

EDR 2006 MODEL (ver. 2.1)
Oshawa PUC Networks Inc.

ED-2002-0560 (RP-2005-0020, EB-2005-0402)

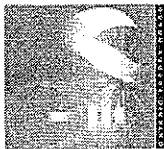
24 July 2005 (Resubmitted February 28 06 to correct corrupted original)

6-2 DEMAND, RATES (Input)

Enter customer numbers and demand data for 2002, 2003 and 2004

Enter 2004 and 2005 rates

	Number of Customers (Connections)			Demand Data - kWh			Demand Data - kW		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
	#	#	#	kWh	kWh	kWh	kW	kW	kW
RESIDENTIAL	42,960	43,679	44,280	480,135,066	515,797,761	496,412,122	0	0	0
Regular									
GENERAL SERVICE	3,701	3,677	3,576	137,497,109	151,634,304	145,489,313	0	0	0
Less than 50 kW	501	473	443	275,629,969	280,113,117	334,022,090	937,667	701,316	824,113
Other > 50 kW (specify) > 50 kw > 200 kw	72	72	72	39,611,492	42,638,783	54,288,015	134,754	106,487	133,857
Other > 50 kW (specify) > 200 kw > 1000 kw	5	5	7	107,462,980	100,494,474	61,142,776	109,750	197,711	118,279
Intermediate Use (1000 - 5000 kW)	2	2	2	114,267,039	88,506,569	90,621,284	228,739	194,596	201,354
Large Use (> 5000 kW)	291	293	295	2,819,198	3,376,144	2,846,746	0	0	0
Unmetered Scattered Load	38	81	77	26,793	39,118	40,719	130	131	135
Sentinel Lighting	9,967	10,072	10,076	5,992,137	8,711,030	9,109,806	13,365	12,637	13,721
Street Lighting									
TOTALS	57,537	58,354	58,828	1,163,441,783	1,191,311,300	1,193,972,871	1,424,405	1,212,878	1,291,459



EDR 2006 MODEL (ver.
Oshawa PUC Netwoi
ED-2002-0560 (RP-2005-002
24 July 2005 (Resubmitted F

6-2 DEMAND, RATES (Input)

Enter customer numbers and demand
data for 2002, 2003 and 2004
Enter 2004 and 2005 rates

Volumetric Rate Type	2004 Rates "Sheet 2"			2005 Rates "Sheet 5"			2005 Rates "Sheet 9"		
	Distribution Rate kWh \$	Distribution Rate kW \$	Mthly Service Chrg (Per Cust. or Connection) \$	Distribution Rate kWh \$	Distribution Rate kW \$	Mthly Service Chrg (Per Cust. or Connection) \$	Distribution Rate kWh \$	Distribution Rate kW \$	Mthly Service Chrg (Per Cust. or Connection) \$
RESIDENTIAL									
Regular	0.0072		6.41	0.0111		7.54	0.0119		7.54
GENERAL SERVICE									
Less than 50 kW	0.0133		7.52	0.0181		8.84	0.0189		8.84
Other > 50 kW (specify) > 50 kw > 200 kw		2.6172	35.79		3.6654	42.08		3.9763	42.08
Other > 50 kW (specify) > 200 kw > 1000 kw		2.6172	36.79		3.6654	42.08		3.9763	42.08
Intermediate Use (1000 - 5000 kW)		3.1552	1,681.19		4.3906	1,976.79		4.7863	1,976.79
Large Use (> 5000 kW)		1.9953	9,397.71		2.9602	10,767.07		3.3184	10,767.07
Unmetered Scattered Load	0.0133		3.76	0.0181		4.42	0.0189		4.42
Sentinel Lighting		4.4208	1.81		4.4208	1.95		4.4208	1.95
Street Lighting		5.0923	0.41		6.7029	0.43		7.0099	0.43
TOTALS									

HISTORICAL AVERAGE CONSUMPTION

Residential				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	472,686,238	478,205,166	5,518,928	1.17%
2003	480,597,351	486,208,646	5,611,296	1.17%
2004	487,210,117	492,898,621	5,688,504	1.17%
2005	494,218,989	499,989,326	5,770,337	1.17%
2006	505,706,057	511,610,513	5,904,456	1.17%
2007	513,507,140	519,502,679	5,995,539	1.17%
2008	521,253,209	527,339,189	6,085,980	1.17%
GS Less than 50 kW				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	157,178,738	157,959,366	780,628	0.50%
2003	156,159,475	156,935,042	775,566	0.50%
2004	151,870,080	152,624,343	754,263	0.50%
2005	155,819,721	156,593,600	773,879	0.50%
2006	158,537,754	159,325,132	787,378	0.50%
2007	159,217,262	160,008,015	790,753	0.50%
2008	159,939,240	160,733,578	794,338	0.50%

GS> 50 kw > 1000 kw				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	362,758,037	365,598,007	2,839,970	0.78%
2003	342,484,135	345,165,384	2,681,249	0.78%
2004	320,762,097	323,273,288	2,511,191	0.78%
2005	330,174,980	332,759,863	2,584,883	0.78%
2006	325,830,573	328,381,444	2,550,871	0.78%
2007	328,002,776	330,570,653	2,567,877	0.78%
2008	328,002,776	330,570,653	2,567,877	0.78%
GS > 200 kw > 1000 kw				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	30,394,451	30,721,093	326,642	1.07%
2003	30,394,451	30,721,093	326,642	1.07%
2004	30,394,451	30,721,093	326,642	1.07%
2005	30,394,451	30,721,093	326,642	1.07%
2006	30,394,451	30,721,093	326,642	1.07%
2007	30,394,451	30,721,093	326,642	1.07%
2008	30,394,451	30,721,093	326,642	1.07%

Intermediate Use (1000 - 5000 kW)				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	52,371,520	52,862,291	490,771	0.94%
2003	52,371,520	52,862,291	490,771	0.94%
2004	73,320,128	74,007,207	687,079	0.94%
2005	83,794,432	84,579,665	785,233	0.94%
2006	94,268,736	95,152,123	883,387	0.94%
2007	94,268,736	95,152,123	883,387	0.94%
2008	94,268,736	95,152,123	883,387	0.94%
Large Use (> 5000 kW)				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	85,902,259	85,902,259	-	0.00%
2003	85,902,259	85,902,259	-	0.00%
2004	85,902,259	85,902,259	-	0.00%
2005	85,902,259	85,902,259	-	0.00%
2006	85,902,259	85,902,259	-	0.00%
2007	85,902,259	85,902,259	-	0.00%
2008	85,902,259	85,902,259	-	0.00%

<u>Unmetered Scattered Load</u>				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	2,808,146	2,808,146	-	0.00%
2003	2,827,446	2,827,446	-	0.00%
2004	2,846,746	2,846,746	-	0.00%
2005	2,866,046	2,866,046	-	0.00%
2006	2,904,646	2,904,646	-	0.00%
2007	2,933,596	2,933,596	-	0.00%
2008	2,943,246	2,943,246	-	0.00%
<u>Sentinel Lighting</u>				
Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	20,095	20,095	-	0.00%
2003	42,834	42,834	-	0.00%
2004	40,719	40,719	-	0.00%
2005	40,719	40,719	-	0.00%
2006	40,719	40,719	-	0.00%
2007	40,719	40,719	-	0.00%
2008	40,719	40,719	-	0.00%
<u>Street Lighting</u>				

Year	Weather Actual	Weather Normalized	Difference	Actual % Diff
2002	8,791,891	8,791,891	-	0.00%
2003	8,884,512	8,884,512	-	0.00%
2004	8,888,040	8,888,040	-	0.00%
2005	9,371,431	9,371,431	-	0.00%
2006	9,668,699	9,668,699	-	0.00%
2007	10,003,014	10,003,014	-	0.00%
2008	10,276,465	10,276,465	-	0.00%

The next step is to determine load for each class for each of the five years.

	kWh per Customer Class				
	2002	2003	2004	2005	2006
RESIDENTIAL					
Regular	438,330,776	470,893,693	448,166,680	486,017,826	466,443,961
GENERAL SERVICE					
Less than 50 kW	138,084,005	145,876,487	130,771,902	136,707,568	134,155,770
Other (> 50 kW < 1000 kW)	374,217,346	373,593,458	360,631,980	362,064,784	357,086,593
Intermediate Use (1000 - 5000 kW)	41,478,177	39,872,090	65,676,068	70,098,769	80,518,764
Large Use (> 5000 kW)	72,043,337	86,022,772	80,888,648	62,906,838	59,654,446
Unmetered Scattered Load	2,106,777	2,198,851	2,166,588	2,154,487	2,205,188
Sentinel Lighting	25,600	37,376	38,906	39,118	40,719
Street Lighting	8,725,336	8,323,170	8,704,191	9,143,960	9,357,806
TOTALS	1,075,011,355	1,126,817,897	1,097,044,963	1,129,133,350	1,109,463,247

These two steps allow the calculation of an average usage per customer for each of the five years.

Summary of Operating Revenue	2008 Board Approved	2008 Actual to Board Approved	2009 Actual to 2008 Actual	2009 Actual to Board Approved	2010 Actual to 2009 Actual	2010 Actual to Board Approved	2011 Bridge Year to 2010 Actual	2011 Bridge Year to Board Approved	2012 Test Year to 2011 Bridge Year
Residential	10,406,617	(956,713)	935,986	(20,727)	360,156	339,429	110,567	449,995	2,343,013
GS < 50 kW	2,959,492	(41,539)	(138,310)	(179,849)	(87,226)	(267,075)	(41,608)	(308,683)	503,178
GS 50 to 999 kW (I1 & I4)	3,676,877	(142,147)	(71,285)	(213,431)	(106,428)	(319,859)	245,979	(73,881)	476,352
GS 1,000 to 4,999 kW (I2)	812,745	223,440	(178,368)	45,072	(31,560)	13,512	(261,317)	(247,805)	139,720
Large Use (I3)	758,173	(1,640)	(295,827)	(297,468)	(164,202)	(461,670)	(39,604)	(501,274)	32,886
Street Lighting	408,697	(64,023)	137,673	73,650	135,767	209,416	42,552	251,969	259,821
Unmetered Scattered Load	92,083	(10,538)	(14,765)	(25,302)	(10,849)	(36,151)	(4,892)	(41,044)	21,667
Sentinel Lights	4,001	(3,873)	(0)	(3,873)	(19)	(3,892)	1,930	(1,963)	2,860
Gross Distribution Revenue	19,118,684	(997,034)	375,105	(621,929)	95,639	(526,291)	53,606	(472,685)	3,779,497
Transformer Allowance	239,375	3,780	(10,228)	(6,448)	90,343	83,895	0	83,895	(113,129)
Distribution Revenue	18,879,309	(1,000,814)	385,333	(615,481)	5,296	(610,186)	53,606	(556,580)	3,892,626

OPUCN has provided a summary of its customer/connection counts and billed consumption in the following Tables.

TABLE 3
SUMMARY OF CUSTOMER COUNTS

# of Customers / Connections	2008 Board Approved	2008 Actual	2009 Actual	2010 Actual	2011 Bridge	2012 Test
Residential	47,243	47,436	47,769	48,460	48,945	49,434
GS < 50	3,845	3,822	3,897	3,961	4,001	4,041
GS 50 to 999 kW	522	543	507	518	523	528
GS > 1,000	9	9	10	10	10	10
Large User	2	3	1	1	1	1
Street Lighting	11,650	11,720	11,882	12,129	12,441	12,762
Sentinel Lighting	77	26	26	24	23	22
Unmetered Scattered Load	305	301	304	309	311	313
MicroFIT						
Total	63,653	63,860	64,396	65,412	66,255	67,111

TABLE 4
SUMMARY OF BILLED CONSUMPTION

kWh's Billed	2008 Board Approved	2008 Actual	2009 Actual	2010 Actual	2011 Bridge	2012 Test
Residential	487,192,399	470,718,851	467,977,819	476,941,035	467,508,099	471,794,337
GS < 50	140,097,188	131,868,017	128,019,505	131,282,103	128,522,583	129,536,602
GS 50 to 999 kW	358,858,375	352,632,150	349,784,301	355,234,224	349,161,735	352,691,494
GS > 1,000	80,956,601	102,433,272	87,237,589	80,783,141	77,093,114	75,442,711
Large User	60,139,982	46,461,021	36,580,289	33,402,763	33,402,763	33,402,763
Street Lighting	10,072,853	9,725,840	10,202,758	10,427,904	10,731,918	11,044,796
Sentinel Lighting	40,813	39,233	36,792	35,812	37,164	38,567
Unmetered Scattered Load	3,841,944	3,372,873	2,825,455	2,831,501	3,014,113	3,208,502
MicroFIT						
Total	1,141,200,155	1,117,251,257	1,082,664,508	1,090,938,483	1,069,471,489	1,077,159,772

ii) evaluating how others will conduct load forecasts in future cost of service rate applications. Based on the OEB's approval of this methodology in a number of 2010 and 2011 applications, and based on the discussion that follows, OPUCN submits that its load forecasting methodology is reasonable at this time for the purposes of this Application.

Weather Normalized Load Forecast

The following provides the material to support the weather normalized load forecast used by OPUCN in this Application.

Tables 5, 6, and 7 below provide a summary of the weather normalized load and customer/connection forecast used in this Application.

TABLE 5
SUMMARY OF LOAD AND CUSTOMER/CONNECTION FORECAST

Description	Purchased kWh's per IESO	Change	% Change	Cumulative Average Rate of Change	Customer/ Connection Count	Change	% Change	Cumulative Average Rate of Change
2008 Board Approved	1,192,455,603				63,653			
2003 Actual	1,232,724,170				58,384			
2004 Actual	1,178,441,190	(54,282,980)	-4.4%	-4.4%	59,077	693	1.2%	1.2%
2005 Actual	1,174,501,350	(3,939,840)	-0.3%	-2.4%	60,152	1,075	1.8%	1.5%
2006 Actual	1,151,360,440	(23,140,910)	-2.0%	-2.2%	61,593	1,441	2.4%	1.8%
2007 Actual	1,191,153,590	39,793,150	3.5%	-0.8%	62,829	1,236	2.0%	1.9%
2008 Actual	1,158,881,926	(32,271,664)	-2.7%	-1.2%	63,860	1,031	1.6%	1.8%
2009 Actual	1,128,390,785	(30,491,141)	-2.6%	-1.4%	64,396	536	0.8%	1.6%
2010 Actual	1,148,418,330	20,027,545	1.8%	-1.0%	65,412	1,016	1.6%	1.6%
2011 Bridge Year (Regression)	1,115,491,992	(32,926,338)	-2.9%	-1.2%	66,255	843	1.3%	1.6%
2012 Teste Year (Regression)	1,123,511,109	8,019,118	0.7%	-1.0%	67,111	856	1.3%	1.6%

Weather actual data from 2003 to 2010 is represented in the table while 2011 Bridge Year and 2012 Test Year results are weather normalized. Weather normalized results for 2003 to 2010 are included in the regression model. Total customer/connection counts are on a year-end basis and streetlight, sentinel lights and unmetered loads are measured as connections.

Actual and forecasted billed amounts and numbers of customers are shown in Table 6 and customer usage and year over year change in customer usage is shown in Table 7, on a rate class basis.

TABLE 6

BILLED ENERGY AND NUMBER OF CUSTOMERS/CONNECTIONS BY RATE CLASS

Description	Residential	GS < 50	GS 50 to 999 kW	GS > 1,000	Large User	Street Lighting	Sentinel Lighting	USL	Total
2008 Board Approved	487,192,399	140,097,188	358,858,375	80,956,601	60,139,982	10,072,853	40,813	3,841,944	1,141,200,155
kWh Billed									
2003 Actual	457,616,904	124,144,653	281,244,126	96,172,091	169,257,213	8,359,781	45,541	0	1,136,840,308
2004 Actual	448,138,859	132,938,490	360,631,980	65,676,068	112,144,196	8,743,099	27,821	0	1,128,300,513
2005 Actual	485,961,504	138,859,028	361,962,669	67,016,961	62,904,833	9,182,978	43,197	0	1,125,931,170
2006 Actual	466,401,366	134,155,770	357,086,593	80,518,764	59,654,446	9,398,525	42,595	2,205,188	1,109,463,247
2007 Actual	473,023,155	132,346,004	359,144,720	103,869,997	61,811,846	9,704,521	41,408	3,818,865	1,143,760,516
2008 Actual	470,718,851	131,868,017	352,632,150	102,433,272	46,461,021	9,725,840	39,233	3,372,873	1,117,251,257
2009 Actual	467,977,819	128,019,505	349,784,301	87,237,589	36,580,289	10,202,758	36,792	2,825,455	1,082,664,508
2010 Actual	476,941,035	131,282,103	355,234,224	80,783,141	33,402,763	10,427,904	35,812	2,831,501	1,090,938,483
2011 Bridge Year (Regression)	467,508,099	128,522,583	349,161,735	77,093,114	33,402,763	10,731,918	37,164	3,014,113	1,069,471,489
2012 Teste Year (Regression)	471,794,337	129,536,602	352,691,494	75,442,711	33,402,763	11,044,796	38,567	3,208,502	1,077,159,772

Description	Residential	GS < 50	GS 50 to 999 kW	GS > 1,000	Large User	Street Lighting	Sentinel Lighting	USL	Total
2008 Board Approved	47,243	3,845	522	9	2	11,650	77	305	63,653
Customer Count									
2003 Actual	43,679	3,970	545	5	3	10,151	31	0	58,384
2004 Actual	44,280	3,871	515	7	2	10,373	29	0	59,077
2005 Actual	44,917	4,043	528	8	2	10,624	30	0	60,152
2006 Actual	45,961	3,733	522	9	2	11,038	27	301	61,593
2007 Actual	46,679	3,765	524	9	2	11,523	26	301	62,829
2008 Actual	47,436	3,822	543	9	3	11,720	26	301	63,860
2009 Actual	47,769	3,897	507	10	1	11,882	26	304	64,396
2010 Actual	48,460	3,961	518	10	1	12,129	24	309	65,412
2011 Bridge Year (Regression)	48,945	4,001	523	10	1	12,441	23	311	66,255
2012 Teste Year (Regression)	49,434	4,041	528	10	1	12,762	22	313	67,111

TABLE 7

ANNUAL USAGE CUSTOMERS/CONNECTIONS BY RATE CLASS

Description	Residential	GS < 50	GS 50 to 999 kW	GS > 1,000	Large User	Street Lighting	Sentinel Lighting	USL	Total
2008 Board Approved	10,312	36,436	687,468	8,995,178	30,069,991	865	530	12,597	17,928
Annual Usage per Customer									
2003 Actual	10,477	31,271	516,044	19,234,418	56,419,071	824	1,469	0	19,472
2004 Actual	10,121	34,342	700,256	9,382,295	56,072,098	843	959	0	19,099
2005 Actual	10,819	34,346	685,535	8,377,120	31,452,417	864	1,440	0	18,718
2006 Actual	10,148	35,938	684,074	8,946,529	29,827,223	851	1,578	7,326	18,013
2007 Actual	10,134	35,152	685,391	11,541,111	30,905,923	842	1,593	12,687	18,204
2008 Actual	9,923	34,502	649,415	11,381,475	15,487,007	830	1,509	11,206	17,495
2009 Actual	9,797	32,851	689,910	8,723,759	36,580,289	859	1,415	9,294	16,813
2010 Actual	9,842	33,144	685,780	8,078,314	33,402,763	860	1,492	9,163	16,678
2011 Bridge Year (Regression)	9,552	32,126	667,384	7,709,311	33,402,763	863	1,606	9,691	16,142
2012 Teste Year (Regression)	9,544	32,059	667,456	7,544,271	33,402,763	865	1,729	10,248	16,050