

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

_____)
EnergyNorth Natural Gas, Inc. d/b/a KeySpan)
Energy Delivery New England)
_____)

DG 07-__

DIRECT TESTIMONY OF

Paul M. DeRosa

ON BEHALF OF

**ENERGYNORTH NATURAL GAS, INC. d/b/a
KEYSPAN ENERGY DELIVERY NEW ENGLAND**

September 14, 2007

1 | **I. INTRODUCTION**

2 | **Q. Please state your name address, and position with KeySpan Energy Delivery**
3 | **New England.**

4 | A. My name is Paul M. DeRosa. My business address is 52 Second Avenue,
5 | Waltham, MA 02451. My title is Lead Pricing Analyst.

6 | **Q. On whose behalf are you testifying?**

7 | A. I am testifying on behalf of EnergyNorth Natural Gas, Inc. d/b/a KeySpan Energy
8 | Delivery New England ("KeySpan"). References in my testimony to "KeySpan"
9 | or the "Company" will refer to EnergyNorth, unless otherwise denoted.

10 | **Q Please summarize your educational background, and your business and**
11 | **professional experience**

A. I earned a Bachelor of Science from Boston University in 1975 and a Masters of
Business Administration from Suffolk University in 1981. I joined Boston Gas
Company in 1981, and subsequently KeySpan in 2000, holding various positions
in the accounting, marketing, sales and rates areas. Currently, I am responsible
for performing the financial and profitability analysis for the Company's capital
investments in New England.

12 | **Q. Have you previously testified in regulatory proceedings?**

13 | A. Yes, I testified in Boston Gas Company, D.P.U. 96-50 (1996) (Phase I), regarding
14 | the Company's allocated cost of service study and the Company's marginal cost
15 | study. I also participated in preparing analyses for several base-rate proceedings
16 | including Boston Gas Company, D.P.U. 88-67 (1988), Boston Gas Company,

1 D.P.U. 90-55/17/18 (1990), Boston Gas Company, D.P.U. 92-259 (1992), Boston
2 Gas Company, D.P.U. 93-60 (1993) and, most recently, Boston Gas Company,
3 D.T.E. 03-40 (2003). In those cases, my responsibilities were in the areas of the
4 test-year cost-of-service, cost-of-service allocation, marginal cost, rate design and
5 rate of return analyses.

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

7 A. My testimony presents the Company's calculation of the annualized costs for the
8 on-system alternatives to the Concord Lateral Upgrade, which are referred to in
9 the testimony of Mr. Stavrakas as the LNG Project Alternative and the Propane
10 Project Alternative. The annualized costs represent the revenue requirement that
11 would be recovered from customers to provide the Company with the return of
12 and on its investment in the on-system facilities. The annualized costs for these
13 alternatives include capital costs, the return on equity, interest expense,
14 depreciation, property taxes, income taxes and the annual operations and
15 maintenance costs. The analysis that I prepared to calculate the annual revenue
16 requirement for the LNG and Propane Project Alternatives is provided herewith
17 as Exhibits PMD-1 through PMD-3.

18 **Q. What are the LNG and Propane Project Alternatives included in your**
19 **analysis?**

20 A. I developed annualized revenue requirements for three on-system options
21 referenced as the LNG and Propane Project Alternatives. These alternatives are
22 as follows:

- 1 1. The addition of LNG facilities (with liquefaction) to add 25,000 dth/day of
2 output on the existing LNG site in Concord, NH;
- 3 2. The addition of LNG facilities (without liquefaction) to add 25,000 dth/day of
4 output on the existing LNG site in Concord, NH; and
- 5 3. The addition of propane facilities to add 25,200 dth/day of output to the 200
6 psig system in Concord (15,000 dth/day) and to the 200 psig system in Nashua
7 (10,200 dth/day).

8 **Q. How did you determine the annual revenue requirement for each of these**
9 **project alternatives?**

10 A. First, I determined a number of inputs that are needed to perform the calculation.
11 These inputs are listed in Exhibits PMD-1 through PMD-3 for each of the three
12 on-system alternatives.

13 The first input is the direct and indirect capital cost for each alternative. As noted
14 in the testimony of Mr. Stavrakas, the capitalized costs for Alternatives 1 through
15 3 above, were \$64,040,000 (LNG with liquefaction); \$46,680,000 (LNG without
16 liquefaction), and \$37,870,000 (propane air), respectively.

17 Indirect costs include the overheads that are normally assigned to capital projects,
18 such as employee benefits associated with the direct labor on the project. The
19 overhead “adder” sued in the calculation is the contractor overhead rate specific to
20 New Hampshire.

21 The Company depreciated the capital cost of each on-system alternative over a
22 useful life of 30 years and a tax life of 20 years, which is consistent with general
23 accounting and ratemaking practice. Internally, KeySpan uses a 20-year tax

1 depreciation schedule for evaluating capital investments and adheres to a
2 depreciation schedule reviewed by the Massachusetts Department of Public
3 Utilities, in Boston Gas Company, D.P.U. 96-50 and Boston Gas Company,
4 D.T.E 03-40.

5 To perform the next step of the calculation, the Company used the capital
6 structure most recently reviewed and approved by the Commission in a base-rate
7 proceeding for EnergyNorth (DR 91-212). Under this capital structure, the debt
8 and equity ratios consist of 46.96% for long term debt, 3.72% for short term debt
9 and 49.33% for common stock, which represents a 50/50 capital structure
10 consistent with general utility practice.

11 The overall cost of capital was determined using a long-term debt rate of 7.25%
12 and a short-term debt rate of 5.28%. These rates were identified by the
13 Company's treasury group as (1) consistent with the prevailing debt market as of
14 the time of filing; and (2) consistent with the short and long-term debt costs
15 presented to the Commission in Data Request Tech 1-1 from Docket DG 06-122.
16 For the return on common equity, the Company used the approved cost of equity
17 from the Company's most recent base-rate proceeding before the Commission,
18 which is 10.39% (from DR 91-212). This rate remains consistent with the return
19 on equity granted to the Company in more recent rate filings across its
20 jurisdictions.

1 The computation of the annual revenue requirement incorporates two tax rates,
2 i.e., the income-tax rate and the property-tax rate. The income-tax rate used in the
3 computation is 41.0125%, consisting of a federal tax rate of 35% and a state tax
4 rate of 9.25%. The current commercial property-tax rate for Concord, NH is
5 1.92%. The inflation rate used in the calculation is 2.50% per year.

6 **Q. What is the next step taken in your analysis?**

7 A. Once these input to the calculation were determined, I computed the weighted
8 cost of capital to determine the annual return on the investment. For this
9 computation, the long-term debt ratio of 46.96% is multiplied by the long-term
10 debt rate of 7.25% for a weighted cost of long-term debt of 3.40%. The short-
11 term debt ratio of 3.72% is multiplied by the 5.28% short term debt rate for a
12 weighted cost of short-term debt of 0.2%. Lastly, the common stock ratio of
13 49.33% is multiplied by the rate of return on common equity of 10.39% to derive
14 a weighted cost of equity of 5.13%. The sum of these factors results in a
15 weighted cost of capital amount of 8.73%.

16 Next, I computed the after-tax cost of capital. This figure is the weighted cost of
17 capital minus the tax deductible interest expense. The formula for the after-tax
18 capital calculation consists of the long-term debt component of 3.40%, plus the
19 short term debt component of 0.2% calculated above, times 1 minus 41.0125%
20 (58.9875%) or 2.12%, plus the common equity component of 5.13%. The sum of
21 these factors is 7.25%, which represents the after-tax cost of capital.

1 Next I computed the interest on debt, which is the long-term debt component of
2 3.40% times the annual rate base amount. Similarly, I calculated the return on
3 common equity, which is the annual rate-base amount times the common equity
4 component of 5.13%.

5 Then I calculated the book depreciation amounts as the original capital investment
6 divided by 30, representing the useful life of the asset. This was followed by the
7 yearly tax depreciation amounts. The original investment is placed on a 20
8 MACS scheduled to develop the tax depreciation amounts. The difference each
9 year between book depreciation and tax depreciation is the deferred tax amount.
10 These items are calculated to develop the taxable income amount of the
11 investment. This formula is the return on common equity minus tax depreciation
12 plus book depreciation plus the deferred tax divided by the inverse of the
13 combined income rate (1 minus 41.0125%). This figure, representing the taxable
14 income amount of the investment, is then multiplied by 41.0125% tax rate to
15 calculate the annual tax expense.

16 The final two items involved in the annual revenue requirement calculation were
17 the property tax amount and the annual O&M expenses. The property tax
18 calculation is 1.92% times the net plant amount of each alternative for each year,
19 and the Company's annual O&M expenses are generated from the Company's
20 historical financial data, escalated each year by the 2.5% inflation factor.

1 The annual revenue stream for each alternative is thus determined by adding the
2 annual interest expense on debt incurred for the investment, the annual return on
3 common equity, the annual income tax expense, the annual property tax expense
4 and the annual expenses associated with O&M.

5 The net present value (NPV) of the 30-year revenue stream required to provide a
6 return of and return on the system investment is calculated using the after-tax cost
7 of capital figure of 7.25%. This NPV value was levelized by using a payment
8 calculation of the NPV amount based on the after-tax rate base and the 30-year
9 useful life. The levelized amounts for each on-system alternative were used in
10 Mr. Poe's analysis to compare them to the cost of the Proposed Agreement.

11 **Q. What are the results of your analysis?**

12 A. As set forth in Exhibits PMD-1 through PMD-3, the annual revenue requirement
13 for the LNG Project Alternative is \$11,007,428 (with liquefaction) and
14 \$8,135,325 (without liquefaction). The annual revenue requirement for the
15 Propane Project Alternative is \$6,451,308.

Q. Does this conclude your testimony?

16 A. Yes. It does.

17

LNG Project Alternative (w/Liquefaction)

CARRYING CHARGE CALCULATION

INPUT DATA

VARIABLE	INPUT
Plant Data	
CAPITALIZED COST	\$64,040,000
BOOK LIFE	30
SALVAGE VALUE	0%
MACRS LIFE	20
Capital Structure	
LONG TERM DEBT	46.96%
PREFERRED	0.00%
COMMON	49.33%
SHORT TERM DEBT	3.72%
Cost of Capital	
LONG TERM DEBT	7.25%
PREFERRED	0.00%
COMMON	10.39%
SHORT TERM DEBT	5.28%
WTD COST OF CAPITAL	8.73%
AFTER TAX COST / CAP	7.25%
Tax Data	
TAX RATE	41.01%
ITC RATE	0.00%
REVENUE TAX RATE	0.00%
PROPERTY TAX RATE	1.92%
PROPERTY INSURANCE	0.00%
PROPERTY TAX BASIS	2 (Based on Dep
1 = Original Cost	--
2 = Depreciated Bal	
Misc. Data	
INFLATION RATE	2.50%
PROP TAX ESC RATE	0.00%
RETURN BASIS	3 (Ending Balance
1 = Begin of Year	--
2 = Avg Begin & End	
3 = End of Year	
ANNUAL O & M	\$2,680,000

COST BENEFIT ANALYSIS

YEAR NO.	RATE BASE	INTEREST RETURN ON DEBT	RETURN ON COMMON	TAX DEPREC'N	BOOK DEPREC'N	DEFERRED TAX	TAXABLE INCOME	INC TAX PAYABLE	REVENUE TAX	PROPERTY TAX	ANNUAL O & M	ANNUAL REVEUE REQMTS	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	64,040,000	2,225,280	0	3,167,279	2,401,500	2,134,667	109,435	5,102,574	2,092,693	0	1,230,849	2,680,000	13,640,203
2	58,640,750	2,111,663	0	3,005,565	4,622,888	2,134,667	1,020,482	2,607,037	1,069,211	0	1,189,821	2,747,000	13,278,408
3	55,627,799	2,003,166	0	2,851,140	4,276,171	2,134,667	878,284	2,691,960	1,104,040	0	1,148,792	2,815,675	12,935,764
4	52,746,380	1,899,406	0	2,703,456	3,955,458	2,134,667	746,752	2,762,309	1,132,892	0	1,107,764	2,886,067	12,611,003
5	49,986,629	1,800,027	0	2,562,008	3,658,799	2,134,667	625,085	2,819,175	1,156,214	0	1,066,736	2,958,219	12,302,954
6	47,339,420	1,704,700	0	2,426,328	3,384,389	2,134,667	512,542	2,863,570	1,174,422	0	1,025,707	3,032,174	12,010,541
7	44,796,313	1,613,122	0	2,295,984	3,130,560	2,134,667	408,441	2,896,431	1,187,899	0	984,679	3,107,978	11,732,770
8	42,349,499	1,525,012	0	2,170,576	2,895,768	2,134,667	312,147	2,918,620	1,196,999	0	943,651	3,185,678	11,468,729
9	39,918,521	1,437,472	0	2,045,979	2,857,157	2,134,667	296,312	2,746,005	1,126,205	0	902,622	3,265,320	11,208,577
10	37,487,543	1,349,932	0	1,921,382	2,857,157	2,134,667	296,312	2,534,778	1,039,576	0	861,594	3,346,953	10,950,415
11	35,056,565	1,262,393	0	1,796,785	2,857,157	2,134,667	296,312	2,323,552	952,947	0	820,566	3,430,627	10,694,295
12	32,625,587	1,174,853	0	1,672,188	2,857,157	2,134,667	296,312	2,112,326	866,318	0	779,538	3,516,392	10,440,266
13	30,194,608	1,087,313	0	1,547,591	2,857,157	2,134,667	296,312	1,901,100	779,689	0	738,509	3,604,302	10,188,381
14	27,763,630	999,773	0	1,422,993	2,857,157	2,134,667	296,312	1,689,874	693,059	0	697,481	3,694,410	9,938,694
15	25,332,652	912,233	0	1,298,396	2,857,157	2,134,667	296,312	1,478,647	606,430	0	656,453	3,786,770	9,691,260
16	22,901,674	824,693	0	1,173,799	2,857,157	2,134,667	296,312	1,267,421	519,801	0	615,424	3,881,439	9,446,135
17	20,470,695	737,153	0	1,049,202	2,857,157	2,134,667	296,312	1,056,195	433,172	0	574,396	3,978,475	9,203,377
18	18,039,717	649,613	0	924,605	2,857,157	2,134,667	296,312	844,969	346,543	0	533,368	4,077,937	8,963,044
19	15,608,739	562,073	0	800,008	2,857,157	2,134,667	296,312	633,743	259,914	0	492,340	4,179,885	8,725,198
20	13,177,761	474,533	0	675,411	2,857,157	2,134,667	296,312	422,517	173,285	0	451,311	4,284,382	8,489,901
21	11,332,679	408,092	0	580,844	1,428,579	2,134,667	(289,584)	1,690,777	693,430	0	410,283	4,391,492	8,329,223
22	10,073,492	362,748	0	516,305	0	2,134,667	(875,480)	3,009,946	1,234,454	0	369,255	4,501,279	8,243,228
23	8,814,306	317,405	0	451,767	0	2,134,667	(875,480)	2,900,536	1,189,582	0	328,226	4,613,811	8,159,978
24	7,555,119	272,061	0	387,229	0	2,134,667	(875,480)	2,791,126	1,144,711	0	287,198	4,729,157	8,079,542
25	6,295,933	226,718	0	322,691	0	2,134,667	(875,480)	2,681,716	1,099,839	0	246,170	4,847,386	8,001,989
26	5,036,746	181,374	0	258,153	0	2,134,667	(875,480)	2,572,306	1,054,967	0	205,141	4,968,570	7,927,392
27	3,777,560	136,031	0	193,615	0	2,134,667	(875,480)	2,462,896	1,010,095	0	164,113	5,092,784	7,855,825
28	2,518,373	90,687	0	129,076	0	2,134,667	(875,480)	2,353,487	965,224	0	123,085	5,220,104	7,787,362
29	1,259,187	45,344	0	64,538	0	2,134,667	(875,480)	2,244,077	920,352	0	82,057	5,350,607	7,722,083
30	(0)	(0)	0	(0)	0	2,134,667	(875,480)	2,134,667	875,480	0	41,028	5,484,372	7,660,067
31	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)
32	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)
33	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)
34	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)
35	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)
TOTAL		28,394,867	0	40,414,895	64,040,000	64,040,000	(0)	68,514,338	28,099,443	0	19,078,156	117,659,244	297,686,606
PRESENT WORTH		16,216,852	0	23,081,720	34,212,778	25,840,700	3,433,598	30,757,772	12,614,531	0	10,128,633	41,931,765	133,247,800
LEVELIZED PAYMENT		1,339,653	0	1,906,751	2,826,273	2,134,667	283,645	2,540,860	1,042,070	0	836,713	3,463,929	11,007,428

Tax Depreciation Schedule

<u>Years</u>	<u>Rate</u>
1	3.75%
2	7.22%
3	6.68%
4	6.18%
5	5.71%
6	5.28%
7	4.89%
8	4.52%
9	4.46%
10	4.46%
11	4.46%
12	4.46%
13	4.46%
14	4.46%
15	4.46%
16	4.46%
17	4.46%
18	4.46%
19	4.46%
20	4.46%
21	2.23%

LNG Project Alternative (w/o liquefaction)

CARRYING CHARGE CALCULATION

INPUT DATA

VARIABLE	INPUT
Plant Data -----	
CAPITALIZED COST	\$46,680,000
BOOK LIFE	30
SALVAGE VALUE	0%
MACRS LIFE	20
Capital Structure -----	
LONG TERM DEBT	46.96%
PREFERRED	0.00%
COMMON	49.33%
SHORT TERM DEBT	3.72%
Cost of Capital -----	
LONG TERM DEBT	7.25%
PREFERRED	0.00%
COMMON	10.39%
SHORT TERM DEBT	5.28%
WTD COST OF CAPITAL	8.73%
AFTER TAX COST / CAP	7.25%
Tax Data -----	
TAX RATE	41.01%
ITC RATE	0.00%
REVENUE TAX RATE	0.00%
PROPERTY TAX RATE	1.92%
PROPERTY INSURANCE	0.00%
PROPERTY TAX BASIS	2 (Based on Depreciated Balance)
1 = Original Cost	--
2 = Depreciated Bal	--
Misc. Data -----	
INFLATION RATE	2.50%
PROP TAX ESC RATE	0.00%
RETURN BASIS	3 (Ending Balance)
1 = Begin of Year	--
2 = Avg Begin & End	--
3 = End of Year	--
ANNUAL O & M	\$2,040,000

ANNUAL RESULTS

LNG Project Alternative (w/o liquefaction)

LINE NO.	ITEM	CURRENT LEVELIZED DOLLARS
1	INTEREST ON DEBT	\$976,499
2	RETURN ON PREF	\$0
3	RETURN ON COMMON	\$1,389,868
4		-----
5	RETURN	\$2,366,367
6		
7	DEPRECIATION	\$1,556,000
8		
9	INCOME TAX	\$759,585
10	DEFERRED TAXES	\$206,754
11		-----
12	INCOME TAX	\$966,340
13		
14	REVENUE TAX	\$0
15	PROPERTY TAX	\$609,897
16	ANNUAL O & M	\$2,636,722
17		-----
18	OTHER	\$3,246,618
19	-----	-----
20		
21	TOTAL INVESTMENT	\$8,135,325
		=====

COST BENEFIT ANALYSIS

YEAR NO.	RATE BASE	INTEREST RETURN ON DEBT			RETURN ON COMMON			TAX DEPREC	BOOK DEPREC	DEFERRED TAX	TAXABLE INCOME	INC TAX PAYABLE	REVENUE TAX	PROPERTY TAX	ANNUAL O & M	ANNUAL REVENUE RECMTS
		(3)	(4)	(5)	(6)	(7)	(8)									
(1)	46,680,000															
1	45,044,231	1,622,050	0	2,308,691	1,750,500	1,556,000	79,769	3,719,365	1,525,405	0	897,190	2,040,000	10,029,105			
2	42,744,382	1,539,232	0	2,190,815	3,369,713	1,556,000	743,849	1,900,320	779,369	0	867,283	2,091,000	9,767,548			
3	40,548,183	1,460,147	0	2,078,251	3,116,984	1,556,000	640,199	1,962,222	804,756	0	837,377	2,143,275	9,520,005			
4	38,447,861	1,384,514	0	1,970,602	2,883,210	1,556,000	544,322	2,013,500	825,787	0	807,471	2,196,857	9,285,552			
5	36,436,225	1,312,074	0	1,867,488	2,666,969	1,556,000	455,636	2,054,951	842,787	0	777,564	2,251,778	9,063,338			
6	34,506,623	1,242,589	0	1,768,598	2,466,947	1,556,000	373,602	2,087,312	856,059	0	747,658	2,308,073	8,852,579			
7	32,652,902	1,175,836	0	1,673,588	2,281,926	1,556,000	297,720	2,111,265	865,882	0	717,752	2,365,775	8,652,553			
8	30,869,373	1,111,611	0	1,582,175	2,110,781	1,556,000	227,530	2,127,439	872,516	0	687,845	2,424,919	8,462,596			
9	29,097,386	1,047,802	0	1,491,354	2,082,638	1,556,000	215,987	2,001,616	820,913	0	657,939	2,485,542	8,275,536			
10	27,325,398	983,992	0	1,400,532	2,082,638	1,556,000	215,987	1,847,649	757,767	0	628,033	2,547,680	8,089,992			
11	25,553,411	920,182	0	1,309,711	2,082,638	1,556,000	215,987	1,693,682	694,621	0	598,126	2,611,372	7,906,001			
12	23,781,424	856,373	0	1,218,890	2,082,638	1,556,000	215,987	1,539,715	631,476	0	568,220	2,676,657	7,723,603			
13	22,009,437	792,563	0	1,128,069	2,082,638	1,556,000	215,987	1,385,749	568,330	0	538,314	2,743,573	7,542,836			
14	20,237,449	728,754	0	1,037,248	2,082,638	1,556,000	215,987	1,231,782	505,184	0	508,407	2,812,163	7,363,743			
15	18,465,462	664,944	0	946,426	2,082,638	1,556,000	215,987	1,077,815	442,039	0	478,501	2,882,467	7,186,364			
16	16,693,475	601,135	0	855,605	2,082,638	1,556,000	215,987	923,848	378,893	0	448,595	2,954,528	7,010,743			
17	14,921,488	537,325	0	764,784	2,082,638	1,556,000	215,987	769,881	315,748	0	418,688	3,028,391	6,836,924			
18	13,149,500	473,516	0	673,963	2,082,638	1,556,000	215,987	615,914	252,602	0	388,782	3,104,101	6,664,951			
19	11,377,513	409,706	0	583,142	2,082,638	1,556,000	215,987	461,947	189,456	0	358,876	3,181,704	6,494,871			
20	9,605,526	345,897	0	492,320	2,082,638	1,556,000	215,987	307,981	126,311	0	328,970	3,261,246	6,326,731			
21	8,260,610	297,466	0	423,388	2,082,638	1,556,000	(211,084)	1,232,440	505,455	0	299,063	3,342,778	6,213,066			
22	7,342,764	264,414	0	376,345	2,082,638	1,556,000	(638,155)	2,194,008	899,818	0	269,157	3,426,347	6,153,926			
23	6,424,919	231,362	0	329,302	2,082,638	1,556,000	(638,155)	2,114,257	867,110	0	239,251	3,512,006	6,096,876			
24	5,507,073	198,311	0	282,259	2,082,638	1,556,000	(638,155)	2,034,506	834,402	0	209,344	3,599,806	6,041,967			
25	4,589,228	165,259	0	235,216	2,082,638	1,556,000	(638,155)	1,954,755	801,694	0	179,438	3,689,801	5,989,253			
26	3,671,382	132,207	0	188,173	2,082,638	1,556,000	(638,155)	1,875,004	768,986	0	149,532	3,782,046	5,938,789			
27	2,753,537	99,155	0	141,129	2,082,638	1,556,000	(638,155)	1,795,253	736,278	0	119,625	3,876,597	5,890,631			
28	1,835,691	66,104	0	94,086	2,082,638	1,556,000	(638,155)	1,715,502	703,570	0	89,719	3,973,512	5,844,837			
29	917,846	33,052	0	47,043	2,082,638	1,556,000	(638,155)	1,635,751	670,862	0	59,813	4,072,850	5,801,465			
30	0	0	0	0	2,082,638	1,556,000	(638,155)	1,556,000	638,155	0	29,906	4,174,671	5,760,577			
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL		20,697,570	0	29,459,202	46,680,000	46,680,000	(0)	49,941,432	20,482,230	0	13,906,439	89,561,514	220,786,955			
PRESENT WORTH		11,820,779	0	16,824,714	24,938,358	18,635,788	2,502,817	22,419,937	9,194,977	0	7,382,957	31,918,209	98,480,241			
LEVELIZED PAYMENT		976,489	0	1,389,868	2,060,125	1,556,000	206,754	1,852,082	759,585	0	609,897	2,636,722	8,135,325			

TAX DEPRECIATION TABLE

<u>Years</u>	<u>Rate</u>
1	3.75%
2	7.22%
3	6.68%
4	6.18%
5	5.71%
6	5.28%
7	4.89%
8	4.52%
9	4.46%
10	4.46%
11	4.46%
12	4.46%
13	4.46%
14	4.46%
15	4.46%
16	4.46%
17	4.46%
18	4.46%
19	4.46%
20	4.46%
21	2.23%

Propane Project Alternative

CARRYING CHARGE CALCULATION

INPUT DATA

VARIABLE	INPUT
Plant Data	
CAPITALIZED COST	\$37,870,000
BOOK LIFE	30
SALVAGE VALUE	0%
MACRS LIFE	20
Capital Structure	
LONG TERM DEBT	46.96%
PREFERRED	0.00%
COMMON	49.33%
SHORT TERM DEBT	3.72%
Cost of Capital	
LONG TERM DEBT	7.25%
PREFERRED	0.00%
COMMON	10.39%
SHORT TERM DEBT	5.28%
WTD COST OF CAPITAL	8.73%
AFTER TAX COST / CAP	7.25%
Tax Data	
TAX RATE	41.01%
ITC RATE	0.00%
REVENUE TAX RATE	0.00%
PROPERTY TAX RATE	1.92%
PROPERTY INSURANCE	0.00%
PROPERTY TAX BASIS	2 (Based on Dep
1 = Original Cost	--
2 = Depreciated Bal	
Misc. Data	
INFLATION RATE	2.50%
PROP TAX ESC RATE	0.00%
RETURN BASIS	3 (Ending Balanc
1 = Begin of Year	--
2 = Avg Begin & End	
3 = End of Year	
ANNUAL O & M	\$1,540,000

ANNUAL RESULTS

Propane Project Alternatives

LINE NO.	ITEM	CURRENT LEVELIZED DOLLARS
1	INTEREST ON DEBT	\$792,203
2	RETURN ON PREF	\$0
3	RETURN ON COMMON	\$1,127,556
4		-----
5	RETURN	\$1,919,758
6		
7	DEPRECIATION	\$1,262,333
8		
9	INCOME TAX	\$616,227
10	DEFERRED TAXES	\$167,733
11		-----
12	INCOME TAX	\$783,961
13		
14	REVENUE TAX	\$0
15	PROPERTY TAX	\$494,790
16	ANNUAL O & M	\$1,990,466
17		-----
18	OTHER	\$2,485,256
19	-----	-----
20		
21	TOTAL INVESTMENT	\$6,451,308 =====

COST BENEFIT ANALYSIS

YEAR NO.	RATE BASE	INTEREST RETURN ON DEBT	RETURN ON COMMON	TAX DEPREC'N	BOOK DEPREC'N	DEFERRED TAX	TAXABLE INCOME	INC TAX PAYABLE	REVENUE TAX	PROPERTY TAX	ANNUAL O & M	ANNUAL REVENUE REQMTS	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	37,870,000												
1	36,542,952	1,315,918	0	1,872,968	1,420,125	1,262,333	64,714	3,017,403	1,237,512	0	727,861	1,540,000	8,021,307
2	34,677,158	1,248,730	0	1,777,339	2,733,741	1,262,333	603,461	1,541,669	632,277	0	703,599	1,578,500	7,806,239
3	32,895,452	1,184,570	0	1,686,019	2,528,710	1,262,333	519,373	1,591,889	652,837	0	659,337	1,617,963	7,602,469
4	31,191,527	1,123,212	0	1,598,686	2,339,057	1,262,333	441,591	1,633,489	669,935	0	655,075	1,658,412	7,409,244
5	29,559,551	1,064,444	0	1,515,041	2,163,628	1,262,333	369,643	1,667,117	683,726	0	630,813	1,699,872	7,225,873
6	27,994,126	1,009,073	0	1,434,807	2,001,355	1,262,333	303,091	1,693,370	694,493	0	606,551	1,742,369	7,051,718
7	26,490,262	953,919	0	1,357,728	1,851,254	1,262,333	241,531	1,712,802	702,463	0	582,289	1,785,928	6,886,191
8	25,043,341	901,815	0	1,283,568	1,712,410	1,262,333	184,588	1,725,924	707,844	0	558,027	1,830,576	6,728,751
9	23,605,784	850,048	0	1,209,888	1,689,578	1,262,333	175,224	1,623,847	665,980	0	533,765	1,876,340	6,573,579
10	22,168,227	798,281	0	1,136,207	1,689,578	1,262,333	175,224	1,498,939	614,752	0	509,503	1,923,249	6,419,550
11	20,730,670	746,515	0	1,062,527	1,689,578	1,262,333	175,224	1,374,031	563,524	0	485,241	1,971,330	6,266,694
12	19,293,113	694,748	0	988,847	1,689,578	1,262,333	175,224	1,249,122	512,296	0	460,979	2,020,613	6,115,040
13	17,855,556	642,981	0	915,166	1,689,578	1,262,333	175,224	1,124,214	461,068	0	436,717	2,071,129	5,964,619
14	16,417,999	591,215	0	841,486	1,689,578	1,262,333	175,224	999,305	409,840	0	412,455	2,122,907	5,815,460
15	14,980,442	539,448	0	767,806	1,689,578	1,262,333	175,224	874,397	358,612	0	388,193	2,175,980	5,667,595
16	13,542,885	487,681	0	694,125	1,689,578	1,262,333	175,224	749,489	307,384	0	363,931	2,230,379	5,521,058
17	12,105,329	435,915	0	620,445	1,689,578	1,262,333	175,224	624,580	256,156	0	339,669	2,286,139	5,375,880
18	10,667,772	384,148	0	546,765	1,689,578	1,262,333	175,224	499,672	204,928	0	315,407	2,343,292	5,232,096
19	9,230,215	332,382	0	473,084	1,689,578	1,262,333	175,224	374,763	153,700	0	291,145	2,401,874	5,089,741
20	7,792,658	280,615	0	399,404	1,689,578	1,262,333	175,224	249,855	102,472	0	266,883	2,461,921	4,948,851
21	6,701,570	241,325	0	343,481	844,789	1,262,333	(171,245)	999,840	410,059	0	242,620	2,523,469	4,852,043
22	5,956,951	214,511	0	305,317	0	1,262,333	(517,714)	1,779,929	729,993	0	218,358	2,586,556	4,799,354
23	5,212,332	187,697	0	267,152	0	1,262,333	(517,714)	1,715,230	703,459	0	194,096	2,651,220	4,748,243
24	4,467,713	160,883	0	228,988	0	1,262,333	(517,714)	1,650,530	676,924	0	169,834	2,717,500	4,698,748
25	3,723,094	134,069	0	190,823	0	1,262,333	(517,714)	1,585,831	650,389	0	145,572	2,785,438	4,650,910
26	2,978,476	107,255	0	152,658	0	1,262,333	(517,714)	1,521,131	623,854	0	121,310	2,855,074	4,604,771
27	2,233,857	80,442	0	114,494	0	1,262,333	(517,714)	1,456,432	597,319	0	97,048	2,926,451	4,560,372
28	1,489,238	53,628	0	76,329	0	1,262,333	(517,714)	1,391,732	570,784	0	72,786	2,999,612	4,517,758
29	744,619	26,814	0	38,165	0	1,262,333	(517,714)	1,327,033	544,249	0	48,524	3,074,602	4,476,973
30	0	0	0	0	0	1,262,333	(517,714)	1,262,333	517,714	0	24,262	3,151,467	4,438,063
31	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		16,791,281	0	23,899,314	37,870,000	37,870,000	(0)	40,515,896	16,616,582	0	11,281,852	67,610,163	174,069,191
PRESENT WORTH		9,589,822	0	13,649,356	20,231,697	15,280,876	2,030,456	18,188,582	7,459,592	0	5,989,559	24,095,119	78,094,779
LEVELIZED PAYMENT		792,203	0	1,127,556	1,671,314	1,262,333	167,733	1,502,535	616,227	0	494,790	1,990,466	6,451,308

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