Indirect Gas Costs	G/L	2006-07 Amount	Status
Gas Supply Planning	92000	$47,026	Updated
	9210K	$24,272	Updated
ETO- Energy Transaction Group	92000	$62,815	Updated
(Responsible for Daily nominating)	9210K	$1,002	Updated
Need KETS Backoffice	92000	$ 19,476.95	Updated
(Responosible for processing invoices)			
Needs Risk Management Costs	92000	$23,584	Updated
	9210K	$6,065	Updated
Total		$184,241	
	920000	$152,901	
	9210K	$31,339	
		$184,241	

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Cost of Capital

INCREMENTAL COST OF CAPITAL	K	Wt
Debt	7.02%	50.00%
Preferred	0.00%	0.00%
Common	11.50%	50.00%
Other	0.00%	0.00%

Tax Rate	40.52%
ITC RATE	0.00%
REVENUE TAX RATE	0.00%
Property Tax Rate-Peaking	2.95%
Property Tax Rate-Mains	3.08%
Property Tax Rate-Services	3.09%
Property Tax Rate-Meters	3.13%
Gross Receipts Tax Rate	0.00%
Inflation Rate	2.00%
Property Tax Escalation Rate	2.50%
Commodity Escalation Rate	1.90%

Notes
1. Inflation Rate is 2.5% and adjusted for technical Progress, .51%, to arrive at 2%
2. Property Tax Escalation Rate is equal to the inflation rate.
3. Commidty Escalation Rate is annual growth rate from EIA Forecast

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Handy-Whitman

Test Year to Rate Year Escalator	6.34%	30-Jun-08	31-Aug-11						
Handy Whitman Indices - Year	1989	1990	1991	1992	1993	1994	1995	1996	1997
Steel Mains - Jan 1	280	285	295	300	312	333	345	340	355
Steel Mains - Jul 1	283	290	301	309	312	335	349	351	360
Annual Average	282.8	290.0	299.3	307.5	317.3	337.0	345.8	349.3	359.5
Plastic Mains - Jan 1	277	283	294	296	307	313	319	325	333
Plastic Mains - Jul 1	280	289	299	302	310	315	322	330	337
Annual Average	280.0	288.8	297.0	301.8	310.0	315.5	322.0	329.5	337.0
L.P.G. Equip - Jan 1	242	246	252	260	270	276	284	289	297
L.P.G. Equip - Jul 1	244	250	258	266	274	279	288	293	300
Annual Average	244.0	249.5	257.0	265.5	273.5	279.5	287.3	293.0	300.0

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Handy-Whitman

Test Year to Rate Year Escalator

Handy Whitman Indices - Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Steel Mains - Jan 1	363	370	392	400	408	414	463	595	624	607	630	713
Steel Mains - Jul 1	366	373	396	405	411	414	482	590	635	611	729	683
Annual Average	366.3	377.0	396.0	404.5	411.0	426.3	505.5	599.8	625.3	614.8	700.3	
Plastic Mains - Jan 1	341	346	354	364	369	376	389	411	433	460	480	514
Plastic Mains - Jul 1	344	351	357	367	376	379	394	421	440	465	486	516
Annual Average	343.8	350.5	358.0	366.8	374.3	380.8	397.0	421.5	443.3	467.5	491.5	
L.P.G. Equip - Jan 1	303	307	315	327	342	347	365	415	430	449	471	499
L.P.G. Equip - Jul 1	305	311	324	335	347	345	393	423	433	452	487	512
Annual Average	305.0	311.0	322.5	334.8	345.8	350.5	391.5	422.8	436.3	456.0	486.0	

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Historical Plant Data

	1987	1988	1989	1990	1991	1992
PLANT BALANCES						
1307.6 DISTRIBUTION SYSTEM LAND	0	60,354	74,886	131,097	133,214	143,214
1308.6 DISTRIBUTION PLANT STRUCTURES	0	406,367	416,028	396,277	396,800	398,968
1356 MAINS	0	38,217,745	41,637,189	46,738,847	49,495,895	51,743,320
1358 PUMPING & REGULATING EQUIPMENT	0	1,343,721	1,431,999	1,756,702	1,903,720	2,049,926
1359 SERVICES	0	20,331,180	23,205,608	25,730,066	28,432,370	30,670,769
1360 CUSTOMER METERS AND INSTALLATIONS	0	6,797,527	7,323,585	7,749,986	8,110,232	8,449,438
1361 MISC. PROP ON CUST PREMISES	0	3,014,772	2,881,381	2,880,260	3,129,369	3,344,122
	-	70,171,666	76,970,676	85,383,235	91,601,600	96,799,757
Total General Plant	0	5,237,937	5,933,582	6,503,724	6,849,445	7,659,250
Total Plant in Svc	0	82,443,851	90,119,098	99,467,339	106,202,255	112,423,806
Materials and Supplies (w/o Jobbing)	0	0	5,171,473	5,759,164	6,009,797	9,804,208
Fuel Inventory (in M&S above)	0	0	3,443,323	4,124,553	4,166,243	8,118,686
Prepayments	0	0	1,901,113	1,176,084	1,135,297	1,196,252
Fuel Related Prepayments	0	0	0	3,990	0	21,226

MANUFACTURED GAS PRODUCTION OPERATION		1988	1989	1990	1991	1992
OTHER PROD EXPENSES	0	0	40,218	10,481	24,545	25,489
1701 SUPERINTENDENCE			240,088	269,017	293,892	305,875
1707 OTHER PRODUCTION LABOR			408,524	488,831	384,055	249,186
1710 PRODUCTION EXPENSE			490,626	538,232	520,430	428,478
1722 OTHER PROD EXPENSES						
TOTAL OPERATION EXPENSE	0	0	1,179,456	1,306,561	1,222,922	1,009,028
MAINTENANCE						
SUPERVISION	0	0	0	0	0	0
1724 MAINT OF STRUCTURES	0	0	66,774	77,415	51,889	81,273
1725 MAINT OF POWER EQUIP	0	0	0	0	0	0
1726 MAINT OF GENERATING EQUIP	0	0	114,885	122,257	161,884	162,294
1727 MAINT OF MISC EQUIP	0	0	182,912	246,058	183,795	214,609
TOTAL MAINTENANCE	0	0	364,571	445,730	397,568	458,176
TOTAL MANUF GAS PROD EXPENSE	0	0	1,544,027	1,752,291	1,620,490	1,467,204
PURCHASED GAS SUPPLY EXPENSES						
1738 (DEF) DEFFERED GAS COSTS	0	0	893,157	345,646	(381,652)	(415,632)
1738 (NG) NATURAL GAS	0	0	30,216,432	32,206,295	32,884,222	39,294,832
1718 (LNG) LIQUID NATURAL GAS	0	0	2,031,816	4,235,714	1,210,610	885,281
1735 Production Rents	0	0				
1738 (GR) BOTTLED PROPANE	0	0	0	0	0	0
1718 (LPG) PROPANE GAS	0	0	1,943,402	2,265,924	807,357	663,416
1738 COST OF GAS SEASONAL	0	0	433,953	0	0	0
1738 COST OF GAS INTERRUPTIBLE	0	0		362,115	470,232	186,792
1738.3 INTERRUPTIBLE MARGIN ADJ	0	0				
TOTAL GAS SUPPLY EXP	0	0	35,518,760	39,415,694	34,990,769	40,614,689
TOTAL PRODUCTION EXPENSE	0	0	37,062,787	41,167,985	36,611,259	42,081,893

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Historical Plant Data

		1	2	3	4	5	6	7	8
			30,360	30,360	30,360	30,360	30,360	0	0
			7,512,559	7,186,433	7,199,365	7,224,834	9,229,705	9,691,435	9,742,555
PLANT BALANCES			647,035	0	0	0	0	0	0
1307.6 DISTRIBUTION SYSTEM LAND	143,214	196,092	196,092	197,914	197,764	197,764	197,764	197,764	197,764
1308.6 DISTRIBUTION PLANT STRUCTURES	401,688	392,439	410,189	432,886	440,702	442,669	442,669	442,669	499,290
1356 MAINS	54,299,184	56,239,217	58,619,137	62,326,668	67,701,530	72,847,284	76,920,478	81,138,985	93,264,062
1358 PUMPING & REGULATING EQUIPMENT	2,120,307	2,247,842	2,320,533	2,442,355	2,532,985	2,557,081	787,819	1,036,877	1,229,615
1359 SERVICES	33,199,016	35,476,909	37,744,390	40,038,869	42,706,896	46,615,422	49,171,645	54,085,437	57,948,787
1360 CUSTOMER METERS AND INSTALLATIONS	8,888,476	9,460,609	9,896,847	10,452,367	12,187,535	13,992,536	15,891,964	17,525,730	18,133,054
1361 MISC. PROP ON CUST PREMISES	3,527,091	3,704,602	3,873,717	3,828,311	3,666,070	3,037,995	2,765,186	2,643,399	0
	102,578,976	107,717,710	113,060,905	119,719,370	129,433,482	139,690,751	146,177,525	157,070,861	171,272,572
Total General Plant	7,970,207	8,384,740	8,221,795	8,870,155	9,203,222	9,478,301	11,244,509	7,255,965	8,348,042
Total Plant in Svc	118,656,821	124,120,097	129,472,654	135,806,318	145,866,429	156,424,246	166,682,099	174,018,261	189,363,169
Materials and Supplies (w/o Jobbing)	10,148,000	9,443,673	9,397,268	10,278,497	10,579,101	10,889,994	10,988,064	8,252,716	9,726,073
Fuel Inventory (in M&S above)	8,523,369	7,903,225	7,899,072	8,825,292	8,929,160	9,478,909	9,482,607	7,193,792	8,926,722
Prepayments	1,286,591	1,062,916	1,155,521	1,097,855	1,087,594	940,831	967,468	635,892	623,862
Fuel Related Prepayments	0	0	0	0	0	0	0	0	-
MANUFACTURED GAS PRODUCTION									
OPERATION	1993	1994	1995	1996	1997	1998	1999	2000	2001
OTHER PROD EXPENSES	48,281	10,391	13,624	24,731	0	0	0	0	-
1701 SUPERINTENDENCE	357,354	416,438	425,430	463,377	498,217	444,834	401,016	23,505	21,123
1707 OTHER PRODUCTION LABOR	247,228	304,177	249,806	250,447	238,766	233,724	203,121	37,073	130,638
1710 PRODUCTION EXPENSE	442,403	477,072	409,488	430,617	448,350	422,306	438,644	8,020	6,869
1722 OTHER PROD EXPENSES								162,060	269,193
TOTAL OPERATION EXPENSE	1,095,266	1,208,078	1,098,348	1,169,172	1,185,333	1,100,864	1,042,781	230,658	427,823
MAINTENANCE									
SUPERVISION	0	0	-	-					
1724 MAINT OF STRUCTURES	64,576	49,111	69,529	82,861	77,461	91,832	123,514	118,959	-
1725 MAINT OF POWER EQUIP	0	0	-	-	-	-	-	-	-
1726 MAINT OF GENERATING EQUIP	162,720	183,792	219,398	206,918	254,100	288,392	101,868	122,813	147,662
1727 MAINT OF MISC EQUIP	243,897	273,557	259,884	263,130	267,165	279,293	323,129	207,008	-
TOTAL MAINTENANCE	471,193	506,460	548,811	552,909	598,726	659,517	548,511	448,780	147,662
TOTAL MANUF GAS PROD EXPENSE	1,566,459	1,714,538	1,647,159	1,722,081	1,784,059	1,760,381	1,591,292	679,438	575,485
PURCHASED GAS SUPPLY EXPENSES									
1738 (DEF) DEFFERED GAS COSTS	913,529	1,640,518	(3,731,275)	(11,144,425)	816,195	1,443,874	(3,976,020)	(98,429)	11,379,938
1738 (NG) NATURAL GAS	42,495,541	47,468,693	37,710,157	48,267,937	52,309,153	44,198,052	39,689,928	50,244,952	77,049,938
1718 (LNG) LIQUID NATURAL GAS	180,818	687,042	366,068	395,793	295,393	251,551	170,462	1,119,757	-
1735 Production Rents								4,506	33,125
1738 (GR) BOTTLED PROPANE	0	0	-	-	-	-	-	-	-
1718 (LPG) PROPANE GAS	741,990	934,281	616,229	618,235	688,308	630,982	604,428	341,437	536,592
1738 COST OF GAS SEASONAL	0	0	-	-	-	-	-	-	-
1738 COST OF GAS INTERRUPTIBLE			-	-	-	-	-	-	-
1738.3 INTERRUPTIBLE MARGIN ADJ	26,973	648,124	1,122,782	1,365,797	1,002,590	693,910	624,620	579,697	-
TOTAL GAS SUPPLY EXP	44,358,851	51,378,658	36,083,961	39,503,337	55,111,639	47,218,369	37,113,418	52,191,920	88,999,593
TOTAL PRODUCTION EXPENSE	45,925,310	53,093,196	37,731,120	41,225,418	56,895,698	48,978,750	38,704,710	52,871,358	89,575,078

National Grid - New Hampshire
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	9	10	11	12	13	14	15
	0	0	0	0	0	0	0
	9,835,700	10,186,375	10,242,660	10,542,144	10,583,090	0	0
PLANT BALANCES	0	0	0	0	0	0	0
1307.6 DISTRIBUTION SYSTEM LAND	197,764	197,764	197,764	197,764	197,764	197,764	197,764
1308.6 DISTRIBUTION PLANT STRUCTURES	521,380	521,380	544,331	544,331	544,322	624,182	624,182
1356 MAINS	99,340,539	116,503,764	122,919,791	125,879,287	136,231,864	144,768,223	154,426,368
1358 PUMPING & REGULATING EQUIPMENT	1,450,682	2,253,938	2,431,810	2,436,538	2,473,039	2,844,779	2,812,639
1359 SERVICES	61,018,971	66,715,050	72,292,215	73,756,127	80,850,399	87,209,710	91,485,682
1360 CUSTOMER METERS AND INSTALLATIONS	18,714,018	19,731,738	20,346,313	21,017,743	21,192,242	22,266,950	22,949,841
1361 MISC. PROP ON CUST PREMISES	0	0	0	0	0	0	0
	181,243,354	205,923,634	218,732,224	223,831,790	241,489,630	257,911,609	272,496,477
Total General Plant	11,173,887	11,582,178	10,499,392	10,220,042	11,333,343	23,056,261	26,435,071
Total Plant in Svc	202,252,941	227,692,187	239,474,276	242,115,491	263,405,595	280,967,870	298,931,548
Materials and Supplies (w/o Jobbing)	6,829,583	12,264,678	14,721,037	18,472,896	20,753,378	17,891,289	21,471,774
Fuel Inventory (in M&S above)	6,141,037	12,252,987	14,714,963	18,472,896	20,753,378	17,891,289	21,471,774
Prepayments	(349)	800	83,806	464,721	570,708	556,729	338,049
Fuel Related Prepayments	-	-	-	-	-	-	-
MANUFACTURED GAS PRODUCTION							
OPERATION	2002	2003	2004	2005	2006	2007	2008
OTHER PROD EXPENSES	-	-	-	-	-	-	-
1701 SUPERINTENDENCE	29,733	38,957	79,826	80,950	84,791	88,451	92,587
1707 OTHER PRODUCTION LABOR	383,367	391,192	365,385	480,704	387,421	396,485	399,022
1710 PRODUCTION EXPENSE	-	-	-	-	-	-	-
1722 OTHER PROD EXPENSES	143,857	23,479	32,133	27,638	20,795	16,527	22,358
TOTAL OPERATION EXPENSE	556,957	453,628	477,344	589,292	493,007	501,463	513,967
MAINTENANCE							
SUPERVISION							
1724 MAINT OF STRUCTURES	-	-	-	-	-	-	-
1725 MAINT OF POWER EQUIP	-	-	-		-	-	-
1726 MAINT OF GENERATING EQUIP	288,384	92,211	113,533	110,073	275,384	256,167	298,222
1727 MAINT OF MISC EQUIP	-	-	560	-	-	-	-
TOTAL MAINTENANCE	288,384	92,211	114,093	110,073	275,384	256,167	298,222
TOTAL MANUF GAS PROD EXPENSE	845,341	545,839	591,437	699,365	768,391	757,630	812,189
PURCHASED GAS SUPPLY EXPENSES							
1738 (DEF) DEFFERED GAS COSTS	661,137	3,321,896	12,624,340	8,631,433	16,758,108	12,737,926	9,165,300
1738 (NG) NATURAL GAS	54,211,725	85,095,193	89,384,920	112,999,967	103,354,419	126,276,531	120,753,357
1718 (LNG) LIQUID NATURAL GAS	-	-	-	-	631,388	1,639,857	486,441
1735 Production Rents	97,961	60,921	112,176	4,771	(6,180)	8,080	2,266
1738 (GR) BOTTLED PROPANE	-	-	-	-	-	-	-
1718 (LPG) PROPANE GAS	562,757	472,706	779,722	790,777	468,749	361,493	402,593
1738 COST OF GAS SEASONAL	-	-	-	-	-	-	-
1738 COST OF GAS INTERRUPTIBLE	-	-	-	-	-	-	-
1738.3 INTERRUPTIBLE MARGIN ADJ	-	-	-	-	-	-	-
TOTAL GAS SUPPLY EXP	55,533,580	88,950,716	102,901,158	122,426,948	121,206,484	141,023,887	130,809,957
TOTAL PRODUCTION EXPENSE	56,378,921	89,496,555	103,492,595	123,126,313	121,974,875	141,781,517	131,622,146

DISTRIBUTION EXPENSE						
OPERATIONS EXPENSE						
1756 -SUPERINTENDENCE	0	0	876,635	911,187	971,398	1,008,416
1761 -OPER OF DIST LINES	0	0	499,455	506,645	465,317	427,244
1762.1-METER OPERATING LABOR AND EXPENSE	0	0	560,876	526,850	531,909	516,860
1762.2-OTHER EXPENSE ON CUST PREM	0	0	1,521,593	1,575,073	1,593,768	1,646,356
TOTAL OPERATION EXP	0	0	3,458,559	3,519,755	3,562,392	3,598,876
MAINTENANCE						
1765- MAINTENANCE OF STRUCTURES	0	0	87,025	99,537	52,538	39,076
1768- MAINTENANCE OF DISTRIBUTION LINES	0	0	1,210,020	1,134,825	1,219,471	1,361,653
1771- MAINT OF SERVICES	0	0	299,570	282,422	308,611	337,191
1772- MAINTENANCE OF CUSTOMER'S METERS	0	0	154,861	154,842	166,660	205,783
TOTAL MAINTENANCE EXP	0	0	1,751,476	1,671,626	1,747,280	1,943,703
TOTAL TRANSMISSION EXP	0	0	5,210,035	5,191,381	5,309,672	5,542,579
CUSTOMER ACCOUNT						
1780 READING AND COLLECTING	0	0	841,816	878,837	903,695	972,046
1781 CUSTOMERS' BILLING AND ACCOUNTING	0	0	1,456,446	1,736,750	1,801,720	1,864,036
1783 UNCOLLECTIBLE ACCOUNTS	0	0	986,000	1,140,000	1,092,000	1,100,000
1784 CUST ACCTG & COLL RENTS	0	0	60,454	92,619	73,795	70,650
TOTAL CUSTOMER ACCTS EXP	0	0	3,344,716	3,848,206	3,871,210	4,006,732
MARKETING SERVICES EXPENSES						
1786-SALARIES AND COMMISSIONS	0	0	418,694	509,829	542,806	613,946
1787-DEMOS, ADVERT, & OTHER EXP	0	0	66,497	196,275	214,702	193,166
1788-SALES & NEW BUS. RENTS	0	0	20,485	27,802	28,339	26,823
Excludes Jobbing						
TOTAL MARKETING EXPENSE	0	0	505,676	733,906	785,847	833,935
ADMINISTRATIVE & GENERAL EXP						
1790 Data Processing	0	0	1,221,330	1,268,573	1,213,411	1,148,132
1791 General Office Salaries	0	0	1,591,407	1,507,337	1,697,784	1,710,938
1793 Office Supplies	0	0	278,118	315,340	323,298	318,817
1794 Super. Fees & Spec Servs	0	0	683,729	629,173	702,387	769,761
1797 Regulatory Exp	0	0	24,430	111,342	101,766	78,877
1798 Property Ins	0	0	923,310	927,329	919,552	944,964
1799 Injury & Damages	0	0	1,803	953	0	0
1800 Employee Welfare & Relief	0	0	203,570	188,696	253,807	136,711
1801 Misc Gen Exp	0	0	635,012	542,610	617,446	662,680
1802 Gen Plt Maint	0	0	56,489	58,952	69,539	85,434
1807 Duplicate Misc Charges	0	0	0	0	0	0
TOTAL OPERATION EXP	0	0	5,619,198	5,550,305	5,898,990	5,856,314
MAINTENANCE						
1803 Rents	0	0	360,011	331,631	336,945	326,547
TOTAL A & G EXPENSE	0	0	5,979,209	5,881,936	6,235,935	6,182,861
TOTAL O & M EXPENSE	0	0	52,102,423	56,823,414	52,813,923	58,648,000
ALLOCABLE O&M EXPENSES	0	0	10,604,454	11,525,784	11,587,219	11,850,450
Taxes other than Income	0	0	1,295,017	1,464,186	1,454,198	1,560,416

YEAR	1987	1988	1989	1990	1991	1992
SALES (FIRM)	8,054,604	8,831,629	9,436,059	8,367,151	8,769,013	9,901,392
SENDOUT (FIRM)	8,235,791	9,030,295	9,648,322	8,555,369	8,966,271	10,124,123
DEMAND (FIRM)	78,069	83,031	86,061	92,038	93,194	95,367
BILLED CUSTOMERS			58,809	60,216	60,958	61,725
DEM(Leading) 78,069	83,031	86,061	92,038	93,194	95,367	98,553

DISTRIBUTION EXPENSE										
OPERATIONS EXPENSE										
1756 -SUPERINTENDENCE		1,044,727	1,097,962	1,140,215	1,192,103	1,249,414	1,302,560	1,321,293	1,133,718	351,836
1761 -OPER OF DIST LINES		425,732	477,794	418,145	419,195	410,571	372,897	335,345	459,144	2,201,098
1762.1-METER OPERATING LABOR AND EXPENSE		472,644	455,773	367,338	312,919	350,967	377,846	520,572	564,951	794,765
1762.2-OTHER EXPENSE ON CUST PREM		1,660,222	1,867,950	1,836,058	1,625,448	1,559,297	1,608,343	1,486,528	1,241,404	730,015
TOTAL OPERATION EXP		3,603,325	3,899,479	3,761,756	3,549,665	3,570,249	3,661,646	3,663,738	3,399,217	4,077,714
MAINTENANCE										
1765- MAINTENANCE OF STRUCTURES		25,516	77,843	51,158	37,502	47,161	36,752	-	-	9,504
1768- MAINTENANCE OF DISTRIBUTION LINES		1,465,370	1,714,317	1,824,935	1,752,954	1,800,709	1,929,672	1,853,705	1,959,501	998,586
1771- MAINT OF SERVICES		343,124	319,008	531,891	487,791	491,614	523,597	483,637	315,671	601,828
1772- MAINTENANCE OF CUSTOMER'S METERS		235,959	239,352	164,524	121,875	141,279	124,235	107,248	91,997	106,371
TOTAL MAINTENANCE EXP		2,069,969	2,350,520	2,572,508	2,400,122	2,480,763	2,614,256	2,444,590	2,367,169	1,716,289
TOTAL TRANSMISSION EXP		5,673,294	6,249,999	6,334,264	5,949,787	6,051,012	6,275,902	6,108,328	5,766,386	5,794,003
CUSTOMER ACCOUNT										
1780	READING AND COLLECTING	980,779	1,001,654	975,317	992,143	807,366	712,776	723,430	683,342	383,485
1781	CUSTOMERS' BILLING AND ACCOUNTING	1,894,040	1,824,423	1,790,452	1,668,951	1,537,651	1,549,775	1,512,465	1,405,344	472,177
1783	UNCOLLECTIBLE ACCOUNTS	1,152,000	1,250,000	950,000	1,100,000	1,150,000	1,050,000	850,000	1,245,901	1,155,393
1784	CUST ACCTG & COLL RENTS	69,149	60,258	57,625	68,936	69,923	75,204	-	-	-
TOTAL CUSTOMER ACCTS EXP		4,095,968	4,136,335	3,773,394	3,830,030	3,564,940	3,387,755	3,085,895	3,334,587	2,011,055
MARKETING SERVICES EXPENSES										
1786-SALARIES AND COMMISSIONS		762,694	721,806	630,592	720,765	661,190	746,793	781,135	748,336	570,966
1787-DEMOS, ADVERT, & OTHER EXP		299,493	304,438	202,784	217,336	288,165	250,113	245,402	146,471	(108,178)
1788-SALES & NEW BUS. RENTS		26,481	23,052	21,090	27,598	25,924	42,927	57,465	59,194	-
Excludes Jobbing										
TOTAL MARKETING EXPENSE		1,088,668	1,049,296	854,466	965,699	975,279	1,039,833	1,084,002	954,001	462,788
ADMINISTRATIVE & GENERAL EXP										
1790	Data Processing	1,108,635	1,152,448	1,180,023	1,216,082	1,251,689	1,211,703	1,297,657	939,758	0
1791	General Office Salaries	1,721,760	1,781,241	1,791,207	1,876,303	1,745,863	1,729,686	2,014,845	2,016,463	153,735
1793	Office Supplies	349,060	347,560	332,022	353,660	324,191	330,734	348,348	476,545	128,028
1794	Super. Fees & Spec Servs	718,935	839,542	670,272	625,714	558,649	567,459	580,687	523,092	259,214
1797	Regulatory Exp	130,058	46,822	38,180	99,269	93,331	22,670	26,354	24,266	290,765
1798	Property Ins	910,245	936,439	807,797	899,988	896,372	875,967	878,375	1,017,636	709,988
1799	Injury & Damages	0	0	0	0	0	0	0	116,869	389,048
1800	Employee Welfare & Relief	145,458	87,700	131,950	126,335	123,090	131,238	124,465	668,196	1,665,715
1801	Misc Gen Exp	657,151	654,017	577,760	640,250	684,367	767,033	828,965	852,389	8,054,082
1802	Gen Plt Maint	85,756	91,728	88,022	91,404	94,033	67,825	264,594	298,187	0
1807	Duplicate Misc Charges	0	0	0	0	0	0	0	0	0
TOTAL OPERATION EXP		5,827,058	5,937,497	5,617,233	5,929,005	5,771,585	5,704,315	6,364,290	6,933,401	11,650,575
MAINTENANCE										
1803	Rents	319,938	267,824	266,573	315,189	338,457	344,628	454,772	868,951	0
TOTAL A & G EXPENSE		6,146,996	6,205,321	5,883,806	6,244,194	6,110,042	6,048,943	6,819,062	7,802,352	11,650,575
TOTAL O & M EXPENSE		62,930,236	70,734,147	54,577,050	58,215,128	73,596,971	65,731,183	55,801,997	70,728,684	109,493,499
ALLOCABLE O&M EXPENSES		12,424,389	13,150,168	12,609,283	12,467,597	12,375,290	12,463,871	11,869,517	10,734,412	8,843,331
Taxes other than Income		1,610,506	1,600,652	942,578	870,003	855,403	882,557	992,232	N/A	438,190
	YEAR	1993	1994	1995	1996	1997	1998	1999	2000	2001
SALES	(FIRM)	10,075,988	10,623,307	10,312,517	11,313,282	11,389,842	11,101,599	11,625,618	11,431,311	13,384,057
SENDOUT	(FIRM)	10,302,646	10,862,277	10,568,840	11,316,958	11,721,384	11,236,422	12,305,039	11,629,519	13,604,662
DEMAND	(FIRM)	98,553	99,413	101,948	104,548	112,431	112,710	116,731	**109,499**	**90,193**
BILLED	CUSTOMERS	62,566	64,044	65,385	66,464	67,928	69,588	71,291	73,106	74,959
DEM(Leading)	78,069	99,413	101,948	104,548	112,431	112,710	116,731	109,499	90,193	80,827

DISTRIBUTION EXPENSE								
OPERATIONS EXPENSE								
1756 -SUPERINTENDENCE		57,284	320,464	312,197	194,191	562,811	579,859	589,212
1761 -OPER OF DIST LINES		1,347,852	1,142,383	1,309,514	994,006	744,596	777,989	1,056,016
1762.1-METER OPERATING LABOR AND EXPENSE		617,813	578,786	762,729	1,054,884	1,009,092	1,180,415	1,314,235
1762.2-OTHER EXPENSE ON CUST PREM		509,277	326,395	137,913	28,052	108,592	98,155	81,652
TOTAL OPERATION EXP		2,532,226	2,368,028	2,522,353	2,271,133	2,425,091	2,636,418	3,041,115
MAINTENANCE								
1765- MAINTENANCE OF STRUCTURES		1,277	18,871	22,753	25,340	21,010	19,842	24,632
1768- MAINTENANCE OF DISTRIBUTION LINES		1,377,884	2,543,029	2,338,751	2,910,168	3,268,164	3,316,526	3,412,046
1771- MAINT OF SERVICES		658,851	672,980	599,662	942,821	978,716	1,117,239	1,223,678
1772- MAINTENANCE OF CUSTOMER'S METERS		110,542	217,685	234,867	147,822	150,171	152,318	175,277
TOTAL MAINTENANCE EXP		2,148,554	3,452,565	3,196,033	4,026,151	4,418,061	4,605,925	4,835,633
TOTAL TRANSMISSION EXP		4,680,780	5,820,593	5,718,386	6,297,284	6,843,152	7,242,343	7,876,748
CUSTOMER ACCOUNT								
1780	READING AND COLLECTING	372,899	359,496	332,677	287,552	220,540	243,534	118,894
1781	CUSTOMERS' BILLING AND ACCOUNTING	687,826	1,607,067	1,647,596	1,851,657	2,252,094	2,412,367	2,502,542
1783	UNCOLLECTIBLE ACCOUNTS	1,772,756	1,604,114	1,664,414	5,226,989	2,509,388	3,762,926	956,745
1784	CUST ACCTG & COLL RENTS	-	-	-	-	-	-	-
TOTAL CUSTOMER ACCTS EXP		2,833,481	3,570,677	3,644,687	7,366,198	4,982,022	6,418,827	3,578,181
MARKETING SERVICES EXPENSES								
1786-SALARIES AND COMMISSIONS		51,357	2,178	-	-	-	-	-
1787-DEMOS, ADVERT, & OTHER EXP		2,810	372,240	1,191,064	1,064,874	1,658,193	1,334,932	1,306,196
1788-SALES & NEW BUS. RENTS		-	-	-	-	-	-	-
Excludes Jobbing								
TOTAL MARKETING EXPENSE		54,167	374,418	1,191,064	1,064,874	1,658,193	1,334,932	1,306,196
ADMINISTRATIVE & GENERAL EXP								
1790	Data Processing	0	0	0	0	0	0	0
1791	General Office Salaries	2,832,950	2,785,081	3,138,934	2,858,060	3,704,184	3,780,121	3,217,166
1793	Office Supplies	2,987,475	2,054,161	1,446,136	1,317,507	1,285,586	1,258,535	1,907,292
1794	Super. Fees & Spec Servs	169,183	499,375	930,684	653,279	560,762	680,692	1,113,799
1797	Regulatory Exp	276,670	332,004	332,004	608,709	622,287	636,069	649,180
1798	Property Ins	850,716	75,865	69,442	77,906	74,278	69,827	80,621
1799	Injury & Damages	1,086	25,580	108,423	131,959	120,049	172,173	132,330
1800	Employee Welfare & Relief	1,792,716	1,734,487	2,722,240	2,414,329	2,324,499	1,874,415	2,757,364
1801	Misc Gen Exp	(38,334)	45,411	180,962	(160,685)	68,997	50,986	431,254
1802	Gen Plt Maint	0	0	0	0	0	0	0
1807	Duplicate Misc Charges	(3,089,473)	(3,080,922)	(3,039,944)	(3,111,361)	(2,809,807)	(2,229,039)	(2,213,394)
TOTAL OPERATION EXP		5,782,989	4,471,042	5,888,881	4,789,703	5,950,835	6,293,779	8,075,612
MAINTENANCE								
1803	Rents	0	5,893	0	0	0	0	4,722
TOTAL A & G EXPENSE		5,782,989	4,476,935	5,888,881	4,789,703	5,950,835	6,293,779	8,080,334
TOTAL O & M EXPENSE		69,730,338	103,739,178	119,935,613	142,644,372	141,409,077	163,071,398	152,463,605
ALLOCABLE O&M EXPENSES		8,413,769	10,311,527	11,145,574	15,427,721	14,251,758	15,753,732	13,573,314
Taxes other than Income		249,220	313,602	225,922	115,583	210,517	241,783	320,994
	YEAR	2002	2003	2004	2005	2006	2007	2008
SALES	(FIRM)	13,900,400	15,208,923	14,471,027	14,341,887	13,678,974	14,874,014	15,019,049
SENDOUT	(FIRM)	14,510,765	15,456,105	14,960,990	14,763,385	13,671,084	15,669,007	15,583,895
DEMAND	(FIRM)	**80,827**	**111,735**	**128,105**	**120,066**	**101,278**	**118,156**	**111,709**
BILLED	CUSTOMERS	77,003	77,630	77,630	83,873	84,066	84,396	87,440
DEM(Leading)	78,069	111,735	128,105	120,066	101,278	118,156	111,709	112,699

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Depreciation

	ACCT NO.	BALANCE @ 12/31/8	AVERAGE SERVICE LIFE	NET SALVAGE VALUE
PRODUCTION PLANT				
LAND & LAND RIGHTS		608,402	0.00	0.00
STRUCTURES AND IMPROVEMENTS		1,415,723	30.00	0.00
OTHER POWER EQUIPMENT		8,175,255	30.00	0.00
L.P. GAS EQUIPMENT		207,767	30.00	0.00
GAS MIXING EQUIPTMENT		0	30.00	0.00
OTHER EQUIPMENT		0	30.00	0.00
L.N.G. EQUIPMENT		849,407	30.00	0.00
TOTAL PRODUCTION PLANT		11,256,554	28	0%
DISTIBUTION PLANT				
DISTRIBUTION PLANT STRUCTURES	1308.6	624,182	30.00	0%
MAINS	1356	154,426,368	60.00	-15%
PUMPING & REGULATING EQUIPMENT	1358	2,812,639	30.00	0%
SERVICES	1359	91,485,682	40.00	-60%
CUSTOMER METERS AND INSTALLATIONS	1360	22,949,841	35.00	0%
MISC. PROP ON CUST PREMISES	1361	0	19.00	0%
TOTAL DISTRIBUTION PLANT		272,298,713	51	-29%

Source: From MAC

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Mains

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Mains Installed	162,102	107,669	76,265	54,246	77,355	62,907	56,777	58,431	83,333	181,201	88,330	183,473	153,120	306,240	-179,520	359,040	187,889	80,426	61,870	90,631	54,727
Mains Replaced (NOT USED)					31,513	29,533	22,311	24,772	15,734	25,223	34,672	38,158									
Cost of Mains Installed		2,102,827	1,724,250	1,341,529	1,489,922	1,018,848	975,268	667,884	1,138,184	4,396,282	1,792,794	2,415,815	3,440,754	8,588,507	5,787,927	6,335,289	2,804,933	1,761,281	1,531,679	2,092,072	1,779,635

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Historical Design Day Forecast

Forecast
Date
Mcf Units
Forecasted Design Day Load

Date of Forecast	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1989	92,038	94,799	97,643	100,572	103,589	106,697	109,898	113,195	116,591	120,089	123,692	127,403	
1990		93,194	95,896	98,680	101,547	104,500	107,542	110,675	113,901	117,225	120,648	124,267	
1991			95,502	98,274	101,128	103,850	106,873	109,985	113,191	116,494	119,895	123,399	
1992				98,553	101,510	104,555	108,346	111,596	114,944	118,392	121,944	125,603	
1993					99,413	102,395	105,467	108,631	111,890	115,247	118,704	122,265	125,933
1994						101,984	105,007	108,156	111,401	114,743	118,185	121,731	125,383
1995							104,548	107,684	110,915	114,242	117,669	121,199	124,835
1996								109,582	112,869	116,255	119,743	123,335	127,035
1997									115,584	119,052	122,624	126,303	130,092
1998										116,731	120,233	123,840	127,555
1999										121,234	124,871	128,617	132,476
2000												120,288	124,000
2001													117,482
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													

Yr Forecasted	Prior Yr Estimate of Current Yr DD	Current Yr Est of Curent Yr DD
1989	92,038	92,038
1990	94,799	93,194
1991	95,896	95,502
1992	98,274	98,553
1993	101,510	99,413
1994	102,395	101,984
1995	105,007	104,548
1996	107,684	109,582
1997	112,869	115,584
1998	119,052	116,731
1999	120,233	124,871
2000	128,617	120,288
2001	124,000	117,482
2002	122,483	114,304
2003	116,027	126,036
2004	128,044	131,800
2005	136,000	135,185
2006	138,746	138,600
2007	142,000	142,700
2008	146,900	145,130
2009	146,824	143,888

National Grid - New Ha
Marginal Cost Study 20
Work Paper - Historical

Date of Forecast	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000	127,000	130,000	134,000	137,666	141,433	145,303	149,278	153,363	157,559	161,870	166,299	170,849	175,524	
2001	122,483	127,296	132,294	137,402	142,889	148,595	154,529	160,700	167,118	173,791	180,732	187,949	195,455	203,260
2002	114,304	116,027	118,035	120,663	123,300	125,658	128,061	130,510	133,006	135,550	138,142	140,784	143,477	146,221
2003		126,036	128,044	130,672	133,100	135,500	137,975	140,496	143,062	145,675	148,336	151,046	153,805	156,615
2004			131,800	136,000	139,700	143,000	146,000	149,784	153,666	157,649	161,735	165,927	170,227	174,639
2005				135,185	138,746	142,110	145,560	149,206	152,933	156,753	160,668	164,681	168,795	173,011
2006					138,600	142,000	144,800	147,700	151,000	154,270	157,611	161,024	164,511	168,073
2007						142,700	146,900	150,900	154,800	158,400	162,588	166,887	171,300	175,829
2008							145,130	146,824	149,872	152,596	155,438	158,128	160,865	163,649
2009								143,888	143,764	145,141	146,865	148,322	149,453	150,593

Yr Forecasted
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National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Sendout Data

System Sendout Data

Description			1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MONTHLY SENDOUT													
Monthly Sendout	1	January	13,998,300	15,634,790	14,499,000	13,698,350	16,259,130	16,460,270	16,435,600	21,504,520	15,985,290	18,895,980	18,570,500
	2	February	11,610,270	12,835,330	13,800,010	12,825,270	12,502,910	14,810,600	17,074,350	17,356,270	16,498,910	17,056,680	14,612,990
	3	March	9,716,640	10,754,260	11,898,090	10,907,820	11,101,230	13,358,460	13,647,170	13,405,610	12,407,040	14,840,780	15,411,640
	4	April	6,418,360	7,083,640	7,735,980	7,131,770	6,431,300	8,353,880	7,638,840	7,379,900	8,943,610	9,008,820	9,634,220
	5	May	3,871,200	3,818,080	3,881,830	4,493,350	3,460,030	4,405,940	3,857,560	4,977,380	4,872,330	5,360,100	6,235,710
	6	June	2,396,370	2,673,750	2,453,440	2,606,890	2,622,730	2,849,680	2,991,760	2,869,480	2,898,950	3,192,070	3,559,200
	7	July	2,124,180	2,146,530	2,271,680	2,321,900	2,389,340	2,591,010	2,508,730	2,514,830	2,530,420	2,982,940	3,080,170
	8	August	2,319,360	2,249,450	2,374,660	2,350,120	2,398,460	2,590,750	2,583,920	2,696,030	2,659,080	2,999,010	3,199,970
	9	September	2,787,780	2,820,930	3,020,510	2,900,710	3,244,920	3,238,290	3,463,640	3,308,750	3,552,210	3,676,290	3,982,730
	10	October	5,703,430	6,829,780	5,595,960	4,950,960	5,459,870	6,874,460	6,993,230	5,973,570	5,511,140	7,397,790	8,123,100
	11	November	9,115,660	8,731,520	9,793,850	8,827,020	9,257,540	10,559,450	10,583,000	9,350,160	12,104,030	12,872,610	13,263,680
	12	December	12,296,360	14,724,890	19,158,210	12,539,530	14,535,250	15,148,440	15,248,660	17,286,270	17,725,390	14,886,510	17,539,930
Total		Total Sendout	82,357,910	90,302,950	96,483,220	85,553,690	89,662,710	101,241,230	103,026,460	108,622,770	105,688,400	113,169,580	117,213,840
		Less											
Company Use		Used By Company	0	0	0	0	0	0	0	0	225,440	239,640	244,540
Unaccounted For		Unaccounted For	1,811,874	1,986,665	2,122,631	1,882,181	1,972,580	2,227,307	2,266,582	2,389,701	2,337,790	(202,880)	3,070,880
Total Sales		Total Sold	80,546,036	88,316,285	94,360,589	83,671,509	87,690,130	99,013,923	100,759,878	106,233,069	103,125,170	113,132,820	113,898,420
Monthly Firm Transportation													
Monthly FT Sendout	1	January	0	0	0	0	0	0	0	0	378,390	536,200	661,010
	2	February	0	0	0	0	0	0	0	0	397,310	494,610	595,530
	3	March	0	0	0	0	0	0	0	0	414,660	516,220	657,600
	4	April	0	0	0	0	0	0	0	0	329,380	446,560	550,840
	5	May	0	0	0	0	0	0	0	0	276,700	374,760	546,210
	6	June	0	0	0	0	0	0	0	0	221,640	299,900	453,230
	7	July	0	0	0	0	0	0	0	0	183,380	281,870	471,330
	8	August	0	0	0	0	0	0	0	0	210,900	305,730	584,060
	9	September	0	0	0	0	0	0	0	0	227,010	313,010	609,350
	10	October	0	0	0	0	0	0	0	81,760	291,340	389,870	862,950
	11	November	0	0	0	0	0	0	0	247,830	402,030	482,950	1,087,570
	12	December	0	0	0	0	0	0	0	319,610	502,670	561,000	1,386,230
Total Transportation		Total Sendout	0	0	0	0	0	0	0	649,200	3,835,410	5,002,680	8,465,910

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Sendout Data

Description			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MONTHLY SENDOUT													
Monthly Sendout	1	January	18,068,510	21,750,280	21,849,690	22,672,910	19,465,280	27,773,280	30,187,810	26,654,880	20,439,160	23,712,980	24,204,220
	2	February	14,773,610	16,603,230	16,448,298	19,602,100	18,032,050	23,233,690	21,353,870	20,490,330	20,696,900	24,285,170	22,439,680
	3	March	14,164,510	15,698,250	13,374,514	18,112,400	16,840,130	18,463,080	17,287,480	19,452,160	17,640,720	19,376,440	20,541,240
	4	April	8,444,710	8,963,110	9,900,549	10,594,540	11,343,210	13,150,410	10,946,790	9,711,650	9,548,300	13,361,380	11,443,770
	5	May	5,139,890	5,338,790	6,120,817	5,888,790	8,672,850	7,291,720	6,144,020	8,364,040	7,625,310	7,059,170	7,543,200
	6	June	4,127,190	4,024,450	4,707,261	4,519,060	5,746,990	5,194,100	4,941,220	4,918,830	5,532,080	5,086,520	5,194,460
	7	July	3,713,610	3,634,780	2,132,875	4,648,490	4,785,060	4,643,440	4,581,740	4,636,360	4,886,690	4,827,590	4,817,040
	8	August	3,778,120	4,153,770	3,158,712	4,819,150	5,057,680	4,469,230	4,473,430	4,391,880	5,237,150	4,919,300	4,996,890
	9	September	4,155,340	4,423,330	4,178,935	5,519,510	5,307,700	4,893,920	4,781,650	4,315,930	5,491,750	5,270,750	5,498,710
	10	October	7,573,460	9,168,260	8,548,838	9,689,480	11,414,660	9,966,540	9,153,970	8,682,080	9,670,810	7,687,890	10,293,110
	11	November	12,245,430	11,512,890	9,918,093	12,600,570	16,160,540	13,999,510	14,114,410	13,827,770	11,967,740	16,510,750	16,063,240
	12	December	16,179,840	17,779,250	15,956,610	17,379,620	22,281,500	21,482,130	21,643,510	22,187,940	17,974,230	24,592,130	22,803,390
Total		Total Sendout	112,364,220	123,050,390	116,295,192	136,046,620	145,107,650	154,561,050	149,609,900	147,633,850	136,710,840	156,690,070	155,838,950
		Less											
Company Use		Used By Company	219,800	192,360	304,990	252,292	258,358	264,749	387,577	387,577	196,576	233,900	1,060,973
Unaccounted For		Unaccounted For	1,128,430	6,601,850	1,677,091	1,953,758	5,845,290	2,207,071	4,512,053	3,827,405	(275,472)	7,716,028	4,587,491
Total Sales		Total Sold	111,015,990	116,256,180	114,313,111	133,840,570	139,004,002	152,089,230	144,710,270	143,418,868	136,789,736	148,740,142	150,190,486
Monthly Firm Transportation													
Monthly FT Sendout	1	January	1,470,000	2,265,870	2,278,130	2,108,280	2,224,841	2,716,509	2,576,187	2,709,359	3,376,032	2,954,477	4,482,708
	2	February	1,317,160	1,974,100	1,923,697	1,618,379	4,144,049	3,161,431	4,334,688	2,553,981	2,640,767	3,743,141	4,580,113
	3	March	1,397,670	2,101,740	1,830,229	2,113,900	610,221	2,520,142	1,707,739	2,891,674	2,787,699	3,498,742	4,852,422
	4	April	1,182,870	1,683,000	1,475,246	1,524,835	2,207,535	2,278,737	2,423,030	2,355,276	2,242,533	2,997,330	3,928,922
	5	May	1,134,170	1,483,960	1,310,804	974,989	2,258,231	1,944,538	2,040,294	1,911,881	2,162,792	2,590,234	5,480,518
	6	June	1,083,470	1,445,720	1,208,460	1,073,487	1,983,853	1,824,095	1,620,209	1,753,102	2,363,500	2,250,680	587,128
	7	July	1,103,830	1,292,820	1,070,474	873,996	1,576,260	1,439,555	1,583,014	1,713,572	2,083,231	2,187,115	2,481,942
	8	August	1,181,190	1,408,310	1,258,325	1,008,188	1,170,862	1,446,043	1,722,133	1,892,721	2,277,538	2,208,582	2,278,431
	9	September	1,205,290	1,396,380	1,313,738	1,119,678	2,078,531	1,613,004	1,603,547	1,843,353	2,093,328	2,186,660	2,735,741
	10	October	1,437,140	1,775,540	1,524,422	1,558,370	1,606,417	1,674,384	1,609,714	1,323,760	2,514,907	2,344,670	3,139,515
	11	November	1,623,070	1,922,750	1,675,615	1,124,977	2,369,463	2,145,834	2,061,422	2,196,538	2,762,833	3,416,136	3,823,550
	12	December	1,842,590	2,159,840	2,133,671	2,383,489	2,392,503	2,192,922	2,293,046	2,053,299	2,541,051	4,048,990	4,628,748
Total Transportation		Total Sendout	15,978,450	20,910,030	19,002,811	17,482,568	24,622,766	24,957,194	25,575,023	25,198,516	29,846,211	34,426,757	42,999,738

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Class Design Day

Customers	4,482	69,455	7,530	1,308	1,484	309	40	35	5	15	84,664
Design Day DT[1]	707	61,972	21,418	2,556	33,108	3,987	6,530	4,420	2,833	2,590	140,121
Winter Dt	69,478	4,590,686	1,571,761	245,402	2,479,962	415,529	570,256	525,441	341,145	438,296	11,247,956
Summer dt	35,212	1,043,279	250,306	129,073	553,818	251,958	186,276	365,877	380,617	432,818	3,629,233
Total Annual Dt	104,690	5,633,965	1,822,067	374,475	3,033,779	667,486	756,532	891,318	721,762	871,115	14,877,189
Winter Avg Daily Sales	384	25,363	8,684	1,356	13,701	2,296	3,151	2,903	1,885	2,422	
Design Day	707	61,972	21,418	2,556	33,108	3,987	6,530	4,420	2,833	2,590	**140,121**
Load Factor	54%	41%	41%	53%	41%	58%	48%	66%	67%	93%	
% of annual sales in winter	66%	81%	86%	66%	82%	62%	75%	59%	47%	50%	
Days in winter	181										

Note:
1. Source: Rate Case 2008 Weather Adjustment 30 yr DD Final rev 11-24.xls
2. Winter and Summer Dt are using WN calendar month sales in dry therms (Divided by 10 to get Dt)

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Class Data

	R-1	R-3&R-4		G-41	G-51	G-42		G-43	G-53	G-54	G-63	
	--------- Residential ---------			--------- Small C&I ---------		-------- Medium C&I --------		---------- Large C&I ----------				
	ResNonHt	ResHtResHtLowInc	Incl. in R3 &4 ResHtLowInc	SmLoS	SmHiS	MdLoS	MdHiS	LgLoS	LgLF<90	LgLF<110	LgLF>110	Total Company
CUSTOMERS (Sales&Transp.)	4,482	69,455	5,558	7,530	1,308	1,484	309	40	35	5	15	84,664
WINTER SALES (DTherms) (S&T)	694,780	45,906,857	3,909,726	15,717,608	2,454,019	24,799,619	4,155,286	5,702,562	5,254,414	3,411,445	4,382,964	112,479,555
SUMMER SALES	352,122	10,432,792	770,255	2,503,058	1,290,733	5,538,175	2,519,576	1,862,758	3,658,766	3,806,172	4,328,182	36,292,334
DESIGN DAY LOAD -DTherms (S&T)	707	61,972	0	21,418	2,556	33,108	3,987	6,530	4,420	2,833	2,590	140,121
NUMBER OF SERVICES (year end 2008)												
NUMBER OF METERS (active and inactive @ year end 2008)												
METER COST	199	199	-	298	298	1,143	1,143	2,405	2,405	10,840	10,840	
SERVICE COST	2,414	2,414	-	2,982	2,982	7,080	7,080	8,064	8,064	15,606	15,606	
Total Annual Bills Sales & Transportation	53,789	833,461	66,691	90,357	15,695	17,805	3,711	481	423	64	182	1,015,969
Total Annual Bills Transportation	-	-	-	-	-	-	-	-	-	-	-	0

CALENDAR MONTH DATA (Weather Normalized DekaTherms) - Sales Only

Sales + Transportation												
Total Winter	694,780	45,906,857	3,909,726	15,717,608	2,454,019	24,799,619	4,155,286	5,702,562	5,254,414	3,411,445	4,382,964	112,479,555
Total Summer	352,122	10,432,792	770,255	2,503,058	1,290,733	5,538,175	2,519,576	1,862,758	3,658,766	3,806,172	4,328,182	36,292,334
	1,046,902	56,339,649	4,679,981	18,220,666	3,744,752	30,337,794	6,674,862	7,565,321	8,913,180	7,217,618	8,711,146	148,771,890
Design Day Load S&T - DekaTherms {1}	707	61,972		21,418	2,556	33,108	3,987	6,530	4,420	2,833	2,590	140,121

Note:
1. Source: Rate Case 2009 Weather Adjustment 30 yr DD Final.xls

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Customers

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Residential - General		6,557	6,234	6,013	6,009	6,053	5,913	5,853	5,866	5,936	5,899									
Residential - Heating	52,722	47,011	47,886	48,666	49,343	50,510	51,745	52,738	53,970	55,267	56,719									
Commercial - General		806	772	785	777	770	758	747	735	746	713									
Commercial - Heating	5,731	5,112	5,305	5,486	5,650	5,914	6,155	6,293	6,989	7,252	7,547									
Industrial Customers	147	334	326	317	303	296	290	291	300	302	308									
Large Volume					6	9	5	5	5	3	1									
Natural Gas Vehicle						1	1													
Public Authorities	180	367	407	437	453	461	472	486												
Seasonal	17	18	18	10	10	10	8	7	6	5	4									
Transportation							18	24	38	61	85									
Interruptible	12	11	9	7	2	3	3	3	3	2	3									
280 Day Service				3	13	16	16	16	15	13	11									
Emergency Sales						1	1	1	1	1	1									
Special Contract			1	1																
Total Customers	58,809	60,216	60,958	61,725	62,566	64,044	65,385	66,464	67,928	69,588	71,291	73,106	74,959	77,003	77,630	77,630	83,873	84,066	84,396	84,689

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Pressure Support

Line No.	Plant Name	Location	Type	Rating, mscfh	Heat Rate	Hours per Day	Design Day Dt
1	**Capacity of Down Stream Assets**			{1}			
2							
3	38 Bridge St	Nashua	LP-Air	367	1,250	24	11,000
5	130 Elm St	Mancheste	LP-Air	720	1,250	24	21,600
6	130 Elm St	Mancheste	LNG	333	1,050	24	8,400
7	Broken Bridge	Concord	LNG	190	1,050	24	4,800
8	Tilton Plant	Tilton	LP-Air	67	1,250	24	2,000
9	Tilton Plant	Tilton	LNG	381	1,050	24	9,600
10	Total			2,058	1,162		57,400
11							
12	**Production Requirements in lieu of Distribution investments**						
13	**Output Required for Pressure Support - 2007**			{2}			
14							
15	Tilton Plant	Tilton	LNG	271	1050	24	6,829
16		Total		271			6,829
17							
18	Production Allocated to Pressure Support Function					(17)/(10)	**11.9%**
19							
20	Production Allocated to Gas Supply Function					1-(19)	**88.1%**

Notes:

1 Data from Production Operations.

2 Data from Stoner model distribution simulations

National Grid - New Hampshire

Marginal Cost Study 2008

Work Paper - Reinforcements

Line	Description	Year		Total	
1	Reinforcements			Dollars ($)	
2	Year 0	2009	2010	$ 515,000	
3	Year 1	2010	2011	$ 415,000	
4	Year 2	2011	2012	$ 27,000	
5	Year 3	2012	2013	$ 150,000	
6	Year 4	2013	2014	$ 223,150	
7	Year 5	2014	2015	$ 325,000	
8	Year 6-10	2015	2017	$ 1,800,000	
13	Total			$ 3,455,150	Computed
14					Design
15					Day Load
16	System Flow - Design Day Peak Hour			Dth/Hr	
17	Year 0	2009	2010	7,832	156,640
18	Year 1	2010	2011	7,819	156,370
19	Year 2	2011	2012	7,880	157,602
20	Year 3	2012	2013	7,959	159,172
21	Year 4	2013	2014	8,024	160,484
22	Year 5	2014	2015	8,089	161,789
23	Year 6-10	2018	2018	8,416	168,326
28	Total Incremental			584	11,686
29					
30	Typical Ratio for Design Hour				
31	to Design Day Load		20		
32					
33	Design Day Load Increase			11,686	
34	Incremental Cost Over Period			**$ 296**	

Note

1. Year 0 reinforcement costs not included in reinforcement total to ensure accurate incremental cost over period calculation

2. System Flow - Design Day Peak Hour includes both Utility and Non-utility flow rates. Non-utility flow rates of 623 Dth/Hr are used.

3. Tilton Highline (84,000 ft of 12-Inch Steel) costs of $23.142 Million have been removed from analysis along with 193 Dth/hr of incremental growth over the 10 year period (i.e., 19.3 dth/hr per year) in the Tilton area.

4. Northern NH Area: A total of $9.07 Million has been removed from the analysis associated with piping between Tilton and Gilford in the Northern NH Area as follows: 2008- 3,475Ft for $1.01M, 2009-3,725 ft for $1.08M, 2013-17- Approx. 23,100 ft and uprating for $6.977M.

National Grid - New Hampshire
Marginal Cost Study 2008
Work Paper - Uncollectibles

	Gross Writeoffs	Allocator	Acct 90400	Remove Gas Cost Relate Bad Debt Credi Acct 90400	Total Annual Revenues	B/D % Revenues	Actual Base Revenue	Actual CGA Reven ue	Total Revenue	WN Base Revenue	WN CGA Reven ue	Total Revenue
Res Gen	116,643	1.9%	72,605	113,035	$1,982,210	5.7%	710,455	1,176,110	1,886,565	682,456	1,176,110	1,858,566
Res Ht.	5,287,468	87.6%	3,291,216	5,123,911	$88,585,221	5.8%	24,598,331	65,520,645	90,118,976	23,401,525	64,281,082	87,682,607
G41	355,009	5.9%	220,978	344,028	$25,970,102	1.3%	7,593,054	18,574,327	26,167,381	7,156,849	18,112,186	25,269,035
G42	186,869	3.1%	116,317	181,088	$36,290,680	0.5%	8,712,927	22,952,358	31,665,285	7,969,837	22,322,581	30,292,418
G43	-	0.0%	-	-	$4,072,019	0.0%	1,369,732	1,986,367	3,356,099	1,259,160	1,896,872	3,156,032
G51	87,510	1.4%	54,471	84,803	$5,195,053	1.6%	1,226,961	3,705,611	4,932,571	1,081,619	3,662,242	4,743,861
G52	5,539	0.1%	3,448	5,368	$7,068,558	0.1%	1,241,811	5,328,521	6,570,332	1,102,432	5,261,714	6,364,146
G53		0.0%	-	-	$2,174,374	0.0%	984,646	726,599	1,711,245	937,553	654,899	1,592,452
G54		0.0%	-	-	$25,129	0.0%	479,411	0	479,411	215,136	0	215,136
G63					$1,129,676	0.0%	313,750	12,128	325,879	311,724	12,128	323,852
Total	6,039,038	100.000%	3,759,035	5,852,233	171,363,346	3.4%	47,231,079	119,982,666	167,213,744	44,118,290	117,379,814	161,498,104
	6,039,038		$3,759,035	5,852,233								

Notes
1. Column G from file, EN 2006-07 Revenue Adjustment Final.xls

National Grid NH

2009 Design Day Estimate

		Econometric Specification (Based on Wet Sales)							
		Intercept	HDD Coefficient	Base Use/Day	Htg Use	Estimated Design Day Wet Sales @ Meter	Estimated Design Day Dry Sales @ Gate	Adjusted Dry Total @ Gate	Adjusted Dry Sales @ Meter
1	R1	4,860	6.65	160	485	645	669	721	707
2	R3	42,497	686.76	1,397	50,133	51,530	53,444		
3	R4	746	68.79	25	5,022	5,046	5,234	63,205	61,972
4	G41	2,337	266.80	77	19,476	19,553	20,279	21,844	21,418
5	G42	25,376	402.62	834	29,391	30,225	31,348	33,766	33,108
6	G43	22,223	71.65	731	5,230	5,961	6,182	6,659	6,530
7	G51	17,537	24.07	577	1,757	2,334	2,420	2,607	2,556
8	G52	36,703	33.33	1,207	2,433	3,640	3,775	4,066	3,987
9	G53	57,463	29.40	1,889	2,146	4,036	4,185	4,508	4,420
10	G54	Extrapolate from Peak					2,705	2,914	2,857
11	G63	Month's Avg Use/Day {1}					3,258	3,510	3,441
12									
13	Sum						133,500		
14									
15	System Forecasted Total						143,800	143,800	140,996
16	Difference						10,300		2,804
17	%						7.2%		1.95%

{1} High load factor class regessions were not significant

Days/Month =	**30.42**	
Design Day HDD =	**73**	
Loss Factor =	**1.95%**	
Wet/Dry Factor =	**98.30%**	
Design Day Load =	**143,800**	(Dry)

National Grid NH
Rate Design Filing
Report of Proposed Rate Changes

Line No.	Puc 1604.02 (a)(2)	RESIDENTIAL			C & I High Winter Use			C & I Low Winter Use					*Combined*
		Non-Heat	Heat	Low Income (After Discount)	Small High Winter Use	Med High Winter Use	Large High Winter Use	Small Low Winter Use	Med Low Winter Use	Large Load Factor <90%	Large Load Factor <110%	Large Load Factor >110%	*Large Load Factor >90%*
1	a. Rate Class Designation	RNSH	RSH	RLIAP	SH	MH	LH	SL	ML	LLL90	LLL110	LLG110	*LLG90*
2		R-1	R-3	R-4	G-41	G-42	G-43	G-51	G-52	G-53	G-54	G-63	*G-63*
3	b. Effect of Proposed Change												
4	Increase (Decrease)	$ 245,421	$ 6,984,833	$ 273,826	$ 1,094,581	$ 1,675,357	$ 408,667	$ 59,194	$ 243,240	$ 212,798	$ 117,742	$ 158,155	*$ 275,651*
5													
6													
7	c. Average Number of Customers	4,482	63,898	5,558	7,530	1,308	1,484	309	40	35	5	15	*21*
8													
9													
10	d. Estimated Annual Revenue												
11	Present Rates	1,595,318	69,880,931	5,130,016	23,752,943	35,275,661	7,890,943	4,252,700	6,685,182	8,298,298	5,908,699	7,265,224	*13,173,923*
12	Proposed Rates	1,840,739	76,865,764	5,403,843	24,847,524	36,951,018	8,299,611	4,311,894	6,928,422	8,511,097	6,026,442	7,423,379	*13,449,574*
13													
14	e. Proposed Rates, $/bill												
15	Present Rates	$ 29.66	$ 91.14	$ 76.92	$ 262.88	$ 2,247.52	$ 443.18	$ 1,146.05	$ 13,909.11	$ 19,599.19	$ 92,035.67	$ 39,962.73	*$ 53,552.51*
16	Proposed Rates	$ 34.22	$ 100.25	$ 81.03	$ 274.99	$ 2,354.26	$ 466.13	$ 1,162.01	$ 14,415.19	$ 20,101.78	$ 93,869.66	$ 40,832.67	*$ 54,673.04*
17	Increase (Decrease)	$ 4.56	$ 9.11	$ 4.11	$ 12.11	$ 106.74	$ 22.95	$ 15.95	$ 506.08	$ 502.59	$ 1,833.99	$ 869.94	*$ 1,120.53*
18	Percentage Increase (Decrease)	15.38%	10.00%	5.34%	4.61%	4.75%	5.18%	1.39%	3.64%	2.56%	1.99%	2.18%	*2.09%*

NOTES:

Data above imputes gas supply costs for transportation customers equal to CGC rates for both present and proposed rates.
Analysis above reflects the impact on CGC and LDAC rates for conversion from wet to dry therm billing

National Grid NH
Rate Design Filing
Booked to Billed Calculation

Line No.	Description	Non-Heat	Heat	Low Income	Small High Winter Use	Med High Winter Use	Large High Winter Use	Small Low Winter Use	Med Low Winter Use	Large Load Factor <90%	Large Load Factor <110%	Large Load Factor >110%	Total or G-54&G-63
	Rate Designation	**RNSH**	**RSH**	**RLIAP**	**SH**	**MH**	**LH**	**SL**	**ML**	**LLL90**	**LLL110**	**LLG110**	
		R-1	R-3	R-4	G-41	G-42	G-43	G-51	G-52	G-53	G-54	G-63	
1	**Rates in Effect- DRY Basis**												Wtd Avg Rate
2	Winter Head Block Size	10	100	100	100	1,000	0	100	1,000	0	0	0	0
3	Summer Head Block Size	10	20	20	20	400	0	100	1,000	0	0	0	0
4	Current Customer Charge	$ 9.77	$ 14.03	$ 5.61	$ 35.08	$ 100.24	$ 421.01	$ 35.08	$ 100.24	$ 431.03	$ 431.03	$ 431.03	$ 431.03
5	Current Winter Head Block Rate	$ 0.15070	$ 0.24670	$ 0.09870	$ 0.29740	$ 0.26420	$ 0.15910	$ 0.19280	$ 0.15050	$ 0.10870	$ 0.03550	$ 0.03550	$ 0.03550
6	Current WinterTail Block Rate	$ 0.15070	$ 0.18590	$ 0.07440	$ 0.19340	$ 0.17450	$ 0.15910	$ 0.12450	$ 0.10210	$ 0.10870	$ 0.03550	$ 0.03550	$ 0.03550
7	Current Summer Head Block Rate	$ 0.15070	$ 0.24670	$ 0.09870	$ 0.29740	$ 0.26420	$ 0.07280	$ 0.19280	$ 0.11060	$ 0.05200	$ 0.01920	$ 0.01920	$ 0.01920
8	Current SummerTail Block Rate	$ 0.15070	$ 0.18590	$ 0.07440	$ 0.19340	$ 0.17450	$ 0.07280	$ 0.12450	$ 0.06370	$ 0.05200	$ 0.01920	$ 0.01920	$ 0.01920
9													
10													
11	**Total Sales and Transportation**												
12	**Test Year Normal (After Weather Normalization)**												
13	Winter Bills	26,322	380,396	34,456	45,202	8,837	244	7,714	1,838	207	35	89	505,339
14	Summer Bills	27,468	386,374	32,235	45,156	8,968	236	7,981	1,872	216	30	93	510,629
15	Winter Sales, Therms -Dry	694,780	41,997,131	3,909,726	15,717,608	24,799,619	5,702,562	2,454,019	4,155,286	5,254,414	3,411,445	4,382,964	112,479,555
16	Summer Sales, Therms -Dry	352,122	9,662,537	770,255	2,503,058	5,538,175	1,862,758	1,290,733	2,519,576	3,658,766	3,806,172	4,328,182	36,292,334
17	Total Annual Sales -Dry	1,046,902	51,659,668	4,679,981	18,220,666	30,337,794	7,565,321	3,744,752	6,674,862	8,913,180	7,217,618	8,711,146	148,771,890
18	Winter Head Block Therms -Dry	237,862	28,839,430	2,833,378	3,655,916	8,278,113	-	575,467	1,710,731	-	-	-	46,130,897
19	Summer Head Block Therms -Dry	199,301	5,680,605	391,675	428,523	2,139,951	-	413,938	1,449,512	-	-	-	10,703,506
20													
21													
22	**Billed Revenue**												
23	Winter Bills	257,162	5,336,954	193,296	1,585,671	885,864	102,853	270,611	184,291	89,223	14,885	38,319	8,959,129
24	Summer Bills	268,360	5,420,830	180,840	1,584,055	898,939	99,499	279,983	187,673	93,275	12,787	40,043	9,066,283
25	Subtotal Customer Charge Revenue	525,522	10,757,784	374,136	3,169,726	1,784,803	202,351	550,593	371,964	182,498	27,672	78,361	18,025,412
26	Winter Head Block Revenue	35,846	7,114,687	279,654	1,087,269	2,187,077	-	110,950	257,465	-	-	-	11,072,949
27	Tail Block Winter Therm Revenue	68,858	2,446,017	80,080	2,332,731	2,883,003	907,278	233,880	249,589	571,155	121,106	155,595	10,049,291
28	Subtotal Winter Therm Revenue	104,703	9,560,704	359,735	3,420,001	5,070,080	907,278	344,830	507,054	571,155	121,106	155,595	21,122,241
29	Summer Head Block Revenue	30,035	1,401,405	38,658	127,443	565,375	-	79,807	160,316	-	-	-	2,403,040
30	Tail Block Summer Therm Revenue	23,030	740,241	28,166	401,215	592,990	135,609	109,161	68,163	190,256	73,079	83,101	2,445,011
31	Subtotal Summer Therm Revenues	53,065	2,141,646	66,825	528,658	1,158,365	135,609	188,968	228,479	190,256	73,079	83,101	4,848,050
32	Total Annual Revenues	683,291	22,460,134	800,695	7,118,384	8,013,249	1,245,238	1,084,392	1,107,497	943,909	221,857	317,058	43,995,703
33													
34	**Booked Revenue**												
35	Normalized Booked Customer Charge Revenue	525,522	10,757,784	374,136	3,169,726	1,784,803	202,351	550,593	371,964	182,498	27,672	78,361	18,025,412
36	Normailzed Winter Booked Net Revenue, Total	360,801	14,998,860	542,567	5,031,066	5,867,709	976,312	613,104	671,931	604,671	126,062	158,441	29,951,525
37	Normailzed Summer Booked Net Revenue, Total	321,655	7,583,294	276,804	2,125,783	2,102,127	282,848	468,515	430,500	332,882	89,074	153,283	14,166,766
38	Total Booked Base Revenue	682,456	22,582,154	819,371	7,156,849	7,969,837	1,259,160	1,081,619	1,102,432	937,553	215,136	311,724	44,118,290
39													
40	**Booked to Billed Ratios**										{2}		
41	Customer Booked to Billed Ratio	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
42	Winter Booked to Billed Ratio	99.7%	100.7%	98.1%	100.5%	98.5%	96.7%	99.6%	97.2%	91.6%	92.7%	81.7%	99.6%
43	Summer Booked to Billed Ratio	100.1%	100.3%	111.8%	100.6%	102.2%	120.3%	99.9%	103.4%	117.4%	103.7%	124.5%	101.8%
44	Total Booked to Billed Ratio	99.9%	100.5%	102.3%	100.5%	99.5%	101.1%	99.7%	99.5%	99.3%	97.0%	98.3%	100.3%
													{1}

NOTES:
1 Since the booked to billed ratio is virtually identical to unity, no booked to billed adjustment will be necessary.
2 In the test period a billing adjustment was made impacting the revenues by season.

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National Grid NH
Rate Design Filing
Booked to Billed Calculation - Before Weather Normalization

Line No.	Description	Domestic General	Domestic Heat	Low Income Discount Domestic Heat	Small C&I – High Winter Use	Medium C&I – High Winter Use	Large C&I – High Winter Use	Small C&I – Low Winter Use	Medium C&I – Low Winter Use	Large C&I – LF < 90%	Large C&I – LF < 110%	Large C&I – LF >110%	Total
	Rate Designation	**R-1**	**R-3**	**R-4**	**G-41**	**G-42**	**G-43**	**G-51**	**G-52**	**G-53**	**G-54**	**G-63**	
1	**Rates in Effect**												
2	Winter Head Block Size	10	100	100	100	1,000	0	100	1,000	0	0	0	
3	Summer Head Block Size	10	20	20	20	400	0	100	1,000	0	0	0	
4	Current Customer Charge	$ 9.77	$ 14.03	$ 5.61	$ 35.08	$ 100.24	$ 421.01	$ 35.08	$ 100.24	$ 431.03	$ 431.03	$ 431.03	
5	Current Winter Head Block Rate	$ 0.15070	$ 0.24670	$ 0.09870	$ 0.29740	$ 0.26420	$ 0.15910	$ 0.19280	$ 0.15050	$ 0.10870	$ 0.03550	$ 0.03550	
6	Current WinterTail Block Rate	$ 0.15070	$ 0.18590	$ 0.07440	$ 0.19340	$ 0.17450	$ 0.15910	$ 0.12450	$ 0.10210	$ 0.10870	$ 0.03550	$ 0.03550	
7	Current Summer Head Block Rate	$ 0.15070	$ 0.24670	$ 0.09870	$ 0.29740	$ 0.26420	$ 0.07280	$ 0.19280	$ 0.11060	$ 0.05200	$ 0.01920	$ 0.01920	
8	Current SummerTail Block Rate	$ 0.15070	$ 0.18590	$ 0.07440	$ 0.19340	$ 0.17450	$ 0.07280	$ 0.12450	$ 0.06370	$ 0.05200	$ 0.01920	$ 0.01920	
9													
10	**Total Sales and Transportation**												
11	**Test Year Actual (Before Weather Normalization)**												
12	Winter Bills	26,322	380,396	34,456	45,202	8,837	244	7,714	1,838	207	35	89	505,339
13	Summer Bills	27,468	386,374	32,235	45,156	8,968	236	7,981	1,872	216	30	93	510,629
14	Winter Sales, Therms	689,355	43,601,505	3,866,351	16,319,212	25,522,078	5,748,559	2,465,024	4,149,826	5,220,022	3,480,138	4,185,691	115,247,761
15	Summer Sales, Therms	359,262	9,403,459	1,008,860	2,518,634	5,604,159	1,951,731	1,324,761	2,593,706	3,750,922	3,645,793	4,453,791	36,615,078
16	Total Annual Sales	**1,048,617**	**53,004,964**	**4,875,211**	**18,837,846**	**7,700,291**	**6,743,532**	**31,126,237**	**3,789,785**	**8,970,944**	**7,125,931**	**8,639,482**	**151,862,839**
17	Winter Head Block Therms	236,004	29,941,153	2,801,945	3,795,849	8,519,270	-	578,048	1,708,483	-	-	-	47,580,752
18	Summer Head Block Therms	203,342	5,528,294	513,005	431,190	2,165,447	-	424,851	1,492,159	-	-	-	10,758,288
19													
20													
21	**Billed Revenue**												
22	Winter Bills	257,162	5,336,954	193,296	1,585,671	885,864	102,853	270,611	184,291	89,223	14,885	38,319	8,959,129
23	Summer Bills	268,360	5,420,830	180,840	1,584,055	898,939	99,499	279,983	187,673	93,275	12,787	40,043	9,066,283
24	Subtotal Customer Charge Revenue	525,522	10,757,784	374,136	3,169,726	1,784,803	202,351	550,593	371,964	182,498	27,672	78,361	18,025,412
25	Winter Head Block Revenue	35,566	7,386,483	276,552	1,128,885	2,250,791	-	111,448	257,127	-	-	-	11,446,851
26	Tail Block Winter Therm Revenue	68,320	2,539,459	79,192	2,422,018	2,966,990	914,596	234,928	249,261	567,416	123,545	148,592	10,314,318
27	Subtotal Winter Therm Revenue	103,886	9,925,942	355,744	3,550,904	5,217,781	914,596	346,376	506,388	567,416	123,545	148,592	21,761,170
28	Summer Head Block Revenue	30,644	1,363,830	50,634	128,236	572,111	-	81,911	165,033	-	-	-	2,392,398
29	Tail Block Summer Therm Revenue	23,497	720,393	36,892	403,712	600,055	142,086	112,039	70,169	195,048	69,999	85,513	2,459,402
30	Subtotal Summer Therm Revenues	54,141	2,084,223	87,525	531,948	1,172,166	142,086	193,950	235,201	195,048	69,999	85,513	4,851,801
31	Total Annual Revenues	683,549	22,767,949	817,405	7,252,577	8,174,751	1,259,033	1,090,920	1,113,553	944,962	221,216	312,466	44,638,382
32													
33	**Booked Revenue**												
34	Actual Booked Customer Charge Revenue	525,522	10,757,784	374,136	3,169,726	1,784,803	202,351	550,593	371,964	182,498	27,672	78,361	18,025,412
35	Actual Winter Booked Net Revenue, Total	360,801	15,159,219	545,953	5,102,176	5,952,849	986,928	616,904	676,579	608,884	126,062	157,648	30,294,004
36	Actual Summer Booked Net Revenue, Total	321,655	7,601,653	276,431	2,130,516	2,109,702	283,350	469,239	431,200	333,788	89,112	153,840	14,200,487
37	Total Booked Base Revenue	682,456	22,760,872	822,384	7,232,692	8,062,551	1,270,278	1,086,144	1,107,779	942,672	215,174	311,488	44,494,491
38													
39	**Booked to Billed Ratios**												
40	Customer Booked to Billed Ratio	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
41	Winter Booked to Billed Ratio	99.9%	99.3%	99.4%	99.3%	97.5%	97.0%	100.0%	98.0%	92.7%	91.1%	84.3%	98.6%
42	Summer Booked to Billed Ratio	99.7%	101.3%	103.0%	100.7%	101.9%	117.3%	99.0%	102.0%	115.8%	107.6%	122.5%	102.0%
43	Total Booked to Billed Ratio	99.8%	100.0%	100.6%	99.7%	98.6%	100.9%	99.6%	99.5%	99.8%	97.3%	99.7%	99.7%
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National Grid NH
Rate Design
Tabulation billing determinants used in the rate design spreadsheet.

		Domestic General	Domestic Heat	Low Income Discount Domestic Heat	Small C&I – High Winter Use	Medium C&I – High Winter Use	Large C&I – High Winter Use	Small C&I – Low Winter Use	Medium C&I – Low Winter Use	Large C&I – LF < 90%	Large C&I – LF < 110%	Large C&I – LF >110%	Total
	Designation	**R-1**	**R-3**	**R-4**	**G-41**	**G-42**	**G-43**	**G-51**	**G-52**	**G-53**	**G-54**	**G-63**	
	Total Sales and Transportation												
1	**Test Year Actual (Before Weather Normalization)**		766,770	66,691	90,357	17,805							
2	Winter Bills	26,322	380,396	34,456	45,202	8,837	244	7,714	1,838	207	35	89	505,339
3	Summer Bills	27,468	386,374	32,235	45,156	8,968	236	7,981	1,872	216	30	93	510,629
4	Winter Sales, Therms (Dry)	689,355	43,601,505	3,866,351	16,319,212	25,522,078	5,748,559	2,465,024	4,149,826	5,220,022	3,480,138	4,185,691	115,247,761
5	Summer Sales, Therms (Dry)	359,262	9,403,459	1,008,860	2,518,634	5,604,159	1,951,731	1,324,761	2,593,706	3,750,922	3,645,793	4,453,791	36,615,078
6	Total Annual Sales (Dry)	**1,048,617**	**53,004,964**	**4,875,211**	**18,837,846**	**7,700,291**	**6,743,532**	**31,126,237**	**3,789,785**	**8,970,944**	**7,125,931**	**8,639,482**	151,862,839
7	Winter Head Block Therms (Dry)	236,004	29,941,153	2,801,945	3,795,849	8,519,270	5,748,559	578,048	1,708,483	5,220,022	3,480,138	4,185,691	66,215,163
8	Summer Head Block Therms (Dry)	203,342	5,528,294	513,005	431,190	2,165,447	1,951,731	424,851	1,492,159	3,750,922	3,645,793	4,453,791	24,560,525
9	**Rates Dry Therms**												
10	Winter Head Block Size	10	100	100	100	1,000		100	1,000				
11	Summer Head Block Size	10	20	20	20	400		100	1,000				
12	Current Customer Charge	$9.77	$14.03	$5.61	$35.08	$100.24	$421.01	$35.08	$100.24	$431.03	$431.03	$431.03	
13	Current Winter Head Block Rate	$0.15070	$0.24670	$0.09870	$0.29740	$0.26420	$0.15910	$0.19280	$0.15050	$0.10870	$0.03550	$0.03550	
14	Current WinterTail Block Rate	$0.15070	$0.18590	$0.07440	$0.19340	$0.17450	$0.15910	$0.12450	$0.10210	$0.10870	$0.03550	$0.03550	
15	Current Summer Head Block Rate	$0.15070	$0.24670	$0.09870	$0.29740	$0.26420	$0.07280	$0.19280	$0.11060	$0.05200	$0.01920	$0.01920	
16	Current SummerTail Block Rate	$0.15070	$0.18590	$0.07440	$0.19340	$0.17450	$0.07280	$0.12450	$0.06370	$0.05200	$0.01920	$0.01920	
17	**Test Year Filed (After Weather Normalization)**												
18	Winter Bills	26,322	380,396	34,456	45,202	8,837	244	7,714	1,838	207	35	89	505,339
19	Summer Bills	27,468	386,374	32,235	45,156	8,968	236	7,981	1,872	216	30	93	510,629
20	Winter Sales, Therms (Cal Mo-Dry)	694,780	41,997,131	3,909,726	15,717,608	24,799,619	5,702,562	2,454,019	4,155,286	5,254,414	3,411,445	4,382,964	112,479,555
21	Summer Sales, Therms (Cal Mo Dry)	352,122	9,662,537	770,255	2,503,058	5,538,175	1,862,758	1,290,733	2,519,576	3,658,766	3,806,172	4,328,182	36,292,334
22	Total Annual Sales	**1,046,902**	**51,659,668**	**4,679,981**	**18,220,666**	**7,565,321**	**6,674,862**	**30,337,794**	**3,744,752**	**8,913,180**	**7,217,618**	**8,711,146**	148,771,890
23	Winter Head Block Therms	237,862	28,839,430	2,833,378	3,655,916	8,278,113	5,702,562	575,467	1,710,731	5,254,414	3,411,445	4,382,964	64,882,283
24	Summer Head Block Therms	199,301	5,680,605	391,675	428,523	2,139,951	1,862,758	413,938	1,449,512	3,658,766	3,806,172	4,328,182	24,359,384
25													
26	**Marginal Costs**												
27	Customer Cost, $/mo	$24.42	$24.36	$ 24.36	$28.30	$79.52	$101.16	$28.10	$80.73	$101.16	$255.36	$255.36	
28	Marginal Delivery Rate, Winter $/th	$ 0.0218	$ 0.0288	$ 0.0288	$ 0.0279	$ 0.0270	$ 0.0232	$ 0.0212	$ 0.0197	$ 0.0170	$ 0.0168	$ 0.0120	
29	Marginal Delivery Rate, Annual $/th	$ 0.0144	$ 0.0235	$ 0.0235	$ 0.0241	$ 0.0221	$ 0.0175	$ 0.0139	$ 0.0123	$ 0.0100	$ 0.0079	$ 0.0060	
30	Marginal Facilities Charge, $/mo.	$ 27.23	$ 40.23	$ 40.23	$ 76.86	$ 456.23	$ 2,849.10	$ 61.23	$ 301.71	$ 2,212.96	$ 9,181.43	$ 3,137.23	
31													
32	**Supply Rates - Current Rates**												
33	Winter Supply Sales, Therms	689,355	42,710,597	3,806,408	14,135,866	16,345,643	1,330,828	2,099,904	2,873,203	366,289	-	7,980	84,366,072
34	Summer Supply Sales, Therms	359,262	9,308,232	1,013,079	2,020,765	3,571,195	373,885	1,139,324	1,803,273	205,218	-	3,419	19,797,650
35	Present Winter Gas Suply Rate, $/Th Dry	0.9369	0.9369	0.9369	0.9371	0.9371	0.9371	0.9364	0.9364	0.9364	0.9364	0.9364	
36	Present Summer Gas Suply Rate, $/Th Dry	0.6196	0.6196	0.6196	0.6201	0.6201	0.6201	0.6180	0.6180	0.6180	0.6180	0.6180	
37													
38	**Supply Rates - Proposed Rates**												
39	Proposed Winter Gas Suply Rate, $/Th Dry	$ 0.9480	$ 0.9480	$ 0.9480	$ 0.9482	$ 0.9482	$ 0.9482	$ 0.9475	$ 0.9475	$ 0.9475	$ 0.9475	$ 0.9475	
40	Proposed Summer Gas Suply Rate, $/Th Dry	$ 0.6238	$ 0.6238	$ 0.6238	$ 0.6243	$ 0.6243	$ 0.6243	$ 0.6222	$ 0.6222	$ 0.6222	$ 0.6222	$ 0.6222	
41													
42	**Booked Revenues**												
43	Actual Winter Booked Net Revenue	360,801	15,159,219	545,953	5,102,176	5,952,849	986,928	616,904	676,579	608,884	126,062	157,648	30,294,004
44	Actual Summer Booked Net Revenue	321,655	7,601,653	276,431	2,130,516	2,109,702	283,350	469,239	431,200	333,788	89,112	153,840	14,200,487
45	Actual Booked Customer Charge Revenue	525,522	10,757,784	374,136	3,169,726	1,784,803	202,351	550,593	371,964	182,498	27,672	78,361	18,025,412
46													
47													
48	WN Winter Booked Net Revenue	360,801	14,998,860	542,567	5,031,066	5,867,709	976,312	613,104	671,931	604,671	126,062	158,441	29,951,525
49	WN Summer Booked Net Revenue	321,655	7,583,294	276,804	2,125,783	2,102,127	282,848	468,515	430,500	332,882	89,074	153,283	14,166,766
50													
51													
52	**Misc**												
53	Winter PR Allocator	0.4670%	28.2292%	2.6280%	10.5649%	16.6696%	3.8331%	1.6495%	2.7931%	3.5319%	2.2931%	2.9461%	75.6054%
54	Summer PR Allocator	0.2367%	6.4949%	0.5177%	1.6825%	3.7226%	1.2521%	0.8676%	1.6936%	2.4593%	2.5584%	2.9093%	24.3946%
55													
56													
57	Winter LDAC - Proposed Rate in Dry therms	0.0410	0.0404	0.0404	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	
58	Summer LDAC - Proposed Rate in Dry therms	0.0410	0.0404	0.0404	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	

Notes:

1. Source: Rate Case 2009 Weather Adjustment 30 yr DD Final rev 11-24.xls
2. Source: Energy North MCS PR Allocator 6-30-09.xls, provided by MAC

NATIONAL GRID - NH
DG 10-017
RATE DESIGN AND BILL COMPARISONS

12 Months Ending June 2009

Existing Rates (Dry Therm Basis)

Line Column Index	Existing Class 1	Code 2	Summer Head Block 3	Winter Head Block 4	Customer Charge 5	Summer Head Block Rate 6	Summer Tail Block Rate 7	Winter Head Block Rate 8	Winter Tail Block Rate 9	Summer Gas Cost 10	Winter Gas Cost 11	LDAC Summer 12	LDAC Winter 13	
						0.9826 X Wet Rate				2008	2008-09	2008	2008-09	
1	R-1	801	10	10	9.77	0.1507	0.1507	0.1507	0.1507	0.61957164	0.9369	0.041	0.041	1
2	R-3	831	20	100	14.03	0.2467	0.1859	0.2467	0.1859	0.61957164	0.9369	0.0404	0.0404	2
3	R-4	832	20	100	5.61	0.0987	0.0744	0.0987	0.0744	0.61957164	0.9369	0.0404	0.0404	3
4			20	100	35.08	0.2974	0.1934	0.2974	0.1934	0.62008428	0.9371	0.0194	0.0194	
5	G-41	841	20	100	35.08	0.2974	0.1934	0.2974	0.1934	0.62008428	0.9371	0.0194	0.0194	5
6	G-42	842	400	1,000	100.24	0.2642	0.1745	0.2642	0.1745	0.62008428	0.9371	0.0194	0.0194	6
7	G-43	843	0	0	421.01	0.0728	0.0728	0.1591	0.1591	0.62008428	0.9371	0.0194	0.0194	7
8	G-51	851	100	100	35.08	0.1928	0.1245	0.1928	0.1245	0.61803372	0.9364	0.0194	0.0194	8
9	G-52	852	1,000	1,000	100.24	0.1106	0.0637	0.1505	0.1021	0.61803372	0.9364	0.0194	0.0194	9
10	G-53	828	0	0	431.03	0.052	0.052	0.1087	0.1087	0.61803372	0.9364	0.0194	0.0194	10
11	G-54	829	0	0	431.03	0.0192	0.0192	0.0355	0.0355	0.61803372	0.9364	0.0194	0.0194	11
12	G-63	863	0	0	431.03	0.0192	0.0192	0.0355	0.0355	0.61803372	0.9364	0.0194	0.0194	12
13	G-54&G-63	???	0	0	431.03	0.0192	0.0192	0.0355	0.0355	0.61803372	0.9364	0.0194	0.0194	13

EnergyNorth Natural Gas, Inc
Rate Design and Bill Comparisons

New Rates

Line Column Index	New Class 1	2	Summer Head block 3	Winter Head Block 4	Customer Charge 5	Summer Head Block rate 6	Summer Tail block Rate 7	Winter Head Block Rate 8	Winter Tail Block Rate 9	Summer Gas Cost 10	Winter Gas Cost 11	LDAC Summer 12	LDAC Winter 13	25% Winter 25% Usage 14	50% Winter 50% Usage 15	75% Winter 75% Usage 16	25% Summer 25% Usage 17	50% Summer 50% Usage 18	75% Summer 75% Usage 19
1	R-1	Residential Non Heating	10	10	$11.25	$0.3003	$0.3003	$0.3003	$0.3003	0.6238	0.9480	0.0410	0.0410	8	20	30	5	11	20
2	R-3	Residential Heating	20	100	$21.00	0.2706	0.2039	0.2706	0.2039	0.6238	0.9480	0.0404	0.0404	60	100	175	12	20	30
3	R-4	Low Income Residential Heating	20	100	$8.40	0.1082	0.0816	0.1082	0.0816	0.6238	0.9480	0.0404	0.0404	70	100	150	14	25	40
4																			
5	G-41	C&I - Low Annual Use, High Winter Use	20	100	$43.00	0.3120	0.2029	0.3120	0.2029	0.6243	0.9482	0.0194	0.0194	70	200	500	-	8	45
6	G-42	C&I - Medium Annual Use, High Winter Use	400	1,000	$120.00	0.3077	0.2032	0.3077	0.2032	0.6243	0.9482	0.0194	0.0194	1,300	2,000	3,500	45	350	750
7	G-43	C&I - High Annual Use, High Winter Use	0	0	$515.00	0.0932	0.0932	0.2037	0.2037	0.6243	0.9482	0.0194	0.0194	9,000	15,000	25,000	450	3,500	10,000
8	G-51	C&I - Low Annual Use, Low Winter Use	100	100	$36.50	0.1943	0.1255	0.1943	0.1255	0.6222	0.9475	0.0194	0.0194	45	175	450	6	60	250
9	G-52	C&I - Medium Annual Use, Low Winter Use	1,000	1,000	$120.00	0.1276	0.0735	0.1737	0.1178	0.6222	0.9475	0.0194	0.0194	1,040	2,000	3,500	700	1,040	2,000
10	G-53	C&I - High Annual Use, Load Factor Less Than 90%	0	0	$530.00	0.0586	0.0586	0.1226	0.1226	0.6222	0.9475	0.0194	0.0194	10,000	15,000	30,000	5,000	15,000	20,000
11	G-54	C&I - High Annual Use, Load Factor Less Than 110%	0	0	$530.00	0.0249	0.0249	0.0460	0.0460	0.6222	0.9475	0.0194	0.0194	4,000	30,000	100,000	15,000	50,000	80,000
12	G-63	Large C&I Load Factor Greater than 110%	0	0	$530.00	0.0251	0.0251	0.0464	0.0464	0.6222	0.9475	0.0194	0.0194	4,000	30,000	100,000	15,000	50,000	80,000
13	G-54&G-63	Large C&I Load Factor Greater than 90%	0	0	$530.00	0.0250	0.0250	0.0462	0.0462	0.6222	0.9475	0.0194	0.0194	4,000	30,000	100,000	15,000	50,000	80,000
14																			

Estimated Bill Impact Percentages - Total Bill

Line	New Class	Winter 25% Usage	Winter 50% Usage	Winter 75% Usage	Summer 25% Usage	Summer 50% Usage	Summer 75% Usage
1	R-1	14.71%	14.51%	14.44%	16.27%	16.97%	17.53%
2	R-3	10.37%	7.67%	5.66%	29.34%	23.42%	19.09%
3	R-4	5.23%	4.28%	3.48%	18.37%	12.76%	9.28%
4	G-41	7.91%	4.56%	3.02%	22.58%	18.96%	11.57%
5	G-42	5.20%	4.66%	4.19%	15.55%	8.75%	6.75%
6	G-43	5.69%	5.42%	5.25%	14.17%	6.18%	4.51%
7	G-51	2.29%	1.55%	1.31%	3.63%	2.07%	1.19%
8	G-52	4.41%	3.57%	3.14%	5.54%	4.73%	3.54%
9	G-53	3.15%	2.89%	2.62%	3.94%	2.42%	2.21%
10	G-54	4.22%	2.48%	2.27%	2.40%	1.78%	1.68%
11	G-63	4.25%	2.52%	2.31%	2.43%	1.81%	1.71%

Estimated Bill Impact Percentages - Delivery Rates Only

Line	New Class	Winter 25% Usage	Winter 50% Usage	Winter 75% Usage	Summer 25% Usage	Summer 50% Usage	Summer 75% Usage
1	R-1	24.39%	34.98%	41.76%	21.17%	27.35%	34.98%
2	R-3	29.15%	24.19%	20.34%	42.71%	39.27%	36.63%
3	R-4	27.60%	24.16%	21.35%	41.81%	37.91%	34.44%
4	G-41	16.00%	12.27%	9.27%	22.58%	21.45%	18.42%
5	G-42	17.24%	17.06%	16.86%	19.37%	18.15%	17.68%
6	G-43	26.74%	27.18%	27.49%	22.74%	24.47%	25.93%
7	G-51	3.40%	2.58%	1.96%	3.94%	3.24%	2.36%
8	G-52	17.11%	16.63%	16.25%	17.82%	17.41%	16.96%
9	G-53	15.68%	14.91%	13.98%	19.10%	16.35%	15.70%
10	G-54	24.60%	27.67%	28.86%	25.66%	27.60%	28.21%
11	G-63	0.00%	28.47%	29.87%	26.07%	28.32%	29.03%