

DOCUMENT

Pennsylvania Public Utility Commission
v.
PPL Electric Utilities Corporation

Docket No. R-00049255

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Exhibit JMK-6

8-17-04 JES
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Sponsored by Joseph M. Kleha

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PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc P23	Output	Pa Jurisdict	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5	
				Distribution Only								
OPERATING REVENUES AT PROPOSED RATE LEVELS				F85 03/17/04								
SALES OF ELECTRICITY				HTY123103								
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0	
2	DISTRIBUTION REVENUES	DREVP		627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502	
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0	
4	TOTAL SALE OF ELECTRICITY		RRTP	627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502	
5	LATE PAY CHARGES PROPOSED		R11P	8,302	4,916	46	1,402	1,416	382	10	0	
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	635,829	374,120	3,933	78,549	118,131	30,106	2,009	1,502	
7	ANNUALIZATION PROPOSED REVS		ANNP	7,924	6,709	41	1,056	798	203	(95)	(4)	
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	643,753	380,829	3,974	79,605	116,929	30,309	1,914	1,498	
9	OTHER OPERATING REVENUES		ROOT	21,286	12,729	619	1,799	3,976	1,125	73	10	
10	TOTAL OPERATING REVENUES		ROTP	665,039	393,558	4,593	81,404	120,905	31,434	1,987	1,508	
OPERATING EXPENSES												
OPERATING AND MAINTENANCE EXPENSES												
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0	
12	DISTRIBUTION		EE30	122,840	78,120	2,887	10,651	16,461	4,746	307	147	
13	OTHER OPER & MAINT EXPENSES		EE0T	195,833	149,017	2,927	15,805	15,575	4,170	459	588	
14	TOTAL OPER & MAINT EXPENSES		EE00	318,673	227,137	5,814	26,456	32,036	8,916	766	735	
DEPRECIATION EXPENSE												
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0	
16	DISTRIBUTION		ED30	73,522	47,677	1,633	6,548	9,102	2,225	143	86	
17	OTHER DEPRECIATION EXPENSE		ED0T	15,702	11,056	318	1,464	1,648	419	27	11	
18	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE		ED00	89,224	58,733	1,951	8,012	10,750	2,644	170	97	
TAXES												
19	CAPITAL STOCK PROP LEVEL		ET1P	8,220	5,451	195	743	1,106	296	19	9	
20	OTHER-W/O CAP STOCK		ET001	8,597	6,027	182	800	963	252	16	6	
21	DEFERRED INCOME TAXES		TXTA	24,874	16,591	549	2,287	3,066	799	51	24	
22	NET INVESTMENT TAX CREDIT		TX93	(1,926)	(1,140)	(57)	(162)	(369)	(105)	(7)	(1)	
23	GROSS RECEIPTS TAX		TXG	37,981	22,469	234	4,697	6,899	1,788	113	88	
24	TOTAL PA INCOME TAX		TSIT1	9,520	280	(631)	3,098	5,486	1,370	66	47	
25	TOTAL FED INC TAX		TFTX	12,518	(10,336)	(2,398)	8,224	14,893	3,735	170	130	
26	TOTAL TAXES		TFIT1	99,784	39,342	(1,926)	19,697	32,024	8,135	428	303	
27	TOTAL OPERATING EXPENSES		TEXP1	507,681	325,212	5,839	54,165	74,810	19,695	1,364	1,135	
28	RETURN (LN 11 - 36)		PRERTN	157,358	68,346	(1,246)	27,239	48,095	11,739	623	373	
29	TOTAL RATE BASE		RBX	1,814,993	1,223,795	41,488	165,257	226,608	60,200	3,904	2,150	
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	8.67%	5.58%	-3.00%	16.48%	20.34%	19.50%	15.96%	17.35%	
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	64.36%	-34.60%	190.08%	234.60%	224.91%	184.06%	200.12%	

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc P23	Output	IST	LP-6	LPEP	ISA	GH	SL/L	L5-S
OPERATING REVENUES AT PROPOSED RATE LEVELS										
SALES OF ELECTRICITY										
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		1,355	167	483	661	6,778	19,864	61
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	1,355	167	463	661	6,778	19,864	61
5	LATE PAY CHARGES PROPOSED		R11P	0	0	0	0	73	57	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	1,355	167	483	661	6,851	19,921	61
7	ANNUALIZATION PROPOSED REVS		ANNP	(96)	38	(55)	(98)	(316)	(256)	(1)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	1,259	205	408	563	6,535	19,665	60
9	OTHER OPERATING REVENUES		ROOT	4	1	27	1	388	554	1
10	TOTAL OPERATING REVENUES		ROTP	1,263	206	435	564	6,903	20,219	61
OPERATING EXPENSES										
OPERATING AND MAINTENANCE EXPENSES										
11	TRANSMISSION		EE20	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	51	10	23	20	1,630	7,772	12
13	OTHER OPER & MAINT EXPENSES		EE0T	504	48	88	35	1,466	5,140	10
14	TOTAL OPER & MAINT EXPENSES		EE00	555	58	111	55	3,096	12,912	22
DEPRECIATION EXPENSE										
15	TRANSMISSION		ED20	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	30	6	3	12	910	5,139	7
17	OTHER DEPRECIATION EXPENSE		ED0T	3	0	7	1	165	584	0
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE										
18	AMORTIZATION EXPENSE		ED00	33	6	10	13	1,075	5,723	7
TAXES										
19	CAPITAL STOCK PROP LEVEL		ET1P	3	1	5	1	109	282	1
20	OTHER-W/O CAP STOCK		ET001	1	0	5	0	95	246	0
21	DEFERRED INCOME TAXES		TXTA	7	2	20	3	304	1,156	2
22	NET INVESTMENT TAX CREDIT		TX93	0	0	(3)	0	(34)	(48)	0
23	GROSS RECEIPTS TAX		TXG	74	12	24	33	386	1,160	4
24	TOTAL PA INCOME TAX		TSIT1	57	12	23	45	73	(387)	2
25	TOTAL FED INC TAX		TFTX	172	38	71	139	(1)	(2,319)	5
26	TOTAL TAXES		TFIT1	314	65	145	221	932	90	14
27	TOTAL OPERATING EXPENSES		TEXP1	902	129	266	289	5,103	18,725	43
28	RETURN (LN 11 - 36)		PRERTN	361	77	169	275	1,800	1,494	18
29	TOTAL RATE BASE		RBX	759	153	659	300	22,912	66,432	181
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	47.56%	50.33%	19.67%	91.67%	7.86%	2.25%	9.94%
31	CLASS RATE IN % OF TOTAL		PRCLRT	548.56%	580.51%	228.87%	1057.32%	90.66%	25.85%	114.65%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc P23	Output	Pa Jurisdct Distribution Only F65 03/17/04 HTY123103	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		R RTP	627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502
5	LATE PAY CHARGES PROPOSED		R11P	8,302	4,918	46	1,402	1,416	382	10	0
6	TOT ADJUSTED SALE OF ELECTRICITY		R RTTP	635,829	374,120	3,933	78,549	116,131	30,106	2,009	1,502
7	ANNUALIZATION PROPOSED REVS		ANNP	7,924	6,709	41	1,056	798	203	(95)	(4)
8	TOT ADJUSTED SALE OF ELECTRICITY		AR TTP	643,753	380,829	3,974	79,605	116,929	30,309	1,914	1,498
9	OTHER OPERATING REVENUES		ROOT	21,286	12,729	619	1,799	3,976	1,125	73	10
10	TOTAL OPERATING REVENUES		ROTP	665,039	393,558	4,593	81,404	120,905	31,434	1,987	1,508
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	122,840	78,120	2,887	10,651	16,461	4,746	307	147
13	OTHER OPER & MAINT EXPENSES		EEOT	195,833	149,017	2,927	15,805	15,575	4,170	459	588
14	TOTAL OPER & MAINT EXPENSES		EE00	318,673	227,137	5,814	26,456	32,036	8,916	766	735
DEPRECIATION EXPENSE											
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	73,522	47,677	1,633	6,548	9,102	2,225	143	86
17	OTHER DEPRECIATION EXPENSE		EDOT	15,702	11,056	318	1,464	1,648	419	27	11
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE											
18	AMORTIZATION EXPENSE		ED00	89,224	58,733	1,951	8,012	10,750	2,644	170	97
TAXES											
19	CAPITAL STOCK PROP LEVEL		ET1P	8,220	5,451	195	743	1,108	286	19	9
20	OTHER-W/O CAP STOCK		ET001	8,597	6,027	182	800	963	252	16	6
21	DEFERRED INCOME TAXES		TXTA	24,874	16,591	549	2,297	3,066	799	51	24
22	NET INVESTMENT TAX CREDIT		TX93	(1,926)	(1,140)	(57)	(162)	(369)	(105)	(7)	(1)
23	GROSS RECEIPTS TAX		TXG	37,981	22,469	234	4,697	6,899	1,788	113	88
24	TOTAL PA INCOME TAX		TSIT1	9,520	280	(631)	3,098	5,466	1,370	66	47
25	TOTAL FED INC TAX		TFTX	12,518	(10,336)	(2,398)	8,224	14,893	3,735	170	130
26	TOTAL TAXES		TFIT1	99,784	39,342	(1,926)	19,687	32,024	8,135	428	303
27	TOTAL OPERATING EXPENSES		TEXP1	507,681	325,212	5,839	54,165	74,810	19,695	1,364	1,135
28	RETURN (LN 11 - 36)		PRERTN	157,358	68,346	(1,246)	27,239	46,095	11,739	623	373
29	TOTAL RATE BASE		RBX	1,814,993	1,223,795	41,488	165,257	226,608	60,200	3,904	2,150
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	8.67%	5.58%	-3.00%	16.48%	20.34%	19.50%	15.96%	17.35%
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	64.36%	-34.60%	190.08%	234.60%	224.91%	184.08%	200.12%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc P23	Output	IST	LP-6	LPEP	ISA	GH	SL/AL	L5-S
OPERATING REVENUES AT PROPOSED RATE LEVELS										
SALES OF ELECTRICITY										
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		1,355	167	463	661	6,778	19,864	61
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	1,355	167	463	661	6,778	19,864	61
5	LATE PAY CHARGES PROPOSED		R11P	0	0	0	0	73	57	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTYP	1,355	167	463	661	6,851	19,921	61
7	ANNUALIZATION PROPOSED REVS		ANNP	(96)	38	(55)	(98)	(316)	(256)	(1)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	1,259	205	408	563	6,535	19,665	60
9	OTHER OPERATING REVENUES		ROOT	4	1	27	1	368	554	1
10	TOTAL OPERATING REVENUES		ROTP	1,263	206	435	564	6,903	20,219	61
OPERATING EXPENSES										
OPERATING AND MAINTENANCE EXPENSES										
11	TRANSMISSION		EE20	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	51	10	23	20	1,630	7,772	12
13	OTHER OPER & MAINT EXPENSES		EE0T	504	48	88	35	1,466	5,140	10
14	TOTAL OPER & MAINT EXPENSES		EE00	555	58	111	55	3,096	12,912	22
DEPRECIATION EXPENSE										
15	TRANSMISSION		ED20	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	30	6	3	12	910	5,139	7
17	OTHER DEPRECIATION EXPENSE		ED0T	3	0	7	1	165	584	0
TOTAL DEPRECIATION AND										
18	AMORTIZATION EXPENSE		ED00	33	6	10	13	1,075	5,723	7
TAXES										
19	CAPITAL STOCK PROP LEVEL		ET1P	3	1	5	1	109	282	1
20	OTHER-W/O CAP STOCK		ET001	1	0	5	0	95	246	0
21	DEFERRED INCOME TAXES		TXTA	7	2	20	3	304	1,156	2
22	NET INVESTMENT TAX CREDIT		TX93	0	0	(3)	0	(34)	(48)	0
23	GROSS RECEIPTS TAX		TXG	74	12	24	33	386	1,160	4
24	TOTAL PA INCOME TAX		TSIT1	57	12	23	45	73	(387)	2
25	TOTAL FED INC TAX		TFTX	172	38	71	139	(1)	(2,319)	5
26	TOTAL TAXES		TFIT1	314	65	145	221	932	90	14
27	TOTAL OPERATING EXPENSES		TEXP1	902	129	266	289	5,103	18,725	43
28	RETURN (LN 11 - 38)		PRRTN	361	77	169	275	1,800	1,494	18
29	TOTAL RATE BASE		RBX	759	153	859	300	22,912	66,432	181
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	47.56%	50.33%	18.67%	91.67%	7.86%	2.25%	9.94%
31	CLASS RATE IN % OF TOTAL		PRCLRT	548.56%	580.51%	226.87%	1057.32%	90.66%	25.95%	114.65%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc P23	Output	Pa Jurtsdict Distribution Only F65 03/17/04 HTY123103	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	627,527	369,204	3,887	77,147	114,715	29,724	1,999	1,502
5	LATE PAY CHARGES PROPOSED		R11P	8,302	4,916	46	1,402	1,416	382	10	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	635,829	374,120	3,933	78,549	116,131	30,106	2,009	1,502
7	ANNUALIZATION PROPOSED REVS		ANNP	7,924	6,709	41	1,056	798	203	(95)	(4)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	643,753	380,829	3,974	79,605	116,929	30,309	1,914	1,498
9	OTHER OPERATING REVENUES		ROOT	21,286	12,740	581	1,794	3,967	1,162	77	11
10	TOTAL OPERATING REVENUES		ROTP	665,039	393,569	4,555	81,399	120,896	31,471	1,991	1,509
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	122,840	77,902	2,754	10,612	16,660	4,977	325	147
13	OTHER OPER & MAINT EXPENSES		EEOT	195,833	148,861	2,835	15,777	15,717	4,331	477	588
14	TOTAL OPER & MAINT EXPENSES		EE00	318,673	226,763	5,589	26,389	32,377	9,308	802	735
DEPRECIATION EXPENSE											
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	73,522	47,577	1,573	6,529	9,194	2,331	151	86
17	OTHER DEPRECIATION EXPENSE		EDOT	15,703	11,036	304	1,461	1,667	438	29	11
18	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE		ED00	89,225	58,613	1,877	7,990	10,861	2,769	180	97
TAXES											
19	CAPITAL STOCK PROP LEVEL		ET1P	8,220	5,437	186	741	1,118	310	20	9
20	OTHER-W/O CAP STOCK		ET001	8,597	6,017	174	799	972	264	17	6
21	DEFERRED INCOME TAXES		TXTA	24,873	16,534	528	2,284	3,118	846	53	23
22	NET INVESTMENT TAX CREDIT		TX93	(1,924)	(1,142)	(54)	(161)	(367)	(108)	(7)	(1)
23	GROSS RECEIPTS TAX		TXG	37,981	22,489	234	4,697	6,899	1,788	113	88
24	TOTAL PA INCOME TAX		TSIT1	9,520	355	(593)	3,111	5,398	1,300	60	47
25	TOTAL FED INC TAX		TFTX	12,517	(10,075)	(2,261)	8,269	14,653	3,487	148	130
26	TOTAL TAXES		TFIT1	99,784	39,595	(1,786)	19,740	31,791	7,887	404	302
27	TOTAL OPERATING EXPENSES		TEXP1	507,682	324,971	5,680	54,119	75,029	19,964	1,386	1,134
28	RETURN (LN 11 - 36)		PRERTN	157,357	68,598	(1,125)	27,280	45,867	11,507	605	375
29	TOTAL RATE BASE		RBX	1,814,993	1,219,950	39,913	164,848	230,059	63,420	4,157	2,146
30	RATE OF RETURN (LN 47, / LN 48)		PRRTR	8.67%	5.62%	-2.62%	16.57%	19.94%	18.14%	14.55%	17.47%
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	64.82%	-32.53%	191.12%	229.99%	209.23%	167.82%	201.50%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2003
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.		Input	Alloc P23	Output	IST	LP-6	LPEP	ISA	GH	SU/LAL	L5-S
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP			0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP			1,355	167	463	661	6,778	19,864	61
3	STATE TAX ADJ SURCHARGE	STAS			0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY			RRTP	1,355	167	463	661	6,778	19,864	61
5	LATE PAY CHARGES PROPOSED			R11P	0	0	0	0	73	57	0
6	TOT ADJUSTED SALE OF ELECTRICITY			RRTTP	1,355	167	463	661	6,851	19,921	61
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9	OTHER OPERATING REVENUES			ROOT	4	1	27	1	350	571	1
10	TOTAL OPERATING REVENUES			ROTP	1,263	206	435	564	6,885	20,236	61
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION			EE20	0	0	0	0	0	0	0
12	DISTRIBUTION			EE30	51	10	23	20	1,578	7,770	12
13	OTHER OPER & MAINT EXPENSES			EE0T	504	48	88	35	1,429	5,138	10
14	TOTAL OPER & MAINT EXPENSES			EE00	555	58	111	55	3,007	12,908	22
DEPRECIATION EXPENSE											
15	TRANSMISSION			ED20	0	0	0	0	0	0	0
16	DISTRIBUTION			ED30	30	6	3	12	885	5,139	7
17	OTHER DEPRECIATION EXPENSE			ED0T	3	0	7	1	161	584	0
18	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE			ED00	33	6	10	13	1,046	5,723	7
TAXES											
19	CAPITAL STOCK PROP LEVEL			ET1P	3	1	5	1	106	282	1
20	OTHER-W/O CAP STOCK			ET001	1	0	5	0	92	247	0
21	DEFERRED INCOME TAXES			TXTA	7	2	20	3	294	1,152	2
22	NET INVESTMENT TAX CREDIT			TX93	0	0	(2)	0	(32)	(50)	0
23	GROSS RECEIPTS TAX			TXG	74	12	24	33	386	1,160	4
24	TOTAL PA INCOME TAX			TSIT1	57	12	23	45	87	(384)	2
25	TOTAL FED INC TAX			TFTX	172	38	71	139	51	(2,310)	5
26	TOTAL TAXES			TFIT1	314	65	146	221	984	87	14
27	TOTAL OPERATING EXPENSES			TEXP1	902	129	267	289	5,037	18,728	43
28	RETURN (LN 11 - 38)			PRERTN	361	77	168	275	1,848	1,508	18
29	TOTAL RATE BASE			RBX	758	153	866	299	22,299	66,154	181
30	RATE OF RETURN (LN 47 / LN 48)			PRRTR	47.63%	50.33%	19.40%	91.97%	8.29%	2.28%	9.94%
31	CLASS RATE IN % OF TOTAL			PRCLRT	549.37%	580.51%	223.76%	1060.78%	95.62%	26.30%	114.65%

Pennsylvania Public Utility Commission
v.
PPL Electric Utilities Corporation

Docket No. R-00049255

Exhibit JMK-7

8-12-04 JES
HBL

Sponsored by Joseph M. Kleha

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PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc	Output	Pa Jurisdct Distribution Only	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		657,763	374,883	4,081	83,476	127,283	32,623	2,141	1,793
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	657,763	374,883	4,081	83,476	127,283	32,623	2,141	1,793
5	LATE PAY CHARGES PROPOSED		R11P	6,474	3,834	36	1,093	1,105	298	7	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	664,237	378,717	4,117	84,569	128,388	32,921	2,148	1,793
7	ANNUALIZATION PROPOSED REVS		ANNP	5,651	3,553	25	1,335	1,293	(565)	30	(108)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	669,888	382,270	4,142	85,904	129,681	32,356	2,178	1,685
9	OTHER OPERATING REVENUES		ROOT	17,776	10,087	506	1,708	3,710	960	60	8
10	TOTAL OPERATING REVENUES		ROTP	687,664	392,357	4,648	87,612	133,391	33,318	2,238	1,693
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	127,707	78,981	2,913	11,938	18,455	4,961	305	138
13	OTHER OPER & MAINT EXPENSES		EE0T	182,129	138,876	2,661	15,116	15,513	3,976	421	552
14	TOTAL OPER & MAINT EXPENSES		EE00	309,836	217,857	5,574	27,056	33,968	8,937	726	690
DEPRECIATION EXPENSE											
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	78,406	49,728	1,721	7,461	10,623	2,415	146	89
17	OTHER DEPRECIATION EXPENSE		ED0T	15,499	10,755	307	1,525	1,756	414	25	11
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE											
18	AMORTIZATION EXPENSE		ED00	93,905	60,483	2,028	8,986	12,379	2,829	173	100
TAXES											
19	CAPITAL STOCK PROP LEVEL		ET1P	5,267	3,405	122	513	775	192	12	5
20	OTHER-W/O CAP STOCK		ET001	10,131	6,870	215	999	1,296	317	21	6
21	DEFERRED INCOME TAXES		TXTA	30,462	20,973	662	3,048	4,082	984	66	31
22	NET INVESTMENT TAX CREDIT		TX93	(1,913)	(1,088)	(55)	(184)	(399)	(103)	(6)	(1)
23	GROSS RECEIPTS TAX		TXG	39,523	22,554	244	5,068	7,651	1,909	129	99
24	TOTAL PA INCOME TAX		TSIT1	15,227	3,196	(534)	3,763	6,556	1,822	98	71
25	TOTAL FED INC TAX		TFTX	23,052	(5,531)	(2,257)	8,487	17,017	4,272	258	198
26	TOTAL TAXES		TFIT1	121,749	49,595	(1,625)	22,564	36,856	9,165	576	408
27	TOTAL OPERATING EXPENSES		TEXP1	525,490	327,935	5,977	58,626	83,205	20,931	1,475	1,198
28	RETURN (LN 11 - 36)		PRERTN	162,174	64,422	(1,329)	28,986	50,186	12,365	763	495
29	TOTAL RATE BASE		RBX	1,842,749	1,216,771	41,367	179,297	250,040	61,618	3,796	2,036
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	8.80%	5.29%	-3.21%	16.17%	20.07%	20.10%	20.10%	24.31%
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	60.16%	-36.51%	183.70%	228.06%	228.39%	228.39%	276.26%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.		Input	Aloc	Output	IST	LP-6	LPEP	ISA	GH	SL/AL	L5-S
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP			0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP			1,152	185	404	661	9,193	19,805	63
3	STATE TAX ADJ SURCHARGE	STAS			0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY			RRTTP	1,152	185	404	661	9,193	19,805	63
5	LATE PAY CHARGES PROPOSED			R11P	0	0	0	0	57	44	0
6	TOT ADJUSTED SALE OF ELECTRICITY			RRTTP	1,152	185	404	661	9,250	19,849	63
7	ANNUALIZATION PROPOSED REVS			ANNP	(7)	(1)	(43)	(42)	284	(106)	3
8	TOT ADJUSTED SALE OF ELECTRICITY			ARTTP	1,145	184	361	619	9,534	19,743	66
9	OTHER OPERATING REVENUES			ROOT	3	1	22	1	252	458	1
10	TOTAL OPERATING REVENUES			ROTP	1,148	185	383	620	9,786	20,201	67
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION			EE20	0	0	0	0	0	0	0
12	DISTRIBUTION			EE30	48	9	24	20	1,411	8,497	12
13	OTHER OPER & MAINT EXPENSES			EE0T	473	54	77	32	1,153	3,211	5
14	TOTAL OPER & MAINT EXPENSES			EE00	521	63	101	52	2,564	11,708	17
DEPRECIATION EXPENSE											
15	TRANSMISSION			ED20	0	0	0	0	0	0	0
16	DISTRIBUTION			ED30	31	6	3	12	628	5,332	8
17	OTHER DEPRECIATION EXPENSE			ED0T	3	0	6	2	136	555	0
18	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE			ED00	34	6	9	14	964	5,887	8
TAXES											
19	CAPITAL STOCK PROP LEVEL			ET1P	2	0	3	1	58	177	0
20	OTHER-W/O CAP STOCK			ET001	2	0	6	0	97	300	0
21	DEFERRED INCOME TAXES			TXTA	18	2	23	4	310	1,362	2
22	NET INVESTMENT TAX CREDIT			TX93	0	0	(2)	0	(27)	(49)	0
23	GROSS RECEIPTS TAX			TXG	68	11	21	37	563	1,165	5
24	TOTAL PA INCOME TAX			TSIT1	48	10	21	51	487	(146)	5
25	TOTAL FED INC TAX			TFTX	141	30	66	156	1,194	(1,992)	13
26	TOTAL TAXES			TFIT1	279	53	137	249	2,653	786	25
27	TOTAL OPERATING EXPENSES			TEXP1	834	122	247	315	8,181	18,381	50
28	RETURN (LN 11 - 36)			PRERTN	314	63	136	305	3,605	1,820	37
29	TOTAL RATE BASE			RBX	716	144	825	284	19,682	66,001	177
30	RATE OF RETURN (LN 47 / LN 48)			PRRTR	43.85%	43.75%	16.48%	107.39%	18.32%	2.76%	20.90%
31	CLASS RATE IN % OF TOTAL			PRCLRT	496.31%	497.12%	187.31%	1220.30%	208.12%	31.33%	237.53%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc	Output	Pa Jurisdct Distribution Only	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		857,763	374,883	4,081	83,476	127,283	32,623	2,141	1,793
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	857,763	374,883	4,081	83,476	127,283	32,623	2,141	1,793
5	LATE PAY CHARGES PROPOSED		R11P	6,474	3,834	36	1,093	1,105	298	7	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	864,237	378,717	4,117	84,569	128,388	32,921	2,148	1,793
7	ANNUALIZATION PROPOSED REVS		ANNP	5,651	3,553	25	1,335	1,293	(565)	30	(108)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	869,888	382,270	4,142	85,904	129,681	32,356	2,178	1,685
9	OTHER OPERATING REVENUES		ROOT	17,776	10,087	506	1,708	3,710	960	60	8
10	TOTAL OPERATING REVENUES		ROTP	887,664	392,357	4,648	87,612	133,391	33,316	2,238	1,693
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	127,707	78,981	2,913	11,938	18,455	4,981	305	138
13	OTHER OPER & MAINT EXPENSES		EE0T	182,129	138,876	2,661	15,118	15,513	3,976	421	552
14	TOTAL OPER & MAINT EXPENSES		EE00	309,836	217,857	5,574	27,056	33,968	8,937	726	690
DEPRECIATION EXPENSE											
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	78,408	49,728	1,721	7,481	10,823	2,415	148	89
17	OTHER DEPRECIATION EXPENSE		ED0T	15,499	10,755	307	1,525	1,756	414	25	11
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE											
18	AMORTIZATION EXPENSE		ED00	93,905	60,483	2,028	8,988	12,379	2,829	173	100
TAXES											
19	CAPITAL STOCK PROP LEVEL		ET1P	5,267	3,405	122	513	775	192	12	5
20	OTHER-W/O CAP STOCK		ET001	10,131	8,870	215	999	1,296	317	21	6
21	DEFERRED INCOME TAXES		TXTA	30,462	20,973	662	3,048	4,082	984	66	31
22	NET INVESTMENT TAX CREDIT		TX93	(1,913)	(1,086)	(55)	(184)	(399)	(103)	(6)	(1)
23	GROSS RECEIPTS TAX		TXG	39,523	22,554	244	5,068	7,651	1,909	129	99
24	TOTAL PA INCOME TAX		TSIT1	15,227	3,196	(534)	3,763	6,556	1,622	98	71
25	TOTAL FED INC TAX		TFTX	23,052	(5,531)	(2,257)	9,487	17,017	4,272	258	198
26	TOTAL TAXES		TFIT1	121,749	49,595	(1,625)	22,584	36,858	9,165	576	408
27	TOTAL OPERATING EXPENSES		TEXP1	525,490	327,935	5,977	58,626	83,205	20,931	1,475	1,198
28	RETURN (LN 11 - 36)		PRERTN	182,174	64,422	(1,329)	28,986	50,186	12,385	783	495
29	TOTAL RATE BASE		RBX	1,842,749	1,216,771	41,367	179,297	250,040	61,618	3,796	2,036
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	8.80%	5.29%	-3.21%	16.17%	20.07%	20.10%	20.10%	24.31%
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	60.16%	-38.51%	183.70%	228.06%	228.39%	228.39%	278.26%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.		Input	Alloc	Output	IST	LP-6	LPEP	ISA	GH	SL/AL	L5-S
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP			0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP			1,152	185	404	661	9,193	19,805	83
3	STATE TAX ADJ SURCHARGE	STAS			0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY			RRTP	1,152	185	404	661	9,193	19,805	83
5	LATE PAY CHARGES PROPOSED			R11P	0	0	0	0	57	44	0
6	TOT ADJUSTED SALE OF ELECTRICITY			RRTTP	1,152	185	404	661	9,250	19,849	83
7	ANNUALIZATION PROPOSED REVS			ANNP	(7)	(1)	(43)	(42)	284	(106)	3
8	TOT ADJUSTED SALE OF ELECTRICITY			ARTTP	1,145	184	361	619	9,534	19,743	86
9	OTHER OPERATING REVENUES			ROOT	3	1	22	1	252	458	1
10	TOTAL OPERATING REVENUES			ROTP	1,148	185	383	620	9,786	20,201	87
OPERATING EXPENSES											
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION			EE20	0	0	0	0	0	0	0
12	DISTRIBUTION			EE30	48	9	24	20	1,411	8,497	12
13	OTHER OPER & MAINT EXPENSES			EE0T	473	54	77	32	1,153	3,211	5
14	TOTAL OPER & MAINT EXPENSES			EE00	521	63	101	52	2,564	11,708	17
DEPRECIATION EXPENSE											
15	TRANSMISSION			ED20	0	0	0	0	0	0	0
16	DISTRIBUTION			ED30	31	6	3	12	828	5,332	8
17	OTHER DEPRECIATION EXPENSE			ED0T	3	0	6	2	136	555	0
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE											
18	AMORTIZATION EXPENSE			ED00	34	6	9	14	964	5,887	8
TAXES											
19	CAPITAL STOCK PROP LEVEL			ET1P	2	0	3	1	58	177	0
20	OTHER-W/O CAP STOCK			ET001	2	0	6	0	97	300	0
21	DEFERRED INCOME TAXES			TXTA	18	2	23	4	310	1,362	2
22	NET INVESTMENT TAX CREDIT			TX93	0	0	(2)	0	(27)	(49)	0
23	GROSS RECEIPTS TAX			TXG	68	11	21	37	563	1,165	5
24	TOTAL PA INCOME TAX			TSIT1	48	10	21	51	467	(146)	5
25	TOTAL FED INC TAX			TFTX	141	30	66	156	1,194	(1,092)	13
26	TOTAL TAXES			TFIT1	279	53	137	249	2,653	786	25
27	TOTAL OPERATING EXPENSES			TEXP1	834	122	247	315	6,181	18,381	50
28	RETURN (LN 11 - 36)			PRERTN	314	63	136	305	3,605	1,820	37
29	TOTAL RATE BASE			RBX	716	144	825	284	19,682	66,001	177
30	RATE OF RETURN (LN 47 / LN 48)			PRRTR	43.85%	43.75%	16.48%	107.39%	18.32%	2.76%	20.90%
31	CLASS RATE IN % OF TOTAL			PRCLRT	498.31%	497.12%	187.31%	1220.30%	208.12%	31.33%	237.53%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.	Input	Alloc	Output	Pa Jurisdct	RS	RTS	GS-1	GS-3	LP-4	ISP	LP-5
				Distribution Only							
OPERATING REVENUES AT PROPOSED RATE LEVELS											
SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP		0	0	0	0	0	0	0	0
2	DISTRIBUTION REVENUES	DREVP		657,763	374,883	4,081	83,476	127,283	32,823	2,141	1,793
3	STATE TAX ADJ SURCHARGE	STAS		0	0	0	0	0	0	0	0
4	TOTAL SALE OF ELECTRICITY		RRTP	657,763	374,883	4,081	83,476	127,283	32,823	2,141	1,793
5	LATE PAY CHARGES PROPOSED		R11P	6,474	3,834	36	1,093	1,105	298	7	0
6	TOT ADJUSTED SALE OF ELECTRICITY		RRTTP	664,237	378,717	4,117	84,569	128,388	32,921	2,148	1,793
7	ANNUALIZATION PROPOSED REVS		ANNP	5,651	3,553	25	1,335	1,293	(565)	30	(108)
8	TOT ADJUSTED SALE OF ELECTRICITY		ARTTP	669,888	382,270	4,142	85,904	129,681	32,356	2,178	1,685
9	OTHER OPERATING REVENUES		ROOT	17,776	10,130	483	1,691	3,684	974	63	9
10	TOTAL OPERATING REVENUES		ROTP	687,664	392,400	4,625	87,595	133,365	33,330	2,241	1,694
OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION		EE20	0	0	0	0	0	0	0	0
12	DISTRIBUTION		EE30	127,707	78,950	2,818	11,844	18,544	5,092	325	138
13	OTHER OPER & MAINT EXPENSES		EE0T	182,129	138,854	2,598	15,058	15,571	4,061	437	552
14	TOTAL OPER & MAINT EXPENSES		EE00	309,836	217,804	5,416	26,902	34,115	9,153	762	690
DEPRECIATION EXPENSE											
15	TRANSMISSION		ED20	0	0	0	0	0	0	0	0
16	DISTRIBUTION		ED30	78,406	49,713	1,675	7,416	10,865	2,478	157	89
17	OTHER DEPRECIATION EXPENSE		ED0T	15,499	10,753	299	1,517	1,764	423	26	11
TOTAL DEPRECIATION AND AMORTIZATION EXPENSE											
18	AMORTIZATION EXPENSE		ED00	93,905	60,466	1,974	8,933	12,429	2,901	183	100
TAXES											
19	CAPITAL STOCK PROP LEVEL		ET1P	5,267	3,404	119	509	778	197	13	5
20	OTHER-W/O CAP STOCK		ET001	10,131	6,870	209	991	1,302	325	21	6
21	DEFERRED INCOME TAXES		TXTA	30,462	20,948	644	3,025	4,113	1,014	71	31
22	NET INVESTMENT TAX CREDIT		TX93	(1,913)	(1,090)	(52)	(182)	(397)	(105)	(7)	(1)
23	GROSS RECEIPTS TAX		TXG	39,523	22,554	244	5,068	7,651	1,909	129	99
24	TOTAL PA INCOME TAX		TSIT1	15,227	3,212	(509)	3,789	6,524	1,586	93	71
25	TOTAL FED INC TAX		TFTX	23,052	(5,473)	(2,161)	9,584	16,904	4,135	237	199
26	TOTAL TAXES		TFIT1	121,749	49,839	(1,527)	22,674	36,755	9,032	555	409
27	TOTAL OPERATING EXPENSES		TEXP1	525,490	327,909	5,863	58,509	83,299	21,086	1,500	1,199
28	RETURN (LN 11 - 36)		PRERTN	162,174	64,491	(1,238)	29,088	50,066	12,244	741	495
29	TOTAL RATE BASE		RBX	1,842,747	1,215,343	40,251	178,108	252,018	63,488	4,061	2,032
30	RATE OF RETURN (LN 47 / LN 48)		PRRTR	8.80%	5.31%	-3.08%	16.33%	19.87%	19.29%	18.25%	24.36%
31	CLASS RATE IN % OF TOTAL		PRCLRT	100.00%	60.30%	-34.95%	185.56%	225.73%	219.14%	207.33%	276.80%

PPL ELECTRIC UTILITIES CORPORATION
 COST ALLOCATION DETAILS - 12 MONTHS ENDED 12/31/2004
 OPERATING REVENUES AT PROPOSED RATE LEVELS
 \$1,000

Line No.		Input	Alloc	Output	IST	LP-6	LPEP	ISA	GH	SLJAL	L5-S	
	OPERATING REVENUES AT PROPOSED RATE LEVELS											
	SALES OF ELECTRICITY											
1	TRANSMISSION REVENUES	TREVP			0	0	0	0	0	0	0	
2	DISTRIBUTION REVENUES	DREVP			1,152	185	404	661	9,193	19,805	83	
3	STATE TAX ADJ SURCHARGE	STAS			0	0	0	0	0	0	0	
4	TOTAL SALE OF ELECTRICITY			RRTP	1,152	185	404	661	9,193	19,805	83	
5	LATE PAY CHARGES PROPOSED			R11P	0	0	0	0	57	44	0	
6	TOT ADJUSTED SALE OF ELECTRICITY			RRTTP	1,152	185	404	661	9,250	19,849	83	
7	ANNUALIZATION PROPOSED REVS			ANNP	(7)	(1)	(43)	(42)	284	(108)	3	
8	TOT ADJUSTED SALE OF ELECTRICITY			ARTTP	1,145	184	361	619	9,534	19,743	86	
9	OTHER OPERATING REVENUES			ROOT	3	1	22	1	247	488	1	
10	TOTAL OPERATING REVENUES			ROTP	1,148	185	383	620	9,781	20,211	87	
	OPERATING EXPENSES											
	OPERATING AND MAINTENANCE EXPENSES											
11	TRANSMISSION			EE20	0	0	0	0	0	0	0	
12	DISTRIBUTION			EE30	48	9	24	20	1,396	8,494	12	
13	OTHER OPER & MAINT EXPENSES			EE0T	473	54	77	32	1,142	3,207	5	
14	TOTAL OPER & MAINT EXPENSES			EE00	521	63	101	52	2,538	11,701	17	
	DEPRECIATION EXPENSE											
15	TRANSMISSION			ED20	0	0	0	0	0	0	0	
16	DISTRIBUTION			ED30	31	6	3	12	821	5,331	8	
17	OTHER DEPRECIATION EXPENSE			ED0T	3	0	6	2	136	654	0	
18	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE			ED00	34	6	9	14	957	5,885	8	
	TAXES											
19	CAPITAL STOCK PROP LEVEL			ET1P	2	0	3	1	58	177	0	
20	OTHER-W/O CAP STOCK			ET001	2	0	6	0	97	300	0	
21	DEFERRED INCOME TAXES			TXTA	18	2	23	4	307	1,357	2	
22	NET INVESTMENT TAX CREDIT			TX93	0	0	(2)	0	(26)	(51)	0	
23	GROSS RECEIPTS TAX			TXG	68	11	21	37	563	1,165	5	
24	TOTAL PA INCOME TAX			TSIT1	48	10	21	51	470	(143)	5	
25	TOTAL FED INC TAX			TFTX	141	30	66	156	1,207	(1,981)	13	
26	TOTAL TAXES			TFIT1	279	53	137	249	2,667	793	25	
27	TOTAL OPERATING EXPENSES			TEXP1	834	122	247	315	6,162	18,379	50	
28	RETURN (LN 11 - 36)			PRRTN	314	63	136	305	3,619	1,832	37	
29	TOTAL RATE BASE			RBX	716	145	831	283	19,537	65,757	176	
30	RATE OF RETURN (LN 47 / LN 48)			PRRTR	43.85%	43.45%	16.37%	107.77%	18.52%	2.79%	21.02%	
31	CLASS RATE IN % OF TOTAL			PRCLRT	498.31%	493.69%	185.96%	1224.61%	210.48%	31.66%	238.86%	

8-12-24 JES
HMB

O. G. Kasper
J. M. Kleha

**PPL Electric Utilities Corporation
Response to Requests for Admissions
of the Public Lighting User Group, Set 2
Dated July 23, 2004
Docket No. R-00049255**

- RFA.4. Rates established in PPL's 1994 rate case resulted in SL/AL rates designed to contribute 59% of PPL's system average rate of return.
- A.4. Denied. In PPL Electric's 1994 base rate case, the SL/AL rates, as originally filed, were designed to contribute 66% of the Company's rate of return. The 59% contribution cited above was the result of the Commission's decision and order in the case reflecting various adjustments and disallowances. As shown in Exhibit JMK 2 at Docket No. R-00973952, all components of the current unbundled rates for SL/AL customers are subsidized by the rates charged to other non-residential customers.

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CONFLICT OF INTEREST POLICY

SUSTAINABLE ENERGY FUND OF CENTRAL EASTERN PA

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ARTICLE I: PURPOSE

1. Members of the Board of Directors of Sustainable Energy Fund of Central Eastern Pa (the "Fund") serve in a public interest role. In such capacity, each person has an obligation to conduct all affairs pertaining to the Fund in a manner consistent with the following policy. The purpose of the policy is to protect the Fund's interest when it is contemplating entering into a transaction or arrangement that might benefit the private interest of an officer or director of the Fund, to ensure the confidentiality of all matters pertaining to the Fund, to avoid the appearance of any impropriety in its business dealings, and to ensure the Fund's not-for-profit status is not jeopardized by an officer or director. It should be noted that this policy is intended to supplement but not replace any applicable state laws governing conflicts of interest applicable to nonprofit corporations.

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ARTICLE II: DEFINITIONS

AUG 18 2004

- 2. "Interested Person" shall mean any director, officer, or member of a committee with board-delegated powers who has a direct or indirect Financial Interest.
- 3. "Family Member" shall mean a board of director's spouse, child, parent, brother/sister, or any immediately family member of any person contained in this list).
- 4. "Financial Interest" shall mean a person who directly or indirectly, through business, investment or Family Member has:
 - a) An ownership or investment interest in any entity with which the Fund has an actual or potential transaction or arrangement, or
 - b) A compensation arrangement with the Fund or with any entity or individual with which the Fund has an actual or potential transaction or arrangement, or
 - c) A potential ownership or investment interest or business relationship in, or compensation arrangement with, any entity or individual with which the Fund is negotiating a transaction or arrangement, or
 - d) A relationship with any other person or entity, including without limitation, a non-profit entity, which may reap a potential pecuniary or non pecuniary benefit based upon the Fund negotiating and/or consummating a transaction or arrangement with such person or entity.

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5. "Compensation" shall mean direct or indirect remuneration as well as gifts or favors that are substantial in nature to any board member or a Family Member.

ARTICLE III: PROCEDURES

6. In connection with any actual or possible situation in which an Interested Person may have a Financial Interest or has received Compensation from the person or entity with which the Fund is proposing to conduct business, such person must disclose the existence of his or her Financial Interest and or Compensation, and all material fact to the Board of Directors and members of committees with board-delegated powers considering the proposed transaction or arrangement.

7. In the case of an Interested Person having a Financial Interest:

- a) The Interested Person may make a presentation at the board or committee meeting, but after such presentation, he or she shall, at the request of the chairman, leave the meeting during the discussion of, and the vote on, the transaction or arrangement.
- b) The board or committee shall determine if the transaction involving the Interested Person is fair to the Fund and in the Fund's best interests.
- c) The board or committee shall vote on the proposed transaction without the further participation of the Interested Person.

8. In the case of a person who receives Compensation, such person shall not participate in the discussion or voting on any matter related to the person or entity that has paid the Compensation.

9. In the case where a potential violation of the policy exists:

- a) If a member of the board or committee has reasonable cause to believe that an Interested Person has failed to disclose an actual or possible Financial Interest or that a person has failed to disclose the receipt of Compensation, such member shall so notify the President who shall inform the Interested Person of the basis for such belief and afford the Interested Person an opportunity to explain the alleged failure to disclose and the potential financial relationship to the transaction.
- c) If, after hearing the response of the Interested Person and making such further investigation as may be warranted in the circumstances, the board or committee determines that the Interested Person has intentionally failed to disclose a Financial Interest or receipt of Compensation, the board or committee shall take such appropriate disciplinary and corrective action committee deems appropriate based upon the situation.

ARTICLE IV: RECORDS OF PROCEEDINGS

10. The minutes of the board and all committees with board-delegated powers shall contain:
- a) The names of the Interested Persons who disclosed or otherwise were found to have a Financial Interest, the nature of the Financial Interest, any action taken to determine whether a Financial Interest was present, and the board's or committee's decision as to whether a Financial Interest in fact existed.
 - b) The names of the persons who were present for discussions and votes relating to the transaction or arrangement.
 - c) Any alternative to the proposed transaction or arrangement, as well as a record of any votes taken in connection therewith.

ARTICLE V: COMPENSATION COMMITTEES

11. A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the Fund for services is precluded from voting on matters pertaining to that members compensation.

ARTICLE VI: CONFIDENTIALITY

12. Each of the members of the board of directors of the Fund acknowledge and agree that the information which may have been disclosed to him or her during the course of their directorship or as an officer of the Fund may be deemed confidential and proprietary information, and each board of director covenants and agrees that he/she will not disclose any proprietary information of any nature of the Fund (or any proprietary information of another person or entity which is in the possession of the Fund) to which he/she became exposed, had access or became familiar, including, but not limited to, all documents, records, files, contracts, communications, conversations, prospective or actual equity or borrower information, trade secrets, data and any other information which may have, at any time, been in the possession or custody of him/her whether made by the Fund or any other person, all of which are and shall remain the sole and exclusive property of the Fund. No board member shall disclose any of the aforesaid confidential information, directly or indirectly, nor use them in any manner in competition with or adversely affecting the Fund or any of its borrowers or equity participants. All such proprietary and confidential information and similar items, whether prepared by the Fund or other person or entity or otherwise which may have at any time come into a board member's possession during the term of their directorship shall remain the exclusive property of the Fund and not disclosed to anyone under any circumstances whatsoever without the prior written consent of the Fund. Each member's obligations under this paragraph shall not apply to confidential information which: (a) was in the public domain at the time it was communicated to the board member; (b) entered the public domain subsequent to the time it was communicated to the board member through no fault of such board member; (c) was in such board member's possession free of any obligation of confidence at the time it was communicated to the board

member; (d) was rightfully communicated to the board member free of any obligation of confidence subsequent to the time it was communicated to such board member; (e) was developed by the board member or his/her employees or agents independently of and without reference to any information communicated to such board member; (f) was communicated in response to a valid order by a court or other governmental body, was otherwise required by law, or was necessary to establish the rights of any person under this policy.

ARTICLE VII: PERIODIC REVIEWS

13. To ensure that the Fund operates in a manner consistent with its designated purposes and that it does not engage in activities that could jeopardize its status as an organization exempt from federal income tax, periodic reviews shall be conducted at the time of the annual audit of the Fund. The periodic review shall, at a minimum, include the following subjects:

- a) Whether compensation arrangements and benefits are reasonable and are the result of arms-length bargaining.
- b) Whether partnership, joint venture or other business arrangements, conform to written policies, are properly recorded, reflect reasonable payments for goods and services, further the Fund's designated purposes and do not result in inurement or impermissible private benefit.

ACKNOWLEDGMENT AND CONSENT

By signing below, you agree comply with all of the terms and conditions of the above Conflict of Interest Policy and acknowledge receipt of a copy of the Conflict of Interest Policy for your files. You agree that the Conflict of Interest Policy shall be binding upon you at all times.

NAME:

DATE:

4

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HR 6

2004/02/12

DOCUMENT

The Sustainable Energy Fund (SEF) Of Central Eastern Pennsylvania

Commitments Made*As of June 2004

Program Related Investments: \$8,450,000

- \$140,000 Loan to **Pine Hurst Acres**, to support a hog farm biodigester methane-to-electric generation project.
- \$100,000 Loan and a \$300,000 revolving line of credit to **Zimmerman Farm**, to support a cattle farm biodigester methane-to-electric generation project.
- \$30,000 Loan to **Oregon Dairy Farm**, to support a dairy farm biodigester methane-to-electric generation project.
- \$1,000,000 Loan to **Petersburg Commons**, to support a low-income "green", energy efficient units using LEED standards for a 14 single family attached townhouse dwelling.
- \$600,000 Loan to **SEDA-COG**, to support the energy efficient renovations and build a 7500 sq. ft. LEED certified building to house the Energy Resource Center.
- \$100,000 Loan to **Energy Unlimited** to support wind energy/farm development projects in PPL territory.
- \$500,000 Royalty Debt Financing & Warrants to **PowerWeb Technologies, Inc.** and early stage software company focused on internet delivered load management applications. (co-invested with Sustainable Development Fund)
- \$150,000 Loan to **Community Energy, Inc.** with specific use to place sales personnel in the PPL Utilities territory to create renewable energy demand.
- \$250,000 Equity Commitment to **Community Energy, Inc.** for 5% position in the company; preferred shares with 6% yield; complimenting the \$150,000 Debt. CEI is a renewable energy marketing company that has very significantly contributed to market adoption of wind energy.
- \$1,150,000 Loan to **Somerset Wind** for a 9 MW wind project. (Co-invested with the other regional Pennsylvania Sustainable Energy Funds) (*Funds not drawn, financed by FPL*)
- \$325,000 Loan to **Nova Cruz, LLC** to establish a manufacturing facility in Scranton for an electric high technology motorbike (subordinated debt with royalty payback)
- \$325,000 Equity to **Nova Cruz, LLC** (preferred shares)
- \$180,000 Loan to **Allentown Technology Center**, to finance a state of the art building energy control system for this technology incubator in downtown Allentown

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- \$500,000 Loan to **Londonderry School**, in Harrisburg for construction of a new, energy efficient LEED Silver school building and development of a sustainable energy curriculum.
- \$250,000 Line of Credit to **Community Energy, Inc.** to further finance their very successful program of wind energy marketing and development in Pennsylvania.
- \$200,000 Loan to **Nova Cruz, LLC** with royalty payback and warrants for dealer development of electric vehicle.
- \$200,000 Loan to **Energy Unlimited, Inc. (Mountaintop Wind Farm Project)** to help fund interconnection costs.
- \$250,000 Loan to **Advantek**, to purchase, install, and grid connect two 450 kilowatt wind turbines at Energy Unlimited's Mountaintop wind farm to test Advantek's IPC technology.
- \$1,500,000 to **Community Energy, Inc.** for the Bear Creek Wind Farm project located in Luzerne County; (co-invested with the four funds across the state of PA).

Grants: \$748,202

- \$6,500 Grant to **Alternative Fuels Council** to support their annual conference on alternative fuels.
- \$6,250 Grant to **Kauffman-Gamber Physical Therapy**, to support their grid tied solar PV system and solar hot water system to heat the therapy pool.
- \$11,310 Grant to **Universalist Unitarian Church**, to support their church renovations by providing funding for the installation of sun tubes (skylights).
- \$17,000 Grant to **HersheyPark**, renewal of the SEF sponsorship of the Green Team.
- \$15,500 Grant to **Eastern York School District**, to purchase a wind turbine to provide hands-on instructional opportunities for high school students to learn about alternative energy systems.
- \$3,000 Grant to **PA Fuel Cells Alliance (CESA)**, a coalition of state, federal and international stationary fuel cell and hydrogen infrastructure programs, with a mission of accelerating the adoption and commercialization of stationary fuel cell technology and hydrogen infrastructure development.
- \$2,000 Grant to **Northampton Boro Municipal Building**, to perform an energy audit.
- \$955 Grant to **Highland United Church**, to perform an energy audit.
- \$500 Grant to **Elizabethtown College** to purchase a solar panel for their solar boat project.
- \$500 to **Greater Scranton of Commerce** for conference support
- \$150 to **PA Environmental Council** for conference support
- \$500 to **Penn Future** for conference support

- \$10,000 Grant to **Clean Energy Expo**, to help showcase clean energy technologies, activities in clean energy development, and clean energy education.
- \$12,250 Grant to **Twin Valley School District**, to pay the LEED certification, registration and review fees to build a LEED Silver rated middle school.
- \$20,639 Grant to **Penn Future**, to install a 3.8 kw solar pv system, an educational exhibit to explain the system and the importance of renewable energy.
- \$4,900 Grant to **Community Basics** to expand an in depth analysis of the implementation of co-generation for the supplementary heat required on the "green" aspects of the community.
- \$500 Grant to **Penn Future** for co-sponsorship of the "2003 Green Power Awards".
- \$4,635 Grant to support the **Green Building Association** of Pittsburgh's Annual Conference, over 5,000 attendees.
- \$150 Grant to **PA Environmental Council** to support their annual dinner.
- \$250 Grant to **Earth Charter**, to support the third annual summit.
- \$5,200 Grant to **U.S. DOE Wind Powering America** Program, to support the education of wind power.
- \$1,810 Grant to **Citizens for Pennsylvania's Future** for an energy audit for Harrisburg offices.
- \$75,000 Grant (over a 2 ½ year period, three phases, \$25,000 increments) to **Pine Street Neighborhood Project**, Luzerne County for an energy efficient and solar energy housing project for low-income residential housing in Hazleton.
- \$25,000 Grant to **Lower Windsor Township** to finance energy modeling, LEED energy documentation and building commissioning for a new "Green" municipal center.
- \$19,510 Grant to **Eastern York School District** to finance installation of a donated solar photovoltaic system (2kw) and to develop supportive curriculum materials.
- \$7,500 Grant to **Clean Air Council** to develop an interactive, renewable energy education kiosk and web site for use in museums and for school access.
- \$20,000 Grant to the **City of Allentown** for technology transfer concerning project: use microturbines to generate power from methane from gas at sewage treatment plant digesters.
- \$10,000 Grant to **MAREC (Mid Atlantic Renewable Energy Coalition)** to support consumer education/awareness advertising.
- \$10,000 Grant to **Clean Energy Fund Network (CEFN)** to support common initiatives across the seven northeast states clean energy funds.
- \$75,000 Grant Pool to place *windmills* for demonstration and curriculum purposes at Environmental Education Centers.

- \$68,000 Grant to place a 10 kw windmill and an array of photovoltaics at **HersheyParks'** PA DEP Theater for the purpose of exposure/educating the audience to a demonstration of sustainable energy
- \$50,000 Grant to the **Green Building Association of Central Pennsylvania** to assist in organizational development to encourage education and market development of energy efficient and environmentally friendly building throughout central Pennsylvania.
- \$25,000 Grant to **St. Stephen's Cathedral School Harrisburg** to convert an adjacent building to additional classroom space, and incorporate energy efficiency and environmentally friendly building into their curriculum and offer the facility as a demonstration site. They have registered the project with the Green Building Association LEED Rating system. Their goal is a Silver rating.
- \$17,500 Grant to **EFMR Monitoring Group** to develop wind energy lesson plans to support the statewide initiatives in wind energy with teaching materials specific to Pennsylvania. The Sustainable Energy Fund will share the materials produced with others throughout the state.
- \$1,500 Grant to **Community Energy, Inc.** to offset the cost of busing 600 grade school children from the Somerset Community to attend and participate in the inauguration of the wind farm.
- \$2,000 Grant to **Penn Future** to sponsor the Green Power Turn it On Conference.
- \$10,000 *Executive Director discretionary grant fund*, to be utilized for sponsorships as they arise.
- \$14,000 Grant to **Souderton Area School District (SAVE Organization)** to expand their current program of demonstrating energy application to their environmental demonstration and to design an education CD Rom for distribution throughout the school districts within the Commonwealth.
- \$2,000 Grant to support **Penn Futures'** Renewable Energy Conference.
- \$2,000 Grant to **Wildland's Conservancy** for consulting services for green building.
- \$2,000 Grant to **Community Action of Lehigh Valley** for consulting services for green building for their new building.
- Up to \$5,000 Grant to **Moravian Book Store** to have an energy audit prepared on their historic building in the City of Bethlehem.
- \$5922 Grant to **Clean Energy Funds Network** to help fund four joint projects among the CEFN members, they are: Public Education, Fuel Cells, Solar Photovoltaic, and green Tags.
- \$1,500 Grant to **PA Alliance for Environmental Education (PAEE)** to support their annual conference.
- \$500 Grant to **Earth Charter Summit** for meeting support.
- \$17,250 Phase II Grant to **EFMR Monitoring Group** to field test and revise Wind Energy Lesson Plans and Web enable them.

- \$10,000 Grant to **PPL Environmental Education Centers** at Lake Wallenpaupak and Montour so they may install demonstration wind turbines and incorporate wind education into their curriculum.
- \$21,000 Grant to **City of Lancaster**, Department of Public Works, to support a demonstration project for the use of Light Emitting Diode (LED) technology for traffic lights within the city. Energy savings of 90% and two year payback.
- \$20,000 Grant to **Community Basics, Inc.** (Lancaster Housing Project) to fund a feasibility study on the application of a deep quarry reservoir as a source of heating/cooling for a community development project.
- \$5,000 Grant amendment **Souderton Area School District** to cover cost of installation of solar PV panels by Community Energy.
- \$5,000 Grant to **Alternative Fuels Council** to fund conferences focused on alternative fuels.
- \$9,433 Grant to **Clean Energy States Alliance (CESA)** for our membership support to the nationwide alliance of state clean energy funds.
- \$2,000 Grant to **Penn Future** to support the *Getting to 10%* conference
- \$1,000 Grant to **Elizabethtown College** to purchase solar panels to incorporate into a semester long project.
- \$25,000 Grant to **Wilson College** to develop sustainable energy curriculum to extend to their current field programs and summer camp.
- \$16,000 Grant to **HersheyPark** for the continuation of the partnership with DEP and HersheyPark while promoting the Parks Green Team on Renewable Energy.
- \$19,500 Grant to **Illicks Mill Partnership for Environmental Education** to support the installation of PV on the roofs of several new entrance canopies planned for the mill.
- \$15,000 Grant to **St. Stephens Cathedral & School** to install up to 6 kilowatts of roof mounted photovoltaic panels on the existing buildings as part of the K-8 project underway at the site.
- \$5,000 + Installation Inspection Grant to **Geisinger Medical Center** to install solar powered lighting at the patients and visitors bus shelters in order to provide a safe and well-lit environment.
- \$2,088 Grant to **CH&E Construction** to install pv lighting for a project sign at the St. Stephens Cathedral & School green building project.
- \$1,500 Grant to **Nature's Grace Store** to install photovoltaic solar panels to provide part of the electrical for the store needs and to showcase.

*Commitments are made by the Board and acted upon by staff. Funds are disbursed as agreements are signed and milestones are recorded. Applicants may also delay, cancel project, or secure other financing.

**The Sustainable Energy Fund (SEF)
Of Central Eastern Pennsylvania**

Disbursements Made As of June 2004

Program Related Investments:	\$2,905,000
<u>Grants</u>	: <u>\$ 374,338</u>
Total	\$3,278,338

Epstein 1: Gross Exam. 1
970-01 JES HBS

D. Woodruff

Pennsylvania Public Utility Commission
v. PPL Electric Utilities Corporation
Docket No. R-00049255

Response to On the Record Data Request from E. Epstein on August 9, 2004

- Q. Please provide PPL Electric Utilities Corporation's projections of the changes in the number of customers by customer class.

**PPL Electric Utilities
Forecasted Number of Customers**

Year	Residential	Commercial	Industrial	Other
2004	1,166,258	158,157	4,877	1,296
2005	1,181,014	160,840	4,847	1,296
2006	1,195,104	162,701	4,814	1,296
2007	1,209,957	164,283	4,781	1,296
2008	1,224,822	165,771	4,748	1,296
2009	1,239,876	167,205	4,715	1,296

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PPLICA Cross-Exhibit 17
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Stipulation in Lieu of Cross-Examination of James T. Selecky R-2049255

Mr. Selecky's primary recommendation is that the Commission should reject PPL's request to implement a Transmission Service Charge ("TSC"). If, however, the Commission does not accept his primary recommendation, Mr. Selecky agrees that the PPLICA TSC proposal set forth in Mr. Baron's direct testimony represents a cost-based allocation and recovery of the related costs.

DOCUMENT

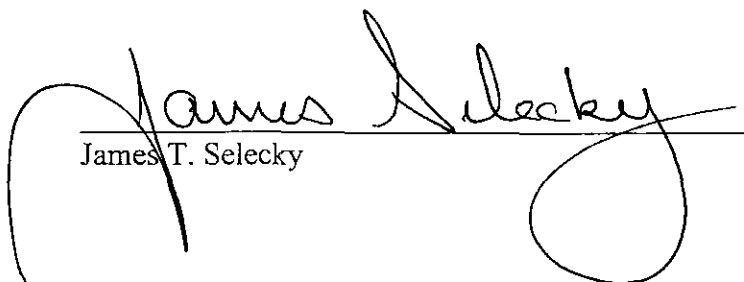
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AFFIDAVIT

STATE OF MISSOURI)
)
COUNTY OF ST. LOUIS) SS

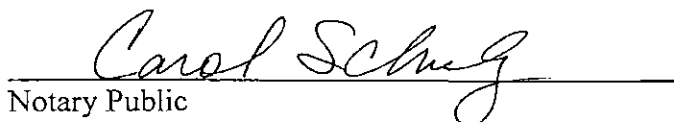
James T. Selecky, being duly sworn according to law, deposes and says that he is employed by Brubaker & Associates, Inc., which has been retained by the Pennsylvania Energy Consortium and Wal-Mart Stores East, LP, that he is authorized to make this affidavit, and that the information contained in the foregoing stipulation is true and correct to the best of his knowledge, information and belief.



James T. Selecky

Subscribed and sworn to before me this 10th day of August, 2004.

CAROL SCHULZ
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Feb. 26, 2008



Notary Public

My Commission Expires February 26, 2008.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ADMINISTRATIVE LAW JUDGE ALLISON K. TURNER

Pennsylvania Public Utility Commission
et al.,

Complainants

v.

PPL Electric Utilities Corporation,
Respondent

Docket No. R-00049255 *et al.*

DOCUMENT

PREPARED DIRECT TESTIMONY OF
JOHN E. BRADLEY, MANAGER,
HAMPDEN TOWNSHIP, CUMBERLAND COUNTY

DOCKETED

AUG 18 2004

w/EXH 1

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Date Served: June 29, 2004
Date Admitted: _____

PPL PLUG Statement No. 1

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**PREPARED DIRECT TESTIMONY OF
JOHN E. BRADLEY**

1 Q. Please state your name and business address.

2 A. My name is John E. Bradley, Jr. and my business address is 230 S. Sporting Hill
3 Road, Mechanicsburg, PA 17050-3097.
4

5 Q. By whom are you employed and in what capacity?

6 A. I am the Manager of Hampden Township, Cumberland County, Pennsylvania.
7

8 Q. Describe generally the scope and nature of your responsibilities.

9 A. I implement or oversee the implementation of the ordinances adopted by the
10 Township's Board of Commissioners. I administer the day-to-day operations of
11 the Township. Sometimes we undertake coordinated activities with other political
12 subdivisions to further a common purpose, such as in this case.
13

14 Q. How long have you been Manager?

15 A. Thirteen and a half years.
16

17 Q. What is the purpose of your testimony in this proceeding?

18 A. I am testifying on several issues:

19 (1) the quality of service Hampden Township receives from PPL with respect
20 to street lighting;

21 (2) Hampden Township's program to change over its traffic lights from
22 incandescent lighting to LED lights; and

23 (3) our awareness of the Sustainable Energy Fund, its purposes and
24 accountability.
25

26 Q. Describe Hampden Township.

27 A. It is a first class township and considered a bedroom community for Harrisburg.
28 Its population is predominantly residential and commercial, although it is the site
29 of a large Navy installation as well.

1 Q. Does Hampden Township have street lighting?

2 A. Yes, it does.

3

4 Q. How many street lights does Hampden Township have?

5 A. About 1,500.

6

7 Q. Does Hampden Township own or maintain its street lights?

8 A. No. We take service under PPL's Rate SHS, which applies to high pressure sodium street lights that are owned and maintained by PPL.

10

11 Q. What type of street lights provide service in Hampden Township?

12 A. We have a mix of fixtures, old and new, above ground and underground fed, decorative and austere.

14

15 Q. What is the purpose of public street lighting?

16 A. Developers, and often -- after the fact -- consumers, desire street lighting for two principal reasons. The first and least mentioned is for aesthetic, decorative purposes, but the primary and most quoted is for safety reasons; safety not only for transportation purposes but also for security reasons. Street lighting is monitored for operation by our police department who are keenly aware of which communities and intersections are best lit. Hampden Township supports public lighting for both reasons, but the public health and safety reasons are paramount. It is a public service that the Township pays for, just like we pay for public fire protection.

25

26 Q. What is the Township's annual budget for street lighting?

27 A. Our 2004 budget allows \$274,560 for street lighting.

28

29 Q. And what would be the effect of PPL's proposed rate increase?

30 A. We pay for street lighting through Liquid Fuels Tax revenues. That revenue stream is intended to cover maintenance of our streets. The Liquid Fuel Tax

31

1 revenue either will not cover additional street lighting expenses or we will need to
2 redirect those funds away from other municipal needs relating to our streets.
3 Either way, PPL's proposed increase imposes a burden on our residents; we will
4 need either to find additional revenues to pay PPL or decrease services.

5

6 Q. Do you have any problems with your street lighting service?

7 A. Yes, we do. We have a problem with PPL's maintenance of our street lights. I
8 have long been concerned with what I see as a deterioration of street lighting
9 service from PPL.

10

11

12 Q. Can you explain what particular problem Hampden Township is experiencing?

13 A. Yes. We have a problem having PPL replace our street lights when they go out.

14

15 Q. What is the process for alerting PPL to the fact that a street light is out?

16 A. There is no formal process; when the police officers see or a resident reports a
17 street light out, we complete and fax a work request to PPL for
18 repair/replacement. One of the problems is that the form, number and point of
19 contact is a moving target with PPL. The forms changes frequently and the point
20 of contact shifts between Allentown and Mechanicsburg.

21

22 Q. I am showing you an answer to an interrogatory marked for purposes of
23 identification as PLUG Exhibit No. 1, which is PLUG Interrogatory No. 11 and
24 PPL's Answer. Have you seen this question and answer before?

25 A. Yes, I have.

26

27 Q. And do you see that PPL takes the position that it has a goal of "relamping" street
28 lights within three (3) days of its being advised by a customer that a street light is
29 out,

30 A. Yes.

31

1 Q. Is that your experience presently?

2 A. No, not at all. My experience is that we in fact never get any feedback on the
3 repair of lights. In July of last year we asked PPL in writing to give us feedback
4 on our service requests and they declined. In order to answer the question
5 accurately, I would have to detract from my police patrols to do a repair audit
6 which we simply do not have the time to do. From personal experience however I
7 know that lights are out routinely more than three days after we notify PPL of an
8 outage.

9
10 Q. Does Hampden Township notify PPL promptly when it is aware that a street light
11 is out?

12 A. We fax the report immediately upon discovery or report. In all honesty, however,
13 it is beyond our scope to do routine inspections of neighborhoods and
14 intersections. One would expect PPL to do those inspections and report to us the
15 status of the lighting rather than vice versa. The supporting data that leads PPL to
16 claim "relamping" within three days apparently can not be shared.

17
18 Q. Have you undertaken any studies to confirm your opinion about the lag time
19 between notifying PPL of an outage and the time the bulb is replaced?

20 A. I might not term it a "study," but I did instruct my police patrols to note lights that
21 are out in two of our many residential neighborhoods.

22
23 Q. Please explain your findings.

24 A. The police found 4% of the lighting out in the neighborhoods. The process is still
25 on-going to see if the reports we submit are acted upon in three days. I will ask
26 the police to recanvass those neighborhoods shortly.

27
28 Q. Does PPL give you credit on your bill for lights that do not work?

29 A. No. As you can see from PPL's answer to Interrogatory 11, PPL considers the
30 "value of outage credits" to be outweighed "by the cost to administer them." I
31 suppose that means that it is administratively burdensome.

1 Q. Do you agree that Hampden Township should not get a credit once a light is non-
2 functional and you have advised PPL of the problem?

3 A. No, I do not. The closest thing that I can analogize our situation to is telephone
4 service. As a residential customer, I pay a flat rate for my basic monthly service.
5 I know that the Commission requires a telephone company to give me a credit for
6 every 24-hour period that I am out of service. I am sure that it is somewhat
7 administratively burdensome for telephone companies to issue such a credit, but
8 they are required to do it. I assume that gives the telephone company some
9 incentive not to have outages. By analogy, I believe that it is reasonable and
10 proper for PPL to issue credits to Hampden Township in the event that we have
11 an outage that persists for an unreasonable period of time. I do not know what
12 that period of time should be, but it certainly should be no longer than PPL's
13 professed standard of three days.
14

15 Q. Describe Hampden Township's traffic lights.

16 A. Hampden Township has both incandescent traffic lights and LED lights.
17

18 Q. Is the Township converting its lights to one technology?

19 A. Yes. We are converting to LED lights. We have three intersections completed
20 and any new lights are specified using the LED standard.
21

22 Q. What is your timeframe for the conversion?

23 A. It will take us a number of years; at the present rate, I hope to have all 24
24 intersections done in 5 years.
25

26 Q. Why is Hampden Township converting to LED lights?

27 A. They are very energy efficient and they are more visible than incandescent lights.
28 Obviously traffic lights are in place to serve the public health and safety and, to
29 the extent that we can enhance that service, my Township wants to do that.

1 Q. Has the Township received any incentives to implement or assist in the
2 Township’s conversion to LED lights?

3 A. No, not at this time. Even though LED lights save substantial amounts of
4 electricity, PPL does not have any demand side response program that
5 encourages and assists with the elimination of incandescent traffic lights.
6 Likewise, I was unaware of the Sustainable Energy Fund (“SEF”), which I
7 understand is funded by PPL rate payers, according to PPL’s rate filing in this
8 case. Hampden Township believes that, if the SEF is funded by rate payers, it
9 must make substantial efforts to make the public aware of its existence and
10 mission and that the SEF should be committed to assuring that governmental
11 entities obtain a reasonable share of its funds, so long as the projects advance the
12 SEF’s mission and goals.

13

14 Q. What rate schedule applies to electricity that PPL delivers for traffic lighting?

15 A. I believe it’s Rate GS-1.

16

17 Q. Do you have an opinion about whether traffic lighting should be included in that
18 rate?

19 A. I concur with the testimony given by Joseph V. Link, PPL Plug Statement No. 2,
20 to the effect that traffic lights should be served under a separate rate classification,
21 for the same reasons that Mr. Link identified.

22

23 Q. Does that conclude your testimony?

24 A. Yes, it does.

**PPL Electric Utilities Corporation
Response to Interrogatories of the
Public Lighting User Group, Set I
Dated June 4, 2004
Docket No. R-00049255**

- Q.11. (a) Does PPL give any credits to street lighting customers maintained by PPL that are out of service?
- (b) If not, why not?
- A.11. (a) PPL Electric does not give outage credits to street lighting customers.
- (b) PPL Electric's maintenance program includes group re-lamping for all those street lights that PPL Electric is responsible to maintain. The program also includes a goal to restore service to those street lights for which PPL Electric provides maintenance within 3 workdays, after they are reported out of service by customers. With this program in place, the value of outage credits is outweighed by the cost to administer them.

DOCUMENT

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AUG 18 2004

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AUG 17 2004

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ADMINISTRATIVE LAW JUDGE ALLISON K. TURNER

Pennsylvania Public Utility Commission
et al.,

Complainants

v.

PPL Electric Utilities Corporation,
Respondent

Docket No. R-00049255 *et al.*

DOCUMENT

PREPARED REBUTTAL TESTIMONY OF
JOHN E. BRADLEY, JR., MANAGER,
HAMPDEN TOWNSHIP, CUMBERLAND COUNTY

DOCKETED

AUG 18 2004

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2004 AUG 17 AM 9:49
SECRETARY'S BUREAU

Date Served: July 27, 2004

Date Admitted: _____

PPL PLUG Statement No. 1-R

8/2-04 JES
HBL

**PREPARED REBUTTAL TESTIMONY OF
JOHN E. BRADLEY, JR.**

1 Q. State your name and business address.

2 A. My name is John E. Bradley, Jr. and my business address is 230 S. Sporting Hill
3 Road, Mechanicsburg, PA 17050-3087.

4

5 Q. Are you the same John E. Bradley, Jr. who previously submitted testimony on
6 behalf of PPL PLUG?

7 A. Yes, I am.

8

9 Q. What is the purpose of your rebuttal testimony?

10 A. The purpose is to respond on behalf of PPL PLUG to testimony on the revenue
11 allocation submitted by the OSBA and PPLICA, in particular, the testimony of
12 Messrs. Robert D. Knecht and Mark D. Ewen, and Mr. Stephen J. Baron.

13

14 Q. What did OSBA witnesses advocate with respect to revenue allocation?

15 A. OSBA witnesses oppose the revenue allocation proposed by PPL which would
16 result in a 11.9% rate increase for distribution rates for the SL/AL class. Rather
17 they advocate increasing the rate by 16%. (OSBA Statement No. 1, p. 29) The
18 OSBA is advocating that higher increase even though its testimony asserts that the
19 SL/AL class is paying a higher rate of return at present rates than PPL's
20 calculations showed. Messrs. Knecht and Ewen claim that price signals that
21 coincide with the cost of that service is economically efficient.

22

23 Q. And what does PPLICA witness Baron advocate?

24 A. He advocates a total rate increase for the SL/AL class of 43% (PPLICA Statement
25 No. 1, p. 42). However, he supports a phase-in of his proposed rate increase. He
26 would implement the rate increase by adding 50% of the increase in the first year,
27 then 25% in each of the next two years. His ultimate goal is to bring relative rate
28 of return to 100% for all classes by the end of year 3, thereby ending virtually all
29 cross-subsidies in distribution rates.

1 Q. What is PPL PLUG's position with respect to the positions taken by the OSBA
2 and PPLICA with respect to revenue allocation applied to the SL/AL class?

3 A. PPL PLUG opposes the OSBA's and PPLICA's positions for several reasons.
4 First, this case is PPL's first rate case that is based on the unbundled components
5 of its rates. When PPL's rates were bundled, the total rate was composed of
6 various functional elements of service: generation (energy and capacity),
7 transmission, and distribution. There was no purpose to be served by dissecting
8 the cross-subsidies within each of those functional elements of service. As a
9 result of restructuring, PPL is allowed to charge competitive transition changes
10 (CTCs) and intangible transition along as (ITCs) which combine to represent
11 PPL's "stranded costs". Those CTCs and ITCs were the outcome of a settlement.
12 There was no attempt made to identify what interclass and/or inter-rate cross-
13 subsidies were inherent in those charges.

14
15 In the instant case, PPL is setting unbundled rates for two of its services
16 prospectively: distribution and transmission. This task is the ultimate outcome of
17 restructuring. But this case does not address the embedded cross-subsidies which
18 are perpetuated in the generation rates, the ITCs, and the CTCs. For example,
19 PPL will collect CTCs and ITCs until 2009, and they will remain unchanged until
20 then. Furthermore, PPL is not proposing to use a demand methodology for
21 allocating transmission rates, but rather is using a commodity approach, so it is
22 not applying its cost of service study to transmission rates. Therefore, OSBA's
23 and PPLICA's advocacy of eliminating cross-subsidies for distribution rates
24 abruptly, while recognizing that cross-subsidies exist in PPL's rates for other
25 functions, is unwise, inappropriate, and inconsistent with a holistic view of PPL's
26 rates.

27
28 Q. Do the other litigants recognize that embedded cross-subsidies may exist that are
29 not being addressed in this case?

30 A. Yes. For example, Messrs. Knecht and Ewen state on page 9 of OSBA Statement
31 No. 1:

1 This issue [PPL's generation rates being capped and
2 stranded cost recovery continuing through December 31,
3 2009] is relevant because the capped rates were set based
4 on the cost functionalization procedures that were approved
5 in the restructuring proceeding. Because the rates remain
6 capped, it would be inappropriate to change the
7 functionalization procedures at this stage.

8
9 So while this case deals with distribution rates exclusively, our group submits that
10 the fact that preexisting cross-subsidies in generation, stranded cost charges and
11 transmission rates are ongoing should be a factor that tempers the judgment
12 applied to determining revenue allocation for distribution rates.
13

14
15 Q. What is PPL PLUG's second reason?

16 A. Municipalities and other street lighting customers like the Pennsylvania Turnpike
17 Commission all have the same need to control costs that PPLICA's members
18 complain of. Furthermore, PPL PLUG wants the other parties, as well as the
19 presiding officer and the Commission, to recognize that street lighting fulfills a
20 public function that differentiates it from electricity used by other customer
21 groups. As I stated in my direct testimony, street lighting customers are buying
22 electric to be used for the public good. Public lighting has a value to society as a
23 whole. Street lights provide safety and security for our roads and neighborhoods.
24 And never has security been more important than it is today.
25

26 The Legislature recognized this public end use of utility service and allowed for
27 its subsidization when it passed Section 1328 of the Public Utility Code. Section
28 1328 provides that public fire hydrants may be charged only 25% of their
29 allocated cost of service. In other words, public fire hydrants do not contribute a
30 cent to the utility's system rate of return; that service is subsidized by other

1 customers. And the reason is clear: public fire hydrants provide a public service
2 that justifies the subsidies.

3
4 PPL PLUG submits that the analogy of public fire protection to street lighting is
5 compelling. Municipalities do not derive any direct benefit from street lighting.
6 The benefits flow to the public at large.

7
8 Q. Are there any other reasons why PPL PLUG disagrees with the OSBA's and
9 PPLICA's positions?

10 A. Yes. PPL PLUG believes that there should be recognition that the service street
11 lighting customers are receiving is not full service, but service akin to
12 interruptible service. I testified, in my prior statement, and PPL has
13 acknowledged, that, on a continuous basis, there is a percentage of street lights out
14 of service. PPL gives its SL/AL customers no monetary credit for such outages.
15 If it is acceptable for some of my Township's street lighting service to be
16 unavailable as a normal characteristic of that service, then rates should reflect that
17 characteristic. In other words, the SL/AL class does not receive the same quality
18 of service, day in and day out, as PPL's other customers do, and they currently
19 receive no monetary recognition of the service's limitations.

20
21 Q. Do you have any other response to the positions of the other parties' positions?

22 A. Yes. First the OSBA premises its analysis of revenue allocation on its acceptance
23 of PPL's proposal for recovery of transmission costs. It then states that rates RS,
24 RTS, and SL/AL "substantially under-recover transmission costs." (OSBA
25 Statement No. 1, pp. 26 and 28). Our group does not oppose PPLICA's position
26 on transmission rates which, according to PPLICA, is more demand-oriented and,
27 therefore, more consistent with the distribution portion of the case.

28
29 Q. In your opinion as a SL/AL customer, if the Commission were to adopt either the
30 OSBA's or PPLICA's recommendations on rate allocation, would SL/AL
31 customers experience "rate shock?"

1 A. Absolutely. The increase proposed by PPL of 9.9% (11.9% in distribution rates)
2 is a lot for municipalities to absorb. But an increase of 16% for distribution as
3 advocated by OSBA is extreme and the 43% increase advocated by PPLICA is
4 unconscionable. These positions are anything but gradual.

5
6 Q. So what are PPL PLUG's recommendations?

7 A. PPL PLUG recommends that the Commission consider the following factors in
8 allocating any revenue increase:

- 9 • The fact that in this case, PPL and the other parties are not taking into
10 account all the cross-subsidies that exist in PPL's rates because generation
11 and stranded cost charges are not at issue;
- 12 • "correct price signals" are not a meaningful stimulus for SL/AL customers
13 because street lighting is completely inelastic;
- 14 • Street lighting benefits the public at large, not the ratepayer; street lighting
15 protects the public health, welfare and security. In fact, those who
16 supposedly pay the SL/AL subsidies are beneficiaries of the service;
- 17 • There is an existing governmental policy that sanctions cross-subsidies for
18 utility rates that serve the public health and welfare; that being Section
19 1328 of the Public Utility Code, which may be applied by analogy to street
20 lighting; and
- 21 • The quality of service SL/AL customers are receiving

22
23 We believe that, in view of all these factors, SL/AL street lighting rates should
24 remain at existing levels. But if, despite our objections, our rates must increase,
25 then they should increase by no more than what is proposed by PPL. And if total
26 revenues granted by the Commission are less than PPL requested, our rates should
27 be decreased on a proportional basis.

28
29
30 Q. Does that conclude your rebuttal testimony?

31 A. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ADMINISTRATIVE LAW JUDGE ALLISON K. TURNER

Pennsylvania Public Utility Commission
et al.,

Complainants

v.

PPL Electric Utilities Corporation,

Respondent

Docket No. R-00049255 *et al.*

DOCUMENT

PREPARED DIRECT TESTIMONY OF
JOSEPH V. LINK, PE, CITY ENGINEER,
CITY OF HARRISBURG, DAUPHIN COUNTY

DOCKETED

AUG 18 2004

w/EXH 2

Date Served: June 29, 2004

Date Admitted: _____

PPL PLUG Statement No. 2

87204 TES
WAB

**PREPARED DIRECT TESTIMONY OF
JOSEPH V. LINK**

1 Q. Please state your name and business address.

2 A. My name is Joseph V. Link. My business address is McCormick Public Services
3 Center, 123 Walnut Street, Suite 212, Harrisburg, PA 17101-1695.

4

5 Q. By whom are you employed and in what capacity?

6 A. I am the City Engineer of the City of Harrisburg , Dauphin County ("City" or
7 "Harrisburg").

8

9 Q. Describe generally the scope and nature of your responsibilities.

10 A. I am responsible for the maintenance and repair of City street pavements and the
11 utilities within the public right-of-way. I am also responsible for the orderly flow
12 of traffic within the City and proper installation of approved traffic control
13 devices.

14

15 Q. How long have you been the City Engineer?

16 A. Twelve years.

17

18 Q. What is the purpose of your testimony in this proceeding?

19 A. The City is testifying as a member of PPL Public Lighting User Group ("PPL
20 PLUG"). I am testifying in opposition to PPL's proposed 9.9% rate increase for
21 street lighting customers. I am also testifying in support of a new traffic light rate
22 schedule.

23

24 Q. Does the City have street lighting?

25 A. Yes, it does.

26

27 Q. How many street lights does the City have?

28 A. About 5700.

29

PPL PLUG Statement No. 2

1 Q. Under what rate schedule does Harrisburg pay for street lighting service?

2 A. We are served under Rate SE. That rate is available to customers who own,
3 operate and maintain their own street lights. We are also served under the SM
4 and the SH rate schedules. These rates apply to a few hundred fixtures that the
5 City does not own and are maintained by PPL.

6

7 Q. Does the City of Harrisburg own its street lights?

8 A. Yes, most of them. The City purchased the street lights from PPL on January 5,
9 2001.

10

11 Q. What is the purpose of public street lighting?

12 A. To enhance and promote an atmosphere on city streets where residents and
13 visitors feel safe, and to assist public servants, such as police, in doing their jobs.
14 Public street lighting performs a public safety and welfare purpose, just like
15 public fire protection does.

16

17 Q. What is Harrisburg's annual budget for street lighting service from PPL?

18 A. As I said previously, with the exception of a few hundred fixtures, the City owns
19 the streetlight system. For those fixtures still owned by PPL, the City annually
20 pays \$89,950 for operation and maintenance of that system. For the remainder of
21 the streetlight system that is owned by the City, the annual cost of energy,
22 transmission and distribution of energy and transition charges is \$335,100.

23

24 Q. What is the effect on PPL's rate increase in the City?

25 A. I am not sure about the specifics of PPL's proposal to apply the increase,
26 however, if the proposed 9.9% is applied to the total amount of the bill, the
27 additional cost to the City will be \$42,080.

28

29 The City's source of revenue for street lighting is its general fund. So, to the
30 extent that PPL's rates increase, we have less resources for other needed services

1 and programs. Operating a City is a constant exercise in determining priorities
2 because there is always a greater need for public services than we can afford.

3

4 Q. Does Harrisburg also pay for traffic lighting service?

5 A. We purchase electricity to operate our traffic lights under rate GS-1. That
6 includes other uses at intersections, such as "walk/don't walk" lights.

7

8 Q. Does traffic lighting have a large amount of directly assignable end-use
9 equipment?

10 A. Yes. That category includes the traffic signals themselves, "walk/don't walk"
11 signals and audible pedestrian crossing signals at certain intersections.

12

13 Q. *Is the usage consistent and ascertainable?*

14 A. Yes, it is consistent and ascertainable. We can easily calculate the usage at a
15 particular intersection. It is basically non-variable.

16

17 Q. Is the City making any changes to its traffic lights?

18 A. Yes. We have begun to convert from incandescent lights to LED lights.
19 However, LED lights are much more expensive than incandescent lights. We are
20 changing to LED lights because they are a much more reliable light source than
21 incandescent light bulbs. They do not "burn out", they last for more than five
22 years and they save energy. They use less than 15% of the electricity used by an
23 incandescent bulb.

24

25 Q. Does PPL have any demand side response programs to encourage and support
26 conversion to LED lights?

27 A. No, not according to PPL's testimony.

28

29 Q. *Do you believe that PPL should support an LED conversion program?*

30 A. Yes. As I said, LED lights are very efficient and conversion of all traffic lights in
31 PPL's territory would yield a great benefit in terms of reducing electric

1 consumption. Municipalities could provide a better traffic light service at
2 significantly reduced costs to them and, more importantly, at greatly reduced
3 energy consumption which benefits the power companies.
4

5 Q. Have you sought outside support for your efforts to convert to LED traffic lights?

6 A. I have been active in trying to get support. I am aware that the State of New
7 Jersey requires utilities to subsidize LED conversions, but there is no such
8 requirement for such a subsidy in Pennsylvania. As a member of a PennDOT
9 advisory committee, I used that forum to encourage the conversion to LED
10 signals based upon the opportunity for energy conservation. However, the cost of
11 the conversion from incandescent to LED signal lenses is very high, and many
12 communities cannot budget the upfront costs, even though they will reduce their
13 energy bills forever. The "LED Subcommittee" was in the process of appealing
14 to the PAPUC and certain State legislators for assistance when the rate case was
15 filed. The City is now using this forum to bring this potential energy savings
16 opportunity to the Commission's attention.
17

18 I am now aware, due to PPL PLUG's participation in this rate case, of the mission
19 of the Sustainable Energy Fund ("SEF"). So long as the SEF is funded by and
20 dispensing utility or ratepayer dollars, I plan to explore the availability of grants
21 from the SEF because this type of project appears to fit precisely within the
22 SEF's goals and objectives. However, PPL PLUG also is advocating that the
23 Commission set standards for the administration of the fund. For example, the
24 Commission should review and evaluate the SEF's standards for compensation of
25 its directors.
26

27 Q. Under what rate schedule does PPL charge the City for traffic lights?

28 A. General commercial.

1 Q. Does PPL PLUG have a problem with the reasonableness of the applicability of a
2 general commercial rate schedule to traffic lights?

3 A. Yes, PPL PLUG's general commercial rate is a metered service. PPL PLUG,
4 however, supports an unmetered rate, similar to what some other Pennsylvania
5 utilities have.

6
7 Q. Why?

8 A. Our traffic signal systems fit the same criteria as street lights: that is, this function
9 involves a large amount of assignable, end-use equipment and its usage is
10 consistent and ascertainable. The only difference between street lighting and
11 intersection usage is that every intersection is metered. In our view, that metering
12 function is unnecessary and imposes costs which are avoidable. We want to
13 minimize our traffic lighting costs in any way possible and we see the
14 development of an unmetered rate as a means to that end.

15
16 Q. Can a traffic light provider determine intersection usage accurately?

17 A. Yes. As evidence of that, I would again point to utilities that do have unmetered
18 traffic light rates, such as PECO Energy. The City of Philadelphia reports usage
19 to PECO based on the equipment installed at each intersection.

20
21 Q. I am handing you a document marked for purposes of identification as PPL PLUG
22 Exhibit No. 2. Would you describe it?

23 A. Yes, it is a model tariff page prepared by PPL PLUG which contemplates an
24 unmetered rate for intersection usage.

25
26 Q. Was the model prepared by you or under your supervision and control?

27 A. Yes.

28
29 Q. Does PPL PLUG Exhibit No. 2 propose rates?

30 A. No.

31

PPL PLUG Statement No. 2

1 Q. Please explain why not.

2 A. We don't know what the correct rates would be at this time. The relief we are
3 asking for is that PPL be directed to develop an unmetered intersection rate to
4 apply to LED signalized intersections to make available to municipalities as soon
5 as possible, but in no event later than its next general rate increase.

6

7 Q. Does that complete your testimony?

8 A. Yes, it does.

8-10-04 JES

HBL

RATE TL TRAFFIC SIGNAL SYSTEMS SERVICE

AVAILABILITY.

To any municipality using PPL's standard service for electric traffic signal systems installed, owned and maintained by the municipality.

CURRENT CHARACTERISTICS.

Standard single-phase secondary service.

DOCKETED

AUG 18 2004

RATE TABLE.

DOCUMENT

VARIABLE DISTRIBUTION SERVICE CHARGE: _____ per kWh

COMPETITIVE TRANSITION CHARGE: _____ per kWh

ENERGY AND CAPACITY CHARGE: The following Energy and Capacity Charges will apply to the customer if the customer receives default PLR Service. These charges are not applicable to the customer if it obtains a competitive energy supply: _____ per kWh

TRANSMISSION SERVICE FOR CUSTOMERS RECEIVING DEFAULT PLR SERVICE:

Unless such a customer is able to obtain transmission service on its own, PPL will provide transmission service, and will impose charges on such a customer for such transmission service.

STATE TAX ADJUSTMENT SURCHARGES AND NUCLEAR DECOMMISSIONING COSTS (IF ANY) APPLY TO THIS RATE.

SPECIAL RULES AND REGULATIONS.

The use of energy will be estimated by the Company based on information provided by the customer regarding the size of lamps and controlling apparatus, the specifications of other intersection equipment, and the burning-hours for all intersection equipment. The customer shall immediately notify the Company whenever any change is made in the equipment or the burning-hours, so that the Company may revise its estimate of the energy used on a timely basis.

MINIMUM CHARGE.

_____ per month per signal light.

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AUG 17 2004

TERM OF CONTRACT.

The initial contract term for each signal light installation shall be for at least one year.

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

PAYMENT TERMS.

Standard.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ADMINISTRATIVE LAW JUDGE ALLISON K. TURNER

Pennsylvania Public Utility Commission
et al.,

Complainants

v.

PPL Electric Utilities Corporation,

Respondent

Docket No. R-00049255 *et al.*

DOCUMENT

PREPARED SURREBUTTAL TESTIMONY OF
JOSEPH V. LINK, PE, CITY ENGINEER,
CITY OF HARRISBURG, DAUPHIN COUNTY

DOCKETED

AUG 18 2004

SECRETARY'S BUREAU

2004 AUG 17 AM 9:50

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w/EXH 3

Date Served: August 5, 2004
Date Admitted: _____

PPL PLUG Statement No. 2-S

872-04 JES
H86

**PREPARED SURREBUTTAL TESTIMONY OF
JOSEPH V. LINK**

1 Q. Please state your name and business address.

2 A. My name is Joseph V. Link. My business address is McCormick Public Services Center,
3 123 Walnut Street, Suite 212, Harrisburg, PA 17101-1695.

4

5 Q. Are you the same Joseph V. Link who submitted direct testimony in this case on behalf
6 of PLUG?

7 A. Yes.

8

9

10 Q. What is the purpose of your surrebuttal testimony in this proceeding?

11 A. I am testifying in response to PPL Witness Kasper's defense of PPL's existing rates for
12 traffic lights and other intersection usage.

13

14 Q. What was PPL's position on your testimony that PPL should develop an unmetered
15 intersection rate?

16 A. PPL denies that intersection usage is consistent and ascertainable. Mr. Kasper concludes
17 that each of thousands of traffic light locations in PPL's service territory has "unique
18 energy consumption patterns."

19

20 Q. Do you agree with Mr. Kasper's assessment?

21 A. I disagree with his conclusion. My opinion is based on the fact that at least three major
22 electric companies in Pennsylvania take the same simple approach to intersection lighting
23 as is taken to street lighting. That is, they assign usage based on the characteristics of the
24 equipment at the intersection. Customers have the duty to advise the utility of any
25 changes to equipment or burning hours. If this approach is approved for other
26 Pennsylvania electric companies, it must be reasonable per se. It also must be
27 administratively manageable.

28

1 Q. Would you identify the electric utilities with non-metered traffic lighting service?
2 A. Yes. That would be PECO Energy Company, Metropolitan Edison Company and
3 Duquesne Light Company. I note that PECO and Duquesne serve the two biggest cities
4 in Pennsylvania with a high concentration of traffic lighting.
5
6 Q. I am handing you an exhibit marked as PLUG Exhibit No. 3. Can you identify the
7 contents of that exhibit?
8 A. Yes, these are the posted tariffs that I just referred to. PECO's rate schedule (p. 1) is
9 entitled Rate TL, Traffic Lighting Service. Metropolitan Edison's rate schedule (pp. 2-3)
10 is entitled Traffic Signal and Telephone Booth Lighting Service, and Duquesne's rate
11 schedule (pp. 4-5) is MTS entitled Municipal Traffic Signals.
12
13 Q. Does that complete your surrebuttal testimony?
14 A. Yes, it does.

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H26

Supplement No. 54 To
Tariff Electric Pa. P.U.C. No.3
Sixth Revised Page No. 60
Superseding Fifth Revised Page No. 60

PECO Energy Company

RATE TL TRAFFIC LIGHTING SERVICE

AVAILABILITY.

To any municipality using the Company's standard service for electric traffic signal lights installed, owned and maintained by the municipality.

CURRENT CHARACTERISTICS.

Standard single-phase secondary service.

RATE TABLE.

VARIABLE DISTRIBUTION SERVICE CHARGE: 2.06¢ per kWh (I)

COMPETITIVE TRANSITION CHARGE: 3.19¢ per kWh (D)

ENERGY AND CAPACITY CHARGE: The following Energy and Capacity Charges will apply to the customer if the customer receives Default PLR Service. These charges are not applicable to the customer if it obtains Competitive Energy Supply.

5.67¢ per kWh (I)

TRANSMISSION SERVICE FOR CUSTOMERS RECEIVING DEFAULT PLR SERVICE: Unless such a customer is able to obtain transmission service on its own, PECO Energy will provide transmission service, and will impose charges on such a customer for such transmission service.

STATE TAX ADJUSTMENT CLAUSE, NUCLEAR DECOMMISSIONING COST ADJUSTMENT APPLY TO THIS RATE.

SPECIAL RULES AND REGULATIONS.

The use of energy will be estimated by the Company on the basis of the size of lamps and controlling apparatus and the burning-hours. The customer shall immediately notify the Company whenever any change is made in the equipment or the burning-hours, so that the Company may forthwith revise its estimate of the energy used.

The Company shall not be liable for damage to person or property arising, accruing or resulting from the attachment of the signal equipment to its poles, wires, or fixtures.

MINIMUM CHARGE.

\$3.56 per month per signal light.

TERM OF CONTRACT.

The initial contract term for each signal light installation shall be for at least one year.

PAYMENT TERMS.

Standard.

(I) Denotes Increase
(D) Denotes Decrease

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 48
Original Page 139

RATE SCHEDULES, SERVICES AND RIDERS

TRAFFIC SIGNAL AND TELEPHONE BOOTH LIGHTING SERVICE

AVAILABILITY:

AVAILABLE ONLY AS A FULL SERVICE OPTION.

Available for traffic signal service, and lighting service to telephone companies, in outdoor telephone booths maintained by the Customer when located within 100 feet of Company's existing secondary lines and when such lighting is regularly operated constantly on a 24-hour-per-day basis. Applicable to each type of service when the Customer owns and maintains all equipment other than the service line to the point of delivery which, in the case of telephone booths, shall not exceed 100 feet.

The Customer is responsible for notifying the Company of any changes in connected load.

NET RATE PER MONTH:

TRAFFIC SIGNALS:

3.057¢ per watt of demand, for 6 hours daily operation. For service in excess of six (6) hours daily, a prorated charge shall be applied by the Company.

OUTDOOR TELEPHONE BOOTHS - FOR 24-HOUR SERVICE

Where demand is fifty (50) watts or less: \$6.61

Where demand exceeds fifty (50) watts: 13.214¢ per watt.

DETERMINATION OF BILLING DEMAND:

The billing demand shall be the highest wattage used at any one time.

MINIMUM CHARGE:

Traffic signals: \$6.61 per month for a three bulb or less signal light unit.

PAYMENT TERMS:

As per Rule 14., Payment of Bills.

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 48

Original Page 140

RATE SCHEDULES, SERVICES AND RIDERS

Traffic Signal and Telephone Booth Lighting Service (continued)

TERM OF CONTRACT:

Service supplied to Full Service Customers under this Service shall be for a period of not less than one (1) year. Each Customer shall execute a contract with the Company for a minimum one (1) year term. The contract is automatically renewable from year to year after the expiration of the original term, unless a notice of cancellation of greater than thirty (30) days is given by either party. If the Customer's capacity or service facility requirements increase, the Company, in its sole and exclusive judgment, may require the Customer to enter into a new contract.

RIDERS:

Bills rendered by the Company under this Service shall be subject to the charges stated in any applicable Rider.

DUQUESNE LIGHT COMPANY
 411 SEVENTH AVENUE
 PITTSBURGH, PA. 15219

ELECTRIC - PA. P.U.C. NO. 23
 ORIGINAL PAGE NO. 78

RATE MTS - MUNICIPAL TRAFFIC SIGNALS

AVAILABILITY

Available to any municipality using the Company's standard service at each point of connection for traffic signal lighting installed, owned, and maintained by the customer.

MONTHLY RATE

CUSTOMER CHARGE

Customer Distribution Charge\$8.91

ENERGY CHARGES

	<u>Distribution Charge cents per kilowatt-hour</u>	<u>Transmission Charge cents per kilowatt-hour</u>	<u>Generation Charge cents per kilowatt-hour</u>
First 1,300 kilowatt-hours	3.8160.	0.1846	7.1121
Additional kilowatt-hours	0.9483	0.1846	1.6087

(C)
(C)
(C)

ELECTRIC CHARGES

Beginning January 1, 1999, some customers became eligible to choose their electric generation supplier (EGS) with all customers having choice on January 2, 2000. Customers who elect to purchase their electric generation requirements from the Company will be charged according to the above charges. Customers who elect to purchase their electric energy requirements from an EGS will be charged the Distribution Charge by the Company, and must purchase their transmission and generation requirements from their selected EGS. Customers may change suppliers or return to the Company for electric generation requirements as defined in Rule 45.

(C)

The above Generation Charge includes transmission ancillary services, line losses and the price of electricity. Transmission ancillary services include reactive power service, regulation and frequency control service, spinning reserve service and supplemental reserve service. Losses include transmission line losses and distribution line losses. The Generation Charge is based on the price established by the Pennsylvania Public Utility Commission in the Company's restructuring proceeding.

For customers who elect to purchase their generation from an EGS, the customer is responsible for any other charges from the EGS. Any month in which the supplier becomes unavailable or during which the customer has not chosen a supplier, the Company will supply electricity at the above charges.

Customers who are eligible to choose an EGS may elect Consolidated Billing or Separate Billing as defined in Rule 20.1.

(C) - Indicates Change

DUQUESNE LIGHT COMPANY
411 SEVENTH AVENUE
PITTSBURGH, PA. 15219

ELECTRIC - PA. P.U.C. NO. 23
ORIGINAL PAGE NO. 79

RATE MTS - MUNICIPAL TRAFFIC SIGNALS - (Continued)

MONTHLY RATE - (Continued)

RIDERS

Bills rendered under this schedule are subject to the charges stated in any applicable rider.

LATE PAYMENT CHARGE

Bills will be calculated on the rates stated herein, and are due and payable on or before thirty days from the date of mailing of the bill to the ratepayer. The bill is overdue when not paid on or before the due date indicated on the bill. An overdue bill is subject to a Late Payment Charge of 1.25% interest per month on the full unpaid and overdue balance of the Company charges on the bill. The Charge shall be calculated on the overdue portions of the Company charges on the bill and shall not be charged against any sum that falls due during a current billing period.

DOCUMENT

SPECIAL TERMS AND CONDITIONS

Energy usage shall be estimated by the Company on the basis of lamp wattage and burning-hours. The customer shall notify the Company whenever any change is made in the equipment or the burning-hours, so that the Company may revise the estimated energy usage.

DOCKETED

AUG 18 2004

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ADMINISTRATIVE LAW JUDGE ALLISON K. TURNER

Pennsylvania Public Utility Commission
et al.,

Complainants

v.

Docket No. R-00049255 *et al.*

PPL Electric Utilities Corporation,

Respondent

DOCUMENT

DOCKETED
AUG 18 2004

PREPARED DIRECT TESTIMONY OF
MICHAEL G. MUSSER II, MANAGER,
BOROUGH OF STEELTON, DAUPHIN COUNTY

RECEIVED
2004 AUG 17 AM 9:50
P.U.C.
SECRETARY'S BUREAU

Date Served: June 29, 2004

Date Admitted: _____

~~SECRET~~
PPL PLUG Statement No. 3
8/20/04
JES
WAB

**PREPARED DIRECT TESTIMONY OF
MICHAEL G. MUSSER II**

1 Q. Please state your name and business address.

2 A. My name is Michael G. Musser II and my address is 123 North Front Street,
3 Steelton, PA 17113-2998.

4

5 Q. By whom are you employed and in what capacity?

6 A. I am the Manager of Borough of Steelton, Dauphin County ("Steelton" or
7 "Borough").

8

9 Q. Describe generally the scope and nature of your responsibilities.

10 A. I administer the day-to-day operations of the Borough, under the direction of the
11 Borough Council.

12

13 Q. What is the purpose of your testimony in this proceeding?

14 A. The Borough is a member of a group of governmental entities known as the PPL
15 Public Lighting Users Group ("PPL PLUG"), formed to participate in PPL's rate
16 case. The purpose of my testimony is to discuss the Borough's street lighting and
17 the effect of PPL's rate increase on the Borough.

18

19 Q. Describe the Borough of Steelton.

20 A. The Borough is situated on the Susquehanna River south of Harrisburg. Its
21 population is about 5,000 residents.

22

23 Q. Does the Borough have street lighting?

24 A. Yes it does.

25

26 Q. How many street lights does the Borough have?

27 A. About 600.

1 Q. Does the Borough own its street lights?

2 A. No. PPL owns and maintains the street lights in the Borough.

3

4 Q. Does the Borough have any traffic lights?

5 A. Yes it does. It has two.

6

7 Q. What is the function of street lighting?

8 A. Street lights provide security on public streets both for our citizens and visitors,
9 but also for our public servants like the police. Street lighting promotes public
10 health and welfare.

11

12 Q. Are there other public services similar to street lighting in the Borough?

13 A. Yes, the best analogy I can think of is public hydrant service. They use a utility
14 service and are available to protect the public welfare and safety.

15

16 Q. Are you aware of the rate increase being requested by PPL for street lighting
17 service?

18 A. Yes. I understand that the increase is 9.9% of our total charges for street lighting.

19

20 Q. So how will the proposed increase affect the Borough?

21 A. We pay for most of our street light expense with Liquid Fuels Tax revenues. That
22 revenue stream is intended to cover maintenance of our streets. The Liquid
23 Fuels Tax revenue either will not cover *additional street light* expenses or it will
24 take away from other municipal needs relating to our streets. So one way or
25 another, PPL's proposed increase will impose a burden on our residents via
26 increased taxes or decreased services.

27

28 Q. Is a 9.9% increase burdensome?

29 A. Yes, it is. As I already stated on a municipal level, there are always more needs
30 than money. Allocating more of our resources to electric bills means having less
31 for other public functions.

1 Q. Do Steelton's street lights ever go out?

2 A. Yes, they go out as the bulbs go bad.

3

4 Q. Does Steelton receive any credit from PPL when its lights are out?

5 A. According to PPL, no, even though we pay for a firm, continuous service.

6

7 Q. What is your position on credits?

8 A. Steelton supports PPL PLUG's position on credits, as articulated by Mr. Bradley
9 (PPL PLUG Statement No. 1).

10

11 Q. Do you know under what rate schedule PPL charges for traffic lights?

12 A. I believe traffic lights are billed under Rate GS-1, which is a commercial rate.

13

14 Q. Do you have an opinion about the rates Steelton pays for traffic lights?.

15 A. Yes, the Borough supports PPL PLUG's position with respect to traffic lights as
16 articulated by Mr. Link (PPL PLUG Statement No. 2).

17

18 Q. Do you also concur with Mr. Link's comments about the Sustained Energy Fund?

19 A. Yes, I do. As manager of a municipality, I think accountability and transparency
20 are critically important anytime public funds are involved. Likewise, with
21 ratepayer funds.

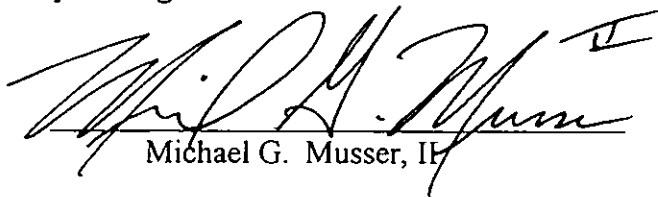
22

23 Q. Does that complete your testimony?

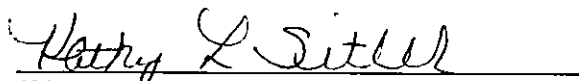
24 A. Yes, it does.

AFFIDAVIT

I, Michael G. Musser, II, being duly sworn according to law, depose and say that I am authorized to make this affidavit on behalf of the Borough of Steelton, being the holder of Secretary and Treasurer with the Borough of Steelton, and that the facts stated in my testimony in PPL PLUG Statement No. 3 is true and correct to the best of my knowledge, information and belief and I expect to be able to prove the same at any hearing hereof.


Michael G. Musser, II

Sworn and subscribed before me this 12th day of August, 2004.


(Signature of official administering oath)
(My Commission Expires: _____)

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Kathy L. Sittler, Notary Public
City Of Harrisburg, Dauphin County
My Commission Expires Mar. 23, 2008
Member, Pennsylvania Association Of Notaries

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ORIGINAL

OSBA STATEMENT NO. 1

87/2-04 JES
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BEFORE THE

w/EXHS 1,2,3

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY
COMMISSION

v.

PPL ELECTRIC UTILITIES
CORPORATION

DOCKET NO. R-00049255

DOCKETED

AUG 18 2004

DOCUMENT

DIRECT TESTIMONY AND EXHIBIT OF

ROBERT D. KNECHT
and
MARK D. EWEN

ON BEHALF OF THE

OFFICE OF SMALL BUSINESS ADVOCATE

Date Served: June 29, 2004

Date Submitted for the Record: _____

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DIRECT TESTIMONY OF ROBERT D. KNECHT AND MARK D. EWEN

1 **1 Witness Identification and Summary of Conclusions**

2 **Q. Mr. Knecht, please state your name and briefly describe your qualifications.**

3 A. My name is Robert D. Knecht. I am a Principal and the Treasurer of Industrial
4 Economics, Incorporated (IEc), an economic consulting firm located at 2067
5 Massachusetts Avenue, Cambridge, MA 02140. I specialize in the economic analysis of
6 basic industries. As part of my consulting practice, I have prepared analyses and expert
7 testimony in the field of regulatory economics, focusing primarily on matters of cost
8 allocation, rate design and industry restructuring. I obtained a *B.S. degree in Economics*
9 from the Massachusetts Institute of Technology in 1978, and a *M.S. degree in*
10 Management from the Sloan School of Management at M.I.T. in 1982. I am appearing in
11 these proceedings on behalf of the Pennsylvania Office of Small Business Advocate
12 (OSBA). My résumé and schedule of appearances in regulatory proceedings are attached
13 in Exhibit IEC-1.

14 **Q. Mr. Ewen?**

15 A. My name is Mark D. Ewen. I am also a Principal of IEc. My consulting practice includes
16 the preparation of economic analysis in a variety of settings, including government policy
17 and litigation matters. I have also prepared economic analyses and expert testimony
18 relating to the regulation of public utilities, in the postal and natural gas distribution
19 industries. I hold a *B.A. in Economics and Political Science* from the University of North
20 Dakota and an *M.P.P.* from the University of Michigan. My résumé and schedule of
21 appearances in regulatory proceedings are also attached in Exhibit IEC-1.

22 **Q. Please describe your assignment.**

23 A. We were asked by the OSBA to review and evaluate PPL Electric Utilities Corporation's
24 (PPL) base rates filing with respect to its proposal for a DSIC and with respect to cost
25 allocation/rate design issues.

1 **Q. Please summarize your conclusions.**

2 A. First, we recommend that PPL's proposal for a DSIC be rejected, because it is
3 inconsistent with sound regulatory principles. Allowing automatic increases in base rates
4 for one specific aspect of costs is biased against ratepayers, because it precludes the
5 regulator from determining whether the utility has made offsetting cost reductions or has
6 experienced revenue gains in excess of its incremental cost. Moreover, PPL's proposal to
7 assign the DSIC charges to all distribution customers on a per-kWh basis is inequitable,
8 in that it fails to recognize that business customers have been receiving electric bills far in
9 excess of the costs they cause. While we oppose the imposition of any DSIC, in the event
10 that the Commission does approve this mechanism, we recommend that the rate increases
11 apply only to those rate classes whose revenues under-recover allocated costs.

12 Second, we believe that a cost of service study should be used as an important guideline
13 for developing the revenue requirement for each rate class in a base rates case. In general,
14 class revenue requirements should be established as near to allocated costs as can be
15 reasonably achieved. To that end, rate classes whose current revenues are well below
16 allocated costs should be assigned relatively large rate increases, and rate classes whose
17 revenues exceed costs should be assigned either low rate increases or rate decreases.
18 While we recognize that cost of service study results may be tempered by other factors in
19 developing class revenue requirements, particularly those factors recognizing value of
20 service and gradualism ratemaking principles, we conclude that PPL's proposed
21 assignment of class revenue requirement is not consistent with either its own cost of
22 service study or the modified version that we present in this testimony.

23 One reason that PPL's deficiency assignment is not consistent with its study is that PPL
24 relies on a badly flawed measure of cost recovery when assessing progress toward cost-
25 based rates. PPL reports this measure, the "indexed rate of return," as evidence that its
26 assignment of the revenue requirement among the rate classes is moving revenues in line
27 with costs. Despite this alleged evidence, PPL's proposal actually moves rates farther
28 away from costs, particularly for small general service (GS-1) customers. *The change in*
29 *the indexed rate of return between present and proposed rates is indicative of nothing.*

1 We therefore propose an alternative assignment of the revenue deficiency that is
2 consistent with the idea of moving rates more in line with costs. While our proposal is
3 based explicitly on IEC's cost of service study, it is also reasonably consistent with the
4 PPL cost methodology. Our proposed deficiency assignment is presented in Exhibit IEC-
5 2.

6 Third, we have reviewed PPL's rate design proposal for the GS-1 and GS-3 (large general
7 service) classes. We take no explicit exception to PPL's proposals in these proceedings,
8 though we offer cautions on a going-forward basis.

9 **Q. Please outline the balance of your testimony.**

10 A. Section 2 addresses PPL's DSIC proposal. Section 3 reviews the key cost of service
11 methodological issues, and presents our views on cost of service methods that are most
12 consistent with cost causation. These findings are then used to develop the "IEC" version
13 of PPL's cost of service study. Section 4 explains why the indexed rate of return measure
14 is flawed. Section 5 presents our proposed assignment of the revenue requirement, and
15 Section 6 addresses rate design issues for the *general service classes*.

16 **2 The DSIC Proposal**

17 **Q. Please provide a brief overview of PPL's proposal for a Distribution System
18 Improvement Charge (DSIC).**

19 A. PPL proposes a DSIC mechanism that will allow it to increase base rates distribution
20 charges to recover the costs associated with certain capital expenditures without the need
21 for a base rates case. The capital expenditures that may be included in the DSIC would
22 be only those that relate to replacement or relocation of existing facilities and security
23 improvements. DSIC-eligible capital would not include expenditures relating to adding
24 new customers or that are intended to reduce costs. The annual costs associated with
25 these expenditures would include depreciation, income tax and return on rate base. PPL
26 proposes to develop the charge on a per-kWh basis, to apply to all customers who take
27 distribution service from PPL. Cost over- or under-recoveries would be reconciled on an
28 annual basis. PPL estimates that the first-year DSIC-eligible capital expenditures would
29 be some \$26 million (about 14 percent of PPL's overall capital budget), implying an

1 annual cost of \$3.3 million. However, under PPL's proposal, the DSIC could rise to
2 about \$33 million per year, without the need for base rates review.

3 **Q. At a conceptual level, is this proposal consistent with sound ratemaking practice?**

4 A. No. The DSIC proposal contains the basic flaw associated with "single issue
5 ratemaking." The DSIC provides the utility with an opportunity to increase rates for a
6 particular cost item, without giving ratepayers the opportunity to reap any benefits that
7 may be associated with net gains in revenues or other types of costs that are not included
8 in the mechanism. A base rates proceeding allows the regulator and the ratepayers to
9 address all areas of a utility's costs for setting just and reasonable rates, and does not
10 allow a utility to "pick-and-choose" those cost items that it chooses to address. For
11 example, load growth in PPL's service territory may give it the opportunity to lower unit
12 distribution costs, since additional customers generally provide revenues in excess of the
13 incremental cost of providing service. In a base rates proceeding, the regulator would be
14 able to offset the lower costs relating to load growth against the capital costs of replacing
15 depreciated equipment. Under the DSIC, however, the ratepayers see no benefit
16 associated with any such cost reductions, and pay only for the one cost item that the
17 mechanism addresses.

18 **Q. Is it PPL's position that the DSIC is necessary for system reliability, or that the
19 DSIC will increase PPL's capital expenditures in certain areas?**

20 A. It does not appear to be so. PPL argues that its system reliability has met all applicable
21 standards in the absence of a DSIC, except for 2002 which was unusually stormy. In fact,
22 PPL indicates that its system reliability performance has improved despite the fact that its
23 distribution rates have been capped for several years. Moreover, PPL has not asserted
24 that the DSIC will increase capital expenditures above what they would be in the absence
25 of a DSIC. While the DSIC certainly increases PPL's incentive to make DSIC-eligible
26 expenditures, PPL argues that because of the lag in getting the expenditure included in the
27 DSIC, it retains an incentive to make only necessary capital expenditures. The only clear
28 incentive created by the DSIC mechanism is for PPL to claim that any particular capital
29 expenditure is not related to cost reduction and is therefore eligible for the DSIC.

1 **Q. Is it clear to you what capital expenditures will be eligible for DSIC?**

2 A. No. At a conceptual level, PPL reasonably proposes to exclude those capital expenditures
3 associated with load growth or cost reduction. In practice, however, it would not be
4 surprising if such distinctions are arbitrary and subject to dispute. Replacing obsolescent
5 components of the distribution system is likely to reduce PPL's maintenance costs, on the
6 general hypothesis that new equipment requires less maintenance than very old
7 equipment. For that reason, ratepayer advocates may contend that many replacement
8 expenditures also serve to reduce PPL's costs. If each claimed capital expenditure is
9 subject to debate in the DSIC annual reconciliation proceeding, this proposal will increase
10 regulatory costs and complexity, rather than reduce them. A base rates case requires no
11 such arbitrary classification of capital expenditures.

12 **Q. Is there the possibility that the DSIC will double-count costs already reflected in**
13 **base rates?**

14 A. Yes, particularly if the DSIC is in place for several years without being "zeroed out" by a
15 base rates case. For example, PPL's current filing will include depreciation and rate of
16 return costs for some assets whose depreciable life will end in the next few years. If PPL
17 replaces those assets with DSIC-eligible capital, its rates will inappropriately reflect the
18 costs of those assets twice -- first for the assets that have fully depreciated and second for
19 the replacement assets.

20 **Q. Is PPL's proposal for recovery of DSIC-eligible capital costs reasonable?**

21 A. No. First, PPL's proposal is not consistent with the rest of its distribution rate design
22 philosophy. PPL repeatedly (and generally correctly) argues that no distribution costs are
23 related to energy consumption, that they are all either demand or customer-related. PPL
24 allocates these costs to the rate classes on a demand or customer basis, and is
25 restructuring its distribution tariff to recover them in demand and customer charges. But
26 while DSIC-related costs are also demand or customer-related, PPL proposes to both
27 allocate and recover those costs on an energy basis. More importantly, however, PPL
28 also rejects the idea of using the DSIC to effect progress toward cost-based rates. As
29 such, the DSIC puts a second burden on those classes that already provide revenues that
30 exceed allocated costs.

1 Consider the following example. Assume PPL's proposed DSIC has been in place for
2 about three years, and that the cumulative capital expenditures have increased the DSIC
3 to 0.05 cents per kWh, which applies to all rate classes taking distribution service.
4 However, under PPL's proposed rates in this case, residential customers are providing a
5 class rate of return of 5.3 percent, while GS-3 customers are providing a return of 20.1
6 percent. If a base rates case were filed at that point, one would reasonably expect the
7 distribution rate increase for GS-3 customers to be less than that for RS customers.
8 However, the DSIC shows a very different pattern. On a percentage basis, the 0.05 cents
9 per kWh increase represents a 3.4 percent increase in distribution rates for the GS-3 class,
10 while being a 1.7 percent increase in distribution rates for the RS class. In effect, not only
11 does the DSIC not move rates more in line with costs, it makes matters worse.¹

12 **Q. What is your recommendation?**

13 A. We recommend that the DSIC proposal be rejected on the basis that it is not consistent
14 with sound regulatory principles, nor is it necessary for PPL to meet distribution
15 reliability standards. In addition, counsel informs us that there are also legal reasons why
16 a DSIC should not be permitted, and the OSBA will state those positions in its briefs.
17 However, in the event that the Commission does approve a DSIC, we recommend that
18 some effort be made to modify the DSIC such that it (a) is assigned to rate classes in a
19 manner that is consistent with cost causation, and (b) contains a mechanism that is
20 designed to move rates more in line with allocated costs. We suggest that the simplest
21 approach would be to assign DSIC charges to only those rate classes whose revenues fall
22 short of fully allocated costs as determined in these proceedings.

23 **3 Cost of Service Study**

24 **3.1 Background for Cost of Service Study Issues**

25 **Q. What is the purpose of a cost of service study?**

26 A. The most important factor for establishing most regulated utility rates is the cost incurred
27 by the utility for providing the service. To assign costs to specific customers, utilities
28 aggregate customers into homogeneous "rate classes," within which the customers have

¹ This effect also applies to most other classes, including GS-1, LP-4, ISP, and GH.

1 similar load sizes, seasonal consumption, peak demand patterns, and other characteristics.
2 A cost of service study is an analytical tool with which the utility's total costs (or
3 "revenue requirement") are assigned between each of the rate classes. These allocated
4 costs are then used as a key input in determining the total revenues that the utility plans to
5 recover from each rate class through its tariff rates.

6 In working with a cost of service study to develop class revenue requirements, utilities
7 and regulatory authorities usually have a longer-term goal of getting the revenue
8 recovered from each class to be as near as possible to the costs allocated to that class.
9 Thus, rate classes whose revenues substantially exceed allocated costs are typically
10 assigned either low rate increases or rate decreases. Rate classes whose revenues are well
11 below allocated costs are assigned relatively larger rate increases than those classes
12 whose revenues are slightly below allocated costs. As we discuss in more detail below,
13 various metrics have been devised for measuring whether proposed revenues are more in
14 line with costs.

15 Moreover, in addition to class revenue requirement issues, a cost of service study
16 provides useful cost details regarding the specific nature of utility tariff charges. In
17 particular, a cost of service study provides a cost basis for the relative magnitude of the
18 various tariff charges, including the customer charge, demand charges and energy
19 charges.

20 **Q. How does a cost of service study assign costs to the various rate classes?**

21 A. The basic underlying principle of a cost of service study is that costs should be assigned
22 to the rate classes that *cause* the utility to incur those costs. This principle of cost
23 causation is both equitable and economically efficient. It is equitable because costs are
24 borne by those customers who cause them. It is economically efficient because the price
25 signal for consumption from a particular rate class is reasonably consistent with the cost
26 incurred by the utility to provide the service. In that way, the consumer receives the
27 correct price signal for determining whether or not he should purchase more or less utility
28 service. In effect, the consumer balances the value he or she gets from the purchase of
29 that service against the utility's cost of providing the service.

1 **Q. What are the basic steps in a cost of service study**

2 A. Traditionally, a utility cost of service study consists of three analytical components:
3 functionalization, classification, and allocation. Despite the somewhat pretentious sound
4 of this jargon, the concepts underpinning each of these steps are relatively simple.

5 **Q. What issues are involved in the functionalization of costs?**

6 A. The idea of functionalization of costs is that of segregating costs into the specific
7 functions performed by the utility. For an electric utility, those basic functions are
8 distribution, transmission and generation. For most cost items, a utility's accounting
9 system directly segregates costs into these specific functions, through the FERC's
10 Uniform System of Accounts. However, the functionalization of some costs may be
11 subject to dispute, particularly as the generation function of the utility is subject to
12 competition and/or non-cost-based regulation. These costs are often overhead,
13 administrative and general costs that are not easily directly assigned to particular
14 functions. In addition, uncollectibles and working capital costs are sometimes incorrectly
15 all assigned to the distribution function, even though utility competitors also face these
16 types of costs.

17 The functionalization difficulty arises from the economic incentives created by partial
18 regulation. An integrated company has the incentive to try to functionalize more costs to
19 its regulated monopoly function and less costs to its competitive functions. In that way,
20 the utility recovers its costs in its monopoly charges, and retains a competitive advantage
21 in its other businesses. Ratepayer advocates, of course, have the reverse incentives.

22 In the new environment, the regulation of distribution costs is much as it was when the
23 utility was regulated on an integrated basis. However, the costs associated with
24 transmission and generation are regulated separately. In many ways, the regulation of
25 PPL as an EDC is similar to this Commission's regulation of natural gas distribution
26 companies (NGDC's).

27 **Q. Are there any particular attributes to this proceeding that make it different from**
28 **most proceedings, with respect to the functionalization of costs?**

1 A. Yes. This case is the first base rates proceeding in which PPL is regulated as an electric
2 distribution company (EDC), rather than as an integrated utility. However, while PPL is
3 currently making a proposal for recovery of distribution and transmission costs, its
4 generation rates are still subject to the regulation established in PPL's restructuring
5 proceeding. Under the terms of the settlement in that proceeding, PPL's generation rates
6 will remain capped until December 31, 2009, and PPL will continue to charge for
7 stranded costs.

8 This issue is relevant because the capped generation rates were set based on the cost
9 functionalization procedures that were approved in the restructuring proceeding. Because
10 those rates remain capped, it would be inappropriate to change the functionalization
11 procedures at this stage. For example, a proposal to increase the costs functionalized to
12 generation would give PPL no reasonable opportunity to recover those costs.

13 In addition, PPL asserts that it has the legal right to pass through transmission charges
14 that it incurs from PJM on a reconcilable basis. PPL has proposed to set the 2005 rates
15 for transmission service on a constant per-kWh basis, designed to recover estimated 2005
16 transmission charges from PJM.

17 PPL has therefore excluded both generation and transmission costs from the cost of
18 service study. Thus, all references to cost over- and under-recovery in PPL's filing and in
19 this testimony relate to distribution costs only. Further, because PPL has several rate
20 classes that do not use PPL's distribution system, the costs assigned to those classes relate
21 basically to metering and billing and are relatively low. Thus, the rate classes that are
22 responsible for virtually all the distribution costs are the residential, general service, street
23 lighting and industrial distribution voltage (LP-4) classes.

24 **Q. Have you made any modifications to PPL's cost of service study to properly reflect**
25 **cost causation?**

26 A. No. Based on informal discovery, it is our understanding that PPL functionalized costs
27 using the same methodology that it used in its restructuring proceeding. We note that
28 PPL has functionalized some costs entirely to distribution that should reasonably have a

1 generation component, namely uncollectibles and working capital costs.² When the time
2 comes to establish POLR rates for PPL, it will be appropriate for the Commission to
3 revisit the issue of the functionalization of administrative, working capital and
4 uncollectible costs related to electricity supply, to ensure that PPL is not obtaining an
5 undue competitive advantage.

6 **Q. What analysis is performed in the classification stage of a cost of service study?**

7 A. Cost classification is the identification of the cost causation factor that is properly
8 associated with a particular cost item. Cost causation factors are usually some physical
9 measure of electricity consumption, particularly physical measures that can be metered
10 and reflected on utility bills. For an EDC, the common classifications of costs are energy,
11 peak demand and number of customers. Energy costs are those costs that vary in
12 proportion to the amount of electricity sold or delivered. For example, some electricity
13 supply costs are generally classified as energy-related because they are procured on a per-
14 kWh basis. Peak demand costs are those costs that are incurred in proportion to the peak
15 demands of particular customers, typically measured in units of kW or MW. For
16 example, there is general agreement among cost of service experts that at least some
17 component of distribution costs are incurred in proportion to peak demand and should be
18 classified accordingly. Finally, customer costs are those costs that are generally incurred
19 in proportion to the number of customers. Many experts consider various customer
20 service and billing function costs to have a customer component, because they are a
21 function of the number of customers on the system.

22 **Q. What issues are involved in the classification of costs?**

23 A. It is important to recognize that the classification of costs has two purposes. First, costs
24 are classified into demand, energy and customer categories for the purpose of determining
25 what type of allocator will be used to assign these costs to the various classes. For

² For example, when a utility bill becomes uncollectible, that bill contains generation, transmission and distribution charges. As such, the uncollectible cost should also be functionalized into those components. Working capital costs, particularly those associated with accounts receivable, should also be separately functionalized.

1 example, costs that are classified as "energy-related" are allocated using some measure of
2 electricity deliveries.

3 The second purpose of the classification stage is often overlooked. Classification of costs
4 is also important in the rate design stage, for contributing useful information for the
5 determination of tariff charges. EDC tariffs usually consist of a customer charge (which
6 each customer pays monthly regardless of the customer's electricity consumption),
7 blocked energy charges and sometimes demand charges. In theory, energy costs should
8 generally be recovered with energy charges, demand costs with demand charges and
9 customer costs with customer charges.³ Thus, the cost of service study provides not only
10 total costs allocated to each rate class, but the *classified costs* allocated to each class. For
11 electric distribution utilities, the distinction between customer costs and demand costs is
12 important for providing a cost basis for the customer charge.

13 **Q. Please describe what is meant by the "allocation" component of a cost of service**
14 **study.**

15 A. In the allocation stage of a cost of service study (COSS), the classified costs are either
16 directly assigned to the specific rate classes, or arithmetically distributed between the rate
17 classes using some physical measure that is consistent with the cost classification factor
18 for that cost item. When the EDC retains sufficient records to identify specific assets
19 used by individual customers and customer classes, the direct assignment method of
20 allocating costs is preferable to an arithmetic allocation. However, many categories of
21 costs cannot be directly assigned and must be allocated in proportion to some physical
22 parameter. For example, demand-related costs are allocated to each class in proportion to
23 each class' contribution to peak demand. Within the cost of service study, the allocation
24 procedure is essentially an arithmetic operation. However, the development of allocators,
25 particularly peak demand allocators, can require significant analysis.

³ Most smaller customers are not equipped with demand meters, so energy charges typically take the place of demand charges for smaller customers. In addition, as discussed in more detail below, it is often appropriate to use a combination of energy and *billing* demand charges to recover costs related to class coincident or non-coincident *peak* demand.

1 **3.2 PPL's Cost of Service Study**

2 **Q. Please describe the key features of PPL's approach in this proceeding with respect**
3 **to preparing a cost of service study.**

4 A. PPL has submitted a cost of service study that it indicates is consistent with the
5 methodology approved by the Commission. PPL has filed the study for both the historic
6 (Exhibit JMK-1) and future test years (Exhibit JMK-2), and at present and proposed rates.
7 In these studies, PPL classifies most *secondary* distribution plant items, including
8 overhead and underground conductors, poles, transformers and services, into customer
9 and demand components using a "minimum system" methodology. For allocating the
10 demand component of distribution plant costs, PPL uses a non-coincident peak (NCP)
11 demand allocator, which reflects each individual class' peak. PPL also allocated meters
12 plant using a weighted customer allocator (recognizing the different meter costs by class),
13 and allocated most customer service and billing costs on a per-customer basis.

14 **Q. Did you replicate PPL's cost of service studies as filed?**

15 A. We replicated PPL's future test year (2004) study. PPL declined to provide "live"
16 electronic versions of its cost of service studies, claiming confidentiality. We therefore
17 developed a spreadsheet model that replicates PPL's results, under present and proposed
18 rates. That model is embedded into Exhibit IEc-3 of this testimony in electronic format.

19 **Q. Did you identify any errors in PPL's model?**

20 A. Yes. As part of the process of replicating PPL's study, we determined that PPL had made
21 a number of inadvertent programming errors, mostly relating to the classification of costs
22 between customer and demand-related components. We worked with PPL informally to
23 address these issues, and developed an IEc adjusted cost of service study, which is PPL's
24 study corrected for these programming errors. That study is also embedded in Exhibit
25 IEc-3. PPL undertook similar correction efforts, and we believe that our results are very
26 similar to the overall results produced by PPL's corrected version. We understand that
27 PPL will file its corrected version with its compliance filing in this proceeding.

28 **Q. How do the results of your adjusted PPL cost of service study compare with PPL's**
29 **filed analysis?**

1 A. The results from the adjustment vary modestly, though they do not change any of the
 2 basic conclusions from the study regarding cost over- and under-recovery. For the major
 3 distribution service classes, the corrections reduce the allocation of costs to the residential
 4 and street lighting classes, while increasing costs assigned to the RTS, GS-3, LP-4 and
 5 GH classes, as shown in Table IEc-1 below. (The GS-1 class impact is *de minimis*.)

Table IEc-1 Impact of Correcting Errors in PPL's Filed COSS -- Present Rates (Rate of Return)		
	<i>PPL Filed</i>	<i>IEc Adj.</i>
RS	1.60%	1.80%
RTS	-3.95%	-4.16%
GS-1	9.28%	9.32%
GS-3	10.50%	8.96%
LP-4	10.64%	8.87%
GH	9.76%	8.74%
S/L	1.03%	2.08%
<i>System</i>	<i>3.91%</i>	<i>3.91%</i>

6 **Q. Are you addressing any specific methodological issues in PPL's cost of service**
 7 **study?**

8 A. In the next section of this testimony, we address the method that PPL uses to classify
 9 distribution costs between customer and demand-related components.

10 **3.3 Classification of Distribution Plant Costs**

11 **Q. Please explain the underlying cost causation issues that are relevant for classifying**
 12 **electric distribution plant costs?**

13 A. Conceptually, distribution costs are incurred for two reasons. First, each component of
 14 the distribution plant must be sized to meet the peak demand load of all customers served
 15 downstream from that asset. For example, larger conductors have higher load carrying
 16 capacity and are more costly per foot of conductor to install. For that reason, cost-of-
 17 service experts recognize that distribution costs have a demand component that is related

1 to the capacity of the asset to transmit electricity. Second, the distribution system must be
2 constructed to interconnect each customer served by the utility to the distribution
3 network, and eventually to the transmission grid. The costs incurred to provide this
4 service are related to the circuit length of the installed system and the geographic density
5 of the customer base. Distribution costs are therefore also influenced by the location of
6 the utility's customers, relative both to each other and to the transmission substations.
7 Unfortunately, it is difficult to come up with a sure way to model the distance- or density-
8 related costs in the distribution system and to reasonably assign those costs to customers.
9 As an estimate of this distance-related cost causation factor, many utilities use customer
10 count as a proxy. The use of this proxy is based on the hypothesis that greater circuit
11 length is generally required to interconnect, say, two hundred residential customers with a
12 maximum demand of 5 kW than one industrial customer with a peak demand of 1000
13 kW. Or, to put it another way, electric distribution costs exhibit economies of scale with
14 respect to the size of the customer -- large customers typically cost less to serve per unit
15 of demand than smaller customers.

16 Therefore, it is relatively common for distribution utility cost of service studies to classify
17 distribution costs into both demand and customer components. PPL indicates that the
18 Commission has approved such a classification split in past PPL proceedings, using the
19 minimum system method. Some utilities, however, assume that all distribution costs are
20 demand-related.

21 **Q. What methods do cost of service analysts use to estimate the classification split**
22 **between demand and customer cost components for electric distribution plant?**

23 A. Utilities typically use either of two methods: the minimum system method and the zero-
24 intercept method. Both of these methods attempt to identify the customer and demand-
25 related cost of distribution. The minimum system method estimates the customer-related
26 cost by calculating what the cost of the entire distribution network would be if only a
27 minimum-sized distribution asset was installed. The cost of this "minimum system" is
28 deemed to be customer-related, while the rest of the plant costs are deemed to be demand-
29 related. However, the primary conceptual problem with the minimum system approach is
30 that the minimum system often has load-carrying capability, and it therefore includes

1 demand-related costs. Some experts attempt to recognize this load-carrying capability
2 with an adjustment in the cost allocation stage, by deducting the load carrying capability
3 of the minimum system from the demand costs allocators.

4 As an alternative approach to adjust for the load carrying capability of the minimum
5 system, some analysts use the "zero-intercept" methodology, which uses a statistical
6 calculation to estimate the cost of a minimum system with zero load-carrying capability.
7 In this method, a statistical analysis is performed that estimates the unit cost of the
8 distribution plant asset as a function of some measure of its load carrying capacity. With
9 this statistical relationship, the unit cost of the asset at zero load can be calculated. In
10 effect, it is a minimum system with zero capacity. The customer component of
11 distribution costs is then determined by applying the zero capacity unit cost to each unit
12 of capacity in the secondary distribution system. For example, the zero-intercept cost per
13 foot of overhead conductors is multiplied by the total overhead conductor footage in the
14 secondary distribution system to determine the customer share of costs.

15 Both of these methods are described in some detail in the NARUC Cost Allocation
16 Manual.⁴

17 **Q. Of these two methods, which do you believe is a more accurate approach for**
18 **estimating the customer component of distribution costs?**

19 A. The zero-intercept method. As detailed above, the unadjusted minimum system method
20 is inaccurate because it overstates the customer component of costs, since the minimum
21 system includes some load carrying capability. Furthermore, the adjustments that are
22 made by some analysts to demand allocators to reflect that load carrying capability are
23 necessarily arbitrary. To illustrate this problem, consider the concept of the minimum
24 system. In this theoretical construct, a minimum-sized conductor is installed throughout
25 the system (on minimum-sized poles and through minimum-sized transformers). Where
26 that minimum-sized conductor replaces a much higher-capacity line, the theoretical
27 minimum system now has a low-capacity conductor that may serve tens or hundreds of

⁴ "Electric Utility Cost Allocation Manual," National Association of Regulatory Utility Commissioners, January 1992, pages 86-99.

1 "downstream" customers. It is most unclear how the load carrying capability of that
2 minimum conductor should be used to adjust the demand allocators for all the customers
3 served by that asset. Such an analysis would require a complex and data intensive
4 analysis of the number of customers that are served from each component of the
5 distribution system. In short, adjustments to demand allocators to reflect the load-
6 carrying capability of the minimum system are too arbitrary and complicated to add any
7 value to this classification problem.

8 By contrast, the zero-intercept methodology avoids the necessity to make such arbitrary
9 adjustments to demand allocators. The zero intercept method relies on a statistical
10 calculation of the cost of distribution assets with zero load-carrying capability. Moreover,
11 although the zero-intercept method is often criticized as a theoretical construct, it is no
12 more theoretical than the minimum system approach -- no utility has ever constructed a
13 minimum system. Finally, while the unit cost of the zero-intercept system is a statistical
14 estimate and does not exactly match any actual cost data, it can be readily compared to
15 that cost data. In particular, if the hypothesis is correct that distribution utilities
16 experience economies of scale in distribution costs, the zero-intercept unit cost should be
17 lower than the minimum system unit cost, and it should be above zero.

18 **Q. Have you prepared a full zero-intercept analysis of PPL's distribution system?**

19 A. No. However, because the minimum system approach tends to overstate the customer-
20 related component of cost, we developed a judgmental classification approach for our
21 cost of service study. First, we adopted PPL's approach of classifying all primary
22 distribution assets as demand-related. This assumption is somewhat at odds with the
23 NARUC manual, but we had no information by which to evaluate zero-intercept costs for
24 the primary system.⁵ Second, we prepared very rough calculations of the zero-intercept
25 classification split for overhead conductors, underground conductors, poles and
26 transformers based on the cost of adding new facilities. These analyses are shown in the
27 workpapers embedded in this testimony at Exhibit IEc-3. As shown in that exhibit, the

⁵ To the extent that the primary system has a significant customer component, our allocation method overstates costs assigned to the GS-3, LP-4, ISP and G-H rate classes. However, it is not unusual for cost allocation analysts to classify all primary system costs as demand-related.

1 zero-intercept analysis generally did not produce classification results that were
 2 significantly different from PPL's methodology. Third, in conjunction with that analysis,
 3 we applied judgment to develop classification splits for the IEc cost of service study. Our
 4 judgmental adjustments were based on the premise that the zero-intercept minimum
 5 system should have a lower customer share of costs than the PPL minimum system
 6 approach. We also recognized that poles costs are significantly distance-related, and that
 7 the cost of underground conduit has a significant component of costs that is not related to
 8 its load-carrying capability. Table IEc-2 below compares the judgmental classification
 9 parameters that we recommend with those developed by PPL.

Table IEc-2		
IEc Judgmental Classification Factors		
Customer Share of Costs		
	<i>PPL</i>	<i>IEc Adj.</i>
Poles	60.1%	60.1%
Overhead Conductors	62.4%	40.0%
Underground Conductors and Conduit	48.5%	48.5%
Transformers	69.9%	50.0%

10 **Q. PPL also classifies service drop costs using a minimum system method. Have you**
 11 **made any modifications to that analysis?**

12 A. Based on PPL's analysis, we believe that the minimum-sized service used in PPL's study
 13 should be sufficient to serve virtually all residential and GS-1 customers. Thus, we have
 14 modified PPL's study to allocate the demand portion of services costs only to the larger
 15 customer classes to which services costs apply, namely GS-3 and GH.

16 **3.4 Results of the IEc Cost of Service Study**

17 **Q. Can you summarize the results of your cost of service study analysis?**

18 A. Table IEc-3 below provides a comparison of the rates of return for each of the major
 19 distribution rate classes in PPL's original study and the IEc study under present rates. The
 20 differences arise from the following factors. First, correcting PPL's cost of service study

1 improved the rates of return for the RS and streetlighting classes, while reducing returns
 2 for the other classes. Second, by reducing the customer component of secondary plant
 3 costs, the costs for the rate classes with relatively large customers served at secondary
 4 voltage, namely GS-3 and GH, are increased relative to PPL's study. That result occurs
 5 because the larger secondary voltage customers are responsible for a much larger share of
 6 the class non-coincident peak demand than they are of the customer count. By classifying
 7 somewhat lower costs as customer-related, the costs assigned to larger customers will
 8 increase.

Table IEc-3		
Comparison of COSS Results		
Class Rate of Return; Present Rates		
	<i>PPL Study</i>	<i>IEc Study</i>
RS	1.60%	2.04%
RTS	-3.95%	-4.30%
GS-1	9.28%	9.42%
GS-3	10.50%	7.44%
LP-4	10.64%	8.94%
GH	9.76%	7.57%
S/L	1.03%	2.03%
<i>Total</i>	<i>3.91%</i>	<i>3.91%</i>

9 **4 Metrics for Determining the Class Revenue Requirement**

10 **Q. Please describe the process by which class revenue requirements are usually**
 11 **determined in regulatory proceedings.**

12 A. The process for determining class revenue requirements generally begins with the
 13 revenues produced under existing rates from each class. These revenues are included in
 14 the cost of service study analysis at present rates. The "present rates" study shows each
 15 class' over- or under-recovery of allocated costs at the existing rates. The relative over- or
 16 under-recovery of costs is evaluated using a variety of different metrics that depict the
 17 relationship between revenues and allocated costs. Most utilities and regulators adopt a
 18 policy in a base rates proceeding of attempting to move revenues more in line with
 19 allocated costs by varying the magnitude of the rate increases for the various classes, but

1 they also subject the rate increases to other non-cost criteria of ratemaking. Of the
2 traditional rate design criteria,⁶ the most common non-cost considerations in the revenue
3 assignment process are (a) the principle of gradualism (or avoidance of "rate shock"), in
4 which large rate increases for individual customers or classes of customer are avoided,
5 and (b) the value of service principle, which is often used to mitigate rate increases for
6 customers or customer classes with relatively price-elastic demand.⁷

7 Using these criteria, the utility will develop a proposal for assigning the increase in the
8 revenue requirement among the classes that reflects both cost and non-cost
9 considerations. From this proposal, the cost of service studies are then re-simulated to
10 show the impact on cost recovery at "proposed rates." With the two sets of cost of service
11 studies, at existing and proposed rates, the utility can demonstrate whether any "progress"
12 has been made toward the policy of achieving cost-based rates.

13 **Q. What metric does PPL use for evaluating progress toward cost-based rates?**

14 A. Like most Pennsylvania utilities, PPL uses the indexed (or relative) rate of return
15 measure. The indexed rate of return is the ratio of each class' rate of return to the system-
16 wide rate of return. That is, at an indexed rate of return of 100 percent, the individual rate
17 class earns a return exactly equal to the system average. At an indexed rate of return of
18 125 percent, the rate class earns a rate of return that is 25 percent higher than system
19 average, such as a rate class with a 10 percent return compared to system average of 8
20 percent. In its filing, PPL asserts that its proposed assignment of the revenue deficiency
21 results in progress toward cost-based rates, using this metric as a guide. PPL's Mr.
22 Kasper indicates: *"As shown in Figure 1, each rate schedule receives an increase in total
23 rates of less than 10%, and, as shown on Figure 2, each rate schedule moves toward the
24 system average return, in terms of percentage contribution to the system average return."*

⁶ See, for example, Principles of Public Utility Rates, Second Edition, Bonbright, Kamerschen, Danielsen, pages 383 to 387.

⁷ Customers with "price-elastic" demands are those customers whose consumption level changes with price increases or decreases. Because rate increases for these price-sensitive customers can result in the loss of system load to the detriment of all customers, the value of service criterion is often used to justify assigning them a smaller rate increase than a fully allocated cost of service study would otherwise indicate.

1 **Q. If the indexed rate of return under proposed rates is closer to 100 percent than it is**
2 **under present rates, has progress necessarily been made?**

3 A. No. Movement of a class' indexed rate of return toward 100 percent between present and
4 proposed rates is indicative of nothing.

5 **Q. Can you provide an example that explains your conclusion?**

6 A. Yes. Normally, it would be necessary to construct a hypothetical example. However,
7 PPL's actual proposal demonstrates the conclusion effectively. Consider the case of the
8 RS (residential) and GS-1 (small general) rate classes. These two classes provide for a
9 useful comparison, because the cost of serving these customers is reasonably similar,
10 although GS-1 customers are a little less costly to serve per kWh since they are somewhat
11 larger than RS customers and benefit from the scale economies of utility service.

12 Using PPL's cost of service study at present rates, the rate of return for the RS class is
13 1.60 percent, well below the system average return of 3.9 percent. That is, the RS class is
14 under-recovering costs. By way of contrast, the GS-1 class exhibits a class rate of return
15 of 9.3 percent, compared to system average of 3.9 percent, indicating that the GS-1 class
16 over-recovers costs. A summary of the distribution revenues and rates of return for these
17 two rate classes and the system average is presented in Table IEC-4 below. Remember
18 that PPL's cost of service study relates to distribution costs only.

Table IEC-4			
Summary of PPL 2004 Cost of Service Results			
Present Rates			
	<i>PPL Total</i>	<i>RS</i>	<i>GS-1</i>
Present Rates (\$millions)	\$523.2	\$310.2	\$65.1
Distribution GWh	30,562	12,900	2,034
Avg. Rates (\$/MWh)	\$17.12	\$24.04	\$32.02
Rate of Return	3.91%	1.60%	9.28%
Indexed RoR	100.0%	40.9%	237.3%

1 Note that, despite the fact that the GS-1 class has lower average cost to serve than RS, its
 2 present rates are higher than those for the RS class, due to the historical over-recovery of
 3 costs from the small business customers.

4 With the information shown in Table IEc-4, it would be reasonable to assume that, to
 5 move rates in line with costs, the RS class would face a larger rate increase than the GS-1
 6 class. Common sense dictates that giving the GS-1 class a proportionately larger increase
 7 would tend to move rates *away* from costs, rather than moving rates toward costs.

8 However, what PPL proposes is to assign the RS class a distribution rate increase that
 9 increases revenues by 26.5 percent, while assigning the GS-1 class a distribution rate
 10 increase that increases revenues by 34.5 percent. This results in an average rate increase
 11 for RS customers of about \$6.38 per MWh, and an average rate increase for GS-1
 12 customers of \$11.05 per MWh. Logically, this change should move rates further away
 13 from costs, and indeed it does. However, the indexed rate of return measure seems to
 14 show that there has been some progress toward cost-based rates, as shown in Table IEc-5
 15 below. For example, despite the fact that the GS-1 class is assigned a rate increase well
 16 above average, its indexed rate of return falls from 237 percent to 184 percent.

Table IEc-5			
Summary of PPL 2004 Cost of Service Results			
Proposed Rates			
	<i>Total</i>	<i>RS</i>	<i>GS-1</i>
Proposed Rates (\$million)	\$687.7	\$392.4	\$87.6
Distribution GWh	30,562	12,900	2,034
Avg. Rates (\$/MWh)	\$22.50	\$30.42	\$43.07
Percent Increase	31.4%	26.5%	34.5%
Rate of Return	8.80%	5.29%	16.17%
Indexed RoR	100.0%	60.2%	183.7%
<i>Present Rates Ind. RoR</i>	<i>100.0%</i>	<i>40.9%</i>	<i>237.3%</i>

17 Thus, despite the fact that the GS-1 class costs less to serve than the RS class, that the
 18 GS-1 class has present rates that substantially exceed allocated costs, and that the GS-1

1 class is assigned a larger rate increase than the RS class, the indexed rate of return metric
2 seems to show that GS-1 is now more cost-based than it was before.

3 **Q. Why does this happen?**

4 A. The basic problem is that the "indexed" rate of return is indexed off a moving target. In
5 this case, the present rates system average return is 3.9 percent, but it increases to 8.8
6 percent under proposed rates. As the denominator in the index calculation grows, it
7 creates a strong arithmetic bias that the indexed rates of return move toward unity. For
8 example, suppose the present rates system rate of return is 2 percent, and a particular
9 class exhibits a present rates return of 4 percent. The present rates indexed rate of return
10 is 200 percent. However, if the both the class and system average return increase by the
11 same amount, say 6 percent, the proposed rates system average return is 8 percent and the
12 class return is 10 percent. Even though both classes face a similar rate increase, the
13 indexed rate of return drops from 200 percent to 125 percent. This drop results not
14 because the class was given a lower rate increase -- the drop results because the
15 denominator in the index calculation has increased from 2 percent to 8 percent. Thus,
16 with the indexed rate of return metric, if every class is assigned the identical percentage
17 increase, it looks like rates are moving in line with costs when, in fact, no such progress is
18 occurring.

19 **Q. Are there alternatives to the indexed rate of return metric?**

20 A. There are several alternatives, all of which are far superior to the indexed rate of return.
21 Perhaps the simplest to adopt would be the "differential" rate of return. Rather than index
22 the rate of return, the cost performance can be evaluated by taking the difference between
23 class return and system average return. For example, if the system average rate of return
24 is 8 percent and a particular class exhibits a rate of return of 6 percent, the differential rate
25 of return is a negative 2 percent. In this approach, rate classes with negative differentials
26 are under-recovering costs and rate classes with positive differentials are over-recovering
27 costs. Interpreting this measure is a little different than the indexed rate of return. With
28 the differential approach, the goal is for the difference to be zero. That is, if a class return
29 matches system return, the difference is zero. Thus, in assessing whether progress is
30 being made toward cost-based rates, one should evaluate whether the differential rate of

1 return is moving toward zero. Table IEc-6 below shows the impact of this metric on the
2 RS/GS-1 example:

Table IEc-6			
Differential Rates of Return			
Present Rates			
	<i>Total</i>	<i>RS</i>	<i>GS-1</i>
Present Rates RoR	3.91%	1.60%	9.28%
Present Differential	0.00%	-2.31%	5.37%
Proposed Rates RoR	8.80%	5.29%	16.17%
Proposed Differential	0.00%	-3.51%	7.37%

3 Using this approach, we see a much more logical result. Because it got a below average
4 increase, the RS class' differential rate of return has moved *further away* from zero, going
5 from -2.31 percent to -3.51 percent. This movement away from zero indicates that
6 proposed rates are less in line with costs than they are under present rates. Similarly, the
7 GS-1 class' differential goes from 5.37 percent to 7.37 percent, also indicating that
8 proposed rates are further away from costs.⁸

9 **Q. In a practical sense, what is the impact of the use of this metric on the various rate
10 classes in base rates cases?**

11 A. We conclude that the use of this metric by the Commission has been detrimental toward
12 small business classes, because it impedes progress toward cost-based rates.
13 Traditionally, small and medium general service classes had rates that over-recovered
14 costs. Each base rates case provides an opportunity for small businesses to see progress
15 toward cost-based rates, either in the form of rate decreases or less than system average
16 rate increases. However, when the yardstick used by the Commission for measuring

⁸ We note that the differential rate of return measure is not a perfect indicator, particularly when income taxes are not allocated in proportion to utility rate base, as is the common practice in Pennsylvania. However, it is much superior to the indexed rate of return approach, and it is conceptually more similar to the practice that has been used in Pennsylvania historically.

1 progress vastly overstates the extent of progress, small business customers are
2 disadvantaged.

3 **Q. What are you are recommending to this Commission?**

4 A. We recommend that the indexed rate of return metric be rejected as a measure for
5 evaluating progress toward cost-based rates. A differential rate of return or a revenue-
6 cost ratio metric is much superior. As amply demonstrated by PPL's own proposal, the
7 indexed rate of return measure can show progress when there is no progress at all. We
8 also recommend that the Commission reject PPL's assertions that its proposal moves rates
9 more in line with costs. If PPL's deficiency assignment proposal has any merit, it can
10 only be from non-cost criteria.

11 **5 Assigning the PPL Deficiency**

12 **Q. What criteria has PPL proposed for determining the class revenue requirement?**

13 A. PPL's primary criteria appear to be to cap class rate increases, measured on a total bill
14 basis, at 10 percent. That 10 percent figure includes the impact of any increases (or
15 decreases) in transmission charges, as well as PPL's proposed distribution rate increase.
16 Of course this 10 percent on a total bill basis, which includes the capped generation
17 charges, provides for much larger distribution rate increases on a percentage basis. In
18 addition, PPL indicates that moving indexed rates of return toward 100 percent was one
19 of its criteria, despite the illogic of that metric.

1 Q. How does PPL propose to assign the revenue deficiency in this proceeding?

2 A. A summary of PPL's proposal for rate increases at the distribution level for the major
3 distribution voltage rate classes is shown below:

Table IEc-7				
PPL's Proposed Distribution Deficiency Assignment				
	Deficiency (\$000)	Dist'n Increase	Present RoR	Proposed RoR
RS	\$80,963	27.5%	1.6%	5.3%
RTS	\$568	16.2%	-4.0%	-3.2%
GS-1	\$22,016	35.8%	9.3%	16.2%
GS-3	\$43,101	51.2%	10.5%	20.1%
LP-4	\$10,750	49.1%	10.6%	20.1%
GH	\$2,971	47.7%	9.8%	18.3%
S/L	\$2,100	11.9%	1.0%	2.8%
PPL	\$162,345	32.8%	3.9%	8.8%

4 Table IEc-7 shows that PPL's proposed distribution increases are completely unrelated to
5 its cost of service study results. In particular, the rates of return for the over-recovering
6 classes (GS-1, GS-3, GH and LP-4) increase more than system average. From the small
7 business customer perspective, the system average return increases by 4.9 percent (from
8 3.9 percent to 8.8 percent), while the GS-1 class return increases by 6.9 percent (9.3
9 percent to 16.2 percent) and the GS-3 class return increases by 9.6 percent (10.5 percent
10 to 20.1 percent). By way of contrast, the rates of return for the under-recovering classes
11 increase by less than system average. For example, the residential class return increases
12 by only 3.7 percent (1.6 percent to 5.3 percent), compared to the system average increase
13 of 4.9 percent.

14 While PPL may have attempted to move rates in line with costs, the overwhelming factor
15 that drives the deficiency allocation is constraining the overall rate increase for the RS,
16 RTS and streetlighting classes to 10 percent. Because these classes also substantially
17 under-recover transmission cost, a healthy share of PPL's rate increase must apply to

1 transmission rates, leaving little room for distribution rate increases. With these
2 constraints, PPL cannot make any progress toward cost-based rates for distribution
3 service, and in fact proposes that rates diverge further from costs. As such, the over-
4 recovery of costs from the general service and industrial classes must increase, regardless
5 of the results of the cost of service study.

6 **Q. In preparing your analysis for assigning the revenue deficiency to the various rate**
7 **classes, have you used PPL's \$164.4 million rate deficiency figure?**

8 A. Yes. However, it is an unfortunate fact that the procedure by which base rates cases are
9 filed, negotiated and sometimes fully litigated involves a certain amount of
10 gamesmanship. Utilities typically file for an increase in excess of that for which they will
11 settle or which they believe the regulator will eventually award. Similarly, intervenors
12 will typically file testimony supporting lower revenue requirements than they expect will
13 eventually be granted. While there is no particular problem with this process of litigation
14 and settlement *per se*, it tends to distort the measurement of progress toward cost-based
15 rates.

16 In particular, most analyses of "progress toward cost-based rates" are measured at rates
17 that recover the full utility revenue requirement claim. However, when rates are adjusted
18 downward to recognize a more reasonable, Commission-approved revenue requirement,
19 the "progress toward cost based rates" that resulted at the full, inflated revenue
20 requirement is significantly watered down. Further, because small businesses are
21 typically in rate classes that over-recover costs, this watering down of progress toward
22 cost-based rates tends to hurt small businesses relative to other customers. For example,
23 at the utility-proposed revenue requirement, the cost of service study results may show
24 that the excess return from that class drops from 4 percent under present rates to 2 percent
25 at the full proposed rates. However, if the approved revenue requirement is significantly
26 lower than the proposed requirement, the excess return from the class may only fall to 3
27 percent.

1 However, at a more reasonable overall revenue deficiency, the impact of getting small
2 business costs and rates back in line with residential customers puts less strain on the
3 gradualism principle than it does at the inflated utility revenue requirement.

4 *In this testimony, we propose a deficiency assignment at the full PPL rate increase*
5 *proposal. However, when considering the principle of gradualism, we recognized (and*
6 *we encourage the Commission to recognize) that the actual rate increase will likely be*
7 *lower than that proposed by PPL, and the maximum impact on customers will also be*
8 *lower.*

9 **Q. How should the revenue requirement be assigned to reflect the cost of service study**
10 **results and the principle of gradualism?**

11 A. Our recommendation is based on the following considerations. First, we have adopted
12 PPL's proposed assignment of transmission rate increases. As with PPL's approach, we
13 consider the impact of the combined impact of distribution and transmission rate
14 increases for evaluating whether the proposal is consistent with the principle of
15 gradualism. To the extent that other parties submit alternative assignment of transmission
16 cost increases, we may submit alternative distribution deficiency assignments. Second,
17 we adopted PPL's proposed distribution rate increases for transmission voltage customers.
18 For the most part, PPL proposes to not assign any distribution rate increases to these
19 classes, and the impact of changes in distribution rates for these customers will not have a
20 large impact on the other rate classes. Third, we adopted a maximum allowable rate
21 increase of 16 percent of revenues as consistent with the principle of gradualism. That
22 value is approximately twice the average rate increase, and it amounts to an average
23 increase of 1.7 percent per year since PPL's last base rates increase in 1995. Moreover,
24 we apply that magnitude of an increase only to the RTS rate class, whose revenues
25 already substantially under-recover costs.⁹

⁹ The RTS class is a special class for residential thermal storage customers. RTS is closed to new customers and existing customers are grandfathered in eligibility. RTS represents only a little over 1 percent of residential customers.

1 The other rate classes are assigned increases that are designed to make reasonable
 2 progress toward cost-based rates, using the IEC cost of service study. The other classes
 3 that under-recover allocated costs, namely RS and the streetlighting classes, are assigned
 4 a 13 percent overall increase. These increases will move distribution revenues more in
 5 line with allocated costs, though both classes still exhibit rates of return below system
 6 average. Modest increases are assigned to the GS-1, GS-3, LP-4, ISP and GH classes that
 7 are also designed to bring revenues more in line with costs. The details of this deficiency
 8 assignment are shown in Exhibit IEC-2, and the full backup is presented in the electronic
 9 workpapers in Exhibit IEC-3.

10 **Q. In addition to the details in your exhibits, can you provide a simple tabular**
 11 **comparison of your class revenue requirement proposals?**

12 A. Yes. Table IEC-8 below shows the change in distribution revenues that we propose for
 13 the major distribution voltage rate classes.

Table IEC-8				
IEC's Proposed Distribution Deficiency Assignment				
	Deficiency (\$000)	Dist'n Increase	Present RoR	Proposed RoR
RS	\$117,101	39.8%	2.0%	7.6%
RTS	\$1,996	56.8%	-4.3%	-1.9%
GS-1	\$9,127	14.9%	9.4%	12.3%
GS-3	\$24,846	29.5%	7.4%	12.0%
LP-4	\$5,307	24.3%	8.9%	13.2%
GH	\$1,557	25.0%	7.6%	11.5%
S/L	\$2,829	16.0%	2.0%	4.5%
PPL	\$162,345	32.8%	3.9%	8.8%

1 **6 Commercial Class Tariff Design**

2 **Q. Please summarize PPL's approach to distribution tariff design for the commercial**
3 **classes in its filing.**

4 A. In general, PPL proposes to increase its customer and demand charges within all of the
5 rate classes (to the extent practicable), and reduce energy charges. PPL's basis for this
6 proposal is that distribution costs are virtually all customer or demand-related, and they
7 should therefore be recovered from customers and demand charges. For the GS-1 class,
8 this proposal takes the form of higher increases for the customer charge, the demand
9 charge, and the first block charge.¹⁰ For the GS-3 class, PPL proposes to substantially
10 reduce the energy charges and to increase the distribution demand charge.

11 **Q. Do you have concerns about this methodology?**

12 A. As noted earlier, utility rates should be reasonably aligned with the classified costs that
13 they are designed to recover. That is, demand charges for demand costs and energy
14 charges for energy costs. However, it is important to recognize that raising demand
15 charges will have a disproportionate impact on low load factor customers. For example,
16 for GS-3 customers, PPL's proposed distribution rate increase for a 15 percent load factor
17 customer is 61 percent, while a 75 percent load factor customer receives a 43 percent
18 increase.

19 Moreover, there is a theoretical reason to retain an energy component in distribution
20 charges that are designed to recover demand costs. In PPL's cost of service study,
21 distribution demand costs are allocated using a non-coincident peak (NCP) allocator.
22 This NCP allocator measures the total demand for the class at the time when the overall
23 class is at its peak demand level. For example, the general service class non-coincident
24 peak is usually in the summer, because these classes have relatively more air conditioning
25 load than heating load. Residential class non-coincident peaks tend to occur in the
26 winter. However, each individual customer within the class may not be experiencing its

¹⁰ PPL's GS-1 tariff is blocked on a kWh per kW basis. That is, the kWh that are subject to the higher first block charge are proportionate to billing demand. In this specific case, the block size is 150 kWh per kW. Thus, except for extremely low load factor customers (below 20 percent), an increase in the first block charge is identical to a demand charge increase.

1 own peak at that class peak moment. For example, some general service customers may
2 be heating customers and experience winter peaks, and therefore their contribution to the
3 class NCP is lower than their overall peak. In other words, the class NCP contains some
4 demand *diversity*. However, on a billing basis, each customer is billed for his full
5 undiversified peak demand. Thus customers who tend to peak when the class is not
6 peaking, often the very low load factor customers, will pay more than their share of the
7 class NCP demand costs. By including an energy charge in the tariff design, the low load
8 factor customers are more accurately charged for the costs that they cause.

9 **Q. Do you propose any changes to PPL's tariff design for GS-1 or GS-3 customers?**

10 A. Not in this proceeding. The only proposal that we recommend is to proportionately scale
11 back PPL's proposed tariff charge increases to reflect the reduction in the assigned
12 deficiency that we discuss in the previous section. For the following reasons, we do not
13 believe that PPL's proposals to modify the tariff cause any inappropriate impact on these
14 customers:

- 15 ■ The GS-1 distribution tariff continues to recover over 20 percent of revenues in its
16 energy charge. (We do recommend that PPL prepare an analysis of demand diversity
17 before reducing the energy component of billing charges further, however.)
- 18 ■ The GS-3 distribution tariff already recovers most costs on a demand basis. Also,
19 with PPL's proposal to recover transmission costs on an energy basis, the impact of
20 the transmission rate increase offsets the effect of the reduction in distribution energy
21 charges.
- 22 ■ Moreover, the evidence available does not suggest that there is significant diversity of
23 demand in the GS-3 class. Average monthly billing demand for GS-3 customers is
24 about 10 percent higher than class NCP demand.
- 25 ■ PPL does not use billing demand "ratchets" for GS-3 customers. As such, if a low
26 load factor customer experiences a high peak demand in a particular month, it will
27 need to pay a demand charge for that peak only once, and will not continue to
28 experience that charge for the whole year.

1 Q. Does this conclude your direct testimony?

2 A. Yes, it does.

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EXHIBIT IEc-1 PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

RÉSUMÉS AND SCHEDULES OF

APPEARANCES BEFORE REGULATORY BOARDS

FOR

DOCKETED

AUG 18 2004

ROBERT D. KNECHT

and

MARK D. EWEN

ROBERT D. KNECHT

Robert D. Knecht specializes in the practical application of economics, finance and management theory to issues facing public and private sector clients. Mr. Knecht has more than twenty years of consulting experience, focusing primarily on the energy, metals, and mining industries. He has consulted to industry, law firms, and government clients, both in the U.S. and internationally. He has participated in strategic and business planning studies, project evaluations, litigation and regulatory proceedings and policy analyses. As Treasurer of IEc, Mr. Knecht is responsible for the firm's accounting, finance and tax planning, as well as administration of the firm's retirement plans. Mr. Knecht's recent consulting assignments include the following projects:

- For the Pennsylvania Office of Small Business Advocate, Mr. Knecht provides analysis and expert testimony in industry restructuring, base rates and purchased energy cost proceedings involving electric, steam and natural gas distribution utilities. Mr. Knecht has analyzed the economics and financial issues of electric industry restructuring, stranded cost determination, industry economics, cost allocation methods and rate design issues.
- For the New Jersey Board of Public Utilities, Mr. Knecht audited the cost and rate unbundling, cost allocation and rate design aspects of the industry restructuring filing of an investor-owned electric utility.
- For the U.S. Department of Justice, Mr. Knecht participated in an evaluation of the economic damage claims of a large forest products concern, in a breach of contract lawsuit. Mr. Knecht's analysis included a review of the economic claims of the plaintiff, and an evaluation of settlement alternatives.
- For the Independent Power Producers Society of Alberta and the Senior Petroleum Producers Association, Mr. Knecht provides analysis and recommendations regarding electric industry restructuring strategies. Mr. Knecht also provided expert testimony with respect to industry restructuring, cost allocation, rate unbundling methodologies and rate design.
- For a major South American iron ore mining company, Mr. Knecht assembled and managed an international team of consultants to review and evaluate the company's strategic plan. Mr. Knecht oversaw the development of recommendations in the areas of markets, the resource base, development of the resource, processing operations and finance.

Mr. Knecht holds a M.S. in Management from the Sloan School of Management at M.I.T., with concentrations in applied economics and finance. He also holds a B.S. in Economics from M.I.T. Prior to joining Industrial Economics as a principal in 1989, Mr. Knecht worked for seven years as an economic and management consultant at Marshall Bartlett, Incorporated. He also worked for two years as an economist in the Energy Group of Data Resources, Incorporated.

ROBERT D. KNECHT

Regulatory Economics

Mr. Knecht consults and provides expert testimony in the field of regulatory economics, focusing primarily on issues of industry restructuring, cost allocation and rate design. His clients include both utilities and the consumers, competitors, and regulators of public utilities. Representative assignments are listed below.

- For the Independent Power Producers Society of Alberta and the Senior Petroleum Producers Association, in a variety of regulatory proceedings, analysis and expert testimony regarding electric industry restructuring, market power mitigation, stranded cost determination, cost allocation, rate unbundling and tariff design for transmission and distribution utilities.
- Participation in an audit of the electric industry restructuring filing of the Atlantic City Electric Company, for the NJ Board of Public Utilities. evaluating the company's rate unbundling filing.
- For the Pennsylvania OSBA, evaluation of all aspects of the electric industry restructuring filings of Pennsylvania Power & Light and West Penn Power, focusing on impacts to customers in general and small businesses in particular.
- Analysis and expert testimony regarding system expansion and related customer contribution requirements of Centra Gas Manitoba, for a large industrial customer.
- For the Industrial Gas Users Association, analysis and expert testimony of the cost unbundling methods of Gaz Metropolitan.
- Analysis and expert testimony of cost allocation and rate design practices of the three major Ontario natural gas distribution utilities over several years, on behalf of the Ontario Energy Board staff and the Canadian Independent Gas Marketing Association.
- Cost allocation and rate design study and expert testimony for a small Ontario gas distribution utility.
- Analysis and litigation support regarding accounting, financial and capacity planning procedures of New Brunswick Power Corporation, and presentation of expert testimony on cost allocation and rate design, in a series of generic regulatory hearings, on behalf of a group of large industrial customers.
- Analysis of the cost allocation and rate design procedures of Consumers' Gas, Ltd., for the Canadian Independent Gas Marketing Association.
- Analysis of the cost allocation and rate design procedures of the three major Ontario natural gas utilities, for the staff of the Ontario Energy Board.
- Economic analysis and modeling of U.S. Postal Service proposals for allocation of peak load labor and equipment costs in 1987 and 1990, for the American Newspaper Publishers Association.
- Evaluation of the cost allocation and cost recovery procedures of a domestic telecommunications firm providing aircraft to ground data communications.
- Assessment of alternative methodologies for defining the electric rate classes of Maritime Electric Corporation, for the Prince Edward Island Ministry of Energy and Forestry.

ROBERT D. KNECHT

Regulatory Economics (continued)

- Evaluation of the cost allocation and rate design procedures of the Nova Scotia Power Corporation, for a group of interruptible electricity consumers, and in a later proceeding, for a large industrial customer.
- Assessment of a proposed class-specific, risk-adjusted rate of return methodology for natural gas distribution utilities, for the staff of the Ontario Energy Board.
- Preparation of rebuttal analysis regarding management prudence in the construction of the River Bend Nuclear Generating Station, for Gulf States Utilities.

Economic Consulting

Mr. Knecht's practice includes the application of economics, finance and decision analysis theory to practical problems facing businesses, law firms and government. His assignments include industry and company planning, market forecasting, policy analysis and economic damage assessment. Representative assignments are listed below.

- *For the US Department of Justice Civil Division, analysis of economic damages and participation in settlement negotiations associated with alleged breach of contract involving long-term timber supply contracts between the U.S. government and a large forest products company in Southeast Alaska.*
- *For the Electric Power Research Institute, analysis and adaptation of models that compute the economic costs of environmental externalities associated with electric generating stations.*
- *Economic, market and cost analysis for a team of international consultants preparing a restructuring study of the Polish steel industry, in conjunction with the World Bank.*
- *Economic and policy analysis for a U.S. engineering firm preparing a strategic planning study for the state-owned steel company in Venezuela.*
- *For the U.S. Environmental Protection Agency, evaluation of the impact of Clean Air Act amendments on major industrial facilities that are closing or are threatened with closure.*
- *Econometric analysis of world steel consumption patterns for a major international iron ore producer.*
- *Litigation support services relating to the business planning activities of a major West Coast construction and fabrication concern, in a fraudulent conveyance lawsuit.*
- *Review and analysis of direct and rebuttal evidence regarding economic damages to recreational activities, for the U.S. Department of Justice.*
- *Decision analysis and calculation of economic damages in an ERISA discrimination lawsuit, for a major domestic manufacturing company.*
- *Financial, econometric and strategic planning analyses for an international engineering firm, engaged in the preparation of a strategic plan for the steel industry of Nigeria.*

ROBERT D. KNECHT

Economic Consulting (continued)

- Economic analysis and econometric modeling of import behavior in the domestic carbon steel and wire rope markets, for hearings before the U.S. International Trade Commission.
- Financial analysis and damage assessment for a major domestic law firm, in support of a major anti-trust suit involving the potential construction of a coal slurry pipeline.
- Economic analysis of imports of iron ore pellets into the U.S., for a major international iron ore producer.
- Construction of an economic model of domestic metallurgical coke demand, for the U.S. Environmental Protection Agency.
- Econometric analysis of energy demand, by energy type, region and sector, and management of a sectoral supply-demand model of energy production and use.

Management Consulting

Mr. Knecht has also provided management consulting services to various basic industrial clients, focusing primarily on planning and decision-making. Representative assignments are listed below.

- Competitive dynamics analysis of the world iron ore industry and preparation of strategic recommendations for a major South American mining company.
- Task leader in a management audit of a New Jersey natural gas local distribution company.
- Development of a strategic plan and various business plans for a domestic specialized producer of carbon and alloy steel bars.
- Economic analysis and financial modeling of labor and employee benefits costs for a large integrated steel producer. Preparation of recommendations for labor relations and bargaining strategies.
- Analysis for the restructuring of the marketing function of a large domestic manufacturing company, including market segmentation analysis, field interviews and competitor comparisons.
- Market survey and analysis of the domestic hot finished seamless steel tube markets, for a U.S. producer.
- Strategic and business plan development for a major Polish steel producer.

ROBERT D. KNECHT

EXPERT TESTIMONY SUBMITTED IN UTILITY REGULATORY PROCEEDINGS

Docket #	Regulator	Utility	Date of Testimony	Client	Topic of Testimony
RP-2003-0203	Ontario Energy Board	Enbridge Gas Distribution	May 2004	Vulnerable Energy Consumers Coalition et al.	Cost allocation, rate design for pipeline and storage costs
R-049157 P-042090	Pennsylvania Public Utility Commission	Philadelphia Gas Works	April 2004	Pennsylvania Office of Small Business Advocate	Cash receipts reconciliation clause
R-049108	Pennsylvania Public Utility Commission	National Fuel Gas Distribution	March 2004	Pennsylvania Office of Small Business Advocate	Uncollectible cost responsibility for standby charges
Application 1306819	Alberta Energy and Utilities Board	ENMAX Power Corporation	January 2004	Calgary Industrial Group Calgary Building Owners	T&D cost allocation, rate design, ratepayer equity funding
R-3492-2002 Phase 2	Régie de l'Énergie, Québec	Hydro Québec Distribution	November 2003	AQCIE, CIFQ	Rate policy, cross-subsidization
R-038168	Pennsylvania Public Utility Commission	National Fuel Gas Distribution	July 2003	Pennsylvania Office of Small Business Advocate	Cost allocation, deficiency assignment, rate design
R-3492-2002 Phase 1	Régie de l'Énergie, Québec	Hydro Québec Distribution	January 2003	AQCIE, AIFQ	Cost allocation; maintenance of historical cross-subsidization
M-021612	Pennsylvania Public Utility Commission	Philadelphia Gas Works	September 2002	Pennsylvania Office of Small Business Advocate	Natural gas restructuring, cost allocation, rate unbundling
R-027385	Pennsylvania Public Utility Commission	PG Energy (Southern Union)	July 2002	Pennsylvania Office of Small Business Advocate	Purchased gas cost incentive mechanisms.
1250932	Alberta Energy and Utilities Board	Aquila Networks Canada (Alberta) Ltd.	July 2002	Senior Petroleum Producers Association	Distribution plant and cost allocation, rate design.
R-027204	Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania	May 2002	Pennsylvania Office of Small Business Advocate	Purchased gas cost incentive mechanisms, rate design

ROBERT D. KNECHT

EXPERT TESTIMONY SUBMITTED IN UTILITY REGULATORY PROCEEDINGS

Docket #	Regulator	Utility	Date of Testimony	Client	Topic of Testimony
R-3477-2001	Régie de l'Énergie, Québec	Hydro Québec Distribution	May 2002	AQCIE, AIFQ	Classification/allocation of generation costs, subject to constant unit cost constraint.
1248859	Alberta Energy and Utilities Board	ESBI Alberta Limited	March 2002	IPPSA	Transmission congestion management principles
R-016378	Pennsylvania Public Utility Commission	Philadelphia Gas Works	August 2001	Pennsylvania Office of Small Business Advocate	Cost of gas; commodity price forecasting
R-016179	Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania	May 2001	Pennsylvania Office of Small Business Advocate	Recovery of CAP costs; PGC treatment of pipeline credits
R-005277	Pennsylvania Public Utility Commission	PFG Gas Inc. and North Penn Gas Company	November 2000	Pennsylvania Office of Small Business Advocate	Cost allocation, rate design.
R-3443-2000	Régie de l'Énergie, Québec	Société en commandite Gaz Métropolitain	November 2000	Industrial Gas Users Association (ACIG)	Tariff unbundling
990005	Alberta Energy and Utilities Board	ESBI Alberta Limited	November 2000	IPPSA	Location-based credits for transmission rates
R-005119	Pennsylvania Public Utility Commission	PG Energy (Southern Union)	July 2000	Pennsylvania Office of Small Business Advocate	Cost allocation, rate design, weather normalization
R-994788	Pennsylvania Public Utility Commission	PFG Gas, Inc. and North Penn Gas Company	February 2000	Pennsylvania Office of Small Business Advocate	Natural gas restructuring, retail access, tariff design
R-994785	Pennsylvania Public Utility Commission	National Fuel Gas Distribution Corp.	December 1999	Pennsylvania Office of Small Business Advocate	Natural gas restructuring, retail access, tariff design
R-994783	Pennsylvania Public Utility Commission	PG Energy, Inc.	November 1999	Pennsylvania Office of Small Business Advocate	Natural gas restructuring, retail access, tariff design

ROBERT D. KNECHT

EXPERT TESTIMONY SUBMITTED IN UTILITY REGULATORY PROCEEDINGS

Docket #	Regulator	Utility	Date of Testimony	Client	Topic of Testimony
99005	Alberta Energy and Utilities Board	ESBI Alberta Limited (Transmission Administrator)	September 1999	IPPSA	Transmission tariff cost allocation, rate design, industry restructuring
RE95080	Alberta Energy and Utilities Board	Alberta Power Limited	December 1998	Independent Power Producers Society of Alberta and SPPA	Electric industry restructuring, rate unbundling, cost allocation and rate design.
RE95081	Alberta Energy and Utilities Board	TransAlta Utilities Corporation	November 1998	IPPSA and Senior Petroleum Producers Assn.	Industry restructuring, cost allocation, rate design.
Expansion Feasibility Test	Public Utilities Board of Manitoba	Centra Gas Manitoba	August 1998	Simplot Canada Limited	Expansion feasibility and customer contribution methodology
R-984280	Pennsylvania Public Utility Commission	PG Energy, Inc.	August 1998	Pennsylvania Office of Small Business Advocate	Cost allocation, revenue deficiency assignment, rate design
EO97070455	New Jersey Board of Public Utilities	Atlantic City Electric Company	February 1998	New Jersey Board of Public Utilities	Industry restructuring, audit of unbundled rates
R-973981	Pennsylvania Public Utility Commission	Allegheny Power (West Penn Power)	January 1998	Pennsylvania Office of Small Business Advocate	Industry restructuring, cost unbundling, cost allocation, and rate design.
R-973954	Pennsylvania Public Utility Commission	Pennsylvania Power & Light	August 1997	Pennsylvania Office of Small Business Advocate	Restructuring, stranded costs, market price forecasting, cost allocation, and rate design.
1996 Electric Utility Tariff Applications	Alberta Energy & Utilities Board	TransAlta Utilities, Alberta Power Edmonton Power, Grid Company of Alberta	October 1996	Independent Power Producers Society of Alberta (IPPSA)	Industry restructuring; transmission cost allocation and rate design.
R-963612	Pennsylvania Public Utility Commission	PG Energy, Inc.	October 1996	Pennsylvania Office of Small Business Advocate	Cost allocation and rate design -- direct and rebuttal.

ROBERT D. KNECHT

EXPERT TESTIMONY SUBMITTED IN UTILITY REGULATORY PROCEEDINGS

Docket #	Regulator	Utility	Date of Testimony	Client	Topic of Testimony
R-953444	Pennsylvania Public Utility Commission	Trigen-Philadelphia Energy Corp.	November 1995	Pennsylvania Office of Small Business Advocate	Steam energy cost rate -- direct and rebuttal.
R-953406	Pennsylvania Public Utility Commission	T.W. Phillips Gas & Oil Company	October 1995	Pennsylvania Office of Small Business Advocate	Weather normalization, cost allocation and rate design.
R-953297	Pennsylvania Public Utility Commission	UGI Utilities, Inc. (Gas Division)	May 1995	Pennsylvania Office of Small Business Advocate	Cost allocation and rate design -- direct and surrebuttal.
R-943271	Pennsylvania Public Utility Commission	Pennsylvania Power & Light	April/May 1995	Pennsylvania Office of Small Business Advocate	Cost allocation and rate design -- direct and rebuttal
EBRO 488	Ontario Energy Board	Natural Resource Gas Limited	November 1994	Natural Resource Gas Limited	Customer classification, cost allocation and rate design.
RE92071	Alberta Public Utilities Board	Alberta Power Limited	November 1994	Independent Power Producers Society of Alberta	Cost allocation and rate design for export transmission service.
R-942986	Pennsylvania Public Utility Commission	West Penn Power Company	August 1994	Pennsylvania Office of Small Business Advocate	Cost allocation and rate design.
R-932862	Pennsylvania Public Utility Commission	UGI Utilities, Inc. (Electric Division)	March 1994	Pennsylvania Office of Small Business Advocate	Cost allocation and rate design -- direct, rebuttal and surrebuttal.
EBRO 485, and Generic Direct Purchase Hearings	Ontario Energy Board	Consumers' Gas Company, Ltd.	August 1993, September 1993.	Canadian Independent Gas Marketing Association	Classification and allocation of marketing and administrative costs.
Hearings for Cost of Service and Rate Design	Nova Scotia Utility and Review Board	Nova Scotia Power, Inc.	May 1993	Bowater Mersey Paper Company, Ltd.	Classification of bulk power costs, rate design for interruptible service and other rate design issues.

ROBERT D. KNECHT

EXPERT TESTIMONY SUBMITTED IN UTILITY REGULATORY PROCEEDINGS

Docket #	Regulator	Utility	Date of Testimony	Client	Topic of Testimony
Generic Hearing #4	Board of Commissioners of Public Utilities, Province of New Brunswick	New Brunswick Power Corporation	November 1991	Large Power Users Group	Review of cost allocation and rate design.
EBRO-473	Ontario Energy Board	Consumers' Gas Company, Ltd.	October 1991	Ontario Energy Board Staff	Cost allocation and rate design
EBRO-470	Ontario Energy Board	Union Gas, Ltd.	February 1991	Ontario Energy Board Staff	Cost allocation and rate design; evaluation of load shifting study.
Rate Area Boundaries Hearings	Prince Edward Island Public Utilities Commission	Maritime Electric Co., Ltd.	February 1991	Prince Edward Island Department of Energy and Forestry	Customer classification by geographical area.
EBRO-467	Ontario Energy Board	Centra Gas, Ltd.	January 1991	Ontario Energy Board Staff	Cost allocation and rate design for technology, cogen and bypass.
Arbitration Hearings	Arbitrator	ARINC, Inc.	July 1990	ARINC Inc.	Cost allocation and rate design for aircraft to ground data communications service.
EBRO-462	Ontario Energy Board	Union Gas, Ltd.	January 1990	Ontario Energy Board Staff	Seasonal cost allocation study, and allocation of costs to export markets.
NSPC-857	Nova Scotia Board of Commissioners of Public Utilities	Nova Scotia Power Corp.	February 1989	Interruptible industrial customers	Cost allocation and rate design of interruptible electric service.

May 2004

MARK D. EWEN

Mr. Ewen has a strong background in applied economics, empirical methodologies, and financial analysis. As a Principal at Industrial Economics, Incorporated, he focuses on case management and economic damages estimation in a variety of litigation contexts, regulatory and environmental economics, and financial analysis. Within his areas of expertise, Mr. Ewen has been qualified as an expert witness before judicial and regulatory bodies. Examples of Mr. Ewen's project work include the following.

- For the Commercial Litigation Branch of the U.S. Department of Justice (DOJ), providing case management support and assessing potential economic damages for contract litigation involving nuclear utility interests.
- For the Pennsylvania Office of Small Business Advocate, Mr. Ewen provides consulting and analytic support relating to natural gas tariff design, revenue requirements, and other regulatory initiatives concerning natural gas distribution utilities.
- Providing a variety of analytic support activities for the U.S. Environmental Protection Agency's (EPA) Office of Enforcement and Compliance Assurance, DOJ, state environmental enforcement officials, and private clients. These activities include: analyzing claims of inability to afford Superfund remediation costs or civil penalties; testifying as an expert witness on ability to pay; assessing the economic benefit derived by violators through non-compliance, conducting numerous related training seminars for enforcement personnel; and managing certain modifications and updates to two of EPA's financial computer models, ABEL and INDIPAY.
- For EPA's Office of Pesticide Programs, assessing the financial and operational impacts of the planned phase-out of Methyl Bromide on various users of the pesticide, to support EPA's review of Critical Use Exemption applications under the Montreal Protocol.

Mr. Ewen holds a B.A. summa cum laude in Economics and Political Science from the University of North Dakota and an M.P.P. from the University of Michigan. Prior to joining Industrial Economics, Incorporated, Mr. Ewen worked as an Intern at the Congressional Budget Office in Washington, D.C., a Research Assistant at the Economic Development Corporation of Lansing, MI, and a Teaching Assistant at the University of Michigan.

Litigation and Economic Damages

Other litigation support and economic damages assessment activities include the following projects.

- For a group of private plaintiffs, assessing economic damages and related financial impacts resulting from pollution discharges at a meatpacking facility.
- For the US Department of Interior, allocating liability among responsible parties for natural resource damages at a large Superfund site, including numerous mining entities.
- Providing case management and litigation support for DOJ concerning its enforcement actions against various coal burning power plants involving alleged violations of the Clean Air Act.
- For the State of Pennsylvania, providing internal expert analysis and discovery support related to the economic impacts of a landfill permitting effort.
- For the U.S. Coast Guard's National Pollution Funds Center (NPFC), developing guidance concerning the assessment of economic damages resulting from oil spills.
- For a private client, providing litigation and discovery support related to a natural resource damages claim in New Mexico.
- Providing case management and analytic support for DOJ in three lawsuits involving Alaskan timber interests. The support includes the financial and economic analysis of timber, sawmill, and pulp operations. In addition, this work has involved assessing the regional economic impact of pulp mill closures on the local economies of Southeast Alaska.
- For the US Fish and Wildlife Service, auditing and documenting Natural Resource Damage Assessment (NRDA) costs incurred by relevant Trustees related to a NRDA case in Maine.
- For a private client, providing support concerning the assessment and economic valuation of human health effects related to U.S. nuclear weapons testing in the U.S. Marshall Islands.

Regulatory and Environmental Economics

Mr. Ewen's additional experience in regulatory and environmental economics includes the following projects.

- For the National Oceanographic and Atmospheric Administration, conducting an economic impact assessment related to the designation of critical habitat for Pacific Salmon.
- For the Independent Power Producers Society of Alberta, providing analytic support relating to the development of an electricity congestion management plan in the Province.
- For EPA's Office of Drinking Water, conducting analyses to explore possible revisions to the Agency's affordability criteria for drinking water regulations.
- For EPA's Office of Pesticide Programs, conducting a program evaluation of its Reduced Risk Initiative for conventional pesticides.

Regulatory and Environmental Economics (continued)

- Reviewing the United States Postal Service's proposed cost allocation for postal rates in 1997 and 2000 on behalf of the Newspaper Association of America and the Office of the Consumer Advocate. This work includes submitting testimony regarding city carrier costs in the R2000 rate proceeding.
- For the US Fish and Wildlife Service, assessing economic impacts related to the designation of critical habitat under the Endangered Species Act.
- For EPA's Office of Solid Waste, assessing electricity market price impacts, along with operational and financial effects, of new regulations concerning the management of residues from the burning of fossil fuels at electricity generating facilities.
- Evaluating the ability of states to meet their cost share obligations associated with remedial actions at Superfund sites, for EPA. The evaluation utilizes a case study approach to analyze state financial capabilities, willingness of state officials and residents to fund cleanup activities, and actual state experiences with the Superfund program.
- For EPA's Office of Water, managing an assessment of the costs of water pollution control in the Chesapeake Bay Watershed. This analysis estimates the increase in annual compliance costs incurred by both the public and private sector to comply with the Clean Water Act and other pollution control programs that went into effect between 1972 and 1997.
- For Environment Canada, assessing the human health and environmental benefits of Canada's New Substances Notification Regulations (NSNR). The analysis utilizes a retrospective approach to evaluate the benefits that would have resulted had the NSNR been implemented in time to regulate the use of three substances: vinyl chloride, dichloromethane, and PCBs.
- Conducting a case study analysis for EPA's Office of Water of the costs and benefits of improved water quality on the Upper Mississippi and Potomac Rivers resulting from enhanced municipal wastewater treatment processes under the Clean Water Act.
- For the U.S. Environmental Protection Agency's (EPA) Office of Radiation and Indoor Air, Mr. Ewen developed a cost-benefit analysis of risk-based radiation clearance standards for the release of scrap metal from nuclear facilities. As part of this effort, Mr. Ewen has managed various aspects of the work, including developing an economic model to predict cost and human health impacts, providing strategic planning advice concerning expansion of the initiative to include "orphaned" radioactive sources and development of international clearance standards, and developing a communications strategy and public outreach materials.

Financial and Economic Analysis

The points below contain supplemental information on Mr. Ewen's financial economics work for various clients.

- For EPA, DOJ, U.S. Department of Agriculture, and a number of state environmental enforcement agencies, analyzing numerous ability-to-pay claims made by respondents concerning environmental enforcement lawsuits, including more than 125 corporations, 25 individuals, and several not-for-profit entities. These ability-to-pay analyses require a full review of the respondent's financial condition, including available cash flow, additional debt capacity, and unnecessary assets. Several cases have also involved the investigation of complex corporate organizations, including several with international ownership structures, to support the development of piercing the corporate veil or corporate control arguments.
- For EPA, assessing environmental regulatory costs to calculate the economic benefit of noncompliance.
- Preparing guidance documents for EPA enforcement personnel on developing maps of corporate structure and piercing the corporate veil.
- Participated as a witness in an "expert witness role play," presented with an EPA Administrative Law Judge presiding and Agency lawyers for attendees to the Fifth Annual Financial Analysts Workshop, U.S. Environmental Protection Agency, Boston, MA, July 2000. Session provided "live" testimony session to illustrate testifying techniques for financial analysts.
- Providing litigation support in legal action taken against a potentially responsible party (PRP) at a Superfund site, for DOJ. The support includes extensive deposition preparation activities, participating in mediated settlement negotiations; and generating acceptable settlement figures.
- For the Administrative Law Judges of the Mine Safety and Health Administration, developing and conducting a seminar on financial and economic analyses relevant to the enforcement of mine safety regulations.
- Conducting training on EPA's BEN, PROJECT, MUNIPAY, INDIPAY, and ABEL computer models for EPA and state environmental enforcement staff, and developing a four-day seminar on the advanced financial analysis of respondents. Mr. Ewen has presented this seminar for EPA and state environmental enforcement officials in seven EPA Regions. He has also presented courses on advanced economic benefit assessment.
- Managing the modification of certain EPA financial models, including changing the INDIPAY model to allow greater flexibility in the ability to pay assessment of individuals and updating the ABEL model to the Windows operating environment and incorporating other improvements.
- Analyzing academic literature relating to calculating the economic benefit a violator derives from delaying or avoiding compliance with environmental statutes, for improvements to EPA's BEN computer model.
- Conducting a financial and economic assessment of seven large pulp and paper facilities in Wisconsin.

Financial and Economic Analysis (continued)

- As part of his work for EPA's Office of Radiation and Indoor Air, Mr. Ewen supported the development of a communications strategy to help the Office implement the Clean Metals Program. This work includes identifying appropriate target audiences and developing a variety of public outreach materials, including briefing packets, letters, brochures and summary issue papers.

Selected Reports and Publications

Ewen, Mark D., "Sources of Financial Information for Ability-To-Pay Analysis," Proceedings of the Fourth Annual Financial Analysts Workshop, U.S. Environmental Protection Agency, Denver, CO, March 9-11, 1999.

The Costs of Water Pollution Control in the Chesapeake Bay Drainage Basin, prepared for the Office of Water, U.S. Environmental Protection Agency, September 30, 1998.

Valuing the Benefits of the New Substances Notification Regulations, prepared for the Environmental Protection Service, Environment Canada, August 1997.

Radiation Protection Standards for Scrap Metal: Preliminary Cost-Benefit Analysis, prepared for Office of Air and Radiation, U.S. Environmental Protection Agency, June 1997.

Ewen, Mark D. and Lisa A. Robinson, "Non-Economic Factors Influencing Scrap Metal Disposition Decisions at DOE and NRC-Licensed Nuclear Facilities," Proceedings of the Beneficial Reuse '96 Conference, Knoxville, TN, October 1996.

The Costs and Benefits of Municipal Wastewater Treatment: Upper Mississippi and Potomac River Case Studies, prepared for the Office of Water, U.S. Environmental Protection Agency, September 1995.

Testimony and Appearances

Mr. Ewen has provided expert reports and/or testimony in the following cases and regulatory proceedings.

- Expert testimony on ability-to-pay provided in U.S. v. Peter Thorson, Managed Investments, Inc., Construction Management, Inc., and Gerke Excavating, Inc. (No. 03-C-0074), May 2004.
- Expert testimony on ability-to-pay provided in U.S. v. Paul A. Heinrich and Charles Vogel Enterprises, Inc. (No. 03-C-0075-S), October 2003.
- Expert testimony on ability-to-pay provided in the matter of Dearborn Refining Company (No. RCRA-05-2001-0019), February 2003.
- On behalf of Pennsylvania's Office of Small Business Advocate, submitting testimony before the Pennsylvania Public Utility Commission, concerning recovery of purchased gas costs and revenue sharing for PFG Gas and Northern Penn Gas (Docket No. R-00027389, July 2002).
- Expert report and deposition testimony on economic damages in Carol Marmo et al. v. IBP, Inc.; expert report filed March 2002, deposition testimony given June 2002.
- On behalf of Pennsylvania's Office of Small Business Advocate, submitting testimony before the Pennsylvania Public Utility Commission, concerning recovery of purchased gas costs and revenue sharing for National Fuel Gas Distribution Corporation (Docket No. R-00016789, March 2002).
- On behalf of the Office of the Consumer Advocate, providing testimony before the United States Postal Rate Commission regarding cost allocation of city carrier street time costs. Docket No. R2000-1, July 11, 2000.
- Expert reports on economic benefit and financial impact in U.S. v. Didion Milling Company, Inc., dated November 5, 1999 (No. 99-C-0261-C).
- Expert report and declaration on ability-to-pay in re Indspec Chemical Corporation and Associated Thermal Services, Inc., and related testimony in U.S. EPA administrative court on February 24, 1998 (No. CAA-III-086).
- Expert report on ability-to-pay in re Harrisburg Hospital and First Capital Insulation, Inc. and related testimony in U.S. EPA administrative court on October 8, 1997 (No. CAA-III-076).

May 2004

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AUG 18 2004

EXHIBIT IEc-2

8-18-04 JES

HB6

12-204925

IEc PROPOSED DEFICIENCY ALLOCATION

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

EXHIBIT IEC-2
SUMMARY OF IEC PROPOSED DEFICIENCY ASSIGNMENT
(Dollars in Thousands Except as Noted)

	<i>Pa. Total</i>	<i>RS</i>	<i>RTS</i>	<i>GS-1</i>	<i>GS-3</i>	<i>LP-4</i>	<i>ISP</i>	<i>LP-5</i>	<i>IST</i>	<i>LP-6</i>	<i>LPEP</i>	<i>ISA</i>	<i>GII</i>	<i>SL/AL</i>	<i>L5-S</i>
Present Transmission Revenues	146,810	49,194	482	11,956	40,849	21,274	1,497	10,210	7,066	1,574	39	357	1,928	362	22
PPL Prop. Transmission Revenues	205,688	72,755	2,256	11,436	49,238	31,224	2,317	18,685	11,128	2,887	406	357	2,330	629	40
Transmission Deficiency	58,878	23,561	1,774	(520)	8,389	9,950	820	8,475	4,061	1,313	367	-	402	267	18
Transmission Percent	40.1%	47.9%	368.5%	-4.4%	20.5%	46.8%	54.8%	83.0%	57.5%	83.4%	952%	0.0%	20.8%	73.8%	83.4%
Present Distribution Tariff Revenues	495,418	293,920	3,513	61,460	84,182	21,873	1,757	1,774	1,717	283	314	662	6,222	17,705	36
IEC Prop. Distribution Tariff Revenues	657,763	411,021	5,509	70,587	109,028	27,180	1,847	1,793	1,152	185	404	661	7,779	20,534	83
Distribution Deficiency	162,345	117,101	1,996	9,127	24,846	5,307	90	19	(565)	(98)	90	(1)	1,557	2,829	47
Distribution Percent	32.8%	39.8%	56.8%	14.9%	29.5%	24.3%	5.1%	1.1%	-32.9%	-34.6%	28.7%	-0.2%	25.0%	16.0%	131%
Present Bundled Rate Revenues	2,723,474	1,082,018	23,568	217,923	680,289	346,739	20,224	173,341	80,940	28,520	4,691	5,597	34,673	23,814	1,137
Total Deficiency	221,223	140,662	3,771	8,607	33,235	15,257	910	8,494	3,496	1,215	457	(1)	1,958	3,096	65
Overall Percent	8.1%	13.0%	16.0%	3.9%	4.9%	4.4%	4.5%	4.9%	4.3%	4.3%	9.8%	0.0%	5.6%	13.0%	5.7%
Present Rate of Return	3.9%	2.0%	-4.3%	9.4%	7.4%	8.9%	12.4%	25.5%	91.9%	83.3%	8.1%	114%	7.6%	2.0%	5.2%
Proposed Rate of Return	8.8%	7.6%	-1.9%	12.3%	12.0%	13.2%	13.5%	26.2%	46.6%	44.5%	12.5%	114%	11.5%	4.5%	21.4%
Present RoR Differential	0.0%	-1.9%	-8.2%	5.5%	3.5%	5.0%	8.5%	21.6%	88.0%	79.4%	4.1%	110%	3.7%	-1.9%	1.3%
Proposed RoR Differential	0.0%	-1.2%	-10.7%	3.5%	3.2%	4.4%	4.7%	17.4%	37.8%	35.7%	3.7%	105%	2.7%	-4.3%	12.6%

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EXHIBIT IEc-3

8-18-04 JES

HB6

12-00 49255

ELECTRONIC WORKPAPERS



"IEc Workpapers.xls"



"PPL 2004
Distribution COSS.xls"



"PPL 2004
Distribution COSS wil"



"PPL 2004
Distribution COSS IEc"

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Note: Because the hardcopies of these exhibits are somewhat voluminous, these files are submitted in electronic spreadsheet format only. Paper copies may be obtained from the OSBA.

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OTS:

✓ Ex. No. 4	1036	1038
✓ Ex. No. 6R	1056	1058

EPSTEIN CROSS:

✓ Ex. No. 1	1121	1121
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PPL ELECTRIC CROSS:

✓ Ex. No. 5	1123	1123
✓ Ex. No. 6	1123	1123
✓ Ex. No. 7	1123	1123
✓ Ex. No. 8	1123	1123

OCA LKM-A:

✓ Ex. No. OCA LMK-A	1126	1127
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OSBA STATEMENT NO. 3

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

w/EXHS 3,
IEC-R1, IEC-R-2,
IEC-R3

PENNSYLVANIA PUBLIC UTILITY
COMMISSION

v.

PPL ELECTRIC UTILITIES
CORPORATION

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DOCKET NO. R-00049255

DOCKETED

AUG 18 2004

REBUTTAL TESTIMONY AND EXHIBIT OF

ROBERT D. KNECHT
and
MARK D. EWEN

ON BEHALF OF THE

OFFICE OF SMALL BUSINESS ADVOCATE

Date Served: July 27, 2004

Date Submitted for the Record: _____

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REBUTTAL TESTIMONY OF ROBERT D. KNECHT AND MARK D. EWEN

1 **1 Witness Identification and Summary of Conclusions**

2 **Q. Please state your names and describe your qualifications.**

3 A. We are Robert D. Knecht and Mark D. Ewen. We submitted direct testimony earlier in
4 this proceeding, and our qualifications were detailed therein. We are representing the
5 Pennsylvania Office of Small Business Advocate ("OSBA").

6 **Q. What is the purpose of your rebuttal testimony?**

7 A. We were asked by the OSBA to evaluate the cost allocation and revenue assignment¹
8 proposals of the following witnesses:

9 • *PPL Industrial Consumers Alliance ("PPLICA") witness Stephen Baron;*

10 • U.S. Department of Defense and All Federal Executive Agencies ("DOD/FEA")
11 witness Kenneth Kinchel;

12 • Pennsylvania Office of Consumer Advocate ("OCA") witnesses Richard Galligan and
13 Roger Colton;

14 • Pennsylvania Energy Consortium and Wal-Mart Stores East (together, "Wal-Mart")
15 witness James Selecky.

16 **Q. Please summarize your conclusions.**

17 A. Although there are a variety of cost allocation analyses for PPL's distribution costs, there
18 is universal agreement among the experts that almost all business customer classes are

¹ For this testimony, we use the term cost allocation as the formal study that allocates the utility's total cost, or its total revenue requirement, to each of the various rate classes. We define "revenue allocation" or "revenue assignment" as the process of determining how much revenue each class' rates will produce in the test year.

1 providing substantial subsidies to the residential and street-lighting classes.² These
2 subsidies exist regardless of which of the three cost allocation study methodologies is
3 used. The three cost allocation methodologies range from the PPL study at one extreme,
4 which allocates the most costs to residential and the smallest commercial customers (Rate
5 GS-1), to the OCA study at the other extreme, which allocates the least costs to the
6 classes with smaller customers. Moreover, the experts generally agree that it is desirable
7 to move rates more in line with allocated costs -- that is, the subsidies to the residential
8 and lighting classes should be reduced by assigning relatively larger rate increases to
9 those classes. The experts in this proceeding offer a variety of different approaches for
10 achieving that aim, with some proposals resulting in aggressive reduction of the subsidies
11 and some making no progress at all. As detailed in our direct testimony, the PPL
12 proposal actually increases subsidies to the residential classes, despite its stated goal not
13 to. (In essence, PPL's proposed rate increases are based almost strictly on the principle of
14 gradualism, and essentially ignore cost of service.) Considering the range of proposals
15 filed, we conclude that the proposal we presented in direct testimony represents a
16 reasonable middle course, that is consistent both with the principles of sound cost
17 allocation and gradualism.

18 As detailed in this rebuttal testimony, our specific conclusions can be summarized as
19 follows:

- 20 • Regarding transmission cost allocation, the critiques of witnesses Baron, Kincel and
21 Selecky have merit. PPL's transmission cost allocation proposal is not consistent with
22 the way it incurs those costs. Of the proposed alternatives, Mr. Baron's analysis is
23 most consistent with cost causation.
- 24 • Regarding transmission rate design, Mr. Baron's proposal will result in rates that are
25 likely to be unstable, particularly for residential and small business ratepayers. In this

² For the purposes of this testimony, we define "subsidy" as the difference between the costs assigned to a rate class and the revenues recovered from that rate class. Under this definition, if a class' rate of return on rate base is below system average, that class is being subsidized. Similarly, if a class' rate of return exceeds system average, it is providing a subsidy. For example, if the GS-1 class' rate of return is 12 percent while the system average return is 8 percent, the GS-1 class is providing a subsidy.

1 rebuttal testimony, we offer a modified version of Mr. Baron's proposal that will
2 result in transmission rates that vary less from year-to-year, while continuing to
3 recognize the cost causation principles that Mr. Baron espouses.

- 4 • Regarding distribution cost allocation, witnesses Baron, Kincel and Selecky all accept
5 PPL's filed study. While Mr. Galligan correctly identifies some conceptual problems
6 with PPL's study, he proposes an alternative study that is not consistent with cost
7 causation and ignores the inherent economies of scale of electric distribution. The
8 cost allocation study that we presented in direct testimony reasonably addresses Mr.
9 Galligan's legitimate concerns.
- 10 • Mr. Colton's proposal for allocating universal service costs is not consistent with cost
11 causation or sound regulatory economics principles.
- 12 • Mr. Galligan's proposal for assigning distribution revenues among rate classes is not
13 consistent with his own cost allocation study, and it is at odds with the cost of service
14 results used by all of the other witnesses. Mr. Galligan's proposal is particularly
15 unfair to small business customers in the GS-1 rate class.
- 16 • The differences in the distribution revenue assignment proposals of witnesses Baron,
17 Kincel, Selecky and ourselves primarily relate to issues of gradualism. These experts
18 agree that PPL fails to adequately reflect the results of the cost allocation study in its
19 revenue allocation. After reviewing the range of proposals, we conclude that the
20 proposal in our direct testimony is generally in the middle of the range, and that it
21 represents a reasonable balance between the rate design properties of gradualism and
22 cost of service.
- 23 • In this rebuttal testimony, we present a distribution revenue allocation at a lower
24 overall rate increase. For this purpose, we adopt OCA's recommended increase of
25 \$115 million.

1 **Q. Please outline the balance of your rebuttal testimony.**

2 A. Section 2 addresses the issues surrounding the allocation and recovery of transmission
3 costs. Distribution cost allocation and revenue assignment issues are addressed in
4 Sections 3 and 4 respectively.

5 **2 Transmission Cost Allocation and Rate Design**

6 **Q. Please summarize the issues associated with transmission cost allocation and rate
7 design.**

8 A. In the restructured electricity industry environment, electric distribution companies
9 ("EDC's") like PPL continue to provide electricity supply services to a significant number
10 of customers. In so doing, the EDC must purchase both generation and transmission
11 services to meet the demands of these customers. In this proceeding, generation costs are
12 not an issue, because PPL's generation rates remain capped pursuant to the settlement in
13 PPL's restructuring proceeding. However, the cap on transmission rates expires at the end
14 of this year.

15 PPL purchases its transmission services from a regulated transmission provider,
16 specifically PJM, which is a regional transmission organization (RTO) regulated by
17 FERC. PJM bills PPL for the transmission services that it requires under its Open Access
18 Transmission Tariff (OATT). Like other utilities, PJM recovers the cost of its services³
19 using a combination of energy charges, based on the kWh consumed by its customers
20 over the billing period, and demand charges, based on the peak demands of the customers
21 during the billing period.

22 Because PPL must be given a reasonable opportunity to recover these costs from its
23 customers, it needs to develop a method for allocating these costs to the various rate
24 classes, and to develop tariff charges for each class designed to recover those costs.

³ Transmission services have been unbundled into a variety of different components, including basic network service and various types of ancillary services, such as reactive supply and voltage control, black start capability, spinning reserve, operating reserve, etc.

1 **Q. What is PPL's proposal for transmission cost allocation and rate design?**

2 A. PPL proposes a simple approach, in which all transmission costs are allocated to the
3 various rate classes on the basis of energy consumed. PPL further proposes that the
4 transmission cost allocated to each class be recovered in a reconcilable energy charge.
5 Under this very simple methodology, the transmission energy charge for every PPL
6 customer (denoted "TSC" by PPL) is the same. For 2005, PPL forecasts that the charge
7 will be \$5.64 per MWh (0.564 cents per kWh).

8 **Q. Based on your review of intervenor testimony, how have the parties reacted to this
9 proposal?**

10 A. Mr. Baron, Mr. Kincel and Mr. Selecky all conclude that PPL's proposed cost allocation
11 is not consistent with cost causation, because the allocation of transmission costs does not
12 recognize that PJM's bill includes demand charges. They each present alternative
13 methods for properly allocating costs to the various classes.

14 **Q. Do you agree with these witnesses' cost causation arguments?**

15 A. Generally, yes. An EDC should pass through its transmission costs based on cost
16 causation. Therefore, each class' share of the PJM demand costs should be based on each
17 class' share of PPL's billing demand determinant under the PJM OATT. For example, if
18 the GS-3 class represents 18 percent of PPL's billing demand under the OATT, it should
19 be allocated 18 percent of the PJM demand charges. Similarly, if the GS-3 class
20 represents 24 percent of PPL's energy consumption, it should be assigned 24 percent of
21 the PJM energy charges.

22 By allocating all costs on the basis of energy, PPL's proposal over-assigns costs to the
23 higher load factor customer classes, and under-assigns costs to the lower load factor
24 classes.

25 **Q. Which of the witnesses' proposals is most consistent with cost causation?**

26 A. Based on our review, it appears that Mr. Baron has made the most accurate assessment of
27 cost causation. He segregates the PJM charges into demand and energy components
28 pursuant to the OATT, and allocates those costs separately. Both Mr. Selecky and Mr.
29 Kincel appear to propose allocating all transmission costs on a peak demand basis,

1 without recognizing that the PJM tariff contains both energy and demand components. In
2 addition, Mr. Baron correctly recognizes that the allocators for both energy and peak
3 demand should be measured at transmission voltage, and therefore class demands at the
4 meter should be adjusted for distribution system losses.

5 **Q. Are you therefore supporting all of Mr. Baron's recommendations?**

6 A. No. We agree conceptually with Mr. Baron that costs should be allocated on a cost
7 causation basis, and should include both demand and energy allocators. Moreover, we
8 agree with Mr. Baron that the peak demand allocator used to assign demand costs should
9 be consistent with each class' contribution to the PJM billing determinant.

10 However, the transmission cost issue involves both cost allocation and rate design
11 considerations. Under Mr. Baron's proposal, a rate design problem arises from a
12 combination of three factors.⁴ First, PJM's OATT bases the demand charge on a
13 relatively narrow peak period over the course of the year, using only the top five peak day
14 demands (5 CP).⁵ Second, PPL sometimes experiences those peak demands in the
15 winter, and sometimes in the summer. Over the past 4 years, PPL has peaked twice in the
16 summer and twice in the winter. Third, the class contribution to these peaks is very
17 different in the winter and the summer. On a relative basis, the residential classes (and
18 Rate GH) are strongly winter-peaking, because a comparatively high proportion of homes
19 have electric heating systems. By way of contrast, the commercial classes (GS-1, GS-3
20 and, to a lesser extent, LP-4) have relatively higher summer peaks, because a greater
21 proportion of commercial load is for air conditioning. Note also that this variability can
22 be extreme for the street lighting customer classes, whose load tends to be on during
23 winter peak periods but off during summer peaks.

⁴ We note that PPL proposes that its transmission service charge be reconcilable on an annual basis, whereas Mr. Baron proposes that his transmission charge be adjustable but not reconcilable. We do not take a position on reconcilability in this testimony.

⁵ To be more precise, PJM splits its zonal costs for the PPL zone based on a 5 CP allocator. Mr. Baron indicates that PJM costs allocated to PPL zone are based on 1 CP.

1 **Q. How does Mr. Baron propose to address the summer versus winter peaking issue?**

2 A. For transmission rates, Mr. Baron would prospectively develop two transmission charges
3 for each class, reflecting the class' share of demand-related and energy-related
4 transmission costs. As we understand Mr. Baron's proposal, he would use the prior year's
5 class contribution to the PPL 5 CP as the billing determinant for the demand-related
6 transmission costs.⁶ Thus, depending on whether PJM experienced a summer peak or a
7 winter peak in the prior year, the transmission charges for each individual class could
8 vary significantly from year to year.

9 **Q. Can you provide an example of the impact of peaks shifting from winter to
10 summer?**

11 A. Yes. Table IEc-R1 below provides an estimate of the impact on the transmission charges
12 for various rate classes using Mr. Baron's methodology, differentiated between summer
13 and winter peaks. Table IEc-R1 shows the average transmission rates that would be in
14 place if the prior year had a winter peak and the average transmission rates that would be
15 in place if the prior year had a summer peak. The third column shows the percent
16 difference between the two seasons. For example, the residential class transmission rates
17 would be 16 percent lower if the prior year had been summer-peaking than if it had been
18 winter-peaking, while the GS-1 rates would be 27 percent higher. Thus, if PPL continues
19 to experience changes in when its seasonal peak occurs, ratepayers would face significant
20 changes in transmission rates from year to year under Mr. Baron's proposal.

⁶ Mr. Baron's Exhibit SJB-5 does not explicitly state how the demand billing values are determined. However, his numerical examples indicate the use of a winter peak methodology, rather than an average approach as suggested by Mr. Kincel. In addition, PPL's current procedure for assigning demand-related transmission costs for shopping customers is based on the single prior year.

Table IEc-R1 Estimated Impact of Peak Season on PPLICA Proposed Transmission Rates (\$ per MWh)			
	<i>Winter Peak</i>	<i>Summer Peak</i>	<i>Percent Difference</i>
RS	\$7.1	\$6.0	-16%
GS-1	\$5.4	\$6.9	27%
GS-3	\$4.6	\$5.9	29%
LP-4	\$4.7	\$5.2	12%
GH	\$7.3	\$4.7	-36%
Lighting	\$7.2	\$1.5	-79%

- 1 **Q. Do you have a suggestion for reducing the potential volatility in transmission rates?**
- 2 A. Yes. Rather than rely on a single year for developing the transmission demand charge,
3 we recommend that PPL adopt a five-year rolling average approach for the demand cost
4 allocator. Under this approach, PPL would compute the PJM 5 CP load factor for each
5 rate class for each of the past five years.⁷ In some years, that load factor would likely be
6 based on a summer peak and, in others, a winter peak. This five-year rolling average load
7 factor would be applied to the forecast class energy demand, to determine the class
8 contribution to the transmission peak for the coming year. With a rolling average, the
9 extreme swings associated with PPL shifting back and forth from winter to summer are
10 avoided. Because a five-year average is used, the impact of adding the most recent year
11 to the allocation process results in a much smaller change from year to year than if the
12 most recent year is the only basis for allocating costs. To the extent that the PPL system

⁷ Load factor is the ratio of average demand to peak demand, and is usually expressed as a percent. For example, a customer that consumes 12,000 kWh over the course of the year has an average hourly demand of 1.37 kW (12,000 kWh divided by 8,760 hours/year). If that customer had a peak demand of 3 kW, its load factor would be 45.7 percent (1.37 kW divided by 3 kW). For the calculation that we contemplate, the peak demand would be the class' contribution to the PJM 5 CP. As Mr. Baron recommends, all allocators should be developed based on class demands and energy consumption at the transmission-distribution interface. For those classes served at distribution voltage, metered class demands and class energy readings should be adjusted upward for distribution system losses to reflect the class' requirements at transmission voltage.

1 continues its transition to a summer-peaking utility, the rolling average methodology will
2 recognize that trend and phase in the impacts.

3 **Q. Can you show the impacts of your proposal for 2005 transmission rates?**

4 A. Only on an approximate basis.⁸ However, based on the information available, we
5 estimate the impact on the major PPL classes in Table IEC-R2 below. That table
6 compares the transmission rates that PPL proposes with those that result from our
7 proposal. Thus, for example, PPL proposes a \$5.6 per MWh transmission charge for all
8 classes, whereas our proposal would assign a higher charge to the GS-1 class at \$6.2 per
9 MWh. Like Mr. Baron's proposal, our approach assigns more transmission cost to the
10 residential and general service classes, and less cost to the higher load factor industrial
11 classes. The specific calculations and assumptions used to derive these values are
12 presented in our rebuttal workpapers that will be distributed with this testimony.

Table IEC-R2		
Estimated 2005 PPL Transmission Rates, IEC Proposal		
(\$ per MWh)		
	<i>PPL Proposal</i>	<i>IEC Proposal</i>
RS	\$5.6	\$6.5
GS-1	\$5.6	\$6.2
GS-3	\$5.6	\$5.3
LP-4	\$5.6	\$4.9
GH	\$5.6	\$6.0
Lighting	\$5.6	\$4.3
Average	\$5.6	\$5.6

⁸ As shown in our workpapers, we only have class contribution to PJM peak demand for the past four years, and those data are aggregated for some rate classes. We therefore adopted a 50/50 weighting of winter peak and summer peak demand allocators as an estimate, since the last four years exhibited two summer and two winter peaks. Moreover, we do not have loss factors for energy consumption in this analysis.

1 **3 Distribution Cost Allocation Study**

2 **Q. Can you summarize the positions of the parties with respect to the cost allocation**
3 **study methodology?**

4 A. In its submission, PPL presented a cost allocation study that is consistent with the
5 methodology previously approved by the Commission for allocating distribution costs.
6 The key methodological attributes of that study are (a) primary distribution plant costs are
7 deemed to be all "demand-related," (b) secondary distribution plant costs are deemed to
8 be partly demand-related and partly customer-related, and (c) demand-related costs are
9 allocated to the various rate classes on the basis of non-coincident class peak (NCP)
10 demand. Further, PPL proposes to continue to use a "minimum system" approach for
11 segregating secondary plant costs between the demand-related and the customer-related
12 components.

13 In this proceeding, Mr. Baron, Mr. Selecky and Mr. Kincel all explicitly accept the PPL
14 study as a reasonable cost basis for developing distribution rates. In contrast, Mr.
15 Galligan rejects PPL's use of both a minimum system classification approach and the use
16 of a peak demand allocator for assigning demand-related costs. Mr. Galligan's testimony
17 includes an alternative simulation of the PPL cost allocation study, based on the use of a
18 "peak-and-average" allocator for all distribution plant costs.⁹ In our direct testimony, we
19 presented a modified cost allocation study that corrected a number of programming errors
20 in the PPL study, and that classified secondary distribution plant costs on the basis of
21 zero-intercept analysis and judgment.¹⁰

22 In our view, our study's methodology represents the moderate approach. It uses a
23 standard technique for addressing the concerns expressed by Mr. Galligan regarding the

⁹ Mr. Galligan's approach to allocating primary system plant costs is not clear from his testimony. At page 7, he indicates that he is not challenging PPL's allocation of primary system plant costs, but on page 19 he indicates that he allocates primary distribution costs using a peak-and-average allocator. Based on our review of Mr. Galligan's cost allocation study, he has done the latter.

¹⁰ Mr. Yarolin, who presents rate design testimony on behalf of the Office of Trial Staff (OTS), does not contest the PPL study methodology, nor does he explicitly endorse it. OCA witness Mr. Colton proposes a general change to the allocation of universal service costs, but he presents no specific proposal nor is his suggestion quantified in Mr. Galligan's study.

1 "minimum system" methodology while retaining fundamental distribution system cost
2 causation principles.

3 **Q. How different are the results of the various studies?**

4 A. While the results vary considerably, some consistent indications arise from all of the
5 studies. Table IEC-R3 below shows the class rate of return for the major distribution
6 voltage rate classes under the three studies filed in this proceeding at present rates.

Table IEC-R3			
Comparison of 2004 Cost Allocation Study Results			
Class Rate of Return, Present Rates			
	<i>PPL Study</i>	<i>OSBA Study</i>	<i>OCA Study</i>
RS	1.6%	2.0%	2.9%
RTS	-4.0%	-4.3%	-4.1%
GS-1	9.3%	9.4%	12.7%
GS-3	10.5%	7.4%	3.5%
LP-4	10.6%	8.9%	7.8%
GH	9.8%	7.6%	3.7%
Lighting	1.0%	2.0%	1.1%
Total	3.9%	3.9%	3.9%

7 As Table IEC-R3 shows, the residential, RTS and street lighting rate classes consistently
8 exhibit a class rate of return that is below system average under all of the studies.
9 Therefore, the cost evidence of the five intervenor witnesses and the company uniformly
10 indicate that these classes are being subsidized by the business classes. In addition, under
11 all of the cost allocation studies filed in this proceeding, the GS-1 and LP-4 classes are
12 providing significant subsidies to the residential and lighting classes. Finally, we note
13 that for most of the classes where there are significant differences between the PPL study
14 and the OCA study, the OSBA approach produces results that are between the two
15 extremes.

16 **Q. Mr. Galligan disagrees with PPL's use of the minimum system approach for**
17 **classifying secondary plant costs. What are his arguments?**

1 A. In summary, Mr. Galligan concludes that the minimum system plant has load carrying
2 capability, and that therefore the customer component of costs is overstated. He indicates
3 that PPL has not properly adjusted its allocation factors for the demand-related plant to
4 reflect the load carrying capability that is included in the customer plant.

5 **Q. Do you agree with Mr. Galligan's critique?**

6 A. Conceptually, Mr. Galligan is correct. The minimum system approach tends to include
7 some demand-related costs in the customer component, because the minimum plant used
8 has non-zero load carrying capability. However, Mr. Galligan's proposed solution to that
9 problem is not reasonable. His testimony makes the leap of faith that, because there is a
10 conceptual difficulty with the minimum system method, there is a zero customer
11 component to distribution costs. This leap of faith is counter to common sense. As we
12 detailed in direct testimony, distribution system costs have a demand component, that is
13 related to costs that increase with the amount of load carried on any particular piece of
14 equipment. For example, a 75 kVA transformer costs more than a 30 kVA transformer.
15 However, distribution systems also have a cost that is related to the number of customers
16 and the distance between customers on the system. For example, a typical residential
17 customer contributes about 2.5 kW to class peak demand, whereas a typical GS-3
18 customer contributes about 75 kW to class peak demand, a factor of 30:1. Common
19 sense indicates that it will cost PPL more in poles, conductors and transformers to serve
20 30 residential customers than it would to serve one 75 kW GS-3 customer. However, Mr.
21 Galligan proposes to allocate roughly 10 percent *more* of these costs to the one GS-3
22 customer than to the 30 residential customers.

23 In essence, Mr. Galligan rejects the notion that electric distribution systems exhibit
24 economies of scale. However, the existence of these scale economies is one of the
25 underlying reasons for establishing regulated electric utilities. Thus, while Mr. Galligan
26 does identify conceptual problems with PPL's method, his solution is to "throw the baby
27 out with the bath water."

28 **Q. Mr. Galligan also cites Professor Bonbright in support of his methodology. Can you**
29 **respond?**

1 A. Professor Bonbright was a fine economist with a good understanding of utility regulatory
2 economics. However, let's examine the citation that Mr. Galligan uses:

3 *" . . . But if the hypothetical cost of a minimum-sized distribution system is*
4 *properly excluded from the demand-related costs for the reason just given,*
5 *while it is also denied a place among the customer costs for the reason stated*
6 *previously, to which cost function does it then belong? The only defensible*
7 *answer, in our opinion, is that it belongs to none of them. Instead, it should*
8 *be recognized as a strictly unallocable portion of total costs And this is the*
9 *disposition that it would probably receive in an estimate of long-run marginal*
10 *costs. But fully-distributed cost analysts dare not avail themselves of this*
11 *solution, since they are the prisoners of their own assumption that 'the sum of*
12 *the parts equals the whole.'* They are therefore under impelling pressure to
13 *fudge their cost apportionments by using the category of customer costs as a*
14 *dumping ground for costs that they cannot plausibly impute to any of their*
15 *other cost categories."*¹¹

16 Since Professor Bonbright concludes that there are distribution related costs that are
17 "unallocable" and belong in no cost category, it is apparent that he does not agree with the
18 practice of fully allocated cost methodologies. We submit that this opinion is of little
19 relevance to this proceeding. The use of fully allocated cost methods is the standard
20 regulatory practice in Pennsylvania. While long-run marginal cost studies may be
21 beloved of theoretical economists, in practice, they rely on assumptions that are subject to
22 more debate than those used in embedded cost studies, and they produce results that vary
23 considerably from study to study. Moreover, Mr. Galligan has not proposed adoption of a
24 long-run marginal cost approach. We therefore need to develop some method for
25 allocating these non-demand costs to the various rate classes in some manner that reflects
26 how those costs are caused.

27 Second, Professor Bonbright indicates that the customer component of costs is being used
28 as a dumping ground for costs with no credible cost causation basis. We disagree. As
29 detailed in our direct testimony, the use of the combination of demand and customer
30 components explicitly recognizes that many small customers are more expensive to serve,
31 per unit of demand, than a few larger customers. As such, the use of the customer
32 component has a very "plausible" economic basis. Moreover, while the customer

¹¹ Principles of Public Utility Rates, Second Edition, Bonbright, Daniels, Kameschen, p492.

1 category of costs does have a plausible economic basis, Mr. Galligan's proposal to
2 allocate these costs on an energy basis does not. There is no causal relationship between
3 energy consumption and distribution costs. Thus, Professor Bonbright's argument is a
4 more powerful critique of Mr. Galligan's proposal than it is of PPL's.

5 In short, Professor Bonbright complains about a problem that does not exist, and his
6 solution is one that is not acceptable to the Commission.

7 **Q. Mr. Galligan also objects to the use of a peak demand allocator for assigning the**
8 **demand costs to the various rate classes. Do you agree?**

9 A. No. Mr. Galligan proposes to use what is called a "peak-and-average" allocator to assign
10 distribution plant costs to the various rate classes. This allocator reflects a combination
11 of the class' contribution to peak demand and the class' contribution to energy
12 consumption. Mr. Galligan offers two alternative reasons for this allocation. First, he
13 indicates that distribution plant costs are causally related to both peak demand and energy
14 consumption, because such plant delivers energy in both peak and off-peak conditions.
15 Second, he suggests that some distribution plant costs are not causally related to anything,
16 and that therefore an energy allocator is reasonable. For the reasons detailed above, some
17 distribution plant costs are causally related to the number of customers. Further, no
18 distribution plant costs are caused by energy consumption. Distribution plant is not sized
19 to meet average energy demand, and it is certainly not sized to be halfway between
20 average demand and peak demand as Mr. Galligan's proposed solution suggests. Each
21 component of the distribution system must be sized to meet the peak demand served by
22 that component. As Mr. Galligan himself indicates, "Moreover, prudent planning
23 requires the installation of transformers that do, in fact, meet the peak demand of all
24 customers served from the installed transformer . . ." ¹²

25 Consider the following example. There are two residential neighborhoods that are
26 virtually identical, except that one is a set of vacation homes used primarily in the
27 summer and one consists of homes that are lived in year-round. Both neighborhoods

¹² OCA Statement No. 4, page 11.

1 experience the same overall peak demand on hot days in the middle of the summer.
2 Because the distribution system must be sized to meet the peak demands for both
3 neighborhoods, the distribution costs associated with serving the two neighborhoods are
4 the same. However, because the vacation homes are only occupied for one or two months
5 per year, the energy consumption is much lower in that neighborhood. Under the PPL or
6 the OSBA cost allocation approach, the distribution costs assigned to each neighborhood
7 are the same. Under Mr. Galligan's approach, the vacation home neighborhood would be
8 assigned much lower costs than the year-round neighborhood. If Mr. Galligan's approach
9 were translated directly into rates, the year-round customers would need to subsidize the
10 vacation homes. Such a result is consistent neither with cost causation nor with fairness.

11 Cost causation therefore dictates that demand-related distribution costs be allocated using
12 peak demand allocators.

13 **Q. Are Mr. Galligan's proposals for classifying and allocating distribution plant costs**
14 **consistent with normal industry practice?**

15 A. No. As the NARUC Electricity Cost Allocation Manual indicates,

16 *"Distribution plant Accounts 364 through 370 involve demand and customer*
17 *costs. The customer component of distribution facilities is that portion of*
18 *costs which varies with the number of customers. Thus, the number of*
19 *poles, conductors, transformers, services and meters are directly related to*
20 *the number of customers on the utility's system. . . . [E]ach primary plant*
21 *account can be separately classified into a demand and a customer*
22 *component. Two methods are used to determine the demand and customer*
23 *components of distribution facilities. They are the minimum-size-of-*
24 *facilities method, and the minimum-intercept cost (zero-intercept or*
25 *positive-intercept cost, as applicable) of facilities."¹³*

26 Thus, NARUC explicitly recognizes that a customer component for distribution should be
27 recognized in a cost allocation study, and it explicitly excludes any energy-related
28 component of distribution costs.

29 **Q. Are there any computational errors in Mr. Galligan's cost allocation studies?**

¹³ "Electric Utility Cost Allocation Manual," National Association of Regulatory Utility Commissioners, January 1992, page 90.

1 A. Although we were not able to conduct an exhaustive review of Mr. Galligan's models,
2 there is at least one error. Mr. Galligan presents cost allocation studies for both 2003 and
3 2004, and he reports results at both present and proposed rates. For the 2003 study, Mr.
4 Galligan constructs a peak-and-average allocator based on the 2003 peak demands and
5 the 2003 energy consumption in each rate class. However, in Mr. Galligan's 2004 cost
6 allocation study, he appears to have used the same peak-and-average allocators as those in
7 his 2003 study. However, the peak demands and energy consumption levels for 2004 are
8 quite different than those in 2003. For example, the RS class primary peak demand was
9 47.3 percent of system total in 2003, but was 43.4 percent in 2004. Nevertheless, Mr.
10 Galligan uses the same peak-and-average allocator for both years, 45.6 percent. In effect,
11 Mr. Galligan has incorrectly applied 2003 allocators to the 2004 cost allocation study. As
12 such, his numerical results for 2004 are not consistent with his stated methodology.

13 **Q. In sum, what is your conclusion regarding Mr. Galligan's cost allocation studies?**

14 A. We do not believe that Mr. Galligan's studies represent a reasonable cost basis for
15 assigning revenues to the various rate classes, and we recommend that Mr. Galligan's
16 methodology be rejected by the Commission. We recommend that the Commission direct
17 PPL to submit a thorough zero-intercept analysis in its next base rates proceeding to
18 address the reasonable concerns that Mr. Galligan raises regarding the minimum system
19 approach. For the current proceeding, however, we conclude that the OSBA cost
20 allocation study represents a sound approach. We further conclude that PPL's study,
21 while it may modestly overstate the customer component of costs, is a more reasonable
22 basis for rate setting than the OCA methodology.

23 **Q. Let's turn to the allocation of universal service costs. Can you summarize the OCA**
24 **witnesses' position on this subject?**

25 A. Mr. Colton concludes that all rate classes benefit from PPL's universal service programs,
26 and therefore universal service costs should be allocated to all rate classes. He makes no
27 specific proposal as to how any such allocation should be made. Mr. Galligan, who
28 directed the preparation of OCA's cost allocation study, did not incorporate Mr. Colton's
29 recommendation. At page 21 of his testimony, Mr. Galligan suggests the possibility of an
30 energy or revenue allocation basis, but he provides no quantitative evaluation.

1 **Q. Do Mr. Colton's arguments meet the basic standard for allocating costs in utility**
2 **cost allocation studies?**

3 A. No. The basic standard for allocating costs is that of cost causation. As the NARUC
4 manual indicates, the cost allocation study should ". . . attribute costs to different
5 categories of customers based on how those customers cause costs to be incurred."¹⁴
6 There is no credible basis for arguing that business customers cause PPL to incur
7 universal service costs. Only residential customers are eligible to participate in these
8 programs. Increasing the number of residential customers will increase universal service
9 costs; increasing the number of business customers will have no impact on universal
10 service costs. (In fact, under Mr. Colton's logic, increasing the number of business
11 customers will increase employment and probably reduce universal service costs.)

12 Perhaps more importantly, *all* residential customers are eligible to participate in the
13 programs as necessary. As such, the universal service programs are something of an
14 insurance policy. Under basic cost causation and fairness logic, the customers who are
15 insured should pay for that insurance. Needless to say, business customers receive no
16 insurance at all from these programs.

17 In short, assigning universal service program costs to business customers is not consistent
18 with cost causation.

19 **Q. Can you respond to Mr. Colton's argument about the public good attribute of**
20 **universal service costs, and why businesses should pay for the public good?**

21 A. The essence of Mr. Colton's argument appears to be that businesses benefit from these
22 social programs and therefore should be required to pay for them. Such an argument
23 might have some appeal with respect to tax policy, where the government could equitably
24 impose the burden on all residences and businesses who benefit from these programs.
25 However, the matter at hand is not taxes; had the Pennsylvania legislature intended this to

¹⁴ "Electric Utility Cost Allocation Manual," National Association of Regulatory Utility Commissioners, January 1992, page 12.

1 be a tax policy, it could have paid for these programs directly out of general funds or a
2 specific universal service tax.

3 The matter at hand is electric distribution rates, paid only by consumers of electricity. For
4 his argument to be valid, Mr. Colton would presumably agree that the social policy
5 benefits to which he refers must provide a benefit to all businesses, both high users and
6 low users of electricity. It is difficult to understand why a small business that uses a
7 significant amount of electricity should pay much more for these universal service
8 benefits than the same sized small business that uses much less electricity. Nevertheless,
9 that is the implication of Mr. Colton's proposal.

10 Finally, we note that the use of non-quantifiable social benefits as a rationale for cost
11 allocation for regulated utilities represents a slippery logical slope. It could easily be
12 argued that growth in small businesses is a "public good." Small businesses employ large
13 numbers of individuals, and, as Mr. Colton indicates, they are often more willing to
14 employ disadvantaged and/or less skilled workers than larger companies. Moreover,
15 while small businesses fail (and start) on a regular basis, this business turnover does not
16 result in massive localized unemployment or the stranding of utility assets, as is the case
17 with the failure of large industrial firms. As such, a credit for small business could be
18 deemed to be a public good, and the cost of that credit allocated to all other classes.

19 Needless to say, we are not proposing such a credit. We conclude that non-quantifiable
20 social benefits are not a reasonable basis for cost allocation in utility rate proceedings.
21 We recommend that the cost causation standard be retained, and that universal service
22 costs, as well as any cost savings related to those programs, be allocated to the residential
23 class.

24 **Q. Mr. Colton indicates that universal service programs reduce uncollectibles costs. Is**
25 **that a legitimate reason for assigning these costs to business classes?**

26 A. No, quite the contrary. If, in fact, Mr. Colton's argument that universal service programs
27 reduce uncollectibles cost were shown to be true, this reduction in costs would be
28 reflected as lower costs for the residential class in PPL's cost allocation study. Mr. Colton
29 therefore proposes that the *increased* costs of the programs be spread over all the classes,

1 but the possible *decrease* in costs be assigned only to the residential class in the form of
2 reduced uncollectibles costs. Similarly, the reductions in collections costs that Mr.
3 Colton argues are attributable to universal service programs are also disproportionately
4 beneficial to residential customers in PPL's cost allocation study. Thus, Mr. Colton's
5 proposal involves an inequitable mis-match between the assignment of the increased
6 costs of the programs to each rate class, and the assignment of any associated cost
7 savings.

8 **Q. Do you have any concluding comments on the subject of universal service cost**
9 **allocation?**

10 A. As Mr. Galligan admits in his direct testimony, the general service classes have been
11 subsidizing the residential class since at least 1995, and probably for time immemorial. It
12 appears that the OCA witnesses' proposal in this proceeding is to explicitly add the cost
13 of the universal service programs to the general service classes' cost basis, but to continue
14 the historical cross-subsidy as well. This double-dipping in meeting the social needs of
15 the residential class is particularly inequitable.

16 **4 Assigning PPL's Distribution Revenues**

17 **Q. Can you summarize the various intervenor proposals regarding assignment of**
18 **distribution revenues?**

19 A. We have compiled the proposals of PPL and witnesses Baron, Galligan, Kincel, Selecky
20 and ourselves in Exhibit IEc-R2, attached to the end of this testimony. The first page of
21 that exhibit summarizes the proposals at the full revenue requirement, and the second
22 page shows the revenue assignment at a lower overall rate increase. For comparison
23 purposes, we have used the OCA distribution revenue increase of \$115 million.

24 In brief, the positions of the experts are as follows. Mr. Galligan (OCA) supports the PPL
25 filed proposal, at both a full and a reduced rate increase. Mr. Selecky (Wal-Mart)
26 supports the PPL filed proposal at the full revenue increase, but proposes that any
27 reduction to that increase be assigned to those classes that over-recover costs. We, Mr.
28 Baron (PPLICA), and Mr. Kincel (DOD/FEA) all recommend that the results of the cost

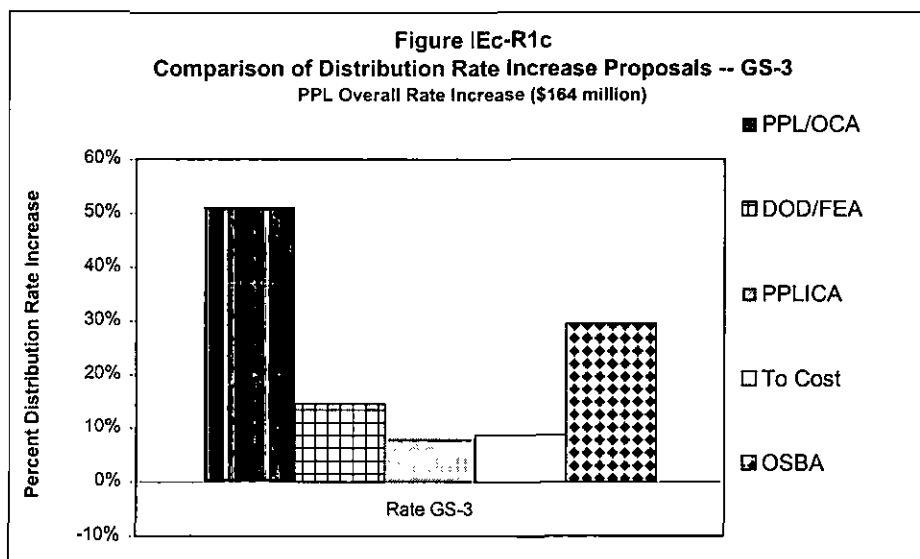
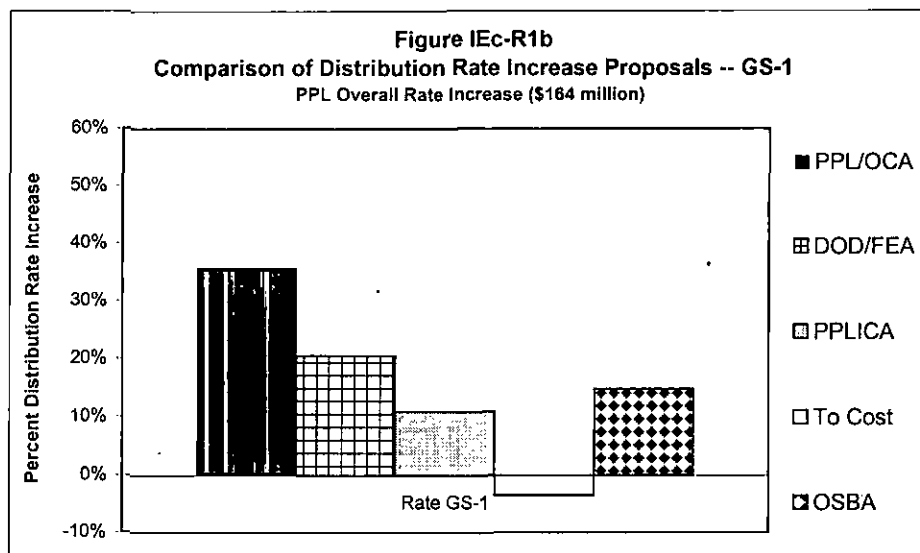
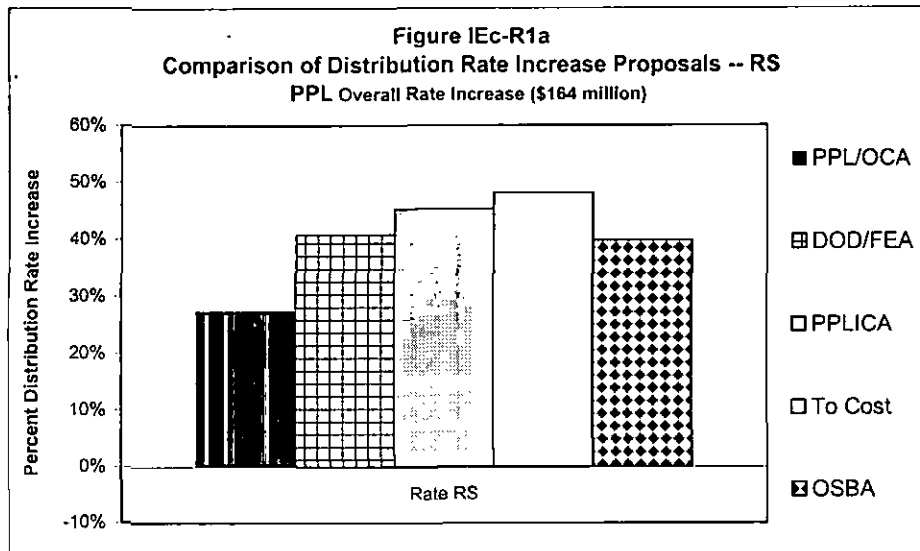
1 allocation study be more specifically recognized in the assignment of revenues.¹⁵ In
2 essence, our position is: "You've got a cost allocation study; why don't you use it?"

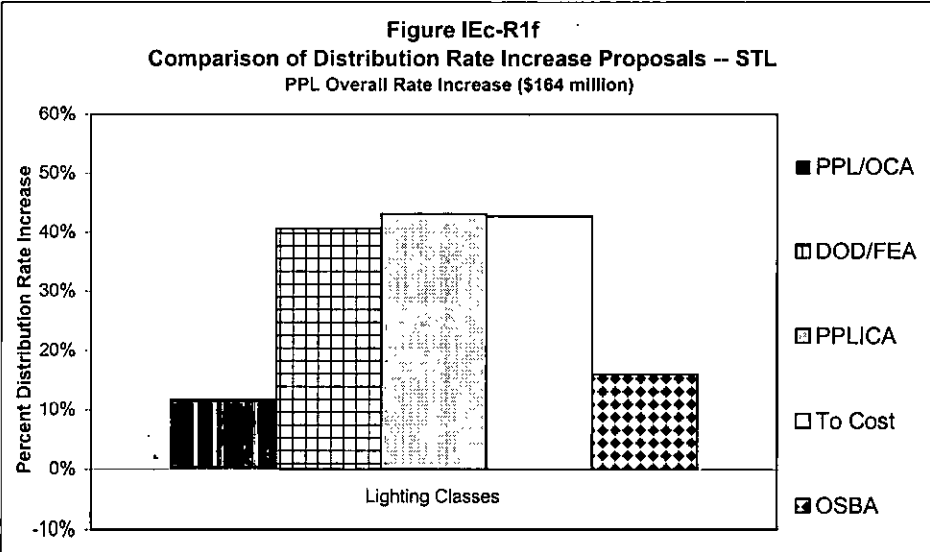
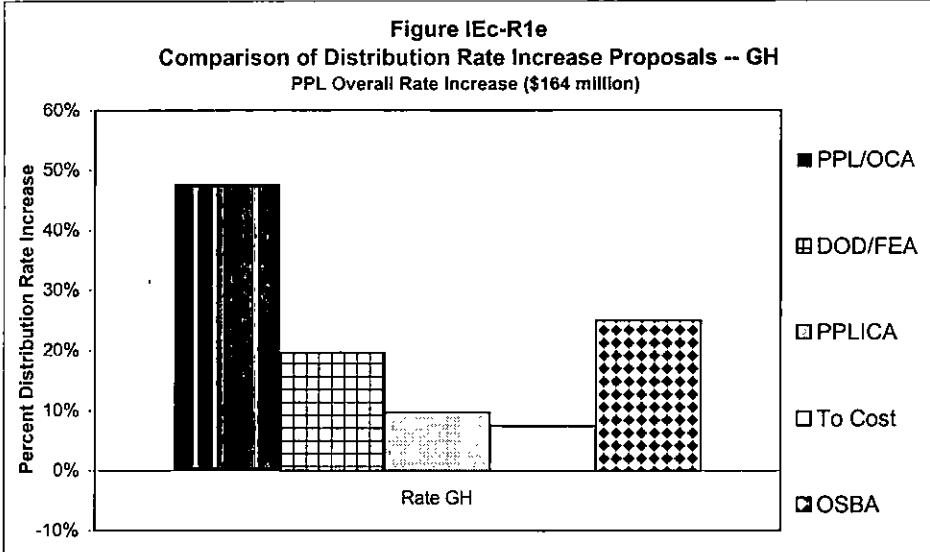
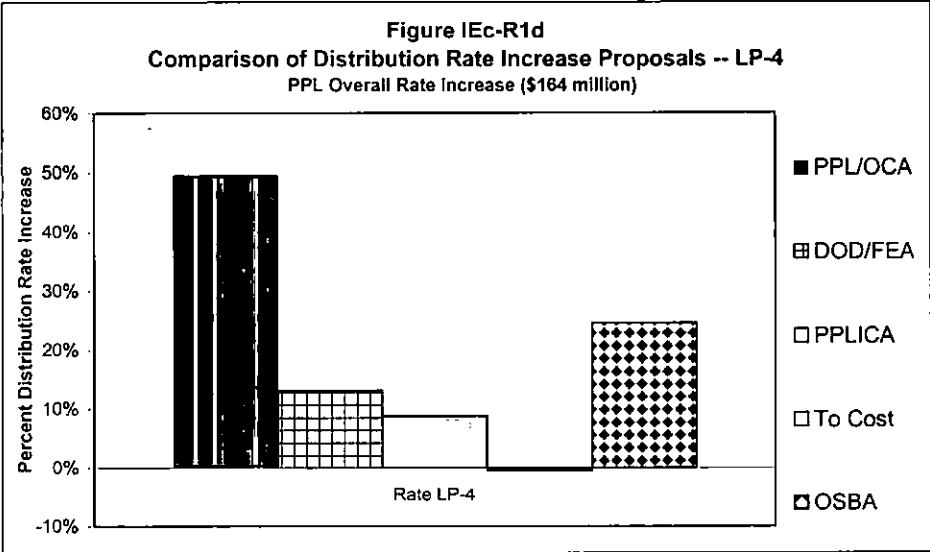
3 Much of the difference between our respective positions relates to judgmental
4 considerations regarding how quickly rates can reasonably be moved in line with costs
5 (i.e., "gradualism"). A summary of the various proposed distribution rate increases for
6 the major distribution voltage rate classes is shown in Figures IEc-R1a to IEc-R1f on the
7 next few pages. Each figure shows the percentage distribution rate increase for a
8 particular class, as proposed by the various parties, at PPL's full proposed revenue
9 requirement. Each figure also depicts the distribution percentage increase for that class
10 that would be necessary to fully bring the rates in line with costs, as measured in the IEc
11 cost allocation study.

12 For example, PPL and OCA propose a 28 percent distribution increase for the residential
13 RS class. To bring rates in line with costs, the RS class would need to be assigned an
14 increase of about 48 percent. The other parties propose increases ranging from 40 to 45
15 percent, with our proposal being at the low end of that range.

16 As we discussed in our direct testimony, because PPL proposes a relatively low rate
17 increase for the residential and lighting classes that are already subsidized, it must impose
18 relatively high increases on the other rate classes, making the subsidization worse. By
19 relaxing that constraint, the other parties are able to impose below-average increases on
20 the business classes and thereby move rates more in line with costs. As shown in the
21 following figures, the OSBA proposed rate increases tend to lie between those of the
22 original PPL proposal and those of the other parties.

¹⁵ Although we use a somewhat different cost allocation study than the PPL/Baron/Kinzel/Selecky model, we believe that our revenue allocation proposals are reasonable if the PPL cost allocation methodology is adopted by the Commission.





1 **Q. Let's review the various proposals in turn. Can you comment on Mr. Selecky's**
2 **proposal?**

3 A. At the full distribution revenue increase, Mr. Selecky proposes to adopt PPL's proposed
4 revenue assignment, apparently for reasons of gradualism. As detailed in our direct
5 testimony, this approach actually moves distribution revenues further away from allocated
6 costs. For example, under the PPL proposal, GS-3 customers are assigned a 51 percent
7 increase in distribution rates compared to a system average increase of 33 percent.
8 However, the cost allocation study upon which Mr. Selecky relies shows that GS-3
9 customers substantially over-recover costs under present rates, which suggests that GS-3
10 customers should be assigned a below system average increase. For the reasons stated in
11 our direct testimony, we believe that there is greater room within the constraints of
12 gradualism for progress toward cost based rates, even at PPL's full revenue requirement.

13 At the reduced rate increase, however, Mr. Selecky's proposal is more consistent with the
14 cost allocation study results. He retains the originally proposed rate increases for the
15 residential and street lighting classes, but reduces the revenue assigned to general service
16 and industrial customers. At the reduced revenue requirement, the system average
17 distribution increase is 22.9 percent, where Mr. Selecky proposes increases of 14.3
18 percent for GS-1, 17.7 percent for GS-3 and 17.5 percent for LP-4. At these levels, Mr.
19 Selecky's proposals provide for progress toward cost-based rates for these specific rate
20 classes.

21 We note that a couple of aspects of Mr. Selecky's proposals are unclear. First, he presents
22 recommendations for assigning a reduction in the overall revenue increase to some
23 classes, but excludes the GH class, which exhibits a high class rate of return in his cost
24 allocation study. It is unclear whether Mr. Selecky overlooked the GH class, or is
25 proposing no adjustment. Second, Mr. Selecky indicates that he supports the overall 10
26 percent cap on rate increases for the various rate classes. However, Mr. Selecky also
27 supports modifying the transmission cost allocation and rate design method from that
28 proposed by PPL. It is unclear how Mr. Selecky proposes to combine the effects of
29 changed transmission cost responsibilities with the ten percent overall rate cap.

1 **Q. Do you have any concerns about Mr. Baron's approach?**

2 A. For the rate classes who take service at distribution voltage, the primary differences
3 between the approach that we offered and that proposed by Mr. Baron are the following.
4 First, we relied on a somewhat different cost allocation study than did Mr. Baron. On a
5 relative basis, our study assigns more costs to the GS-3 and LP-4 classes than Mr. Baron's
6 does, and our revenue allocation proposals reflect that difference. Second, Mr. Baron's
7 bases his recommendations more on cost of service and less on gradualism than we do.
8 Of perhaps greatest concern to us are Mr. Baron's proposals for increases to the RTS and
9 Lighting classes. On a total bill basis, Mr. Baron proposes increases of 38.4 percent for
10 RTS customers and over 40 percent for one class of lighting customers, compared to a
11 system average of 8.1 percent.

12 For residential customers, Mr. Baron proposes an overall increase of 16.3 percent. While
13 this figure is somewhat more aggressive than our proposal, it is within the limit of what
14 we consider to be reasonable. Thus, with the exception of the proposed increases for
15 RTS and the lighting classes, we conclude that Mr. Baron's recommendations are not
16 unreasonable.

17 **Q. How about Mr. Kincel's proposal?**

18 A. Like Mr. Baron, Mr. Kincel relies on PPL's cost allocation study, and proposes relatively
19 large rate increases for the RTS and Lighting classes. On a total bill basis, his proposed
20 increases come to 44 percent for RTS customers and 30 percent for the Lighting classes.
21 However, Mr. Kincel's proposed increase for the RS class (14.5 percent on a total bill
22 basis) is somewhat less aggressive than Mr. Baron's, thereby leaving less room for
23 progress toward cost-based rates for the commercial and industrial classes. Overall, Mr.
24 Kincel's proposed increases for commercial customers are therefore somewhat higher
25 than those proposed by Mr. Baron, but they are low enough to provide for some progress
26 toward cost-based rates. As with Mr. Baron's proposal, excepting the RTS and Lighting
27 class increases, Mr. Kincel's proposals are reasonable.

28 **Q. Despite proposing an alternative cost allocation study, Mr. Galligan supports PPL's**
29 **assignment of revenues. Can you comment on Mr. Galligan's recommendation?**

1 A. As detailed above, we do not agree that Mr. Galligan's methodology for cost allocation is
2 consistent with sound economic principles or cost causation. As such, we do not believe
3 that his cost allocation study is relevant for assigning revenues. However, the PPL
4 revenue allocation is not consistent with Mr. Galligan's cost allocation study either,
5 particularly for GS-1 customers. Consider the following comparison of residential and
6 GS-1 customers' costs and rates, shown in Table IEC-R4 below.

Table IEC-R4			
Implications of OCA Revenue Allocation Proposal for 2004			
Class Rates of Return at Present Rates			
	<i>RS Class</i>	<i>GS-1 Class</i>	<i>System</i>
PPL Study: Class RoR	1.6%	9.3%	3.9%
OCA Study: Class RoR	2.9%	12.7%	3.9%
Proposed Distribution Incr.	27.5%	35.8%	32.8%

7 As we explained in direct testimony, under the PPL study, the residential class had a class
8 rate of return below system average (it was being subsidized) and the GS-1 class had a
9 class rate of return above system average (it was providing a subsidy). Progress toward
10 cost-based rates would require that the residential class be assigned a proportionately
11 larger increase than the GS-1 class. In fact, PPL proposed the reverse.

12 Mr. Galligan makes the same kind of proposal, only it is even more extreme in light of
13 his cost allocation study. In his study, the GS-1 class is providing an even greater subsidy
14 to the other classes than that found in the PPL study. Since his study assigns less cost to
15 the GS-1 class, and because PPL proposes a very stiff increase for that class, one would
16 expect Mr. Galligan to propose a lower increase. Despite the results of his study,
17 however, he proposes to adopt the exorbitant PPL increase for that class.

18 In short, we conclude that Mr. Galligan's proposed revenue assignment is not consistent
19 with his cost allocation study. Thus, even if Mr. Galligan's study were adopted, some
20 different assignment of the revenue would be necessary.

1 **Q. In the attached Exhibit IEc-R2, you present a comparison of the revenue allocation**
2 **at a lower overall increase from the various intervenor witnesses. Do you have a**
3 **specific proposal for that event?**

4 A. Yes. In making this proposal, we considered the overall revenue requirement testimony
5 of the OTS witnesses, the OCA witnesses and the DOD/FEA witnesses. Based on the
6 range of results from those witnesses, we have adopted the OCA distribution revenue
7 increase of \$115 million. We adopt that level because it lies generally in the middle of
8 the range between the OTS proposal (approximately \$83 million) and the DOD/FEA
9 maximum increase (\$132 million). It is also reasonably consistent with the examples of
10 Mr. Baron (\$120 million) and Mr. Selecky (\$112 million).

11 In addition, we have considered the gradualism implications of modifying the
12 transmission allocation and rate design proposal pursuant to our recommendations in
13 Section 2 above.

14 In developing our recommendation, we prepared a revised cost allocation study using the
15 methodology detailed in our direct testimony, but modified for the OCA revenue
16 requirement.¹⁶ This study uses the same methodology that we employed in our direct
17 testimony, and it makes the specific revenue requirement adjustments recommended by
18 OCA. As such, it accurately represents the implication of the OCA revenue requirement
19 proposal on each rate class. For example, OCA's proposed reductions in pension costs
20 are allocated to each rate class pursuant to the cost allocation model's pension cost
21 allocation. In general, the results of this study show the same basic pattern as that in our
22 original study, except that all of the class rates of return have improved because the
23 overall level of costs has declined.¹⁷ The specific rate-of-return implications of this study
24 are shown in Table IEc-R5 below.

¹⁶ This cost allocation study is included in our rebuttal workpapers, which will be circulated in electronic format with this testimony.

¹⁷ Rates of return, even at present rates, improve under the OCA scenario for the following reason. Rate of return is income divided by rate base, and income is revenue minus costs. In both the PPL and OCA scenarios, present rates produce the same amount of revenues. However, OCA proposes that certain costs be excluded from PPL's revenue requirement. By lowering the allowed costs, the overall PPL income is higher, and therefore the return on rate base at present rates is also higher.

Table IEc-R5		
Comparison of 2004 IEc Cost Allocation Study Results		
Class Rate of Return on Rate Base at Present Rates		
	<i>Full Increase</i>	<i>Reduced Increase</i>
RS	2.04%	2.57%
RTS	-4.30%	-3.99%
GS-1	9.42%	9.89%
GS-3	7.44%	7.81%
LP-4	8.94%	9.33%
GH	7.57%	7.93%
S/L	2.03%	2.40%
<i>Total</i>	<i>3.91%</i>	<i>4.38%</i>

1 In developing our proposed revenue allocation at the lower overall rate increase, we also
2 considered the proposals of Mr. Baron and Mr. Kinzel for distribution rate changes for
3 the transmission voltage classes. Further, we retained our overall constraint that no class
4 face an overall rate increase that is more than twice system average. Our specific
5 proposal is presented in the attached Exhibit IEc-R1.

6 **Q. Can you comment generally on how you developed the proposal as shown in the**
7 **attached Exhibit IEc-R1?**

8 A. Yes. The key consideration in determining the allocated class revenues in this proceeding
9 is the maximum increase allowed for the subsidized rate classes. In our approach, we
10 specified an explicit cap on the overall increase for the RTS, lighting and residential rate
11 classes. Similar to our approach in our direct testimony for the full revenue requirement,
12 we set the overall RTS rate cap at about twice the system average increase. At the lower
13 distribution revenue requirement, the system average increase is about 6.3 percent, so we
14 set the RTS cap at 13 percent. We also set the lighting class cap at 13 percent and the RS
15 class at 11 percent. With those caps in place for the overall increase, we deducted the
16 estimated increases in transmission rates resulting from our proposal in section 2 above.

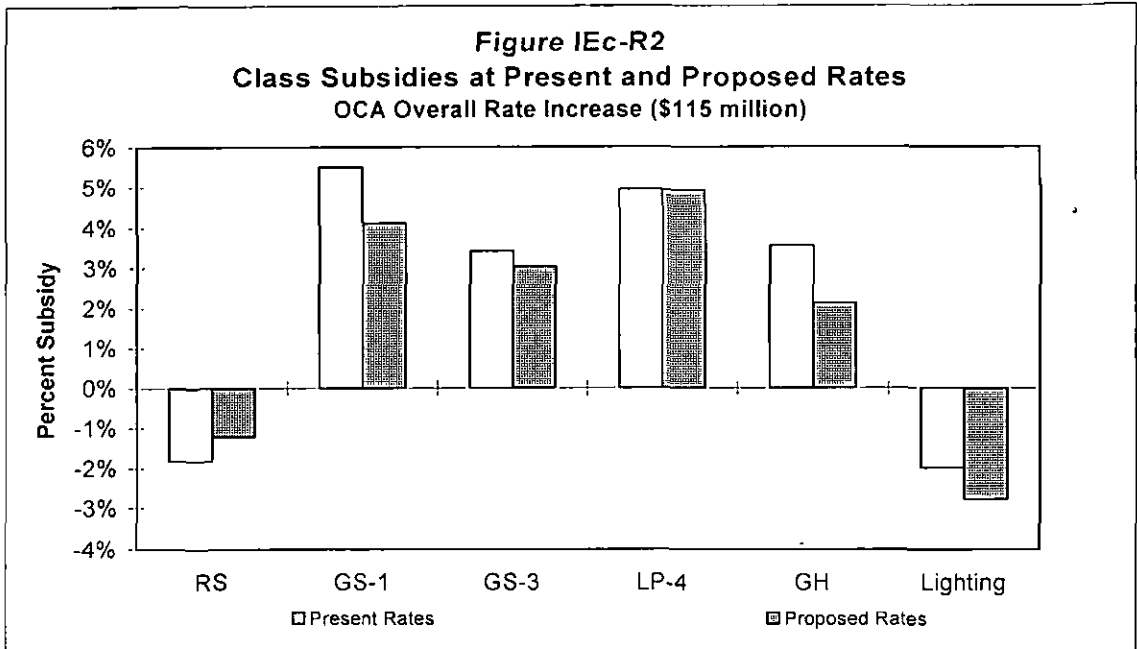
1 This difference between the capped total bill rate increase and the transmission rate
2 increase represented the amount that distribution rates could be increased within the cap.
3 For the RS class, this method resulted in a distribution increase of 29 percent, somewhat
4 above the average distribution increase of 22.9 percent. This increase serves to modestly
5 reduce the subsidy to the residential class. However, in the case of the RTS and lighting
6 classes, the overall cap on the increase allows for only below-system-average rate
7 increases, and the subsidies to those classes therefore increase.

8 For the remaining classes, we used our judgment regarding distribution rate increases to
9 try to recognize both the overall distribution revenue requirement, the effects of the
10 transmission rate proposal, and the results of our distribution cost allocation study. For
11 most rate classes, the distribution rate increase that we propose will result in a reduction
12 in the subsidy that is being provided by each rate class.

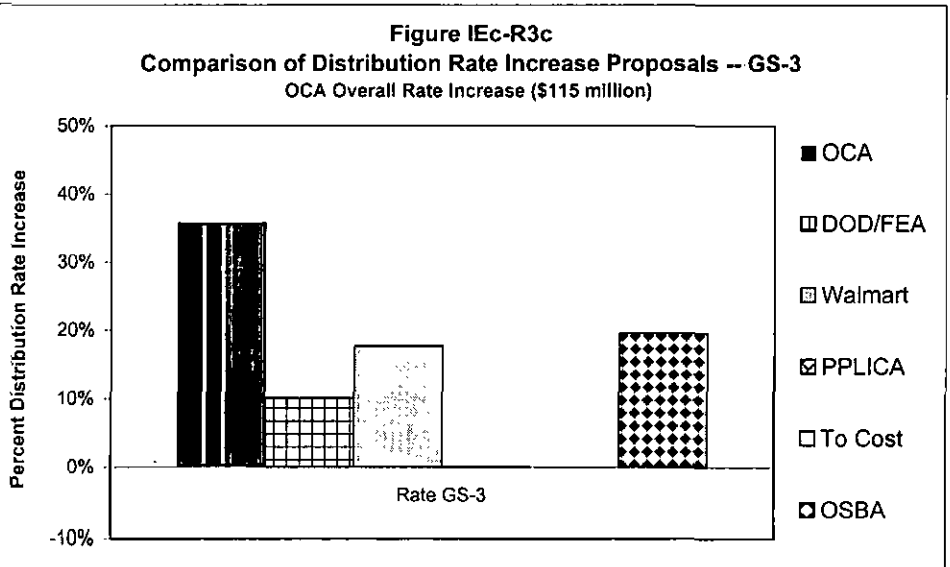
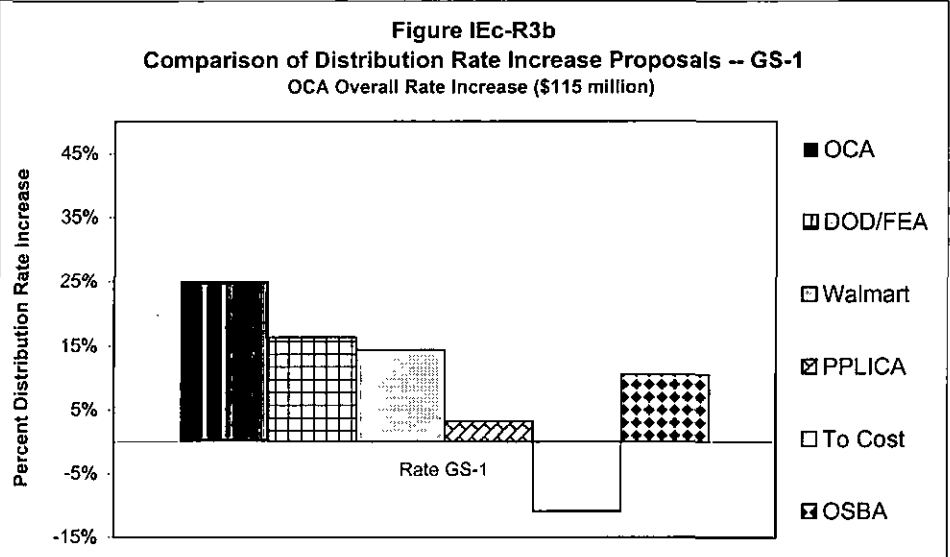
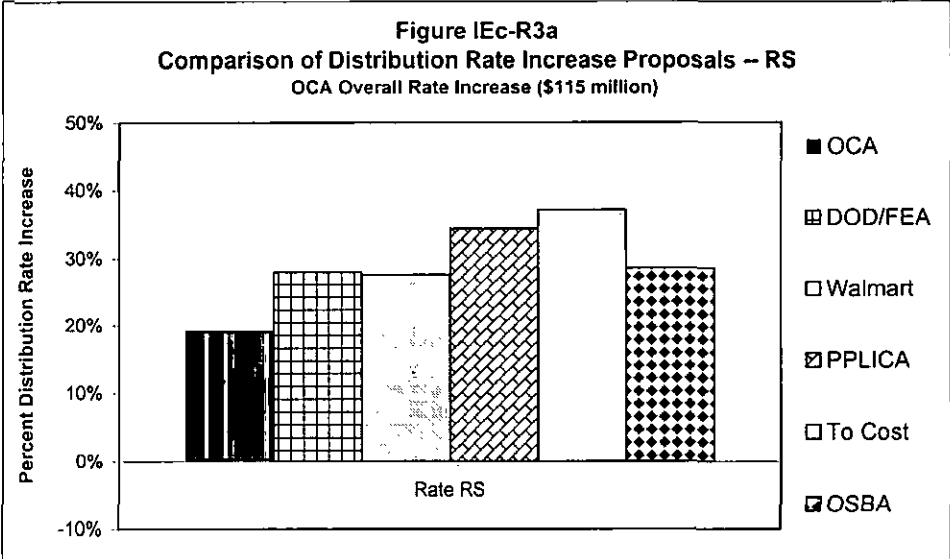
13 **Q. Can you provide a graphical depiction of the impact of your proposed distribution**
14 **revenue allocation on the subsidies to and from the various rate classes?**

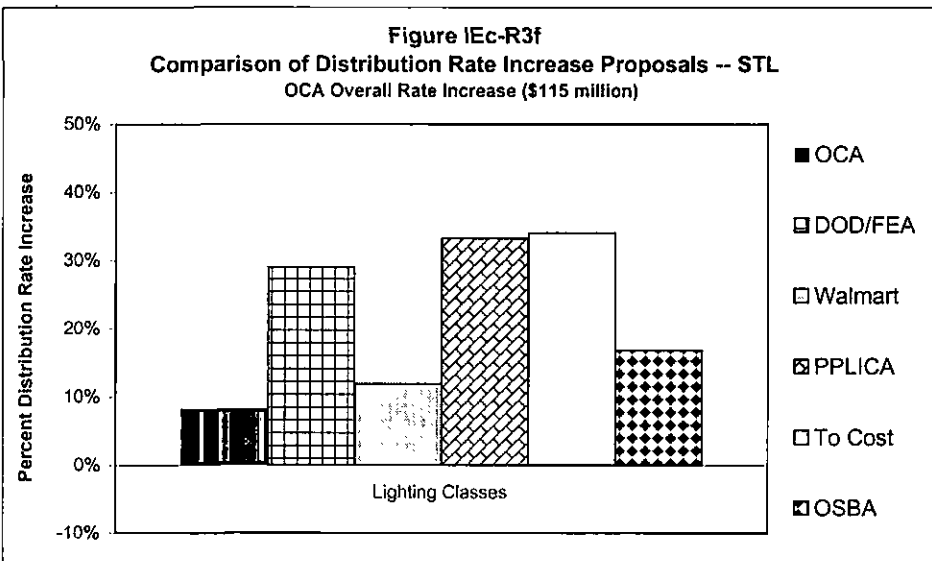
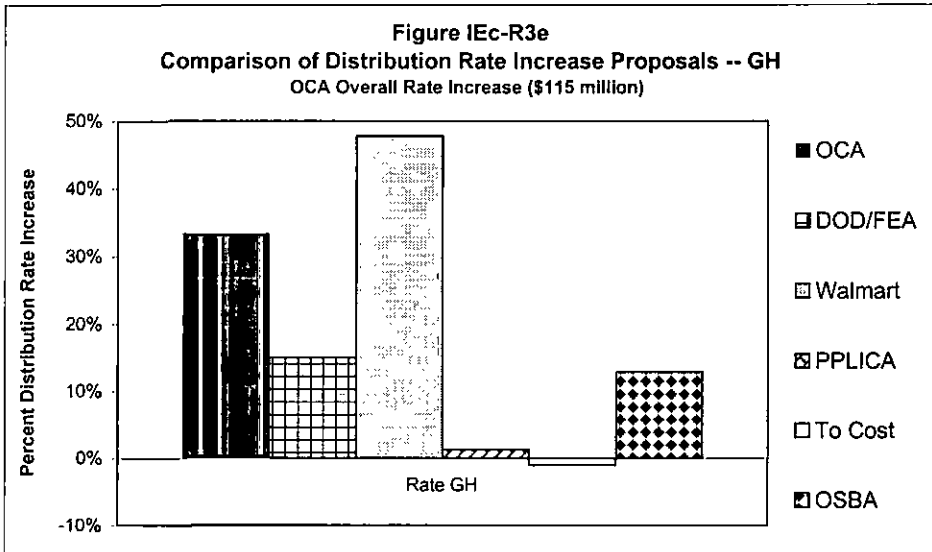
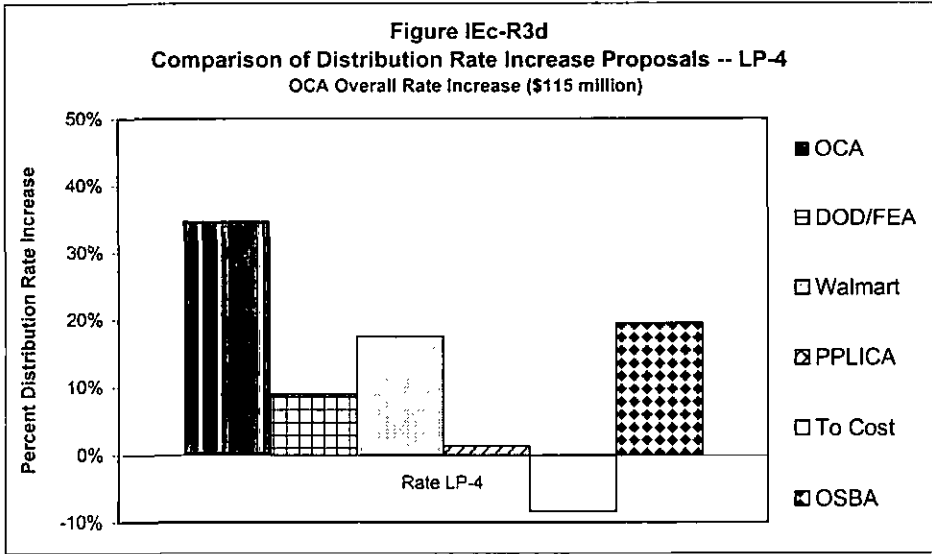
15 A. Figure IEC-R2 below shows the subsidy for each class under both present and proposed
16 rates, using our cost allocation study, at the overall rate increase proposed by OCA (\$115
17 million). The subsidy depicted in Figure IEC-R2 represents the difference between each
18 individual class' rate of return and the system average rate of return. For example, under
19 present rates, the RS class has a negative subsidy of 1.8 percent (i.e., it is being
20 subsidized) because its rate of return is 2.6 percent compared to the system average of 4.4
21 percent. Under our proposed rates, that subsidy improves to negative 1.1 percent. As the
22 figure shows, our recommendations result in modest subsidy reductions for all of the
23 major classes except Lighting.¹⁸

¹⁸ Note that reducing the subsidy was not the only criterion we used in developing this proposal. For example, Figure IEC-R2 shows only a slight reduction in the subsidy from the LP-4 class. However, because of transmission cost implications, the total bill rate increase for LP-4 under our proposal is lower than that for GS-1 and GS-3 customers.



1 Figures Iec-R3a to Iec-R3f shown in the next few pages compare the OSBA distribution
 2 increase proposal with that of the other intervenors. These figures are based on the lower
 3 overall rate increase (\$115 million). As with the Iec-R1 figures, each graph compares the
 4 proposed distribution rate increases of the various experts for a particular class. Each
 5 figure also shows the rate increase necessary to bring the class in line with fully allocated
 6 costs, as measured in the Iec cost allocation study. As shown, our proposal tends to
 7 generally be in the middle of the range of those of the other intervenors.





1 Q. Does this conclude your rebuttal testimony?

2 A. Yes, it does.

DOCUMENT

OSBA EXHIBIT NO. 3

87d-04 TES
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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY
COMMISSION

v.

PPL ELECTRIC UTILITIES
CORPORATION

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DOCKET NO. R-00049255

DOCKETED

AUG 18 2004

EXHIBIT OF

ROBERT D. KNECHT
and
MARK D. EWEN

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

DOCUMENT

EXHIBIT IEc-R1

8-12-04 JES
R 2049755

IEc PROPOSED REVENUE ALLOCATION

AT \$115 MILLION INCREASE

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

EXHIBIT IEC-R1
SUMMARY OF IEC PROPOSED REVENUE ASSIGNMENT
(Dollars in Thousands Except as Noted)

	<i>Pa. Total</i>	<i>RS</i>	<i>RTS</i>	<i>GS-1</i>	<i>GS-3</i>	<i>LP-4</i>	<i>ISP</i>	<i>LP-5</i>	<i>IST</i>	<i>LP-6</i>	<i>LPEP</i>	<i>ISA</i>	<i>GH</i>	<i>SL/AL</i>	<i>L5-S</i>
Present Transmission Revenues	146,810	49,194	482	11,956	40,849	21,274	1,497	10,210	7,066	1,574	39	357	1,928	362	22
Proposed Transmission Revenues	205,736	84,551	3,778	12,540	45,978	27,350	1,915	16,162	7,702	2,188	218	357	2,473	483	40
Transmission Increase	58,926	35,357	3,297	584	5,129	6,075	418	5,952	636	614	180	-	545	121	18
Transmission Percent	40.1%	71.9%	684.7%	4.9%	12.6%	28.6%	27.9%	58.3%	9.0%	39.0%	466%	0.0%	28.3%	33.3%	83.4%
Present Distribution Tariff Revenues	495,418	293,920	3,513	61,460	84,182	21,873	1,757	1,774	1,717	283	314	662	6,222	17,705	36
IEC Prop. Distribution Tariff Revenues	608,827	377,585	3,280	67,904	100,604	26,086	1,757	1,574	1,152	185	354	562	7,021	20,680	83
Distribution Increase	113,409	83,665	(233)	6,444	16,422	4,213	-	(200)	(565)	(98)	40	(100)	799	2,975	47
Distribution Percent	22.9%	28.5%	-6.6%	10.5%	19.5%	19.3%	0.0%	-11.3%	-32.9%	-34.6%	12.7%	-15.1%	12.8%	16.8%	131%
Present Bundled Rate Revenues	2,723,474	1,082,018	23,568	217,923	680,289	346,739	20,224	173,341	80,940	28,520	4,691	5,597	34,673	23,814	1,137
Total Increase	172,335	119,022	3,064	7,028	21,551	10,288	418	5,752	71	516	220	(100)	1,344	3,096	65
Overall Percent	6.3%	11.0%	13.0%	3.2%	3.2%	3.0%	2.1%	3.3%	0.1%	1.8%	4.7%	-1.8%	3.9%	13.0%	5.7%
Present Rate of Return	4.4%	2.6%	-4.0%	9.9%	7.8%	9.3%	12.8%	26.1%	93.4%	84.6%	8.5%	115%	7.9%	2.4%	5.5%
Proposed Rate of Return	7.8%	6.6%	-4.3%	12.0%	10.9%	12.8%	12.8%	20.9%	47.5%	45.3%	10.5%	96%	10.0%	5.1%	21.8%
Present RoR Differential	0.0%	-1.8%	-8.4%	5.5%	3.4%	4.9%	8.4%	21.7%	89.0%	80.2%	4.1%	111%	3.5%	-2.0%	1.1%
Proposed RoR Differential	0.0%	-1.2%	-12.1%	4.1%	3.0%	4.9%	4.9%	13.0%	39.6%	37.5%	2.6%	88%	2.1%	-2.8%	13.9%

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EXHIBIT IEc-R2

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COMPARISON OF REVENUE ALLOCATION PROPOSALS

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EXHIBIT IEc-R2
Comparison of Revenue Allocation Proposals at Full PPL Increase

	PRESENT RATES						PPL/OCA Proposal					
	Distri- bution excl. PRS	Trans- mission	Generation & Other	Total	GWh	GWh	Distri- bution	Trans- mission	Total	% Distri- bution	% Trans- mission	% Total
					Sales w/PRS	Sales excl. PRS						
RS	293,920	49,194	738,904	1,082,018	12,900	12,900	80,963	23,561	104,524	27.5%	47.9%	9.7%
RTS	3,513	482	19,574	23,568	400	400	568	1,774	2,343	16.2%	368.5%	9.9%
GS-1/BL	61,460	11,956	144,506	217,923	2,034	2,034	22,016	(485)	21,531	35.8%	-4.1%	9.9%
GS-3/IS-1	84,183	40,849	555,257	680,289	8,732	8,732	43,100	8,401	51,501	51.2%	20.6%	7.6%
LP-4	21,644	21,274	303,592	346,739	5,567	5,536	10,750	9,950	20,700	49.7%	46.8%	6.0%
ISP	1,741	1,497	16,970	20,224	404	411	383	820	1,203	22.0%	54.8%	6.0%
LP-5	1,607	10,210	161,358	173,341	3,349	3,313	19	8,475	8,494	1.2%	83.0%	4.9%
IST	1,455	7,066	72,157	80,940	1,945	1,973	(565)	4,061	3,497	-38.8%	57.5%	4.3%
LP-6	283	1,574	26,663	28,520	512	512	(98)	1,313	1,215	-34.6%	83.4%	4.3%
LPEP	313	39	4,339	4,691	72	72	91	367	458	29.0%	951.9%	9.8%
ISA	649	357	4,578	5,597	243	143	0	-	0	0.0%	0.0%	0.0%
GH	6,222	1,928	26,523	34,673	413	413	2,971	402	3,373	47.7%	20.8%	9.7%
SL/AL	17,705	362	5,747	23,814	112	112	2,100	267	2,367	11.9%	73.8%	9.9%
L5-S	36	22	1,079	1,137	7	7	47	18	65	128.1%	83.4%	5.7%
PRS	686	60	6,374	6,434		132	-	-	-	0.0%	0.0%	0.0%
Total	495,418	146,870	2,087,619	2,729,908	36,689	36,689	162,345	58,926	221,271	32.8%	40.1%	8.1%

	PPLICA Proposal					
	Distri- bution	Trans- mission	Total	% Distri- bution	% Trans- mission	% Total
RS	133,141	42,879	176,020	45.3%	87.2%	16.3%
RTS	6,666	2,373	9,039	189.7%	492.9%	38.4%
GS-1/BL	6,722	(964)	5,758	10.9%	-8.1%	2.6%
GS-3/IS-1	6,731	1,148	7,879	8.0%	2.8%	1.2%
LP-4	1,918	4,524	6,442	8.9%	21.3%	1.9%
ISP	(27)	337	310	-1.6%	22.5%	1.5%
LP-5	(187)	4,904	4,717	-11.6%	48.0%	2.7%
IST	(565)	390	(175)	-38.8%	5.5%	-0.2%
LP-6	(98)	384	286	-34.6%	24.4%	1.0%
LPEP	30	306	336	9.6%	792.5%	7.2%
ISA	(242)	-	(242)	-37.3%	0.0%	-4.3%
GH	606	1,466	2,072	9.7%	76.0%	6.0%
SL/AL	7,640	304	7,944	43.2%	83.8%	33.4%
L5-S	10	10	20	27.4%	48.4%	1.8%
PRS				0.0%	0.0%	0.0%
Total	162,345	58,062	220,407	32.8%	39.5%	8.1%

	DOD/FEA Proposal					
	Distri- bution	Trans- mission	Total	% Distri- bution	% Trans- mission	% Total
RS	120,077	37,033	157,110	40.9%	75.3%	14.5%
RTS	8,217	2,176	10,393	233.9%	451.9%	44.1%
GS-1/BL	12,644	1,646	14,290	20.6%	13.8%	6.6%
GS-3/IS-1	12,172	5,098	17,270	14.5%	12.5%	2.5%
LP-4	2,845	6,012	8,857	13.1%	28.3%	2.6%
ISP	(86)	287	201	-4.9%	19.2%	1.0%
LP-5	(380)	5,665	5,285	-23.7%	55.5%	3.0%
IST	(953)	(709)	(1,662)	-65.5%	-10.0%	-2.1%
LP-6	(175)	484	309	-61.8%	30.7%	1.1%
LPEP	30	(4)	26	9.6%	-10.4%	0.6%
ISA	(483)	188	(295)	-74.4%	52.6%	-5.3%
GH	1,219	753	1,972	19.6%	39.1%	5.7%
SL/AL	7,192	(20)	7,172	40.6%	-5.5%	30.1%
L5-S	5	12	17	13.7%	55.6%	1.5%
PRS				0.0%	0.0%	0.0%
Total	162,324	58,621	220,945	32.8%	39.9%	8.1%

	OSBA Proposal					
	Distri- bution	Trans- mission	Total	% Distri- bution	% Trans- mission	% Total
RS	117,101	23,561	140,662	39.8%	47.9%	13.0%
RTS	1,996	1,774	3,771	56.8%	368.5%	16.0%
GS-1/BL	9,127	(485)	8,643	14.9%	-4.1%	4.0%
GS-3/IS-1	24,846	8,401	33,247	29.5%	20.6%	4.9%
LP-4	5,307	9,950	15,257	24.5%	46.8%	4.4%
ISP	91	820	911	5.2%	54.8%	4.5%
LP-5	19	8,475	8,494	1.2%	83.0%	4.9%
IST	(565)	4,061	3,497	-38.8%	57.5%	4.3%
LP-6	(98)	1,313	1,215	-34.6%	83.4%	4.3%
LPEP	91	367	458	29.0%	951.9%	9.8%
ISA	(1)	-	(1)	-0.2%	0.0%	0.0%
GH	1,557	402	1,958	25.0%	20.8%	5.6%
SL/AL	2,829	267	3,096	16.0%	73.8%	13.0%
L5-S	47	18	65	127.7%	83.4%	5.7%
PRS				0.0%	0.0%	0.0%
Total	162,345	58,926	221,271	32.8%	40.1%	8.1%

OSBA did not address transmission cost allocation in direct testimony.

	Walmart Proposal					
	Distri- bution	Trans- mission	Total	% Distri- bution	% Trans- mission	% Total
RS	80,963	23,561	104,524	27.5%	47.9%	9.7%
RTS	568	1,774	2,343	16.2%	368.5%	9.9%
GS-1/BL	22,016	(485)	21,531	35.8%	-4.1%	9.9%
GS-3/IS-1	43,100	8,401	51,501	51.2%	20.6%	7.6%
LP-4	10,750	9,950	20,700	49.7%	46.8%	6.0%
ISP	383	820	1,203	22.0%	54.8%	6.0%
LP-5	19	8,475	8,494	1.2%	83.0%	4.9%
IST	(565)	4,061	3,497	-38.8%	57.5%	4.3%
LP-6	(98)	1,313	1,215	-34.6%	83.4%	4.3%
LPEP	91	367	458	29.0%	951.9%	9.8%
ISA	0	-	0	0.0%	0.0%	0.0%
GH	2,971	402	3,373	47.7%	20.8%	9.7%
SL/AL	2,100	267	2,367	11.9%	73.8%	9.9%
L5-S	47	18	65	128.1%	83.4%	5.7%
PRS	-	-	-	0.0%	0.0%	0.0%
Total	162,345	58,926	221,271	32.8%	40.1%	8.1%

No specific recommendation regarding transmission costs.

EXHIBIT IEC-R2
Comparison of Revenue Allocation Proposals at OCA \$115 Million Rate Increase

	PRESENT RATES						OCA Proposal					
	<i>Distribution excl. PRS</i>	<i>Transmission</i>	<i>Generation & Other</i>	<i>Total</i>	<i>GWh Sales w/PRS</i>	<i>GWh Sales excl. PRS</i>	<i>Distribution</i>	<i>Transmission</i>	<i>Total</i>	<i>% Distribution</i>	<i>% Transmission</i>	<i>% Total</i>
	RS	293,920	49,194	738,904	1,082,018	12,900	12,900	56,657	23,561	80,219	19.3%	47.9%
RTS	3,513	482	19,574	23,568	400	400	398	1,774	2,172	11.3%	368.5%	9.2%
GS-1/BL	61,460	11,956	144,506	217,923	2,034	2,034	15,406	(485)	14,922	25.1%	-4.1%	6.8%
GS-3/IS-1	84,183	40,849	555,257	680,289	8,732	8,732	30,161	8,401	38,562	35.8%	20.6%	5.7%
LP-4	21,644	21,274	303,592	346,739	5,567	5,536	7,523	9,950	17,473	34.8%	46.8%	5.0%
ISP	1,741	1,497	16,970	20,224	404	411	268	820	1,088	15.4%	54.8%	5.4%
LP-5	1,607	10,210	161,358	173,341	3,349	3,313	13	8,475	8,488	0.8%	83.0%	4.9%
IST	1,455	7,066	72,157	80,940	1,945	1,973	(565)	4,061	3,497	-38.8%	57.5%	4.3%
LP-6	283	1,574	26,663	28,520	512	512	(98)	1,313	1,215	-34.6%	83.4%	4.3%
LPEP	313	39	4,339	4,691	72	72	64	367	431	20.3%	951.9%	9.2%
ISA	649	357	4,578	5,597	243	143	0	-	0	0.0%	0.0%	0.0%
GH	6,222	1,928	26,523	34,673	413	413	2,079	402	2,481	33.4%	20.8%	7.2%
SL/AL	17,705	362	5,747	23,814	112	112	1,470	267	1,737	8.3%	73.8%	7.3%
L5-S	36	22	1,079	1,137	7	7	33	18	51	89.6%	83.4%	4.5%
PRS	686	60	6,374	6,434		132	-	-	-	0.0%	0.0%	0.0%
Total	495,418	146,870	2,087,619	2,729,908	36,689	36,689	113,409	58,926	172,335	22.9%	40.1%	6.3%

	PPLICA Proposal					
	<i>Distribution</i>	<i>Transmission</i>	<i>Total</i>	<i>% Distribution</i>	<i>% Transmission</i>	<i>% Total</i>
RS	100,828	42,879	143,708	34.3%	87.2%	13.3%
RTS	5,568	2,373	7,941	158.5%	492.9%	33.7%
GS-1/BL	1,960	(964)	996	3.2%	-8.1%	0.5%
GS-3/IS-1	91	1,148	1,239	0.1%	2.8%	0.2%
LP-4	282	4,524	4,805	1.3%	21.3%	1.4%
ISP	(128)	337	209	-7.4%	22.5%	1.0%
LP-5	(241)	4,904	4,663	-15.0%	48.0%	2.7%
IST	(584)	390	(194)	-40.1%	5.5%	-0.2%
LP-6	(102)	384	283	-35.9%	24.4%	1.0%
LPEP	8	306	314	2.5%	792.5%	6.7%
ISA	(249)	-	(249)	-38.4%	0.0%	-4.5%
GH	83	1,466	1,549	1.3%	76.0%	4.5%
SL/AL	5,888	304	6,191	33.3%	83.8%	26.0%
L5-S	6	10	16	15.9%	48.4%	1.4%
PRS				0.0%	0.0%	0.0%
Total	113,409	58,062	171,471	22.9%	39.5%	6.3%

	DOD/FEA Proposal					
	<i>Distribution</i>	<i>Transmission</i>	<i>Total</i>	<i>% Distribution</i>	<i>% Transmission</i>	<i>% Total</i>
RS	82,101	37,033	119,134	27.9%	75.3%	11.0%
RTS	6,927	2,176	9,103	197.2%	451.9%	38.6%
GS-1/BL	10,022	1,646	11,668	16.3%	13.8%	5.4%
GS-3/IS-1	8,515	5,098	13,613	10.1%	12.5%	2.0%
LP-4	1,943	6,012	7,955	9.0%	28.3%	2.3%
ISP	(142)	287	145	-8.1%	19.2%	0.7%
LP-5	(410)	5,665	5,255	-25.5%	55.5%	3.0%
IST	(964)	(709)	(1,673)	-66.3%	-10.0%	-2.1%
LP-6	(177)	484	307	-62.4%	30.7%	1.1%
LPEP	19	(4)	15	6.0%	-10.4%	0.3%
ISA	(488)	188	(300)	-75.1%	52.6%	-5.4%
GH	931	753	1,684	15.0%	39.1%	4.9%
SL/AL	5,132	(20)	5,112	29.0%	-5.5%	21.5%
L5-S	(1)	12	11	-3.7%	55.6%	0.9%
PRS				0.0%	0.0%	0.0%
Total	113,409	58,621	172,030	22.9%	39.9%	6.3%

	OSBA Proposal					
	<i>Distribution</i>	<i>Transmission</i>	<i>Total</i>	<i>% Distribution</i>	<i>% Transmission</i>	<i>% Total</i>
RS	83,665	35,357	119,022	28.5%	71.9%	11.0%
RTS	(233)	3,297	3,064	-6.6%	684.7%	13.0%
GS-1/BL	6,444	584	7,028	10.5%	4.9%	3.2%
GS-3/IS-1	16,422	5,129	21,551	19.5%	12.6%	3.2%
LP-4	4,213	6,075	10,288	19.5%	28.6%	3.0%
ISP	-	418	418	0.0%	27.9%	2.1%
LP-5	(200)	5,952	5,752	-12.4%	58.3%	3.3%
IST	(565)	636	71	-38.8%	9.0%	0.1%
LP-6	(98)	614	516	-34.6%	39.0%	1.8%
LPEP	40	180	220	12.8%	465.6%	4.7%
ISA	(100)	-	(100)	-15.4%	0.0%	-1.8%
GH	799	545	1,344	12.8%	28.3%	3.9%
SL/AL	2,975	121	3,096	16.8%	33.3%	13.0%
L5-S	47	18	65	128.9%	83.4%	5.7%
PRS				0.0%	0.0%	0.0%
Total	113,409	58,926	172,335	22.9%	40.1%	6.3%

Transmission reflects estimate of OSBA rebuttal approach

	Walmart Proposal					
	<i>Distribution</i>	<i>Transmission</i>	<i>Total</i>	<i>% Distribution</i>	<i>% Transmission</i>	<i>% Total</i>
RS	80,963	23,561	104,524	27.5%	47.9%	9.7%
RTS	568	1,774	2,343	16.2%	368.5%	9.9%
GS-1/BL	8,804	(485)	8,319	14.3%	-4.1%	3.8%
GS-3/IS-1	14,908	8,401	23,309	17.7%	20.6%	3.4%
LP-4	3,786	9,950	13,736	17.5%	46.8%	4.0%
ISP	383	820	1,203	22.0%	54.8%	6.0%
LP-5	(297)	8,475	8,178	-18.5%	83.0%	4.7%
IST	(816)	4,061	3,245	-56.1%	57.5%	4.0%
LP-6	(98)	1,313	1,215	-34.6%	83.4%	4.3%
LPEP	91	367	458	29.0%	951.9%	9.8%
ISA	0	-	0	0.0%	0.0%	0.0%
GH	2,971	402	3,373	47.7%	20.8%	9.7%
SL/AL	2,100	267	2,367	11.9%	73.8%	9.9%
L5-S	47	18	65	128.1%	83.4%	5.7%
PRS				0.0%	0.0%	0.0%
Total	113,409	58,926	172,335	22.9%	40.1%	6.3%

No specific recommendation regarding transmission costs.

DOCUMENT

EXHIBIT IEc-R3

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IEc REBUTTAL WORKPAPERS

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IEc's rebuttal workpapers will be distributed electronically with this testimony. Paper copies may be obtained from the OSBA.

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OSBA STATEMENT NO. 4

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PENNSYLVANIA PUBLIC UTILITY COMMISSION

IEC-51, IEC-52

PENNSYLVANIA PUBLIC UTILITY
COMMISSION

v.

DOCKET NO. R-00049255

PPL ELECTRIC UTILITIES CORPORATION :

Surrebuttal Testimony and Exhibits of

ROBERT D. KNECHT

and

MARK D. EWEN

DOCKETED
AUG 18 2004

On Behalf of the

Office of Small Business Advocate

Date Served: August 5, 2004

Date Submitted for the Record: _____

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SURREBUTTAL TESTIMONY OF ROBERT D. KNECHT AND MARK D. EWEN

1 **1 Witness Identification and Summary of Conclusions**

2 **Q. Please state your names and describe your qualifications.**

3 A. We are Robert D. Knecht and Mark D. Ewen. We submitted both direct testimony and
4 rebuttal testimony earlier in this proceeding, and our qualifications were detailed in our
5 direct testimony. We represent the Pennsylvania Office of Small Business Advocate
6 ("OSBA").

7 **Q. What is the purpose of your surrebuttal testimony?**

8 A. We were asked by the OSBA to evaluate the rebuttal testimony of the following
9 witnesses:

- 10 • PPL witness Mr. Krall, regarding the PPL's DSIC, transmission cost recovery and
11 revenue assignment¹ proposals;
- 12 • PPL witness Mr. Kleha, regarding the distribution system cost allocation study;
- 13 • OCA witness Mr. Galligan, regarding cost allocation and revenue assignment;
- 14 • PPL PLUG witness Mr. Bradley, regarding revenue assignment.

15 **Q. Please summarize your conclusions.**

16 A. Our conclusions are as follows:

¹ For this testimony, we use the term cost allocation as the formal study that allocates the utility's total cost, or its total revenue requirement, to each of the various rate classes. We define "revenue allocation" or "revenue assignment" as the process of determining how much revenue each class' rates will produce in the test year.

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- The rebuttal arguments of both PPL and OCA are simply wrong when they state that PPL's proposed revenue assignment would result in gradual progress toward cost-based rates. PPL's proposal *increases* the subsidies² from the business classes to the residential and lighting classes. In that proposal, the already-subsidized RS class gets an average distribution rate increase of 27.5 percent, compared to a system average increase of 32.8 percent, and compared to an average increase for the rest of the rate classes of 40.4 percent. *There is no progress, gradual or otherwise, in PPL's proposal.*
- The PPL and OCA complaints about our proposed cost allocation study are either factually incorrect or irrelevant. However, if the Commission does not accept our proposed study, we recommend that the PPL cost allocation study be adopted as by far the next best alternative. Further, had we relied upon the PPL cost allocation study, we would make a very similar proposal for revenue allocation as that outlined in our earlier testimony.
- PPL's alternative proposal for recovering transmission costs from the various rate classes is superior to its original proposal, but it will not be effective in reducing transmission rate volatility. Our proposal in rebuttal testimony would be much more effective in achieving that goal.
- PPL's rebuttal testimony regarding its proposed DSIC fails to address the key concerns we raised in direct testimony. We recommend that the proposed DSIC be rejected.

Q. Please outline your surrebuttal testimony.

A. This surrebuttal testimony is organized by topic. Section 2 addresses the use of the indexed rate of return and other revenue assignment issues (witnesses Galligan, Krall, and

² For the purposes of this testimony, we define "subsidy" as the difference between the costs assigned to a rate class and the revenues recovered from that rate class. Under this definition, if a class' rate of return on rate base is below system average, that class is being subsidized. Similarly, if a class' rate of return exceeds system average, it is providing a subsidy.

1 Bradley). Section 3 focuses on the cost allocation study (witnesses Kleha and Galligan).
2 Section 4 addresses PPL's rebuttal proposal for transmission cost allocation and rate
3 design (witness Krall), and Section 5 addresses the issues surrounding PPL's proposed
4 DSIC (witness Krall).

5
6 **2 Distribution Revenue Allocation**

7 **Q. Regarding distribution revenue allocation, Mr. Krall summarizes your direct**
8 **testimony as arguing "that PPL Electric's proposal [for revenue allocation] does not**
9 **go far enough in the direction of cost-based allocations." Is that an accurate**
10 **summary of your views?**

11 **A.** No. The PPL (and OCA) proposed revenue allocation *would make no progress at all*
12 *toward cost-based allocations*. In fact, the PPL/OCA proposal would move distribution
13 revenues for most rate classes *significantly farther away from costs*. PPL's proposal is
14 grossly inequitable, and it is completely inconsistent with the principle of reflecting costs
15 in rates. Moreover, it is not even consistent with "gradualism," because gradualism
16 implies *some progress* toward cost-based rates.³

17 Mr. Krall presents no rebuttal at all to the subsidy analysis that is in our direct testimony,
18 nor does he rebut Mr. Baron's analysis. Both those analyses show that subsidies to the
19 residential and lighting classes increase under the PPL/OCA proposal. Moreover, this
20 conclusion is valid regardless of whether the PPL cost allocation study is used, or the
21 OSBA cost allocation study is used. Table IEc-S1 below shows the subsidies to the
22 major distribution rate classes under present and PPL/OCA-proposed revenue allocation,
23 based on both Mr. Baron's approach and our own. As shown, the subsidies to the RS,
24 RTS and Lighting classes all increase, and the subsidies from the GS-1, GS-3, LP-4 and
25 GH classes also all increase under the PPL/OCA proposal.

³ Note that Mr. Krall also argues that it is "unnecessary and inappropriate to move rapidly to 'correct' the allocation of distribution revenue requirements." PPL does not propose to move rapidly to correct these problems; it proposes to move rapidly to make them *worse*.

Table IEc-S1 Change in Rate Class Subsidies Under PPL/OCA Revenue Allocation Proposal <i>(Present Rates → Proposed Rates)</i>		
	<i>Subsidy as Calculated by</i> PPLICA <i>(\$mm)</i>	<i>Subsidy as Calculated by the</i> OSBA <i>(% of Rate Base)</i>
RS	-51.29 → -77.82	-1.9% → -2.9%
RTS	-5.93 → -9.06	-8.2% → -12.5%
GS-1	17.58 → 24.08	5.5% → 7.5%
GS-3	30.05 → 51.39	3.5% → 6.6%
LP-4	7.56 → 12.70	5.0% → 8.7%
GH	2.10 → 3.42	3.7% → 6.2%
Lighting	-3.47 → -7.28	-1.9% → -4.9%
Notes: 1) The PPLICA analysis is based on the PPL cost allocation study; the OSBA analysis is based on IEc cost allocation study. 2) Negative values indicate that the class is subsidized; positive values indicate that the class is providing the subsidy. 3) The PPLICA definition of "subsidy" is the dollar value difference between class revenues and fully allocated class costs, including all capital costs. The OSBA definition of "subsidy" is the difference between the class rate of return and the proposed system average return.		

1 There is no basis in accounting, economics or common sense for concluding that these
 2 results represent progress, gradual or otherwise, toward cost-based rates. It is simply not
 3 possible to assign below-average increases to the subsidized classes and make any
 4 progress toward equitable cost-recovery. Either way you measure it, the PPL proposal
 5 makes the subsidies worse.

6 **Q. But Mr. Galligan indicates that PPL's proposal would represent progress toward**
 7 **cost-based rates. He states, "[T]he policy prescription inherent in PPL's proposal is**
 8 **to move Residential RS indexed returns from essentially 40 percent to 60 percent. If**
 9 **this policy were continued, Residential RS indexed rates of return would increase**

1 from 40 percent to 60 percent in this case, would be at 80 percent of system return
2 in PPL's next case, and 100 percent of system return in the succeeding case. Clearly,
3 adjusting class rates so the class rates of return move toward system rate over time,
4 consistent with the indexed rate of return standard and the principle of gradualism,
5 is a measure of progress toward rates based on allocated costs of service." Is that an
6 accurate statement?

7 A. No, Mr. Galligan is simply wrong. In the quoted discussion, Mr. Galligan implies that if
8 the RS class *comes out* of this proceeding with a 60 percent indexed rate of return, it will
9 go *into* the next proceeding with a 60 percent indexed rate of return. This implication is
10 not correct. The indexed rate of return for the RS class *going into* the next rate
11 proceeding will be much lower than the 60 percent it shows *coming out* of this
12 proceeding, with no changes in the relative cost of service. In fact, it is reasonably likely
13 that the RS class' indexed rate of return would be back down in the 40 to 50 percent range
14 going into the next proceeding, and we would be back where we started.

15 **Q. Can you explain why Mr. Galligan is incorrect?**

16 A. Without resorting to mathematical jargon, it is difficult to explain the "non-linear"
17 behavior of the indexed rate of return metric (which is another reason why it should be
18 discarded). The indexed rate of return measure is not a stable performance indicator for
19 the relationship between class revenues and costs, and it will change even with
20 proportional cost increases or proportional revenue increases across all the classes.

21 The best way to see this particular "feature" of the indexed rate of return is through a
22 simple numerical example. Exhibit IEc-S1 attached to this testimony provides summary
23 information from the PPL cost allocation study under present and proposed rates. Rather
24 than showing all of the classes, the exhibit just shows the RS class compared to all the
25 other classes put together. As the exhibit shows, in this proceeding, the RS class is

1 assigned an average rate increase of 26.5 percent, compared to system average of 31.4
2 percent and *an average increase for the rest of the rate classes of 38.7 percent.*⁴ As we
3 discussed in our earlier testimony, one would reasonably expect this pattern of rate
4 increases to make the subsidies worse. However, as measured by the flawed indexed rate
5 of return, it looks like the RS class has improved -- the indexed rate of return falsely
6 suggests that the PPL/OCA proposal results in some progress toward cost-based rates,
7 because the RS indexed return increases from 41 percent to 60 percent. In reality, as
8 shown in Table IEc-S1 above, the subsidy to the RS class has increased.

9 But let's continue on with Mr. Galligan's suggestion. In the lower part of Exhibit IEc-S1,
10 we show what the results might look like going into PPL's next base rates case. In this
11 scenario, the only change that we make is to increase all operating costs and rate base
12 costs by 20 percent. We assume no other changes in volumes, cost responsibility, etc.
13 Thus, the revenues going into that case are the same as those coming out of this case.
14 (For example, the RS class revenues are \$392.4 million under proposed rates for the
15 current rate case, and \$392.4 million going into the next rate case.) To reflect interim
16 cost increases, the operating costs and rate base for each class are increased by 20 percent.
17 With that cost increase, PPL's overall rate of return falls from the 8.8 percent (it
18 proposes) *coming out* of this case to 5.1 percent *going into* the next case. (Note that
19 PPL's current return going into this case is well below 5.1 percent.) However, even
20 though the cost responsibilities are allocated in exactly the same way as they were coming
21 out of the current case, the residential indexed rate of return is back at 41 percent. We are
22 back where we started.

23 Thus, using the PPL/OCA approach, there is no hope that the RS class will be moved
24 from 60 percent to 80 percent in this future case, because the RS class will start at a much
25 lower figure. Mr. Galligan's argument is therefore incorrect. The PPL/OCA proposal

⁴ Note that these increases represent the overall class revenue increases, including certain non-rate revenues. On a distribution rate basis, the increases are 27.5 percent for RS, 32.8 percent for all PPL and 40.4 percent for all non-RS customers. Note also that the non-RS classes include the heavily subsidized RTS and Lighting classes. The percentage increase for the commercial and industrial classes is higher.

1 causes rates to move farther away from costs, and the flawed indexed rate of return metric
2 conceals that basic fact. Waiting until the next case is not going to solve the problem.

3 **Q. Can you respond to the concerns raised by Mr. Bradley on behalf of PPL PLUG?**

4 A. Mr. Bradley argues that our proposed increase for street lighting classes is excessive,
5 because municipalities cannot afford a 16 percent increase, they receive inferior service,
6 and public health and safety issues should be considered. PPL has already addressed
7 many of these arguments in Mr. Kasper's rebuttal.

8 However, with respect to our revenue allocation proposal, it appears that Mr. Bradley
9 ignores the fact that we propose lower increases for GS-1 customers, which PPL PLUG
10 members testify they use for traffic signals. In addition, we note that street lighting
11 customer classes are heavily subsidized under present and proposed rates, using any cost
12 allocation study filed in this proceeding. Moreover, even with our proposed revenue
13 allocation, the subsidy to the lighting classes *increases*. We therefore believe that, even if
14 Mr. Bradley's alternative concerns are justified, our proposal reasonably reflects those
15 considerations.

16 **3 Distribution Cost Allocation Study**

17 **Q. Mr. Kleha provides rebuttal to your cost allocation proposals. Are any of his**
18 **assertions factually inaccurate?**

19 A. Yes. First, Mr. Kleha indicates that we propose changes to the cost allocation study
20 "which, if adopted, would place [our] clients in a more advantageous position." Mr.
21 Kleha is incorrect. In our evaluation in this case, we determined that small businesses are
22 served under PPL's GS-1 and GS-3 rate classes. The corrections that we made to PPL's
23 programming errors had very little impact on the GS-1 class, and *increased* the costs
24 assigned to GS-3. In addition, the changes that we proposed to the classification of
25 secondary plant costs slightly reduced costs assigned to GS-1 customers but *increased*
26 costs assigned to GS-3 customers. There is no basis for Mr. Kleha to assert that we did it
27 all to help our clients -- our recommendations are based on sound cost causation
28 principles.

1 Second, Mr. Kleha indicates that we propose to adjust the demand allocators to recognize
2 the load-carrying capability of the minimum system. This is also incorrect. Our direct
3 testimony indicates that while some cost allocation experts attempt to address the issue
4 that way, we do not agree that such adjustments are reasonable. We recommend use of
5 the zero-intercept classification approach to resolve the problems associated with
6 minimum system load carrying capability. Under the zero-intercept approach, the
7 customer component of cost has no load carrying capability.

8 **Q. Mr. Galligan argues that your zero-intercept analysis is flawed because you used**
9 **judgment in developing your classification factors, and you did not follow the**
10 **dictates of the NARUC Electric Utility Cost Allocation Manual and perform the**
11 **zero-intercept analysis using book costs. Can you respond?**

12 A. Yes. Regarding the use of judgment, all cost allocation studies require judgment (as Mr.
13 Kleha recognizes). In the case of our cost allocation study, because neither we nor PPL
14 had the data to complete a book cost zero-intercept analysis, we made an approximation
15 based on replacement cost.⁵ Because the statistical calculations for zero-intercept
16 analysis can be conducted a variety of different ways (even within the constraints of the
17 NARUC manual), we tempered the statistical results using our judgment and experience.
18 In our view, it is much better to use a cost allocation study that is approximately correct
19 than to use one that is certainly wrong. Mr. Galligan's study falls into the latter category.

20 Regarding the use of the NARUC Electric Utility Cost Allocation Manual, it is curious
21 that Mr. Galligan should criticize us for not rigidly adhering to the exact details of the
22 methods specified therein. As detailed in our rebuttal testimony, Mr. Galligan's own cost
23 allocation study is not consistent with the basic principles of cost allocation specified in
24 the manual, much less the detailed requirements for statistical analysis. As such, his
25 study is much less consistent with the manual than our own.

26 **Q. If the Commission does not accept your proposed cost allocation approach, which**
27 **alternative would you recommend?**

⁵ It can be argued that using replacement cost in this analysis is actually superior to using book cost, because the resulting price signals better reflect going-forward incremental costs, rather than sunk historical costs.

1 A. The PPL cost allocation method is far superior to the OCA approach. While it modestly
2 overstates the customer component of costs, the PPL approach correctly recognizes that
3 distribution costs are not causally related to energy consumption, and that secondary
4 distribution systems exhibit economies of scale. In contrast to Mr. Galligan's
5 conclusions, we agree with PPL that one 75-kW customer costs less to serve than twenty
6 five 3-kW customers.

7 Moreover, our revenue allocation proposal results in reasonable progress toward cost-
8 based rates for most rate classes using the PPL cost allocation study, as shown in Exhibit
9 IEc-S2 attached to this testimony.

10 **4 Transmission Cost Allocation and Rate Design**

11 **Q. In his rebuttal testimony, Mr. Krall acknowledges that energy-based allocation of**
12 **transmission costs is not consistent with cost causation. He also echoes some of your**
13 **concerns about Mr. Baron's cost-based approach regarding the volatility of rates, if**
14 **PPL continues to oscillate between being a winter-peaking and summer-peaking**
15 **utility. While not abandoning PPL's original proposal, he offers an alternative.**
16 **Does Mr. Krall's alternative proposal address your concerns?**

17 A. Not completely. As detailed in our rebuttal testimony, we agree that Mr. Krall's
18 alternative proposal is more consistent with cost causation than PPL's original proposal,
19 because most PJM transmission charges are demand-related. As we also discussed in
20 rebuttal, we share Mr. Krall's concerns about the rate volatility that will result if Mr.
21 Baron's approach is adopted exactly as he proposed. However, Mr. Krall's proposal to
22 aggregate rate classes will not solve the rate volatility problem. As shown in his Exhibits
23 DAK-3 and DAK-4, the aggregate "commercial" transmission charge is 31 percent higher
24 in a summer peak than in a winter peak (\$6.49 per MWh with a summer peak versus
25 \$4.95 per MWh with a winter peak). This range implies that PPL's proposal will result in
26 rates that are unacceptably volatile. Our proposal for a five-year rolling average as
27 presented in our rebuttal testimony, even on an individual rate class basis, will provide
28 much greater transmission rate stability.

1 **5 PPL's Proposed DSIC**

2 **Q. In his rebuttal testimony, Mr. Krall puts forth a defense of PPL's proposed DSIC.**
3 **Can you respond to his arguments?**

4 A. At pages 6 to 7, Mr. Krall defines the specific classes of capital expenditures that will be
5 DSIC-eligible, and he argues that these will not be contentiously litigated. We disagree.
6 "In-kind" replacements or investments for reliability may also provide more capacity or
7 lower maintenance costs, and PPL proposes that capital expenditures for growth or cost
8 reduction be excluded from DSIC eligibility. There is simply no way to tell whether an
9 asset is a simple replacement or whether it provides other benefits without an asset-by-
10 asset detailed review.

11 Mr. Krall also addresses our argument that the DSIC would not provide for double-
12 recovery of depreciation costs. Mr. Krall's rebuttal misses the point. When base rates are
13 set, PPL's rates include depreciation for all assets that are not fully depreciated at the time
14 of the rate case. Over time, if PPL makes no investments at all, its depreciation expense
15 (and its overall rate base) decline, as assets become fully depreciated. Thus, suppose a
16 particular \$10,000 asset had two years of depreciable life remaining (net book value of
17 \$500) when base rates were set, and the depreciation charge was \$250 per year. Two
18 years later, PPL incurs no depreciation charge for that asset on its books, because it is
19 fully depreciated. However, unless PPL files a base rates case, its base rates continue to
20 include that \$250. And if PPL then replaces that asset with a new \$10,000 DSIC-eligible
21 asset, it will get to add another \$250 depreciation cost to its rates. In effect, ratepayers
22 pay the \$250 depreciation charge for the identical asset twice, until the next base rates
23 case.

24 **Q. In response to concerns that PPL's DSIC is improperly allocated, Mr. Krall**
25 **proposes an alternative approach, in which the DSIC is imposed on a percentage**
26 **basis. Would this proposal address your concerns?**

27 A. No. First, Mr. Krall does not attempt to propose a mechanism which makes progress
28 toward-cost based rates. Despite the fact that the business classes substantially over-
29 recover costs under any revenue allocation proposal filed in this proceeding, Mr. Krall
30 proposes to continue to raise rates on an across-the-board basis. Thus, this proposal is

1 just as bad as the original proposal for the business customers who provide significant
2 subsidies to the residential and lighting classes. Without a base rates case, business
3 customers cannot expect to make any progress towards reducing subsidies.

4 Second, Mr. Krall proposes to implement a DSIC that is a percentage markup on
5 revenues. Because small and large businesses are already providing significant subsidies,
6 Mr. Krall's alternative proposal is akin to a tax on a tax. Because business customers are
7 assigned a disproportionate share of the revenues, Mr. Krall's proposal will assign them a
8 disproportionate share of DSIC. Like PPL's overall revenue allocation proposals, Mr.
9 Krall's proposal just makes the subsidization problem worse.

10 **Q. Does this conclude your surrebuttal testimony?**

11 **A. Yes, it does.**

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HVS

DOCUMENT

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY
COMMISSION

v.

PPL ELECTRIC UTILITIES CORPORATION :

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Docket No. R-00049255

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Exhibit of

ROBERT D. KNECHT

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

and

MARK D. EWEN

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EXHIBIT IEc-S1

*8-12-04 JRS
AK6*

INDEXED RATE OF RETURN EXAMPLE

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EXHIBIT IEc-S1
Example of Indexed Rate of Return Trend

	Case 1: 2004			
	<i>Residential</i>	<i>Other</i>	<i>Total</i>	
<i>Present Rates Revenue</i>	310.2	213.0	523.2	
Operating Costs	307.4	139.7	447.1	
Income Taxes/GRT	(16.5)	20.7	4.1	
Income	19.4	52.6	72.0	
Rate Base	1,216.8	626.0	1,842.7	
Return Percent	1.6%	8.4%	3.9%	
Indexed RoR	41 %	215 %	100 %	
Proposed Increase	26.5%	38.7%	31.4%	
<i>Proposed Revenues</i>	392.4	295.3	687.7	
Operating Costs	307.7	139.7	447.7	
Income Taxes/GRT	20.2	57.6	77.8	
Income	64.4	98.0	162.2	
Rate Base	1,216.8	626.0	1,842.7	
Return Percent	5.3%	15.7%	8.8%	
Indexed RoR	60 %	178 %	100 %	
	Future Case			
	<i>Residential</i>	<i>Other</i>	<i>Total</i>	
<i>2004 Rates Revenue</i>	392.4	295.3	687.7	
Operating Costs	369.3	167.6	536.9	20%
Income Taxes/GRT	(7.4)	45.1	37.7	
Income	30.4	82.6	113.1	
Rate Base	1,460.1	751.2	2,211.3	20%
Return Percent	2.1%	11.0%	5.1%	
Indexed RoR	41 %	215 %	100 %	

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EXHIBIT IEc-S2

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PROGRESS TOWARD COST-BASED RATES

**IEc REVENUE ALLOCATION WITH
PPL COST ALLOCATION STUDY**

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

EXHIBIT IEc-S2: IEc REPLICATION OF THE PPL DISTRIBUTION COST ALLOCATION STUDY – WITH IEc CORRECTIONS PER DISCUSSIONS WITH PPL AND IEc PROPOSED RATES
FUTURE TEST YEAR ENDED 31 DECEMBER 2004

(Dollars in Thousands Except as Noted)

<i>Allocator</i>	<i>Pa. Total</i>	<i>RS</i>	<i>RTS</i>	<i>GS-1</i>	<i>GS-3</i>	<i>LP-4</i>	<i>ISP</i>	<i>LP-5</i>	<i>IST</i>	<i>LP-6</i>	<i>LPEP</i>	<i>ISA</i>	<i>GHI</i>	<i>SIJAL</i>	<i>L5-S</i>
Operating Revenues Proposed Rates															
Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution	657,763	411,021	5,509	70,587	109,028	27,180	1,847	1,793	1,152	185	404	661	7,779	20,534	83
STAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Sale of Electricity	657,763	411,021	5,509	70,587	109,028	27,180	1,847	1,793	1,152	185	404	661	7,779	20,534	83
Late Charges	6,474	3,834	35	1,093	1,104	298	8	-	-	-	-	-	57	44	-
Annualization	5,657	3,893	33	1,131	1,103	(461)	26	(108)	(7)	(1)	(43)	(42)	241	(110)	2
Other Operating Revenues	17,776	11,400	405	1,734	2,589	637	39	14	5	1	15	2	193	740	1
Total Operating Revenues	687,670	430,149	5,983	74,545	113,824	27,654	1,920	1,699	1,150	185	375	621	8,270	21,208	87
Operating Expenses															
Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution	127,707	78,981	2,912	11,937	18,457	4,961	304	138	48	10	24	19	1,409	8,496	12
Other O&M	182,128	138,876	2,661	15,116	15,512	3,976	423	552	476	56	79	32	1,152	3,211	6
Total Operating Expenses	309,835	217,857	5,573	27,053	33,969	8,937	728	690	524	65	102	52	2,561	11,707	17
Depreciation															
Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution	78,406	49,718	1,720	7,459	10,613	2,411	147	89	31	6	30	12	828	5,333	8
Other Depreciation	15,499	10,756	307	1,525	1,755	413	25	10	4	1	9	1	138	555	1
Total Depreciation Expense	93,905	60,475	2,027	8,984	12,368	2,824	173	99	34	7	39	14	966	5,888	8
Taxes															
Capital Stock Present Level	5,267	3,599	129	543	819	203	12	6	2	0	3	1	62	187	0
Other Taxes	10,131	6,916	212	998	1,258	306	19	8	3	1	6	1	97	307	1
Deferred Income Taxes	30,462	19,746	676	2,929	4,336	1,066	72	29	17	2	24	3	323	1,239	2
Net Investment Tax Credit	(1,913)	(1,227)	(44)	(187)	(279)	(69)	(4)	(2)	(1)	(0)	(2)	(0)	(21)	(80)	(0)
Gross Receipts Tax	39,524	24,706	329	4,296	6,563	1,594	111	99	68	11	21	37	477	1,208	5
PA Income Tax	15,227	6,661	(400)	2,536	4,809	1,115	70	71	47	9	17	51	328	(92)	5
Federal Income Tax	23,054	5,090	(1,806)	5,619	11,819	2,755	174	196	139	28	43	156	774	(1,945)	13
Total Taxes	121,752	65,491	(903)	16,733	29,325	6,970	454	406	275	51	113	248	2,040	824	26
Total Expenses	525,492	343,823	6,697	52,770	75,662	18,731	1,354	1,195	833	123	254	313	5,567	18,419	51
Income	162,178	86,326	(714)	21,775	38,162	8,923	566	504	317	62	122	308	2,703	2,789	35
Total Rate Base	1,842,747	1,190,195	43,393	178,772	272,469	68,047	4,198	1,923	682	138	982	270	20,860	60,654	164
Rate of Return	8.80%	7.25%	-1.65%	12.18%	14.01%	13.11%	13.47%	26.22%	46.58%	44.48%	12.38%	113.97%	12.96%	4.60%	21.44%
Indexed Rate of Return	100.0%	82.4%	-18.7%	138.4%	159.1%	149.0%	153.1%	297.9%	529.3%	505.5%	140.6%	1294.9%	147.2%	52.2%	243.7%
Differential Rate of Return	0.00%	-1.55%	-10.45%	3.38%	5.21%	4.31%	4.67%	17.42%	37.78%	35.68%	3.58%	105.16%	4.16%	-4.20%	12.64%
Present Rates Differential RoR	0.00%	-2.10%	-8.07%	5.42%	5.05%	4.97%	8.40%	21.62%	87.99%	79.36%	4.04%	110.44%	4.83%	-1.83%	1.32%

DOCUMENT

WAL-MART/PEC
STATEMENT NO. 1

872-0459
HBL

Before the
Pennsylvania Public Utility Commission
PUC Docket No. R-00049255

w/EXHS 1,2,3

PPL ELECTRIC UTILITIES CORPORATION

Direct Testimony and Exhibits of

James T. Selecky

DOCKETED
AUG 18 2004

On Behalf of

Pennsylvania Energy Consortium
and
Wal-Mart Stores East, LP

June 29, 2004
Project 8247

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BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

PPL ELECTRIC UTILITIES CORPORATION

**Before the
Pennsylvania Public Utility Commission**

PUC Docket No. R-00049255

Direct Testimony of James T. Selecky

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A James T. Selecky; 1215 Fern Ridge Parkway, Suite 208; St. Louis, MO 63141-2000.

3 **Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?**

4 A I am a consultant in the field of public utility regulation and a principal in the firm of
5 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

6 **Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
7 **EXPERIENCE.**

8 A These are set forth in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

10 A I am testifying on behalf of the Pennsylvania Energy Consortium (Consortium) and
11 Wal-Mart Stores East, LP (Wal-Mart). The Consortium consists of 122 members
12 comprised of school districts and municipal governments located in PPL Electric
13 Utilities Corporation's (PPL Electric) service territory. Wal-Mart operates 36 stores in
14 the PPL Electric service territory. The Consortium and Wal-Mart purchase electricity
15 from PPL Electric primarily on Rate Schedules GS-3 and LP-4.

1 Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

2 A The purpose of my testimony is to discuss the results of PPL Electric's cost of service
3 study and the allocation of any rate increase that the Pennsylvania Public Utility
4 Commission (Commission) may grant. I will also discuss the proposed rate design for
5 Rate Schedule GS-3. In addition, I will also address PPL Electric's proposed
6 mechanisms to recover FERC jurisdictional transmission service-related costs and
7 costs associated with distribution system improvements and relocation projects.
8 These mechanisms are designated as Transmission Service Charge (TSC) and
9 Distribution System Improvement Charge (DSIC), respectively.

10 Q PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

11 A A summary of my conclusions and recommendations is as follows:

- 12 1. The Commission should utilize the results of PPL Electric's distribution cost of
13 service study for purposes of allocating any approved increase in this case.
- 14 2. The results of the cost of service study presented by PPL Electric indicate
15 significant rate subsidies exist between customer classes. Steps should be taken
16 to reduce those rate subsidies.
- 17 3. For purposes of this proceeding, I support PPL Electric's position that any rate
18 increase to any customer class should be limited to no more than 10%.
- 19 4. If the Commission determines that PPL Electric's overall revenue requirement or
20 cost of service is less than the amount requested, the maximum increase to a rate
21 class should remain at approximately 10%. Any reduction in the revenue
22 requirement from the level requested by PPL Electric should be allocated to the
23 other classes based on PPL Electric's cost of service study to bring rates more in
24 line with the actual cost to serve.
- 25 5. The Commission should reject PPL Electric's proposal to create a TSC and DSIC
26 mechanism to automatically recover costs related to transmission service and
27 certain distribution system improvements.
- 28 6. However, if the Commission approves PPL Electric's TSC and DSIC
29 mechanisms, the costs should be allocated to the various rate classes
30 recognizing cost of service principles. That is, these costs should be recovered
31 recognizing demand cost causation and not energy. Any allocation and collection
32 of these costs on a uniform kWh surcharge applicable to all rate classes will send
33 incorrect price signals to customers.

- 1 7. Transmission charges reflected in PPL Electric's rates should reflect cost
2 causation. These costs should not be recovered from all rate classes using a
3 uniform kilowatthour charge.
- 4 8. The transmission costs should be allocated to the various rate classes using the
5 transmission level demand allocators. The costs then could be recovered from
6 the various rate classes through a demand or energy charge.

7 **Q WOULD YOU PLEASE COMMENT ON THE BASIC PURPOSE OF A COST OF**
8 **SERVICE STUDY?**

9 **A** After determining the overall cost of service or revenue requirement, a cost of service
10 study is used to allocate the cost to serve among customer classes. A cost of service
11 study compares the cost each customer class imposes on the system to the revenues
12 each class contributes to the total system cost. For example, when a customer class
13 produces the same rate of return as the total system rate of return, it is returning to
14 the utility revenues just sufficient to cover the costs incurred in serving that class. If a
15 class produces a below-average rate of return, it may be concluded that the revenues
16 are insufficient to cover all relevant costs to serve that class. On the other hand, if a
17 class produces a rate of return above the average, it is not only paying revenues
18 sufficient to cover the cost attributable to it, but in addition, it is paying part of the cost
19 attributable to other classes who produce a below-average rate of return. The class
20 that is paying an above-average rate of return is subsidizing the class paying a
21 below-average rate of return. The class cost of service study is important, because it
22 shows the cost to serve each rate class reflecting cost causation, as well as the rate
23 of return from each class under current and proposed rates.

1 Q WOULD YOU PLEASE COMMENT ON THE PROPER FUNDAMENTALS OF A
2 COST OF SERVICE STUDY?

3 A Yes. Cost of service is a basic and fundamental ingredient in the ratemaking
4 process. In all cost of service studies, certain fundamental concepts should be
5 recognized. Of primary importance among these concepts is the cost causation
6 principle.

7 The first step in the process is to functionalize the costs according to major
8 functions, such as production, transmission and distribution. Another vital step in a
9 cost of service study is classification of the nature of these costs as to whether they
10 vary with the quantity of energy consumed, the demand placed upon the system or
11 the number of customers being served.

12 Fixed costs are those costs that tend to remain constant irrespective of
13 changes in output and are generally considered to be demand-related. Fixed costs
14 include those costs that are incurred to serve customers that are not related to usage.
15 Variable costs on the other hand are basically those costs that tend to vary with
16 output and are generally considered to be energy-related. Customer-related costs
17 are those that are closely related to the number of customers served, rather than the
18 quantity of energy consumed or the peak demands placed upon the system. An
19 understanding of these concepts is essential to cost of service studies, as well as
20 appropriate rate design.

21 Q WHY IS IT IMPORTANT TO ADHERE TO BASIC COST OF SERVICE PRINCIPLES
22 IN THE RATE DESIGN PROCESS?

23 A The basic reasons for using cost of service as the primary factor in the rate design
24 process are equity, cost causation, appropriate price signals, conservation and
25 revenue stability.

1 Q HOW IS THE EQUITY PRINCIPLE ACHIEVED BY BASING RATES ON COSTS?

2 A To the extent practical, when rates are based on cost, each customer pays what it
3 costs the utility to serve them, no more and no less. If rates are not based on cost of
4 service, then some customers contribute disproportionately to the utility's revenue
5 requirement and subsidize the service provided to other customers. This is inherently
6 inequitable.

7 Q HOW DO COST-BASED RATES PROVIDE APPROPRIATE PRICE SIGNALS TO
8 CUSTOMERS?

9 A Rate design is the step that follows the allocation of costs to classes, so it is important
10 that the proper amounts and types of costs be allocated to the customer classes so
11 that they may ultimately be reflected in the rates.

12 When the rates are designed so that the energy costs, demand costs, and
13 customer costs are properly reflected in the energy, demand and customer
14 components of the rate schedules, respectively, customers are provided with the
15 proper incentives to manage their loads appropriately, which will in turn provide the
16 correct signal to the utility. When customers impose a certain level of demand on the
17 system, they pay for the prudent cost that the utility incurs to supply that demand.
18 The energy charge should recover the cost that varies with usage or production.

19 From a rate design perspective, overpricing the energy portion of the rate and
20 underpricing the fixed components of the rate, such as customer and demand
21 charges, will result in a disproportionate share of revenues being collected from high
22 load factor customers and send erroneous price signals to the other customers.

1 Q HOW DO COST-BASED RATES FURTHER THE GOAL OF CONSERVATION?

2 A Conservation occurs when wasteful or inefficient uses are discouraged or minimized.
3 Only when rates are based on actual costs do customers receive an appropriate price
4 signal against which to make their consumption decisions. If rates are not based on
5 costs, then customers may be induced to use electricity inefficiently in response to the
6 distorted signals.

7 Q PLEASE DISCUSS THE REVENUE STABILITY CONSIDERATION.

8 A When rates are closely tied to costs, the earnings impact on the utility of changes in
9 customer use patterns will be minimized as a result of rates being designed in the first
10 instance to track changes in the level of costs. Thus, cost-based rates provide an
11 important enhancement to a utility's earnings stability, reducing its need to file for rate
12 increases.

13 From the perspective of the customer, cost-based rates provide a more
14 reliable means of determining future levels of power costs. If rates are based on
15 factors other than the cost to serve, it becomes much more difficult for customers to
16 translate expected utility-wide cost changes, such as expected increases in overall
17 revenue requirements, into changes in the rates charged to particular customer
18 classes and to customers within the class. This situation reduces the attractiveness
19 of expansion, as well as continued operations, because of the lessened ability to
20 plan.

21 Q PLEASE COMMENT ON PPL ELECTRIC'S PENNSYLVANIA JURISDICTIONAL
22 COST OF SERVICE.

23 A I agree with PPL Electric's cost allocation method that allocates the distribution cost
24 to the various rate classes based on demands and customer-related allocation

1 factors. As indicated in PPL Electric's Exhibit JMK 2, a major factor governing the
2 assignment of plant investment is the necessity to provide distribution capacity
3 sufficient to meet the individual demands of PPL Electric's distribution customers.
4 This method of allocating distribution costs is more appropriate than the average and
5 excess demand allocation method required by the Commission's filing regulations.

6 Although I have not performed a specific analysis of the various allocation
7 factors, I support the allocation method employed by PPL Electric in general, and I
8 have utilized the results of the cost of service study to discuss the allocation of any
9 rate increase and rate design.

10 Results of Cost of Service Study

11 Q HAVE YOU REVIEWED THE RESULTS OF PPL ELECTRIC'S COST OF SERVICE
12 STUDY?

13 A Yes. I reviewed the results of PPL Electric's cost of service study for the 12-month
14 period ending December 31, 2004. The results of PPL Electric's cost of service study
15 indicate that some rate classes are currently being subsidized by other rate classes.
16 The commercial and industrial rate classes are paying rates in excess of the cost to
17 serve them.

18 Q WHAT DO THE RESULTS OF THE COST OF SERVICE STUDY SHOW?

19 A The results of the cost of service study are summarized on Exhibit JTS 1. This
20 Exhibit summarizes the cost of service for the major rate classes. These rate classes
21 comprise approximately 96% of PPL Electric's Pennsylvania jurisdictional rate base.

1 Exhibit JTS 1 shows the results of the cost of service study at both the current
2 and the proposed rates. It also shows the rate of return, and the index of return, for
3 both the present and the proposed rates.

4 Exhibit JTS 1 shows the rate increase that each class would have to receive in
5 order to bring its rates to cost of service. This is calculated for both present and
6 proposed rates. It should be noted that revenues shown on Exhibit JTS 1 reflect total
7 revenues, which include transmission, distribution, energy and capacity, and
8 competitive and intangible transition charge revenues, while the revenue requirement
9 only shows the distribution portion of revenue requirements.

10 **Q PLEASE DESCRIBE THE RESULTS OF THE COST OF SERVICE STUDY AS IT**
11 **RELATES TO THE PRESENT RATES.**

12 **A** Rate Schedules GS-3 and LP-4 would need to see rate decreases of 4.44% and
13 2.11%, respectively, in order to bring their rates to cost of service. The residential
14 class would need an increase of approximately 4.43% to bring its rates to cost of
15 service.

16 **Q WHAT IS PPL ELECTRIC'S REVENUE ALLOCATION PROPOSAL?**

17 **A** PPL Electric is proposing to cap the maximum increase to any customer class at 10%
18 of present rates. The proposed increase to the residential and street lighting classes
19 is capped at approximately 10%. As a result of this cap, the revenue increase
20 allocated to GS-3 and LP-4 produce rates in excess of the cost of service. The
21 application of the cap further increases the subsidies that the GS-3 and LP-4 rate
22 classes provide to the other classes. As a result, GS-3 and LP-4 proposed rates
23 would have to be reduced by 7.05% and 3.34% respectively for the rates to be at cost
24 of service.

1 Q DO YOU HAVE ANY COMMENTS TO MAKE REGARDING PPL ELECTRIC'S
2 PROPOSED RATE INCREASE?

3 A For purposes of this proceeding, I support PPL Electric's proposal to limit the rate
4 increase to any rate class to 10%. However, if the Commission determines the total
5 increase should be less than PPL Electric's requested amount, I recommend that any
6 reduction should be allocated to those classes whose rates are above cost of service
7 or have a rate of return in excess of the overall rate of return that PPL Electric is
8 proposing, while at the same time maintaining a rate increase cap of 10% to any rate
9 class that is receiving a subsidy.

10 Q HAVE YOU PREPARED AN EXHIBIT THAT SHOWS HOW YOU WOULD
11 ALLOCATE ANY RATE REDUCTION FROM THE AMOUNT REQUESTED BY PPL
12 ELECTRIC?

13 A Yes. Exhibit JTS 2 provides an example of how a reduction of \$50 million from the
14 amount that PPL Electric is requesting in this case will be allocated to customer
15 classes based on my recommendation. The allocation of a \$50 million reduction from
16 PPL Electric's requested amount would be based on the cost of service results as
17 shown on Exhibit JTS 1. The amounts shown on Exhibit JTS 2 would be used to
18 offset the increases PPL Electric has proposed for those classes identified on Exhibit
19 JTS 2. This procedure would be followed for all rate classes.

1 Rate Design

2 Q HAVE YOU REVIEWED PPL ELECTRIC'S PROPOSED CHANGES TO THE RATE
3 SCHEDULE TO THE LARGE GENERAL SERVICE, RATE SCHEDULE GS-3?

4 A Yes. Consistent with the results of its cost of service study, PPL Electric is proposing
5 to move the rates to demand-oriented rates and away from energy or kWh-based
6 rates. As a result, the demand charge is being increased substantially and the
7 energy charges are reduced.

8 The proposed rate schedule GS-3 recovers approximately 95% of the overall
9 distribution revenue requirement through demand charges. The present GS-3
10 recovers approximately 85% of the overall distribution revenues through demand
11 charges.

12 Q DO YOU AGREE WITH PPL ELECTRIC'S PROPOSED RATE DESIGN FOR GS-3?

13 A Yes. It is consistent with the cost allocation method and results in sending proper
14 price signals. The rate design is consistent with the cost of service and rate design
15 principles I discussed earlier in my testimony.

16 Transmission Service and Distribution System Improvement Charges

17 Q PLEASE EXPLAIN PPL ELECTRIC'S PROPOSED TRANSMISSION SERVICE
18 CHARGE.

19 A The Transmission Service Charge (TSC) which will be assessed to customers on a
20 mills per kWh basis is intended to recover transmission service charges incurred by
21 PPL Electric in the use of transmission services under the PJM Open Access
22 Transmission Tariff accepted by the Federal Energy Regulatory Commission. The

1 TSC is designed to be applied to those customers who receive Basic Utility Supply
2 Service as defined in Rule 1B(1) from PPL Electric.

3 Q PLEASE EXPLAIN THE PURPOSE OF THE DISTRIBUTION SERVICE
4 IMPROVEMENT CHARGE.

5 A The Distribution Service Improvement Charge (DSIC) provides for the recovery of the
6 fixed cost of eligible delivery system improvements and relocation projects designed
7 to enhance system security, reliability, integrity, safety and long-term viability. The
8 DSIC includes depreciation and pre-tax return for non-revenue producing distribution
9 system improvement projects completed and placed in service.

10 Q SHOULD THE COMMISSION APPROVE THE TSC AND DSIC MECHANISMS?

11 A No. The reasons that these mechanisms should not be approved are as follows:

- 12 1. These costs are not as volatile as fuel costs, and do not need to be updated on a
13 more frequent basis than a comprehensive rate proceeding.
- 14 2. Providing for an automatic pass through eliminates incentives to control these
15 costs.
- 16 3. An increase in sales will provide revenues that will offset some or all of the
17 distribution-related costs.
- 18 4. If PPL Electric is authorized to automatically pass through costs, the rate
19 revenues PPL Electric collects could exceed its revenue requirement or cost of
20 service.
- 21 5. Collecting these costs on a uniform per kWh basis provides inaccurate price
22 signals to customers.
- 23 6. The proposed treatment is inconsistent with cost of service principles because the
24 allocation of costs ignores cost causation.

1 Q WOULD COLLECTING THE TSC AND DSIC ON A UNIFORM KWH BASIS
2 DISTORT PRICE SIGNALS TO CUSTOMERS?

3 A Yes. It is widely recognized that transmission and distribution costs are demand-
4 related. Any recovery of transmission and distribution costs should reflect cost
5 causation. Since these costs are demand related, recovery of the transmission and
6 distribution costs on a uniform energy charge would be inappropriate and would result
7 in increasing rate subsidies. Therefore, PPL Electric's proposal to collect these costs
8 from all customers using a uniform kWh surcharge should be rejected.

9 Q HAVE YOU PREPARED AN EXHIBIT THAT DEMONSTRATES HOW
10 COLLECTING THE TSC THROUGH A UNIFORM KWH SURCHARGE WILL
11 RESULT IN OVERPAYMENTS BY CERTAIN RATE CLASSES?

12 A Yes. Exhibit JTS 3 shows the transmission level demands and the unannualized
13 energy sales allocators contained in the jurisdictional cost of service study presented
14 in PPL Electric's Exhibit JWK-2 for the same rate class as shown on Exhibit JTS 1,
15 excluding street lighting. As Exhibit JTS 3 shows, Rate Class GS-1 is responsible for
16 6.26% of the transmission level demand cost. However, if the transmission costs are
17 collected on a uniform energy charge, Rate Class GS-1 would be paying only 5.54%
18 of these same costs. Similarly, Rate Schedules GS-3 and LP-4 would be allocated
19 24.299% and 13.759% of these costs, respectively, utilizing a transmission demand
20 allocator, yet these same classes would be paying 23.802% and 15.174%,
21 respectively, utilizing a uniform energy recovery mechanism.

22 Q HAVE YOU PERFORMED A SIMILAR ANALYSIS FOR DSIC?

23 A Yes. A comparison of the distribution demand allocator and energy allocator is
24 shown on Exhibit JTS 3. For this analysis, I have assumed that all of the DSIC

1 eligible costs would be at the primary service level. However, if any of the DSIC
2 eligible costs were at the secondary level, the allocators would be different. That is,
3 the difference between the assignment of costs using the appropriate demand
4 allocator versus an energy allocator would be greater.

5 As Exhibit JTS 3 shows, Rate Schedule GS-1 would be allocated 8.71% of the
6 cost using a primary level demand allocator as opposed to 5.54% of the payment
7 using an energy rate. Although the DSIC mechanism indicates that the charge will
8 not exceed 5% of the billed amount to any customer for the electric distribution
9 service, the application of the rider will still cause rate inequities.

10 **Q WHAT IS YOUR RECOMMENDATION IN THIS PROCEEDING?**

11 **A** My recommendation in this proceeding is that the Commission not approve the
12 request to implement the TSC and the DSIC. However, if the TSC and/or the DSIC
13 mechanisms are approved by this Commission, then those costs should be allocated
14 using the appropriate demand allocator. These costs can then be changed to a kW
15 or kWh basis to each class. If the class has a demand component, passing the costs
16 through a demand charge would be appropriate.

17 **Q HOW SHOULD THE TRANSMISSION COSTS BE COLLECTED FROM**
18 **RATEPAYERS?**

19 **A** These costs should not be recovered on a uniform cents per kWh basis for all
20 customer classes. The cost recovery should reflect cost causation and the fact that
21 these costs are generally demand-related as opposed to energy-related. The
22 Commission should assign these costs to the rate classes using transmission level
23 demand allocators. After the costs are assigned, kW or kWh charges for each class
24 can be developed from the billing determinants.

1 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY AT THIS TIME?

2 A Yes, it does.

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Qualifications of James T. Selecky

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1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A James T. Selecky. My business mailing address is P. O. Box 412000, 1215 Fern
3 Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

4 Q PLEASE STATE YOUR OCCUPATION.

5 A I am a consultant in the field of public utility regulation and am a principal in the firm of
6 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

7 Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL
8 EMPLOYMENT EXPERIENCE.

9 A I graduated from Oakland University in 1969 with a Bachelor of Science degree with a
10 major in Engineering. In 1978 I received the degree of Master of Business Admin-
11 istration with a major in Finance from Wayne State University.

12 I was employed by The Detroit Edison Company (DECo) in April of 1969 in its
13 Professional Development Program. My initial assignments were in the engineering,
14 and operations divisions where my responsibilities included evaluation of equipment
15 for use on the distribution and transmission system; equipment performance testing
16 under field and laboratory conditions; and trouble-shooting and equipment testing at
17 various power plants throughout the DECo system. I also worked on system design
18 and planning for system expansion.

19 In May of 1975, I transferred to the Rate and Revenue Requirement area of
20 DECo. From that time, and until my departure from DECo in June 1984, I held
21 various positions which included economic analyst, senior financial analyst,
22 supervisor of Rate Research Division, supervisor of Cost-of-Service Division and

1 director of the Revenue Requirement Department. In these positions, I was
2 responsible for overseeing and performing economic and financial studies and book
3 depreciation studies, developed fixed charge rates and parameters and procedures
4 used in economic studies, providing a financial analysis consulting service to all
5 areas of DECo, developing and designing rate structure for electrical and steam
6 service, analyzing profitability of various classes of service and recommending
7 changes therein, determining fuel and purchased power adjustments and all aspects
8 of determining revenue requirements for ratemaking purposes.

9 In June of 1984, I joined the firm of Drazen-Brubaker & Associates, Inc.
10 (DBA). In April 1995 the firm of Brubaker & Associates, Inc. (BAI) was formed. It
11 includes most of the former DBA principals and staff. At DBA and BAI I have testified
12 in electric, gas and water proceedings involving almost all aspects of regulation. I
13 have also performed economic analyses for clients related to energy cost issues.

14 In addition to our main office in St. Louis, the firm also has branch offices in
15 Denver, Colorado; Chicago, Illinois; Asheville, North Carolina; Corpus Christi, Texas;
16 and Plano, Texas.

17 **Q HAVE YOU PREVIOUSLY APPEARED BEFORE A REGULATORY COMMISSION?**

18 **A** Yes. I have testified on behalf of DECo in its steam heating and main electric cases.
19 In these cases I have testified to rate base, income statement adjustments, changes
20 in book depreciation rates, rate design, and interim and final revenue deficiencies.

21 In addition, I have testified before the regulatory commissions of the States of
22 Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Maryland, Massachusetts,
23 Missouri, New Hampshire, New Jersey, North Carolina, Ohio, Oklahoma, Tennessee,
24 Texas, Utah, Wisconsin, and Wyoming, and the Provinces of Saskatchewan and
25 Alberta. I also have testified before the Federal Energy Regulatory Commission. In

1 addition, I have filed testimony in proceedings before the regulatory commissions in
2 the States of Iowa, Montana, New York, and Pennsylvania. My testimony has
3 addressed revenue requirement issues, cost of service, rate design, financial
4 integrity, accounting-related issues, merger-related issues, and performance
5 standards. The revenue requirement testimony has addressed book depreciation
6 rates, decommissioning expense, O&M expense levels, and rate base adjustments
7 for items such as plant held for future use, working capital, and post test year
8 adjustments. In addition, I have testified on deregulation issues such as stranded
9 cost estimates and rate design.

10 **Q ARE YOU A REGISTERED PROFESSIONAL ENGINEER?**

11 **A** Yes, I am a registered professional engineer in the State of Michigan.

PPL ELECTRIC UTILITIES CORPORATION

Cost of Service Components
 Twelve Months Ended December 31, 2004
 (Dollars in Thousands)

Line	Description	PA Jurisdiction (1)	RS (2)	GS-1 (3)	GS-3 (4)	LP-4 (5)	LP-5 (6)	IST (7)	SL/AL (8)
1	Rate Base	\$ 1,842,749	\$ 1,216,771	\$ 179,297	\$ 250,040	\$ 61,618	\$ 2,036	\$ 716	\$ 66,001
Present Rates									
Operating Income:									
2	Operating Revenues	523,208	310,247	65,134	89,770	22,690	1,667	1,709	18,110
3	Operating Expenses	451,206	290,819	48,488	63,523	16,136	1,187	1,085	17,433
4	Operating Income	72,002	19,428	16,646	26,247	6,554	480	624	677
5	Rate of Return	3.91%	1.60%	9.28%	10.50%	10.64%	23.58%	87.15%	1.03%
6	Index of Return	100	41	238	269	272	603	2,230	26
7	Subsidy	\$ -	\$ (48,054)	\$ 16,477	\$ 28,163	\$ 7,087	\$ 684	\$ 1,019	\$ (3,251)
8	Present Rate Revenue	\$ 2,534,772	\$ 1,083,956	\$ 202,631	\$ 634,892	\$ 336,079	\$ 176,727	\$ 76,489	\$ 23,997
9	Subsidy		\$ 48,054	\$ (16,477)	\$ (28,163)	\$ (7,087)	\$ (684)	\$ (1,019)	\$ 3,251
10	Percent Change		4.43%	-8.13%	-4.44%	-2.11%	-0.39%	-1.33%	13.55%
Proposed Rates									
Operating Income:									
11	Operating Revenues	687,664	392,357	87,612	133,391	33,316	1,693	1,148	20,201
12	Operating Expenses	525,490	327,935	58,626	83,205	20,931	1,198	834	18,381
13	Operating Income	162,174	64,422	28,986	50,186	12,385	495	314	1,820
14	Rate of Return	8.80%	5.29%	16.17%	20.07%	20.10%	24.31%	43.85%	2.76%
15	Index of Return	100	60	184	228	228	276	498	31
16	Subsidy	\$ -	\$ (72,918)	\$ 22,573	\$ 48,167	\$ 11,900	\$ 540	\$ 429	\$ (6,817)
17	Proposed Rate Revenue	\$ 2,742,007	\$ 1,188,699	\$ 222,531	\$ 683,072	\$ 356,150	\$ 185,378	\$ 79,794	\$ 26,382
18	Subsidy		\$ 72,918	\$ (22,573)	\$ (48,167)	\$ (11,900)	\$ (540)	\$ (429)	\$ 6,817
19	Percent Change		6.13%	-10.14%	-7.05%	-3.34%	-0.29%	-0.54%	25.84%
20	Percent Rate Change	8.18%	9.66%	9.82%	7.59%	5.97%	4.90%	4.32%	9.94%

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Exhibit JTS 2

8-12-04 JES
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R-2049215

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PPL ELECTRIC UTILITIES CORPORATION

Allocation of Decrease from
PPL's Proposed Amount
Twelve Months Ended December 31, 2004
(Dollars in Thousands)

Line	Rate Classes	Subsidies for Classes with Rates of Return Higher than System Average at Proposed Rates		Allocate \$50 Million Decrease (3)
		Amount (1)	Percent (2)	
1	RS		0.00%	\$ -
2	GS-1	22,573	27.00%	(13,499)
3	GS-3	48,167	57.61%	(28,805)
4	LP-4	11,900	14.23%	(7,116)
5	LP-5	540	0.65%	(323)
6	IST	429	0.51%	(257)
7	SL/AL		0.00%	-
8	Other		0.00%	-
9	Total	\$ 83,608	100.00%	\$ (50,000)

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Exhibit JTS 3
872-01 JES
R-00049255

PPL ELECTRIC UTILITIES CORPORATION

**Rate Base and MWh
Twelve Months Ended December 31, 2004
(Dollars in Thousands)**

Line	Rate Classes	Transmission Level Demands		Primary Level Demands		MWh	
		kW (1)	Percent (2)	kW (3)	Percent (4)	Amount (5)	Percent (6)
1	RS	2,320,941	38.49%	2,819,810	43.37%	12,899,883	35.16%
2	GS-1	377,743	6.26%	566,500	8.71%	2,034,025	5.54%
3	GS-3	1,465,094	24.30%	1,760,092	27.07%	8,732,335	23.80%
4	LP-4	829,643	13.76%	939,736	14.45%	5,567,372	15.17%
5	LP-5	491,779	8.16%	-	0.00%	3,348,588	9.13%
6	IST	219,103	3.63%	-	0.00%	1,944,598	5.30%
7	Other	325,310	5.40%	415,036	6.38%	2,162,328	5.89%
8	Total	6,029,613	100.00%	6,501,174	100.00%	36,689,129	100.00%

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LHB

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC
UTILITY COMMISSION

)
) DOCKET NO. R-00049255
)
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v.

PPL ELECTRIC UTILITIES
CORPORATION

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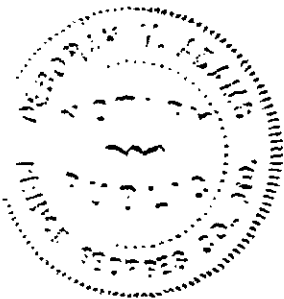
AFFIDAVIT

Lafayette K. Morgan, Jr. being first duly sworn, deposes and says that he is the same Lafayette K. Morgan, Jr. whose Late Filed Schedules accompanies this affidavit. That such schedules were prepared by him; that he is familiar with the contents thereof; that the facts set forth therein are true and correct to the best of his knowledge, information and belief; and that he does adopt the same as his part of his sworn testimony in this proceeding.

Lafayette K. Morgan Jr.
Lafayette K. Morgan, Jr.

Subscribed and sworn before me on this 11 day of August, 2004.

Robert M. Adams
Notary Public



My Commission Expires: _____

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PPL ELECTRIC UTILITIES CORP.
Docket No. R-00049255
Explanation of Revisions to OCA Revenue
Requirement Position

At the hearing held on August 9, 2004, OCA witness Lafayette Morgan stated on cross-examination that he would revise the OCA's revenue requirement position to reflect an increase in income tax expense to correct a misunderstanding regarding the amortization of deferred income taxes relating to the Cost of Removal.

In the attached Late-Filed Schedules, the adjustment to T&D Deferred Income Taxes presented on Schedule LKM-11S has been changed from a reduction of \$70,000 to an increase of \$70,000, in accordance with the information supplied by PPL Electric. All schedules that were affected by this change have been labeled "Revised" for the convenience of the reader. As a result of this change, the OCA recommended increase in revenues from distribution rates will increase from \$115,697,000, as presented in Mr. Morgan's Surrebuttal Testimony, to \$115,864,000, as presented in Mr. Morgan's Revised Schedules, or an increase of \$167,000.

PPL ELECTRIC UTILITIES CORPORATION

Summary of Operating Income
 For the Test Year Ended December 31, 2004
 (\$000)

	PAPUC Jurisdictional Amount per Co.	OCA Cost of Service Adjustments	Amount After Adjustments	OCA Recommended Change In Revenue	After Proposed Rate Increase
Operating Revenues	\$ 517,322	\$ -	\$ 517,322	\$ 115,864	\$ 633,186
Late Payment Revenue	5,886	330	6,216	1,080	7,295
Total Operating Revenues	<u>\$ 523,208</u>	<u>\$ 330</u>	<u>\$ 523,538</u>	<u>\$ 116,944</u>	<u>\$ 640,482</u>
<u>Operating Expenses</u>					
O&M Expenses	\$ 309,837	\$ (9,045)	\$ 300,792	\$ -	\$ 300,792
Depreciation & Amortization Expenses	93,906	(501)	93,405	-	93,405
Taxes Other Than Income	44,588	(2,517)	42,071	6,900	48,971
Current State Income Tax	(170)	1,256	1,086	10,993	12,079
Current Federal Income Tax	(25,502)	3,962	(21,540)	34,668	13,128
Deferred Income Taxes	30,464	46	30,510	-	30,510
Investment Tax Credit	(1,913)	-	(1,913)	-	(1,913)
Total Operating Expenses	<u>\$ 451,210</u>	<u>\$ (6,799)</u>	<u>\$ 444,411</u>	<u>\$ 52,561</u>	<u>\$ 496,972</u>
Net Operating Income	<u>\$ 71,998</u>	<u>\$ 7,129</u>	<u>\$ 79,127</u>	<u>\$ 64,383</u>	<u>\$ 143,510</u>
Rate Base	<u>\$ 1,842,744</u>		<u>\$ 1,828,149</u>		<u>\$ 1,828,149</u>
Return On Rate Base	<u>3.91%</u>		<u>4.33%</u>		<u>7.85%</u>

PPL ELECTRIC UTILITIES CORPORATION

Summary of Revenue Increase at OCA Rate of Return
 For the Test Year Ended December 31, 2004
 (\$000)

	<u>Amount</u>	
Adjusted Rate Base	\$ 1,828,149	Schedule LKM-2, Page 2
Required Rate of Return	<u>7.850%</u>	
Net Operating Income Required	\$ 143,510	
Net Operating Income at Present Rates	<u>..... 79,127</u>	Schedule LKM-1, Page 1
Income Deficiency/(Surplus)	\$ 64,383	
Revenue Multiplier	<u>1.816378</u>	
Required Change in Company Revenue	<u>\$ 116,944</u>	
Proposed Revenue Change	\$ 116,944	
Gross Revenues Tax	5.900% <u>6,900</u>	
Subtotal	\$ 110,044	
State Income Tax	9.990% <u>..... 10,993</u>	
Subtotal	\$ 99,051	
Federal Income Tax	35.00% <u>..... 34,668</u>	
Net Income Increase Required	<u>\$ 64,383</u>	

PPL ELECTRIC UTILITIES CORPORATION

Summary of Rate Base
For the Test Year Ended December 31, 2004
(\$000)

	PAPUC Jurisdictional Amount per Co.	OCA Rate Base Adjustments	Amount After Adjustments
Total Plant in Service	\$ 3,426,913	\$ -	\$ 3,426,913
Accumulated Depreciation	<u>(1,287,091)</u>	<u>-</u>	<u>(1,287,091)</u>
Net Plant in Service	\$ 2,139,822	\$ -	\$ 2,139,822
Cash Working Capital	\$ 18,389	\$ (7,955)	\$ 10,434
Materials & Supplies	22,698	-	22,698
Plant Held For Future Use	2,200	(2,213)	(13)
Customer Advances	(174)	-	(174)
Customer Deposits	(16,039)	(4,427)	(20,466)
Accumulated Deferred Income Taxes	<u>(324,152)</u>	<u>-</u>	<u>(324,152)</u>
Total Rate Base	<u>\$ 1,842,744</u>	<u>\$ (14,595)</u>	<u>\$ 1,828,149</u>

PPL ELECTRIC UTILITIES CORPORATION

Summary of Rate Base Adjustments
For the Test Year Ended December 31, 2004
(\$000)

	<u>Source</u>	<u>PAPUC Jurisdictional Amount per Co.</u>
Rate Base per Company Filing	Schedule LKM-2, Page 1	<u>\$ 1,842,744</u>
<u>OCA Adjustments:</u>		
Plant Held For Future Use	Schedule LKM-4	\$ (2,213)
Cash Working Capital	Schedule LKM-5, Page 1	(7,594)
Customer Deposits	Schedule LKM-6	(4,427)
Prepayments	Schedule LKM-7	<u>(361)</u>
Total Ratemaking Adjustments		<u>\$ (14,595)</u>
Adjusted Rate Base per OCA		<u><u>\$ 1,828,149</u></u>

PPL ELECTRIC UTILITIES CORPORATION

Summary of Adjustments to Net Income
For the Test Year Ended December 31, 2004
(\$000)

	<u>Total Company Amount</u>
Net Income per Company	<u>\$ 71,998</u>
<u>OCA Adjustments:</u>	
Remove AMR Displacement Amortization	\$ 1,032
Remove Hurricane Isabel Amortization	1,756
Revise Community Affairs Department Expenses	136
Remove Expiring Amortizations	247
Normalize Environmental Remediation Expenses	1,125
Normalize Certain Social Programs Expense	1,141
Annualize Pension Expense	288
Annualize Postretirement Benefits Expense	(153)
Annualize Interest on Customer Deposits	(33)
Annualize Capital Stock Tax	1,472
Annualize Late Payment Fees	193
Interest Synchronization	<u>(76)</u>
Total Ratemaking Adjustments	<u>\$ 7,129</u>
Total Adjusted Net Income per OCA	<u><u>\$ 79,127</u></u>

PPL ELECTRIC UTILITIES CORPORATION

Summary of Adjustments to Net Income
 For the Test Year, Ended December 31, 2004
 (\$000)

	Operating Revenues	O&M Expenses	Depreciation & Amortization Expenses	Taxes Other Than Income	Current State Income Taxes	Current Federal Income Tax	Deferred Income Taxes	Investment Tax Credit	Net Operating Income
Total Company, Amount per Company	\$ 523,208	\$ 309,837	\$ 93,906	\$ 44,588	\$ (170)	\$ (25,502)	\$ 30,464	\$ (1,913)	\$ 71,998
OCA Adjustments:									
Remove AMR Displacement Amortization	\$ -	\$ (1,764)	\$ -	\$ -	\$ 176	\$ 556	\$ -	\$ -	\$ 1,032
Remove Hurricane Isabel Amortization	-	(3,002)	-	-	300	946	-	-	1,756
Revise Community Affairs Department Expenses	-	(232)	-	-	23	73	-	-	136
Remove Expiring Amortizations	-	-	(501)	-	50	158	46	-	247
Normalize Environmental Remediation Expenses	-	(1,924)	-	-	192	606	-	-	1,125
Normalize Certain Social Programs Expense	-	(1,950)	-	-	195	614	-	-	1,141
Annualize Pension Expense	-	(491)	-	-	49	155	-	-	288
Annualize Postretirement Benefits Expense	-	261	-	-	(26)	(82)	-	-	(153)
Annualize Interest on Customer Deposits	-	57	-	-	(6)	(18)	-	-	(33)
Annualize Capital Stock Tax	-	-	-	(2,517)	251	793	-	-	1,472
Annualize Late Payment Fees	330	-	-	-	33	104	-	-	193
Interest Synchronization	-	-	-	-	18	58	-	-	(76)
Total Ratemaking Adjustments	\$ 330	\$ (9,045)	\$ (501)	\$ (2,517)	\$ 1,256	\$ 3,962	\$ 46	\$ -	\$ 7,129
Total Adjusted Income	\$ 523,538	\$ 300,792	\$ 93,405	\$ 42,071	\$ 1,086	\$ (21,540)	\$ 30,510	\$ (1,913)	\$ 79,127

PPL ELECTRIC UTILITIES CORPORATION

Adjustment to Remove Expiring Amortizations
For the Test Year Ended December 31, 2004
(\$000)

	<u>Amount</u>
<u>Power Management System Software:</u>	
Adjustment to T&D O&M Expenses	\$ (530) 1/
PAPUC Jurisdictional Allocation Factor	<u>94.58% 2/</u>
Adjustment to O&M Expenses	<u>\$ (501)</u>
<u>Deferred Income Taxes Related to Removal Costs:</u>	
Adjustment to T&D Deferred Income Taxes	\$ 70 3/
PAPUC Jurisdictional Allocation Factor	<u>65.54% 4/</u>
Adjustment to Deferred Income Taxes	<u>\$ 46</u>

Notes:

1/ Response to OCA-III-53.

2/ Calculated based on data presented on Exhibit JMK-2, Page 20, Line 25.

3/ Based on page 9, lines 1 through 7 of witness Schadt's Rebuttal Testimony.

4/ Calculated based on data presented on Exhibit JMK-2, Page 23, Line 7.

PPL ELECTRIC UTILITIES CORPORATION

Interest Synchronization Adjustment
For the Test Year Ended December 31, 2004

	<u>Amount</u>
Staff Rate Base	\$ 1,828,149 1/
Weighted Cost of Debt	<u>3.32%</u>
Adjusted Interest Deduction	\$ 60,695
Interest Deduction Per Company	<u>60,879 2/</u>
Adjustment to Synchronize Interest Expense	\$ (184)
Effective State Income Tax Rate	<u>9.99%</u>
Adjustment to State Income Taxes	<u>\$ 18</u>
Federal Income Tax Base	(\$166)
Federal Income Tax Rate	<u>35.00%</u>
Adjustment to Federal Income Taxes	<u>\$ 58</u>

Notes:

1/ Schedule LKM-2, Page 1.

2/ Exhibit JMK-2, Page 27, Line 1.

PPL ELECTRIC UTILITIES CORPORATION

Reconciliation of State and Federal Income Taxes
 For the Test Year Ended December 31, 2004

	Test Year Per Company	Ratemaking Adjustments	Test Year at Present Rates	Increase at OCA Rate of Return	After Proposed Increase
CALCULATION OF COMBINED CURRENT INCOME TAX					
Net Operating Income Before Income Taxes	\$ 46,326	\$ 12,393	\$ 58,719	\$ 110,044	\$ 168,763
Adjustments for Income Taxes (Including Interest)	(119,361)	184	(119,177)	-	(119,177)
Subtotal	\$ (73,035)	\$ 12,577	\$ (60,458)	\$ 110,044	\$ 49,586
Special Tax Deductions	71,330	-	71,330	-	71,330
State Taxable Income	\$ (1,705)	\$ 12,577	\$ 10,872	\$ 110,044	\$ 120,916
State Income Tax	9.99% \$ (170)	\$ 1,256	\$ 1,086	\$ 10,993	\$ 12,080
Federal Taxable Income Before State Income Tax	\$ (73,035)	\$ 12,577	\$ (60,458)	\$ 110,044	\$ 49,586
State Income Tax	\$ (170)	\$ 1,256	\$ 1,086	\$ 10,993	\$ 12,080
Federal Taxable Income	\$ (72,865)	\$ 11,321	\$ (61,544)	\$ 99,051	\$ 37,507
Federal Income Tax	35.00% \$ (25,503)	\$ 3,962	\$ (21,540)	\$ 34,668	\$ 13,127
Net Combined Current Income Tax	\$ (25,673)	\$ 5,219	\$ (20,454)	\$ 45,661	\$ 25,207
Total Combined Current Income Taxes (Schedule LKM-1, Page 1)	(25,672)	5,218	(20,454)	45,661	25,207
Unreconciled/Rounding	\$ (1)	\$ 0	\$ (1)	\$ 0	\$ (1)