

Turn it Off
Turn it Down
Trade it In



Chatham Kent Hydro Addition MARR-based Conservation and Demand Management
Program for 2007 IRM

Chatham Kent Hydro (CKH) is applying for extension of MARR-based additional Conservation and Demand Management funding for the 2007 IRM application. There are two programs that CKH is requesting funds for, Line Loss Reduction Program and Education Program.

Distribution System Optimization and Line Loss Reduction

Reducing distribution system line losses will make the system more efficient and will contribute to demand and energy conservation. Some initial evaluation has concluded that a reduction in line losses of approximately .01% will reduce CKH's monthly demand by approximately 33 KW. A more efficient distribution system will also translate to lower costs to customers.

A Voltage conversion program is one initiative that will reduce distribution system line losses. This involves installing capacitors on the 27,600 volt system to improve load factor. In order to quantify this loss reduction, more studies will be required on this program.

This program is targeting the Residential and General Service less 50kW customer class.

The total project budget is \$50,000 and the expenditure distribution is:

Capital Expenditures

Direct costs

Labor	10,000.00
Material	40,000.00
	<u>50,000.00</u>

The Total Resource cost test, total cost for year is \$50,000 and total benefit is 134,573

with a TRC Cost/Benefit Ratio 2.69. (See Appendix A)

The Line Loss Reduction Program for has a budget of \$50,000 which have a 0.000122 rate rider for the residential customers and .000176 for General Service less than 50 in the 2007 rates.

The source of the data is from the 2006 EDR

Rate Class	No of Customers	CDM funds	Volume kWh	CDM Rate rider
Residential	28,200	30,000	246,887,434	0.000122
General Service	3,291	20,000	113,339,502	0.000176

School Conservation Program

CKH has developed an education program that is targeting all grade 5 students in the Chatham Kent area, to illustrate the importance of energy conservation. The program includes an educational booklet which provides energy tips, games and activities. In addition there is a website feature that contains a number of cartoon personalities known as the Power Saving Team. The objective of the team is to promote the 3 T's of conservation, Turn it off, Turn it down and Trade it in. The website, Ckenergykids.com, provides an education on what is electricity, energy saving tips and series of games and activities.

This program is targeting the Residential customer class.

The total project budget is \$15,000 for the school conservation program the expenditure distribution is:

Operating Expenditures

Direct costs	
Books/Material	8,000
Speaker for program	7,000
	<u>15,000</u>

The School Conservation Program has a budget of \$15,000 which will have an additional 0.00006 rate rider for the residential customers in the 2007 rates.

The source of the data is from the 2006 EDR

Rate Class	No of Customers	CDM funds	Volume kWh	CDM Rate rider
Residential	28,200	15,000.00	246,887,434	0.00006

The following charge demonstrates the affect the CDM rate rider would have on the initial 2007 rates.

Rate Class	Rate before CDM	Line loss CDM	Education CDM	Rates after CDM
Residential				
Blenheim	0.01123	0.00012	0.00006	0.01142
Bothwell	0.01409	0.00012	0.00006	0.01427
Chatham	0.01430	0.00012	0.00006	0.01449
Dresden	0.01392	0.00012	0.00006	0.01411
Erieau	0.01381	0.00012	0.00006	0.01399
Merlin	0.01347	0.00012	0.00006	0.01366
Ridegetown	0.01490	0.00012	0.00006	0.01508
Thamesville	0.01278	0.00012	0.00006	0.01296
Tilbury	0.01352	0.00012	0.00006	0.01370
Wallaceburg	0.01504	0.00012	0.00006	0.01522
Wheatley	0.01293	0.00012	0.00006	0.01312
General Service less than 50	0.00930	0.00018		0.00948

The characteristics of distribution System

The data is as of December 31, 2006

Total Energy Purchases is 898,600,197 kWh

Summer Peak Load is 37,805

Winter Peak Load is 33,733

Total Sales by Rate Class	No of Customer	Dollars
Residential	28357	8,017,014
General Service less than 50	3212	2,330,377
General Service greater than 50	412	1,687,610
General Service greater than 50 TOU	4	469,919
Large User	2	600,948
Streetlight	1	133,499
Sentinel	1	21,124
	31989	13,260,491

CK Winter Average daily

<u>Date</u>	<u>kWh</u>
01/11/2006	1,533,624
02/11/2006	1,619,313
03/11/2006	1,633,611
04/11/2006	1,447,291
05/11/2006	1,361,338
06/11/2006	1,516,451
07/11/2006	1,537,832
08/11/2006	1,499,536
09/11/2006	1,483,041
10/11/2006	1,488,223
11/11/2006	1,402,156
12/11/2006	1,388,552
13/11/2006	1,577,041
14/11/2006	1,564,379
15/11/2006	1,567,942
16/11/2006	1,583,612
17/11/2006	1,586,073
18/11/2006	1,418,133
19/11/2006	1,409,405
20/11/2006	1,621,423
21/11/2006	1,615,188
22/11/2006	1,606,450
23/11/2006	1,603,603
24/11/2006	1,568,344
25/11/2006	1,400,627
26/11/2006	1,332,888
27/11/2006	1,531,699
28/11/2006	1,508,922
29/11/2006	1,519,753
30/11/2006	1,570,133
01/12/2006	1,657,838
02/12/2006	1,547,563
03/12/2006	1,561,856
04/12/2006	1,812,282
05/12/2006	1,804,356
06/12/2006	1,748,383
07/12/2006	1,792,719
08/12/2006	1,808,327
09/12/2006	1,631,197
10/12/2006	1,525,924
11/12/2006	1,666,688
12/12/2006	1,651,505
13/12/2006	1,641,242
14/12/2006	1,650,116
15/12/2006	1,621,931
16/12/2006	1,496,989

CK Summer Average Daily

<u>Date</u>	<u>kWh</u>
01/05/2006	1,387,849
02/05/2006	1,402,912
03/05/2006	1,397,884
04/05/2006	1,417,250
05/05/2006	1,354,379
06/05/2006	1,179,833
07/05/2006	1,145,409
08/05/2006	1,388,209
09/05/2006	1,385,068
10/05/2006	1,433,904
11/05/2006	1,424,690
12/05/2006	1,389,450
13/05/2006	1,222,265
14/05/2006	1,165,610
15/05/2006	1,421,114
16/05/2006	1,426,702
17/05/2006	1,400,161
18/05/2006	1,409,709
19/05/2006	1,396,178
20/05/2006	1,156,895
21/05/2006	1,123,588
22/05/2006	1,178,528
23/05/2006	1,388,453
24/05/2006	1,395,034
25/05/2006	1,452,933
26/05/2006	1,444,987
27/05/2006	1,290,818
28/05/2006	1,441,084
29/05/2006	2,097,536
30/05/2006	2,237,994
31/05/2006	2,165,175
01/06/2006	1,710,919
02/06/2006	1,529,153
03/06/2006	1,290,930
04/06/2006	1,259,733
05/06/2006	1,543,272
06/06/2006	1,598,412
07/06/2006	1,710,490
08/06/2006	1,711,922
09/06/2006	1,469,424
10/06/2006	1,211,847
11/06/2006	1,176,506
12/06/2006	1,433,497
13/06/2006	1,460,451
14/06/2006	1,508,290
15/06/2006	1,576,726

CK Winter Average Daily

<u>Date</u>	<u>kWh</u>
17/12/2006	1,674,446
18/12/2006	1,667,282
19/12/2006	1,926,858
20/12/2006	1,937,648
21/12/2006	1,860,821
22/12/2006	1,820,153
23/12/2006	1,681,185
24/12/2006	1,518,069
25/12/2006	1,453,491
26/12/2006	1,487,794
27/12/2006	1,551,216
28/12/2006	1,562,333
29/12/2006	1,586,641
30/12/2006	1,556,804
31/12/2006	1,500,176
01/01/2007	1,394,885
02/01/2007	1,573,450
03/01/2007	1,646,169
04/01/2007	1,649,440
05/01/2007	1,688,037
06/01/2007	1,723,587
07/01/2007	1,590,998
08/01/2007	1,492,090
09/01/2007	1,692,154
10/01/2007	1,668,115
11/01/2007	1,649,818
12/01/2007	1,614,617
13/01/2007	1,595,633
14/01/2007	1,575,231
15/01/2007	1,534,051
16/01/2007	1,745,680
17/01/2007	1,752,116
18/01/2007	1,742,796
19/01/2007	1,681,874
20/01/2007	1,597,097
21/01/2007	1,504,552
22/01/2007	1,501,292
23/01/2007	1,685,897
24/01/2007	1,737,391
25/01/2007	1,765,092
26/01/2007	1,746,771
27/01/2007	1,673,437
28/01/2007	1,468,872
29/01/2007	1,444,558
30/01/2007	1,601,253
31/01/2007	1,681,263
01/02/2007	1,670,070
02/02/2007	1,641,862
03/02/2007	1,613,106

CK Summer Average Daily

<u>Date</u>	<u>kWh</u>
16/06/2006	1,688,194
17/06/2006	1,833,937
18/06/2006	1,883,394
19/06/2006	1,925,652
20/06/2006	1,698,097
21/06/2006	1,591,963
22/06/2006	1,940,697
23/06/2006	1,661,256
24/06/2006	1,366,561
25/06/2006	1,429,429
26/06/2006	1,746,336
27/06/2006	1,842,600
28/06/2006	1,843,454
29/06/2006	1,650,415
30/06/2006	1,564,566
01/07/2006	1,634,996
02/07/2006	1,726,271
03/07/2006	1,770,502
04/07/2006	1,979,532
05/07/2006	1,550,681
06/07/2006	1,526,901
07/07/2006	1,586,084
08/07/2006	1,550,288
09/07/2006	1,630,932
10/07/2006	1,863,297
11/07/2006	1,832,903
12/07/2006	1,941,682
13/07/2006	2,030,108
14/07/2006	2,051,361
15/07/2006	2,026,364
16/07/2006	2,127,282
17/07/2006	2,478,954
18/07/2006	2,166,811
19/07/2006	2,035,332
20/07/2006	2,112,078
21/07/2006	2,039,092
22/07/2006	1,562,349
23/07/2006	1,534,262
24/07/2006	1,970,065
25/07/2006	2,064,123
26/07/2006	2,163,143
27/07/2006	2,096,591
28/07/2006	2,177,191
29/07/2006	2,203,571
30/07/2006	2,100,713
31/07/2006	2,489,686
01/08/2006	2,734,371
02/08/2006	2,748,017
03/08/2006	2,237,233

CK Winter Average Daily

<u>Date</u>	<u>kWh</u>
04/02/2007	1,810,376
05/02/2007	1,991,800
06/02/2007	1,980,777
07/02/2007	1,923,719
08/02/2007	1,905,404
09/02/2007	1,850,040
10/02/2007	1,690,843
11/02/2007	1,703,074
12/02/2007	1,789,765
13/02/2007	1,900,398
14/02/2007	1,899,731
15/02/2007	1,901,078
16/02/2007	1,870,202
17/02/2007	1,708,896
18/02/2007	1,628,562
19/02/2007	1,790,001
20/02/2007	1,651,356
21/02/2007	1,701,751
22/02/2007	1,727,540
23/02/2007	1,742,002
24/02/2007	1,623,169
25/02/2007	1,622,160
26/02/2007	1,683,430
27/02/2007	1,656,750
28/02/2007	1,652,943
01/03/2007	1,738,391
02/03/2007	1,675,033
03/03/2007	1,574,861
04/03/2007	1,554,762
05/03/2007	1,742,184
06/03/2007	1,808,205
07/03/2007	1,747,857
08/03/2007	1,721,577
09/03/2007	1,646,912
10/03/2007	1,420,541
11/03/2007	1,368,357
12/03/2007	1,576,540
13/03/2007	1,471,562
14/03/2007	1,456,417
15/03/2007	1,575,064
16/03/2007	1,596,163
17/03/2007	1,476,370
18/03/2007	1,424,254
19/03/2007	1,621,797
20/03/2007	1,605,446
21/03/2007	1,629,430
22/03/2007	1,701,228
23/03/2007	1,631,466
24/03/2007	1,611,919
25/03/2007	1,469,498

CK Summer Average Daily

<u>Date</u>	<u>kWh</u>
04/08/2006	2,001,299
05/08/2006	1,717,025
06/08/2006	1,825,002
07/08/2006	2,021,430
08/08/2006	1,891,058
09/08/2006	1,783,249
10/08/2006	1,863,009
11/08/2006	1,634,028
12/08/2006	1,399,619
13/08/2006	1,406,763
14/08/2006	1,778,433
15/08/2006	1,797,538
16/08/2006	1,772,048
17/08/2006	1,813,936
18/08/2006	1,924,622
19/08/2006	1,679,148
20/08/2006	1,424,610
21/08/2006	1,645,759
22/08/2006	1,785,421
23/08/2006	1,720,171
24/08/2006	1,752,484
25/08/2006	1,807,073
26/08/2006	1,631,971
27/08/2006	1,596,202
28/08/2006	1,656,553
29/08/2006	1,648,106
30/08/2006	1,667,124
31/08/2006	1,556,361
01/09/2006	1,489,427
02/09/2006	1,269,268
03/09/2006	1,193,432
04/09/2006	1,278,476
05/09/2006	1,530,853
06/09/2006	1,574,734
07/09/2006	1,553,934
08/09/2006	1,645,191
09/09/2006	1,360,328
10/09/2006	1,219,602
11/09/2006	1,451,814
12/09/2006	1,534,866
13/09/2006	1,587,241
14/09/2006	1,518,570
15/09/2006	1,481,284
16/09/2006	1,324,646
17/09/2006	1,350,721
18/09/2006	1,567,906
19/09/2006	1,450,669
20/09/2006	1,412,294
21/09/2006	1,415,951
22/09/2006	1,419,954

CK Winter Average Daily

<u>Date</u>	<u>kWh</u>
26/03/2007	1,397,701
27/03/2007	1,550,786
28/03/2007	1,526,744
29/03/2007	1,495,474
30/03/2007	1,475,078
31/03/2007	1,440,061
01/04/2007	1,298,831
02/04/2007	1,288,318
03/04/2007	1,530,999
04/04/2007	1,570,387
05/04/2007	1,603,514
06/04/2007	1,509,178
07/04/2007	1,518,814
08/04/2007	1,396,197
09/04/2007	1,333,466
10/04/2007	1,481,019
11/04/2007	1,447,801
12/04/2007	1,473,318
13/04/2007	1,405,060
14/04/2007	1,204,178
15/04/2007	1,188,149
16/04/2007	1,147,392
17/04/2007	1,396,803
18/04/2007	1,416,733
19/04/2007	1,405,842
20/04/2007	1,399,803
21/04/2007	1,400,197
22/04/2007	1,218,359
23/04/2007	1,190,062
24/04/2007	1,418,811
25/04/2007	1,461,574
26/04/2007	1,445,390
27/04/2007	1,417,710
28/04/2007	1,395,174
29/04/2007	1,233,754
30/04/2007	1,191,423

CK Summer Average Daily

<u>Date</u>	<u>kWh</u>
23/09/2006	1,327,500
24/09/2006	1,246,252
25/09/2006	1,423,562
26/09/2006	1,429,945
27/09/2006	1,464,752
28/09/2006	1,435,311
29/09/2006	1,388,542
30/09/2006	1,288,790
01/10/2006	1,214,093
02/10/2006	1,439,759
03/10/2006	1,481,967
04/10/2006	1,478,273
05/10/2006	1,422,229
06/10/2006	1,410,451
07/10/2006	1,235,718
08/10/2006	1,185,536
09/10/2006	1,202,070
10/10/2006	1,419,918
11/10/2006	1,465,149
12/10/2006	1,484,419
13/10/2006	1,526,325
14/10/2006	1,329,307
15/10/2006	1,276,089
16/10/2006	1,483,636
17/10/2006	1,505,141
18/10/2006	1,463,065
19/10/2006	1,482,878
20/10/2006	1,472,092
21/10/2006	1,318,736
22/10/2006	1,332,789
23/10/2006	1,577,215
24/10/2006	1,580,004
25/10/2006	1,560,022
26/10/2006	1,527,288
27/10/2006	1,552,038
28/10/2006	1,432,683
29/10/2006	1,364,361
30/10/2006	1,512,515
31/10/2006	1,470,455

Appendix A

Chatham Kent Hydro Line loss

[illegible]