

Turn it Off
Turn it Down
Trade it In



Middlesex Power Distribution Corporation Addition MARR-based Conservation and Demand Management Program for 2007 IRM

Middlesex Power Distribution Corporation (MPDC) is applying for extension of MARR-based Conservation and Demand Management Program for the 2007 IRM application. There are two programs that MPDC 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 .03% will reduce MPDC's monthly demand by approximately 15 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 eliminating 250 KVA of load from the 4000-volt distribution stations to the 27,600-volt system. This will eliminate the transformer losses at the substations.

This program is targeting the Residential customer class.

The total project budget is \$50,000 for the Line Loss Reduction program the expenditure distribution is:

Capital Expenditures

Direct costs	
Labour	15,000
Fleet	5,000
Material	30,000
	<u>50,000</u>

The Total Resource cost test, total cost for year is \$50,000 and total benefit is 61,169 with a TRC Cost/Benefit Ratio of 1.22. (See Appendix A)

The Line Loss Reduction Program for has a budget of \$50,000 which have a 0.00020 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	50,000.00	249,952,782	0.000200

School Conservation Program

MPDC has developed an education program that is targeting all grade 5 students in the Strathory –Caradoc and Parkhill 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 \$5,000 for the school conservation program the expenditure distribution is:

Operating Expenditure	
Direct costs	
Supplies Books/Material	3,500
Contracted Speaker	1,500
	<u>5,000</u>

The School Conservation Program for education program has a budget of \$5,000 which will have an additional 0.00009 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	5,985	5,000.00	59,150,220	0.000085

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	0.01490	0.00020	0.000085	0.015185

The characteristics of distribution System

The data is as of December 31, 2006

Total Energy Purchases is 183,735,890 kWh

Summer Peak Load is 37,805 kW

Winter Peak Load is 33,733 kW

Total Sales by Rate Class	No of Customer	Dollars
Residential	6113	2,102,041
General Service less than 50	690	294,096
General Service greater than 50	91	385,866
Large User	1	8,956
Streetlight	1	23,509
Sentinel	1	609
	6897	2,815,077

MPDC Winter Average Daily

<u>Date</u>	<u>kWh</u>
01/11/2006	309,633
02/11/2006	326,170
03/11/2006	329,759
04/11/2006	305,251
05/11/2006	280,779
06/11/2006	304,758
07/11/2006	308,002
08/11/2006	303,420
09/11/2006	296,004
10/11/2006	302,249
11/11/2006	295,329
12/11/2006	292,672
13/11/2006	321,259
14/11/2006	315,280
15/11/2006	315,152
16/11/2006	315,833
17/11/2006	320,633
18/11/2006	297,785
19/11/2006	296,417
20/11/2006	327,440
21/11/2006	324,005
22/11/2006	324,463
23/11/2006	323,479
24/11/2006	314,941
25/11/2006	291,646
26/11/2006	280,278
27/11/2006	306,317
28/11/2006	300,607
29/11/2006	306,172
30/11/2006	312,707
01/12/2006	319,286
02/12/2006	322,951
03/12/2006	326,335
04/12/2006	362,637
05/12/2006	360,892
06/12/2006	353,914
07/12/2006	360,655
08/12/2006	360,682
09/12/2006	331,206
10/12/2006	312,907
11/12/2006	332,481
12/12/2006	326,407
13/12/2006	331,241
14/12/2006	333,979
15/12/2006	331,004
16/12/2006	315,487

MPDC Summer Average Daily

<u>Date</u>	<u>kWh</u>
01/05/2006	288,381
02/05/2006	288,336
03/05/2006	292,828
04/05/2006	299,548
05/05/2006	286,277
06/05/2006	257,164
07/05/2006	249,989
08/05/2006	298,054
09/05/2006	296,074
10/05/2006	303,715
11/05/2006	300,987
12/05/2006	291,567
13/05/2006	258,705
14/05/2006	241,729
15/05/2006	299,923
16/05/2006	302,315
17/05/2006	300,592
18/05/2006	303,322
19/05/2006	294,881
20/05/2006	248,746
21/05/2006	244,707
22/05/2006	265,322
23/05/2006	301,424
24/05/2006	299,896
25/05/2006	310,753
26/05/2006	302,720
27/05/2006	270,205
28/05/2006	300,077
29/05/2006	443,310
30/05/2006	467,903
31/05/2006	443,462
01/06/2006	349,775
02/06/2006	321,223
03/06/2006	278,125
04/06/2006	264,236
05/06/2006	324,707
06/06/2006	351,034
07/06/2006	370,982
08/06/2006	360,850
09/06/2006	309,688
10/06/2006	262,261
11/06/2006	255,360
12/06/2006	311,523
13/06/2006	314,176
14/06/2006	322,201
15/06/2006	331,155

MPDC Winter Average Daily

<u>Date</u>	<u>kWh</u>
17/12/2006	296,643
18/12/2006	325,994
19/12/2006	339,152
20/12/2006	339,543
21/12/2006	329,472
22/12/2006	330,507
23/12/2006	321,709
24/12/2006	307,715
25/12/2006	306,763
26/12/2006	302,539
27/12/2006	330,183
28/12/2006	321,695
29/12/2006	325,586
30/12/2006	312,927
31/12/2006	303,371
01/01/2007	289,074
02/01/2007	313,285
03/01/2007	315,902
04/01/2007	307,507
05/01/2007	303,041
06/01/2007	293,386
07/01/2007	300,123
08/01/2007	332,581
09/01/2007	340,968
10/01/2007	352,125
11/01/2007	340,799
12/01/2007	325,413
13/01/2007	310,540
14/01/2007	313,101
15/01/2007	347,911
16/01/2007	350,169
17/01/2007	354,120
18/01/2007	350,283
19/01/2007	346,340
20/01/2007	341,285
21/01/2007	342,062
22/01/2007	354,862
23/01/2007	353,312
24/01/2007	349,765
25/01/2007	359,200
26/01/2007	369,036
27/01/2007	324,775
28/01/2007	322,832
29/01/2007	362,389
30/01/2007	357,617
31/01/2007	363,882
01/02/2007	361,442
02/02/2007	353,896

MPDC Summer Average Daily

<u>Date</u>	<u>kWh</u>
16/06/2006	348,565
17/06/2006	396,138
18/06/2006	390,562
19/06/2006	417,862
20/06/2006	351,255
21/06/2006	335,395
22/06/2006	392,553
23/06/2006	350,569
24/06/2006	299,125
25/06/2006	317,146
26/06/2006	384,943
27/06/2006	390,423
28/06/2006	375,646
29/06/2006	336,607
30/06/2006	328,269
01/07/2006	329,950
02/07/2006	375,961
03/07/2006	391,796
04/07/2006	402,675
05/07/2006	323,964
06/07/2006	320,178
07/07/2006	339,572
08/07/2006	328,575
09/07/2006	339,156
10/07/2006	365,404
11/07/2006	373,414
12/07/2006	385,209
13/07/2006	427,598
14/07/2006	439,094
15/07/2006	411,347
16/07/2006	422,331
17/07/2006	493,311
18/07/2006	433,212
19/07/2006	408,668
20/07/2006	404,426
21/07/2006	396,914
22/07/2006	317,423
23/07/2006	309,421
24/07/2006	390,611
25/07/2006	405,221
26/07/2006	428,564
27/07/2006	455,417
28/07/2006	446,189
29/07/2006	437,876
30/07/2006	401,760
31/07/2006	498,533
01/08/2006	532,326
02/08/2006	534,117

MPDC Winter Average Daily

<u>Date</u>	<u>kWh</u>
03/02/2007	356,730
04/02/2007	365,114
05/02/2007	400,081
06/02/2007	393,929
07/02/2007	384,954
08/02/2007	379,760
09/02/2007	369,920
10/02/2007	349,843
11/02/2007	345,666
12/02/2007	359,390
13/02/2007	385,963
14/02/2007	382,459
15/02/2007	381,107
16/02/2007	372,851
17/02/2007	353,146
18/02/2007	345,343
19/02/2007	371,448
20/02/2007	336,258
21/02/2007	338,938
22/02/2007	349,254
23/02/2007	352,280
24/02/2007	341,698
25/02/2007	336,922
26/02/2007	339,505
27/02/2007	334,041
28/02/2007	329,137
01/03/2007	346,193
02/03/2007	320,531
03/03/2007	318,921
04/03/2007	313,130
05/03/2007	353,750
06/03/2007	361,385
07/03/2007	353,558
08/03/2007	348,274
09/03/2007	332,348
10/03/2007	304,062
11/03/2007	287,176
12/03/2007	319,883
13/03/2007	295,528
14/03/2007	296,529
15/03/2007	316,557
16/03/2007	327,853
17/03/2007	306,298
18/03/2007	296,296
19/03/2007	333,690
20/03/2007	326,372

MPDC Summer Average Daily

<u>Date</u>	<u>kWh</u>
03/08/2006	413,980
04/08/2006	384,316
05/08/2006	330,041
06/08/2006	349,517
07/08/2006	370,544
08/08/2006	367,186
09/08/2006	356,626
10/08/2006	375,233
11/08/2006	328,350
12/08/2006	287,347
13/08/2006	282,025
14/08/2006	341,956
15/08/2006	345,898
16/08/2006	342,861
17/08/2006	345,705
18/08/2006	385,852
19/08/2006	338,442
20/08/2006	285,664
21/08/2006	332,368
22/08/2006	347,067
23/08/2006	339,520
24/08/2006	334,481
25/08/2006	336,626
26/08/2006	303,513
27/08/2006	307,507
28/08/2006	337,087
29/08/2006	334,420
30/08/2006	337,984
31/08/2006	315,882
01/09/2006	301,478
02/09/2006	259,159
03/09/2006	246,703
04/09/2006	262,392
05/09/2006	313,034
06/09/2006	321,811
07/09/2006	317,709
08/09/2006	327,730
09/09/2006	280,540
10/09/2006	251,924
11/09/2006	302,243
12/09/2006	308,674
13/09/2006	322,179
14/09/2006	309,772
15/09/2006	297,038
16/09/2006	270,227
17/09/2006	270,551

MPDC Winter Average Daily

<u>Date</u>	<u>kWh</u>
21/03/2007	358,288
22/03/2007	356,368
23/03/2007	346,513
24/03/2007	332,980
25/03/2007	307,524
26/03/2007	289,368
27/03/2007	329,613
28/03/2007	323,548
29/03/2007	314,162
30/03/2007	309,376
31/03/2007	297,795
01/04/2007	278,101
02/04/2007	266,061
03/04/2007	317,956
04/04/2007	334,381
05/04/2007	340,097
06/04/2007	311,880
07/04/2007	312,738
08/04/2007	284,637
09/04/2007	271,407
10/04/2007	310,355
11/04/2007	301,370
12/04/2007	306,562
13/04/2007	283,200
14/04/2007	247,884
15/04/2007	242,790
16/04/2007	239,976
17/04/2007	296,134
18/04/2007	296,917
19/04/2007	293,107
20/04/2007	292,670
21/04/2007	283,238
22/04/2007	246,721
23/04/2007	245,477
24/04/2007	304,657
25/04/2007	312,637
26/04/2007	304,250
27/04/2007	299,825
28/04/2007	288,639
29/04/2007	250,422
30/04/2007	239,824

MPDC Summer Average Daily

<u>Date</u>	<u>kWh</u>
18/09/2006	319,065
19/09/2006	297,884
20/09/2006	291,972
21/09/2006	289,936
22/09/2006	288,542
23/09/2006	270,195
24/09/2006	258,736
25/09/2006	297,546
26/09/2006	295,031
27/09/2006	297,606
28/09/2006	294,123
29/09/2006	282,440
30/09/2006	268,786
01/10/2006	252,615
02/10/2006	300,346
03/10/2006	308,308
04/10/2006	312,390
05/10/2006	299,158
06/10/2006	293,618
07/10/2006	265,237
08/10/2006	250,468
09/10/2006	251,355
10/10/2006	299,052
11/10/2006	310,951
12/10/2006	317,661
13/10/2006	325,838
14/10/2006	286,063
15/10/2006	268,462
16/10/2006	315,540
17/10/2006	319,694
18/10/2006	310,096
19/10/2006	311,655
20/10/2006	313,291
21/10/2006	288,184
22/10/2006	279,714
23/10/2006	335,289
24/10/2006	340,623
25/10/2006	333,469
26/10/2006	323,231
27/10/2006	326,377
28/10/2006	306,836
29/10/2006	293,866
30/10/2006	324,982
31/10/2006	311,801

Appendix A

Middlesex Power Line loss

[illegible]