	Base Cooking - Range	Restaurant	9,702,547.56	26,773.03	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	9,702,547.56	26,773.03	0.00	0.00
141	High-Efficiency Range	Restaurant	8,101,923.67	22,356.30	1,600,623.89	1,600,623.89	16%	4416.73	4416.73	16%	0.66	0.66	240	240	1.39	0.00	0.00	1,600,623.89	4,416.73
200	Base Heating	Restaurant	3,546,908.61	56,065.29	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	3,546,908.61	56,065.29	0.00	0.00
202	Insulation (ceiling)	Restaurant	2,569,540.43	40,616.22	977,368.18	977,368.18	28%	15449.07	15449.07	28%	0.46	0.46	29	29	2.01	0.00	0.00	977,368.18	15,449.07
216	Clock / Programmable Thermostat	Restaurant	2,388,309.86	37,751.55	181,230.57	1,158,598.75	33%	2864.68	18313.74	33%	1.02	0.55	65	35	0				

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIV MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011																		SUPPLY			
Existing 1																							
Vintage Batch	Measure Number	Measure	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Capacity Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day			
	200	Base Heating	Retail	49,004,905.80	774,610.93	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	49,004,905.80	774,610.93	0.00	0.00				
	216	Clock / Programmable Thermostat	Retail	45,104,677.79	712,960.79	3,900,228.01	3,900,228.01	8%	61650.14	61650.14	8%	0.39	0.39	25	25	2.36	0.00	0.00	3,900,228.01	61,650.14			
	202	Insulation (ceiling)	Retail	44,256,311.77	699,550.84	848,366.02	4,748,594.04	10%	13409.96	75060.09	10%	0.49	0.41	31	26	1.87	0.00	0.00	848,366.02	13,409.96			
	233	Demand controlled ventilation (DCV)	Retail	43,981,970.94	695,214.38	274,340.83	5,022,934.87	10%	4336.45	79396.55	10%	0.88	0.43	56	27	1.05	0.00	0.00	274,340.83	4,336.45			
	235	Retrocommissioning	Retail	43,971,492.12	695,048.75	10,478.81	5,033,413.68	10%	165.64	79562.18	10%	1.26	0.44	80	28	0.73	0.00	0.00	0.00	0.00			
	203	Insulation (wall)	Retail	43,891,851.43	693,789.88	79,640.70	5,113,054.37	10%	1258.86	80821.05	10%	1.39	0.45	88	28	0.66	0.00	0.00	0.00	0.00			
	201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	Retail	43,079,367.82	680,947.11	812,483.61	5,925,537.99	12%	12842.77	93663.82	12%	1.46	0.59	93	37	0.63	0.00	0.00	0.00	0.00			
	207	Duct Insulation	Retail	42,714,491.95	675,179.59	364,875.87	6,290,413.85	13%	5767.52	99431.34	13%	1.54	0.64	97	41	0.60	0.00	0.00	0.00	0.00			
	219	EMS Optimization	Retail	42,390,897.31	670,064.59	323,594.64	6,614,008.49	13%	5115.00	104546.33	13%	1.69	0.70	107	44	0.55	0.00	0.00	0.00	0.00			
	218	Installation of Energy Management Systems (EMS)	Retail	38,890,731.48	614,738.16	3,500,165.83	10,114,174.32	21%	55326.43	159872.77	21%	1.76	1.06	111	67	0.52	0.00	0.00	0.00	0.00			
	227	iciency (Power Burner/ Premium) Furnace 95% efficiency (in situ be	Retail	37,441,777.42	591,834.83	1,448,954.06	11,563,128.39	24%	22903.33	182776.10	24%	2.07	1.19	131	75	0.44	0.00	0.00	0.00	0.00			
	206	Duct Repair and Sealing	Retail	37,408,782.13	591,313.28	32,995.29	11,596,123.68	24%	521.55	183297.65	24%	3.73	1.20	236	76	0.25	0.00	0.00	0.00	0.00			
	222	Installation of Air Side Heat Recovery Systems	Retail	36,005,952.80	569,139.03	1,402,829.33	12,998,953.01	27%	22174.25	205471.90	27%	9.07	2.05	574	129	0.10	0.00	0.00	0.00	0.00			
	300	Base Miscellaneous	Retail	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	400	Base Water Heating - high standby loss (as % of load)	Retail	6,271,473.96	17,305.39	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6,271,473.96	17,305.39	0.00	0.00			
	403	Tankless Water Heater	Retail	4,352,496.76	12,010.20	1,918,977.20	1,918,977.20	31%	5295.19	5295.19	31%	0.44	0.44	159	159	2.10	0.00	0.00	1,918,977.20	5,295.19			
	402	Demand controlled circulating systems	Retail	4,318,207.98	11,915.58	34,288.79	1,953,265.99	31%	94.62	5389.81	31%	1.73	0.46	628	167	0.53	0.00	0.00	0.00	0.00			
	401	Hot Water Pipe Insulation	Retail	4,317,409.70	11,913.38	798.28	1,954,064.26	31%	2.20	5392.01	31%	5.34	0.46	1,935	168	0.17	0.00	0.00	0.00	0.00			
	500	Base Water Heating - low standby loss (as % of load)	Retail	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	100	Base Cooking - Fryer	Grocery	1,800,703.75	4,968.83	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	1,800,703.75	4,968.83	0.00	0.00			
	101	Energy Star Fryer	Grocery	1,270,045.59	3,504.54	530,658.16	530,658.16	29%	1464.29	1464.29	29%	0.58	0.58	211	211	1.58	0.00	0.00	530,658.16	1,464.29			
	110	Base Cooking - Steamer	Grocery	525,356.91	1,449.66	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	525,356.91	1,449.66	0.00	0.00			
	111	Energy Star Steamer	Grocery	110,564.71	305.09	414,792.19	414,792.19	79%	1144.57	1144.57	79%	0.89	0.89	321	321	1.04	0.00	0.00	414,792.19	1,144.57			
	120	Base Cooking - Convection Oven	Grocery	135,792.50	374.70	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	135,792.50	374.70	0.00	0.00			
	121	High-Efficiency Convection Oven	Grocery	97,474.82	268.97	38,317.69	38,317.69	28%	105.73	105.73	28%	4.08	4.08	1,480	1,480	0.23	0.00	0.00	0.00	0.00			
	130	Base Cooking - Griddle	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	140	Base Cooking - Range	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	200	Base Heating	Grocery	9,463,546.31	149,588.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	9,463,546.31	149,588.42	0.00	0.00			
	233	Demand controlled ventilation (DCV)	Grocery	5,962,034.17	94,240.70	3,501,512.13	3,501,512.13	37%	55347.72	55347.72	37%	0.38	0.38	24	24	2.41	0.00	0.00	3,501,512.13	55,347.72			
	216	Clock / Programmable Thermostat	Grocery	5,289,905.06	83,616.49	672,129.11	4,173,641.24	44%	10624.21	65971.93	44%	0.65	0.42	41	27	1.41	0.00	0.00	672,129.11	10,624.21			
	234	Refrigeration heat recovery - space conditioning	Grocery	5,052,458.95	79,863.23	237,446.11	4,411,087.36	47%	3753.26	69725.19	47%	0.96	0.45	61	29	0.96	0.00	0.00	0.00	0.00			
	221	Heat Recovery from AC	Grocery	1,837,222.93	29,040.62	3,215,236.02	7,626,323.38	81%	50822.60	120547.80	81%	1.41	0.86	89	54	0.65	0.00	0.00	0.00	0.00			
	235	Retrocommissioning	Grocery	1,830,022.01	28,926.80	7,200.92	7,633,524.30	81%	113.82	120661.62	81%	6.08	0.86	385	54	0.15	0.00	0.00	0.00	0.00			
	218	Installation of Energy Management Systems (EMS)	Grocery	1,706,756.28	26,978.36	123,265.73	7,756,790.03	82%	1948.44	122610.06	82%	6.42	0.95	406	60	0.14	0.00	0.00	0.00	0.00			
	219	EMS Optimization	Grocery	1,693,826.30	26,773.98	12,929.97	7,769,720.04	82%	204.38	122814.44	82%	8.26	0.96	523	61	0.11	0.00	0.00	0.00	0.00			
	227	iciency (Power Burner/ Premium) Furnace 95% efficiency (in situ be	Grocery	1,614,334.98	25,517.48	79,491.32	7,849,211.33	83%	1256.50	124070.94	83%	11.96	1.07	757	68	0.08	0.00	0.00	0.00	0.00			
	222	Installation of Air Side Heat Recovery Systems	Grocery	1,465,615.94	23,166.70	148,719.44	7,997,930.76	85%	2350.78	126421.72	85%	13.30	1.30	842	82	0.07	0.00	0.00	0.00	0.00			
	201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	Grocery	1,453,487.61	22,974.99	12,127.93	8,010,058.69	85%	191.70	126613.43	85%	19.99	1.33	1,265	84	0.05	0.00	0.00	0.00	0.00			
	206	Duct Repair and Sealing	Grocery	1,452,687.00	22,962.34	800.62	8,010,059.31	85%	12.66	126626.08	85%	37.91	1.33	2,398	84	0.02	0.00	0.00	0.00	0.00			
	300	Base Miscellaneous	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	400	Base Water Heating - high standby loss (as % of load)	Grocery	5,252,407.83	14,493.40	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	5,252,407.83	14,493.40	0.00	0.00			
	401	Tankless Water Heater	Grocery	3,578,890.55	9,875.53	1,673,517.28	1,673,517.28	32%	4617.87	4617.87	32%	0.14	0.14	52	52	6.39	0.00	0.00	1,673,517.28	4,617.87			
	403	Hot Water Pipe Insulation	Grocery	3,575,327.30	9,865.69	3,563.24	1,677,080.53	32%	9.83	4627.71	32%	0.49	0.14	177	52	1.88	0.00	0.00	3,563.24	9.83			
	402	Demand controlled circulating systems	Grocery	3,555,966.08	9,812.27	19,361.22	1,696,441.75	32%	53.43	4681.13	32%	1.91	0.16	691	60	0.48	0.00	0.00	0.00	0.00			
	500	Base Water Heating - low standby loss (as % of load)	Grocery	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	100	Base Cooking - Fryer	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	110	Base Cooking - Steamer	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	120	Base Cooking - Convection Oven	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00			
	130	Base Cooking - Griddle	Warehouse	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A								

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS		Year 2011														SUPPLY					
Existing 1		Vintage Batch		Total		Total		Total		Total		Marginal		Average		Marginal		Average		Total	
Measure		Building Type		Therms		Therms/Day		Therms Savings		Therms/Day Savings		Energy Cost \$/Therm		Energy Cost \$/Therm		Capacity Cost \$/Therm/Day		Capacity Cost \$/Therm/Day		Resource Cost Test TRC	
Measure Number	Measure	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Therms/Day Savings	Therms/Day Savings	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day	
110	Base Cooking - Steamer	School	339,581.80	937.04	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	339,581.80	937.04	0.00	0.00	
111	Energy Star Steamer	School	71,467.16	197.21	268,114.64	268,114.64	79%	739.83	739.83	79%	2.37	2.37	859	859	0.39	0.00	0.00	0.00	0.00	0.00	
120	Base Cooking - Convection Oven	School	88,387.31	243.89	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	88,387.31	243.89	0.00	0.00	
121	High-Efficiency Convection Oven	School	63,446.33	175.07	24,940.97	24,940.97	28%	68.82	68.82	28%	21.49	21.49	7,789	7,789	0.04	0.00	0.00	0.00	0.00	0.00	
130	Base Cooking - Griddle	School	141,377.46	390.11	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	141,377.46	390.11	0.00	0.00	
131	High-Efficiency Griddle	School	134,469.21	371.05	6,908.25	6,908.25	5%	19.06	19.06	5%	27.37	27.37	9,920	9,920	0.03	0.00	0.00	0.00	0.00	0.00	
140	Base Cooking - Range	School	6,468.50	17.85	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	6,468.50	17.85	0.00	0.00	
141	High-Efficiency Range	School	5,401.39	14.90	1,067.10	1,067.10	16%	2.94	2.94	16%	24.77	24.77	8,978	8,978	0.04	0.00	0.00	0.00	0.00	0.00	
200	Base Heating	School	36,327,125.60	574,215.75	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	36,327,125.60	574,215.75	0.00	0.00	
232	Hot water temperature reset	School	36,267,100.36	573,266.94	60,025.24	60,025.24	0%	948.81	948.81	0%	0.11	0.11	7	7	8.52	0.00	0.00	60,025.24	948.81	0.00	0.00
233	Demand controlled ventilation (DCV)	School	28,388,256.98	448,727.61	7,878,843.37	7,938,868.62	22%	124,539.33	125,488.14	22%	0.33	0.32	21	20	2.83	0.00	0.00	7,878,843.37	124,539.33	0.00	0.00
216	Clock / Programmable Thermostat	School	24,876,307.67	393,214.91	3,511,949.31	11,450,817.93	32%	55,512.69	181,000.83	32%	0.45	0.36	29	23	2.04	0.00	0.00	3,511,949.31	55,512.69	0.00	0.00
229	Stack Heat Exchanger	School	24,585,301.37	388,615.03	291,006.30	1,741,824.23	32%	4,599.88	18,500.71	32%	0.71	0.37	45	23	1.30	0.00	0.00	291,006.30	4,599.88	0.00	0.00
212	Boiler Tune-Up	School	24,512,832.87	387,469.54	72,468.50	11,814,292.73	33%	114,550.19	187,746.21	33%	0.92	0.37	58	24	1.00	0.00	0.00	72,468.50	1,145.50	0.00	0.00
235	Retrocommissioning	School	24,108,329.79	381,075.64	404,503.08	12,218,795.81	34%	63,930.90	193,140.11	34%	0.98	0.39	62	25	0.94	0.00	0.00	404,503.08	63,930.90	0.00	0.00
218	Installation of Energy Management Systems (EMS)	School	23,406,145.45	369,976.35	702,184.34	12,920,980.15	36%	110,929.29	204,239.40	36%	1.75	0.47	111	30	0.53	0.00	0.00	702,184.34	110,929.29	0.00	0.00
228	Efficiency (Power Burner/ Premium) Boiler 95% efficiency (in situ bas	School	20,225,592.21	319,701.97	3,180,553.24	16,101,533.39	44%	50,274.38	254,513.78	44%	1.84	0.74	117	47	0.50	0.00	0.00	3,180,553.24	50,274.38	0.00	0.00
219	EMS Optimization	School	20,072,368.03	317,279.98	153,224.18	16,254,757.57	45%	24,219.98	256,935.76	45%	2.27	0.75	144	48	0.41	0.00	0.00	153,224.18	24,219.98	0.00	0.00
209	Insulation of Pipes	School	20,026,866.83	316,560.75	45,501.20	16,300,258.77	45%	719.23	2,576,549.99	45%	2.47	0.76	156	48	0.37	0.00	0.00	45,501.20	719.23	0.00	0.00
222	Installation of Air Side Heat Recovery Systems	School	17,792,466.75	281,242.03	2,234,400.08	18,534,658.85	51%	35,318.72	292,973.72	51%	3.60	1.10	227	70	0.26	0.00	0.00	2,234,400.08	35,318.72	0.00	0.00
221	Heat Recovery from AC	School	17,258,692.75	272,804.77	533,774.00	19,068,432.85	52%	843.76	3,014,109.98	52%	6.99	1.27	442	80	0.13	0.00	0.00	533,774.00	843.76	0.00	0.00
227	Efficiency (Power Burner/ Premium) Furnace 95% efficiency (in situ bas	School	17,079,149.92	269,966.77	179,542.83	19,247,975.68	53%	283.00	304,248.97	53%	8.52	1.33	539	84	0.11	0.00	0.00	179,542.83	283.00	0.00	0.00
201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	School	17,042,195.99	269,382.65	36,953.93	19,284,929.61	53%	584.12	304,833.10	53%	10.42	1.35	659	85	0.09	0.00	0.00	36,953.93	584.12	0.00	0.00
206	Duct Repair and Sealing	School	17,040,115.10	269,349.76	2,080.89	19,287,010.50	53%	32.89	304,865.99	53%	10.52	1.35	666	86	0.09	0.00	0.00	2,080.89	32.89	0.00	0.00
300	Base Miscellaneous	School	313,295.61	864.50	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	313,295.61	864.50	0.00	0.00	
400	Base Water Heating - high standby loss (as % of load)	School	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
500	Base Water Heating - low standby loss (as % of load)	School	10,724,166.52	29,592.07	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10,724,166.52	29,592.07	0.00	0.00	
502	Demand controlled circulating systems	School	10,352,404.88	28,566.24	371,761.64	371,761.64	3%	102,583.33	102,583.33	3%	0.11	0.11	41	41	8.22	0.00	0.00	371,761.64	102,583.33	0.00	0.00
503	Condensing Water Heater (gas, 95% thermal efficiency)	School	8,557,990.26	23,614.76	1,794,414.61	2,166,176.25	20%	495.14	597.31	20%	0.17	0.16	61	58	5.44	0.00	0.00	1,794,414.61	495.14	0.00	0.00
501	Hot Water Pipe Insulation	School	8,557,115.19	23,612.35	875.08	2,167,051.33	20%	2.41	597.72	20%	1.38	0.16	500	58	0.67	0.00	0.00	875.08	2,167,051.33	0.00	0.00
100	Base Cooking - Fryer	College	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
110	Base Cooking - Steamer	College	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
120	Base Cooking - Convection Oven	College	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
130	Base Cooking - Griddle	College	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
140	Base Cooking - Range	College	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
200	Base Heating	College	10,933,941.82	172,830.67	0.00	0.00	0%	0.00	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	10,933,941.82	172,830.67	0.00	0.00	
232	Hot water temperature reset	College	10,903,079.84	172,342.84	30,861.98	30,861.98	0%	487.83	487.83	0%	0.06	0.06	4	4	16.09	0.00	0.00	30,861.98	487.83	0.00	0.00
212	Boiler Tune-Up	College	10,881,053.02	171,994.67	22,026.82	52,888.81	0%	348.17	836.00	0%	0.33	0.17	21	11	2.80	0.00	0.00	22,026.82	348.17	0.00	0.00
233	Demand controlled ventilation (DCV)	College	10,872,917.52	171,866.07	8,135.50	61,024.31	1%	128.60	964.60	1%	0.57	0.22	36	14	1.61	0.00	0.00	8,135.50	128.60	0.00	0.00
207	Duct Insulation	College	10,859,581.55	171,655.27	13,335.97	74,360.27	1%	210.80	1,175.40	1%	0.76	0.32	48	20	1.21	0.00	0.00	13,335.97	210.80	0.00	0.00
216	Clock / Programmable Thermostat	College	9,665,596.14	152,782.18	1,193,985.41	1,268,345.68	12%	188,739.00	200,484.49	12%	0.78	0.75	49	48	1.18	0.00	0.00	1,193,985.41	188,739.00	0.00	0.00
229	Stack Heat Exchanger	College	9,481,055.20	149,865.18	184,540.94	1,452,886.62	13%	291.70	2,296.49	13%	0.90	0.77	57	49	1.03	0.00	0.00	184,540.94	2,296.49	0.00	0.00
209	Insulation of Pipes	College	9,444,341.76	149,284.86	36,713.44	1,489,600.06	14%	580.32	2,345.82	14%	1.29	0.78	82	50	0.71	0.00	0.00	36,713.44	580.32	0.00	0.00
235	Retrocommissioning	College	9,132,036.24	144,348.30	312,305.53	1,801,905.59	16%	493.65	2,842.37	16%	1.74	0.95	110	60	0.53	0.00	0.00	312,305.			

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year	2011														SUPPLY			
Vintage Batch		Existing	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Capacity Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day	
Measure Number	Measure																				
218	Installation of Energy Management Systems (EMS)	Health	7,941,638.98	125,531.93	600,034.94	5,925,912.66	43%	9484.63	93669.74	43%	2.44	0.99	154	63	0.38	0.00	0.00	0.00	0.00	0.00	
207	Duct Insulation	Health	7,934,043.02	125,411.86	7,595.96	5,933,508.61	43%	120.07	93789.81	43%	2.74	0.99	173	63	0.34	0.00	0.00	0.00	0.00	0.00	
227	iciency (Power Burner/ Premium) Furnace 95% efficiency (in situ ba	Health	7,881,480.88	124,581.02	52,562.14	5,986,070.76	43%	830.84	94620.65	43%	4.32	1.02	273	65	0.21	0.00	0.00	0.00	0.00	0.00	
222	Installation of Air Side Heat Recovery Systems	Health	6,403,703.21	101,222.08	1,477,777.66	7,463,848.42	54%	23358.94	117979.59	54%	4.74	1.76	300	111	0.19	0.00	0.00	0.00	0.00	0.00	
219	EMS Optimization	Health	6,355,190.31	100,455.25	48,512.90	7,512,361.33	54%	766.83	118746.42	54%	6.19	1.79	392	113	0.15	0.00	0.00	0.00	0.00	0.00	
209	Insulation of Pipes	Health	6,340,531.43	100,223.54	14,658.88	7,527,020.20	54%	231.71	118978.13	54%	9.94	1.80	629	114	0.09	0.00	0.00	0.00	0.00	0.00	
206	Duct Repair and Sealing	Health	6,339,537.88	100,207.83	993.55	7,528,013.76	54%	15.70	118993.84	54%	12.12	1.81	767	114	0.08	0.00	0.00	0.00	0.00	0.00	
201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	Health	6,338,814.57	100,196.40	723.31	7,528,737.06	54%	11.43	119005.27	54%	13.64	1.81	863	114	0.07	0.00	0.00	0.00	0.00	0.00	
221	Heat Recovery from AC	Health	5,324,604.24	84,164.97	1,014,210.33	8,542,947.39	62%	16031.42	135036.69	62%	16.96	3.61	1,073	228	0.05	0.00	0.00	0.00	0.00	0.00	
300	Base Miscellaneous	Health	2,348,787.12	6,481.20	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	2,348,787.12	6,481.20	0.00	0.00	0.00	
400	Base Water Heating - high standby loss (as % of load)	Health	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
500	Base Water Heating - low standby loss (as % of load)	Health	22,105,304.79	60,996.98	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	22,105,304.79	60,996.98	0.00	0.00	
502	Demand controlled circulating systems	Health	21,245,257.02	58,623.78	860,047.77	860,047.77	4%	2373.20	2373.20	4%	0.02	0.02	8	8	41.97	0.00	0.00	860,047.77	2,373.20	0.00	
503	Condensing Water Heater (gas, 95% thermal efficiency)	Health	17,643,656.60	48,685.59	3,601,600.42	4,461,648.19	20%	9938.19	12311.39	20%	0.05	0.04	17	15	19.37	0.00	0.00	3,601,600.42	9,938.19	0.00	
501	Hot Water Pipe Insulation	Health	17,636,425.95	48,665.63	7,230.65	4,468,878.84	20%	19.95	12331.34	20%	0.35	0.04	129	16	2.59	0.00	0.00	7,230.65	19.95	0.00	
100	Base Cooking - Fryer	Lodging	759,233.53	2,095.02	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	759,233.53	2,095.02	0.00	0.00	0.00	
101	Energy Star Fryer	Lodging	535,491.30	1,477.62	223,742.23	223,742.23	29%	617.39	617.39	29%	0.92	0.92	333	333	1.00	0.00	0.00	223,742.23	617.39	0.00	
110	Base Cooking - Steamer	Lodging	443,005.73	1,222.42	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	443,005.73	1,222.42	0.00	0.00	0.00	
111	Energy Star Steamer	Lodging	93,233.38	257.27	349,772.35	349,772.35	79%	965.16	965.16	79%	0.69	0.69	248	248	1.34	0.00	0.00	349,772.35	965.16	0.00	
120	Base Cooking - Convection Oven	Lodging	114,506.65	315.97	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	114,506.65	315.97	0.00	0.00	0.00	
121	High-Efficiency Convection Oven	Lodging	82,195.37	226.81	32,311.28	32,311.28	28%	89.16	89.16	28%	19.05	19.05	6,905	6,905	0.05	0.00	0.00	0.00	0.00	0.00	
130	Base Cooking - Griddle	Lodging	302,520.77	834.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	302,520.77	834.77	0.00	0.00	0.00	
131	High-Efficiency Griddle	Lodging	287,738.43	793.98	14,782.33	14,782.33	5%	40.79	40.79	5%	24.55	24.55	8,896	8,896	0.04	0.00	0.00	0.00	0.00	0.00	
140	Base Cooking - Range	Lodging	385,212.54	1,062.95	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	385,212.54	1,062.95	0.00	0.00	0.00	
141	High-Efficiency Range	Lodging	321,664.24	887.59	63,548.30	63,548.30	16%	175.35	175.35	16%	16.95	16.95	6,142	6,142	0.05	0.00	0.00	0.00	0.00	0.00	
200	Base Heating	Lodging	8,693,987.13	137,424.15	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	8,693,987.13	137,424.15	0.00	0.00	0.00	
232	Hot water temperature reset	Lodging	8,679,409.86	137,193.73	14,577.27	14,577.27	0%	230.42	230.42	0%	0.05	0.05	3	3	20.07	0.00	0.00	14,577.27	230.42	0.00	
212	Boiler Tune-Up	Lodging	8,668,993.81	137,029.08	10,416.05	24,993.32	0%	164.64	395.06	0%	0.26	0.14	17	9	3.50	0.00	0.00	10,416.05	164.64	0.00	
229	Stack Heat Exchanger	Lodging	8,567,775.37	135,429.14	101,218.44	126,211.76	1%	1599.94	1995.00	1%	0.30	0.27	19	17	3.03	0.00	0.00	101,218.44	1,599.94	0.00	
216	Clock / Programmable Thermostat	Lodging	7,747,456.46	122,462.52	820,318.92	946,530.68	11%	12966.62	14961.62	11%	0.33	0.32	21	20	2.82	0.00	0.00	820,318.92	12,966.62	0.00	
235	Retrocommissioning	Lodging	7,692,080.11	121,587.20	55,376.35	1,001,907.03	12%	875.32	15836.95	12%	0.67	0.34	43	21	1.36	0.00	0.00	55,376.35	875.32	0.00	
228	fficiency (Power Burner/ Premium) Boiler 95% efficiency (in situ bas	Lodging	6,631,432.99	104,821.76	1,060,647.11	2,062,554.14	24%	16765.44	32602.39	24%	0.82	0.58	52	37	1.13	0.00	0.00	1,060,647.11	16,765.44	0.00	
218	Installation of Energy Management Systems (EMS)	Lodging	6,096,312.25	96,363.21	535,120.74	2,597,674.88	30%	8458.55	41060.94	30%	1.15	0.70	73	44	0.80	0.00	0.00	0.00	0.00	0.00	
233	Demand controlled ventilation (DCV)	Lodging	5,364,754.78	84,799.63	731,557.47	3,329,232.35	38%	11563.59	52624.52	38%	1.34	0.84	85	53	0.69	0.00	0.00	0.00	0.00	0.00	
209	Insulation of Pipes	Lodging	5,352,414.40	84,604.56	12,340.38	3,341,572.73	38%	195.06	52819.58	38%	1.74	0.84	110	53	0.53	0.00	0.00	0.00	0.00	0.00	
219	EMS Optimization	Lodging	5,311,865.81	83,963.62	40,548.59	3,382,121.32	39%	640.94	53460.53	39%	1.93	0.86	122	54	0.48	0.00	0.00	0.00	0.00	0.00	
207	Duct Insulation	Lodging	5,304,842.35	83,852.60	7,023.46	3,389,144.78	39%	111.02	53571.55	39%	2.04	0.86	129	54	0.45	0.00	0.00	0.00	0.00	0.00	
203	Insulation (wall)	Lodging	5,180,677.25	81,889.95	124,165.10	3,513,309.88	40%	1962.65	55534.20	40%	2.65	0.92	167	58	0.35	0.00	0.00	0.00	0.00	0.00	
227	iciency (Power Burner/ Premium) Furnace 95% efficiency (in situ ba	Lodging	5,144,217.83	81,313.64	36,459.42	3,549,769.31	41%	576.31	56110.51	41%	4.13	0.96	261	60	0.22	0.00	0.00	0.00	0.00	0.00	
221	Heat Recovery from AC	Lodging	4,938,449.12	78,061.10	205,768.71	3,755,538.02	43%	3252.55	59363.05	43%	5.45	1.20	345	76	0.17	0.00	0.00	0.00	0.00	0.00	
222	Installation of Air Side Heat Recovery Systems	Lodging	4,753,257.27	75,133.80	185,191.84	3,940,729.86	45%	2927.29	62290.34	45%	9.88	1.61	625	102	0.09	0.00	0.00	0.00	0.00	0.00	
201	High Efficiency Windows (Multiple Glazed, Low Emissivity)	Lodging	4,734,882.87	74,843.36	18,374.41	3,959,104.27	46%	290.44	62580.78	46%	11.19	1.65	708	105	0.08	0.00	0.00	0.00	0.00	0.00	
300	Base Miscellaneous	Lodging	139,050.24	383.69	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	139,050.24	383.69	0.00	0.00	0.00	
400	Base Water Heating - high standby loss (as % of load)	Lodging	0.00	0.00	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	0.00	0.00	
500	Base Water Heating - low standby loss (as % of load)	Lodging	16,914,973.92	46,674.87	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	N/A	16,914,973.92	46,674.87	0.00	0.00	
502	Demand controlled circulating systems	Lodging	16,875,310.63	46,565.43	39,663.29	39,663.29	0%	109.45	109.45	0%	0.03	0.03	10	10	32.25	0.00	0.00	39,663.29	109.45	0.00	
503	Condensing Water Heater (gas, 95% thermal efficiency)	Lodging	14,012,415.18	38,665.60	2,862,895.45	2,902,558.74	17%	7899.82	8009.27	17%	0.25	0.25	91	90	3.67	0.00	0.00	2,862,895.45	7,899.82	0.00	
501	Hot Water Pipe Insulation	Lodging	14,010,300.84	38,659.77	2,114.34	2,904,673.08	17%	5.83	8015.10	17%	1.08	0.25	390	90	0.85	0.00	0.00	0.00	0.00	0.00	
100	Base Cooking - Fryer	Other	314,828.56	868.73	0.00																

APPENDIX F

COMMERCIAL EXISTING CONSTRUCTION

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS					Year		2011														SUPPLY			
Vintage Batch		Existing 1																						
Measure Number	Measure	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/Day	Economic Therms	Economic Therms/Day					
221	Heat Recovery from AC	Other	33,453,727.45	528,796.50	166,126.92	25,025,532.11	43%	2625.94	395573.67	43%	18.54	1.85	1,173	117	0.05	0.00	0.00	0.00	0.00					
300	Base Miscellaneous	Other	3,011,833.61	8,310.80	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	3,011,833.61	8,310.80	0.00	0.00					
400	Base Water Heating - high standby loss (as % of load)	Other	75,412,820.24	208,092.77	0.00	0.00	0%	0.00	0.00	0%	N/A	N/A	N/A	N/A	N/A	75,412,820.24	208,092.77	0.00	0.00					
402	Demand controlled circulating systems	Other	73,337,812.13	202,367.03	2,075,008.11	2,075,008.11	3%	5725.74	5725.74	3%	0.03	0.03	11	11	29.75	0.00	0.00	2,075,008.11	5,725.74					
403	Tankless Water Heater	Other	51,544,646.77	142,231.36	21,793,165.36	23,868,173.47	32%	60135.67	65861.41	32%	0.10	0.09	36	34	9.22	0.00	0.00	#####	60,135.67					
401	Hot Water Pipe Insulation	Other	51,534,221.69	142,202.59	10,425.09	23,878,598.56	32%	28.77	65890.17	32%	0.31	0.09	112	34	2.97	0.00	0.00	10,425.09	28.77					

APPENDIX F

COMMERCIAL NEW CONSTRUCTION

NON-ADDITIV MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS				Year	2,011.00														SUPPLY			
Vintage	Existing	Batch	Measure	Building Type	Total Therms	Total Therms/Day	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms	Economic Therms	Economic Therms/Day	
Measure Number	Measure																					
100	Base Bldg Design - 30%		Office	1,450,575.45	4,002.69	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+06	4003	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Office	1,015,402.83	2,801.88	435172.6	435172.6	0.3	1200.807	1200.8075	0.3	0.600543	0.600543	217.63678	217.63678	1.53180799	0	0	435172.622	1200.80746		
200	Base Bldg Design - 50%		Office	967,050.30	2,668.46	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+06	2668	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Office	483,525.16	1,334.23	483525.1	483525.1	0.5	1334.231	1334.2305	0.5	0.7206516	0.7206516	261.16414	261.16414	1.27650666	0	0	483525.135	1334.23051		
300	Base Bldg Design - 70%		Office	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E-04	7E-07	0	0	
100	Base Bldg Design - 30%		Restaurant	383,154.81	1,057.27	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4E+05	1057	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Restaurant	268,208.37	740.09	114946.4	114946.4	0.3	317.1811	317.18113	0.3	0.1712123	0.1712123	62.047353	62.047353	5.37295695	0	0	114946.439	317.181126		
200	Base Bldg Design - 50%		Restaurant	255,436.54	704.85	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3E+05	704.8	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Restaurant	127,718.27	352.42	127718.3	127718.3	0.5	352.4235	352.42347	0.5	0.2054548	0.2054548	74.456824	74.456824	4.47746412	0	0	127718.266	352.423473		
300	Base Bldg Design - 70%		Restaurant	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E-05	2E-07	0	0	
100	Base Bldg Design - 30%		Retail	383,328.52	1,057.75	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4E+05	1058	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Retail	268,329.96	740.42	114998.6	114998.6	0.3	317.3249	317.32492	0.3	1.2404166	1.2404166	449.52697	449.52697	0.74161904	0	0	0	0		
200	Base Bldg Design - 50%		Retail	255,552.34	705.17	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3E+05	705.2	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Retail	127,776.18	352.58	127776.2	127776.2	0.5	352.5832	352.58325	0.5	1.4884999	1.4884999	539.43236	539.43236	0.61801586	0	0	0	0		
300	Base Bldg Design - 70%		Retail	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E-05	2E-07	0	0	
100	Base Bldg Design - 30%		Grocery	118,446.34	326.84	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+05	326.8	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Grocery	82,912.44	228.79	35533.9	35533.9	0.3	98.0516	98.0516	0.3	0.5915094	0.5915094	214.36302	214.36302	1.55520179	0	0	35533.8995	98.0515996		
200	Base Bldg Design - 50%		Grocery	69,093.70	190.66	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	69094	190.7	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Grocery	34,546.85	95.33	34546.85	34546.85	0.5	95.32794	95.327944	0.5	0.7098113	0.7098113	257.23563	257.23563	1.29600149	0	0	34546.8467	95.327944		
300	Base Bldg Design - 70%		Grocery	9,870.53	27.24	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	9871	27.24	0	0	
301	Near Zero Energy (60-75%)		Grocery	2,961.16	8.17	6909.369	6909.369	0.7	19.06559	19.065589	0.7	1.5209961	1.5209961	551.20898	551.20898	0.60481192	0	0	0	0		
100	Base Bldg Design - 30%		Warehouse	449,916.42	1,241.49	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4E+05	1241	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Warehouse	314,941.50	869.04	134974.9	134974.9	0.3	372.4474	372.44736	0.3	1.5855297	1.5855297	574.59597	574.59597	0.58019508	0	0	0	0		
200	Base Bldg Design - 50%		Warehouse	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4E-05	1E-07	0	0	
300	Base Bldg Design - 70%		Warehouse	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4E-05	1E-07	0	0	
100	Base Bldg Design - 30%		School	555,660.28	1,533.28	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E+05	1533	0	0	
101	High Performance Building/Int Design - Tier 1 30%		School	388,962.20	1,073.30	166698.1	166698.1	0.3	459.9837	459.98366	0.3	0.8463746	0.8463746	306.72615	306.72615	1.08689057	0	0	166698.078	459.983662		
200	Base Bldg Design - 50%		School	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E-05	2E-07	0	0	
300	Base Bldg Design - 70%		School	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E-05	2E-07	0	0	
100	Base Bldg Design - 30%		College	230,684.87	636.55	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E+05	636.5	0	0	
101	High Performance Building/Int Design - Tier 1 30%		College	161,479.41	445.58	69205.46	69205.46	0.3	190.9643	190.96429	0.3	1.2248769	1.2248769	443.8954	443.8954	0.75102774	0	0	0	0		
200	Base Bldg Design - 50%		College	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E-05	6E-08	0	0	
300	Base Bldg Design - 70%		College	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E-05	6E-08	0	0	
100	Base Bldg Design - 30%		Health	280,980.12	775.33	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3E+05	775.3	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Health	196,686.09	542.73	84294.03	84294.03	0.3	232.5994	232.59943	0.3	0.8288461	0.8288461	300.37384	300.37384	1.10987615	0	0	84294.0332	232.599431		
200	Base Bldg Design - 50%		Health	187,320.08	516.89	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E+05	516.9	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Health	93,660.04	258.44	93660.04	93660.04	0.5	258.4438	258.44381	0.5	0.9946154	0.9946154	360.4486	360.4486	0.9248968	0	0	0	0		
300	Base Bldg Design - 70%		Health	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	5E-05	1E-07	0	0	
100	Base Bldg Design - 30%		Lodging	191,362.67	528.04	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E+05	528	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Lodging	133,953.87	369.63	57408.8	57408.8	0.3	158.4128	158.4128	0.3	0.6749737	0.6749737	244.61048	244.61048	1.36289237	0	0	57408.7979	158.412799		
200	Base Bldg Design - 50%		Lodging	127,575.11	352.03	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+05	352	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Lodging	63,787.56	176.01	63787.55	63787.55	0.5	176.0142	176.01422	0.5	0.8099685	0.8099685	293.53258	293.53258	1.13574364	0	0	63787.5532	176.014221		
300	Base Bldg Design - 70%		Lodging	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3E-05	9E-08	0	0	
100	Base Bldg Design - 30%		Other	953,215.96	2,630.29	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+06	2630	0	0	
101	High Performance Building/Int Design - Tier 1 30%		Other	667,251.18	1,841.20	285964.8	285964.8	0.3	789.086	789.08604	0.3	0.7152812	0.7152812	259.21789	259.21789	1.28609085	0	0	285964.78	789.086042		
200	Base Bldg Design - 50%		Other	635,477.31	1,753.52	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E+05	1754	0	0	
201	High Performance Building/Int Design - Tier 2 50%		Other	317,738.66	876.76	317738.6	317738.6	0.5	876.7623	876.76227	0.5	0.8583374	0.8583374	311.06147	311.06147	1.07174237	0	0	317738.644	876.762269		
300	Base Bldg Design - 70%		Other	0.00	0.00	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2E-04	4E-07	0	0	

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011		SUPPLY														
Vintage	Batch	Measure	Building Type	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Savings Therms/Day	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/D	Economic Therms	Economic Therms/Day		
100		Base Boiler	Food	3.6E+07	98833	0	0	0	0	N/A	N/A	N/A	N/A	3.6E+07	98833	0	0		
102		Maintain boilers	Food	3.5E+07	96856	716340.6	716340.6	0.02	1976.657	1976.6572	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	716340.552	1976.65717
107		Load control	Food	3.4E+07	92982	1404027	2120368	0.0592	3874.248	5850.9052	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	1404027.48	3874.24805
101		Improved process control	Food	3.3E+07	91336	596430.9	2716799	0.075852	1645.781	7496.6858	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	596430.876	1645.78057
110		Automatic steam trap monitoring	Food	3.2E+07	89053	827505.7	3544305	0.098956	2283.404	9780.0901	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	827505.72	2283.40432
108		Improved insulation	Food	3E+07	81929	2581818	6126122	0.171039	7124.221	16904.312	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	2581817.85	7124.22148
112		Condensate return	Food	3E+07	81765	59381.81	6185504	0.172697	163.8571	17068.169	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	59381.8107	163.857094
106		Water treatment	Food	2.9E+07	80947	296315.2	6481820	0.18097	817.6469	17885.816	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	296315.235	817.646901
113		Thermally activated heat pump/chiller	Food	2.2E+07	59577	7744495	14226315	0.397194	21370.02	39255.835	0.397194	0.252624	0.1820408	91.550947	65.97157	3.6414452	0	7744494.99	21370.0194
105		Upgrade burner efficiency	Food	2.1E+07	59279	107953.6	14334268	0.400208	297.8851	39553.72	0.400208	0.3676982	0.183439	133.25383	66.478283	2.50182503	0	107953.568	297.885122
111		Leak repair	Food	2.1E+07	58995	103117.2	14437385	0.403087	284.5399	39838.26	0.403087	0.3737951	0.1847986	135.46336	66.971	2.46101797	0	103117.248	284.539869
103		Flue gas heat recovery/economizer	Food	2.1E+07	58405	213796.4	14651182	0.409056	589.946	40428.206	0.409056	0.4305519	0.1883847	156.03201	68.270617	2.13659845	0	213796.427	589.945995
109		Steam trap maintenance	Food	2E+07	54754	1322865	15974047	0.44599	3650.291	44078.497	0.44599	0.4730315	0.2119573	171.4266	76.813317	1.94472593	0	1322865.39	3650.29084
104		Blowdown steam heat recovery	Food	2E+07	54463	105763.1	16079810	0.448943	291.8408	44370.338	0.448943	0.6268842	0.2146864	227.18285	77.802355	1.46744247	0	105763.088	291.840754
200		Base HVAC	Food	3425977	76641	0	0	0	0	N/A	N/A	N/A	N/A	3425977	76641	0	0		
204		Duct insulation	Food	3415699	76411	10277.93	10277.93	0.003	229.9216	229.9216	0.003	0.1985454	0.1985454	8.8753522	4.63328164	0	0	10277.93	229.921604
202		Full high efficiency (95%) condensing furnace/bc	Food	3323475	74348	92223.87	102501.8	0.029919	2063.087	2293.0082	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	92223.8656	2063.08655
206		EMS optimization	Food	3318490	74236	4985.212	107487	0.031374	111.5213	2404.5294	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	4985.21229	111.52129
205		EMS install	Food	3268712	73122	49777.34	157264.4	0.045904	1113.54	3518.0695	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	49777.3447	1113.54008
201		Improve ceiling insulation	Food	3149404	70453	119308	276572.4	0.080728	2668.97	6187.0395	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	119307.999	2668.96998
203		Stack heat exchanger	Food	3147830	70418	1574.702	278147.1	0.081188	35.22675	6222.2663	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	1574.70215	35.2267476
300		Base CHP	Food	3010707	8307.7	0	0	0	0	N/A	N/A	N/A	N/A	3010707	8308	0	0		
400		Base Other	Food	4567969	12605	0	0	0	0	N/A	N/A	N/A	N/A	4567969	12605	0	0		
500		Base Process Heat	Food	2.1E+07	59300	0	0	0	0	N/A	N/A	N/A	N/A	2.1E+07	59300	0	0		
501		Process Controls & Management	Food	2.1E+07	56717	935864.3	935864.3	0.043548	2582.407	2582.4069	0.043548	0.1518143	0.1518143	55.017491	55.017491	6.05948674	0	935864.272	2582.40695
504		Process integration	Food	1.9E+07	51352	1944331	2880195	0.134024	5365.151	7947.5577	0.134024	0.4975047	0.3851792	180.29569	139.58894	1.84906113	0	1944330.63	5365.15077
505		Efficient drying	Food	1.8E+07	50085	495361.3	3339556	0.155399	1267.553	9215.111	0.155399	0.5756163	0.4113741	208.60334	149.08198	1.59814202	0	495361.294	1267.55325
502		Heat Recovery	Food	1.8E+07	48719	495018	3834574	0.178433	1365.944	10581.055	0.178433	1.1984464	0.5129799	434.31699	185.90392	0.76759087	0	0	0
100		Base Boiler	Textiles-Apparel	264172	728.95	0	0	0	0	N/A	N/A	N/A	N/A	264172	729	0	0		
102		Maintain boilers	Textiles-Apparel	258888	714.37	5283.437	5283.437	0.02	14.57902	14.579022	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	5283.43749	14.5790218
107		Load control	Textiles-Apparel	248533	685.8	10355.54	15638.97	0.0592	28.57488	43.153905	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	10355.5375	28.5748828
101		Improved process control	Textiles-Apparel	244134	673.66	4399.032	20038.01	0.075852	12.13861	55.292515	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	4399.03233	12.1386102
110		Automatic steam trap monitoring	Textiles-Apparel	238031	656.82	6103.347	26141.35	0.098956	16.84146	72.133979	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	6103.34669	16.8414645
108		Improved insulation	Textiles-Apparel	218988	604.27	19042.44	45183.8	0.171039	52.54537	124.67935	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	19042.4417	52.5453692
112		Condensate return	Textiles-Apparel	218550	603.06	437.9762	45621.77	0.172697	1.208543	125.88789	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	437.97616	1.2085435
106		Water treatment	Textiles-Apparel	216365	597.03	2185.501	47807.27	0.18097	6.030632	131.91852	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	2185.50104	6.03063204
105		Upgrade burner efficiency	Textiles-Apparel	215283	594.05	1081.823	48889.1	0.185065	2.985163	134.90369	0.185065	0.2706259	0.101734	98.074817	36.795932	3.39921875	0	1081.82306	2.98516286
111		Leak repair	Textiles-Apparel	214249	591.2	1033.357	49922.45	0.188977	2.851428	137.75511	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	1033.35734	2.85142757
103		Flue gas heat recovery/economizer	Textiles-Apparel	212107	585.28	2142.494	52064.95	0.197087	5.91196	143.66707	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	2142.49423	5.91195982
109		Steam trap maintenance	Textiles-Apparel	198850	548.7	13256.68	65321.63	0.247269	36.58025	180.24733	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	13256.683	36.5802514
104		Blowdown steam heat recovery	Textiles-Apparel	197790	545.78	1059.872	66381.5	0.251281	2.924591	183.17192	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	1059.87181	2.9245911
200		Base HVAC	Textiles-Apparel	43066.7	963.42	0	0	0	0	N/A	N/A	N/A	N/A	43066.7	963.4	0	0		
204		Duct insulation	Textiles-Apparel	42937.5	960.53	129.2	129.2	0.003	2.890258	2.8902582	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	129.2	2.89025819
202		Full high efficiency (95%) condensing furnace/bc	Textiles-Apparel	41778.2	934.59	1159.312	1288.512	0.029919	25.93429	28.824545	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	1159.3116	25.9342867
206		EMS optimization	Textiles-Apparel	41715.5	933.19	62.66723	1351.179	0.031374	1.401892	30.226437	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	62.6672326	1.40189228
205		EMS install	Textiles-Apparel	41089.8	919.2	625.7323	1976.911	0.045904	13.99789	44.224332	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	625.732317	13.9978944
201		Improve ceiling insulation	Textiles-Apparel	39590	885.64	1499.776	3476.687	0.080728	33.55062	77.774951	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	1499.77608	33.5506198
203		Stack heat exchanger	Textiles-Apparel	39570.2	885.2	19.79499	3496.482	0.081188	0.442822	78.217774	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	19.7949897	0.44282222
300		Base CHP	Textiles-Apparel	92584	255.47	0	0	0	0	N/A	N/A	N/A	N/A	92584	255.5	0	0		
400		Base Other	Textiles-Apparel	124690	344.07	0	0	0	0	N/A	N/A	N/A	N/A	124690	344.1	0	0		
500		Base Process Heat	Textiles-Apparel	229474	633.21	0	0	0	0	N/A	N/A	N/A	N/A	229474	633.2	0	0		
501		Process Controls & Management	Textiles-Apparel	221172	610.3	8302.588	8302.588	0.036181	22.91001	22.910011	0.036181	0.2436374	0.2436374	88.294199	88.294199	3.77576058	0	8302.58778	22.9100106
502		Heat Recovery	Textiles-Apparel	200250	552.57	20921.65	29224.24	0.127353	57.73082	80.640829	0.127353	0.3925015	0.3502093	142.24253	126.91584	2.34372773	0	20921.6486	57.7308188
100		Base Boiler	Lumber-Furniture	2908829	8026.6	0	0	0	0	N/A	N/A	N/A	N/A	2908829	8027	0	0		
102		Maintain boilers	Lumber-Furniture	2850652	7866	58176.58	58176.58												

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011												SUPPLY					
Vintage	Batch	Measure	Building Type	Total Therms	Total Therms/D	Therms Savings	Total Energy Savings Therms	Percent Therms Savings	Therms/Day Savings	Total Capacity Therms/Day	Percent Therms/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Therms	Base Therms/D	Economic Therms	Economic Therms/Day
104		Blowdown steam heat recovery	Lumber-Furniture	2177894	6009.6	11670.38	730934.9	0.251281	32.20303	2016.9285	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	11670.3786	32.2030316
200		Base HVAC	Lumber-Furniture	2363424	52871	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2363424	52871	0	0
204		Duct insulation	Lumber-Furniture	2356333	52712	7090.271	7090.271	0.003	158.6123	158.61233	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	7090.27072	158.61233
202		Full high efficiency (95%) condensing furnace/bc	Lumber-Furniture	2292712	51289	63621	70711.27	0.029919	1423.228	1581.8408	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	63620.9992	1423.22844
206		EMS optimization	Lumber-Furniture	2289273	51212	3439.068	74150.34	0.031374	76.9334	1658.7742	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	3439.06846	76.9334037
205		EMS install	Lumber-Furniture	2254934	50444	34339.1	108489.4	0.045904	768.18	2426.9542	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	34339.0985	768.180036
201		Improve ceiling insulation	Lumber-Furniture	2172629	48603	82305.1	190794.5	0.080728	1841.2	4268.1537	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	82305.096	1841.19952
203		Stack heat exchanger	Lumber-Furniture	2171543	48578	1086.315	191880.8	0.081188	24.30131	4292.455	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	1086.31452	24.3013114
300		Base CHP	Lumber-Furniture	72720.7	200.66	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72720.7	200.7	0	0
400		Base Other	Lumber-Furniture	3199712	8829.2	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3199712	8829	0	0
500		Base Process Heat	Lumber-Furniture	9635496	26588	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	9635496	26588	0	0
501		Process Controls & Management	Lumber-Furniture	9286875	25626	348621	348621	0.036181	961.9784	961.97836	0.036181	0.2436374	0.2436374	88.294199	88.294199	3.77576058	0	0	348620.955	961.978358
502		Heat Recovery	Lumber-Furniture	8408387	23202	878488.2	1227109	0.127353	2424.084	3386.0627	0.127353	0.3925015	0.3502093	142.24253	126.91584	2.34372773	0	0	878488.165	2424.08436
100		Base Boiler	Paper	2E+07	55695	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2E+07	55695	0	0
102		Maintain boilers	Paper	2E+07	54581	403675.5	403675.5	0.02	1113.895	1113.8947	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	403675.454	1113.89475
107		Load control	Paper	1.9E+07	52398	791203.9	1194879	0.0592	2183.234	3297.1285	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	791203.89	2183.2337
101		Improved process control	Paper	1.9E+07	51470	336103.4	1530983	0.075852	927.4377	4224.5661	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	336103.413	927.437679
110		Automatic steam trap monitoring	Paper	1.8E+07	50183	466319.7	1997303	0.098956	1286.754	5511.3204	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	466319.749	1286.75428
108		Improved insulation	Paper	1.7E+07	46169	1454918	3452220	0.171039	4014.673	9525.9938	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	1454917.62	4014.67337
112		Condensate return	Paper	1.7E+07	46076	33463.11	3485683	0.172697	92.33749	9618.3313	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	33463.1053	92.3374877
106		Water treatment	Paper	1.7E+07	45616	166980.9	3652664	0.18097	460.7641	10079.095	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	166980.896	460.764063
113		Thermally activated heat pump/chiller	Paper	1.2E+07	33573	4364213	8016877	0.397194	12042.53	22121.625	0.397194	0.252624	0.1820408	91.550947	65.97157	3.6414452	0	0	436422.596	12042.5296
105		Upgrade burner efficiency	Paper	1.2E+07	33405	60834.48	8077711	0.400208	167.8656	22289.49	0.400208	0.3676982	0.183439	133.25383	66.478283	2.50182503	0	0	60834.4805	167.865565
111		Leak repair	Paper	1.2E+07	33245	58109.9	8135820	0.403087	160.3452	22449.836	0.403087	0.3737951	0.1847986	135.46336	66.971	2.46101797	0	0	58109.9586	160.345188
103		Flue gas heat recovery/economizer	Paper	1.2E+07	32912	120479.5	8256300	0.409056	332.449	22782.285	0.409056	0.4305791	0.1883847	156.03201	68.270617	2.136659845	0	0	120479.523	332.449023
109		Steam trap maintenance	Paper	1.1E+07	30855	745467.1	9001767	0.44599	2057.028	24839.313	0.44599	0.4730315	0.2119573	171.4266	76.813317	1.94472593	0	0	745467.063	2057.02833
104		Blowdown steam heat recovery	Paper	1.1E+07	30691	59600.09	9061367	0.448943	164.4594	25003.772	0.448943	0.6268842	0.2146864	227.18285	77.802355	1.46744247	0	0	59600.0918	164.459416
200		Base HVAC	Paper	2242641	50169	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2242641	50169	0	0
204		Duct insulation	Paper	2235914	50018	6727.924	6727.924	0.003	150.5065	150.50649	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	6727.92443	150.506491
202		Full high efficiency (95%) condensing furnace/bc	Paper	2175544	48668	60369.67	67097.59	0.029919	1350.495	1501.0012	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	60369.6659	1350.49475
206		EMS optimization	Paper	2172281	48595	3263.316	70360.91	0.031374	73.00174	1574.003	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	3263.31583	73.0017437
205		EMS install	Paper	2139696	47866	32584.21	102945.1	0.045904	728.9224	2302.9254	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	32584.2086	728.922411
201		Improve ceiling insulation	Paper	2061597	46119	78098.92	181044	0.080728	1747.106	4050.0309	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	78098.9172	1747.10553
203		Stack heat exchanger	Paper	2060567	46096	1030.799	182074.8	0.081188	23.0594	4073.0903	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	1030.79872	23.0593997
300		Base CHP	Paper	2.6E+07	72832	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2.6E+07	72832	0	0
400		Base Other	Paper	1E+07	27609	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1E+07	27609	0	0
500		Base Process Heat	Paper	2.1E+07	57123	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2.1E+07	57123	0	0
501		Process Controls & Management	Paper	2E+07	56019	399864.2	399864.2	0.019316	1103.378	1103.3782	0.019316	0.4056543	0.4056543	147.0091	147.0091	2.26773547	0	0	399864.247	1103.37817
507		Extended nip press	Paper	1.9E+07	53721	832879.6	1232744	0.059549	2298.233	3401.6112	0.059549	0.6134248	0.5460304	222.30513	197.88141	1.49964039	0	0	832879.629	2298.23299
504		Process integration	Paper	1.9E+07	51949	642156.7	1874901	0.090569	1771.956	5173.5669	0.090569	0.8706316	0.6572069	315.51689	238.17177	1.05660828	0	0	642156.74	1771.9557
506		Closed hood	Paper	1.9E+07	51283	241364.2	2116265	0.102229	666.0159	5839.5828	0.102229	1.102871	0.7080357	399.68045	256.59215	0.83411074	0	0	0	0
100		Base Boiler	Printing	1036472	2860	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1036472	2860	0	0
102		Maintain boilers	Printing	1015742	2802.8	20729.43	20729.43	0.02	57.20042	57.20042	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	20729.4322	57.2004204
107		Load control	Printing	975113	2690.7	40629.69	61359.12	0.0592	112.1128	169.31324	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	40629.6872	112.112824
101		Improved process control	Printing	957853	2643.1	17259.49	78618.61	0.075852	47.62553	216.93877	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	17259.4911	47.6255273
110		Automatic steam trap monitoring	Printing	933907	2577	23946.33	102564.9	0.098956	66.07706	283.01583	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	23946.3251	66.0770563
108		Improved insulation	Printing	859194	2370.8	74712.53	172777.5	0.171039	206.1604	489.17624	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	74712.5343	206.160416
112		Condensate return	Printing	857476	2366.1	1718.388	178995.9	0.172697	4.74169	493.91793	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	1718.38829	4.7416958
106		Water treatment	Printing	848901	2342.4	8574.758	187570.6	0.18097	23.66103	517.57896	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	8574.75758	23.661031
105		Upgrade burner efficiency	Printing	844657	2330.7	4244.505	191815.1	0.185065	11.71221	529.29118	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	4244.505	11.7122103
111		Leak repair	Printing	840602	2319.5	4054.351	195869.5	0.188977	11.1875	540.47868	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	4054.35118	11.1875033
103		Flue gas heat recovery/economizer	Printing	832196	2296.3	8406.021	204275.5	0.197087	23.19542	563.6741	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	8406.02145	23.1954236
109		Steam trap maintenance	Printing	780184	2152.8	52012.26														

APPENDIX F

INDUSTRIAL

NON-ADDITIV MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011													SUPPLY				
Vintage	Batch	Measure	Building Type	Total Thermos	Total Thermos/D	Therms Savings	Total Energy Savings Thermos	Percent Thermos Savings	Therms/Day Savings	Total Capacity Savings Thermos/Day	Percent Thermos/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Thermos	Base Thermos/D	Economic Thermos	Economic Thermos/Day
505		Efficient drying	Printing	4687792	12935	327055.3	494565.8	0.095433	902.4704	1364.696	0.095433	0.3888158	0.3392289	140.90683	122.93654	2.36594462	0	0	327055.269	902.470394
100		Base Boiler	Chemicals	5E+07	137440	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5E+07	1E+05	0	0
102		Maintain boilers	Chemicals	4.9E+07	134691	996163.9	996163.9	0.02	2748.797	2748.7966	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	996163.878	2748.79659
107		Load control	Chemicals	4.7E+07	129303	1952481	2948645	0.0592	5387.641	8136.4379	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	1952481.2	5387.64132
101		Improved process control	Chemicals	4.6E+07	127015	829414	3778059	0.075852	2288.67	10425.108	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	829414.016	2288.67003
110		Automatic steam trap monitoring	Chemicals	4.5E+07	123839	1150753	4928812	0.098956	3175.368	13600.476	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	1150753.37	3175.36805
108		Improved insulation	Chemicals	4.1E+07	113932	3590351	8519163	0.171039	9907.148	23507.624	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	3590350.53	9907.14831
112		Condensate return	Chemicals	4.1E+07	113704	82578.06	8601741	0.172697	227.8644	23735.489	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	82578.0623	227.864412
106		Water treatment	Chemicals	4.1E+07	112567	412064.5	9013806	0.18097	1137.043	24872.532	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	412064.531	1137.04341
105		Upgrade burner efficiency	Chemicals	4.1E+07	112004	203971.9	9217778	0.185065	562.8365	25435.369	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	203971.943	562.83649
111		Leak repair	Chemicals	4E+07	111467	194834	9412612	0.188977	537.6214	25972.99	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	194834	537.621416
103		Flue gas heat recovery/economizer	Chemicals	4E+07	110352	403955.8	9816567	0.197087	1114.668	27087.658	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	403955.826	1114.6684
109		Steam trap maintenance	Chemicals	3.7E+07	103455	2499477	12316044	0.247269	6897.011	33984.669	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	2499476.68	6897.01074
104		Blowdown steam heat recovery	Chemicals	3.7E+07	102904	199833.2	12515877	0.251281	551.416	34536.085	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	199833.161	551.41601
200		Base HVAC	Chemicals	2937749	65719	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2937749	65719	0	0
204		Duct insulation	Chemicals	2928936	65522	8813.246	8813.246	0.003	197.156	197.15602	0.003	0.1985454	0.1985454	8.8753522	4.63328164	0	0	8813.24637	197.156018	
202		Full high efficiency (95%) condensing furnace/bc	Chemicals	2849854	63752	79081.26	87894.51	0.029919	1769.081	1966.237	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	79081.2597	1769.08095
206		EMS optimization	Chemicals	2845580	63657	4274.781	92169.29	0.031374	95.62865	2061.8656	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	4274.78143	95.6286533
205		EMS install	Chemicals	2802896	62702	42683.69	134853	0.045904	954.8521	3016.7177	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	42683.6925	954.852104
201		Improve ceiling insulation	Chemicals	2700590	60413	102305.7	237158.7	0.080728	2288.621	5305.3391	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	102305.697	2288.62135
203		Stack heat exchanger	Chemicals	2699240	60383	1350.295	2388509	0.081188	30.20667	5335.5457	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	1350.29506	30.2066667
300		Base CHP	Chemicals	5.7E+07	158074	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	5.7E+07	2E+05	0	0
400		Base Other	Chemicals	2.1E+07	56745	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2.1E+07	56745	0	0
500		Base Process Heat	Chemicals	5E+07	138914	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	5E+07	1E+05	0	0
508		Improved separation processes	Chemicals	4.9E+07	135441	1258558	1258558	0.025	3472.843	3472.8429	0.025	0.2804801	0.2804801	101.64598	101.64598	3.27979287	0	0	1258558.25	3472.84286
509		Thermal oxidizers	Chemicals	4.8E+07	131238	1523289	2781848	0.055259	4203.337	7676.1801	0.055259	0.305996	0.2944521	110.89294	106.70945	3.00630268	0	0	1523289.42	4203.33727
501		Process Controls & Management	Chemicals	4.7E+07	129095	776497.7	3558345	0.070683	2142.654	9818.8338	0.070683	0.3175002	0.2994817	115.06209	108.53215	2.8973728	0	0	776497.672	2142.65363
504		Process integration	Chemicals	4.6E+07	125772	1204340	4762686	0.094606	3323.235	13142.068	0.094606	0.9676428	0.4684396	350.67376	169.7625	0.9506778	0	0	0	0
100		Base Boiler	Petroleum	1.7E+07	46128	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1.7E+07	46128	0	0
102		Maintain boilers	Petroleum	1.6E+07	45205	334336.1	334336.1	0.02	922.5609	922.56088	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	334336.061	922.560879
107		Load control	Petroleum	1.6E+07	43397	655298.7	989634.7	0.0592	1808.219	2730.7802	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	655298.679	1808.21932
101		Improved process control	Petroleum	1.5E+07	42629	278370.9	1268006	0.075852	768.1316	3498.9118	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	278370.879	768.13157
110		Automatic steam trap monitoring	Petroleum	1.5E+07	41563	386219.9	1654226	0.098956	1065.728	4564.6401	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	386219.936	1065.72831
108		Improved insulation	Petroleum	1.4E+07	38238	1205006	2859232	0.171039	3325.072	7889.7124	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	1205006.2	3325.07232
112		Condensate return	Petroleum	1.4E+07	38162	27715.14	2886947	0.172697	76.47666	7966.1891	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	27715.1427	76.4766636
106		Water treatment	Petroleum	1.4E+07	37780	138298.6	3025245	0.18097	381.6186	8347.8076	0.18097	0.2706259	0.0977077	73.199513	35.409262	4.55437128	0	0	138298.562	381.618551
105		Upgrade burner efficiency	Petroleum	1.4E+07	37591	68457.79	3093703	0.185065	188.9012	8536.7088	0.185065	0.2019854	0.101734	98.074817	36.795932	3.39921875	0	0	68457.7883	188.901183
111		Leak repair	Petroleum	1.4E+07	37411	65390.88	3159094	0.188977	180.4384	8717.1472	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	65390.8794	180.43841
103		Flue gas heat recovery/economizer	Petroleum	1.3E+07	37037	135577.1	3294671	0.197087	374.109	9091.2562	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	135577.079	374.10897
109		Steam trap maintenance	Petroleum	1.3E+07	34722	838883.2	4133554	0.247269	2314.799	11406.055	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	838883.244	2314.79925
104		Blowdown steam heat recovery	Petroleum	1.3E+07	34537	67068.72	4200623	0.251281	185.0682	11591.124	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	67068.7155	185.068201
200		Base HVAC	Petroleum	1008773	22567	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1008773	22567	0	0
204		Duct insulation	Petroleum	1005746	22499	3026.318	3026.318	0.003	67.7	67.7	0.003	0.1985454	0.1985454	8.8753522	4.63328164	0	0	3026.31788	67.7000002	
202		Full high efficiency (95%) condensing furnace/bc	Petroleum	978591	21891	27155.15	30181.47	0.029919	607.4721	675.1721	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	27155.1503	607.472102
206		EMS optimization	Petroleum	977123	21859	1467.887	31649.35	0.031374	32.83724	708.00934	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	1467.88674	32.837242
205		EMS install	Petroleum	962466	21531	14656.85	46306.2	0.045904	327.8799	1035.8892	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	14656.8491	327.879861
201		Improve ceiling insulation	Petroleum	927336	20745	35130.02	81436.23	0.080728	785.8734	1821.7626	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	35130.0244	785.87348
203		Stack heat exchanger	Petroleum	926873	20735	463.6682	81899.9	0.081188	10.37245	1832.135	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	463.668199	10.3724521
300		Base CHP	Petroleum	2.2E+07	62034	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2.2E+07	62034	0	0
400		Base Other	Petroleum	8070181	22269	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	8070181	22269	0	0
500		Base Process Heat	Petroleum	7.1E+07	194851	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	7.1E+07	2E+05	0	0
510		Flare gas controls and recovery	Petroleum	6.9E+07	191604	1176901	1176901	0.016667	3247.52	3247.5203	0.016667	0.1929078	0.1929078	69.909774	69.909774	4.76868599	0	0	1176901.35	3247.5203
511		Fouling control	Petroleum	6.8E+07	186272	1932196	31090													

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										SUPPLY							
Vintage	Batch						Total Energy Savings	Percent Thermos Savings	Therms/Day Savings	Total Capacity Thermos/Day	Percent Thermos/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Thermos	Base Therms/D	Economic Thermos	Economic Thermos/Day
Measure Number	Measure	Building Type	Total Thermos	Total Therms/D	Therms Savings															
111	Leak repair	Rubber-Plastics	3890937	10737	18766.58	906630.8	0.188977	51.78415	2501.7405	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	18766.5768	51.7841527	
103	Flue gas heat recovery/economizer	Rubber-Plastics	3852028	10629	38909.37	945540.1	0.197087	107.3658	2609.1063	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	38909.3693	107.36581	
109	Steam trap maintenance	Rubber-Plastics	3611276	9964.9	240751.7	1186292	0.247269	664.3259	3273.4323	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	240751.722	664.325949	
104	Blowdown steam heat recovery	Rubber-Plastics	3592028	9911.8	19248.1	1205540	0.251281	53.11286	3326.5451	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	19248.1003	53.1128597	
200	Base HVAC	Rubber-Plastics	2056100	45996	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2056100	45996	0	0	
204	Duct insulation	Rubber-Plastics	2049932	45858	6168.301	6168.301	0.003	137.9875	137.98749	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	6168.30146	137.987491	
202	tall high efficiency (95%) condensing furnace/bc	Rubber-Plastics	1994584	44620	55348.17	61516.47	0.029919	1238.162	1376.1492	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	55348.169	1238.16175	
206	EMS optimization	Rubber-Plastics	1991592	44553	2991.876	64508.35	0.031374	66.92952	1443.0788	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	2991.87603	66.9295215	
205	EMS install	Rubber-Plastics	1961718	43884	29873.88	94382.23	0.045904	668.2913	2111.37	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	29873.8821	668.291272	
201	Improve ceiling insulation	Rubber-Plastics	1890116	42283	71602.72	165984.9	0.080728	1601.783	3713.1528	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	71602.7164	1601.7828	
203	Stack heat exchanger	Rubber-Plastics	1889170	42262	945.0578	166930	0.081188	21.14134	3734.2942	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	945.057771	21.1413387	
300	Base CHP	Rubber-Plastics	17134.2	47.28	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	17134.2	47.28	0	0	
400	Base Other	Rubber-Plastics	1096587	3025.9	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1096587	3026	0	0	
400	Base Process Heat	Rubber-Plastics	2655796	7328.4	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2655796	7328	0	0	
501	Process Controls & Management	Rubber-Plastics	2559222	7061.9	96574.41	96574.41	0.036364	266.4857	266.48569	0.036364	0.2424131	0.2424131	87.85051	87.85051	3.79483007	0	0	96574.4139	266.485691	
502	Heat Recovery	Rubber-Plastics	2345954	6473.4	213268.5	309842.9	0.116667	588.4892	854.97492	0.116667	0.3819657	0.3384688	138.42438	122.6611	2.40837456	0	0	213268.496	588.48923	
100	Base Boiler	Stone-Clay-Glass	2107662	5815.8	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	2107662	5816	0	0	
102	Maintain boilers	Stone-Clay-Glass	2065509	5699.5	42153.23	42153.23	0.02	116.3169	116.31687	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	42153.2346	116.316873	
107	Load control	Stone-Clay-Glass	1982888	5471.5	82620.34	124773.6	0.0592	227.9811	344.29794	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	82620.3398	227.981072	
101	Improved process control	Stone-Clay-Glass	1947791	5374.7	35097.12	159870.7	0.075852	96.84636	441.1443	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	35097.1204	96.8463593	
110	Automatic steam trap monitoring	Stone-Clay-Glass	1899096	5240.3	48694.78	208565.5	0.098956	134.3675	575.51179	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	48694.776	134.367484	
108	Improve insulation	Stone-Clay-Glass	1747169	4821.1	151927.7	360493.2	0.171039	419.2266	994.73834	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	151927.701	419.226551	
112	Condensate return	Stone-Clay-Glass	1743674	4811.5	3494.337	363987.5	0.172697	9.642211	1004.3805	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	3494.33714	9.6422107	
106	Water treatment	Stone-Clay-Glass	1726238	4763.3	17436.74	381424.3	0.18097	48.11463	1052.4952	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	17436.7423	48.1146314	
105	Upgrade burner efficiency	Stone-Clay-Glass	1717606	4739.5	8631.187	390055.4	0.185065	23.81674	1076.3119	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	8631.18745	23.8167425	
111	Leak repair	Stone-Clay-Glass	1709362	4716.8	8244.51	398299.9	0.188977	22.74975	1099.0617	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	8244.51025	22.7497525	
103	Flue gas heat recovery/economizer	Stone-Clay-Glass	1692268	4669.6	17093.62	415393.6	0.197087	47.16782	1146.2295	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	17093.6179	47.1678201	
109	Steam trap maintenance	Stone-Clay-Glass	1586501	4377.8	105766.8	521160.3	0.247269	291.8509	1438.0804	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	105766.761	291.850887	
104	Blowdown steam heat recovery	Stone-Clay-Glass	1578045	4354.4	8456.053	529616.4	0.251281	23.33348	1461.4139	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	8456.05255	23.3334785	
200	Base HVAC	Stone-Clay-Glass	1791513	4007.7	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1791513	4007.7	0	0	
204	Duct insulation	Stone-Clay-Glass	1786138	39957	5374.538	5374.538	0.003	120.2307	120.23066	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	5374.53757	120.23066	
202	tall high efficiency (95%) condensing furnace/bc	Stone-Clay-Glass	1737912	38878	48225.73	53600.26	0.029919	1078.83	1199.0604	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	48225.7256	1078.82971	
206	EMS optimization	Stone-Clay-Glass	1735305	38820	2606.868	56207.13	0.031374	58.31674	1257.3771	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	2606.86839	58.3167392	
205	EMS install	Stone-Clay-Glass	1709276	38237	26029.58	82236.71	0.045904	582.2926	1839.6697	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	26029.5809	582.292641	
201	Improve ceiling insulation	Stone-Clay-Glass	1646887	36842	62388.57	144625.3	0.080728	1395.658	3235.3282	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	62388.5671	1395.65841	
203	Stack heat exchanger	Stone-Clay-Glass	1646064	36823	823.4436	145448.7	0.081188	18.42078	3253.7489	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	823.443622	18.4207792	
300	Base CHP	Stone-Clay-Glass	105383	290.79	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	105383	290.8	0	0	
400	Base Other	Stone-Clay-Glass	6428368	17738	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6428368	17738	0	0	
500	Base Process Heat	Stone-Clay-Glass	3.7E+07	100905	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3.7E+07	1E+05	0	0	
501	Process Controls & Management	Stone-Clay-Glass	3.5E+07	96893	1453816	1453816	0.039757	4011.634	4011.6345	0.039757	0.1724526	0.1724526	62.496828	62.496828	5.33431488	0	0	1453816.32	4011.63447	
514	Batch cullet preheating	Stone-Clay-Glass	3.5E+07	95629	458010.2															

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										SUPPLY									
Vintage	Batch																					
Measure	Measure	Building Type	Total Thermos	Total Thermos/D	Therms Savings	Total Energy Savings Thermos	Percent Thermos Savings	Therms/Day Savings	Total Capacity Savings/Day	Percent Thermos/Day Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Thermos	Base Thermos/D	Economic Thermos	Economic Thermos/Day			
500	Base Process Heat	Prim Metals	6E+07	166833	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6E+07	2E+05	0	0			
515	Preventative maintenance	Prim Metals	6E+07	164421	874122.5	874122.5	0.014458	2412.038	2412.0378	0.014458	0.1209777	0.1209777	43.842305	43.842305	7.60401981	0	0	874122.502	2412.03782			
503	Efficient burners	Prim Metals	5.4E+07	149728	5324708	6198830	0.102528	14692.9	17104.94	0.102528	0.1786908	0.1705525	64.75756	61.808214	5.14809015	0	0	5324707.93	14692.9028			
501	Process Controls & Management	Prim Metals	5.2E+07	144605	1856599	8055429	0.133235	5123.065	22228.006	0.133235	0.2232698	0.1827027	80.912983	66.211442	4.12020107	0	0	1856598.78	5123.06509			
502	Heat Recovery	Prim Metals	5.2E+07	143706	325832.4	8381262	0.138625	899.096	23127.102	0.138625	2.2766235	0.2641065	825.04834	95.712209	0.40407058	0	0	0	0			
100	Base Boiler	Fab Metals	3379744	9326	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3379744	9326	0	0			
102	Maintain boilers	Fab Metals	3312149	9139.5	67594.87	67594.87	0.02	186.5201	186.52006	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	67594.871	186.520065			
107	Load control	Fab Metals	3179663	8773.9	132485.9	200080.8	0.0592	365.5793	552.09939	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	132485.947	365.579327			
101	Improved process control	Fab Metals	3123383	8618.6	56280.03	256360.8	0.075852	155.2981	707.39749	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	56280.0305	155.298098			
110	Automatic steam trap monitoring	Fab Metals	3045298	8403.1	78084.57	334445.4	0.098956	215.4651	922.86263	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	78084.5678	215.465144			
108	Improved insulation	Fab Metals	2801674	7730.9	243623.9	578069.3	0.171039	672.2513	1595.1139	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	243623.852	672.25125			
112	Condensate return	Fab Metals	2796071	7715.4	5603.349	583672.6	0.172697	15.46178	1610.5757	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	5603.3486	15.4617788			
106	Water treatment	Fab Metals	2768110	7638.3	27960.71	611633.3	0.18097	77.15428	1687.7299	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	27960.7095	77.1542762			
105	Upgrade burner efficiency	Fab Metals	2754270	7600.1	13840.55	625473.9	0.185065	38.19137	1725.9213	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	13840.5512	38.1913667			
111	Leak repair	Fab Metals	2741049	7563.6	13220.49	638694.4	0.188977	36.48039	1762.4017	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	13220.4945	36.4803935			
103	Flue gas heat recovery/economizer	Fab Metals	2713639	7488	27410.49	666104.9	0.197087	75.63602	1838.0377	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	27410.492	75.6360159			
109	Steam trap maintenance	Fab Metals	2544036	7020	169602.4	835707.3	0.247269	467.9978	2306.0356	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	169602.419	467.997848			
104	Blowdown steam heat recovery	Fab Metals	2530477	6982.6	13559.71	849267	0.251281	37.41643	2343.452	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	13559.7134	37.4164281			
200	Base HVAC	Fab Metals	3379744	75606	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3379744	75606	0	0			
204	Duct insulation	Fab Metals	3369604	75379	10139.23	10139.23	0.003	226.8188	226.81885	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	10139.231	226.818849			
202	High efficiency (95%) condensing furnace/bc	Fab Metals	3278625	73344	90979.32	101118.6	0.029919	2035.246	2262.0644	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	90979.3194	2035.24553			
206	EMS optimization	Fab Metals	3273707	73234	4917.938	106036.5	0.031374	110.0163	2372.0807	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	4917.93765	110.016328			
205	EMS install	Fab Metals	3224602	72136	49105.61	155142.1	0.045904	1098.513	3470.5937	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	49105.6075	1098.51303			
201	Improve ceiling insulation	Fab Metals	3106904	69503	117698	272840.1	0.080728	2632.953	6103.5464	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	117697.957	2632.95266			
203	Stack heat exchanger	Fab Metals	3105350	69468	1553.452	274393.5	0.081188	34.75137	6138.2978	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	1553.4518	34.7513683			
300	Base CHP	Fab Metals	198808	548.59	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	198808	548.6	0	0			
400	Base Other	Fab Metals	1391659	3840.1	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1391659	3840	0	0			
500	Base Process Heat	Fab Metals	1.5E+07	41144	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1.5E+07	41144	0	0			
503	Efficient burners	Fab Metals	1.4E+07	38401	994042.2	994042.2	0.066667	2742.942	2742.9421	0.066667	0.1798543	0.1798543	65.179207	65.179207	5.11478698	0	0	994042.218	2742.94212			
516	Combustion controls	Fab Metals	1.3E+07	36878	552063.1	1546105	0.103691	1523.353	4266.2951	0.103691	0.2538092	0.2062612	91.980443	74.749042	3.62444175	0	0	552063.118	1523.35298			
517	Optimize furnace operations	Fab Metals	1.3E+07	35713	422037.7	1968143	0.131996	1164.563	5430.8584	0.131996	0.264818	0.2188178	95.970053	79.299559	3.4737686	0	0	422037.727	1164.56327			
518	Insulation/reduce heat losses	Fab Metals	1.3E+07	35564	54209.38	2022352	0.135632	149.5844	5580.4428	0.135632	0.9809991	0.2392481	355.51405	86.703519	0.9377344	0	0	0	0			
100	Base Boiler	Ind Mach	1830104	5050	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	1830104	5050	0	0			
102	Maintain boilers	Ind Mach	1793502	4949	36602.08	36602.08	0.02	100.9991	100.99911	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	36602.0777	100.999111			
107	Load control	Ind Mach	1721762	4751	71740.07	108342.2	0.0592	197.9583	298.95737	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	71740.0723	197.958258			
101	Improved process control	Ind Mach	1691287	4666.9	30475.18	138817.3	0.075852	84.09267	383.05004	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	30475.1828	84.0926682			
110	Automatic steam trap monitoring	Ind Mach	1649004	4550.2	42282.16	181099.5	0.098956	116.6726	499.72268	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	42282.1639	116.672638			
108	Improved insulation	Ind Mach	1517084	4186.2	131920.4	313019.8	0.171039	364.0186	863.74131	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	131920.351	364.018632			
112	Condensate return	Ind Mach	1514050	4177.8	3034.168	316054	0.172697	8.372429	872.11374	0.172697	0.1706557	0.0927123	61.84562	33.598928	5.39048293	0	0	3034.16809	8.37242856			
106	Water treatment	Ind Mach	1498909	4136.1	15140.55	331194.5	0.18097	41.77842	913.89216	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	15140.4988	41.7784185			
105	Upgrade burner efficiency	Ind																				

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

ASSYST ADDITIVE SUPPLY ANALYSIS			Year 2011										SUPPLY									
Vintage	Batch						Total Energy Savings	Percent Savings	Therms/Day Savings	Total Capacity Savings	Percent Savings	Marginal Energy Cost	Average Energy Cost	Marginal Capacity Cost	Average Capacity Cost	Total Resource Cost Test	Base Therms	Base Therms/D	Economic Therms	Economic Therms/Day		
Measure Number	Measure	Building Type	Total Therms	Total Therms/D	Therms Savings	Total Energy Savings Therms	Percent Savings	Therms/Day Savings	Total Capacity Savings/Day	Percent Savings/Day	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost TRC	Base Therms	Base Therms/D	Economic Therms	Economic Therms/Day			
105	Upgrade burner efficiency	Electronics	647456	1786.6	3253.547	147032.3	0.185065	8.977778	405.71834	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	3253.54662	8.97777769			
111	Leak repair	Electronics	644348	1778	3107.788	150140.1	0.188977	8.575573	414.29391	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	3107.78773	8.57557325			
103	Flue gas heat recovery/economizer	Electronics	637905	1760.2	6443.48	156583.6	0.197087	17.78002	432.07393	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	6443.47989	17.7800219			
109	Steam trap maintenance	Electronics	598035	1650.2	39869.03	196452.6	0.247269	110.0139	542.08782	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	39869.0318	110.013885			
104	Blowdown steam heat recovery	Electronics	594848	1641.4	3187.529	199640.2	0.251281	8.79561	550.88343	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	3187.5291	8.79561016			
200	Base HVAC	Electronics	733374	16406	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	733374	16406	0	0			
204	Duct insulation	Electronics	731174	16357	2200.121	2200.121	0.003	49.21763	49.217628	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	2200.12095	49.2176284			
202	Full high efficiency (95%) condensing furnace/bc	Electronics	711432	15915	19741.69	21941.81	0.029919	441.6298	490.84741	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	19741.6853	441.629779			
206	EMS optimization	Electronics	710365	15891	1067.148	23008.95	0.031374	23.87254	514.71995	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	1067.14777	23.8725431			
205	EMS install	Electronics	699709	15653	10655.47	33664.42	0.045904	238.3673	753.08729	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	10655.4704	238.367343			
201	Improve ceiling insulation	Electronics	674170	15081	25539.39	59203.81	0.080728	571.3268	1324.4141	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	25539.3867	571.326792			
203	Stack heat exchanger	Electronics	673833	15074	337.0849	59540.9	0.081188	7.540731	1331.9548	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	337.084919	7.54073102			
300	Base CHP	Electronics	6111.45	16.864	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	6111.45	16.86	0	0			
400	Base Other	Electronics	268904	742.01	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	268904	742	0	0			
500	Base Process Heat	Electronics	763931	2108	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	763931	2108	0	0			
501	Process Controls & Management	Electronics	739238	2039.8	24692.71	24692.71	0.032323	68.13663	68.13663	0.032323	0.2424131	0.2424131	87.85051	87.85051	3.79483007	0	0	24692.7147	68.1366304			
502	Heat Recovery	Electronics	691027	1906.8	48211.18	72903.9	0.095433	133.0331	201.1697	0.095433	0.4860295	0.4035161	176.13708	146.23422	1.89271767	0	0	48211.1832	133.033067			
100	Base Boiler	Transp Equip	3631084	10020	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	3631084	10020	0	0			
102	Maintain boilers	Transp Equip	3558463	9819.2	72621.69	72621.69	0.02	200.391	200.39097	0.02	0.0099644	0.0099644	3.6111027	3.6111027	92.3202086	0	0	72621.686	200.390967			
107	Load control	Transp Equip	3416124	9426.4	142338.5	214960.2	0.0592	392.7663	593.15726	0.0592	0.0525675	0.0381746	19.050465	13.834464	17.4997179	0	0	142338.505	392.766296			
101	Improved process control	Transp Equip	3355659	9259.5	60465.4	275425.6	0.075852	166.8471	760.00439	0.075852	0.0656274	0.0442014	23.783353	16.018588	14.0172731	0	0	60465.3969	166.847123			
110	Automatic steam trap monitoring	Transp Equip	3271767	9028.1	83891.47	359317.1	0.098956	231.4886	991.49299	0.098956	0.1112385	0.0598529	40.312817	21.690677	8.26977075	0	0	83891.468	231.4886			
108	Improved insulation	Transp Equip	3010026	8305.8	261741.4	621058.4	0.171039	722.2444	1713.7374	0.171039	0.1360288	0.0919568	49.296833	33.325127	6.76266078	0	0	261741.38	722.244432			
112	Condensate return	Transp Equip	3004006	8289.2	6020.052	627078.5	0.172697	16.61162	1730.349	0.172697	0.1706557	0.0927123	61.84562	33.598828	5.39048293	0	0	6020.05177	16.611622			
106	Water treatment	Transp Equip	2973966	8206.3	30040.06	657118.5	0.18097	82.89199	1813.241	0.18097	0.2019854	0.0977077	73.199513	35.409262	4.55437128	0	0	30040.0583	82.8919936			
105	Upgrade burner efficiency	Transp Equip	2959096	8165.3	14869.83	671988.4	0.185065	41.03154	1854.2726	0.185065	0.2706259	0.101534	98.074817	36.795932	3.39921875	0	0	14869.8289	41.0315369			
111	Leak repair	Transp Equip	2944892	8126.1	14203.66	686192	0.188977	39.19332	1893.4659	0.188977	0.2751132	0.105127	99.701032	38.098021	3.34377438	0	0	14203.6605	39.193324			
103	Flue gas heat recovery/economizer	Transp Equip	2915443	8044.8	29448.92	715641	0.197087	81.26083	1974.7267	0.197087	0.3168862	0.113841	114.83956	41.255967	2.902987	0	0	29448.9229	81.2608252			
109	Steam trap maintenance	Transp Equip	2733228	7542	182215.2	897856.2	0.247269	502.8014	2477.5281	0.247269	0.3481512	0.161393	126.16998	58.488822	2.64229063	0	0	182215.21	502.801356			
104	Blowdown steam heat recovery	Transp Equip	2718660	7501.8	14568.11	912424.3	0.251281	40.19897	2517.727	0.251281	0.4613868	0.1661828	167.20658	60.22465	1.99380768	0	0	14568.1061	40.1989685			
200	Base HVAC	Transp Equip	8371667	187278	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	8371667	2E+05	0	0			
204	Duct insulation	Transp Equip	8346552	186716	25115	25115	0.003	561.8331	561.83309	0.003	0.1985454	0.1985454	8.8753522	8.8753522	4.63328164	0	0	25115.0005	561.833095			
202	Full high efficiency (95%) condensing furnace/bc	Transp Equip	8121195	181675	225356.9	250471.9	0.029919	5041.328	5603.1615	0.029919	0.2344233	0.2308258	10.479165	10.318349	3.9241683	0	0	225356.899	5041.32836			
206	EMS optimization	Transp Equip	8109013	181402	12181.79	262653.7	0.031374	272.5118	5875.6733	0.031374	0.2504193	0.2317345	11.194217	10.358972	3.67350454	0	0	12181.7924	272.511805			
205	EMS install	Transp Equip	7987378	178681	121635.2	384288.9	0.045904	2721.03	8596.7036	0.045904	0.3729846	0.276443	16.673115	12.357526	2.46636613	0	0	121635.197	2721.03037			
201	Improve ceiling insulation	Transp Equip	7695839	172159	291539.3	675828.2	0.080728	6521.856	15118.56	0.080728	0.4157503	0.3365375	18.584825	15.043863	2.21266583	0	0	291539.295	6521.8563			
203	Stack heat exchanger	Transp Equip	7691991	172073	3847.919	679676.1	0.081188	86.07957	15204.64	0.081188	0.4448013	0.3371504	19.883459	15.071262	2.06815151	0	0	3847.91932	86.0795691			
300	Base CHP	Transp Equip	403454	1113.3	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	403454	1113	0	0			
400	Base Other	Transp Equip	4639719	12803	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	4639719	12803	0	0			
500	Base Process Heat	Transp Equip	7363032	20317	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	7363032	20317	0	0			
501	Process Controls & Management	Transp Equip	6979915	19260	383117.1	383117.1	0.052033	1057.166	1057.1664	0												

APPENDIX F

INDUSTRIAL

NON-ADDITIVE MEASURE LEVEL RESULTS

DSM ASSYST ADDITIVE SUPPLY ANALYSIS			Year		2011												SUPPLY			
Vintage	Batch	Measure	Building Type	Total Thermos	Total Thermos/D	Therms Savings	Total Energy Savings Thermos	Percent Thermos Savings	Therms/Day Savings	Total Capacity Savings Thermos/Day	Percent Thermos Savings	Marginal Energy Cost \$/Therm	Average Energy Cost \$/Therm	Marginal Capacity Cost \$/Therm/Day	Average Capacity Cost \$/Therm/Day	Total Resource Cost Test TRC	Base Thermos	Base Thermos/D	Economic Thermos	Economic Thermos/Day
501		Process Controls & Management	Misc Ind	484062	1335.7	16169.09	16169.09	0.032323	44.61669	44.616687	0.032323	0.2424131	0.2424131	87.85051	87.85051	3.79483007	0	0	16169.0872	44.6166868
502		Heat Recovery	Misc Ind	455224	1256.1	28837.74	45006.83	0.089972	79.57434	124.19102	0.089972	0.4965953	0.4052782	179.96614	146.87281	1.85244709	0	0	28837.7391	79.5743357