

ANEXO 10

**Análisis de Eficiencia Relativa de Costos de Operación y
Mantenimiento usando el método**

"Data Envelopment Analysis"

Análisis con Información Contable Año 2000

Tabla A10.1 Datos Básicos - Modelo COM1

Operador de Red	Datos						
	DMU	I1	I2	I3	O1	O2	O3
5	1	2,536	195	4,514	128	389	0.77
7	2	229	38		15	50	1.00
12	3	3	2	16	0	2	1.00
14	4	241	51	1,580	43	126	1.00
16	5	4,984	2,384	68,949	934	5,499	1.00
17	6	436	307	669	104	512	0.86
18	7	2,219	907	18,962	283	930	0.01
19	8	13,558	2,818	9,452	472	1,252	0.99
20	9	1,651	80		37	100	0.49
21	10	10,106	649	13,963	325	1,141	0.83
23	11	2,068	1,711	5,179	534	550	1.00
24	12	7,571	901	15,664	357	3,500	1.00
28	13	9,910	800	25,081	420	1,397	0.69
31	14	1,638	66	1,683	43	119	0.34
33	15	798	50	882	33	75	0.01
35	16	1,161	131	3,523	198	487	0.01
36	17	8,009	857	13,961	357	1,200	0.72
37	18	5,422	382	7,609	183	531	0.96
38	19	2,539	296	5,105	207	612	1.00
40	20	121	91	1,406	44	95	1.00
41	21	17,307	6,774	73,782	1,863	9,260	1.00
155	22	227	10	86	12	7	0.65
193	23	2,194	2,307	49,876	429	1,435	1.00
195	24	1,437	474	11,524	266	1,020	1.00
225	25	42	1	40	1	1	1.00
251	26	9,910	1,845	42,889	585	3,573	0.01
252	27	6,073	3,223	51,407	736	5,079	0.01
259	28	181	18		13	17	1.00
287	29	4,334	395	7,620	211	554	1.00
501	30	84	9		7	15	0.01
Var. Auxiliar		1	1	1	1	1	1
Descripción de las Entradas y Salidas							
I1	Longitud Alimentadores			km			
I2	Capacidad de Transformadores			MVA			
I3	Costos de OyM			Millones \$			
O1	Usuarios Alimentadores			Miles			
O2	Demanda Energía del OR			GWh/año			
O3	Calidad			Sin unidad			

Tabla A10.2 Indicadores de Eficiencia Relativa - Modelo COM1

Operador de Red	Eficiencias		
	Total (CRS)	Técnica (VRS)	Escala
5	0.5535	0.7594	0.7289
7	0.4369	0.5173	0.8446
12	1.0000	1.0000	1.0000
14	0.9593	1.0000	0.9593
16	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000
18	0.5607	0.6433	0.8716
19	0.3454	0.7899	0.4372
20			
21	0.4881	0.9733	0.5015
23	1.0000	1.0000	1.0000
24	1.0000	1.0000	1.0000
28	0.4630	1.0000	0.4630
31	0.4855	0.4918	0.9872
33	0.5622	0.5671	0.9914
35	1.0000	1.0000	1.0000
36	0.4772	0.9079	0.5256
37	0.4309	0.6623	0.6507
38	0.6956	1.0000	0.6956
40	1.0000	1.0000	1.0000
41	0.6492	1.0000	0.6492
155	1.0000	1.0000	1.0000
193	0.6781	0.8825	0.7684
195	0.9492	1.0000	0.9492
225	1.0000	1.0000	1.0000
251	0.6274	0.7936	0.7907
252	0.7765	1.0000	0.7765
259			
287	0.4594	0.7723	0.5948
501			
Promedio	0.7215	0.8642	0.8363
Mínimo	0.3407	0.3446	0.4372
Desviación	0.2476	0.1980	0.1920

Tabla A10.3 Comparación Costos de OyM - Modelo COM1

Operador de Red	Costos O&M Registrados I3 (Millones ColS)	Costos O&M Eficiencia I3 Efic (Millones ColS)	I3 Efic/I3 (Eficiencia Relativa)	Energía GWh (O2)	I3/O2 (\$/kWh)	I3 Efic /O2 (\$/kWh)
5	4,514	2,388	0.53	389	11.62	6.15
7		331		50		6.61
12	16	16	1.00	2	8.52	8.52
14	1,580	1,580	1.00	126	12.51	12.51
16	68,949	68,949	1.00	5,499	12.54	12.54
17	669	669	1.00	512	1.31	1.31
18	18,962	4,220	0.22	930	20.40	4.54
19	9,452	7,466	0.79	1,252	7.55	5.97
20		302		100		3.02
21	13,963	12,754	0.91	1,141	12.24	11.18
23	5,179	5,179	1.00	550	9.41	9.41
24	15,664	15,664	1.00	3,500	4.47	4.47
28	25,081	25,081	1.00	1,397	17.95	17.95
31	1,683	475	0.28	119	14.11	3.98
33	882	354	0.40	75	11.77	4.72
35	3,523	3,523	1.00	487	7.23	7.23
36	13,961	9,043	0.65	1,200	11.64	7.54
37	7,609	3,377	0.44	531	14.32	6.35
38	5,105	5,105	1.00	612	8.34	8.34
40	1,406	1,406	1.00	95	14.80	14.80
41	73,782	73,782	1.00	9,260	7.97	7.97
155	86	86	1.00	7	12.37	12.37
193	49,876	15,955	0.32	1,435	34.77	11.12
195	11,524	11,524	1.00	1,020	11.30	11.30
225	40	40	1.00	1	27.63	27.63
251	42,889	20,656	0.48	3,573	12.00	5.78
252	51,407	51,407	1.00	5,079	10.12	10.12
259		336		17		19.70
287	7,620	4,513	0.59	554	13.76	8.15
501		89		15		5.84

Tabla A10.4 Datos Básicos - Modelo COM2

Operador de Red	Datos						
	DMU	O4	O5	I3	O1	O2	O3
5	1	2,536	0	4,514	0	389	0.769
7	2	229	0		0	50	1.000
12	3	3	0	16	0	2	1.000
14	4	241	0	3,068	0	126	1.000
16	5	4,984	0	68,949	0	5,499	1.000
17	6	436	0	669	0	512	0.859
18	7	2,219	0	18,962	0	930	
19	8	13,558	0	9,452	0	1,252	0.987
20	9	1,651	0		0	100	0.488
21	10	10,106	0	13,963	0	1,141	0.830
23	11	2,068	0	5,179	0	550	1.000
24	12	7,571	0	15,664	0	3,500	1.000
28	13	9,910	0	25,081	0	1,397	0.685
31	14	1,638	0	1,683	0	119	0.344
33	15	798	0	882	0	75	
35	16	1,161	0	3,523	0	487	
36	17	8,009	0	13,961	0	1,200	0.716
37	18	5,422	0	7,609	0	531	0.960
38	19	2,539	0	5,105	0	612	1.000
40	20	121	0	1,406	0	95	1.000
41	21	17,307	0	73,782	0	9,260	1.000
155	22	227	0	86	0	7	0.654
193	23	2,194	0	49,876	0	1,435	1.000
195	24	1,437	0	11,524	0	1,020	1.000
225	25	42	0	40	0	1	1.000
251	26	9,910	0	42,889	0	3,573	
252	27	6,073	0	51,407	0	5,079	
259	28	181	0		0	17	1.000
287	29	4,334	0	7,620	0	554	1.000
501	30	84	0		0	15	
Var. Auxiliar		1	0	1	0	1	1
Descripción de las Entradas y Salidas							
O4	Longitud Alimentadores			km			
I3	Costos de O&M			Millones \$			
O2	Demanda Energía del OR			GWh/año			
O3	Calidad			Sin unidad			

Tabla A10.5 Indicadores de Eficiencia Relativa - Modelo COM2

Operador de Red	Eficiencias		
	Total (CRS)	Técnica (VRS)	Escala
5	0.2813	0.4114	0.6839
7			
12	1.0000	1.0000	1.0000
14	0.0705	0.1865	0.3779
16	0.1057	0.5198	0.2034
17	1.0000	1.0000	1.0000
18	0.0901	0.1643	0.5482
19	0.6299	1.0000	0.6299
20			
21	0.3329	0.5352	0.6220
23	0.2456	0.7498	0.3275
24	0.3932	1.0000	0.3932
28	0.1930	0.3348	0.5764
31	0.4082	0.6397	0.6381
33	0.3988	0.5667	0.7038
35	0.2538	0.3108	0.8166
36	0.2853	0.4848	0.5885
37	0.3171	0.5001	0.6340
38	0.2933	0.9239	0.3175
40	0.1047	0.3075	0.3403
41	0.2081	1.0000	0.2081
155	1.0000	1.0000	1.0000
193	0.0443	0.1288	0.3441
195	0.1327	0.3966	0.3345
225	0.7090	1.0000	0.7090
251	0.1642	0.4693	0.3498
252	0.1408	0.6146	0.2291
259			
287	0.2702	1.0000	0.2702
501			
Promedio	0.3269	0.5664	0.5384
Mínimo	0.0022	0.0071	0.2034
Desviación	0.2948	0.3302	0.2393

Tabla A10.6 Comparación Costos de OyM - Modelo COM2

Operador de Red	Costos O&M Calculados I3 (Millones Col\$)	Costos O&M Eficiencia I3 Efic (Millones Col\$)	I3 Efic/I3 (Eficiencia Relativa)	Energía GWh (O2)	I3/O2 (\$/kWh)	I3 Efic /O2 (\$/kWh)
5	4,514	1,857	0.41	389	11.62	4.78
7		393		50		7.86
12	16	16	1.00	2	8.52	8.52
14	3,068	572	0.19	126	24.30	4.53
16	68,949	35,836	0.52	5,499	12.54	6.52
17	669	669	1.00	512	1.31	1.31
18	18,962	3,116	0.16	930	20.40	3.35
19	9,452	9,452	1.00	1,252	7.55	7.55
20		1,086	0.03	100		10.85
21	13,963	7,473	0.54	1,141	12.24	6.55
23	5,179	3,883	0.75	550	9.41	7.05
24	15,664	15,664	1.00	3,500	4.47	4.47
28	25,081	8,397	0.33	1,397	17.95	6.01
31	1,683	1,077	0.64	119	14.11	9.02
33	882	500	0.57	75	11.77	6.67
35	3,523	1,095	0.31	487	7.23	2.25
36	13,961	6,769	0.48	1,200	11.64	5.64
37	7,609	3,805	0.50	531	14.32	7.16
38	5,105	4,717	0.92	612	8.34	7.70
40	1,406	432	0.31	95	14.80	4.55
41	73,782	73,782	1.00	9,260	7.97	7.97
155	86	86	1.00	7	12.37	12.37
193	49,876	6,424	0.13	1,435	34.77	4.48
195	11,524	4,570	0.40	1,020	11.30	4.48
225	40	40	1.00	1	27.63	27.63
251	42,889	20,128	0.47	3,573	12.00	5.63
252	51,407	31,596	0.61	5,079	10.12	6.22
259		286		17		16.77
287	7,620	7,620	1.00	554	13.76	13.76
501		53		15		3.46

Tabla A10.7 Datos Básicos - Modelo COM2a

Operador de Red	Datos						
	DMU	O4	O5	I3	O1	O2	O3
5	1	2,536	0	4,031	0	389	0.769
7	2	229	0		0	50	1.000
12	3	3	0	16	0	2	1.000
14	4	241	0	2,499	0	126	1.000
16	5	4,984	0	64,434	0	5,499	1.000
17	6	436	0	645	0	512	0.859
18	7	2,219	0	16,054	0	930	0.010
19	8	13,558	0	8,950	0	1,252	0.987
20	9	1,651	0		0	100	0.488
21	10	10,106	0	12,941	0	1,141	0.830
23	11	2,068	0	4,874	0	550	1.000
24	12	7,571	0	14,123	0	3,500	1.000
28	13	9,910	0	19,272	0	1,397	0.685
31	14	1,638	0	1,683	0	119	0.344
33	15	798	0	882	0	75	0.010
35	16	1,161	0	3,523	0	487	0.010
36	17	8,009	0	11,923	0	1,200	0.716
37	18	5,422	0	5,998	0	531	0.960
38	19	2,539	0	5,100	0	612	1.000
40	20	121	0	855	0	95	1.000
41	21	17,307	0	48,694	0	9,260	1.000
155	22	227	0	79	0	7	0.654
193	23	2,194	0	49,745	0	1,435	1.000
195	24	1,437	0	8,343	0	1,020	1.000
225	25	42	0	35	0	1	1.000
251	26	9,910	0	42,106	0	3,573	0.010
252	27	6,073	0	48,545	0	5,079	0.010
259	28	181	0		0	17	1.000
287	29	4,334	0	6,578	0	554	1.000
501	30	84	0		0	15	0.010
Var. Auxiliar		1	0	1	0	1	1
Descripción de las Entradas y Salidas							
O4	Longitud Alimentadores			km			
I3	Costos de O&M			Millones \$			
O2	Demanda Energía del OR			GWh/año			
O3	Calidad			Sin unidad			

Tabla A10.8 Indicadores de Eficiencia Relativa - Modelo COM2a

Operador de Red	Eficiencias		
	Total (CRS)	Técnica (VRS)	Escala
5	0.2957	0.4370	0.6767
7			
12	1.0000	1.0000	1.0000
14	0.0828	0.2071	0.3996
16	0.1090	0.4054	0.2688
17	1.0000	1.0000	1.0000
18	0.1013	0.1789	0.5659
19	0.6209	1.0000	0.6209
20			
21	0.3360	0.5453	0.6161
23	0.2467	0.7018	0.3516
24	0.4157	1.0000	0.4157
28	0.2355	0.4077	0.5775
31	0.3802	0.6048	0.6286
33	0.3723	0.5351	0.6957
35	0.2416	0.2968	0.8138
36	0.3135	0.5319	0.5893
37	0.3756	0.6007	0.6253
38	0.2772	0.8119	0.3415
40	0.1657	0.4576	0.3621
41	0.3011	1.0000	0.3011
155	1.0000	1.0000	1.0000
193	0.0425	0.1165	0.3653
195	0.1757	0.4941	0.3556
225	0.7784	1.0000	0.7784
251	0.1588	0.3905	0.4067
252	0.1432	0.4861	0.2946
259			
287	0.2931	1.0000	0.2931
501			
Promedio	0.3404	0.5649	0.5566
Mínimo	0.0020	0.0062	0.2688
Desviación	0.2932	0.3205	0.2222

Tabla A10.9 Comparación Costos de OyM - Modelo COM2a

Operador de Red	Costos O&M Registrados I3 (Millones Col\$)	Costos O&M Eficiencia I3 Efic (Millones Col\$)	I3 Efic/I3 (Eficiencia Relativa)	Energía GWh (O2)	I3/O2 (\$/kWh)	I3 Efic /O2 (\$/kWh)
5	4,031	1,761	0.44	389	10.37	4.53
7		346		50		6.91
12	16	16	1.00	2	8.52	8.52
14	2,499	517	0.21	126	19.79	4.10
16	64,434	26,123	0.41	5,499	11.72	4.75
17	645	645	1.00	512	1.26	1.26
18	16,054	2,873	0.18	930	17.27	3.09
19	8,950	8,950	1.00	1,252	7.15	7.15
20		1,027		100		10.26
21	12,941	7,056	0.55	1,141	11.34	6.18
23	4,874	3,421	0.70	550	8.86	6.21
24	14,123	14,123	1.00	3,500	4.03	4.03
28	19,272	7,857	0.41	1,397	13.80	5.62
31	1,683	1,018	0.60	119	14.11	8.53
33	882	472	0.54	75	11.77	6.30
35	3,523	1,046	0.30	487	7.23	2.15
36	11,923	6,342	0.53	1,200	9.94	5.29
37	5,998	3,603	0.60	531	11.29	6.78
38	5,100	4,140	0.81	612	8.33	6.76
40	855	391	0.46	95	9.00	4.12
41	48,694	48,694	1.00	9,260	5.26	5.26
155	79	79	1.00	7	11.46	11.46
193	49,745	5,793	0.12	1,435	34.68	4.04
195	8,343	4,122	0.49	1,020	8.18	4.04
225	35	35	1.00	1	24.21	24.21
251	42,106	16,444	0.39	3,573	11.78	4.60
252	48,545	23,600	0.49	5,079	9.56	4.65
259		247		17		14.50
287	6,578	6,578	1.00	554	11.88	11.88
501		50		15		3.30

Tabla A10.10 Datos Básicos - Modelo AOM

Operador de Red	Datos						
	DMU	O4	O5	I3	O1	O2	O3
5	1	2,536	0	6,838	128	389	0.769
7	2	229	0		15	50	1.000
12	3	3	0	83	0	2	1.000
14	4	241	0	4,116	43	126	1.000
16	5	4,984	0	110,129	934	5,499	1.000
17	6	436	0	3,384	104	512	0.859
18	7	2,219	0	23,553	283	930	
19	8	13,558	0	20,277	472	1,252	0.987
20	9	1,651	0		37	100	0.488
21	10	10,106	0	22,300	325	1,141	0.830
23	11	2,068	0	11,946	534	550	1.000
24	12	7,571	0	25,642	357	3,500	1.000
28	13	9,910	0	33,491	420	1,397	0.685
31	14	1,638	0	2,283	43	119	0.344
33	15	798	0	1,497	33	75	
35	16	1,161	0	8,179	198	487	
36	17	8,009	0	15,082	357	1,200	0.716
37	18	5,422	0	11,087	183	531	0.960
38	19	2,539	0	8,542	207	612	1.000
40	20	121	0	1,974	44	95	1.000
41	21	17,307	0	94,752	1,863	9,260	1.000
155	22	227	0	164	12	7	0.654
193	23	2,194	0	66,749	429	1,435	1.000
195	24	1,437	0	16,904	266	1,020	1.000
225	25	42	0	93	1	1	1.000
251	26	9,910	0	61,443	585	3,573	
252	27	6,073	0	67,877	736	5,079	
259	28	181	0		13	17	1.000
287	29	4,334	0	10,902	211	554	1.000
501	30	84	0		7	15	
Var. Auxiliar		1	0	1	1	1	1
Descripción de las Entradas y Salidas							
O4	Longitud Alimentadores			km			
I3	Costos de AOM			Millones \$			
O1	Usuarios Alimentadores			Miles			
O2	Demanda Energía del OR			GWh/año			
O3	Calidad			Sin unidad			

Tabla A10.11 Indicadores de Eficiencia Relativa - Modelo AOM

Operador de Red	Eficiencias		
	Total (CRS)	Técnica (VRS)	Escala
5	0.5474	0.6974	0.7849
7			
12	1.0000	1.0000	1.0000
14	0.2477	0.3578	0.6924
16	0.3315	0.4621	0.7175
17	1.0000	1.0000	1.0000
18	0.3047	0.4002	0.7612
19	0.7362	1.0000	0.7362
20			
21	0.5564	0.7244	0.7681
23	0.6888	1.0000	0.6888
24	0.9977	1.0000	0.9977
28	0.4144	0.5410	0.7660
31	0.7041	1.0000	0.7041
33	0.5921	0.7390	0.8012
35	0.5262	0.6605	0.7966
36	0.7726	0.9999	0.7727
37	0.5556	0.7466	0.7442
38	0.5996	0.9735	0.6159
40	0.4519	0.6649	0.6798
41	0.6995	1.0000	0.6995
155	1.0000	1.0000	1.0000
193	0.1794	0.2277	0.7880
195	0.4372	0.6023	0.7259
225	1.0000	1.0000	1.0000
251	0.4447	0.5302	0.8388
252	0.5083	0.6569	0.7739
259			
287	0.5244	1.0000	0.5244
501			
Promedio	0.5683	0.7058	0.7837
Mínimo	0.0062	0.0130	0.4745
Desviación	0.2842	0.3047	0.1165

Tabla A10.12 Comparación Costos de AOM - Modelo AOM

Operador de Red	Costos AOM Calculados I3 (Millones Col\$)	Costos AOM Eficiencia I3 Efic (Millones Col\$)	I3 Efic/I3 (Eficiencia Relativa)	Energía GWh (O2)	I3/O2 (\$/kWh)	I3 Efic /O2 (\$/kWh)
5	6,838	4,769	0.70	389	17.60	12.27
7		693		50		13.86
12	83	83	1.00	2	45.23	45.23
14	4,116	1,473	0.36	126	32.59	11.66
16	110,129	50,885	0.46	5,499	20.03	9.25
17	3,384	3,384	1.00	512	6.61	6.61
18	23,553	9,427	0.40	930	25.33	10.14
19	20,277	20,277	1.00	1,252	16.20	16.20
20		2,306	0.06	100		23.05
21	22,300	16,155	0.72	1,141	19.54	14.16
23	11,946	11,946	1.00	550	21.70	21.70
24	25,642	25,642	1.00	3,500	7.33	7.33
28	33,491	18,120	0.54	1,397	23.97	12.97
31	2,283	2,283	1.00	119	19.13	19.13
33	1,497	1,106	0.74	75	19.98	14.77
35	8,179	5,402	0.66	487	16.79	11.09
36	15,082	15,080	1.00	1,200	12.57	12.57
37	11,087	8,278	0.75	531	20.86	15.58
38	8,542	8,316	0.97	612	13.95	13.58
40	1,974	1,313	0.66	95	20.78	13.81
41	94,752	94,752	1.00	9,260	10.23	10.23
155	164	164	1.00	7	23.66	23.66
193	66,749	15,201	0.23	1,435	46.53	10.60
195	16,904	10,181	0.60	1,020	16.57	9.98
225	93	93	1.00	1	63.24	63.24
251	61,443	32,577	0.53	3,573	17.20	9.12
252	67,877	44,588	0.66	5,079	13.36	8.78
259		521		17		30.54
287	10,902	10,902	1.00	554	19.69	19.69
501		187		15		12.25

Tabla A10.13 Datos Básicos - Modelo COM2 con Variables Controlables

Operador de Red	Datos						
	DMU	O4	O5	I3	O1	O2	O3
5	1	2,536	0	4,514	0	389	0.769
7	2	229	0		0	50	1.000
12	3	3	0	16	0	2	1.000
14	4	241	0	3,068	0	126	1.000
16	5	4,984	0	68,949	0	5,499	1.000
17	6	436	0	669	0	512	0.859
18	7	2,219	0	18,962	0	930	
19	8	13,558	0	9,452	0	1,252	0.987
20	9	1,651	0		0	100	0.488
21	10	10,106	0	13,963	0	1,141	0.830
23	11	2,068	0	5,179	0	550	1.000
24	12	7,571	0	15,664	0	3,500	1.000
28	13	9,910	0	25,081	0	1,397	0.685
31	14	1,638	0	1,683	0	119	0.344
33	15	798	0	882	0	75	
35	16	1,161	0	3,523	0	487	
36	17	8,009	0	13,961	0	1,200	0.716
37	18	5,422	0	7,609	0	531	0.960
38	19	2,539	0	5,105	0	612	1.000
40	20	121	0	1,406	0	95	1.000
41	21	17,307	0	73,782	0	9,260	1.000
155	22	227	0	86	0	7	0.654
193	23	2,194	0	49,876	0	1,435	1.000
195	24	1,437	0	11,524	0	1,020	1.000
225	25	42	0	40	0	1	1.000
251	26	9,910	0	42,889	0	3,573	
252	27	6,073	0	51,407	0	5,079	
259	28	181	0		0	17	1.000
287	29	4,334	0	7,620	0	554	1.000
501	30	84	0		0	15	
Var. Auxiliar		1	0	1	0	1	1
Descripción de las Entradas y Salidas							
O4	Longitud Alimentadores			km			
I3	Costos de O&M			Millones \$			
O2	Demanda Energía del OR			GWh/año			
O3	Calidad			Sin unidad			

Tabla A10.14 Indicadores de Eficiencia Relativa - Modelo COM2 con Variables Controlables

Operador de Red	Eficiencias		
	Total (CRS)	Técnica (VRS)	Escala
5	0.1128	0.1131	0.9967
7			
12	1.0000	1.0000	1.0000
14	0.0572	0.1865	0.3065
16	0.1042	0.5198	0.2004
17	1.0000	1.0000	1.0000
18	0.0640	0.1458	0.4392
19	0.2658	1.0000	0.2658
20			
21	0.1103	0.3132	0.3521
23	0.1390	0.4768	0.2915
24	0.2919	1.0000	0.2919
28	0.0727	0.2037	0.3571
31	0.1081	0.1127	0.9593
33	0.1251	0.1388	0.9012
35	0.1805	0.1807	0.9990
36	0.1122	0.3074	0.3651
37	0.0938	0.2793	0.3359
38	0.1566	0.5780	0.2710
40	0.0962	0.3075	0.3129
41	0.1639	1.0000	0.1639
155	1.0000	1.0000	1.0000
193	0.0376	0.1288	0.2917
195	0.1156	0.3966	0.2915
225	0.5544	1.0000	0.5544
251	0.1088	0.3823	0.2846
252	0.1290	0.6146	0.2100
259			
287	0.0950	1.0000	0.0950
501			
Promedio	0.2299	0.4593	0.5086
Mínimo	0.0009	0.0021	0.0950
Desviación	0.2967	0.3602	0.3180

Tabla A10.15 Comparación Costos de OyM - Modelo COM2 con variables controlables

Operador de Red	Costos O&M Calculados I3 (Millones Col\$)	Costos O&M Eficiencia I3 Efic (Millones Col\$)	I3 Efic/I3 (Eficiencia Relativa)	Energía GWh (O2)	I3/O2 (\$/kWh)	I3 Efic /O2 (\$/kWh)
5	4,514	1,857	0.41	389	11.62	4.78
7		393		50		7.86
12	16	16	1.00	2	8.52	8.52
14	3,068	572	0.19	126	24.30	4.53
16	68,949	35,836	0.52	5,499	12.54	6.52
17	669	669	1.00	512	1.31	1.31
18	18,962	3,116	0.16	930	20.40	3.35
19	9,452	9,452	1.00	1,252	7.55	7.55
20		1,086	0.03	100		10.85
21	13,963	7,473	0.54	1,141	12.24	6.55
23	5,179	3,883	0.75	550	9.41	7.05
24	15,664	15,664	1.00	3,500	4.47	4.47
28	25,081	8,397	0.33	1,397	17.95	6.01
31	1,683	1,077	0.64	119	14.11	9.02
33	882	500	0.57	75	11.77	6.67
35	3,523	1,095	0.31	487	7.23	2.25
36	13,961	6,769	0.48	1,200	11.64	5.64
37	7,609	3,805	0.50	531	14.32	7.16
38	5,105	4,717	0.92	612	8.34	7.70
40	1,406	432	0.31	95	14.80	4.55
41	73,782	73,782	1.00	9,260	7.97	7.97
155	86	86	1.00	7	12.37	12.37
193	49,876	6,424	0.13	1,435	34.77	4.48
195	11,524	4,570	0.40	1,020	11.30	4.48
225	40	40	1.00	1	27.63	27.63
251	42,889	20,128	0.47	3,573	12.00	5.63
252	51,407	31,596	0.61	5,079	10.12	6.22
259		286		17		16.77
287	7,620	7,620	1.00	554	13.76	13.76
501		53		15		3.46