GS<u>ENERGY</u>

**Kent W. Blake** Director Regulatory Initiatives LG&E Energy LLC 220 West Main Street Louisville, Kentucky 40202 502-627-2573 502-217-2442 FAX kent.blake@lgeenergy.com

September 30, 2004

RCEVEL

SEP 3 n 2004

PUBLIC SERVICE COMMISSION

#### Elizabeth O'Donnell Executive Director Kentucky Public Service Commission 211 Sower Boulevard Frankfort, Kentucky 40602-0615

#### **RE:** Investigation Into The Membership of Louisville Gas and Electric Company and Kentucky Utilities Company In The Midwest Independent Transmission System Operator, Inc. – Case No. 2003-00266

Dear Ms. O'Donnell:

Enclosed please find an original and ten (10) copies of pages of Appendix A and Appendix B to Exhibit MJM-2, Mathew J. Morey's Supplemental Cost-Benefit Analysis. These pages were inadvertently omitted from Mr. Morey's Supplemental Testimony filed on September 29, 2004.

Also enclosed please find an original and ten (10) copies of Michael S. Beer's notarized verification.

Should you have any questions concerning the enclosed, please do not hesitate to contact me directly at 502-627-2573.

Sincerely,

Kent WB lale

Kent W. Blake Director, Regulatory Initiatives

cc: Parties of Record

		r	I	Т	
Revenues					
Transmission Revenues					
Transmission Revenues	-	(28.04)	(28.04)	(28.04)	(28.04)
Subtotal	-	(28.04)	(28.04)	(28.04)	(28.04)
Off-system Sales Revenue		(10.91)	(10.91)	(73.84)	1.87
FTRs					
FTR Revenues (as offset to congestion payments)		(74.64)	(74.64)	(74.64)	(74.64)
Share of Net Revenue from FTR Auction	1.58	(8.91)	(8.91)	(8.91)	(8.91)
Subtotal	1.58	(83.54)	(83.54)	(83.54)	(83.54)
Miscellaneous Revenues	-	-	-	-	-
Total Revenues	1.58	(122.49)	(122.49)	(185.42)	(109.72)
Difference in Net Recurring Cost	(2.35)	21.92	50.85	28.73	59.90
Non-recurring Cost (Exit Fee)	(24.81)	(24.81)	(24.81)	(24.81)	(24.81)

#### Table A.3 Annual and PV of Costs and Revenues: MISO Base Case (millions of dollars; present value to 2003, 2005-2010) (Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							
Implementation & Administration	64.79	15.14	14.86	14.89	14.75	14.30	12.88
Ancillary Services Market Administration	0.89			0.28	0.28	0.28	0.28
Other Administrative Costs	-		-	-	~	-	
Subtotal	65.56	15.14	14.86	15.17	15.03	14.58	13.16
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Native Load							
Fuel Costs	2,752.05	525.33	610.41	635.90	648.48	647.18	668.33
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.19	18.64	19.31	21.24	22.71	25.65	31.57
Emission Credit Costs	415.16	103.01	106.10	99.91	94.26	72.56	75.15
Market Purchases	130.34	19.54	20.70	26.24	36.78	41.03	36.59
Subtotal	3,692.30	728.14	818.33	847.15	869.66	856.56	885.14
Off-system Sales							
Fuel Costs	423.63	114.28	104.65	86.52	84.80	80.14	93.97
Variable O&M Costs	12.85	3.34	2.70	2.35	2.55	2.78	3.64
Emission Credit Costs	54.83	18.46	14.81	11.05	10.59	7.86	8.66
Market Purchases	-	-	-	-	-	-	-
Subtotal	491.30	136.08	122.16	99.92	97.94	90.78	106.26
Transmission System Operation Costs							
A&G Costs Associated with RTO Status	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Reliability Coordinator and OASIS Services	~	_	-		_	-	-
Subtotal	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Transmission Usage Costs							
Transmission Payments	24.60	6.96	6.02	5.45	4.73	4.71	4.71
Transmission Congestion Payments	78.56	16.65	17.06	17.49	17.93	18.37	18.83
Subtotal	103.16	23.61	23.08	22.94	22.65	23.08	23.54
Uplift Charges							
Schedule 21 Uplift Charges	3.86	0.81	0.83	0.86	0.89	0.91	0.93
Miscellaneous Uplift Costs	2.23	0.50	0.50	0.50	0.50	0.50	0.50
Subtotal	6.09	1.31	1.33	1.36	1.39	1.41	1.43
Legal, Regulatory & Transaction Costs	3.78	0.80	0.82	0.84	0.86	0.88	0.91
Total Costs	4,374.59	907.71	983.27	990.14	1,010.36	990.20	1,033.42
Revenues							

Transmission Revenues	-						
Transmission Revenues	(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90)
Subtotal	(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90)
Off-system Sales Revenue	(728.60)	(217.41)	(180.48)	(142.51)	(140.87)	(129.40)	(154.14)
FTRs							
FTR Revenues (as offset to congestion payments)	(74.64)	(15.81)	(16.21)	(16.61)	(17.03)	(17.46)	(17.89)
Share of Net Revenue from FTR Auction	(8.91)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)
Subtotal	(83.54)	(17.81)	(18.21)	(18.61)	(19.03)	(19.46)	(19.89)
Miscellaneous Revenues							
Total Revenues	(858.96)	(247.33)	(209.19)	(171.42)	(169.80)	(158.76)	(183.93)
Net Recurring Cost	3,515.63	660.38	774.08	818.72	840.56	831.44	849.49
Exit Fee	-	-	r.	-	-	-	

### Table A.4Annual and PV of Costs and Benefits: PJM RTO Case(millions of dollars; present value to 2003, 2005-2010)

#### (Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							
Implementation &	75.59	17.12	16.45	15.99	16.79	17.45	18.32
Administration Administration	*	-				-	-
Other Administrative Costs	-		-				-
Subtotal	75.59	17.12	16.45	15.99	16.79	17.45	18.32
Operations Costs							
Generation Costs							
A&G Costs Associated with	6.20	1 2 1	1.35	1.38	1.41	1.45	1.49
RTO Status	6.20	1.31	1.55	1.30	1.41	1.45	1.47
Native Load	2,752.05	525.33	610.41	635.90	648.48	647.18	668.33
Fuel Costs Fixed O&M Costs	2,732.03	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.19	18.64	19.31	21.24	22.71	25.65	31.57
Emission Credit Costs	415.16	103.01	106.10	99.91	94.26	72.56	75.15
Market Purchases	130.34	19.54	20.70	26.24	36.78	41.03	36.59
Subtotal	3,692.30	728.14	818.33	847.15	869.66	856.56	885.14
Off-system Sales	3,052.50		010000	0,,,,,0			
Fuel Costs	423.63	114.28	104.65	86.52	84.80	80.14	93.97
Variable O&M Costs	12.85	3.34	2.70	2.35	2.55	2.78	3.64
Emission Credit Costs	54.83	18.46	14.81	11.05	10.59	7.86	8.66
Market Purchases	-	-		_	-	-	-
Subtotal	491.30	136.08	122.16	99.92	97.94	90.78	106.26
Transmission System Operation Costs							
A&G Costs Associated with RTO Membership	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Reliability Coordinator and OASIS Services	-	-	-		_	-	
Subtotal	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Transmission Usage Costs							
Transmission Payments	24.60	6.96	6.02	5.45	4.73	4.71	4.71
Transmission Congestion	78.56	16.65	17.06	17.49	17.93	18.37	18.83
Payments	103.16	23.61	23.08	22.94	22.65	23.08	23.54
Subtotal	105.10	23.01	23.08	22.94		23.08	23.34
Uplift Charges		_					
Schedule 21 Uplift	-	-	-	-	-	-	

Charges(MISO Case Only)							
Miscellaneous Uplift Costs	-	-	-	-	-	-	-
Subtotal	_	-	-		-	_	-
Legal, Regulatory & Transaction Costs	3.78	0.80	0.82	0.84	0.86	0.88	0.91
Total Costs	4,403.33	936.78	983.52	989.60	1,010.73	991.65	1,037.15
Revenues			·····				
Transmission Revenues							···
Transmission Revenues	(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90)
Subtotal	(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90)
Off-system Sales Revenue	(728.60)	(217.41)	(180.48)	(142.51)	(140.87)	(129.40)	(154.14)
FTRs							
FTR Revenues (as offset to congestion payments)	(74.64)	(15.81)	(16.21)	(16.61)	(17.03)	(17.46)	(17.89)
Share of Net Revenue from FTR Auction	(10.49)	(2.33)	(2.34)	(2.35)	(2.37)	(2.38)	(2.39)
Subtotal	(85.13)	(18.14)	(18.54)	(18.97)	(19.40)	(19.84)	(20.28)
Miscellaneous Revenues							
Total Revenues	(860.54)	(247.65)	(209.53)	(171.77)	(170.17)	(159.14)	(184.32)
Net Recurring Cost	3,517.98	660.73	774.00	817.83	840.56	832.52	852.83
Exit Fee	24.81	28.40	-	-		-	-

#### Table A.5

#### Annual and PV of Costs and Revenues: SPP RTO Case (millions of dollars; present value to 2003, 2005-2010) (Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							
Implementation & Administration	30.44	6.43	6.48	6.62	6.95	7.22	7.58
Ancillary Services Market Administration	-	-	-	-	-	-	r
Other Administrative Costs	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Subtotal	30.47	6.43	6.49	6.62	6.95	7.23	7.59
,							
Operations Costs							
Generation Costs							
A&G Costs Associated with SPP RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load							
Fuel Costs	2,759.89	525.49	612.50	638.55	651.47	648.98	669.38
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.28	18.66	19.33	21.25	22.72	25.70	31.57
Emission Credit Costs	416.30	102.84	106.32	100.37	94.92	72.82	75.35
Market Purchases	120.17	19.22	18.18	22.97	33.11	38.30	35.15
Subtotal	3,691.21	727.83	818.13	846.99	869.66	855.94	884.94
Off-system Sales							
Fuel Costs	420.88	113.06	104.19	86.06	84.45	79.72	93.28
Variable O&M Costs	12.77	3.31	2.68	2.33	2.54	2.77	3.62
Emission Credit Costs	54.54	18.25	14.76	11.02	10.59	7.84	8.63
Market Purchases	-	-	-	-	-	-	-
Subtotal	488.19	134.62	121.62	99.42	97.57	90.33	105.53
Transmission System Operation Costs			•				
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services	-		-	-	-	-	
Subtotal	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Transmission Usage Costs							-
Transmission Payments	9.45	1.34	1.34	1.86	2.72	3.17	2.75
Transmission Congestion Payments		-	-	_	-	_	-
Subtotal	9.45	1.34	1.34	1.86	2.72	3.17	2.75
Uplift Charges			7				
Schedule 21 Uplift Charges(MISO Case Only)	-	-	-	-	-	-	-
Miscellaneous Uplift Costs	-	-	-		-	-	-
Subtotal	-	_	-	-	-	-	
Legal, Regulatory & Transaction Costs	2.83	0.60	0.62	0.63	0.65	0.66	0.68

Total Costs	4,254.98	900.54	950.03	957.40	979.48	959.30	1,003.51
Revenues (note revenues will be negative numbers)							
Transmission Revenues							
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Subtotal	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Off-system Sales Revenue	(717.69)	(213.14)	(178.25)	(140.43)	(139.18)	(127.51)	(152.04)
FTRs							
FTR Revenues (as offset to congestion	-	-	-	-	-	-	
payments)Share of Net Revenue from FTR Auction	-	-	-		~	-	
Subtotal	-	-	~	-	-	-	
Miscellaneous Revenues	-	-	-	-	-	-	-
Total Revenues	(736.47)	(218.24)	(182.25)	(144.43)	(143.18)	(131.51)	(156.04)
Net Recurring Cost	3,493.71	653.89	767.78	812.97	836.29	827.79	847.48
Exit Fee	24.81	28.40	-	-	-	-	

### Table A.6Annual and PV of Costs and Revenues: TORC Baseline Scenario<br/>(millions of dollars; present value to 2003, 2005-2010)<br/>(Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							
Implementation & Administration	-	-	-	-	-	-	-
Ancillary Services Market Administration	-	-	-	-		-	
Other Administrative Costs	-	-	-	**	-	-	-
Subtotal	-	-	-	-		-	
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load							
Fuel Costs	2,759.89	525.49	612.50	638.55	651.47	648.98	669.38
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.28	18.66	19.33	21.25	22.72	25.70	31.57
Emission Credit Costs	416.30	102.84	106.32	100.37	94.92	72.82	75.35
Market Purchases	120.17	19.22	18.18	22.97	33.11	38.30	35.15
Subtotal	3,691.21	727.83	818.13	846.99	869.66	855.94	884.94
Off-system Sales							
Fuel Costs	420.88	113.06	104.19	86.06	84.45	79.72	93.28
Variable O&M Costs	12.77	3.31	2.68	2.33	2.54	2.77	3.62
Emission Credit Costs	54.54	18.25	14.76	11.02	10.59	7.84	8.63
Market Purchases	-	-	-	-	-	-	9 <b>6</b>
Subtotal	488.19	134.62	121.62	99.42	97.57	90.33	105.53
Transmission System Operation Costs							
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.59
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.60
Transmission Usage Costs							
Transmission Payments	9.45	1.34	1.34	1.86	2.73	3.17	2.75
Transmission Congestion Payments		-	-	-	_	_	-
Subtotal	9.45	1.34	1.34	1.86	2.73	3.17	2.75
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case Only)	-					-	-
Miscellaneous Uplift Costs	-		-		-	-	-
Subtotal	-		-	-	-	-	-
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.45
Total Costs	4,226.05	894.43	943.87	951.12	972.88	952.43	996.29

Revenues (note revenues will be negative numbers)							
Transmission Revenues							
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Subtotal	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Off-system Sales Revenue	(717.69)	(213.14)	(178.25)	(140.43)	(139.18)	(127.51)	(152.04)
FTRs							
FTR Revenues (as offset to congestion	-	-	-	-	-		-
payments)Share of Net Revenue from FTR Auction	-	_	-	_	-	-	-
Subtotal	-	**	-	-	-	-	-
Miscellaneous Revenues	_	-	-	-	-	-	-
Total Revenues	(736.47)	(218.24)	(182.25)	(144.43)	(143.18)	(131.51)	(156.04)
Net Recurring Cost	3,464.78	647.78	761.63	806.69	829.70	820.92	840.26
Exit Fee	24.81	28.40		-			

#### Table A.7 Annual and PV of Costs and Revenues: TORC Low-Transfer Scenario (millions of dollars; present value to 2003, 2005-2010) (Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							
Implementation & Administration	-	-	-	-	-		-
Ancillary Services Market Administration	_	-		-	-	-	-
Other Administrative Costs		-		-	-	-	-
Subtotal		-	-	-	-	-	
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load							
Fuel Costs	2,760.66	525.55	612.61	638.58	651.68	649.33	669.72
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.46	18.91	19.46	21.29	22.71	25.57	31.45
Emission Credit Costs	412.85	101.30	105.41	100.02	94.08	72.30	75.10
Market Purchases	120.21	19.28	18.20	22.98	33.01	38.35	35.15
Subtotal	3,688.75	726.66	817.48	846.72	868.91	855.68	884.92
Off-system Sales							
Fuel Costs	388.29	100.20	96.61	82.92	78.26	73.19	86.84
Variable O&M Costs	11.80	2.98	2.51	2.25	2.34	2.52	3.35
Emission Credit Costs	49.77	15.99	13.58	10.59	9.70	7.12	7.99
Market Purchases			-	-	-	-	-
Subtotal	449.86	119.17	112.70	95.77	90.30	82.83	98.18
Transmission System Operation Costs						-	
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.59
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.60
Transmission Usage Costs							
Transmission Payments	9.45	1.34	1.34	1.86	2.72	3.17	2.75
Transmission Congestion Payments			-	-	-	-	-
Subtotal	9.45	1.34	1.34	1.86	2.72	3.17	2.75
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case	_	-		-	-	-	-
Only) Miscellaneous Uplift Costs	-	-		-	-	-	•
Subtotal				-	-	-	
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.45
Total Costs	4,185.25	877.81	934.30	947.20	964.86	944.67	988.92

Revenues							
Transmission Revenues							
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Subtotal	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Off-system Sales Revenue	(654.76)	(188.51)	(163.50)	(133.16)	(127.09)	(115.49)	(140.47)
FTRs							
FTR Revenues (as offset to congestion payments)	-	-	-	_	_	-	-
Share of Net Revenue from FTR Auction	-		-	-		-	-
Subtotal	-	-	-	**	-	-	
Miscellaneous Revenues	-	-	-	-	-		
Total Revenues	(673.54)	(193.61)	(167.50)	(137.16)	(131.09)	(119.49)	(144.47)
Net Recurring Cost	3,486.90	655.80	766.80	810.04	833.76	825.18	844.45
Exit Fee	24.81	28.40	-	-	-	-	

### Table A.8Annual and PV of Costs and Revenues: TORC High-Transfer Scenario<br/>(millions of dollars; present value to 2003, 2005-2010)<br/>(Positive numbers are costs; Negative numbers are revenues)

Category	PV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
Administrative Costs							į
Implementation & Administration		-	-	-	-	-	-
Ancillary Services Market Administration	-		-	-	-	-	
Other Administrative Costs	-	-	~	-	-	~	-
Subtotal	-		-	-	-	-	
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load							
Fuel Costs	2,752.07	525.30	610.52	635.85	648.41	647.22	668.36
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.20	18.64	19.31	21.23	22.70	25.68	31.57
Emission Credit Costs	415.19	102.92	106.07	99.89	94.39	72.61	75.18
Market Purchases	129.87	19.48	20.49	26.19	36.78	40.80	36.52
Subtotal	3,691.90	727.97	818.20	847.02	869.72	856.44	885.12
Off-system Sales							
Fuel Costs	422.85	114.11	104.45	86.21	84.69	80.27	93.59
Variable O&M Costs	12.84	3.34	2.69	2.34	2.55	2.79	3.63
Emission Credit Costs	54.77	18.43	14.79	11.02	10.60	7.88	8.65
Market Purchases		-	-		-	-	-
Subtotal	490.46	135.88	121.94	99.57	97.83	90.94	105.88
Transmission System Operation Costs							
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.59
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.60
Transmission Usage Costs							
Transmission Payments	10.23	1.35	1.51	2.12	3.03	3.37	2.86
Transmission Congestion Payments		-	-	-	-	-	
Subtotal	10.23	1.35	1.51	2.12	3.03	3.37	2.86
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case				-		-	<u> </u>
Only) Miscellaneous Uplift Costs			-	-	-	-	-
Subtotal	-	<u> </u>	-	-	-		-
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.45
Total Costs	4,229.78	895.84	944.43	951.56	973.51	953.74	996.93

Revenues							
Transmission Revenues							
Through and Out Revenues		-	-				
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Subtotal	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Off-system Sales Revenue	(730.46)	(217.64)	(180.98)	(142.65)	(141.55)	(130.24)	(154.32)
FTRs							
FTR Revenues (as offset to congestion payments)	-	-	-	-	-	~	
Share of Net Revenue from FTR Auction	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-
Miscellaneous Revenues	-	-	-	-	-	-	-
Total Revenues	(749.24)	(222.74)	(184.98)	(146.65)	(145.55)	(134.24)	(158.32)
Net Recurring Cost	3,455.73	644.70	759.45	804.91	827.96	819.49	838.61
Exit Fee	24.81	28.40	-	-	-	-	-

2

Appendix B Work Papers to Accompany the Supplemental Investigation

7

# VARIOUS INPUTS USED IN THE COST BENEFIT STUDY

7.0% 2.5% 2003	
Discount Rate Inflation Rate Base Year	

16 20

MISO Rate Sensitivity Case 10%

FTR Revenue Shortfall % 5%

Average Growth Rate of Combined Companies forecast

2.04%

09/25/2004

Administrative Charges	(\$/MWh) 2003	2004	2005	2006	2007	2008	2009	2010
Schedule 10			0.15	0.15	0.15	0.148	0.134	0.13
Schedule 16			0.058	0.059	0.059	0.056		0.046
Schedule 17			0.077	0.073	0.072	0.069		0.056
All Schedules			0.285	0.282	0.281	0.273		0.232
JM (w/o mktintegration)	0.5	0.54	0.56	0.53	0.53	0.54325	0.55(	0.570752031
JM (w/ mkt integration)	0.5	0.54	0.42	0.41	0.4	0.41	0.42	0.43
SPP (all nominal dollars)	0.15	0.15	0.15759375	0.161533594	0.165571934	0.169711232	0.173954013	0.178302863

integration means expansion of PJM footprint to include AEP, ComEd, DP&L and Dominion

rates exclude FERC fees

SPP rate grows with inflation

PJM w/o integration grows with inflation after 2007

PJM w integration grows with inflation after 2007

MISO schedules drawn from Response to Interrogatory Question No. 8 Note: SPP currently has a cap on administrative charges of 20 cents/MWh

2010	0.5
2009	0.5
2008	0.5
2007	ons 2004\$) 0.5
2006	(milli) 0.5
2005	0.5
Reliability Coordination and OASIS Services Costs	applicable to Standalone option only

# Load and Energy Forecasts, LG&E, KU and Combined

# **Combined Annual Peak Load Forecast**

Year Year   003 2004 2005 2006 2007 20   6.532 6,696 6,811 6,951 20 20									
003 2004 2005 2006 2007 20   6.532 6,696 6,811 6,951 20					Year				
6,532 6,696 6,811 6,951 5,896 5,816 5,896		2003	2004	2005	2006	2007	2008	2009	2010
5 542 5 754 5 896	Summer Peak MW	need actual 2003	6,532	6,696	6,811	6,951	7,125	7,272	7,383
	Winter Peak MW	Winter Peak MW need actual 2003	5,513	5,647	5,754	5,896	5,974	6,142	6,223

Source: Merged 2005 Forecast.xls provided by the Companies, August 6 2004

weather normalized forecasts

			2.04%
	2010	38,121	1.76%
	2009	37,462	1.81%
	2008	36,797	2.34%
	2007	35,954	2.31%
Year	2006	35,143	1.96%
L	2005	34,468	2.31%
ecast	2004	33,689	1.82%
Combined Annual Net Energy for Load Fore	2003	33,087	
Com		GWh	%delta

source: Merged 2005 Forecast.xls

## LG&E Annual Peak Load Forecast

			L	Year				
	2003	2004	2005	2006	2007	2008	2009	2010
Summer Peak MW	Summer Peak MW need actual 2003	2,579	2,629	2,673	2,705	2.756	2,800	2,850
Winter Peak MW	Winter Peak MW need actual 2003	1,770	1,805	1,835	1,857	1,892	1,922	1,957

## KU Annual Peak Load Forecast

			1					
				Year				
	2003	2004	2005	2006	2007	2008	2009	2010
Summer Peak MW	Summer Peak MW need actual 2003	3,967	4,067	4,153	4,275	4,387	4,472	4,549
Winter Peak MW	Winter Peak MW need actual 2003	3,747	3,842	3,923	4,039	4,145	4,225	4,297

	2010	13,722	
	2009	13,478	
	2008	13,266	
	2007	13,024	
Year	2006	12,870	
L	2005	12,657	
orecast	2004	12,417	
LG&E Annual Net Energy for Load Forecast	2003	need actual 2003	
		GWh	

			L					
	KU Annual Net Energy for Load Forecast	cast		Year				
	2003	2004	2005	2006	2007	2008	2009	2010
GWh	need actual 2003	21,273	21,812	22,273	22,930	23,530	23,983	24,399

**MISO Statistics** 

Ten Year Projection Act	on Actua								
Peak Hr Demar	2002	2003	2004	2005	2006	2007	2008	2009	2010
Summer-MW		111,000	112,887	114,806	116,758	118,743	120,761	122,814	124,902

• 1.70% assumed growth rate

		008
		2008
		a protection and
		2007
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	Net Er	

2010

2009

641,914,002 629,327,453 616,987,699 604,889,901 593,029,314 581,401,289 570,001,263 Ancillary Market Administration Service Charges

2010	0.28	
2009	0.28	
2004 2005 2006 2007 2008	0.28	
2007	0.28	
2006		
2005		
2004		
2003		
2002		

Note: ancillary market administration service costs adopted from previous study, left unchanged

Source for MISO Net Energy for Load all years Attachment to LGE/KU #44: Witness Holstein, page 25, Total Midwest ISO Projection, Total for computing Schedule 10 charges

	003 2004 2005 2006 2007 2007 2008 2009 2010	717,144,243 731,487,128 746,116,870 761,039,208 776,259,992 791,785,192 807,620,896
	33	717,144,
otals	200	
Absolute To	2002	

Source for MISO Net Energy for Load all years Attachment to LGE/KU #44: Witness Holstein, page 25, Total Midwest ISO Projection, Absolute Totals

#### **PJM Statistics**

Assumed Net	t Revenue fr	om FTR Auctions	(million \$)		
2005	2006	2007	2008	2009	2010
25	25	25	25	25	25

	Peak Load						
Γ	2004	2005	2006	2007	2008	2009	2010
WN Summ	65,200	66,478	67,654	68,787	69,935	71,015	72,178
Γ	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
WN Winter	52,687	53,622	54,453	55,272	56,082	56,879	57,700

1.7% summer growth rate assumed:

http://www.pjm.com/planning/res-adequacy/downloads/2004-load-report.pdf 1.5% winter growth rate assumed

http://www.pjm.com/planning/res-adequacy/downloads/2004-load-report.pdf

Net Energy for Load (GWh)

[	2004	2005	2006	2007	2008	2009	2010
325171	330,898	335,792	341,083	346,199	351,719	356,142	361,306
growth rate	0.018	0.015	0.016	0.015	0.016	0.013	0.014

1.4% overall growth rate

http://www.pjm.com/planning/res-adequacy/downloads/2004-load-report.pdf

	SPP Statistics Annual Membership Fees	(million S) 0.006				
	SPP Statistics Summer Demand	Winter Demand Annual Energy	Annual Energy	Admi	Administrative Costs	osts
	(MM)	(MM)	(GWh)	Opera (millio	Operating Costs Capital c (million \$) (million \$	Capital c (million 3
1998 (4-1-99)	37.724	27,847	183,102	2004	39.00	**
1999 (4-1-00)		27,963	179,409	2005	42.00	4
2000 (4-1-01)		30,576	193,661	2006	44.00	¥
2001 (4-1-02)		29,614	193,590	2007	45.10	¥
2002 (4-1-03)	39.688	30,187	196,103	2008	46.23	÷
W/Vear	1.25%	2.0%	1.50%	2009	47.38	÷
				0,00	10 51	*

	Operating Costs Capital costs Total Costs	Capital costs	Total Costs	Implied
	(million S)	(million S)	(million \$)	Rate: S/MWh
2004	39.00	15.00	54.00	0.2665
2005	42.00	16.00	58.00	0.2806
2006	44.00	13.00	57.00	0.2756
2007	45.10	13.33	58.43	0.2767
2008	46.23	13.66	59.89	0.2784
2009	47.38	14.00	61.38	0.2800
2010	48.57	14.35	62.92	0.2830
	operating and capita	il costs after 2006	i assumed to grov	operating and capital costs after 2006 assumed to grow at 2.5% per annum

	Feh	Mar	Aor	Mav	June	July	Aug	Sept	Oct	Nov Dec	
29 556	2995 72	-	26.228	31,896		40,848	40,889	36,648	28,298	26,673	
16 785	14.989		14.278	15,759	18,547	21,607	21,113	17,231	15,198	14,968	
2002	2003	3 2004	2005	2006	2007	2008	2009	2010	2011	2012	
39688	40564	4 41345	41826	42158	43012	43855	44736	45606	46500	47361	
		0.0192	0.011633813		0.007937646 0.02025713 0.01959918	0.01959918		0.020088929 0.01944742 0.01960268 0.01851613	0.01960268	0.01851613	
002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11 2011/12		2012/13	
30.187	29,891	30,555	31,069	31,366	31,998	32,663	33,048	33,989	34,625	35,228	
2002	2003	3 2004	2005	2006	2007	2008	2009	2010	2011	2012	
194.876	199,475	202	206,712	206,849	211,165	215,140	219,190	222,337	225,889	360,237	

Energy and Load Sha	res for Cha	nge Cases					
		2005	2006	2007	2008	2009	2010
Summer Peak Load S	hares: Com	bined Compani	es				
Base Case: MISO	LG&E/KU	5.83%	5.83%	5.85%	5.90%	5.92%	5.91%
Change Case 1: PJM	LG&E/KU	9.15%	9.15%	9.18%	9.25%	9.29%	9.28%
	[						
Change Case 2: SPP	LG&E/KU	13.80%	13.91%	13.91%	13.98%	13.98%	13.93%

	[	2005	2006	2007	2008	2009	2010
Energy Shares: Com	bined Comp	anies					
Base Case: MISO	LG&E/KU	5.93%	5.93%	5.81%	5.83%	5.95%	5.94%
Change Case 1: PJM	LG&E/KU	9.31%	9.34%	9.41%	9.47%	9.52%	9.54%
Change Case 2: SPP	LG&E/KU	14.29%	14.52%	14.55%	14.61%	14.60%	14.64%

	2005	2006	2007	2008	2009	2010
Summer Peak Load Si	nares: LG&E					
Base Case: MISO	2.29%	2.29%	2.28%	2.28%	2.28%	2.28%
Change Case 1: PJM	3.80%	3.80%	3.78%	3.79%	3.79%	3.80%
Change Case 2: SPP	5.91%	5.96%	5.92%	5.91%	5.89%	5.88%

	2005	2006	2007	2008	2009	2010
Energy Shares: LG&E						
Base Case: MISO	2.18%	2.17%	2.15%	2.15%	2.14%	2.14%
Change Case 1: PJM	3.42%	3.42%	3.41%	3.41%	3.42%	3.44%
_						
Change Case 2: SPP	5.25%	5.32%	5.27%	5.27%	5.25%	5.27%
-						

	2005	2006	2007	2008	2009	2010				
Summer Peak Load Shares: KU										
Base Case: MISO	3.54%	3.56%	3.60%	3.63%	3.64%	3.64%				
Change Case 1: PJM	5.77%	5.78%	5.85%	5.90%	5.92%	5.93%				
				0.000						
Change Case 2: SPP	8.86%	8.97%	9.04%	9.09%	9.09%	9.07%				
	2005	2006	2007	2008	2009	2010				
Energy Shares: KU	2005	2006	2007	2008	2009	2010				
Energy Shares: KU Base Case: MISO	<b>2005</b> 3.75%	<b>2006</b> 3.76%	<b>2007</b> 3.79%	<b>2008</b> 3.81%	<b>2009</b> 3.81%	<b>2010</b> 3.80%				
<b>U</b>					I					
<b>U</b>					I					
Base Case: MISO Change Case 1: PJM	3.75% 5.89%	3.76% 5.92%	3.79% 6.00%	3.81%	3.81% 6.09%	<u>3.80%</u> <u>6.11%</u>				
Base Case: MISO	3.75%	3.76%	3.79%	3.81%	3.81%	3.80%				

	Admin & General	Costs							
		PV 2005 -							
		2010							
		(million \$					1		
		2003							
			2005	2006	2007	2008	2009	2010	(millions\$)
									Inputs
RTO	Generation A&G	6.20	1.313281	1.346113	1.379766	1.41426	1.449617	1.485857	1.25
RTO	Trans A&G	6.20	1.313281	1.346113	1.379766	1.41426	1.449617	1.485857	
Standalor	Generation A&G	4.21	0.893031	0.915357	0.938241	0.961697	0.985739	1.010383	0.85
Standalor	n Trans A&G	3.80	0.42025	0.915357	0.938241	0.961697	0.985739	1.010383	0.4
									Note:

.

Net Congestion Payment (\$million) (	from spread	sheet Genera	tion_Load_LN	IP_Base.xls)		
2004	2005	2006	2007	2008	2009	2010
\$ 15.84	16.65	17.06	17.49	17.93	18.37	18.83

#### Legal Regulatory and Transaction Costs

All other costs assumed to rise at rate of inflation

	NPV 2005 - 2010 (million \$ 2003)	2005	2006	2007	2008	2009	2010
MISO Base Case							
FERC Fees	\$4.10	0.86	0.86	0.86	0.86	0.86	0.86
Other Costs	\$4.04	0.8	0.82	0.84	0.86	0.88	0.91
Total	\$8.14	1.66	1.68	1.70	1.72	1.74	1.77
Standalone Option		0.67	0.67	0.67	0.67	0.67	0.67

FERC Fees	\$3.19	0.67	0.67	0.67	0.67	0.67	0.67
Other Costs	\$2.02	0.4	0.41	0.42	0.43	0.44	0.45

Total

Note

FERC fees not included in analysis this round.

Estimation of LG&E/KU Exit Fee	Effective E	xit 12/31/20	004
	Latest Fig	ures from N	IISO July Information Filing for Market Startup Costs
	This cove	rs schedule	16 & 17 Capital costs (in \$ million)
\$ 270	\$	270	
\$ 15	\$	15	assumed additional capital expenses to comply with FERC TEMT order
\$ 285	\$	285	
Capital Expenditures for Schedule 1	0 Capital Ex	penditures	for Schedule 10
18	0	. 180	
1	5	15	assumed additional capital expenses to comply with FERC TEMT order
7	•	7	assumed additional for joint and common market
20	2	202	
\$ 487	\$	487	Total
		28.40	LGE pro rata share
		20,40	

#### Estimation of Schedule 10, 16 and 17 Charges for the Period 2005-2010

	ENERGY (G	WH)			
	KU	LG&E	OSS	Combined	KU+LGE
2005	21,812	12,657	6,302	40,770	34,468
2006	22,273	12,870	4,975	40,118	35,143
2007	22,930	13,024	4,014	39,968	35,954
2008	23,530	13,266	4,143	40,939	36,797
2009	23,983	13,478	4,064	41,525	37,462
2010	24,399	13,722	4,416	42,537	38,121

Summer CPeak Load (MW)									
	KU	LG&E	Combined						
2005	4,067	2,629	6,696						
2006	4,153	2,673	6,826						
2007	4,275	2,705	6,980						
2008	4,387	2,756	7,143						
2009	4,472	2,756	7,228						
2010	4,549	2,850	7,399						

Miscellaneous Uplift Charge	es (millions of dollars)
-----------------------------	--------------------------

2005	0.5
2006	0.5
2007	0.5
2008	0.5
2009	0.5
2010	0.5
ale	

Totals

	Yea			Sch. 10		Sch. 16		Sch. 17	
		2005		0.15		0.058		0.077	
		2006		0.15		0.059		0.073	
		2007		0.15		0.059		0.072	
		2008		0.148		0.056		0.069	
		2009		0.134		0.056		0.068	
		2010		0.13		0.046		0.056	
	Sch	edule 1	0 0	harges					
		Rate		ĸu		LG&E		OSS	COMBINED
2	2005	0.15	\$	3,271,735	\$	1,898,513	\$	945,240	\$ 6,115,487
2	2006	0.15	\$	3,340,977	\$	1,930,474	\$	746,225	\$ 6,017,675
2	2007	0.15	\$	3,439,464	\$	1,953,624	\$	602,048	\$ 5,995,136
2	2008	0.148	\$	3,482,473	\$	1,963,431	\$	613,105	\$ 6,059,009
2	2009	0.134	\$	3,213,782	\$	1,806,065	\$	544,544	\$ 5,564,391
2	2010	0.13	\$	3,171,893	\$	1,783,890	\$	574,063	\$ 5,529,846
	Tota	al	\$	19,920,323	\$	11,335,997	\$	4,025,224	\$ 35,281,544
	Sch	edule 1		Charges	95	% FTR Annua	al P	eak	
		Rate		- KU		LG&E		OSS	COMBINED
2	2005	0.058	\$	1,963,043	\$	1,268,955		0	\$ 3,231,998
2	2006	0.059	\$	2,039,115	\$	1,312,438			\$ 3,351,552
2	2007	0.059	\$	2,099,016	\$	1,328,150			\$ 3,427,166
2	2008	0.056	\$	2,044,482	\$	1,284,384			\$ 3,328,867
2	2009	0.056	\$	2,084,095	\$	1,284,384			\$ 3,368,479
2	2010	0.046	\$	1,741,412	\$	1,091,014			\$ 2,832,426
	Tot	al	\$	11,971,164	\$	7,569,325	\$	-	\$ 19,540,489
	Sch	nedule '	17 (	Charges					
	F	Rate		KU		LG&E		OSS	COMBINED
2	2005	0.077	\$	3,358,981	\$	1,949,140	\$	485,223	\$ 5,793,344
:	2006	0.073	\$	3,251,884	\$	1,878,994	\$	363,163	\$ 5,494,041
2	2007	0.072	\$	3,301,885	\$	1,875,479	\$	288,983	\$ 5,466,347
1	2008	0.069	\$	3,247,171	\$	1,830,767	\$	285,839	\$ 5,363,777
2	2009	0.068	\$	3,261,749	\$	1,833,021	\$	276,336	\$ 5,371,106
:	2010	0.056	\$	2,732,708	\$	1,536,890	\$	247,289	\$ 4,516,886
	Tot	al	\$	19,154,378	\$	10,904,292	\$	1,946,832	\$ 32,005,502
		Total		KU		LG&E		OSS	COMBINED
:	2005		\$	8.59	\$	5.12	\$	1.43	\$ 15.14
:	2006		\$	8.63	\$	5.12	\$	1.11	\$ 14.86
:	2007		\$	8.84	\$	5.16	\$	0.89	\$ 14.89
:	2008		\$	8.77	\$	5.08	\$	0.90	\$ 14.75
1	2009		\$	8.56	\$	4.92	\$	0.82	\$ 14.30
	2010		\$	7.65	\$	4.41	\$	0.82	\$ 12.88
Totals			\$	51.05	\$	29.81	\$	5.97	\$ 86.83

#### MISO's Rates MISO Response to LG&E/KU 8/18/04 Data Request Item No.8.

			ensitivity Case SO Rates Are	10º/ +	han 2	004 projectio	ns, beginning 2006
Sch 10 Ba: \		. 1711	SC Rales Ale	Sch. 16	11011 2	Sch. 17	ns, beginning 2000
0.15	2005		0.15	0.0580		0.0770	
0.165	2006		0.15	0.0649		0.0803	
0.165	2007		0.15	0.0649		0.0792	
0.1628	2008		0.15	0.0616		0.0759	
0.1474	2009		0.15	0.0616		0.0748	
0.143	2010		0.14	0.0506		0.0616	
	Schedule 1					<u></u>	
•	Rate		KU	LG&E		OSS	COMBINED
2005	0.15	\$	3,271,735	\$	\$	945,240	\$ 6,115,487
2006	0.15		3,340,977	\$	\$	746,225	\$ 6,017,675
2007	0.15	\$	3,439,464	\$	\$	602,048	\$ 5,995,136
2008	0.15	\$	3,529,533	\$ 1,989,964	\$	621,390	\$ 6,140,888
2009	0.1474	\$	3,535,161	\$ 1,986,672	\$	598,998	\$ 6,120,831
2010	0.143	\$	3,489,082	\$ 1,962,279	\$	631,469	\$ 6,082,831
	Total	\$	20,605,951	\$ 11,721,525	\$	4,145,370	\$ 36,472,846
	Schedule '			FTR Annual F			
	Rate		KU	LG&E		OSS	COMBINED
2005	0.058	\$	1,963,043	\$ 1,268,955		0	\$ 3,231,998
2006	0.0649		2,243,026	\$ 1,443,681			\$ 3,686,708
2007	0.0649		2,308,918	\$ 1,460,965			\$ 3,769,883
2008	0.0616	\$	2,248,931	\$ 1,412,823			\$ 3,661,753
2009	0.0616	\$	2,292,505	\$ 1,412,823			\$ 3,705,327
2010	0.0506	\$	1,915,553	\$ 1,200,116			\$ 3,115,669
	Total	\$	12,971,976	\$ 8,199,362	\$	-	\$ 21,171,338
	Schedule <sup>•</sup>	17 C	Charges				
	Rate		KU	LG&E		OSS	COMBINED
2005	0.077		3,358,981	\$ 1,949,140	\$	485,223	\$ 5,793,344
2006	0.0803		3,577,072	\$ 2,066,894	\$	399,479	\$ 6,043,445
2007	0.0792		3,632,074	\$ 2,063,027	\$	317,881	\$ 6,012,982
2008	0.0759		3,571,888	\$ 2,013,844	\$	314,423	\$ 5,900,155
2009	0.0748		3,587,924	\$ 2,016,324	\$	303,969	\$ 5,908,217
2010	0.0616		3,005,979	\$ 1,690,579	\$	272,018	\$ 4,968,575
	Total	\$	20,733,917	\$ 11,799,807	\$	2,092,993	\$ 34,626,718
	Total		KU	LG&E	•	OSS	COMBINED
2005		\$	8.59	\$ 5.12	\$	1.43	\$ 15.14 • 15.75
2006		\$	9.16	\$ 5.44	\$	1.15	\$ 15.75
2007		\$	9.38	\$ 5.48	\$	0.92	\$ 15.78 \$ 15.70
2008		\$	9.35	\$ 5.42	\$ ¢	0.94	\$ 15.70 \$ 15.72
2009		\$ \$ \$ \$ \$	9.42	\$ 5.42	\$	0.90	\$ 15.73 \$ 14.17
2010		\$	8.41	\$ 4.85	\$	0.90	<u>\$ 14.17</u>
Totals		\$	54.31	\$ 31.72	\$	6.24	\$ 92.27

IN- MISO	2005	2006	2007	2008	2009	2010			
XM Payment	7.0	6.0	5.5	4.7	4.7	4.7			
XM Revenue	12.1	10.5	10.3	9.9	9.9	9.9			
IN PJM									
XM Payment	7.0	6.0	5.5	4.7	4.7	4.7			
XM Revenue	12.1	10.5	10.3	9.9	9.9	9.9			
IN SPP	Tx payments	and revenu	es listed he				2: SPP Low-T	ranster Ca:	
XM Payment	1.34	1.34	1.86	2.72	3.17	2.75			
XM Revenue	5.1	4.0	4.0	4.0	4.0	4.0			
Standalone	Tx payments	and revenu	es listed he				2: TORC Low	-Transfer Sce	nai
XM Payment	1.34	1.34	1.86	2.72	3.17	2.75			
XM Revenue	5.1	4.0	4.0	4.0	4.0	4.0			
IN SPP	Tv navments a	and revenues	associated v	vith I GF Sta	ff Case #3: I	Baseline Case	used for SPP	and TORC Bas	eline)
XM Payment		1 34	1.86	2.73	3.17	2 75	`		
XM Revenue		4.0	4.0	4.0	4.0	4.0			
XIII Kevenue									
Standalone									
XM Payment	1.34	1.34	1.86	2.73	3.17	2.75			
XM Revenue		4.0	4.0	4.0	4.0	4.0			
XWINCVCINC	1								
Standalone	Tx payments	and revenu	les associa	ted with LG	E Staff Cas	se #4: High-T	ransfer Scenr	ar	
XM Payment		1.51	2.12	3 03	3.37	2.86			
XM Revenue		4.0	4.0	4.0	40	4.0			
	1								

Transmission Payments and Revenues

Notes

Used wheeling cost \$ from PROSYM as the XM expense in all four cases

For the In-MISO and In-PJM cases this PROSYM wheeling represent the cost to make sales to TVA

Gross-up by 55% to reflect gross cost of transmission (PROSYM assumes net)

For the In-SPP and Standalone cases this PROSYM wheeling represents the cost to make purchases from RTO No gross-up needed as cost is paid 100% with no return

Calculate XM revenues based on existing projections of GFA revenue, 3rd party RTO revenues and partial return of the XM expense For the In-SPP and Standalone case the revenue is only the projected GFA revenue

	PV 2005 - 2010 (million \$						
	2003)	2005	2006	2007	2008	2009	2010
MISO Misc Uplift Cha	r 5.14	0.5	0.5	0.5	0.5	0.5	0.5
MISO Sch 21 Uplift Cl		0.81	0.83	0.86	0.89	0.91	0.93
PJM Uplift Charges	÷	-	-	-	-	-	-

#	FERC Docket	IPP Owner	IPP ID	 nual RR \$000)	MW Output	State	\$ /MW
1	ER03-1396	Troy Energy		\$ 1,500	620	Ohio	\$ 2,419
2	ER04-652	First Energy Se	Sumpter	\$ 3,000	340	Ohio	\$ 8,824
3	ER04-1110	Reliant	Zeeland	\$ 1,660	864	Mich	\$ 1,921
4	ER04-1075	Holland Energy	у	\$ 1,129	650	IL	\$ 1,737
5	ER04-717	Reliant	Orion	\$ 2,192	1310	Ohio	\$ 1,673
6	ER04-1055	Calpine	Riverside	\$ 1,525	600	Wisc	\$ 2,542
7	ER04-1059	Calpine	Rockgen	\$ 947	475	Wisc	\$ 1,994
8	ER04-992	Dynegy	Renaissance	\$ 1,309	780	Mich	\$ 1,678
	Total			\$ 13,262	5639		\$ 2,352

LGE	Share	

2005	2006	2007	2008	2009	2010				
0.81	0.83	0.86	0.89	0.91	0.93				

Note

based on load ratio share

In RTO Case with MIDAS Prices	2004 NPV	2005	2006	2007	2008	2009	2010
RTO Case, \$000 Native Load	2004 NF V	2005	2000	2007	2000	2000	2010
Fuel Costs	2,681,829.58	525,327.26	610,409.91	635,897.47	648,483.71	647,182.32	668,333.37
Fixed O&M Costs	286,159.11	61,619.81	61,802 84	63,856.43	67,431.06	70,128.89	73,497.19
Variable O&M Costs	98,119.74	18,642.53	19,308.17	21,239.52	22,708.39	25,648.51	31,571.71
Emission Costs	408,247.41	103,007.14	106,100.34	99,908.04	94,258.12	72,564.66	75,148.60
Market Purchase Costs	125,844.99	19,539 82	20,704.29	26,243.78	36,780 54	41,032.16	36,589.55
Wheeling Costs	-	-	-	-	-	9EC EEC EA	885,140.42
Total Native Load Costs	3,600,200.83	728,136 56	818,325.55	847,145.24	869,661.82	856,556.54	005,140.42
Off Suptom Salas							
Off-System Sales Fuel Costs	416,102.64	114,277.91	104,649.29	86,522.97	84,798,43	80,141.14	93,965.04
Variable O&M Costs	12,552.21	3,341.63	2,695.63	2,349.61	2,550.43	2,778.72	3,638.66
Emission Costs	54,331.82	18,463 79	14,812.77	11,052.25	10,586.32	7,861 55	8,660.93
Market Purchase Costs	-	-	-	-	-	-	-
Wheeling Costs	13,324.13	3,830.97	3,306.78	3,004.90	2,603.88	2,590.77	2,593.19
Total Off-System Sales Costs	496,310.80	139,914.30	125,464 47	102,929.73	100,539.06	93,372.18	108,857.83
Off Ductory Color Devenue	(747 446 70)	(217 412 20)	(180,483.82)	(142,505.49)	(140,870.35)	(129,404.03)	(154,137.35)
Off-System Sales Revenue	(717,446.79) 3,379,064.83	(217,412.30) 650,638.56	763,306.20	807,569.48	829,330.53	820,524.69	839,860.89
Total Costs (Net of Revenue)	3,379,004.03	000,000.00	100,000.20	001,000.10	020,000/00	020,021.00	,
TORC Case: Low-Transfer Scen	ario						
TORC Case, \$000	2004 NPV	2005	2006	2007	2008	2009	2010
Native Load							
Fuel Costs	2,690,167.30	525,547.27	612,609.69	638,582.02	651,676.71	649,334.78	669,724.75
Fixed O&M Costs	286,159.11	61,619.81	61,802.84	63,856.43	67,431.06 22,713.61	70,128.89 25,568.01	73,497.19 31,454.70
Variable O&M Costs	98,408.58	18,905 19 101,303 59	19,461.31 105,406.88	21,287.40 100,017.44	94,080.52	72,301.94	75,095 96
Emission Costs Market Purchase Costs	405,893.67 116,036.19	19,284.93	18,196.95	22,977.93	33,012.12	38,350.05	35,151.11
Wheeling Costs	9,103.85	1,339.73	1,341.83	1,861.20	2,721.49	3,167.29	2,751.51
Total Native Load Costs	3,605,768.70	728,000.53	818,819.50	848,582.42	871,635.51	858,850.96	887,675.22
Off-System Sales							
Fuel Costs	381,148.53	100,196.03	96,614.61	82,921.85	78,257.53	73,190.10	86,838.01 3,347.01
Variable O&M Costs	11,530.22	2,983.26	2,507.57	2,253.89 10,589.78	2,342.11 9,701.09	2,517.90 7,120.19	7,990.76
Emission Costs	49,270.89	15,985.82 ~	13,581.57	10,569.76	9,701:05	7,120.15	-
Market Purchase Costs Wheeling Costs	-	-	-	-	-	-	-
Total Off-System Sales Costs	441,949.64	119,165.11	112,703.75	95,765.52	90,300.73	82,828.19	98,175.78
Total off System sales soots							
Off-System Sales Revenue	(644,354.91)	(188,509.02)	(163,500 20)	(133,161.48)	(127,094.84)	(115,493.24)	(140,472.48)
Total Costs (Net of Revenue)	3,403,363.42	658,656.61	768,023.05	811,186.46	834,841.40	826,185.91	845,378 52
					0000	2009	2010
TORC Case: Baseline Scenario	2004 NPV	2005	2006	2007	2008		
(Up XM) Case, \$000	2004 NPV	2005	2006	2007	2008	2003	2010
(Up XM) Case, \$000 Native Load	2004 NPV 2,689,438 19	<b>2005</b> 525,487.69	<b>2006</b> 612,495.13	<b>2007</b> 638,548.66	2008 651,473.97	648,981.30	669,375.31
(Up XM) Case, \$000				638,548.66 63,856.43	651,473.97 67,431.06	648,981.30 70,128.89	669,375.31 73,497.19
(Up XM) Case, \$000 Native Load Fuel Costs	2,689,438.19 286,159.11 98,205.05	525,487.69 61,619.81 18,664.99	612,495.13 61,802.84 19,327.49	638,548.66 63,856.43 21,245.56	651,473.97 67,431.06 22,722.74	648,981.30 70,128.89 25,703.92	669,375.31 73,497.19 31,572.03
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs	2,689,438 19 286,159.11 98,205.05 409,344.04	525,487.69 61,619.81 18,664.99 102,836.14	612,495.13 61,802.84 19,327.49 106,317.94	638,548.66 63,856.43 21,245.56 100,369.08	651,473.97 67,431.06 22,722.74 94,919.89	648,981.30 70,128.89 25,703.92 72,824.03	669,375.31 73,497.19 31,572.03 75,348.47
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69 1,335.42	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17	651,473.97 67,431.06 22,722.74 94,919.89 33,110.58 2,730.96	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69 1,335.42	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17	651,473.97 67,431.06 22,722.74 94,919.89 33,110.58 2,730.96	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69 1,335.42	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45	638,548,66 63,856,43 21,245,56 100,369,08 22,971,59 1,862,17 848,853,49 86,064,84	651,473,97 67,431.06 22,722 74 94,919,89 33,110.58 2,730 96 872,389 20 84,447.73	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165 17 859,106.32 79,724.35	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248.44 413,387.24 12,472.14	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31	648,981.30 70,128.89 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038 58	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 844,447.73 2,535.31 10,590.78	648,981.30 70,128.89 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs	2,689,438 19 286,159,11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038 58	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78	648,981.30 70,128.89 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs	2,689,438 19 286,159 11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038 58	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69 1,335.42 729,161.75 113,063.24 3,312.26 18,249.14	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722.74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78	648,981.30 70,128 89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs	2,689,438 19 286,159,11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038 58	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78	648,981.30 70,128.89 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs	2,689,438 19 286,159 11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038 58	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722.74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78	648,981.30 70,128 89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248.44 413,387.24 12,472.14 54,038.58	525,487.69 61,619.81 18,664.99 102,836.14 19,217.69 1,335.42 729,161.75 113,063.24 3,312.26 18,249.14	612,495 13 61,802 84 19,327 49 106,317 94 18,183 28 1,341 45 819,468 13 104,187 28 2,682 33 14,755 11	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038.58 - - 479,897.96 (706,644.09)	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54)	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57 	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce	2,669,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248.44 413,387.24 12,472.14 54,038.58 - - 479,897.96 (706,644.09) 3,381,502.32	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 134,624,64 (213,143,66) 650,642,72	612,495 13 61,802 84 19,327,49 106,317 94 18,183,28 1,341,45 819,468 13 104,187 28 2,682 33 14,755 11 121,624,72 (178,246,83) 762,846.02	638,548,66 63,856,43 21,245,56 100,369,08 22,971,59 1,862,17 848,853,49 86,064,84 2,332,88 11,021,07 	651,473,97 67,431.06 22,722 74 94,919,89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54) 830,780.48	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165 17 859,106 32 79,724 35 2,766 34 7,837 57 90,328 27 (127,509.06) 821,925 53	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, \$	2,669,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248.44 413,387.24 12,472.14 54,038.58 - - 479,897.96 (706,644.09) 3,381,502.32	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54)	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57 	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, S Native Load	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038.58 - - 479,897.96 (706,644.09) 3,381,502.32	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14  134,624,64 (213,143,66) 650,642,72 <b>2005</b>	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 121,624.72 (178,246.83) 762,846.02 2006	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54) 830,780.48	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57 	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, S Native Load Fuel Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038.58 2 479,897.96 (706,644.09) 3,381,502.32 control 50001 2004 NPV 2,681,854.24	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 - - 99,418.79 (140,430.71) 807,841.57 <b>2007</b> 635,854.82	651,473.97 67,431.06 22,722 74 94,919.89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54) 830,780.48 <b>2008</b> 648,412.37	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57 90,328.27 (127,509.06) 821,925.53 <b>2009</b> 647,219.83	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, S Native Load Fuel Costs Fixed O&M Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038.58 2 479,897.96 (706,644.09) 3,381,502.32 cmario 5001 2004 NPV 2,681,854.24 286,159.11	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 	651,473,97 67,431.06 22,722,74 94,919,89 33,110.58 2,730,96 872,389.20 84,447.73 2,535,31 10,590.78 97,573.82 (139,182,54) 830,780,48 <b>2008</b> 648,412,37 67,431.06	648,981.30 70,128 89 25,703.92 72,824.03 38,303 02 3,165 17 859,106.32 79,724.35 2,766.34 7,837 57 90,328 27 (127,509.06) 821,925 53 <b>2009</b> 647,219.83 70,128 89	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, S Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs	2,669,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248.44 413,387.24 12,472.14 54,038.58 - - 479,897.96 (706,644.09) 3,381,502.32 mario \$001 2004 NPV 2,681,854.24 286,159.11 98,128.26	525,487,69 61,619,81 18,664.99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 134,624,64 (213,143,66) 650,642,72 2005 525,302,74 61,619,81 18,640,49	612,495 13 61,802 84 19,327,49 106,317 94 18,183,28 1,341,45 819,468,13 104,187 28 2,682 33 14,755 11 121,624,72 (178,246,83) 762,846,02 <b>2006</b> 610,520,86 61,802 84 19,311 92	638,548,66 63,856,43 21,245,56 100,369,08 22,971,59 1,862,17 848,853,49 86,064,84 2,332,88 11,021,07 	651,473,97 67,431.06 22,722 74 94,919,89 33,110.58 2,730.96 872,389.20 84,447.73 2,535.31 10,590.78 97,573.82 (139,182.54) 830,780.48 <b>2008</b> 648,412.37 67,431.06 22,700.82	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165.17 859,106.32 79,724.35 2,766.34 7,837.57 90,328.27 (127,509.06) 821,925.53 <b>2009</b> 647,219.83	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 
(Up XM) Case, \$000 Native Load Fuel Costs Fixed O&M Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Native Load Costs Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs Off-System Sales Revenue Total Costs (Net of Revenue) TORC Case: High-Transfer Sce RTO XM Case + Hurdle Rates, S Native Load Fuel Costs Fixed O&M Costs	2,689,438 19 286,159.11 98,205.05 409,344.04 115,995.47 9,106.59 3,608,248 44 413,387.24 12,472.14 54,038.58 2 479,897.96 (706,644.09) 3,381,502.32 cmario 5001 2004 NPV 2,681,854.24 286,159.11	525,487,69 61,619,81 18,664,99 102,836,14 19,217,69 1,335,42 729,161,75 113,063,24 3,312,26 18,249,14 	612,495.13 61,802.84 19,327.49 106,317.94 18,183.28 1,341.45 819,468.13 104,187.28 2,682.33 14,755.11 	638,548.66 63,856.43 21,245.56 100,369.08 22,971.59 1,862.17 848,853.49 86,064.84 2,332.88 11,021.07 	651,473,97 67,431.06 22,722,74 94,919,89 33,110.58 2,730,96 872,389.20 84,447.73 2,535,31 10,590.78 97,573.82 (139,182,54) 830,780,48 <b>2008</b> 648,412,37 67,431.06	648,981.30 70,128.89 25,703.92 72,824.03 38,303.02 3,165 17 859,106 32 79,724 35 2,766 34 7,837 57 90,328 27 (127,509.06) 821,925 53 <b>2009</b> 647,219.83 70,128.89 25,679 47	669,375.31 73,497.19 31,572.03 75,348.47 35,148.31 2,753.45 887,694.77 93,279.80 3,617.78 8,634.04 

Wheeling Costs	9,854.96	1,353.93	1,511.48	2,122.71	3,033.78	3,371.16	2,860.73
Total Native Load Costs	3,599,799.35	727,968.50	818,195.19	847,016.65	869,719.72	856,437.41	885,122.84
Off-System Sales Fuel Costs Variable O&M Costs Emission Costs Market Purchase Costs Wheeling Costs Total Off-System Sales Costs	415,341.20 12,541.98 54,274.94 - - 495,772.54	114,108.87 3,338.17 18,431.37 - - 139,819.43	104,452.44 2,693.44 14,793.83 - - 125,334.81	86,206 68 2,342.08 11,019.93 - - 102,580.03	84,688.40 2,548.09 10,595.33 - - 100,502.65	80,266.13 2,787.47 7,882.07 - - 93,598.96	93,593.18 3,632.55 8,649.64 - - 108,506.93
Off-System Sales Revenue	(719,255.70)	(217,638.80)	(180,977.61)	(142,649.07)	(141,546.80)	(130,243.20)	(154,321.51)
Total Costs (Net of Revenue)	3,376,316.18	650,149.12	762,552.39	806,947.61	828,675.57	819,793.17	839,308 26

#### MISO Base Case Annual Summary MISO RTO Base Case

2010 (million \$						
2003)	2005	2006	2007	2008	2009	201
-	-	-	-		-	-
	15.14	14.86				12.88
0.89			0.28	0.28	0.28	0.2
-	-	-	-	-	-	•
65.56	15.14	14.86	15.17	15.03	14.58	13.10
6.20	1.31	1.35	1.38	1.41	1.45	1.4
2,752.05	525.33	610.41	635.90	648.48	647.18	668.3
293.56	61.62	61.80	63.86	67.43	70.13	73.5
101.19	18.64	19.31	21.24	22.71	25.65	31.5
415.16	103.01	106.10	99.91	94.26	72.56	75.1
130.34	19.54	20.70	26.24	36.78	41.03	36.5
				869.66		885.1
473.63	114.28	104.65	86.52	84.80	80.14	93,9
						3.6
						8.6
	10.40	14.01		10.59		
	12( 08	122.16		07.04		106.2
491.30	130.08	122.10	99.92	97.94	90.78	100.2
6.20	1.31	1.35	1.38	1.41	1.45	1.4
-	-	-	-	-	-	
6.20	1.31	1.35	1.38	1.41	1.45	1.4
24.60	6.96	6.02	5.45	4.73	4.71	4.7
78.56	16.65	17.06	17.49	17.93	18.37	18.8
103.16	23.61	23.08	22.94	22.65	23.08	23.
3.86	0.81	0.83	0.86	0.89	0.91	0.9
	0.50	0.50	0.50	0.50	0.50	0.
						1.
3.78	0.80	0.82	0.84	0.86	0.88	0.
4,374,59	907.71	983.27	990.14	1,010.36	990.20	1,033.4
(46.82)	(12.10)	(10,50)	(10.30)	(9,90)	(9,90)	(9.9
(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.9
(728.60)	(217.41)	(180.48)	(142,51)	(140.87)	(129.40)	(154.1
(74.64)	(15.81)	(16.21)	(16.61)	(17.03)	(17.46)	(17.8
						(2.0
						(19.8
(05,54)	(17,01)	(10.21)	(10.01)	(19,05)	(17.40)	(12.0
(858.06)	(2.17.33)	(200.10)	(171 (2))	(169.80)	(158 76)	(183.9
3.515 63	660.38	774.08	818.72	840.56	831.44	849.4
	2003) 64.79 0.89 65.56 2.752.05 293.56 101.19 415.16 130.34 3,692.30 423.63 12.85 54.83 	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

all figures on this summary page would be  $\ensuremath{\text{pv}}$  to 2003 for the study period 2005-2010

discount rate will be 7.0 %

inflation rate assumed to be 2 5%

## Change Case 2 Annual Summary

	PV 2005 -						
	2010 (million S					1	
Category (negative numbers are revenues)	2003)	2005	2006	2007	2008	2009	2010
Exit Fee	24.81	28.40	-	-	-	-	-
Administrative Costs							
Implementation & Administration	75.59	17.12	16.45	15.99	16.79	17.45	18.32
Ancillary Services Market Administration	-	-	-	-	-	-	-
Other Administrative Costs	-	-	-	-	-	-	-
Subtotal	75.59	17.12	16.45	15.99	16.79	17.45	18.32
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Membership	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Native Load							
Fuel Costs	2,752.05	525.33	610.41	635.90	648.48	647.18	668.33
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.19	18.64	19.31	21.24	22.71	25.65	31.57
Emission Credit Costs	415.16	103.01	106.10	99.91	94.26	72.56	75.15
Market Purchases	130.34	19.54	20.70	26.24	36.78	41.03	36.59
Subtotal	3,692.30	728.14	818.33	847.15	869.66	856.56	885.14
Off-system Sales							********
Fuel Costs	423.63	114.28	104.65	86.52	84.80	80.14	93.97
Variable O&M Costs	12.85	3.34	2.70	2.35	2.55	2.78	3.64
Emission Credit Costs	54.83	18.46	14.81	11.05	10.59	7.86	8.66
Market Purchases	-	-	~	-	-	-	-
Subtotal	491.30	136.08	122.16	99.92	97.94	90.78	106.26
Transmission System Operation Costs							
A&G Costs Associated with RTO Membership	6.20	1,31	1.35	1.38	1.41	1.45	1.49
Reliability Coordinator and OASIS Services							
Subtotal	6.20	1.31	1.35	1.38	1.41	1.45	1.49
Transmission Usage Costs							
Transmission Payments	24.60	6.96	6.02	5.45	4.73	4.71	4.71
Transmission Congestion Payments	78.56	16.65	17.06	17.49	17.93	18.37	18.83
Subtotal	103.16	23.61	23.08	22.94	22.65	23.08	23.54
Uplift Charges							20101
Schedule 21 Uplifi Charges(MISO Case Only)				-			_
Miscellaneous Uplift Costs				-			
Subtotal		-					
Legal, Regulatory & Transaction Costs	3.78	0.80	0.82	0.84	0.86	0.88	0.91
Total Costs	4,403.33	936.78	983.52	989.60	1.010.73	991.65	1,037.15
Revenues (note revenues will be negative numbers)							
Transmission Revenues							
Transmission Revenues	(46.82)	(12.10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90
Subtotal	(46.82)	(12,10)	(10.50)	(10.30)	(9.90)	(9.90)	(9.90
Off-system Sales Revenue	(728.60)	(217.41)	(180.48)	(142.51)	(140.87)	(129.40)	(154.14
FTRs							
FTR Revenues (as offset to congestion payments)	(74.64)	(15.81)	(16.21)	(16.61)	(17.03)	(17.46)	(17.89
Share of Net Revenue from FTR Auction	(10.49)	(2.33)	(2.34)	(2.35)	(2.37)	(2.38)	(2.39
Subtotal	(85.13)	(18.14)	(18.54)	(18.97)	(19.40)	(19.84)	(20.28
Miscellaneous Revenues						/	
Total Revenues	(860.54)	(247.65)	(209.53)	(171.77)	(170,17)	(159.14)	(184.32
	3,542.79	689.13	774.00	817.83	840.56	832.52	852.83
Net Cost (Revenue) Including Exit Fee	1 5,342.791	089.131	//4.00 1	817.851	D4U10 J	837771	

all figures on this summary page would be pv to 2003 for the study period 2005-2010 discount rate will be 7.0 %

inflation rate assumed to be 2 5%

## Change Case 2 Annual Summary

SPP R	TO Case	
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SPP RIU Case	DIV 2007				T		
	PV 2005 -					1	
	2010 (million				1		
	\$ 2003)	2005	2006	0007	2000		
Category (negative numbers are revenues)		2005	2006	2007	2008	2009	2010
Exit Fee	24.81	28.40		-			-
Administrative Costs							
Implementation & Administration	30.44	6.43	6.48	6.62	6.95	7.22	7.58
Ancillary Services Market Administration			-				-
Other Administrative Costs	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Subtotal	30.47	6.43	6.49	6.62	6.95	7.23	7.59
Operations Costs							-
Generation Costs							
A&G Costs Associated with SPP RTO Membership	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load				(20.55		<u> </u>	
Fuel Costs	2,759.89	525.49	612.50	638.55	651.47	648.98	669.38
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.28	18.66	19.33	21.25	22.72	25.70	31.57
Emission Credit Costs	416.30	102.84	106.32	100.37	94.92	72.82	75.35
Market Purchases	120.17	19.22	18.18	22.97	33.11	38.30	35.15
Subtotal	3,691.21	727.83	818.13	846.99	869.66	855.94	884.94
Off-system Sales							
Fuel Costs	420.88	113.06	104.19	86.06	84.45	79.72	93.28
Variable O&M Costs	12.77	3.31	2.68	2.33	2.54	2.77	3.62
Emission Credit Costs	54.54	18.25	14.76	11.02	10.59	7.84	8.63
Market Purchases				-	-		
Subtotal	488.19	134.62	121.62	99.42	97.57	90.33	105.53
Transmission System Operation Costs							
A&G Costs Associated with SPP RTO Membership	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services							
Subtotal	3.80	0.42	0.92	0.94	0.96	0.99	1.0
Transmission Usage Costs							
Transmisison Payments	9.45	1.34	1.34	1.86	2.72	3.17	2.7
Transmission Congestion Payments						-	
Subtotal	9.45	1.34	1.34	1.86	2.72	3.17	2.75
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case Only)		-					
Miscellaneous Uplift Costs		-	-		-	-	
Subtotal							
Legal, Regulatory & Transaction Costs	2.83	0.60	0.62	0.63	0.65	0.66	0.6
m + 1 - 0	1251.00	000 54	050.02	057.40	979.48	0.00.20	1 002 6
Total Costs	4,254.98	900.54	950.03	957.40	979.48	959.30	1,003.5
Revenues (note revenues will be negative numbers)							
Transmission Revenues							
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4 00)	(4.00)	(4.00
Subtotal	(18.78)	(5,10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00
Off-system Sales Revenue	(717 69)	(213.14)	(178.25)	(140.43)	(139.18)	(127.51)	(152.04
FTRs							
FTR Revenues (as offset to congestion payments)	-		-	-	-	-	
Share of Net Revenue from FTR Auction	-	-	-	-	_	-	
Subtotal	-	-	-	-	-	~	-
Miscellaneous Revenues	-	-		-	-	-	
Total Revenues	(736,47)	(218.24)	(182.25)	(144.43)	(143.18)	(131.51)	(156.04
Net Cost (Revenue) Including Exit Fee	3,518.52	682.30	767.78	812.97	836.29	827.79	847.48
Net Cost (Revenue) Excluding Exit Fee	3,493.71	653.89	767.78	812.97	836.29	827.79	847.48

all figures on this summary page would be pv to 2003 for the study period 2005-2010 discount rate will be 7 0 % inflation rate assumed to be 2 5%

# Change Case 3 Annual Summary TORC Baseline Case

TORC Baseline Case							
	PV 2005 -						
	2010 (million S						
Category (negative numbers are revenues)	2003)	2005	2006	2007	2008	2009	2010
Exit Fee	24.81	28.40	-	-	-	-	-
Administrative Costs							
Implementation & Administration	-		-			-	
Ancillary Services Market Administration							
Other Administrative Costs							
Subtotal		]·					
Subtotai							
0							
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.01
Native Load							
Fuel Costs	2,759.89	525.49	612.50	638.55	651.47	648.98	669.38
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.28	18.66	19.33	21.25	22.72	25.70	31.57
Emission Credit Costs	416.30	102.84	106.32	100.37	94.92	72.82	75.35
Market Purchases	120.17	19.22	18.18	22.97	33.11	38.30	35.15
Subtotal	3,691.21	727.83	818.13	846.99	869.66	855.94	884.94
Off-system Sales							
Fuel Costs	420.88	113.06	104.19	86.06	84.45	79.72	93.28
Variable O&M Costs	12.77	3.31	2.68	2.33	2.54	2.77	3.62
Emission Credit Costs	54.54	18.25	14.76	11.02	10.59	7.84	8.63
	54.54	10.25	14.70				
Market Purchases	488.19	134.62	121.62	99.42	97.57	90.33	105.53
Subtotal	488.19	134.02	121.02				103.33
Transmission System Operation Costs							
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.01
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.59
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.60
Transmission Usage Costs							
Transmisison Payments	9.45	1.34	1.34	1.86	2.73	3.17	2.75
Transmission Congestion Payments	*	-	-	-	-	-	
Subtotal	9.45	1.34	1.34	1.86	2.73	3.17	2.75
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case Only)		-		-	-	-	
Miscellaneous Uplift Costs	-	-	-	-	-	-	ett-
Subtotal	-	-	-			-	
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.4
Legal, Regulatory & Transaction Costs							
Total Costs	4,226.05	894.43	943.87	951.12	972.88	952.43	996.29
	4,220.05	0,4,45	745.87		772.00		·····
Revenues (note revenues will be negative numbers)							
Transmission Revenues							
Transmission Revenues	(18,78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	( ).00
Subtotal	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00
Off-system Sales Revenue	(717.69)	(213.14)	(178.25)	(140.43)	(139.18)	(127.51)	(152.04
FTRs							
FTR Revenues (as offset to congestion payments)	-	-	~	-	-	-	
Share of Net Revenue from FTR Auction	-	-	-	-	-	-	
Subtotal	-	-	-	-		-	
Miscellaneous Revenues		-		-			
Total Revenues	(736.47)	(218.24)	(182.25)	(144.43)	(143.18)	(131.51)	(156.04
Net Cost (Revenue) Including Exit Fee	3,489.59	676.19	761.63	806.69	829.70	820.92	840.26
						820.92 1	

all figures on this summary page would be pv to 2003 for the study period 2005-2010

discount rate will be 7.0 %

inflation rate assumed to be 2 5%

## Change Case 3 Annual Summary: Sensitivity Case 1

Change Ca	ase 3 Annual Summary: Sensitivity	Gas
TORC Cas	se: Low-Transfer Scenario	

	PV 2005 -		T		1	1	
	2010 (million S						
Category (negative numbers are revenues)	2003)	2005	2006	2007	2008	2009	2010
Exit Fee	24.81	28,40		-	-	-	
Administrative Costs							
Implementation & Administration							
Ancillary Services Market Administration							
Other Administrative Costs							
Subtotal							
Subtern							
Operations Costs							
Generation Costs							
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.0
Native Load							
Fuel Costs	2,760.66	525.55	612.61	638.58	651.68	649.33	669.73
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.50
Variable O&M Costs	101.46	18.91	19.46	21.29	22.71	25.57	31.4
Emission Credit Costs	412.85	101.30	105.41	100.02	94.08	72.30	75.10
Market Purchases	120.21	19.28	18.20	22.98	33.01	38.35	35.1
Subtotal	3,688.75	726.66	817.48	846.72	868.91	855.68	884.9
Off-system Sales							
Fuel Costs	388.29	100.20	96.61	82.92	78.26	73.19	86.8
Variable O&M Costs	11.80	2.98	2.51	2.25	2.34	2.52	3.3
Emission Credit Costs	49.77	15.99	13.58	10.59	9.70	7.12	7.9
Market Purchases			-	-		-	
Subtotal	449.86	119.17	112.70	95.77	90.30	82.83	98.1
Subiotai	49.00		112.70		10.00		,,,,,,
Transmission System Operation Costs							
A&G Costs Associated with RTO Status	3.80	0.42	0.92	0.94	0.96	0.99	1.0
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.5
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.6
Transmission Usage Costs							
Transmisison Payments	9.45	1.34	1.34	1.86	2.72	3.17	2.7
Transmission Congestion Payments	-	-		-	-		
Subtotal	9.45	1.34	1.34	1.86	2.72	3.17	2.7
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case Only)	-	-	-	-	-	-	
Miscellaneous Uplift Costs	-	-	-	-	-	-	
Subtotal	-	-	-	-	-	-	
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.4
Total Costs	4,185.25	877.81	934.30	947.20	964.86	944.67	988.9
Revenues (note revenues will be negative numbers)					ļ.		
Transmission Revenues							
Transmission Revenues	(18,78)	(5.10)	(4.00)	(4.00)	(4,00)	(4.00)	(4.00
Subtotal	(18.78)	(5.10)	(4.00)	(4,00)	(4.00)	(4.00)	(4.00
Off-system Sales Revenue	(654.76)	(188.51)	(163.50)	(133.16)	(127.09)	(115.49)	(140.47
FTRs							
FTR Revenues (as offset to congestion payments)			-	-		-	
Share of Net Revenue from FTR Auction	_						
Subtotal	<u> </u>	-	-	<u> </u>	-	_	
Miscellaneous Revenues							
Total Revenues	(673.54)	(193.61)	(167.50)	(137.16)	(131.09)	(119.49)	(144.4
	3,511.71	684.20	766.80	810.04	833.76	825.18	844.4
Net Cost (Revenue) Including Exit Fee	3,486.90	684.20	766.80	810.04	833.76	825.18	844.45

all figures on this summary page would be pv to 2003 for the study period 2005-2010

discount rate will be 7.0 %

inflation rate assumed to be 2.5%

## Change Case 3 Annual Summary: Sensitivity Case 2

TORC Case: High Transfer Scenario							
	PV 2005 -						
	2010 (million S						
Category (negative numbers are revenues)	2003)	2005	2006	2007	2008	2009	2010
Exit Fee	24.81	28.40	-	-	-	-	-
Administrative Costs							
Implementation & Administration	-	-	-	-	-	-	
Ancillary Services Market Administration	-	-	-	-	-	-	
Other Administrative Costs	-	-	-	-	-	-	
Subtotal	-	-	-	-	-	-	
Operations Costs							
Generation Costs	4.21	0.89	0.92	0.94	0.96	0.99	1.0
A&G Costs Associated with RTO Status	4.21	0.89	0.92	0.94	0.96	0.99	1.0
Native Load							
Fuel Costs	2,752.07	525.30	610.52	635.85	648.41	647.22	668.3
Fixed O&M Costs	293.56	61.62	61.80	63.86	67.43	70.13	73.5
Variable O&M Costs	101.20	18.64	19.31	21.23	22.70	25.68	31.5
Emission Credit Costs	415.19	102.92	106.07	99.89	94.39	72.61	75.1
Market Purchases	129.87	19.48	20.49	26.19	36.78	40.80	36.5
Subtotal	3,691.90	727.97	818.20	847.02	869.72	856.44	885.1
Off-system Sales							
Fuel Costs	422.85	114.11	104.45	86.21	84.69	80.27	93.5
Variable O&M Costs	12.84	3.34	2.69	2.34	2.55	2.79	3.6
Emission Credit Costs	54.77	18.43	14.79	11.02	10.60	7.88	8.6
Market Purchases							0.0
Subtotal	490.46	135.88	121.94	99.57	97.83	90.94	105.8
Subiotal	490.40	155.00	121.94	39.57	97.85		105.8
Transmission System Operation Costs		0.42	0.92	0.94	0.96	0.99	
A&G Costs Associated withRTO Status	3.80						1.0
Reliability Coordinator and OASIS Services	2.48	0.53	0.54	0.55	0.57	0.58	0.5
Subtotal	6.28	0.95	1.45	1.49	1.53	1.57	1.6
Transmission Usage Costs							
Transmisison Payments	10.23	1.35	1.51	2.12	3.03	3.37	2.8
Transmission Congestion Payments	-	-	-	-	-	-	
Subtotal	10.23	1.35	1.51	2.12	3.03	3.37	2.8
Uplift Charges							
Schedule 21 Uplift Charges(MISO Case Only)	-	-	-	-	-	-	
Miscellaneous Uplift Costs	-		-	-	-	-	
Subtotal	-	-	-	-	-	-	-
Legal, Regulatory & Transaction Costs	1.89	0.40	0.41	0.42	0.43	0.44	0.4
Total Costs	4,229.78	895.84	944.43	951.56	973.51	953.74	996.9
Revenues (note revenues will be negative numbers)	<b> </b>	~					
Transmission Revenues	J						
Through and Out Revenues				. 1.022			
Transmission Revenues	(18.78)	(5.10)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00
Subtotal	(18.78)	(5.10)	(4,00) (180,98)	(4.00)	(4.00)	(4.00)	(4.00
Off-system Sales Revenue	(750.40)	(#17.04)	(100.20)	(192.00)	(cerer)	(100.24)	(1.94.3.
FTRs							
FTR Revenues (as offset to congestion paymen	4		-		-	-	
Share of Net Revenue from FTR Auction	-	-	-	-	-	-	
Subtotal	-	-	-	-	-	-	-
Miscellaneous Revenues	-	-	-	-	-	-	
Total Revenues	(749.24)	(222.74)	(184.98)	(146.65)	(145.55)	(134.24)	(158.3)
Net Cost (Revenue) Including Exit Fee	3,480.54	673.10	759.45	804.91	827.96	819.49	838.61
the set (nor one) meruding with the	3,455.73		<u> </u>		827.96		838.61

all figures on this summary page would be pv to 2003 for the study period 2005-2010

discount rate will be 7.0 %

inflation rate assumed to be 2 5%

Present Value Summary	(all numbers are	PV to 2003, 200	(all numbers are PV to $2003$ , $2005$ - $2010$ , million $\$$ )	()
	-			
Category (negative numbers are revenues)	Base Case: MISO RTO	Base Case: MISO RTO PJM RTO Case	SPP RTO Case	TORC Baseline Scenario
Exit Fee	1	24.81	24.81	24.81
Administrative Costs				
Implementation & Administration Charges	64.79	75.59	30.44	2
Ancillary Services Market Administration	0.89		3	8
Other Administrative Costs	•	9	0.03	8
Subtotal	65.56	75.59	30.47	E
Operations Costs				
Generation Costs				
A&G Costs Associated with RTO Membership Status	6.20	6.20	4.21	4.21
Native Load				
Fuel Costs	2,752.05	2,752.05	2,759.89	2,759.89
Fixed O&M Costs	293.56	293.56	293.56	293.56
Variable O&M Costs	101.19	101.19	101.28	101.28
Emission Credit Costs	415.16	415.16	416.30	416.30
Market Purchases	130.34	130.34	120.17	120.17
Subtotal	3,692.30	3,692.30	3,691.21	3,691.21
Off-system Sales				
Fuel Costs	423.63	423.63	420.88	420.88
Variable O&M Costs	12.85	12.85	12.77	12.77
Emission Credit Costs	54.83	54.83	54.54	54.54
Market Purchases	1	ł	1	ŀ
Subtotal	491.30	491.30	488.19	488.19
Transmission System Operation Costs		-		
A&G Costs Associated with RTO Membership	6.20	6.20	3.80	3.80
Reliability Coordinator and OASIS Services	1	,	ł	2.48
Subtotal	6.20	6.20	3.80	6.28
Transmission Usage Costs				
Transmisison Payments	24.60	24.60	9.45	9.45
Transmission Congestion Payments	78.56	78.56	1	1

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APPENDIX B: Wor

Subtotal	103.16	103.16	9.45	9.45
Uplift Charges				I
Schedule 21 Uplift Charges	3.86		ß	1
Miscellaneous Uplift Costs	2.23	-	1	I
Subtotal	6.09	1	*	I
Legal, Regulatory & Transaction Costs	3.78	3.78	2.83	1.89
<b>b</b>				1
Total Costs	4,374.59	4,403.33	4,254.98	4,226.05
				2
Revenues (note revenues will be negative numbers)				1
Transmission Revenues				I
Transmission Revenues	(46.82)	(46.82)	(18.78)	(18.78)
Subtotal	(46.82)	(46.82)	(18.78)	(18.78)
Off-system Sales Revenue	(728.60)	(728.60)	(717.69)	(717.69)
				ł
FTRs				t
FTR Revenues (as offset to congestion payments)	(74.64)	(74.64)	I	L
Share of Net Revenue from FTR Auction	(8.91)	(10.49)	I	t
Subtotal	(83.54)	(85.13)	1	1
Miscellaneous Revenues	I	1	1	k
Total Revenues	(858.96)	(860.54)	(736.47)	(736.47)
Net Cost (Revenue) Including Exit Fee	3,515.63	3,542.79	3,518.52	3,489.59
Net Cost (Revenue) Excluding Exit Fee	3,515.63	3,517.98	3,493.71	3,464.78

Drasant Value Summary, Differences					
I I ESCIIL Y AIUC SUITIMALY. DIMALS					
	MISO Base	MISO Base	MISO Base Case minus	PJM minus	SPP minus
Cotocorvi (noccotivo numbors one honefite of MISO RTO)	Case minus P.IM Case	Case minus SPP Case	TORC Baseline TORC Baseline Baseline Scenario Scenario Scenario	TORC Baseline Scenario	Baseline Scenario
Cartgory (inclaute numbers are benefits or fixed and of	(24.81)	(24.81)	(24.81)	I	1
Administrative Costs					
Implementation & Administration (Sch. 10, 16, 17)	(10.80)	34.34	64.79	75.59	30.44
Ancillary Services Market Administration	0.89	0.89	0.89	1	I
Other Administrative Costs	I	(0.03)	00.0	-	0.03
Subtotal	(10.03)	35.09	65.56	75.59	30.47
Operations Costs					
Generation Costs					
A&G Costs Associated with RTO Membership Status	3	1.98	1.98	1.98	I
Native Load					
Fuel Costs	1	(7.84)	(7.84)	(7.84)	1
Fixed O&M Costs	1	1	0.00	1	1
Variable O&M Costs		(0.09)	(60.0)	(0.0)	1
Emission Credit Costs	•	(1.15)	(1.15)	(1.15)	r
Market Purchases	1	10.17	10.17	10.17	1
Subtotal		1.09	1.09	1.09	1
Off-system Sales					
Fuel Costs	-	2.74	2.74	2.74	
Variable O&M Costs	1	0.08	0.08	0.08	
Emission Credit Costs	1	0.29	0.29	0.29	1
Market Purchases	1	1	0.00	J	ł
Subtotal		3.11	3.11	3.11	1
Transmission System Operation Costs					
A&G Costs Associated with RTO Membership	1	2.40	2.40	2.40	1
Reliability Coordinator and OASIS Services	**	I	(2.48)	(2.48)	
Subtotal	1	2.40	(0.08)	(0.08)	(2.48)
Transmission Usage Costs					
Transmisison Payments	1	15.15	15.14	15.14	(00.0)
Transmission Congestion Payments	t	78.56	78.56	78.56	I

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Subtotal	1	93.71	93.71	93.71	(00.0)
Uplift Charges					
Schedule 21 Uplift Charges	3.86	3.86	3.86	1	1
Miscellaneous Uplift Costs	2.23	2.23	2.23	ł	-
Subtotal	6.09	60.9	6.09		-
Legal, Regulatory & Transaction Costs	3	0.94	1.89	1.89	0.94
Total Costs	(28.75)	119.61	148.53	177.28	28.93
Revenues (note revenues will be negative numbers)					
Transmission Revenues					
Transmission Revenues		(28.04)	(28.04)	(28.04)	t
Subtotal	1	(28.04)	(28.04)	(28.04)	ł
Off-system Sales Revenue	3	(10.91)	(10.91)	(10.91)	3
FTRs					
FTR Revenues (as offset to congestion payments)	•	(74.64)	(74.64)	(74.64)	I
Share of Net Revenue from FTR Auction	1.58	(8.91)	(8.91)	(10.49)	I
Subtotal	1.58	(83.54)	(83.54)	(85.13)	1
Miscellaneous Revenues	1	1	1	1	1
Total Revenues	1.58	(122.49)	(122.49)	(124.08)	1
Net Cost (Benefit) of MISO RTO Including Exit Fee	(27.16)	(2.89)	26.04	53.20	28.93
Net Cost (Benefit) of MISO RTO Excluding Exit Fee	(2.35)	21.92	50.85	53.20	28.93

Present Value Summary: Additional Scenarios			
		TORC: Low-	TORC: High-
	TORC Baseline Transfer	Transfer Scenario	Transfer
Category (negative numbers are revenues)	74.81	74.81	24.81
balt fee Administrative Costs	10.1.2		1
Implementation & Administration (Sch 10, 16, 17)	1		-
Ancillary Services Market Administration	1	I	t
Other Administrative Costs	1	t	t
Subtotal	1	-	•
		-	1
Operations Costs			ŝ
Generation Costs			
A&G Costs Associated with RTO Membership Status	4.21	4.21	4.21
Native Load		3	1
Fuel Costs	2,759.89	2,760.66	2,752.07
Fixed O&M Costs	293.56	293.56	293.56
Variable O&M Costs	101.28	101.46	101.20
Emission Credit Costs	416.30	412.85	415.19
Market Purchases	120.17	120.21	129.87
Subtotal	3,691.21	3,688.75	3,691.90
Off-system Sales			ł
Fuel Costs	420.88	388.29	422.85
Variable O&M Costs	12.77	11.80	12.84
Emission Credit Costs	54.54	49.77	54.77
Market Purchases	1	1	I
Subtotal	488.19	449.86	490.46
		F	ſ
Transmission System Operation Costs		ŧ	ı
A&G Costs Associated with RTO Membership	3.80	3.80	3.80
Reliability Coordinator and OASIS Services	2.48	2.48	2.48
Subtotal	6.28	6.28	6.28
Transmission Usage Costs		E	I
Transmisison Payments	9.45	9,45	10.23
Transmission Congestion Payments	-	1	•

Subtotal	9.45	9.45	10.23
Uplift Charges		ı	H
Schedule 21 Uplift Charges	-		-
Miscellaneous Uplift Costs	-	1	
Subtotal	-	1	I
Legal, Regulatory & Transaction Costs	1.89	1.89	1.89
	1		
Total Costs	4,226.05	4,185.25	4,229.78
Revenues (note revenues will be negative numbers)			
Transmission Revenues			
Transmission Revenues	(18.78)	(18.78)	(18.78)
Subtotal	(18.78)	(18.78)	(18.78)
Off-system Sales Revenue	(717.69)	(654.76)	(730.46)
			-
FTRs		-	
FTR Revenues (as offset to congestion payments)			ļ
Share of Net Revenue from FTR Auction	1	8	1
Subtotal		. 1	ŗ
Miscellaneous Revenues	•	I	-
Total Revenues	(736.47)	(673.54)	(749.24)
Net Cost (Revenue) Including Exit Fee	3,489.59	3,511.71	3,480.54
Net Cost (Revenue) Excluding Exit Fee	3,464.78	3,486.90	3,455.73

Scenarios
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		MISO Base	MISO Base
	<b>MISO Base</b>	Case minus	Case minus
	Case minus	TORC Low-	TORC High-
	TORC Baseline Transfer	Transfer	Transfer
Category (negative numbers are benefits of MISO RTO)	Scenario	Scenario	Scenario
Exit Fee	(24.81)	(24.81)	(24.81)
Administrative Costs			
Implementation & Administration (Sch. 10, 16, 17)	64.79	64.79	64.79
Ancillary Services Market Administration	0.89	0.89	0.89
Other Administrative Costs	•	1	1
Subtotal	65.56	65.56	65.56
Operations Costs			
Generation Costs			
A&G Costs Associated with RTO Membership	1.98	1.98	1.98
Native Load			
Fuel Costs	(7.84)	(8.61)	(0.02)
Fixed O&M Costs	1	1	1
Variable O&M Costs	(0.09)	(0.27)	(0.01)
Emission Credit Costs	(1.15)	2.31	(0.04)
Market Purchases	10.17	10.13	0.47
Subtotal	1.09	3.55	0.40
Off-system Sales			
Fuel Costs	2.74	35.34	0.78
Variable O&M Costs	0.08	1.04	0.01
Emission Credit Costs	0.29	5.06	0.06
Market Purchases	1	F	3
Subtotal	3.11	41.45	0.84
Transmission System Operation Costs			
A&G Costs Associated with RTO Membership	2.40	2.40	2.40
Reliability Coordinator and OASIS Services	(2.48)	(2.48)	(2.48)
Subtotal	(0.08)	(0.08)	(0.08)
Transmission Usage Costs			
Transmistson Payments	15.14	15.15	14.37
Transmission Congestion Payments	78.56	78.56	78.56

Subtotal	93.71	93.71	92.93
Uplift Charges			
Schedule 21 Uplift Charges	3.86	3.86	3.86
Miscellaneous Uplift Costs	2.23	2.23	2.23
Subtotal	60.9	60.9	60.9
Legal, Regulatory & Transaction Costs	1.89	1.89	1.89
Total Costs	148.53	189.34	144.80
Revenues (note revenues will be negative numbers)			
Transmission Revenues			
Transmission Revenues	(28.04)	(28.04)	(28.04)
Subtotal	(28.04)	(28.04)	(28.04)
Off-system Sales Revenue	(10.01)	(73.84)	1.87
FTRs			
FTR Revenues (as offset to congestion payments)	(74.64)	(74.64)	(74.64)
Share of Net Revenue from FTR Auction	(8.91)	(8.91)	(8.91)
Subtotal	(83.54)	(83.54)	(83.54)
Miscellaneous Revenues	P		E
Total Revenues	(122.49)	(185.42)	(109.72
Net Cost (Benefit) of MISO RTO w/ Exit Fee	26.04	3.92	35.09
Net Cost (Benefit) of MISO Membership w/o Exit Fee	50.85	28.73	59.90

Short Present Value Summary				
				TORC
	<b>MISO Base</b>			Baseline
Category (negative numbers are revenues)	Case	PJM Case SPP Case	SPP Case	Scenario
Exit Fee	-	24.81	24.81	24.81
Administrative Costs	65.56	75.59	30.47	
Operations Costs				
A&G Costs Associated with RTO Membership Status	12.40	12.40	8.02	8.02
Generation Costs				
Native Load	3,692.30	3,692.30	3,691.21	3,691.21
Off-system Sales	491.30	491.30	488.19	488.19
Transmission System Operation Costs		I	4	2.48
Transmission Usage Costs	103.16	103.16	9.45	9.45
Uplift Charges	60.9	1	I	
Legal, Regulatory & Transaction Costs	3.78	3.78	2.83	1.89
Total Costs	4,374.59	4,403.33	4,254.98	4,226.05
Revenues (revenues will be negative numbers)				
Transmission Revenues	(46.82)	(46.82)	(18.78)	(18.78)
Off-system Sales Revenue	(728.60)	(728.60)	(717.69)	(717.69)
FTRS	(83.54)	(85.13)	1	ł
Total Revenues	(858.96)	(860.54)	(736.47)	(736.47)
Net Cost (Revenue) with Exit Fee	3515.63	3542.79	3518.52	3489.59
Net Cost (Revenue) without Exit Fee	3,515.63	3,517.98	3,493.71	3,464.78

Short Summary of Present Value Differences					
	<b>MISO Base</b>	MISO Base	<b>MISO Base Case</b>	MISO Base Case PJM Case minus	
	Case minus	Case minus	minus TORC	<b>TORC Baseline</b>	TORC Baseline
Category (negative numbers are benefits)	PJM Case	SPP Case	Baseline Scenario Scenario	Scenario	Scenario
Exit Fee	(24.81)	(24.81)	(24.81)	I	P
Administrative Costs	(10.03)	35.09	65.56	75.59	30.47
Operations Costs			0.00		
A&G Costs Associated with RTO Membership Status	1	4.38	4.38	4.38	1
Generation Costs			0.00		
Native Load	•	1.09	1.09	1.09	E
Off-system Sales	1	3.11	3.11	3.11	
Transmission System Operation Costs	1	•	(2.48)	(2.48)	(2.48)
Transmission Usage Costs	1	93.71	93.71	93.71	(0.00)
Uplift Charges	60.9	6.09	6.09	1	1
Legal, Regulatory & Transaction Costs	1	0.94	1.89	1.89	0.94
Total Costs	(28.75)	119.61	148.53	177.28	28.93
			00.0		
Revenues (revenues will be negative numbers)			0.00		
Transmission Revenues	•	(28.04)	(28.04)	(28.04)	J
Off-system Sales Revenue	ı	(10.91)	(10.91)	(10.91)	
FTRS	1.58	(83.54)	(83.54)	(85.13)	J
Total Revenues	1.58	(122.49)	(122.49)	(124.08)	I
Net Cost (Benefit) of the MISO Option Including Exit Fee	(27.16)	(2.89)	26.04	53.20	28.93
Net Cost (Benefit) of the MISO Option Excluding Exit Fee	(2.35)	21.92	50.85	53.20	28.93

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Short Present Value Summary			
-	TODC Basalina	TORC Low-	TORC High- Tranefer
Category (negative numbers are revenues)	Scenario	Scenario	Scenario
Exit Fee	24.81	24.81	24.81
Administrative Costs	1		1
Operations Costs			
A&G Costs Associated with RTO Membership Status	8.02	8.02	8.02
Generation Costs			
Native Load	3,691.21	3,688.75	3,691.90
Off-system Sales	488.19	449.86	490.46
Transmission System Operation Costs	2.48	2.48	2.48
Transmission Usage Costs	9.45	9.45	10.23
Uplift Charges	•	1	æ
Legal, Regulatory & Transaction Costs	1.89	1.89	1.89
Total Costs	4,226.05	4,185.25	4,229.78
Revenues (revenues will be negative numbers)			
Transmission Revenues	(18.78)	(18.78)	(18.78)
Off-system Sales Revenue	(717.69)	(654.76)	(730.46)
FTRs		I	ł
Total Revenues	(736.47)	(673.54)	(749.24)
Net Cost (Revenue) Including Exit Fee	3,489.59	3,511.71	3,480.54
Net Cost (Revenue) Excluding Exit Fee	3,514.40	3,536.52	3,505.35

Short Summary of Present Value Differences			
			MISO Base
		MISO Base Case Case minus	Case minus
	MISO Base Case minus TORC	minus TORC	TORC High- Transfer
Category (negative numbers are benefits)	Baseline Scneario Scenario	Scenario	Scenario
Exit Fee	(24.81)	(24.81)	(24.81)
Administrative Costs	65.56	65.56	65.56
Operations Costs			
A&G Costs Associated with RTO Membership Status	4.38	4.38	4.38
Generation Costs			
Native Load	1.09	3.55	0.40
Off-system Sales	3.11	41.45	0.84
Transmission System Operation Costs	(2.48)	(2.48)	(2.48)
Transmission Usage Costs	93.71	93.71	92.93
Uplift Charges	60.9	60.9	60.9
Legal, Regulatory & Transaction Costs	1.89	1.89	1.89
Total Costs	148.53	189.34	144.80
Revenues (revenues will be negative numbers)			
Transmission Revenues	(28.04)	(28.04)	(28.04)
Off-system Sales Revenue	(10.91)	(73.84)	1.87
FTRS	(83.54)	(83.54)	(83.54)
Total Revenues	(122.49)	(185.42)	(109.72)
Net Cost (Benefit) of MISO Option Including Exit Fee	26.04	3.92	35.09
Net Cost (Benefit) of MISO Option Excluding Exit Fee	50.85	28.73	59.90

# Simple Payback Period Estimates MISO Base

	Case	Sta	ndalone Bas	eline	Stand	alone Low Tr	ansfer
			Non-	Break Even		Non-	Break Even
Year	Recurring	Recurring	Recurring	Point	Recurring	Recurring	Point
2005	660.38	647.78	24.81	(12.21)	655.80	24.81	(20.22)
2006	774.08	761.63		0.25	766.80		(12.94)
2007	818.72	806.69		12.28	810.04		(4.26)
2008	840.56	829.70		23.13	833.76		2.54
2009	831.44	820.92		33.65	825.18		8.80
2010	849.49	840.26		42.88	844.45		13.84
PV to 2003	3,515.63	3,464.78			3,486.90		

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Stand	lalone High 1	Fransfer	1	PJM RTO Cas	se	:	SPP RTO Cas	e
	Non-	Break Even		Non-	Break Even		Non-	Break Even
Recurring	Recurring	Point	Recurring	Recurring	Point	Recurring	Recurring	Point
644.70	24.81	(9.13)	660.73	24.81	(25.15)	653.89	24.81	(18.32)
759.45		5.50	774.00		(25.07)	767.78		(12.02)
804.91		19.32	817.83		(24.18)	812.97		(6.27)
827.96		31.91	840.56		(24.18)	836.29		(2.01)
819.49		43.86	832.52		(25.26)	827.79		1.64
838.61		54.74	852.83		(28.60)	847.48		3.65

Exit Fee (nominal dollars) 24.81

24.81

Extended Study Period Question MISO Base Case Annual Summary

MISO Base Case Annual Summary MISO RTO Base Case								every category held constant at 2010 values for 2011 to 2019	ry held con:	stant at 2010	) values for ;	2011 to 201	6			
Category (negative numbers are revenues)		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Exit Fee	1	,	'	-	'	,	'	+	-	,		'	'	'	'	-
Administrative Costs																
Implementation & Administration (Sch. 10, 16, 17)	S117.04	15.14	14.86	14.89	14.75	14.30	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88
Ancillary Services Market Administration	\$2.19			0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Other Administrative Costs	•	•	•	· !		-	•	- - -	•	-		-				
Subtotal	\$118.95	15.14	14.86	15.17	15.03	14.58	13.16	13.16	13.16	13.16	13.16	13,16	13.16	13.16	13.16	13.16
Oncerting Costs			T													
											ſ					T
	C 4 7 33	1 31	1 35	1 28	1 11	1 15	1 40	1 10	1 10	1 40	1 40	1 49	1 49	1 49	1 49	1 49
Add Loxis Associated with RTO Memourship Materia Load	C7.716	10.1	P.C. 1	00.1	t.	24	24	01.1	27.	01.	04.	21.	27	21-	21.	21.
Find Crete	\$5.463.72	525.33	610.41	635 90	648 48	647.18	668.33	668.33	668.33	668.33	668.33	668.33	668.33	668.33	668.33	668.33
Fired O&M Costs	S591.77	61.62	61.80	63.86	67.43	70.13	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50
Variable O.M. Corte	S229.29	18.64	19.31	21 24	22.71	25.65	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57
Function Cradit Casts	S720.06	103.01	106.10	99.91	94.26	72.56	75.15	75.15	75.15	75.15	75.15	75.15	75.15	75.15	75.15	75.15
Market Purchases	\$278.80	19.54	20.70	26.24	36.78	41.03	36.59	36.59	36.59	36.59	36.59	36.59	36.59	36.59	36.59	36.59
Sultated	S7 283 63	728.14	818.33	847.15	869.66	856.56	885.14	885.14	885.14	885.14	885.14	885.14	885.14	885,14	885.14	885.14
Off-system Sales																
Fuel Casts	\$804.88	114.28	104.65	86.52	84.80	80.14	93.97	93.97	93.97	93.97	93.97	93.97	93.97	93.97	93.97	93.97
Variable O&M Costs	\$27.61	3.34	2.70	2.35	2.55	2.78	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
Emission Credit Costs	\$89.97	18.46	14.81	11.05	10.59	7.86	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66
Market Purchases	•	•	-	-	,	,	•	•	,	,	,		•	•		'
Subtotal	\$922.46	136.08	122.16	99.92	97.94	90.78	106.26	106.26	106.26	106.26	106.26	106.26	106.26	106.26	106.26	106.26
I ransmission System Operation Costs	C 12 23	1 31	1 35	1 28	1 41	1 45	1 49	1 40	1 49	1 49	1 49	1 49	1 49	1 49	1 49	1 49
P.F. F.R. C. T. J. C.R. C. T. J. C.R. C. T. C. S. C. T. C. S. C. T. C. S. C. S. C. S.	00.02	10.1	00	22.		21.	2	24-1	2	2			2	2		
Kenabuly: Coordinator and UAMA Scryces Subtour	\$17.73	131	1 35	1 38	1 41	1 45	1 49	1 49	1 49	1 49	1 49	1 49	1 49	1 49	1 49	1 49
Ternemieetin 1 leura Caste	24:41.2	5	2	221						2			2	2		
	\$43.70	96.9	6.02	5.45	4.73	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71
Transmission Convestion Payments	S154.98	16.65	17.06	17.49	17.93	18.37	18.83	18.83	18.83	18.83	18.83	18.83	18.83	18.83	18.83	18.83
Subtotal	\$198.68	23.61	23.08	22.94	22.65	23.08	23.54	23.54	23.54	23.54	23.54	23.54	23.54	23.54	23.54	23.54
Uplift Charges																
Schedule 21 Uplift Charges	\$7.64	0.81	0.83	0.86	0.89	0.91	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Miscellaneous Uplift Casts	\$4.26	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Subtotal	\$11.90	1.31	1.33	1.36	1.39	1.41	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Legal, Regulatory & Transaction Costs		0.80	0.82	0.84	0.86	0.88	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Total Costs	SB 567 53	907.71	983.27	990.14	1.010.36	990.20	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42	1.033.42
Revenues (note revenues will be negative numbers)																
Transmission Revenues	100 2007	101 017	110 E01	105 017	100.07	100 07	100 07	100 0/	100 07	100 0/	100 0/	100 0/	100 0/	10 0/	100 0/	10 00
I rensmission Kevenues	166,000	(12 10)	1002011	10.201	(06.6)	106.6)	102.2	(02.6)	(00.0)				(00 0)	100.01	(05.5)	(06.6)
Off-system Sales Revenue	(\$1,353.99)	(217.41)	(180.48)	(142.51)	(140.87)	(129.40)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)	(154.14)
FTRs																
FTR Revenues (as offset to congestion payments)	(S147.23)	(15.81)	(16.21)	(16.61)	(17.03)	(17.46)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)	(17.89)
Share of Net Revenue from FTR Auction	(\$17.02)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2:00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(00.2)	(2,00)
Subtotal	(\$164.25)	(17.81)	(12.81)	(19.81)	(19.03)	(19.46)	(19.89)	(19.89)	(19.85)	(19.81)	(19.85)	(19.85)	(19.02)	(12.22)	(19.95)	(13.83)
MISCELLENCOUS ACVENUES	(\$1 605 23)	1247 331	(209 19)	1121 421	(169 RU)	(15R 76V	(183 93)	(183 93)	(183 93)	(183 93)	(183 93)	(183 93)	(183 93)	(183.93)	(183.93)	(183 93)
Not Cost (Bergine)	SE 962 30	66038	774 08	818 72	840.56	831 44	849 49	67 678	R49.49	849.49	849.49	849.49	849.49	849.49	849.49	849.49
		1				1		1 1 1 2 1 2								

Category (negative numbers are revenues)								
Exit Fee	\$24.81	S24.81 28.40	•	-	-	•	-	
Administrative Costs								
Implementation & Administration (Sch. 10, 16, 17)	,	,	•	1	•	-	,	
Ancillary Services Market Administration	•	1	•	•	•	•	1	
Other Administrative Costs	-	1	•	,	1	1	ł	
Subtotal	-	•	•	-	-		1	
Operations Costs								- 1
Committee Control								

TORC Case: Baseline Scenario

Catchely (negative numbers are returned)																
Exit Fee	S24.81	28.40	,	'	-	-	-	,	•	'	-	•	'	,	,	-
Administrative Costs											1	Ť			Ť	
Implementation & Administration (Sch. 10, 16, 17)	-	•	•	•	•	'	,	,		•	•	,	•			'
Ancillary Services Market Administration	•	'	,	•	•	•	-	-	'	-	•	,	•	1	'	'
Other Administrative Costs		1	'	,		,	,		,	1	-	,	'	-	•	,
Subtotal	-	-	•	1	'	•	1	,	'	'		,	'	'	,	,
Operations Costs																
Generation Costs																
A&G Casts Associated with RTO Membership	\$8.31	0.89	0.92	0.94	0.96	0.99	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Native Load																
Fuel Costs	\$5,475.79	525.49	612.50	638.55	651.47	648.98	669.38	669.38	669.38	669.38	669.38	669.38	669.38	669.38	669.38	669.38
Fixed O&M Costs	\$591.77	61.62	61.80	63.86	67.43	70.13	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50
Variable O&M Costs	\$229.38	18.66	19.33	21.25	22.72	25.70	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57	31.57
Emission Credit Casts	\$722.02	102.84	106.32	100.37	94.92	72.82	75.35	75.35	75.35	75.35	75.35	75.35	75.35	75.35	75.35	75.35
Market Purchases	\$262.78	19.22	18.18	22.97	33.11	38.30	35.15	35.15	35.15	35.15	35.15	35.15	35.15	35.15	35.15	35.15
Subtotal	\$7,281.74	727.83	818.13	846.99	869.66	855.94	884.94	884.94	884.94	884.94	884.94	884.94	884.94	884.94	884.94	884.94
Off-system Sales																
Fuel Costs	\$799.35	113.06	104.19	86.06	84.45	79.72	93.28	93.28	93.28	93.28	93.28	93.28	93.28	93.28	93.28	93.28
Variable O&M Costs	\$27.44	3.31	2.68	2.33	2.54	2.77	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
Emission Credit Costs	\$89.57	18.25	14.76	11.02	10.59	7.84	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63
Market Purchases	\$0.00	1		1	1	•		-	•	•	-	1	-	-	-	•
Subtetal	\$916.37	134.62	121.62	99.42	97.57	90.33	105.53	105.53	105.53	105.53	105.53	105.53	105.53	105.53	105.53	105.53
Transmission System Operation Costs																
A&G Costs Associated with RTO Membership	S7.90	0.42	0.92	0.94	0.96	0.99	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Reliability Coordinator and OASIS Services	\$4.89	0.53	0.54	0.55	0.57	0.58	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Suhtetal	\$12.79	0.95	1.45	1.49	1.53	1.57	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
Transmission Usage Costs			1						1	100			L L L	1110		Ļ
Transmisison Payments	520.62	1,34	1.34	1.86	2.73	3.1/	C/.7	C/.7	C/-7	C/.7	C/7	C/7	C/7	C/.7	C/.7	C/.7
Transmission Congestion Payments	-			, ,	, , ,		, ,		, r.		1 0	1 0 10	, , ,	, 1E	1 0	
Subtotal	520.62	1.34	1.34	1.80	2.(3	3.1/	C/-7	C/-7	C/.7	C/.7	C/-7	C/7	6/.7	C/.7	67.7	C/.7
Uplift Charges	-															
Schedule 21 Uplift Charges		-	,		,	-	,	1	,	,	,	,	,	1	1	,
Miscellaneous Uplifi Casts	•	,	•	'	•	'	1	-	,	'	,	•		'	•	,
Subtotal	,	1	-	'	•	•	-	,	,	-			1	•	•	, ;
Legal, Regulatory & Transaction Costs	S3.72	0.40	0.41	0.42	0.43	0.44	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	69 269 27	CT 100	10 010	064.40	0100	050 43	00 200	00 200	00 200	00 200	00 300	00 200	00 300	005 70	00 200	00 200
1 01at Costs	10.002,00	04.400	10.040	21.12	00.710	275.42	67.000	677066	07.000	07.000	04-000	77.000	04.000	0.4.000	23.000	04.000
Revenues (note revenues will be negative numbers)	1															
Transmission Revenues							-									
Transmission Revenues	(\$35.01)		(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Subtotal	(\$35.01)		(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Off-system Sales Revenue	(S1,334.56)	(213.14)	(178.25)	(140.43)	(139.18)	(127.51)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)	(152.04)
FTRs																
V-1K Kevennes (as offset to congestion payments)	,	'	•		'	•	- -	'	-	•		-	-	'	•	
Share of Net Kevenue from P.1K Auction	,	'		,	-	,	'	'	'  	-	'	'	•	,	,	-
Subtotal		,		•	•	'	•		·	-	,	· -	-	,	,	
Miscellancous Kevenues	- 120 221	1210 240	140 261	154 421	117 181	1131 541	1158 041	(156 OA)	(156 DAV	1155 041	1155 041	115G 041	(156.04)	1156 041	/156 DAV	(156 DA)
l otal Kevenues	1/02/02/14	(210.24) 276.10	761 63	806 60	820.70	1 00 008	140.001	RAD 26	840.26	840.26	840.26	R40.26	840.26	840.26	840.26	840.26
INet Cost (Revenue)	90'020'02	010.13	100.101	00000	1 11:270	1 72.770	1 77.740	1 77.720	177.040	1 77.740	1 22.010	1 74.772.0	1 24.25	1 23.220	04-04-0	77.720

\$63.49 \$88.30 Difference Between Net Cost MISO and Net Cost Std Net Cost MISO minus Net Cost TORC w/o Exit Fee

### VERIFICATION

## COMMONWEALTH OF KENTUCKY ) ) SS: COUNTY OF JEFFERSON )

The undersigned, **Michael S. Beer**, being duly sworn, deposes and says he is Vice President of Rates and Regulatory for LG&E Energy LLC, that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

**MICHAEL S. BEER** 

Subscribed and sworn to before me, a Notary Public in and before said County and State, this  $\underline{\beta}\underline{\partial}^{\underline{t}\underline{b}}$  day of September 2004.

Notary Public J. Elyy

My Commission Expires:

