

COMMONWEALTH OF MASSACHUSETTS
BEFORE THE DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

In the Matter of the Petition of)
the Cape Light Compact)
Regarding Purchase of Streetlights

Docket No. ____

DIRECT TESTIMONY OF
PAUL CHERNICK
ON BEHALF OF
THE CAPE LIGHT COMPACT

Resource Insight, Inc.

JANUARY 26, 2001

EXHIBITS

- Exhibit ___ PLC-1 *Summary of Commonwealth Electric's Purchase-Price Estimates*
- Exhibit ___ PLC-2 *Example of Commonwealth Electric's Method 1*
- Exhibit ___ PLC-3 *Example of Commonwealth Electric's Method 2*
- Exhibit ___ PLC-4 *Variable Annual Depreciation Rates in Commonwealth's Method 2*
- Exhibit ___ PLC-5 *Corrected Calculation of Purchase Price*
- Exhibit ___ PLC-6 *Summary of Corrected Purchase Price Estimates*

1 **I. Identification and Qualifications**

2 **Q: State your name, occupation and business address.**

3 A: I am Paul L. Chernick. I am the president of Resource Insight, Inc., 347
4 Broadway, Cambridge, Massachusetts 02139.

5 **Q: Summarize your professional education and experience.**

6 A: I received an SB degree from the Massachusetts Institute of Technology in
7 June, 1974 from the Civil Engineering Department, and an SM degree from
8 the Massachusetts Institute of Technology in February, 1978 in technology
9 and policy. I have been elected to membership in the civil engineering
10 honorary society Chi Epsilon, and the engineering honor society Tau Beta Pi,
11 and to associate membership in the research honorary society Sigma Xi.

12 I was a utility analyst for the Massachusetts Attorney General for more
13 than three years, and was involved in numerous aspects of utility rate design,
14 costing, load forecasting, and the evaluation of power supply options. Since
15 1981, I have been a consultant in utility regulation and planning, first as a
16 research associate at Analysis and Inference, after 1986 as president of PLC,
17 Inc., and in my current position at Resource Insight. In these capacities, I
18 have advised a variety of clients on utility matters. My work has considered,
19 among other things, power supply planning, rate design, cost allocation, and
20 utility industry restructuring.

21 **Q: Have you testified previously in utility proceedings?**

22 A: Yes. I have testified approximately one hundred and seventy times on utility
23 issues before various regulatory, legislative, and judicial bodies, including
24 utility rate regulators in Massachusetts, Vermont, Maine, Rhode Island, New

1 Hampshire, Maryland, Delaware, Connecticut, Texas, New Mexico, District
2 of Columbia, Michigan, Minnesota, Ohio, South Carolina, North Carolina,
3 Florida, Pennsylvania, New York, Arizona, Illinois, Utah, Washington, West
4 Virginia, Mississippi, and Ontario, as well as the New Orleans City Council,
5 the Federal Energy Regulatory Commission, and the Atomic Safety and
6 Licensing Board of the U.S. Nuclear Regulatory Commission.

7 **Q: Have you testified previously before this Department?**

8 A: I testified in approximately 45 proceedings before the Department (mostly
9 when it was called the Department of Public Utilities), including DTE 98-89,
10 a proceeding involving the purchase of streetlights by Acton and Lexington.

11 **II. Introduction**

12 **Q: On whose behalf are you testifying?**

13 A: I am testifying on behalf of the Cape Light Compact (the Compact).

14 **Q: What is the purpose of your testimony?**

15 A: I was asked to review Commonwealth Electric Company's calculation of the
16 purchase price for municipal streetlights in three towns: Harwich, Sandwich
17 and Edgartown. I evaluated these calculations against the standard estab-
18 lished in G.L. c. 164, §34A. Under this standard, a municipality wishing to
19 purchase its streetlights from the distribution utility must pay the utility "its
20 unamortized investment, net of any salvage value obtained by the electric
21 company under the circumstances, in the lighting equipment owned by the
22 electric company in the municipality."

23 **Q: Under this standard, how should the purchase price be calculated?**

1 A: The calculation of unamortized investment for purposes of purchasing street
2 lights should tie into (and be consistent with) the company's traditional
3 accounting practices for tracking "original investment" and "accumulated
4 depreciation" for ratemaking purposes. In utility practice, the unamortized
5 portion of a given piece of equipment (in this case, a streetlight) in a given
6 year is equal to the original cost, net of accumulated depreciation.¹ The
7 accumulated depreciation on that equipment is calculated as the product of its
8 original cost, the depreciation rate, and the age of the equipment. Depre-
9 ciation rates are set and periodically reviewed by the Department.

10 **Q: Has the Compact attempted to negotiate a purchase price for the Towns'**
11 **streetlights?**

12 A: Yes.

13 **Q: What has been the result of those negotiations?**

14 A: Commonwealth has proposed two methodologies for computing purchase
15 prices.² The first methodology ignores all lights older than the assumed

¹ In the Department's words "unamortized investment is equal to the book value for gross plant in service, net of accumulated depreciation" (Letter Ruling in DTE 98-89, December 24 1998, at 4). The book value is the original cost of the equipment (including capitalized labor and overheads). Accumulated depreciation is the summation over the equipment's life of the annual depreciation rate for that type of equipment times the original cost.

²Commonwealth computed purchase prices for the plant in Sub-Account 635, Street Lighting Fixtures & Lights, which is part of FERC Account 373, Street Lighting and Signal Systems. I assume that the Company is proposing to sell only the streetlighting equipment in this sub-account, excluding minor amounts of conductors, conduit, and other plant that Commonwealth has booked to other streetlighting sub-accounts. The distinction between Account 373 and Sub-Account 635 is minor, since Sub-Account 635 represents the overwhelming majority of Account 373 for Commonwealth. (Other utilities classify significant streetlighting plant in other sub-accounts.)

1 depreciable life of 14 years. The Compact repeatedly requested the original
2 costs for the older lights. Before Commonwealth provided those data, it
3 changed its methodology by substituting a set of depreciation rates that are
4 much lower than Commonwealth's actual depreciation rate for streetlighting
5 equipment.

6 **Q: Please summarize your conclusions.**

7 A: Commonwealth proposes excessive purchase prices for all three towns. Both
8 of the Company's approaches substantially overstate the unamortized
9 lighting investment. They are inconsistent with the statute, with Boston
10 Edison Company's method used by the parties in Docket No. DTE 98-89,
11 and with standard utility ratemaking practices.

12 Commonwealth should sell the streetlighting plant serving municipal
13 customers to Edgartown for no more than \$8,396, and to Sandwich for no
14 more than \$11,917. Since the municipal streetlights in Harwich are more than
15 fully depreciated, Commonwealth should transfer those lights to the Town
16 for a nominal \$1 charge.

17 **III. Commonwealth's Streetlight Pricing Methods**

18 **Q: Please describe the methods used by Commonwealth in its calculations**
19 **of streetlight purchase prices.**

20 A: Commonwealth provided the Compact with an initial set of proposed
21 purchase prices in February 2000, and a second set in December 2000. In the
22 computations underlying these proposals, Commonwealth represented that it
23 has the remaining original lighting investment disaggregated by town and by
24 vintage (i.e., year of installation). However, Commonwealth apparently
25 records accumulated depreciation only on a system-wide basis, and thus can

1 only estimate accumulated depreciation by town. For its two purchase price
2 calculations, Commonwealth used two different methods to estimate
3 accumulated depreciation. Exhibit ___ PLC-1 summarizes Commonwealth's
4 two sets of purchase-price estimates.

5 In the February method (which I call Method 1), Commonwealth listed
6 all the municipally owned lights, by year installed. For all lights installed
7 since 1987, Commonwealth calculated the accumulated depreciation on a
8 given year's investment as the age of the investment times a depreciation rate
9 of 7.14% (which assumes a 14-year life). The 7.14% rate appears to be
10 Commonwealth's longstanding depreciation rate for streetlighting. For lights
11 installed before 1987, Commonwealth set the net cost to zero, effectively
12 limiting depreciation to the first 14 years of the equipment's life and omitting
13 the older lights from the analysis.

14 In practice, a town continues to pay for its streetlights as long as they
15 are in service, even if they are well past 14 years old. Similarly, the Company
16 continues to charge depreciation on plant as long as it remains in service.
17 Hence, lights installed before 1987 have accumulated depreciation in excess
18 of original cost and therefore should decrease the purchase price.

19 In the December method (Method 2), the Company provided the
20 original cost of the lights installed in each year since 1977, which may
21 represent the oldest surviving lights in these towns. However, Common-
22 wealth did not compute accumulated depreciation from the 7.14% depre-
23 ciation rate. Rather than calculating accumulated depreciation for each town
24 based on the actual town-specific original cost, Commonwealth relied on
25 some unspecified allocation of system-wide depreciation reserves across

1 towns and years.³ These new depreciation calculations resulted in much
2 higher purchase prices, almost three times the original estimate in the case of
3 Harwich.

4 As an example, Exhibit____PLC-2 presents the Commonwealth's
5 Method-1 calculation of purchase price for Harwich. Exhibit____PLC-3
6 presents the Method-2 calculation for the same town, based on the same
7 underlying data.

8 **Q: How did the Company allocate system-wide accumulated depreciation**
9 **by town and year in Method 2?**

10 A: The Company has not explained the basis for this allocation. It appears that
11 Method 2 allocates system-wide accumulated depreciation for Account 373
12 (streetlighting) across years, and then applies the system-wide ratio of
13 accumulated depreciation to gross plant for each year to the municipality's
14 gross plant for that year.⁴

15 The basis for the allocation across years remains unexplained.
16 Commonwealth informed the Compact that the allocation of accumulated
17 depreciation would use the "dollar-year" method. I have tried various dollar-
18 year allocations that the company could have used, but I have been unable to
19 reproduce the calculation on which the Company's allocation is based.

³Once the accumulated depreciation is estimated for all lights in a town, the Company must also allocate the net cost from each year between the lights serving the Town and lights serving commercial customers. The Company makes this allocation in proportion to the fraction of the lights installed in that year that were to serve the Town. This may be the best that Commonwealth can do with its data.

⁴Commonwealth's allocation of reserves is also broken down by subaccount such that, for a given vintage, the ratio of accumulated depreciation to gross plant for each year is the same across subaccounts.

1 Commonwealth's allocation of accumulated depreciation has several
2 curious characteristics, which I will discuss below. Regardless of how the
3 allocation was actually performed, it appears that the purpose of the
4 allocation is to ensure full recovery of the system-wide lighting investment,
5 rather than to compute the "unamortized investment...in the lighting
6 equipment owned by the electric company in the municipality," as required
7 by c. 164, §34A.

8 **Q: Is this allocation a reasonable way to ensure that Commonwealth**
9 **recovers all unamortized costs?**

10 A: No. If purchase prices calculated under c. 164, §34A do not fully recover
11 system-wide unamortized costs for some reason, the shortfall should be met
12 in the same way as any other stranded cost. Arbitrary allocation of system-
13 wide costs to municipalities, regardless of how costs were actually incurred,
14 is not an appropriate solution.

15 **Q: Is either Commonwealth method an appropriate approach for setting**
16 **the sales price for streetlights under G.L. c. 164, §34A?**

17 A: No. Each of the following problems affects one or both of the methods:

- 18 • *Ignoring some of the equipment being purchased.*

19 The computation should include all equipment in the municipality that
20 is being purchased. Method 1 ignores lights older than 14 years.

- 21 • *Failing to credit the ratemaking depreciation rate for all the plant being*
22 *purchased.*

23 The computation of the "unamortized investment" requires the use of a
24 depreciation rate, which must be the same as the rate used in ratesetting.
25 Method 1, in effect, applies Commonwealth's 7.14% depreciation rate
26 only for the first 14 years of each light's life, and applies a zero rate

1 thereafter. Method 2 effectively applies variable depreciation rates,
2 falling from about 7.04% in the first year to 1.43% by the twenty-third
3 year. These variable depreciation rates are computed in
4 Exhibit___PLC-4.

- 5 • *Preventing any light from having a negative net value.*

6 Towns have paid more than the full original cost for lights older than
7 the depreciation life (14 years for Commonwealth); these older lights
8 should contribute a negative net value to the purchase price. Method 1
9 arbitrarily terminates depreciation after 14 years, so that accumulated
10 depreciation can never exceed gross plant. Method 2 arbitrarily reduces
11 the depreciation rate over time, so that Commonwealth reports a
12 positive net plant even for equipment that was installed 52 years ago.
13 (See Exhibit___PLC-4, which provides ComElec’s reserve allocation
14 by year, starting in 1948).

- 15 • *Allowing events and investments outside the municipality to affect the
16 price for the municipality’s streetlighting plant.*

17 As described above, Method 2 allocates system-wide accumulated
18 depreciation for Account 373 across years, and then applies the system-
19 wide ratio of accumulated depreciation to gross plant for each year to
20 the municipality’s gross plant for that year. Hence, anything that affects
21 the system-wide accumulated depreciation or gross plant—for example,
22 a major streetlighting modernization program in New Bedford or
23 Marshfield—can affect the pricing of the streetlights on the Cape.

24 **Q: Are these problems shared by the method used by Boston Edison in**
25 **setting the purchase price for Lexington’s and Acton’s lights in DPU 98-**
26 **89?**

1 A: No. Boston Edison's method (which has since been used in setting prices for
2 Bedford and Newton)

- 3 • includes the gross plant and associated accumulated depreciation for *all*
4 the lights being purchased,
- 5 • applies the same streetlighting depreciation rate the utility used for
6 ratemaking and accounting purposes,⁵
- 7 • allows older lights to have negative net values, which offset the positive
8 values of younger lights,⁶
- 9 • uses only the data for the specific municipality wishing to purchase
10 streetlights.

11 **Q: Have you performed a corrected calculation of the purchase prices for**
12 **Edgartown, Harwich, and Sandwich?**

13 A: I computed the accumulated depreciation and net plant as of October 31,
14 2000 applying a constant 7.14% depreciation rate (consistent with the
15 assumptions used in setting Commonwealth's rates, and used in Method 1) to
16 the revised original-cost data used by the Company in its December esti-
17 mates. The details of my calculation are provided in Exhibit____PLC-5. All
18 the data (original cost by year and town, the municipal fraction of that cost,
19 and the depreciation rate) were provided by the Company. If the purchase
20 occurs after about February 1, 2001, accumulated depreciation should be

⁵Boston Edison had changed its depreciation rates over time, and there was a dispute over the depreciation rate attributable to streetlighting in a bundled distribution depreciation rate. But there was no dispute over the application of the full depreciation rate for every year.

⁶Because Boston Edison, in the Lexington and Acton purchases, implicitly used negative net values for older lights and offset those against the positive value of younger lights, Edison sold more than 3,000 lights to Lexington for the nominal value of \$1.

1 updated (at about \$360 per month both for Edgartown and for Harwich) and
2 any plant added since 10/31/00 should be added into the calculation.

3 **Q: What are the results of your calculation?**

4 A: I calculate the following purchase prices: \$8,396 for Edgartown, \$11,917 for
5 Sandwich, and \$0 for Harwich. According to my calculations, Common-
6 wealth has collected depreciation in excess of its investment in the lights
7 Harwich would be purchasing, in the amount of \$21,124. Exhibit ___ PLC-6
8 provides a comparison of my corrected calculations with the Company's two
9 sets of purchase price estimates.

10 **Q: What action do you recommend the Department take in this matter?**

11 A: The Department should instruct Commonwealth to transfer the lights serving
12 the Towns to Edgartown and Sandwich at prices no greater than the amor-
13 tized costs of \$8,396 and \$11,917, respectively, and to transfer the lights
14 serving Harwich at a nominal \$1 price. If the transfer occurs significantly
15 after February 1, 2001, the accumulated depreciation should be increased
16 (and the sales price decreased) by approximately \$360 per month for each of
17 Edgartown and Sandwich.

18 **Q: Does this complete your testimony?**

19 A: Yes.

Exhibit ___PLC-1

Summary of Commonwealth Electric's Purchase-Price Estimates

Town	ComElec Estimate		Difference	
	Method 1	Method 2	\$	%
		[1]		
Edgartown	14,736	25,453	10,717	73%
Sandwich	16,387	29,140	12,753	78%
Harwich	32,832	94,122	61,290	187%
Total	63,955	148,714	84,759	133%

[1] Method 1 estimate of purchase price for Edgartown corrected from \$26,493 by 8/28/00 correspondence from John Cope Flanagan of Nstar

Exhibit PLC-2

Example of Commonwealth Electric's Method 1

**STREET LIGHT STUDY
TOWN OF HARWICH**

As of February 18, 2000

TAX DISTRICT: 63

PER REQUEST OF: J Cope-Flanagan

Acct# 13768770011

Company: 11

Account 373.71, Unit #9130

Description: SODIUM

Average Life: 14 As per Depreciation Study dated 6/30/90

Dep Method: St Line - Half Year Convention

<u>Year</u>	<u>Original Cost</u>	<u>Current Inventory</u>	<u>Inventory Cost</u>	<u>Remaining Value</u>
2000	\$328	2	\$655	\$632
1999	352	7	2,464	2,200
1998	303	10	3,030	2,489
1997	362	16	5,792	4,344
1996	369	15	5,535	3,756
1995	290	18	5,220	3,169
1994	334	13	4,342	2,326
1993	244	17	4,148	1,926
1992	202	41	8,282	3,254
1991	316	14	4,424	1,422
1990	263	50	13,150	3,288
1989	263	61	16,043	2,865
1988	171	43	7,353	788
1987	227	46	10,442	373
1986	NA	34	NA	0
1985	NA	13	NA	0
1984	NA	24	NA	0
1983	NA	68	NA	0
1982	NA	602	NA	0
1981	NA	26	NA	0
1980	NA	0	NA	0
1979	NA	7	NA	0
1978	NA	7	NA	0
1977	NA	2	NA	0
		1,136		\$32,832

NOTE: All street lights installed prior to 1987 are included in the total at no charge

Exhibit PLC-3

Example of Commonwealth Electric's Method 2

Commonwealth Electric Company
Town of Harwich
Street Lights Net Of Private Lights
Valuation As Of October 31, 2000

<u>Utility Account</u>	<u>Vintage</u>	<u>Original Cost</u>	<u>Allocated Reserve</u>	<u>Net Value</u>	<u>Town</u>	<u>Town</u>	
						<u>Private</u>	<u>Net Value</u>
635-Municipal Posts, Fixtures and Lights	1977	710.05	636.25	73.80	2	4	24.60
	1978	3,639.41	3,208.99	430.42	7	2	334.77
	1979	5,003.67	4,331.86	671.81	7	1	587.83
	1980	172.60	146.35	26.25	0	3	0.00
	1981	11,497.55	9,521.84	1,975.71	25	1	1,899.72
	1982	130,358.44	105,104.47	25,253.97	601	1	25,212.02
	1983	27,347.80	21,388.57	5,959.23	67	6	5,469.43
	1984	7,599.07	5,741.17	1,857.90	24	8	1,393.42
	1985	4,465.35	3,243.39	1,221.96	13	4	934.44
	1986	13,614.63	9,455.63	4,159.00	33	3	3,812.41
	1987	14,115.42	9,315.57	4,799.85	46	4	4,415.86
	1988	9,296.23	5,787.81	3,508.42	42	5	3,135.18
	1989	16,334.70	9,514.80	6,819.90	61	16	5,402.78
	1990	14,446.27	7,796.75	6,649.52	49	8	5,716.25
	1991	5,738.63	2,837.39	2,901.24	14	3	2,389.25
	1992	9,989.32	4,464.68	5,524.64	40	7	4,701.83
	1993	4,623.33	1,838.25	2,785.08	17	4	2,254.59
	1994	5,679.16	1,969.28	3,709.88	13	8	2,296.59
	1995	7,637.56	2,248.73	5,388.83	18	6	4,041.62
	1996	10,596.92	2,548.42	8,048.50	15	6	5,748.93
	1997	12,203.64	2,257.83	9,945.81	16	12	5,683.32
	1998	4,633.84	594.39	4,039.45	10	5	2,692.96
	1999	5,643.04	397.40	5,245.64	7	4	3,338.13
	2000				9		2,636.00
Total		325,346.63	214,349.82	110,996.81	1136	121	94,121.97

Variable Annual Depreciation Rates in Commonwealth's Method 2

Total Account 635 As Of October 31, 2000

Vintage	<i>CommElec's Allocation of Accumulated Depreciation</i>			<i>Implicit Depreciation Rate</i>		
	Original Cost	Allocated Reserve	Depreciated (see note)	Assumed Years of Depreciation	Average to 2000	Incremental
2000	96,119.40	1,770.21	1.84%	0		
1999	399,914.85	28,163.30	7.04%	1	7.0%	5.2%
1998	435,780.03	55,898.45	12.83%	2	6.4%	5.8%
1997	420,336.34	77,767.54	18.50%	3	6.2%	5.7%
1996	411,528.63	98,967.03	24.05%	4	6.0%	5.5%
1995	394,329.93	116,102.79	29.44%	5	5.9%	5.4%
1994	336,388.85	116,644.45	34.68%	6	5.8%	5.2%
1993	297,026.04	118,098.56	39.76%	7	5.7%	5.1%
1992	236,769.20	105,822.78	44.69%	8	5.6%	4.9%
1991	430,270.16	212,741.65	49.44%	9	5.5%	4.7%
1990	337,998.82	182,420.33	53.97%	10	5.4%	4.5%
1989	1,746,115.82	1,017,095.16	58.25%	11	5.3%	4.3%
1988	752,156.46	468,290.80	62.26%	12	5.2%	4.0%
1987	415,219.15	274,026.74	66.00%	13	5.1%	3.7%
1986	350,853.22	243,674.60	69.45%	14	5.0%	3.5%
1985	252,899.50	183,692.39	72.63%	15	4.8%	3.2%
1984	237,952.89	179,775.69	75.55%	16	4.7%	2.9%
1983	353,075.19	276,138.21	78.21%	17	4.6%	2.7%
1982	431,640.90	348,020.34	80.63%	18	4.5%	2.4%
1981	472,630.79	391,414.96	82.82%	19	4.4%	2.2%
1980	385,591.34	326,956.28	84.79%	20	4.2%	2.0%
1979	325,270.45	281,598.59	86.57%	21	4.1%	1.8%
1978	247,702.70	218,407.92	88.17%	22	4.0%	1.6%
1977	145,003.45	129,932.08	89.61%	23	3.9%	1.4%
1976	98,023.69	89,091.99	90.89%	24	3.8%	1.3%
1975	38,083.86	35,049.25	92.03%	25	3.7%	1.1%
1974	20,856.46	19,406.73	93.05%	26	3.6%	1.0%
1973	32,805.75	30,822.24	93.95%	27	3.5%	0.9%
1972	31,773.47	30,107.15	94.76%	28	3.4%	0.8%
1971	17,116.62	16,340.38	95.46%	29	3.3%	0.7%
1970	17,893.20	17,193.78	96.09%	30	3.2%	0.6%
1969	10,296.80	9,951.08	96.64%	31	3.1%	0.6%
1968	7,427.27	7,213.87	97.13%	32	3.0%	0.5%
1967	22,082.15	21,541.37	97.55%	33	3.0%	0.4%
1966	17,426.68	17,064.48	97.92%	34	2.9%	0.4%
1965	6,614.57	6,498.43	98.24%	35	2.8%	0.3%
1964	8,353.15	8,229.88	98.52%	36	2.7%	0.3%
1963	8,084.96	7,985.22	98.77%	37	2.7%	0.2%
1962	7,723.09	7,643.94	98.98%	38	2.6%	0.2%
1961	11,423.80	11,327.14	99.15%	39	2.5%	0.2%
1960	7,973.15	7,917.83	99.31%	40	2.5%	0.2%
1959	4,182.99	4,159.40	99.44%	41	2.4%	0.1%
1958	13,357.32	13,296.55	99.55%	42	2.4%	0.1%
1957	4,686.43	4,669.41	99.64%	43	2.3%	0.1%
1956	525.94	524.43	99.71%	44	2.3%	0.1%
1955	4,516.81	4,506.69	99.78%	45	2.2%	0.1%
1954	1,016.57	1,014.82	99.83%	46	2.2%	0.1%
1953	1,163.54	1,162.03	99.87%	47	2.1%	0.0%
1952	258.48	258.23	99.90%	48	2.1%	0.0%
1951	1,456.57	1,455.58	99.93%	49	2.0%	0.0%
1950	981.33	980.87	99.95%	50	2.0%	0.0%
1949	418.61	418.49	99.97%	51	2.0%	0.0%
1948	38.56	38.55	99.97%	52	1.9%	0.0%

Note: Depreciation on 2000 plant is not explicitly allocated to towns in CommElec's calculation of purchase price.

Variable Annual Depreciation Rates in Commonwealth's Method 2

Town of Sandwich
Valuation As Of October 31, 2000

Utility Account 635

<u>CommElec's Allocation of Accumulated Depreciation</u>				<u>Implicit Depreciation Rate</u>		
Vintage	Original Cost	Allocated Reserve	% Depreciated	Assumed Years of Depreciation	Average to 2000	Incremental
2000						
1999	4,906	345	7.0%	1	7.0%	7.0%
1998	4,688	601	12.8%	2	6.4%	5.8%
1997	6,194	1,146	18.5%	3	6.2%	5.7%
1996	5,552	1,335	24.0%	4	6.0%	5.5%
1995	6,239	1,837	29.4%	5	5.9%	5.4%
1994	3,501	1,214	34.7%	6	5.8%	5.2%
1993	2,681	1,066	39.8%	7	5.7%	5.1%
1992	7,975	3,565	44.7%	8	5.6%	4.9%
1991	2,614	1,293	49.4%	9	5.5%	4.7%
1990	1,492	805	54.0%	10	5.4%	4.5%
1989	27,299	15,901	58.2%	11	5.3%	4.3%
1988	1,555	968	62.3%	12	5.2%	4.0%
1987	568	375	66.0%	13	5.1%	3.7%
1986	1,108	770	69.5%	14	5.0%	3.5%
1985	1,424	1,034	72.6%	15	4.8%	3.2%
1984	2,233	1,687	75.6%	16	4.7%	2.9%
1983	2,393	1,871	78.2%	17	4.6%	2.7%
1982	1,035	834	80.6%	18	4.5%	2.4%
1981	1,132	937	82.8%	19	4.4%	2.2%
1980	2,241	1,900	84.8%	20	4.2%	2.0%
1979	11,206	9,701	86.6%	21	4.1%	1.8%
1978	1,407	1,241	88.2%	22	4.0%	1.6%
1977	346	310	89.6%	23	3.9%	1.4%

Exhibit PLC-5

Corrected Calculation of Purchase Price

Utility Account 635
Valuation As Of December 31, 2000

Town of Edgartown

Vintage	Cost Data			Town's Share of:			% Depreciated
	Years of Depreciation	Original Cost	Town Private Lights Lights	Original Cost	Net Value	Depreciation Reserve @ 7.14%	
2000	0.5		1 0	270	260	10	3.6%
1999	1.5	638.85	2 0	639	570	68	10.7%
1998	2.5	1,535.70	1 3	384	315	69	17.9%
1997	3.5	3,220.05	6 1	2,760	2,070	690	25.0%
1996	4.5	2,842.77	6 1	2,437	1,653	783	32.1%
1995	5.5	1,155.49	2 1	770	468	303	39.3%
1994	6.5	661.3	1 1	331	177	154	
1993	7.5	1,001.65	3 0	1,002	465	537	53.6%
1992	8.5	754.18	3 1	566	222	343	60.7%
1991	9.5	609.83	1 1	305	98	207	
1990	10.5	1,635.53	7 0	1,636	409	1,227	
1989	11.5	38,400.93	222 2	38,058	6,796	31,262	82.1%
1988	12.5						
1987	13.5	703.03	2 1	469	17	452	96.4%
1986	14.5	1,278.26	2 2	639	(23)	662	103.6%
1985	15.5	671.77	1 2	224	(24)	248	
1984	16.5	262.84	1 0	263	(47)	310	
1983	17.5	1,327.69	1 1	664	(166)	830	125.0%
1982	18.5	293.95	1 0	294	(94)	388	
1981	19.5						
1980	20.5	497.57	1 0	498	(231)	729	146.4%
1979	21.5	1,664.27	4 1	1,331	(713)	2,045	153.6%
1978	22.5	6,851.79	23 2	6,304	(3,827)	10,131	160.7%
Total		66,007.45	291 20	59,841	8,396	51,446	

Average Life = 14 years

Exhibit PLC-5

Corrected Calculation of Purchase Price

Utility Account 635
Valuation As Of December 31, 2000

Town of Harwich

Vintage	Cost Data			Town's Share of:				% Depreciated
	Years of Depreciation	Original Cost	Town Lights	Private Lights	Original Cost	Net Value	Depreciation Reserve @ 7.14%	
2000	0.5		9		2,636	2,542	94	3.6%
1999	1.5	5,643.04	7	4	3,591	3,206	385	10.7%
1998	2.5	4,633.84	10	5	3,089	2,538	552	17.9%
1997	3.5	12,203.64	16	12	6,974	5,230	1,743	25.0%
1996	4.5	10,596.92	15	6	7,569	5,136	2,433	32.1%
1995	5.5	7,637.56	18	6	5,728	3,478	2,250	39.3%
1994	6.5	5,679.16	13	8	3,516	1,883	1,632	
1993	7.5	4,623.33	17	4	3,743	1,738	2,005	53.6%
1992	8.5	9,989.32	40	7	8,502	3,340	5,162	60.7%
1991	9.5	5,738.63	14	3	4,726	1,519	3,207	
1990	10.5	14,446.27	49	8	12,419	3,105	9,314	
1989	11.5	16,334.70	61	16	12,940	2,311	10,630	82.1%
1988	12.5	9,296.23	42	5	8,307	890	7,417	
1987	13.5	14,115.42	46	4	12,986	464	12,522	96.4%
1986	14.5	13,614.63	33	3	12,480	(446)	12,926	103.6%
1985	15.5	4,465.35	13	4	3,415	(366)	3,781	
1984	16.5	7,599.07	24	8	5,699	(1,018)	6,717	
1983	17.5	27,347.80	67	6	25,100	(6,275)	31,375	125.0%
1982	18.5	130,358.44	601	1	130,142	(41,831)	171,973	
1981	19.5	11,497.55	25	1	11,055	(4,343)	15,399	139.3%
1980	20.5	172.60	0	3	-	-	-	
1979	21.5	5,003.67	7	1	4,378	(2,345)	6,724	153.6%
1978	22.5	3,639.41	7	2	2,831	(1,719)	4,549	160.7%
1977	23.5	710.05	2	4	237	(161)	397	167.9%
Total		325,347	1,136	121	292,063	(21,124)	313,187	

Average Life = 14 years

Exhibit PLC-5

Corrected Calculation of Purchase Price

Utility Account 635
Valuation As Of December 31, 2000

Town of Sandwich

Vintage	Cost Data				Town's Share of:			% Depreciated
	Years of Depreciation	Original Cost	Town Lights	Private Lights	Original Cost	Net Value	Depreciation Reserve @ 7.14%	
2000	0.5		3	4	950	916	34	3.6%
1999	1.5	4,906	8	4	3,270	2,920	350	10.7%
1998	2.5	4,688	7	5	2,734	2,246	488	17.9%
1997	3.5	6,194	4	12	1,548	1,161	387	25.0%
1996	4.5	5,552	6	6	2,776	1,884	892	32.1%
1995	5.5	6,239	10	6	3,900	2,368	1,532	39.3%
1994	6.5	3,501	0	8	-	-	0	
1993	7.5	2,681	5	4	1,489	691	798	53.6%
1992	8.5	7,975	31	7	6,506	2,556	3,950	60.7%
1991	9.5	2,614	0	3	-	-	0	
1990	10.5	1,492	0	8	-	-	0	
1989	11.5	27,299	128	16	24,266	4,333	19,933	82.1%
1988	12.5	1,555	0	5	-	-	0	
1987	13.5	568	1	4	114	4	110	96.4%
1986	14.5	1,108	1	3	277	(10)	287	103.6%
1985	15.5	1,424	0	4	-	-	0	
1984	16.5	2,233	0	8	-	-	0	
1983	17.5	2,393	1	6	342	(85)	427	125.0%
1982	18.5	1,035	0	1	-	-	0	
1981	19.5	1,132	1	1	566	(222)	788	139.3%
1980	20.5	2,241	3	3	1,121	(520)	1,641	146.4%
1979	21.5	11,206	42	1	10,945	(5,864)	16,809	153.6%
1978	22.5	1,407	1	2	469	(285)	754	160.7%
1977	23.5	346	6	2	259	(176)	435	167.9%
Total		99,787	258	123	61,533	11,917	49,616	

Average Life = 14 years

Exhibit____PLC-6:**Summary of Corrected Purchase-Price Estimates**

Town	CommElec Estimate		Corrected Estimate	Difference between Corrected and Method 2 Estimates	
	Method 1	Method 2		\$	%
		[1]			
Edgartown	14,736	25,453	8,396	(17,057)	-67%
Sandwich	16,387	29,140	11,917	(17,222)	-59%
Harwich	32,832	94,122	(21,124)	(115,246)	-122%
Total	63,955	148,714	(811)	(149,525)	-101%
w/o negatives	63,955	148,714	20,313	(128,401)	-86%

Notes:

[1] Method 1 estimate of purchase price for Edgartown corrected from \$26,493 by 8/28/00 correspondence from John Cope Flanagan of Nstar