COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ADJUSTMENT OF GENERAL RATES OF DELTA NATURAL GAS COMPANY, INC.) CASE NO. 97-066

O R D E R

Delta Natural Gas Company, Inc. ("Delta") has applied for authority to adjust its rates for gas service to produce additional annual revenues of $2,961,802, an increase of 7.7 percent. By this Order, the Commission establishes rates that will produce additional annual operating revenues of $1,669,803, an overall increase of approximately 4.28 percent.

COMMENTARY

Delta is a Kentucky corporation whose principal office and place of business is located in Winchester, Kentucky. Delta purchases, sells, stores, transports and distributes natural gas for approximately 36,000 retail customers in 19 counties in central and eastern Kentucky.

PROCEDURE

On March 14, 1997, Delta filed its application for rate adjustment. To determine the reasonableness of the proposed rates, the Commission, by Order dated April 3, 1997, suspended the proposed rates for 5 months until September 12, 1997 and initiated this proceeding. By the same Order, the Commission established a procedure schedule which, inter alia, provided for a hearing in this matter on August 11, 1997. During the course of this proceeding, Delta moved for modifications to that procedural schedule to provide for additional time to respond to discovery requests. By Order dated May 16, 1997, the Commission granted this motion and modified its earlier procedural schedule.

On March 18, 1997, the Attorney General ("AG") moved to intervene in this proceeding. By Order dated March 20, 1997, the Commission granted his motion for intervention. No other party has moved to intervene in this proceeding.

After extensive discovery in this proceeding, the Commission held a public hearing on the proposed rate adjustment on September 9, 1997 at its offices in Frankfort, Kentucky. Because of the inability of Delta witness James K. Sharpe to attend the public hearing and at Delta's request, Mr. Sharpe's testimony was taken by deposition on September 15, 1997. Following the parties' submission of written briefs on October 21, 1997, this matter stood submitted for decision.

ANALYSIS AND DETERMINATION

Test Period

Delta proposed and the Commission has accepted the 12-month period ended December 31, 1996 as the test period for determining the reasonableness of the proposed rates.

VALUATION

Net Investment Rate Base

Delta proposed a net investment rate base of $66,035,983. The AG proposed a net investment rate base of $64,561,277. Based upon the discussion below, the Commission has determined Delta's net investment rate base to be $65,445,709.

Plant in Service. Delta proposed the test-year-end level of plant in service of $95,382,553. The AG has proposed the same level of plant in service. The Commission has accepted this level.

Accumulated Depreciation. Delta proposed to reduce rate base by the test-year-end accumulated depreciation of $26,992,242. It further proposed to increase this amount by $10,530 to normalize the test-year level of depreciation expense by the test-year-end level of plant in service. As a result of this adjustment, total accumulated depreciation is $27,002,772. The Commission has accepted Delta's proposed level.

Construction Work In Progress ("CWIP"). Delta proposed the use of the test-year-end level of CWIP of $1,350,673 to determine Delta's net investment rate base. Contending that during the test year 17.5 percent of the CWIP balances on average were financed with associated CWIP payables, the AG proposed a $236,334 reduction to CWIP. He argued that these payables balances represent semi-permanent vendor supplied funds available to offset Delta's CWIP capital requirements and should therefore be treated as rate base deductions.[1] The AG's use of a lead-lag analysis to support his proposed reduction, however, is inconsistent with his use of the 1/8th formula method in determining Delta's cash working capital requirement. Finding that the selective use of any lead-lag analysis to adjust a utility's rate base is inappropriate, the Commission has rejected the AG's proposal and finds that Delta's CWIP should be $1,350,673.

Cash Working Capital. Delta proposed to include in its rate base an allowance for cash working capital of $1,006,651 to reflect 1/8th of its proposed, test-period operations

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1 Direct Testimony of Robert J. Henkes at 15.

and maintenance expenses. Applying the 1/8th formula method to his proposed level of operations and maintenance expenses, the AG proposed a cash working capital allowance of $960,381. The Commission finds that, in the absence of any lead-lag study, the 1/8th formula method should be used to determine the level of cash working capital. After applying the 1/8th formula method to the level of operations and maintenance expenses found reasonable herein, the Commission finds that an allowance for cash working capital of $977,253 is appropriate.

Prepayments. Delta proposed the test-year-end level of prepayments of $174,857. The Commission has historically used a 13-month average balance to establish the appropriate level of prepayments. No party to this proceeding has offered any convincing argument for abandoning this approach. Using this approach, the Commission has determined the allowable prepayments balance to be $270,741.

Materials and Supplies. Delta proposed to include the test-year-end level of materials and supplies totalling $640,722. The AG proposed to reduce the test-year-end level of materials and supplies by 13.89 percent of Delta's average 1996 materials and supplies balance. He stated that this percentage represents the average materials and supplies balances financed by associated materials and supplies payables balances for 1996. The AG argued for exclusion of this percentage from Delta's rate base since it represents a continuous source of semi-permanent capital available to offset Delta's materials and supplies capital requirements. He further argued that this percentage should more appropriately be treated as rate base deductions.[2] Using a 13-month average of

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2 Id. at 16.

materials and supplies outstanding, the Commission has determined the allowable materials and supplies balance to be $582,116.

Gas in Storage. Delta proposed the test-year-end level of gas in storage totalling $411,625. Using a 13-month average balance to establish the level of gas in storage, the Commission has established the allowable gas in storage balance as $431,187.

Unamortized Debt Issuance Costs. Delta proposed to increase its rate base by the test-year-end level of unamortized debt issuance costs totalling $2,708,900. The AG proposed a reduction of 12.7 percent, or $337,865, to the test-year-end level to reflect an allocation of these costs to the Canada Mountain Storage Project.[3] This allocation is based upon the percentage of the test-year-end long-term debt balance attributable to the project. The Commission concurs with the AG's recommendation and has included unamortized debt issuance costs of $2,371,035 in Delta's net investment rate base.

Accumulated Deferred Income Taxes ("ADIT"). In its application Delta proposed to reduce rate base by $8,414,800 - the test-year-end balance in Account 28201, Accelerated Depreciation. Delta subsequently amended its proposal and sought a reduction to rate base of $7,801,800, the total test-year-end balance for all ADIT.[4] The AG proposed to include as a reduction to rate base $8,694,651 in ADIT including only ADIT associated with Advances for Construction, Unamortized Debt Expenses (exclusive of an allocation to the

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[3] Delta owns the Canada Mountain Storage Fields, but leases it to its subsidiary Deltran, Inc. whose rates and charges are subject to Commission jurisdiction. As all costs associated with the Canada Mountain Storage Fields are reflected in Deltran's rates, no costs associated with these fields are recoverable through Deltran's rates.

[4] Delta's Response to the Commission's Order of June 18, 1997, Item 11.

Canada Mountain project), and Storage Gas. He argued that the ADIT associated with other items either do not relate to rate base components or are offset by regulatory liabilities and should therefore be excluded. Finding that ADIT should be included as a rate base deduction, the Commission has reduced rate base by a total of $8,694,651 in ADIT.

Advances for Construction. Delta proposed, and the Commission has accepted, a reduction to rate base by the test-year-end level of advances for construction of $222,426.

Customer Deposits. Delta included the deposits in its proposed capital structure. Arguing that customer deposits represent a cost free source of capital for the utility, the AG proposed to reduce Delta's rate base by a monthly average of customer deposits outstanding during the test year.[5] Since customer deposits represent a liability to be repaid to the customer with interest, the Commission rejects the AG's proposal and has not recognized them as part of Delta's rate base.

Contractor Retention. The AG proposed to reduce Delta's rate base by the test-year-end level of contractor retentions payable of $104,057. He argued that Delta will always have a certain level of contractor retention balances on its books and that these balances represent cost free semi-permanent capital available and should therefore be

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5 From a revenue requirement standpoint, it makes no difference whether customer deposits are treated in accordance with my recommendation or are included in the capital structure at a cost rate of 6%. My recommended rate making treatment should be adopted because it simplifies matters and properly recognizes that customer deposits are 100% related to Delta's regulated gas operations.

Direct Testimony of Robert J. Henkes at 10.

treated as a rate base deduction.[6] The Commission historically has not reduced a utility's rate base for contractor retention liability. As the AG has failed to convince us that this established rate-making practice is unreasonable or that his proposal is more appropriate, the Commission declines to accept the AG's proposed reduction.

Therefore, the Commission finds Delta's net investment rate base to be as follows:

Utility Plant	$95,382,553
Accumulated Depreciation	(27,002,772)
Net Utility Plant	68,379,781
CWIP	1,350,673
Working Capital Allowance	977,253
Prepayments	270,741
Materials and Supplies	582,116
Gas in Storage	431,187
Unamortized Debt Issuance Cost	2,371,035
Accumulated Deferred Income Taxes	(8,694,651)
Advances for Construction	(222,426)
Net Investment Rate Base	$65,445,709

Capitalization

Delta proposed a capital structure consisting of 52.49 percent long-term debt, 10.16 percent short-term debt, .50 percent customer deposits, and 36.85 percent common equity. This structure is based upon the test-year-end balances in each of these accounts and is adjusted to remove the Canada Mountain Storage Project and to remove $935,406 in the Investments in Subsidiaries Account. The AG proposed a capital structure consisting of 53.41 percent long-term debt, 10.34 percent short-term debt, and 36.25 percent common equity based on the test-year-end balances in each of these accounts adjusted for the test-year-end balances in Delta's Investment in Subsidiaries and Canada Mountain Storage Project accounts.[7]

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6 Id. at 22-23.

7 Id. at 11.

The AG's proposed capital structure differs from Delta's proposal in two respects. First, it does not include the test-year-end balance of $329,943 in Customer Deposits.[8] Secondly, it removes Delta's entire test-year-end investment of $935,406 in its subsidiaries from the test-year-end common equity account balance. The AG argued that, since Delta records its investment in its subsidiaries in accordance with the equity method (which results in the entire investment being recorded in the common equity account), this investment should also be removed in the same manner.[9]

The Commission concurs with the AG's proposed capital structure. The removal of the test-year-end balance of Delta's investment in its subsidiaries from the common equity account results in a more accurate reflection of Delta's capital structure. Consistent with past Commission practice, the Commission has excluded customer deposits from Delta's capital structure. These deposits represent customer-supplied capital on which Delta should not earn a return. Interest on customer deposits is instead included in Delta's reasonable operating expenses.

Summary. The Commission finds Delta's total capital structure is as follows:

	Amount	Percent
Long-Term Debt	$ 35,224,134	53.41
Short-Term Debt	6,818,401	10.34
Common Equity	23,906,712	36.25
Total	$ 65,949,247	100.00

8 Id. at 10.

9 Id. at 7 and 8.

REVENUES AND EXPENSES

Delta reported net operating income of $5,462,362 for the test period. To reflect current operating conditions, Delta proposed several adjustments to revenues and expenses. The Commission is of the opinion that the proposed adjustments are generally proper and acceptable for rate-making purposes with the following modifications:

Revenue Normalization

Delta proposed normalized revenues of $38,567,442 based on rates and gas cost in effect at the end of the test period and adjusted for normal weather. Delta has proposed that the weather normalization adjustment be applied only to the first block of sales. Opposing this proposal, the AG argues that any weather normalization adjustment should be applied to all blocks in the same proportion as the overall normalization percentage for each class affected. In response, Delta suggests that a weather normalization adjustment is appropriately applied only to the first block of those customer classes whose usage is affected by weather.

The Commission finds the weather normalization adjustment should be applied to all usage blocks. Delta calculated weather normalized retail sales for classes of large volume customer classes. To the extent that the weather affects these customers' usage, the weather-related volumes will affect volumes billed in the higher blocks of sales, not merely the lowest. Delta's test year sales should therefore be adjusted so that each block is normalized in the same proportion. This adjustment should include the correction of the computational error in calculating normalized sales for the large commercial class.

The AG also proposed revenue annualization adjustments to reflect growth in the residential and commercial classes over the 1996 average number of customers. The AG argues that the use of these averages is inconsistent for rate-making purposes with Delta's use of 1996 year-end plant in service. The AG discusses the adjustment of residential and commercial revenues to reflect the level of customers as of December 31, 1996, but rejects this approach as inappropriate due to seasonal fluctuations in the number of customers that can occur from month to month. Instead, he recommends a methodology which adjusts revenues based on one-half year's growth in customers and the related total number of bills and sales.

Opposing the AG's adjustment, Delta contends that the AG's proposal rejects test year history.[10] Because the proposed rate adjustment is based upon a historic test period, not a future test period, Delta argues, its use of the actual number of test year bills and the related average number of customers is appropriate.

The Commission finds the AG's argument concerning the matching of test-year-end plant to customer level is persuasive and accepts his proposed methodology. Such matching does not represent a post-test year adjustment because the AG's calculation of residential and commercial customer levels does not use levels beyond the end of the historic test period.

In calculating normalized revenue from customer charges and sales, the Commission has applied the AG's suggested growth rates to sales volumes produced by weather normalizing all sales blocks. The Commission prefers this method to

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10 Delta's Brief at 8.

applying the AG's recommended dollar adjustments, because the dollar adjustments were calculated independently of each other. The Commission has likewise accepted the AG's adjustment of $259,978 to purchased gas expense to reflect the adjustment made to customer numbers and related sales volumes. Incorporating both of the AG's proposals results in total normalized revenues of $39,008,112.

Wages and Salaries. Delta proposed to reduce test-year-end wages and salaries by $271,746. The proposed reduction consisted of a $378,146 reduction to remove the effect of bonuses paid during the test year and a $106,400 increase to normalize the test-year-end for a mid-year wage and salary increase. The AG recommended a further reduction of $91,912 to eliminate overtime expenses of $67,912 and $24,000 of compensation paid to Delta's President and Chief Executive Officer in the form of a loan payment forgiveness.[11] The AG's proposed overtime adjustment is based on a 3-year average of Delta's actual overtime expenses. The AG contended that the adjustment was necessary because test-year overtime expenses were abnormally high and should be normalized.[12] The AG further argued that the ratepayers should not be required to pay for executive compensation which exceeds an executive's base salary.[13]

Delta argued the AG's proposal failed to consider that approximately $200,000 of the $378,112 total overtime expense was capitalized. It further argued that the test-year

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[11] Direct Testimony of Robert J. Henkes at 33-34.

[12] Id. at 35.

[13] Direct Testimony of Robert J. Henkes at 33.

level of overtime expense was reasonable because it reflected the reductions in Delta's use of contractors which management auditors had previously recommended.[14]

Based upon its review of the record, the Commission finds that test year wages and salaries should be reduced by $295,746. This reduction includes Delta's proposed adjustments and removal of the $24,000 loan. The Commission is of the opinion that the forgiven loan constitutes additional compensation to Delta's President and that, considering Delta's size and complexity, the level of his base compensation is adequate. The Commission finds that, in light of Delta's efforts to reduce its use of outside contractors and the AG's failure to consider the impact of capitalization of overtime costs in his proposed adjustment, the AG's proposed adjustment to reduce test year wages and salaries by an average of past overtime expenses should be rejected.

Employee Benefits. Delta proposed to increase employee benefits expense by $24,972 to reflect the impact of its proposed wage and salary increase on the level of these benefits. The AG proposed to increase employee benefits expense by $9,018 to reflect the impact of his proposed overtime adjustment.[15] Based upon its review of the evidence, the Commission has increased employee benefits expense by $24,972 to reflect the impact of these expenses.

Customer Deposits. The AG proposed to increase test-year expenses by $22,880 to reflect the impact of interest accrued on customer deposits outstanding at test-year-

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[14] Delta's Brief at 11. In 1992 the Commission commissioned the Barrington-Wellesley Group to perform a management audit of Delta's management.

[15] Direct Testimony of Robert J. Henkes, Schedule RJH-15.

end.[16] Delta made no adjustment to reflect this cost. The Commission has accepted this adjustment in its determination of Delta's reasonable revenue requirements.

Rate Case Expense. Delta estimated rate case expenses of $75,000. It proposed to amortize these expenses over a 3-year period and to increase test year expenses by $25,000. While accepting Delta's level of rate case expense, the AG urges that these costs should be recovered over a 5-year period to reflect the historical interval between Delta's rate applications.[17] Delta has incurred a total of $101,349.75 in rate case expenses. This total exceeds Delta's projected cost by approximately 33 percent. The Commission finds that these costs should be recovered over a 5-year period to reflect the interval between Delta's rate filings. Accordingly, the Commission has increased test year expenses by $20,270.

Lobbying Expenses. Delta proposed to reduce test year expenses by $4,352 to eliminate lobbying expenses. The AG proposed to reduce test year expenses by $14,180 to reflect a disallowance of 20 percent of the salary of Delta's Vice President for Public and Consumer Affairs. The AG's proposal is based upon Delta's statements that 20 percent of this official's work time is spent on "governmental relations."[18] In response, Delta argued that Administrative Regulation 807 KAR 5:016 does not prohibit all governmental relations activities and that its proposed adjustment reflects lobbying activities as defined by

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16 Id. at 33.

17 Id. at 35-36.

18 Direct Testimony of Robert J. Henkes at 36.

Kentucky's Legislative Ethics Statute.[19] Finding that the AG has failed to demonstrate that 20 percent of this official's work time involved lobbying activities, the Commission rejects his proposal and accepts Delta's proposed adjustment to reduce test-year expenses by $4,352.

Outside Services. The AG proposed reductions of $65,369 in Delta's test year level of outside services to exclude $4,900 of legal costs and $60,469 related to consultant expense.[20] Of the $60,469 related to consultant expense, $35,771 in consulting fees and $24,698 in expenses are related to this rate case and have been included in rate case expense.

Based upon its review of the record, the Commission finds that the test year level of outside services expense should be reduced by $43,998. This reduction includes $4,900 in legal fees, $24,698 in rate case expenses recorded as consulting costs, and $14,400 in fees paid during the test year to a consultant whose contract has expired and was not renewed. As the Commission is allowing Delta to recover its actual rate case expenses, any consulting fees and expenses included in rate case expense must be removed from outside services expense to avoid double recovery of these expenses.

The Commission has rejected the AG's proposal to reduce outside services expense by an additional $21,371 in consulting costs.[21] These expenses were incurred for services rendered. Absent some evidence that the services were not provided or the cost

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19 Delta's Brief at 10 and 11.

20 Direct Testimony of Robert J. Henkes at 41.

21 Id. at 42.

of these services is unreasonable, the Commission will not disallow the expense merely because a former Delta employee provided the service.

Promotional and Institutional Advertising. The AG proposed the removal of $57,554 in promotional and institutional advertising costs that consisted of $18,562 of promotional advertising expenses and $38,992 of marketing expenses. The AG argued that these marketing expenses were incurred for such promotional items as water heater rebates, golf balls and tees, golf outings, mugs, and other promotional gifts.[22] Consistent with Administrative Regulation 807 KAR 5:016, Section 4(1),[23] the Commission has reduced the test year level of expense by $57,554 to remove these items,

Contributions and Donations. The AG proposed to reduce the test year expenses by $51,246 to remove test year expenses for contributions and donations. In support of his proposal, he argues that these expenses are unrelated to the provision of utility service but are intended to enhance the company's image.[24] Finding that these expenses are for institutional purposes and that Administrative Regulation 807 KAR 5:016, Section 1, expressly disallows such expenses for rate-making purposes, the Commission has reduced test year expenses by $51,246.

Canada Mountain Storage Project. Delta proposed to reduce test year expenses by $54,140 for costs related to its Canada Mountain Storage Project. The AG proposed

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22 Id. at 39.

23 Advertising expenditures for political, promotional, and institutional advertising by electric or gas utilities shall not be considered as producing a material benefit to the ratepayers and, as such, those expenditures are expressly disallowed for rate-making purposes.

24 Direct Testimony of Robert J. Henkes at 40.

the disallowance of an additional $5,835 in related expenses.[25] The Commission has reduced test year expenses by $59,975 inclusive of the $54,140 disallowance proposed by Delta and the AG as well as the additional $5,835 in expenses related to the storage project.

Conservation Expenses. The AG proposed a reduction of $42,500 to remove certain expenses related to Delta's energy conservation program. He argued that these expenses were related to the marketing of natural gas and not energy conservation. He asserted that the incentives awarded under Delta's energy conservation program are based on the number of gas appliances installed and that the program's energy efficiency standards for furnaces, air conditioners, and insulation are so low that no one is excluded.[26] Finding that Delta's energy conservation program actually serves to market and promote the sale of natural gas, the Commission has accepted the AG's proposal and has reduced test year expenses by $42,500. The Commission places Delta on notice that, if the recovery of such costs are sought in future rate proceedings, Delta will be required to demonstrate that its energy conservation programs are both consistent with national standards and promote energy conservation and efficiency.

Miscellaneous Expenses. The AG recommended the exclusion of $38,485 in miscellaneous expenses for employee gifts and banquets, social events, spousal travel, golf outings, and tickets to sporting events. With the exception of costs related to Delta's annual employee meeting and employee service awards, the Commission finds that the

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25 Id. at 43.

26 Direct Testimony of David Brown Kinloch at 24.

expenses which the AG has targeted are not reasonably related to the provision of utility service. The Commission has accordingly removed $28,201 from test year miscellaneous expenses.

Payroll Taxes. Delta proposed to increase payroll tax by $8,299 to reflect the impact of its proposed payroll adjustment on payroll taxes. The AG recommended that payroll tax be adjusted further to reflect the effect of a rate-making adjustment which decreased the test year level of overtime expense and the removal of payroll taxes associated with certain employee bonuses and incentives. The Commission has reduced test year payroll tax expense by $17,304 to reflect the net effect of Delta's payroll increase and the removal of payroll tax associated with certain disallowed employee bonuses and incentives.

Property Taxes. The AG proposed to remove $27,383 in property tax associated with the Canada Mountain Storage Project. The Commission concurs with the AG's proposal and has reduced Delta's test year property tax by $27,383.

Uncollectible Accounts Expense and the Public Service Commission Assessment. The Commission has increased uncollectible accounts expense by $4,410 and the Public Service Commission Assessment expense by $2,062 to reflect the impact of the Commission approved revenue increase on these expenses.

Income Tax Expense. Delta proposed income tax expenses based upon a 39.445 percent blended federal and state tax rate and the requested after tax equity return based on the company's proposed expenses.[27] The AG agreed with this methodology.[28] The

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[27] Direct Testimony of John F. Hall at 6.

[28] Direct Testimony of Robert J. Henkes at 47.

Commission finds that adjusted income tax expense is $1,015,659, inclusive of investment tax credits of $71,000, excess deferred taxes of $26,150, and the adjusted revenues and expenses found reasonable herein.

Interest Expense. Delta proposed a reduction of $29,554 in test-period interest expense of $3,225,584 to reflect debt levels and cost of debt as of the end of the test period. Applying his proposed weighted cost of debt to his proposed rate base, the AG proposed a reduction of $80,065. Delta's proposed interest synchronization methodology is based on the assumption that the revenue requirement determination is based on the capital structure. In this instance, however, the Commission has used Delta's net investment rate base to determine the reasonable revenue requirement. For this reason, Delta's weighted cost of debt should be applied to the net investment rate base to achieve the correct level of interest expense for rate-making purposes. Therefore, the Commission has reduced test period interest expense by $37,004.

Summary. The Commission finds Delta's adjusted test-period operations are as follows:

	Reported Test Period	Pro Forma Adjustments	Adjusted Test Period
Operating Revenues	$33,052,029	$5,956,083	$39,008,112
Operating Expenses	28,012,070	6,061,532	34,073,602
Net Operating Income	$ 5,039,959	($ 105,449)	$ 4,934,510

RATE OF RETURN

Cost of Debt

Delta proposed, and the Commission has accepted, a rate of 6.535 percent for the cost of short-term debt and a rate of 7.858 percent for the cost of long-term debt.

Return on Common Equity

Delta proposed a return on equity ("ROE") of 13 percent. Its proposal is based upon a discounted cash flow ("DCF") analysis prepared by Delta witness James K. Sharpe. Mr. Sharpe performed a DCF analysis which used long-term growth in dividends for the growth component of his model and which produced a cost of equity of approximately 8.69 percent. Concluding that this method seriously underestimated Delta's cost of equity, Mr. Sharpe then performed a modified DCF analysis using long-term growth in earnings instead of dividends as the growth component. This modified DCF analysis produced a cost of equity of 11.85 percent.[29] Mr. Sharpe then performed a risk premium estimate which indicated Delta's cost of equity as 13.23 percent. After considering Delta's size and market risk, Mr. Sharpe concluded that Delta's cost of equity capital should be 13 percent.

Using a DCF analysis and the Capital Asset Pricing Model ("CAPM"), and supplementing these methodologies with a bond yield plus risk premium approach, AG witness David Brown Kinloch determined Delta's cost of equity to be within the range of 10 to 11 percent. Depending on the growth estimate used, his DCF analysis produced a cost of equity ranging from 9.47 percent to 12.21 percent. His CAPM produced a range of 7.7 percent to 9.6 percent. Because the market considers Delta a greater risk than any of the nine gas distribution utilities used in his analysis, Brown Kinloch concluded that Delta's range should be higher than the CAPM results. The results of his bond yield risk premium method indicated that Delta's appropriate equity cost rate is 10.6

[29] Deposition of James K. Sharpe at 5.

percent. Mr. Brown Kinloch testified that the 10 to 11 percent range contains the true cost of equity for Delta.

The AG criticized Mr. Sharpe's DCF analysis and urged its rejections on several grounds. He cited the lack of a risk analysis, the use of a flotation cost adjustment, the lack of a fundamental understanding of the DCF technique, the inability to trace the figures used in the modified DCF model, and the addition of one percent to the modified DCF result. He also asserted that the risk premium which Mr. Sharpe used is not adequately supported.

Delta asserts that the only meaningful difference between the two approaches is their assessment of the risk of an investment in Delta.[30] It stated that Mr. Brown Kinloch's assessment is flawed because of its use of 3-year average data rather than test year data. Delta notes that its coverage ratios for the test year are significantly lower than the 3-year averages of the AG's proxy companies. It also criticized Mr. Brown Kinloch for failing to consider certain factors such as weather, economic conditions in the service area, the small number of process loads, the high number of heat loads on Delta's system, and changes in the competitive environment in the natural gas industry when assessing Delta's financial strength.[31]

Having considered all of the evidence, including economic conditions, the Commission finds that an ROE of 11.11 to 12.1 is fair, just, and reasonable. An ROE in this range will allow Delta to attract capital at a reasonable cost and maintain its

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30 Delta's Brief at 17.

31 Id. at 19.

financial integrity to ensure continued service, provide for the necessary expansion to meet future requirements, and will result in the lowest possible cost to ratepayers. A return of 11.6 percent will best meet the above objectives.

Rate of Return Summary

Applying the rates of 7.858 percent for long-term debt, 6.535 percent for short-term debt, and 11.6 percent for common equity to the capital structure approved produces an overall cost of capital of 9.077 percent. The Commission finds this overall cost of capital to be fair, just, and reasonable.

REVENUE REQUIREMENTS

Based upon the Commission's findings and determinations herein, Delta requires an increase in revenues of $1,669,803. The following is the Commission's calculation of this required increase:

	Net Investment Rate Base	$65,445,709
x	Rate of Return	9.0772%
	Required Operating Income	5,940,615
-	Adjusted Operating Income	4,934,510
	Deficiency	1,006,105
+	Uncollectibles	4,475
+	PSC Assessment	2,092
+	Income taxes	657,131
	Required Increase	$ 1,669,803

COST OF SERVICE

Delta and the AG filed cost-of-service studies in this case. Delta used the cost-of-service methodology which Western Kentucky Gas ("WKG") developed in Case No. 95-010,[32] but redefined several allocation factors and proposed to combine the residential and small commercial customer classes because of similar load characteristics. The AG submitted three cost-of-service studies, two of which correct computational errors and make adjustments to certain allocation factors to more closely align Delta's study with the WKG model. The AG also made other adjustments in these studies, such as adding an additional month to Delta's winter heating season and calculating a different allocation factor for meters.[33] In his third study, the AG makes further refinements by incorporating the AG's proposed revenue increases.[34] Each AG study uses Delta's cost-of-service study as its starting point.

Mr. Sharpe, the author of Delta's cost-of-service study, acknowledged weaknesses in his study. He admitted the presence of several computational errors.[35] He acknowledged that, by redefining several allocation factors, his study differed from the WKG cost-of-service study and past Delta cost-of-service studies.[36]

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32 Case No. 95-010, Adjustment of Rates of the Western Kentucky Gas Company.

33 Direct Testimony of David Brown Kinloch at 5-20, Exhibits DHBK-1, DHBK-2, and DHBK-3.

34 Id. at 19-20.

35 Deposition of James K. Sharpe at 32-38.

36 Id. at 38-43, 50-58, and 62-66.

Mr. Sharpe cited several reasons for the study's methodological deviations. Delta is a relatively small gas company and lacks sufficient data to construct certain allocation factors similar to those used in the WKG study. Moreover, an increasingly competitive gas market generates pricing pressures that are not compatible with prices based upon fully embedded cost-of-service studies. Rate design and embedded cost-of-service studies, Mr. Sharpe testified, begin to lose their relevance in more competitive situations, where marginal cost studies generate more realistic allocations of cost. Relying upon his perception of market forces and Delta's embedded cost-of-service study as a guide, Mr. Sharpe adjusted the WKG study methodology to justify prices that better reflect current market conditions.[37]

The Commission does not accept that proposition that cost-of-service methodologies should be adjusted to steer the results toward justifying market prices. While recognizing that subjective assumptions are required to prepare cost-of-service studies, the Commission is of the opinion that such studies should be conducted in strict adherence to accepted and stated methodologies.

Having reviewed Delta's cost-of-service study, the Commission finds that it should not be given controlling weight in the establishment of Delta's rate design. The Commission is not convinced that the average and peak methodology has sufficient reliability to warrant it the Commission's complete reliance. Absent the use of another methodology to corroborate the average and peak methodology's results, preferably the zero-intercept method, this Commission will not give conclusive weight to studies using

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37 Id. at 42, 47-50, 57-66; Delta's Brief at 20-21.

such methodology. The Commission holds the same position with respect to the AG's cost-of-service study. While recognizing the weakness of the average and peak methodology, the Commission finds that both studies provide some usefulness in establishing Delta's rate design and will use them.

Rate Design and Revenue Allocation

Delta proposed the following changes in rate design: (1) combination of small commercial customers with the residential customers for purpose of the customer charge; (2) division of the first usage block into two blocks; and (3) reduction of rates for higher usage blocks.

In support of its combining small commercial and residential customers, Delta states that small commercials are served through the same size meter as residential customers and their customer cost characteristics are identical. The proposed $10 customer charge represents a decrease for small commercial customers whose present charge is $18.36. Delta hopes this proposed reduction will help recruit new customers and reduce the incentive for seasonal turn-offs.

Delta proposed to divide the existing General Service ("GS") and Interruptible Service 0-1,000 Mcf usage blocks into two blocks: .1-200 Mcf and 200.1-1,000 Mcf. Delta contends that, because most of the costs to be recovered are customer-related costs which are not dependent on usage, the best means of developing rates that track costs without drastically increasing the customer charge is to increase the Mcf charge in the first block. Delta divided the existing first usage block to avoid any negative consequences to large volume commercial customers if the increase was applied to the entire first block.

Delta also proposed to reduce the GS base rate charge for all levels above 200 Mcf. It established the highest usage block level at $.51 in an attempt to bring it closer to the off-system transportation rate of $.26 per Mcf. It changed the differential between blocks from the existing $.40 per Mcf; the proposed differential between blocks decreases from $1.555 at the lower usage levels to $.05 as usage increases.

Delta also proposed to raise its customer charge for residential customers from $5.95 to $10. This proposed charge also applies to small commercial customers. It proposed to increase customer charges to other non-residential GS customers from $18.36 to $25.

Consistent with its cost-of-service study, Delta proposed to reduce the level of interruptible service rates and to reduce the differential between the firm and interruptible service rates. The proposed interruptible tariff contains base rates at levels $.25 below GS levels. Delta believes that this proposed rate will reduce the number of GS customers who currently may have an incentive to switch to interruptible service because of the rate differential. Delta has proposed to increase the customer charge for interruptible customers from $185 to $200. In terms of revenue allocation, pursuant to its cost-of-service study, the revenue increase and the revenue shift caused by decreased rates to higher volume usage blocks was directed to the .1-200 Mcf blocks of usage.

The AG proposed no increase to the interruptible class. The revenue allocation methodology that he advocates in applying any approved increase over existing rates is not possible because of Delta's rate design. He recommends the following allocation of any revenue increase:

Residential-small commercial	34.1%
Large Commercial	0%
Industrial firm	9.5%
Industrial Interruptible	0%
Transmission Interruptible	0%
Transmission firm	56.4%

Delta's rates are designed by volume level and character of service (firm or interruptible), not by customer class or sales vs. transportation. The AG recommended rejection of Delta's proposed steeply declining block structure.

The Commission shares Delta's expressed concern about competitive pressures and market conditions. The AG's proposal to allocate no increase to interruptible customers is an implied recognition of these concerns. While it fails to give Delta's requested decrease to higher usage levels, it does insulate higher load interruptible customers from a rate increase. The Commission is of the opinion that the higher usage levels of GS rates can be reduced from their current levels with minimal impact on lower usage customers. A shift in revenue allocation within the GS blocks to allow the highest two usage blocks, which are predominantly transportation service customers as opposed to sales customers, to receive a rate decrease is appropriate. A reduction in these customers' incentive to switch to interruptible service is desirable and in the public interest. The Commission recognizes that a significant shift in large volume customers from GS Service to interruptible service would reduce the large volume customers' revenue contribution and have a potentially significant rate impact on other customer classes.

Delta requested to reduce the rate differential between blocks from $.765 to $.25 per Mcf. The Commission finds that the rate differential should be decreased to $.60 between the top two usage blocks. The combined revenue contribution of these two blocks is a small part of GS revenues. The Commission further finds that such a revenue shift is not unduly burdensome to other customers who will benefit from the retention of large volume customers on firm service. The Commission further finds that the rate increase approved herein and the shift of revenue responsibility from the highest two firm usage blocks should be allocated to lower usage blocks. A minimal increase should be allocated to the 200.1-1,000 Mcf and 1,000.1-5,000 Mcf usage blocks so that these customers share some of the increased revenue responsibility and at the same time minimize the growth in differential between blocks. The remaining rate increase and revenue shift should be allocated to the .1-200 Mcf block.

As to the proposed residential/small commercial customer charge, the AG calculates a charge of $8.20 based on a National Association of Regulatory Utility Commissioners' rate design manual, but recommends a more gradual increase not to exceed $7.00 or the overall percentage increase granted to Delta. In implementing the concept of gradualism the point of origin as well as the destination must be considered. The Commission finds that a 68 percent increase in customer charge for residential customers when combined with a 46 percent customer charge decrease for small commercial customers does not accord with the concept of gradualism. The Commission acknowledges Delta and its customers will both benefit if revenue collections are made less susceptible to weather fluctuations with an increase to the residential customer charge and finds that $8.00 is a reasonable level for such charge. The Commission further finds that small commercial customers will not be harmed if their customer charge remains at its present level. To discourage small commercial customers from requesting a seasonal disconnect to avoid customer charge, the Commission finds that an increase in reconnection charges should also be approved.

Reconnection Charge and Bad Check Charge

Delta proposes to increase its reconnection charge from $20 to $40 to collect the full cost of this service from any reconnecting customer and to discourage seasonal disconnections. Objecting to the proposed increase, the AG argues that the reconnection fee after a disconnect for nonpayment should remain at $20 and that a seasonal reconnect fee equal to five times the customer charge should be established.

The Commission finds that all customers should pay the same reconnection charge. Delta's proposed $40 charge is cost supported and within the range of reconnection charges of other utilities. As to the AG's proposal, the Commission notes that five times the approved customer charge of $8 is $40, and that any customers who will not pay their bills should not benefit from a reconnection charge designed for customers who cannot. Finally, requiring a utility to distinguish between these two types of customers would be extremely burdensome.

Delta also proposed to increase its bad check charge from $5 to $10. Citing the principles of continuity and gradualism, the AG recommended an increase to $6. The Commission finds the proposed charge is within the range of charges approved for other utilities. It further finds that the proposed charge is appropriate to recover the utility's administrative costs and to deter potentially harmful behavior. It does not consider the proposed increases as inconsistent with the principles of gradualism and continuity. These charges are collected only from customers whose payment practices are potentially harmful to Delta and its customers. To collect the full amount of the cost incurred to perform these services and to reinforce to customers the importance of paying their utility bills in a timely manner does not unfairly disadvantage anyone.

Miscellaneous Tariff Changes

Delta proposed language changes to its on and off system transportation tariffs which deal with the details of purchasing transportation gas. The Commission finds these changes are reasonable and should be approved. Delta also proposes to add a Gas Light Charge to its tariff to permit the calculation of unmetered usage of outdoor gas lights based on the gas light manufacturers' suggested usage. Estimated usage is established at 1,500 cubic feet per month for most types of gas lights. Special models whose consumption is at a greater level will be billed based upon the manufacturer's usage estimates. All sales estimated pursuant to this tariff will be billed at the customer's applicable rate schedule. The Commission finds that this tariff provision is reasonable and should also be approved.

Refund Requirements

On November 30, 1997, Delta, pursuant to KRS 278.190, placed its proposed rates into effect subject to refund. Given the difference in the increase granted and the amounts proposed, the Commission finds that Delta should refund to its customers all rates and charges exceeding the rates and charges prescribed in this Order. The

Commission notes that the rates approved herein are for service rendered on and after November 30, 1997. Delta shall not retroactively apply such rates for service rendered prior to this date. Billings based upon meter readings taken on November 30, 1997 or earlier clearly involve gas service received before November 30 and should not be based upon the rates approved in this Order. The Commission's action is consistent with KRS 278.190(2) which permits the utility to place its proposed rates into effect only after notifying the Commission in writing of its intention to place the rates into effect.

SUMMARY

After consideration of the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. The rates in Appendix A are the fair, just, and reasonable rates for Delta and will produce gross annual revenues as found reasonable herein.

2. Delta's proposed rates would produce revenue in excess of that found reasonable herein and should be denied.

3. The rate of return granted herein is fair, just, and reasonable, and will provide for the financial obligations of Delta with a reasonable amount remaining for equity growth.

4. The tariff changes proposed by Delta including the reconnection and bad check charges are reasonable and should be approved.

IT IS THEREFORE ORDERED that:

1. The rates in Appendix A are approved for service rendered by Delta on and after November 30, 1997.

2. Delta's proposed rates are denied.

3. Delta's proposed tariff changes are approved for service rendered on and after November 30, 1997.

4. Within 30 days of the date of this Order, Delta shall file with the Commission a report on the amount of excess revenues collected from November 30, 1997 through December 7, 1997 and a plan for refunding these revenues. This plan shall include interest for the period the excess revenues were collected at the average of the Three-Month Commercial Paper Rate as reported in the Federal Reserve Bulletin and the Federal Reserve Statistical Release. The refunds will be based on each customer's usage while the proposed rates were in effect and shall be made as a one-time credit to the bills of current customers and by check to customers that have discontinued service since November 30, 1997.

5. Within 30 days from the date of this Order, Delta shall file with this Commission revised tariff sheets setting out the rates and charges approved herein.

Done at Frankfort, Kentucky, this 8th day of December, 1997.

PUBLIC SERVICE COMMISSION

B. J. Helton
Chairman

Vice Chairman

Commissioner

ATTEST:

Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 97-066 DATED DECEMBER 8, 1997

The following rates and charges are prescribed for the customers in the area served by Delta Natural Gas Company, Inc., and include the gas cost adjustment approved in Case No. 90-342-Z.

RATE SCHEDULES

AVAILABILITY

Available for general use by residential, commercial, and industrial customers.

RATES

	Base Rate		Gas Cost Recovery Rate		Total
		plus		equals	
General Service					
Customer Charge					
Residential					$ 8.00
Small Commercial					18.36
All others					25.00
.1 - 200 Mcf	$2.6909		$4.7473		7.4382 per Mcf
200.1 - 1,000 Mcf	$2.5000		$4.7473		7.2473 per Mcf
1,000.1 - 5,000 Mcf	2.1000		4.7473		6.8473 per Mcf
5,000.1 - 10,000 Mcf	1.5000		4.7473		6.2473 per Mcf
Over 10,000 Mcf	1.1000		4.7473		5.8473 per Mcf
Interruptible (2)					
Monthly Customer Charge					$200.00
.1 - 1,000 Mcf	$1.7000		$4.7473		6.4473 per Mcf
1,000.1 - 5,000 Mcf	1.3000		4.7473		6.0473 per Mcf
5,000.1 - 10,000 Mcf	.9000		4.7473		5.6473 per Mcf
Over 10,000 Mcf	.5000		4.7473		5.2473 per Mcf