

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Iroquois Gas Transmission System, L.P.)

Docket No. RP04-____

PREPARED DIRECT TESTIMONY
OF
J. STEPHEN GASKE
ON BEHALF OF
IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

1 **Q1. Please state your name and business address.**

2 A. My name is J. Stephen Gaske and I am employed by Zinder Companies, Inc., 7508
3 Wisconsin Avenue, Suite 300 Bethesda, MD 20814.

4 **Q2. Would you please describe your educational and professional background?**

5 A. I hold a B.A. degree from the University of Virginia and an M.B.A. degree with a
6 major in finance and investments from George Washington University. I also
7 received a Ph.D. degree from Indiana University where my major field of study was
8 public utilities and my supporting fields were in finance and economics.

9 From 1977 to 1980, I worked for H. Zinder & Associates as a research
10 assistant and later as supervisor of regulatory research. In 1980 and 1981, I was
11 employed by Olson and Company where my primary duties were to assist in the
12 preparation of cost of capital studies for presentation in regulatory proceedings.

1 From 1982 to 1986 I undertook graduate studies in economics and finance
2 at Indiana University where I also taught courses in public utilities, transportation,
3 and physical distribution. During this time I also was employed as an independent
4 consultant on a number of projects involving public utility regulation, rate design,
5 and cost of capital. From 1983-1986 I was coordinator for the Edison Electric
6 Institute Electric Rate Fundamentals course. In 1986 I accepted an appointment as
7 assistant professor at Trinity University in San Antonio, Texas, where I taught
8 courses in financial management, investments, corporate finance, and corporate
9 financial theory.

10 In 1988 I returned to H. Zinder & Associates as a consultant. I have
11 testified or filed testimony or affidavits before the Federal Energy Regulatory
12 Commission on more than twenty occasions. Topics covered in these
13 submissions have included rate of return, capital structure, cost allocation, rate
14 design, and market power. I also have filed testimony on the cost of capital and
15 capital structure issues for electric, gas distribution and oil and gas pipeline
16 companies before eight state regulatory bodies and the Comision Reguladora de
17 Energia de México (“CRE”). In addition, I have testified or filed testimony on
18 cost allocation, rate design and pricing issues before public utility commissions in
19 Iowa, Maine, Montana, North Dakota and the U.S. Postal Rate Commission, and
20 on issues related to generating plant economics before the Wisconsin Public
21 Service Commission. I have conducted many studies on issues related to
22 regulated industries and have served as an advisor to numerous clients on

1 economic, competitive and financial matters. I also have spoken and lectured
2 before many professional groups including the American Gas Association and the
3 Edison Electric Institute Rate Fundamentals courses. Finally, I am a member of
4 the American Economic Association and its Transportation and Public Utilities
5 Group, the Financial Management Association, and the AGA Rate Committee.

6 **Q3. What is your assignment in this proceeding?**

7 A. The purpose of this proceeding is to establish incremental rates for an expansion and
8 extension of the Iroquois Gas Transmission System, L.P. (“Iroquois”) that is
9 referred to as the “Eastchester Project” or “Eastchester.” Because the FERC
10 certificate for Eastchester requires that rates for usage of these expansion and
11 extension facilities are to be established on an incremental basis, the pre-existing
12 Iroquois facilities will be referred to as the “Rolled-In” system, while the
13 Eastchester facilities may also be referred to as the “incremental” facilities.

14 I have been asked by Iroquois to sponsor and support Eastchester’s
15 ratemaking cost of service. My testimony sponsors many of the cost of service
16 exhibits and supports the cost of service underlying Iroquois’ proposed rates for
17 the Eastchester Project.

18 In addition, I have been asked by Iroquois to estimate the cost of capital for
19 the Eastchester Project and to recommend a rate of return on common equity to be
20 used for this filing. In this testimony, I calculate the cost of common equity capital
21 for the Eastchester Project based on Discounted Cash Flow (“DCF”) analyses of a
22 group of Natural Gas Pipeline proxy companies that have risks similar to those of

1 Eastchester. In addition, I conduct benchmark DCF analyses of a Public Utility
 2 Company proxy group in order to establish a lower bound on the return required
 3 by Eastchester. I then consider the differences between Eastchester's risks and
 4 those of the two groups of proxy companies in arriving at a recommended rate of
 5 return on common equity. The results of my DCF study and other analyses are
 6 supported by various additional benchmark criteria that I have used to test the
 7 reasonableness of the recommended rate of return on common equity.

8 **Q4. What exhibits, statements and schedules are you sponsoring?**

9 A. I am sponsoring the following exhibits, statements and schedules:

10 Exhibit No.__(JSG-1) Prepared Direct Testimony of J. Stephen Gaske

11 Exhibit No.__(JSG-2) Exhibits to Prepared Direct Testimony:

12	Schedule 1	Economic Statistics
13	Schedule 2	Natural Gas Pipeline Proxy Company Data
14	Schedule 3	Public Utility Proxy Company Data
15	Schedule 4	Flotation Cost Data

16 Exhibit No. ____(IGT-1) Cost of Service Statements and Schedules:

<u>Statement</u>	<u>Schedule</u>	
A		Cost of Service Summary
B		Rate Base and Return Summary
	B-1	Accumulated Deferred Income Taxes
C		Cost of Plant Summary
	C-1	End of Base and Test Period Plant Functionalized
	C-2	Account 106 and 107 work orders
D		Accumulated Provisions for Depreciation, Depletion and Amortization
	D-1	Workpapers - Depreciation reserve not yet approved
E		Working Capital
	E-2	Materials, Supplies, and Prepayments
H-1		Operation and Maintenance Expenses
	H-1(1)(a)	Workpapers - Labor Costs
	H-1(1)(b)	Workpapers - Material and Other

	H-1(2)	Workpapers - classification of principal charges, particulars of supporting computations
	H-1(2)(b)	Accounts 913,930.1 principle types of advertising expenses
	H-1(2)(c)	Account 921 office supplies and expenses
	H-1(2)(d)	Account 922 capitalized administrative expenses transferred
	H-1(2)(e)	Account 923 outside services employed
	H-1(2)(f)	Account 926 employee pensions and benefits
	H-1(2)(g)	Account 928 regulatory commission expenses
	H-1(2)(i)	Account 930.2 miscellaneous general expenses
H-2		Depreciation, Depletion, Amortization and Negative Salvage
	H-2(1)	Depreciable plant
H-3		Income Taxes
	H-3(1)	Workpapers - state income taxes by state
	H-3(2)	Workpapers - reconciliation between book depreciation plant and tax depreciation plant
H-4		Other Taxes
	H-4(1)	Workpapers - computation of adjusted taxes claimed in Statement H(4)

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Schedules H-1(1)(c), H-1(2)(a), H-1(2)(h), H-1(2)(j) and H-1(2)(k) have been omitted because there are no test period costs related to the Eastchester Project in the categories to be described by those schedules.

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Q5. Were these exhibits, statements and schedules prepared by you or under your direction or supervision?

6

7

A. Yes, they were. The base period cost data are from the company's books of account.

8

9

I. BACKGROUND INFORMATION

10

Q6. Please describe the ownership and operations of Iroquois and the Eastchester Project.

11

12

A. As described in the testimony of Iroquois witness Herbert A. Rakebrand, III, the Eastchester Project consists of upgrades and additions to compression facilities at five stations along the Rolled-In Iroquois pipeline system, as well as 36 miles of

13

14

1 24-inch diameter pipeline that extends the Iroquois pipeline system from
2 Huntington, New York to Hunts Point in the Bronx, New York. Much of the
3 pipeline extension is being laid along the bottom of the Long Island Sound and the
4 East River in New York City and approximately half of the total cost is associated
5 with the marine portion of the extension. The new pipeline system is expected to
6 commence operations about February 1, 2004 and will have capacity to deliver
7 230 MDth of natural gas per day.

8 Iroquois is organized as a limited partnership. The partnership shares are
9 owned by the following companies or their subsidiaries:

<u>Partner</u>	<u>Approximate Ownership Share</u>
TransCanada Pipelines, Ltd.	41%
Dominion Resources, Inc.	25%
KeySpan Energy Corporation	20%
PG&E Generating Company	6%
CTG Resources, Inc.	5%
New Jersey Resources Corporation	3%

10
11 Iroquois' Rolled-In system extends approximately 375 miles from an
12 interconnection with TransCanada PipeLine at the US-Canada border near
13 Waddington, New York to various points in New York and Connecticut. The
14 terminus of the Rolled-In system is on Long Island, New York.

15 **Q7. What is the purpose of this rate filing?**

16 A. The rates requested in this filing apply only to the Eastchester facilities, which are
17 to be priced incrementally according to the Commission's certificate order. Rates
18 for service on the Rolled-In system were recently established in an August 29,

1 2003 settlement in Docket No. RP03-589, which was approved by the
2 Commission. According to a settlement agreement, the Rolled-In system rates
3 cannot be changed until January 1, 2008. Because costs for the Eastchester are
4 expected to exceed the original estimates, Iroquois is making this rate filing in
5 order to establish rates that reflect the higher cost of providing the Eastchester
6 service.

7 II. COST OF SERVICE

8 **Q8. Please generally explain how Iroquois developed the cost of service underlying**
9 **its proposed rates for the Eastchester Project.**

10 A. Iroquois is proposing incremental rates for the Eastchester Project. Accordingly,
11 Iroquois used an incremental cost of service to develop those rates. This
12 incremental approach to developing the Eastchester rates is consistent with the
13 orders certificating the Eastchester Project in Docket No. CP00-232, where the
14 Commission denied Iroquois' proposal to use rolled-in rates for the Eastchester
15 Project, finding that rolled-in rates would result in Non-Eastchester shippers
16 subsidizing some costs of that project. Similarly, the Commission's 1999 policy
17 statement regarding the pricing of new pipeline construction states that existing
18 shippers should not be required to subsidize the costs of new projects.¹ Thus,
19 consistent with the Eastchester certificate orders and Commission policy, Iroquois
20 has developed the proposed Eastchester rates based on an incremental cost of
21 service that ensures that the Non-Eastchester shippers will not subsidize

¹ Reference CFR Section 154.309.

1 Eastchester shippers. As discussed below, the incremental cost of service
2 includes the direct costs associated with the Eastchester Project plus an allocation
3 of administrative and general (“A&G”) costs associated with Iroquois’ overall
4 system operations. Also in accordance with Commission policy referenced in the
5 Eastchester certificate orders, Iroquois used its overall system capital structure in
6 developing the proposed Eastchester rates.

7 **Q9. Please explain how the cost of service was calculated.**

8 A. The cost of service may be expressed as the formula: $\text{cost of service} = E + D + T +$
9 $[(V - d - u) \times R]$, where “E” equals operation and maintenance expenses, “D” equals
10 depreciation and amortization expenses, “T” equals tax expenses, “V” equals
11 gross plant plus working capital, “d” equals accumulated depreciation, depletion
12 and amortization, “u” equals accumulated deferred income taxes, and “R” equals
13 overall rate of return. This formula calculates the total costs that are used to
14 calculate maximum regulated rates.

15 The operation and maintenance expense component reflects the costs
16 related to operating and maintaining jurisdictional facilities and costs of
17 administrative and general items, such as employee salaries and benefits,
18 materials and supplies, insurance, rents, and other miscellaneous expenses. The
19 depreciation and amortization expense component represents the loss in value of
20 the Company’s assets and provides for the possible return of capital investment.
21 The cost of service formula also includes income and other taxes such as *ad*
22 *valorem* taxes, through the tax expense component. Finally, the formula includes

1 a component that is representative of an allowed return on the investment. This
2 component is calculated by multiplying the allowed overall rate of return times the
3 amount of capital invested in the rate base.

4 **Q10. How were the cost levels for the cost of service components derived?**

5 A. Cost levels for the components of the cost of service were developed for a “test
6 period” in accordance with section 154.303 of the Commission’s regulations. The
7 test period consists of a “base period” followed by a 9-month “adjustment period.”
8 The base period consists of 12 consecutive months of the most recently available
9 actual cost experience, while the adjustment period reflects changes to the base
10 period costs which are known and measurable with reasonable accuracy at the
11 time of the rate filing and which will become effective within the 9-month
12 adjustment period.

13 **Q11. What base period and test period did Iroquois utilize for its Eastchester rate**
14 **filing?**

15 A. Iroquois’ rate filing utilized a base period consisting of the 12 months ended
16 September 30, 2003, as adjusted for known changes through the test period ending
17 June 30, 2004. Because Eastchester is a new project that is still under
18 construction, only a fraction of the overall cost of service occurs during the base
19 period ending September 30, 2003. Instead, most of the final costs of construction
20 will occur during the 9-month adjustment period and the operating costs will not
21 begin to occur until the project is placed in service. The test period adjustments
22 for this rate filing are based on a projected in-service date of February 1, with

1 annualized cost of service adjustments provided wherever such adjustments are
2 appropriate.

3 **Q12. Please explain the cost of service statements and schedules that you are**
4 **sponsoring, beginning with Statement A.**

5 A. Statement A summarizes Iroquois' overall cost of service for the Eastchester
6 Project taken from the Company's books and records for the 12 months ended
7 September 30, 2003 (base period), as adjusted for known and measurable changes
8 through the end of the test period ending June 30, 2004. The overall cost of
9 service is the sum of the various cost components described in column (a), with
10 further detail provided in the statement or schedule referenced in column (b).

11 Iroquois' total Eastchester cost of service is \$70,886,573, as shown in
12 column (f) at line 9. Because Iroquois is a transportation-only pipeline and
13 provides no production, gathering, or storage services, the entire cost of service is
14 functionalized to "transportation."

15 **Q13. Please explain Statement B.**

16 A. Statement B summarizes Iroquois's test period rate base and return underlying the
17 proposed Eastchester rates. The various components of rate base are described
18 under column (a), with further detail provided in the statement or schedule
19 referenced under column (b). Lines 7 and 8 of Statement B show the application
20 of Iroquois' requested overall rate of return of 10.52 percent to the total rate base
21 of \$325 million. The derivation of the overall rate of return is shown on
22 Statement F(2).

1 Schedule B-1 shows the development of accumulated deferred income
2 taxes for the test period in the amount of \$4,129,017. In accordance with FERC
3 guidelines, the adjustment at line 13 removes the deferred tax liability associated
4 with equity AFUDC. The adjustment shown on line 15 reflects the tax liability
5 associated with test period timing differences. The test period balance for
6 accumulated deferred income taxes is deducted from rate base as shown on
7 Statement B, line 5.

8 **Q14. Please explain Statement C.**

9 A. Statement C summarizes Iroquois' per book cost of gas utility plant associated
10 with the Eastchester Project by FERC account at the beginning and end of the
11 base period, and as adjusted for the test period. The small amount of plant that
12 was in service during the test period is primarily related to upgrades of
13 compressor stations along the Rolled-In system. Schedule C-1 provides details of
14 the plant cost by FERC sub account. Schedule C-1.1 shows the major plant
15 additions that are projected to be completed by the end of the test period.
16 Iroquois projects no major plant retirements during the test period. Finally, as
17 shown on Schedules C-1.1 and C-2, Iroquois projects the project will be in service
18 on February 1, 2004 and that all uncompleted work orders will be transferred to
19 Account 101 by the end of the Test Period. Iroquois' adjusted gas plant in service
20 is \$334.1 million, which equals the amount in FERC Account 101 shown on
21 Statement C line 1. The total adjusted gas plant in service is included in rate base,
22 as shown on Statement B, line 1.

1 **Q15. Please explain Statement D.**

2 A. Statement D shows the accumulated provisions for depreciation, depletion,
3 amortization and abandonment associated with the Eastchester Project at the
4 beginning and end of the base period, and as adjusted for the test period. The
5 adjustment shown on Statement D reflects depreciation on the end-of-base period
6 plant balance calculated through the end of the test period and depreciation
7 calculated on the test period plant additions based on the projected in-service date
8 of February 1, 2004.

9 **Q16. Please explain Statement E.**

10 A. Statement E summarizes the working capital component of the rate base
11 underlying the proposed Eastchester rates, which includes only prepaid insurance.
12 Iroquois has not included any amount for cash working capital.

13 **Q17. What witnesses are sponsoring Statements F and G?**

14 A. Iroquois witness Mr. Bailey is sponsoring Statement F, which shows the
15 Company's overall rate of return and capital structure. The return on common
16 equity capital is addressed in Section III of my testimony herein. Statement G,
17 showing Iroquois' projected annualized test period revenues associated with the
18 Eastchester Project, is co-sponsored by Mr. Herbert A. Rakebrand, III and Mr.
19 Scott E. Rupff.

20 **Q18. Please explain Statement H(1).**

21 A. Statement H(1) reflects the fact that, as a new project, Eastchester had no
22 operation and maintenance expenses during the base period. Statement H(1) also
23 provides details of the adjustments to operation and maintenance expenses by

1 FERC account. Statement H-1(1)(a) shows the labor portion of operation and
2 maintenance expenses and Statement H-1(1)(b) shows the portion of operation
3 and maintenance expenses associated with materials and supplies.

4 **Q19. Please explain the adjustments to operation and maintenance expenses.**

5 A. Calculation of the operation and maintenance (“O&M”) expense adjustments
6 occurs on Schedule H-1(2). The basis for each of the adjustments is shown in the
7 notes to that schedule.

8 The first adjustment involves \$65,000 of projected O&M related to the
9 new Eastchester offshore pipeline mains. As part of the U.S. Army Corp of
10 Engineers permit, a survey of the marine portion of the Eastchester pipeline was
11 required. This cost was based on Iroquois’ previous experience with similar
12 surveys on the existing marine crossing of Long Island Sound.

13 For the onshore portion of O&M related to the pipeline, sales meter station
14 and compressor station costs were developed based on historical “unitized”
15 relationships (i.e., cost per mile, cost per sales meter station and cost per
16 compressor station). Three years of historical information was utilized in
17 developing the historical relationships that formed the basis for the O&M
18 adjustments for these onshore facilities. The three years included nine months of
19 actual data for 2003, which were annualized, and 2002 and 2001 actuals. These
20 three years of actual data were averaged and then “unitized” according to the
21 relevant number of units of each type of existing facility.

1 For example, the onshore pipeline was unitized by dividing total O&M on
2 pipeline mains during the historical period by approximately three hundred and
3 sixty miles of existing pipe. Similarly, the sales meter station costs were unitized
4 by dividing historical sales meter station costs by twenty sales meter stations.
5 Finally, compressor station O&M costs were unitized by dividing the historical
6 annual compressor station O&M costs by three compressor stations.

7 The O&M costs associated with onshore pipeline and compressor station
8 costs were then supplemented as follows. For the onshore pipeline, the unitized
9 cost was incremented by \$10,000 due to the high cost of operating within New
10 York City. The compressor station costs were incremented by ten percent due to
11 the use of a new vendor and turbines that are larger than the existing fleet. The
12 cost for coolers was calculated by estimating the annual utilization along with
13 vendor information on size and efficiency as well as existing electric rates.

14 The breakdown of O&M costs between operational costs and maintenance
15 costs was derived by calculating the percent of total costs that were operations and
16 those that were maintenance during the three-year historical period. This was
17 done for both the sales meter stations and the compressor stations. O&M labor
18 costs for each type of facility were calculated by annualizing nine months of
19 actual labor costs in 2003 (January through September), and then averaging 2003
20 labor costs with 2002 and 2001 labor costs.

1 **Q20. Do the proposed rates for the Eastchester Project contain an allocation of a**
2 **portion of the Iroquois Administrative and General expenses?**

3 A. Yes. Allocation of Iroquois Administrative and General (“A&G”) costs to the
4 Eastchester Project are shown on Schedule I-1(d). Supporting details for the test
5 period amount of the total Iroquois A&G costs are shown on Schedules H-1(2)(b),
6 H-1(2)(c), H-1(2)(d), H-1(2)(e), H-1(2)(f), H-1(2)(g) and H-1(2)(i).

7 Schedule H-1(2)(b) shows that Iroquois had advertising expenses of
8 \$231,130 during the base period. No adjustment to this expense has been made
9 for the test period.

10 Schedule H-1(2)(c) shows that Iroquois had office supplies and expenses
11 of \$1,581,003 during the base period. These expenses are increased by \$510,632
12 for the test period since the base period amounts were below normal levels due to
13 temporary curtailment of training and other employee expenses.

14 Schedule H-1(2)(d) shows that Iroquois capitalized administrative
15 expenses of \$587,358 during the base period, thereby reducing the current level of
16 administrative expenses. Due to the completion of the Eastchester Project, the
17 test period amount of capitalized administrative expenses has been reduced by
18 \$298,808.

19 Schedule H-1(2)(e) shows that Iroquois paid \$1,641,468 for outside
20 services during the base period. The test period amount for outside services has
21 been adjusted to reflect a reduction of \$349,068 in these expenses.

22 Schedule H-1(2)(f) shows that Iroquois had employee pension and benefit
23 expenses of \$2,164,340, excluding capitalized amounts, during the base period.

1 These amounts have been adjusted upward by \$730,647 to reflect test period
2 levels.

3 Schedule H-1(2)(g) shows that Iroquois had regulatory commission
4 expenses of \$185,132 during the base period and that this amount has been
5 reduced by \$13,632 for the test period. It should be noted that the Iroquois A&G
6 expenses reflected on this schedule are those expenses that are to be allocated
7 between Eastchester and the Rolled-In Iroquois system. The allocation of A&G
8 costs to Eastchester is shown on Schedule I-1(d) and is explained in the Prepared
9 Direct Testimony of Iroquois witness Mr. Kenneth B. Johnston. In addition to
10 the allocated A&G, the total cost of service includes \$437,567 of expenses for this
11 Eastchester rate case that are being assigned directly in calculating the proposed
12 Eastchester incremental rate. This rate case expense is shown on line 27, column
13 q on page 1 of Schedule I-1(d). The annual test period expense for this rate case
14 represents one-third of the projected total expenses that Iroquois expects to incur
15 in connection with this rate case.

16 Schedule H-1(2)(i) shows that Iroquois had miscellaneous general
17 expenses of \$735,451 during the base period. No test period adjustment has been
18 made to this amount.

19 **Q21. Please explain Statement H-2.**

20 A. Statement H-2 shows the annualized depreciation, depletion and amortization
21 expenses associated with the Eastchester Project at the end of the base period and
22 as adjusted for the test period. The adjusted annual depreciation and amortization

1 expense shown in column (f) is derived by multiplying the adjusted plant balance
2 shown in column (b) by the depreciation or amortization rate shown in column
3 (e). As shown on Statement H-2, plant associated with the Eastchester Project is
4 being depreciated using Iroquois' existing FERC-approved depreciation rate of
5 2.77% for transmission plant. General Plant associated with Eastchester is being
6 depreciated at a rate of 20%.

7 **Q22. Please explain Schedule H-2(1).**

8 A. Schedule H-2(1) shows the reconciliation of depreciable plant included in
9 Statement H(2) with the total adjusted cost of plant included on Statement C.
10 Page 1 of Schedule H-2(1) shows the adjustment to transfer plant projected to be
11 completed by June 30, 2004 to account 101, Plant in Service. Similarly, page 2 of
12 Schedule H-2(1) shows the adjustment to transfer plant balances as of September
13 30, 2003 out of Account 106. Although the majority of Eastchester facilities have
14 not yet been placed in service, Base Period plant balances and depreciation
15 expense shown on Schedule H-2(1) represent the fact that certain Eastchester-
16 related compressor station plant located on the Rolled-In system has already been
17 placed in service. These Eastchester-related facilities provided service to some
18 Eastchester shippers that are using delivery points upstream of the Eastchester
19 Project mainline facilities. Consequently, Eastchester facilities that were in
20 service during the base period are shown as having accrued depreciation expense
21 during the base period.

1 **Q23. Please explain Statement H-3.**

2 A. Statement H-3 shows the calculation of the federal and state income tax expense
3 for the test period. A federal income tax rate of 35.00% and a New York state and
4 local income tax rate of 9.03% were used to calculate the test period tax expenses.
5 Further, the calculation of net FIT adjustments includes amounts for the gross up
6 of taxable amortizations of equity AFUDC.

7 Schedule H-3(1) shows the computation of the composite federal, state
8 and local income tax rate. Schedule H-3(2) shows the reconciliation of
9 accumulated book and tax depreciation for the small amount of plant that is
10 already in service.

11 **Q24. Please explain Statement H-4.**

12 A. Page 1 of Statement H-4 shows taxes other than income taxes associated with the
13 Eastchester Project for the base period and for the test period. These are
14 comprised largely of ad valorem taxes, payroll taxes, and gross receipts taxes.
15 Calculations underlying the Other tax amounts are detailed on page 2 of Schedule
16 H-4.

17 **III. RATE OF RETURN**

18 **Q25. What rate of return is Iroquois requesting in this proceeding?**

19 A. Based on its test period capital structure, Iroquois is requesting the following rate of
20 return:

21

Source	Amount (000s)	Percent	Cost	Overall Rate of Return
Long-Term Debt	\$ 458,889	58.15%	7.36%	4.28%
Common Equity	\$ 330,290	41.85%	14.90%	6.24%
TOTAL	\$ 789,179	100.00%		10.52%

As my testimony discusses, an overall allowed rate of return of 10.52 percent, with a 14.9 percent return on common equity, is somewhat less than the cost of capital for the Eastchester Project. However, in an effort to mitigate the impact of the required rate increase, Iroquois is requesting a return on common equity of 14.9 percent, which is less than the 15.25 percent cost of common equity indicated by my analyses.

A. Criteria for a Fair Rate of Return

Q26. Please describe the criteria which should be applied in determining a fair rate of return for a regulated company?

A. The United States Supreme Court has provided general guidance regarding the level of allowed rate of return that will meet constitutional requirements. In *Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia* (262 U.S. 679, 693 (1923)), the Court indicated that:

"The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally."

1 The Court has further elaborated on this requirement in its decision in *Federal*
2 *Power Commission v. Hope Natural Gas Company* (320 U.S. 591, 603 (1944)).

3 There the Court described the relevant criteria as follows:

4 "From the investor or company point of view it is important that
5 there be enough revenue not only for operating expenses but also
6 for the capital costs of the business. These include service on the
7 debt and dividends on the stock.... By that standard the return to
8 the equity owner should be commensurate with returns on
9 investments in other enterprises having corresponding risks. That
10 return, moreover, should be sufficient to assure confidence in the
11 financial integrity of the enterprise, so as to maintain its credit and
12 to attract capital."

13 Thus, the standards established by the Court in *Hope* and *Bluefield* consist of three
14 requirements. These are that the allowed rate of return should be:

- 15 1. commensurate with returns on enterprises with
16 corresponding risks;
- 17 2. sufficient to maintain the financial integrity of the
18 regulated company; and,
- 19 3. adequate to allow the company to attract capital on
20 reasonable terms.

21 These legal criteria will be satisfied best by employing the economic concept of the
22 "cost of capital" or "opportunity cost" in establishing the allowed rate of return on
23 common equity. For every investment alternative, investors consider the risks
24 attached to the investment and attempt to evaluate whether the return they expect to
25 earn is adequate for the risks undertaken. Investors also consider whether there
26 might be other investment opportunities that would provide a better return relative
27 to the risk involved. This weighing of alternatives and the highly competitive nature
28 of capital markets causes the prices of stocks and bonds to adjust in such a way that

1 investors can expect to earn a return that is just barely adequate for the risks
2 involved. Thus, for any given level of risk there is a return that investors must
3 expect in order to induce them to voluntarily undertake that risk and not invest their
4 money elsewhere. That return is referred to as the "opportunity cost" of capital or
5 "investor required" return.

6 **Q27. How should a fair rate of return be evaluated from the standpoint of**
7 **consumers and the public?**

8 A. The same standards should apply. When a regulated entity faces
9 competition, consumers will implicitly determine the fair rate of return by their
10 consumption decisions. When regulation is appropriate, consumers and the public
11 have a long-term interest in seeing that the regulated company has an opportunity to
12 earn returns that are not so high as to be excessive, but that also are sufficient to
13 encourage continued replacement and maintenance, as well as needed expansions,
14 extensions, and new services. Thus, the consumer and public interest also lies in
15 establishing a return that will readily attract capital without being excessive.

16 **Q28. How are the costs of preferred stock and long-term debt determined?**

17 A. For purposes of setting regulated rates, the current, embedded costs of
18 preferred stock and long-term debt are used in order to ensure that the company
19 receives a return that is sufficient to pay the fixed dividend and interest obligations
20 that are attached to these sources of capital.

21 **Q29. How is the cost of common equity determined?**

22 A. The practice in setting a fair rate of return on common equity is to use the
23 current market cost of common equity in order to ensure that the return is adequate

1 to attract capital and is commensurate with returns available on other investments
2 with similar levels of risk. However, determining the market cost of common
3 equity is a relatively complicated task that requires analysis of many factors and
4 some degree of judgment by an analyst. The current market cost of capital for
5 securities that pay a fixed level of interest or dividends is relatively easy to
6 determine. For example, the current market cost of debt for publicly-traded bonds
7 can be calculated as the yield-to-maturity, adjusted for flotation costs, based on the
8 current market price at which the bonds are selling. In contrast, because common
9 stockholders receive only the residual earnings of the company, there are no fixed
10 contractual payments which can be observed. This high degree of uncertainty
11 associated with the dividends that eventually will be paid greatly complicates the
12 task of estimating the cost of common equity capital. For purposes of this
13 testimony, I have relied on several analytical approaches for estimating the cost of
14 common equity. My primary approach relies on several DCF analyses. In addition,
15 I have conducted Risk Premium and Alternative Equity Investment analyses in order
16 to establish benchmarks for a reasonable rate of return. Each of these approaches
17 are described later in this testimony.

18 B. Cost of Debt

19 **Q30. What debt cost rate have you used for Iroquois?**

20 A. As shown on Statement F-3, Iroquois' cost of debt is 7.36 percent.

1 C. Interest Rates and the Economy

2 **Q31. What are the general economic factors that affect the cost of capital?**

3 A. Investors are often influenced by their perceptions of the economy and both short-
4 and long-term trends. Page 1 of Schedule 1 of Exhibit No.__(JSG-2) shows
5 various general economic statistics. The economy has had a record of persistent
6 growth during the past thirty years, with only temporary recessionary periods.
7 Real growth in the Gross Domestic Product ("GDP") has averaged 3.1 percent
8 annually during the past 30 years, 3.1 percent for the past 20 years and 3.2 percent
9 for the past ten years. After growing slowly during 2002 and the first half of 2003,
10 the economy has been growing at an exceptionally rapid rate lately. For example,
11 the U.S. GDP grew at an annual rate of 8.2 percent during the third quarter of
12 2003. Stock prices in general have increased recently, but many energy companies
13 have seen their stock prices plummet during the past two years. There has been a
14 marked increase in the perceived risk of common equity investments in general
15 and also an increase in the perceived risk of energy and utility-related investments
16 in particular.

17 Investors also are influenced by the level of inflation, which has been
18 persistent in the past. During the past decade, the Consumer Price Index has
19 increased at an average annual rate of 2.6 percent and the GDP Implicit Price
20 Deflator, a measure of price changes for all goods produced in the United States, has
21 increased at an average rate of 1.9 percent.

1 Companies attempting to attract common equity must compete with a
2 variety of alternative investments. Prevailing interest rates provide a standard
3 measure of returns currently available on less risky securities. As Page 2 of
4 Schedule 1 of Exhibit No. ____ (JSG-2) shows, long-term interest rates have
5 remained relatively stable during the past two years. This relative stability of long-
6 term interest rates is in stark contrast to the large decline in short-term interest rates,
7 that occurred during this same time period. The recent yields on A-rated public
8 utility bonds have been approximately 6.5 percent and the yields on Baa-rated public
9 utility bonds have been approximately 6.8 percent.

10 D. Discounted Cash Flow (“DCF”) Method

11 **Q32. Please describe the DCF method of estimating the cost of common equity**
12 **capital.**

13 A. The DCF method reflects the assumption that the market price of a share of stock
14 represents the discounted present value of the stream of all future dividends that
15 investors expect the firm to pay. The DCF method suggests that investors in
16 common stocks expect to realize returns from two sources: a current dividend yield,
17 plus expected growth in the value of their shares as a result of future dividend
18 increases. Estimating the cost of capital with the DCF method therefore is a matter
19 of calculating the current dividend yield and estimating the long-term future growth
20 rate in dividends that investors reasonably expect from a company.

21 The dividend yield portion of the DCF method utilizes readily-available
22 information regarding stock prices and dividends. The market price of a firm's stock
23 reflects investors' assessments of risks and potential earnings as well as their

assessments of alternative opportunities in the competitive financial markets. By using the market price to calculate the dividend yield, the DCF method implicitly recognizes investors' market assessments and alternatives. However, the other component of the DCF formula, investors' expectations regarding the future long-run growth rate of dividends, is not readily apparent from stock market data and must be estimated using informed judgment.

Q33. What DCF formula do you use in this proceeding?

A. In its recent decisions on rate of return, the Commission has utilized the following general form of the DCF model:

$$K = \frac{D(1 + .5g)}{P} + g \quad (1)$$

where: K = the cost of capital, or total return that investors expect to receive;

P = the current market price of the stock;

D = the current annual dividend rate; and

g = the future annual growth rate that investors expect.

That is the formula that I will use in this study.

E. Flotation Cost Adjustment

Q34. Does the investor return requirement that is estimated by a DCF analysis need to be adjusted for flotation costs in order to estimate the cost of capital?

A. Yes. This is particularly true when the cost of common equity is estimated by conducting a DCF analysis that is based on the prices of common stocks traded in the “secondary” markets on stock exchanges. Because the purpose of the allowed rate of return in a regulatory proceeding is to estimate the cost of capital that the

1 regulated company would incur to raise money in the “primary” markets, a DCF
2 estimate of the returns required by investors in the “secondary” markets must be
3 adjusted for flotation costs in order to provide an estimate of the cost-of-capital that
4 the regulated company requires in order to raise capital on reasonable terms in the
5 “primary” markets.

6 **Q35. Please describe the difference between “primary” and “secondary” markets**
7 **for common equity.**

8 A. When a company issues new common equity in order to raise cash for investment
9 in plant, or to otherwise run its operations, it does so in the “primary” market.
10 The “primary” market is defined very simply as the market in which the stock is
11 first sold in order to raise cash funds to be used by the issuer. In this “primary”
12 market, the company generally hires an investment banker, or a syndicate of
13 bankers and brokers, to float its stock issue to the public. Associated with a
14 company raising cash funds through a “primary” market sale of common stock
15 there are significant costs of preparing and filing documents with the Securities
16 and Exchange Commission (“SEC”), as well as other regulatory agencies, and
17 issuing prospectuses. In addition, in the “primary” market the issuing company
18 generally must pay a significant percentage of the proceeds from the stock
19 issuance to the investment banker, or the syndicate of bankers and brokers, who
20 undertakes to find investors who will provide cash to the issuing company.

21 Once stock has been issued to investors in the “primary market,” those
22 investors who initially provided cash to the issuing company may re-sell or
23 “trade” the stock with other investors in the “secondary” market. Much of the

1 trading in the “secondary” market occurs on stock exchanges and buyers and
2 sellers are not required to file prospectuses with the SEC. The crucial difference
3 between stock issued in the “primary” market and stock traded in the “secondary”
4 market is that the issuing company does not receive any additional funds when its
5 stock trades in the “secondary” market. Instead, the ownership of the stock
6 merely changes hands between various investors. In addition, the brokerage fees
7 associated with buying and selling stock in the “secondary” market generally are
8 incurred by both the buyer and the seller, and are a small fraction of the level of
9 the flotation costs incurred by a company that attempts to raise cash by issuing
10 stock in the “primary” market.

11 **Q36. Have you quantified the cost of raising capital by issuing stock in the**
12 **“primary” market?**

13 A. Yes. There are significant costs associated with issuing new common equity capital
14 and these costs must be considered in determining the cost of capital to a company.
15 Schedule 4 of Exhibit No. ____ (JSG-2) shows a representative sample of flotation
16 costs incurred with 36 new common stock issues by natural gas transmission and
17 distribution companies between 1992 and 2002. Flotation costs associated with
18 these new issues averaged 4.77 percent. This indicates that in order to be able to
19 issue new common stock on reasonable terms, without diluting the value of the
20 existing stockholders' investment, Iroquois must have an expected return that places
21 a value on its equity that is approximately 4.75 percent above book value. The cost
22 of capital is therefore the investor return requirement multiplied by 1.0475.

1 One purpose of a flotation cost adjustment is to compensate common equity
2 investors for past flotation costs by recognizing that their real investment in the
3 company exceeds the equity portion of the rate base by the amount of past flotation
4 costs. For example, the proxy companies generally have incurred flotation costs in
5 the past and, thus, the cost of capital invested in these companies is the investor
6 return requirement plus an adjustment for flotation costs. A more important purpose
7 of a flotation cost adjustment is to establish a return that is sufficient to enable a
8 company to attract capital on reasonable terms. This fundamental requirement of a
9 fair rate of return is analogous to the well-understood basic principle that a firm, or
10 an individual, should maintain a good credit rating even when they do not expect to
11 be borrowing money in the near future. Regardless of whether a company can
12 confidently predict its need to issue new common stock several years in advance, it
13 should be in a position to do so on reasonable terms at all times without dilution of
14 the book value of the existing investors' common equity. This requires that the
15 flotation cost adjustment be applied to the entire common equity investment and not
16 just a portion of it.

17 In summary, when a DCF analysis based on stock prices and dividend yields
18 in the “secondary” market is used to estimate the required rate of return, a flotation
19 cost adjustment is essential in order to account for the difference between (i)
20 stocks traded between investors in the secondary markets and (ii) stock issued in
21 the primary market to raise capital for plant construction and utility operations.

1 F. DCF Study of Natural Gas Pipeline Companies

2 **Q37. Would you please describe the overall approach used in your DCF analysis of**
3 **Eastchester's cost of common equity?**

4 A. Because the Eastchester Project is priced on an incremental, stand-alone basis, I
5 have estimated the cost of common equity for a project that has risks commensurate
6 with those faced by Eastchester on a stand-alone basis. In recent years, the
7 Commission has stated a preference for using the DCF method for estimating the
8 required return for interstate gas pipelines. However, the DCF method requires a
9 market price of common stock to compute the dividend yield component of the DCF
10 analysis. A direct, market-based DCF analysis of the Eastchester Project as a stand-
11 alone company is not possible since it does not have publicly-traded common stock.
12 Instead, Eastchester is part of the integrated pipeline facilities of Iroquois, which in
13 turn is privately-owned by a group of diversified energy companies. To get around
14 this lack of a publicly-traded common stock, I have used a proxy group of pipeline
15 companies that is most nearly similar in risk to the Eastchester Project. In addition,
16 as a benchmark, I have also conducted a DCF analysis of a second group of
17 companies that are viewed as being primarily public utility companies but that also
18 own some natural gas pipeline assets. These public utilities have overall risks that
19 are clearly less than those of the Eastchester Project, and therefore provide an
20 indication of a lower-bound rate of return that is significantly below the cost of
21 capital for Eastchester.

22 Consequently, my estimate of the rate of return which investors require
23 for the Eastchester Project is primarily determined by conducting market-based

1 DCF analyses of a group of publicly-traded pipeline companies. As one of several
2 “benchmark” checks on the reasonableness of the return derived from the pipeline
3 company DCF analyses, I also conducted DCF analyses of a group of less-risky
4 public-utility companies that all own interstate natural gas pipeline operations.

5 **Q38. How did you select your group of proxy companies?**

6 A. I began with the standard prescribed by the Commission:

7 *In Equitrans, the Commission set forth the appropriate standards for*
8 *proxy companies. Those requirements are: (1) The company’s stock*
9 *is publicly traded; (2) the company is recognized as a natural gas*
10 *pipeline company and its stock is recognized and tracked by*
11 *investment information service; and (3) pipeline operations*
12 *constitute a high proportion of the company’s business.²*
13

14 To these standards I added the requirement that the proxy company must have an
15 investment grade bond rating. In the past, the Commission has applied the
16 *Equitrans* standard to include companies such as El Paso, Williams, Sonat,
17 Coastal and Enron in the group. However, both Sonat and Coastal have merged
18 with El Paso and El Paso’s bonds no longer have an investment-grade rating. Due
19 to mergers, asset purchases, sales, spinoffs, and bankruptcy, the ownership
20 composition of the interstate pipeline industry has changed considerably during
21 the past three years. In addition, increased diversification by the owners of
22 interstate natural gas pipelines leaves very few publicly-traded companies that
23 meet the *Equitrans* criteria of being “recognized as a natural gas pipeline
24 company” and having “pipeline operations constitute a high proportion of the
25 company’s business.” Finally, several potential proxy companies have bond

1 ratings that are significantly below investment grade and have financial
2 characteristics and investment prospects that are now so uncertain that a DCF
3 analysis would not produce meaningful results. There are four companies that are
4 now reasonably similar in risk to Eastchester so as to be appropriate proxy
5 companies:

Enterprise Products Partners L.P
Kinder Morgan, Inc.
Kinder Morgan Energy Partners L.P.
Northern Border Partners

6
7 These four companies all have a substantial portion of their revenue, earnings and
8 assets associated with natural gas pipeline and other transportation and storage
9 operations.

10 **Q39. How did you calculate the dividend yields for the companies in your**
11 **comparison groups?**

12 A. These calculations are shown on page 3 of Schedule 2 of Exhibit No. __ (JSG-2).
13 For the price component of the calculation I used the average of the high and low
14 stock prices experienced by each company during the six month period from May
15 2003 to October 2003. The dividend yields were calculated for each company by
16 dividing the indicated annual dividend by the average of the stock prices for each
17 company. These dividend yields can be multiplied by the quarterly DCF model
18 factor $(1 + .5g)$ to arrive at the dividend yield component of the DCF model.

² *Transcontinental Gas Pipeline Co.*, 90 FERC ¶ 61, 279 (2000) at 61,933.

1 **Q40. Please describe the method you used in estimating the future growth rate**
2 **that investors expect from these companies?**

3 A. I developed three different DCF analyses for each of the proxy companies based on
4 three different growth rate estimation methods. There are many methods that
5 reasonably can be employed in formulating a growth rate estimate, but an analyst
6 must attempt to ensure that the end result is an estimate that fairly reflects the
7 forward-looking growth rate that investors expect.

8 In the first approach I calculated a DCF rate of return using the growth rate
9 method adopted by the Commission in Opinion No. 414-A.³ As a second approach,
10 I used a combination of securities analysts' growth projections and the Value Line
11 retention growth forecasts to produce a Second-Stage Retention Growth analysis.
12 As a third approach, I conducted a Basic DCF analysis that relied solely on the
13 analysts' forecasts for the growth rate component of the model.

14 Opinion No. 414-A Calculation

15 **Q41. How did you calculate a return using the Commission's Opinion No. 414-A**
16 **method?**

17 A. This method is based on an average of the investment analysts' specific forecasts for
18 each proxy company and a forecast of the long-term growth rate in the United States
19 Gross Domestic Product ("GDP"). The Commission's formula gives a weight of
20 two-thirds to the investment analysts' forecasts and a weight of one-third to the U.S.
21 GDP forecast. The Commission traditionally has required IBES as the source for
22 the analysts' forecasts. Although other investment services formerly provided

³ *Transcontinental Gas Pipeline Co.*, 80 FERC ¶ 61,084 (1998).

1 analysts' long-term growth forecasts that were more widely available and far less
2 costly than the IBES data, Thomson Financial ("ThomsonFN") bought IBES in
3 2001 and now makes the analysts' growth rate forecasts available on its website at
4 no charge. Consequently, I have used the estimates available from ThomsonFN as
5 the source for these data in my calculations.

6 The U.S. GDP growth rate forecast is 5.96 percent under the
7 Commission's method. Page 4 on Schedule 2 shows the calculation that combines
8 the ThomsonFN forecasts for each company with the U.S. GDP growth rate forecast
9 to derive a growth rate using the Opinion No. 414-A method.

10 **Q42. What rate of return did you calculate for the proxy companies using the**
11 **Opinion No. 414-A method?**

12 A. These calculations are shown on page 6 of Schedule 2. In the "secondary" market
13 the median investor required return for the natural gas pipeline proxy companies
14 using this method is 14.4 percent. The low investor return estimate is
15 approximately 13.3 percent and the high investor return estimate is approximately
16 15.6 percent. None of these estimates represents the cost of capital to a company
17 such as Iroquois since they do not reflect the cost of raising capital. When an
18 appropriate flotation cost adjustment is added, the median cost of capital to a
19 pipeline raising capital in the "primary" market is approximately 15.10 percent. The
20 low for the group is 14.0 percent and the high is approximately 16.3 percent.

Second-Stage Retention Growth Analysis

Q43. Are there better indicators of investors' long-term growth rate expectations for the proxy companies than the U.S. GDP forecasts?

A. Yes. If the Commission is interested in estimates that go beyond the period covered by analysts' forecasts, one alternative that is more supportable than the U.S. GDP forecast is to use the projected earnings retention growth rates for these companies. Although companies may experience extended periods of growth for other reasons, in the long-run, growth in earnings and dividends per share depends in part on the amount of earnings that are being retained and reinvested in a company. The U.S. GDP forecasts of economy-wide growth provide a poor estimate of investors' expectations for this group of proxy companies because the GDP growth refers to the U.S. economy and not to the expected growth for the specific companies in the analysis. Instead, the primary determinants of growth for the proxy companies will be (i) their ability to find and develop profitable opportunities; (ii) their ability to generate profits that can be reinvested in order to sustain growth; and, (iii) their willingness and inclination to reinvest available profits. Expected future retention rates provide a general measure of these determinants of expected growth, particularly items (ii) and (iii).

Q44. How can a company's earnings retention rate affect its future growth?

A. Retention of earnings causes an increase in the book value per share and, *ceteris paribus*, increases the amount of earnings that are generated per share of common stock. The retention growth rate can be estimated by multiplying the expected retention rate (b) times the rate of return on common equity (r) that a company is

1 expected to earn in the future. For example, a company that is expected to earn a
2 return of 15 percent and retain 80 percent of its earnings might be expected to have a
3 growth rate of 12 percent, computed as follows:

$$.80 \times 15\% = 12\%$$

5 On the other hand, another company that is also expected to earn 15 percent but only
6 retains 20 percent of its earnings might be expected to have a growth rate of 3
7 percent, computed as follows:

$$.20 \times 15\% = 3\%$$

9 Thus, the rate of growth in a firm's book value per share is primarily determined by
10 the level of earnings and the proportion of earnings retained in the company.

11 **Q45. Is there a source for expected future retention rates?**

12 A. Yes. For most companies, Value Line publishes forecasts of data that can be used to
13 estimate the retention rates that its analysts expect individual companies to have 3-5
14 years in the future. Since these retention rates are projected to occur at a point in
15 time several years in the future, they should be indicative of a normal expectation
16 for a primary underlying determinant of growth that would be sustainable
17 indefinitely beyond the period covered by analysts' forecasts. While companies
18 may have either accelerating or decelerating growth rates for extended periods of
19 time, the retention growth rates expected to be in effect 3-5 years in the future
20 generally represent a minimum "cruising speed" that companies can be expected to
21 maintain indefinitely.

1 **Q46. How did you utilize the projected earnings retention rates in a DCF analysis?**

2 A. For purposes of presenting a DCF analysis that I believe is clearly superior to that
3 currently used by the FERC in interstate natural gas pipeline proceedings, I have
4 utilized, with one exception, precisely the same method that the Commission used
5 in Opinion No. 414-A. In place of the GDP forecast of growth in the U.S. economy,
6 I have substituted the estimated retention growth rates that each of the proxy
7 companies will be maintaining several years in the future. The retention growth rate
8 forecasts for each proxy company are shown on page 5 of Schedule 2 of Exhibit
9 No.____(JSG-2).

10 Value Line currently projects that Kinder Morgan will be maintaining an
11 11.9 percent retention growth rate between three and five years in the future. This
12 represents a deceleration from the 17.0 percent consensus earnings growth rate that
13 analysts project for Kinder Morgan. In contrast, Value Line projects negative
14 retention rates for Enterprise Products Partners and Kinder Morgan Energy Partners.
15 However, these data do not realistically reflect the long-term expectations of
16 investors. Through acquisitions and other means, these companies have steadily
17 increased their earnings, distributions *and* book value per unit for several years
18 despite the fact that they generally have had negative retention rates in each year.
19 Given the rapid long-term growth rates projected for these companies, I have used a
20 retention growth rate of zero for the second stage retention growth rate.

21 Similarly, although Value Line retention growth rate projections are not
22 available for Northern Border this company also has a history of growing rapidly

1 despite high payout ratios. Historically, Northern Border's earnings and
2 distributions have grown at a rate of approximately four to five percent. In addition,
3 Northern Border recently has made various acquisitions that will allow it to continue
4 to grow. Analysts currently expect long-term earnings growth of 11.25 percent for
5 Northern Border. However, in the past the company has tended to distribute all of
6 its earnings to the partners. Consequently, I estimate that the long-run earnings
7 retention growth rate for Northern Border will be zero.

8 As the Commission does in its current growth rate methodology, I
9 calculated a weighted average of the analysts' projected growth rate (based on
10 ThomsonFN data) and the projected retention growth rate to derive a long-term
11 growth rate estimate for use in the DCF model. These calculations are shown on
12 page 7 of Schedule 2 of Exhibit No.__(JSG -2).

13 **Q47. How did you combine these growth rate estimates with dividend yields to**
14 **produce an estimate of the return on common equity capital that investors**
15 **require from the proxy companies?**

16 A. Again, I used the same method that the FERC has adopted in recent decisions. The
17 dividend yield for each company shown on page 3 of Schedule 2 of Exhibit
18 No.__(JSG-2) is multiplied times the dividend adjustment factor utilized by the
19 Commission ($1 + .5g$) and added to the growth rate estimate. These calculations are
20 shown on page 8 of Schedule 2 of Exhibit No.__(JSG-2). This approach indicates
21 that the cost of common equity capital for the natural gas pipeline proxy companies
22 is in a range between 13.7 percent and 19.5 percent. The median for the group is
23 15.24 percent.

Basic DCF Analysis

Q48. What approach did you use in conducting a Basic DCF analysis?

A. This analysis is conducted in substantially the same manner as the Opinion No. 414-A and Second-Stage Retention Growth Rate analyses. However, the growth rate component of the analysis is based solely on the analysts' forecasts for each company and the U.S. GDP and retention growth rate components are omitted from the analysis. This Basic DCF analysis recognizes that the consensus of analysts' forecasts reflects the most important component of investors' growth rate expectations and it assumes that the analysts' forecasts incorporate all information required to estimate a long-term expected growth rate for a company.

Q49. How did you calculate the cost of capital using the Basic DCF analysis?

A. These calculations are shown on page 9 of Schedule 2 of Exhibit No.____(JSG-2). Again, the annual dividend yield is multiplied times the quarterly dividend adjustment factor $(1 + .5g)$ and this product is added to the growth rate estimate to arrive at the investor-required return. Then, the investor return requirement is multiplied times the flotation cost adjustment factor, 1.0475 to arrive at the Basic DCF estimate of the "primary market" cost of common equity capital for the proxy companies. The Basic DCF analysis indicates a median cost of common equity for the pipeline proxy companies of 19.5 percent and an average cost of 18.2 percent.

Growth Rate Analysis

Q50. Did you conduct your own analysis of growth rate opportunities for the proxy companies as part of your analysis?

A. Yes. In addition to the forward-looking ThomsonFN growth rates and the Value Line projections of steady-state retention growth rates, I examined various historical data in order to better understand the level of growth that investors might reasonably expect from pipelines in the future. Unfortunately, because of the large numbers of mergers and spinoffs that have occurred with both the Pipeline and Public Utility groups of companies in recent years, many of the companies do not have 10 years of historical data that can be compared in estimating historical growth rates. Consequently, the historical data is only useful for estimating expected future growth rates when it is examined carefully in conjunction with the business and operating strategies of the proxy companies.

Nevertheless, page 11 of Schedule 2 of Exhibit No. ____ (JSG-2) shows the available earnings experience of the proxy companies during the 10-year period 1992-2002. According to the most recently available data, the Natural Gas Pipeline proxy companies generally grew at rates significantly above the average for the overall economy. The average earnings growth rate for the group was 13.0 percent. I also examined the dividend and distribution growth rate history for the proxy companies during the 1992-2002 time period. As shown on Page 12 of Schedule 2, the average dividend and distribution growth rate for the Natural Gas Pipeline proxy group was 17.8 percent.

1 **Q51. In your opinion, what are some of the underlying factors that will affect**
2 **future growth rates for the companies in both proxy groups?**

3 A. One important factor will be growth in the overall economy. Page 1 of Schedule 1
4 of Exhibit No.____(JSG-2) shows that the United States Gross Domestic Product has
5 grown at an average annual rate of 7.4 percent during the past 30 years. During the
6 past decade U.S. GDP growth has averaged 5.2 percent. It is reasonable to expect
7 that long-term future growth in the economy generally will be comparable to past
8 growth rates.

9 Another factor will be demand for natural gas. Natural gas usage has been
10 increasing in recent years and many analysts are expecting demand to increase
11 steadily during the next decade and beyond. For example, the Energy Information
12 Administration of the U.S. Department of Energy forecasts that gas consumption in
13 the United States will grow from its current level of approximately 22 Tcf per year
14 to approximately 33 Tcf per year in 2020. The amount of new pipeline capacity
15 required to achieve an increase in demand of this magnitude, and to accommodate
16 increased transportation from new supply sources, is quite large. Steady increases in
17 demand for gas transportation should be fueled by the availability of domestic and
18 imported supplies and the superior environmental characteristics of natural gas that
19 should allow it to achieve a greater market share relative to other fuels.

20 **Q52. What are some of the other factors that will affect the growth rates of the**
21 **proxy companies in the foreseeable future?**

22 A. The U.S. domestic natural gas industry will require increasing amounts of plant and
23 capital in future years to maintain existing services and to adjust to changing
24 circumstances. Additional capital generally should be needed to replace old,

1 depreciated plant because of the high rates of inflation experienced during the past
2 30 years. Whereas depreciation is based on the original cost of plant, denominated
3 in outdated nominal dollars, replacement plant must be purchased with current
4 dollars. Thus, additional capital is needed simply for replacement.

5 Another growth factor will be the need to serve new or growing markets.
6 Many of the major new projects proposed or constructed in recent years have been
7 for this purpose. For example, electric power generation should continue to be a
8 growth market for natural gas. In the past, gas has been used as a boiler fuel for
9 base-load steam plants, primarily in the southwestern United States, and as a fuel for
10 small combustion-turbine peaking units throughout the country. In recent years,
11 however, dramatic improvements in the efficiency of combined-cycle plants, along
12 with the Commission's policies that permit open access to the electric transmission
13 grid, has created a very large demand for new gas-fired electric generating plants
14 and pipeline capacity to supply these plants.

15 Pipelines also must add facilities to attach new gas supplies as the sources
16 of existing supplies are depleted and new areas are developed. Many of the new
17 pipeline facilities proposed in recent years have been designed to transport growing
18 supplies from western Canada, the Rocky Mountain region and the Canadian
19 Maritimes region. Further, in the future investors expect that new supplies from
20 Alaska and/or the Mackenzie Delta regions will add to the supplies of gas available
21 and require additional investments in many parts of the energy infrastructure. These
22 various sources of new supplies are likely to contribute to growth in overall gas

1 usage and also may displace volumes from other supply basins. Consequently, as
2 the natural gas industry becomes increasingly competitive, domestic pipeline
3 capacity and investment is likely to grow more rapidly than overall consumption.

4 Finally, if growth in the regulated pipeline industry slows, or if regulated
5 returns become inadequate, we would expect to see these pipeline companies and
6 the public utility proxy companies directing a greater share of their investments
7 toward unregulated investments that offer the opportunity of a reasonable return and
8 sustain a relatively high level of growth.

9 G. Benchmark DCF of Public Utility Companies

10 **Q53. Please describe the first of the benchmark analyses that you conducted in**
11 **order to test the reasonableness of your DCF analyses of the cost of capital for**
12 **natural gas pipeline companies that have risks comparable to those of the**
13 **Eastchester Project.**

14 A. In order to establish a low-end benchmark for the cost of capital for the Eastchester
15 Project, I conducted a series of DCF analyses on seven companies that are generally
16 recognized to be natural gas distribution and/or electric utility companies. Each of
17 these public utilities also owns natural gas pipeline company operations. However,
18 because they are diversified and generally derive a large portion of their earnings
19 from public utility operations that face low levels of competitive risk, each of these
20 companies is considerably less risky than the Eastchester Project. As described in
21 Section III of my testimony, Eastchester serves an undiversified, highly competitive
22 market with difficult economic prospects and exceptionally high regulatory and
23 operational risks. Consequently, the allowed rate of return for Eastchester should be
24 significantly above the cost of capital for the public utility benchmark companies.

1 **Q54. Please describe the benchmark DCF analysis that you performed on the public**
2 **utility benchmark companies.**

3 A. This analysis is shown on Schedule 3 of Exhibit No. ____ (JSG-2). The method used
4 in the public utility DCF analysis was very similar to the method used in the natural
5 gas pipeline proxy company DCF analysis. For example, dividend yields were
6 based on the average of the high and low stock prices during the months of May
7 through October of 2003 and three different growth rates were examined as part of
8 the study.

9 DCF estimates that are developed by applying the Opinion No. 414-A
10 growth rate method to the less risky public utility company group are shown on page
11 6 of Schedule 3. For the public utility benchmark companies, the median Opinion
12 No. 414-A estimate of the cost of common equity capital is 11.1 percent, while the
13 low and high estimates are 9.6 percent and 12.5 percent, respectively. Similarly,
14 Retention Growth DCF calculations for the public utility proxy companies are
15 shown on page 8 of Schedule 3 of Exhibit No. ____ (JSG-2). This less-risky
16 benchmark group has a median cost of capital estimate of 11.3 percent and a range
17 between 9.9 percent and 14.8 percent. In addition, the Basic DCF analysis of the
18 less-risky public utility proxy group shows a median cost of common of equity of
19 11.8 percent with a range between 8.9 percent and 13.8 percent. Because it faces
20 far greater overall risks than any of the public utility companies, the Eastchester
21 Project should have an allowed rate of return that is somewhat greater than the
22 highest DCF estimate for any of these lower-risk benchmark companies.

1 H. Risk Premium Analyses

2 **Q55. Have you conducted additional analyses in determining the cost of capital to**
3 **Iroquois?**

4 A. Yes. The risk premium approach provides a general guideline for determining the
5 level of returns that investors expect from an investment in common stocks.
6 Investments in the common stocks of companies carry considerably greater risk than
7 investments in bonds of those companies since common stockholders receive only
8 the residual income that is left after the bondholders have been paid. In addition, in
9 the event of bankruptcy or liquidation of the company, the stockholders' claims on
10 the assets of a company are subordinated to the claims of bondholders. This
11 superior standing provides bondholders with greater assurances that they will
12 receive the return on investment that they expect and that they will receive a return
13 of their investment when the bonds mature. Accompanying the greater risk
14 associated with common stocks is a requirement by investors that they can expect to
15 earn, on average, a return that is greater than the return they could earn by investing
16 in less risky bonds. Thus, the risk premium approach estimates the return investors
17 require from common stocks by utilizing current market information that is readily
18 available in bond yields and adding to those yields a premium for the added risk of
19 investing in common stocks.

20 Investors' expectations for the future are influenced to a large extent by
21 their knowledge of past experience. Ibbotson Associates annually publishes
22 extensive data regarding the returns that have been earned on stocks, bonds and U.S.
23 Treasury bills since 1926. Historically, the annual returns on large company

1 common stocks have exceeded the returns on Long-Term U.S. Government Bonds
2 by an average of 640 basis points (6.40 percent). However, the returns on small
3 company stocks in the size range of Eastchester have been 1,040 basis points (10.4
4 percent) above the returns on long-term government bonds. As shown on page 1 of
5 Schedule 2 of Exhibit ____ (JSG-2), Eastchester is a fraction of the size of any of the
6 proxy companies. In recent months, the yield on long-term U.S. Government bonds
7 has been approximately 5.0 percent. Adding a 6.4 percent premium to a yield of 5.0
8 percent indicates that investors in large company common stocks expect a return of
9 at least 11.4 percent. Adding the 10.4 percent premium for companies in Iroquois'
10 size range suggests a required return of 15.40 percent.

11 Another risk premium approach is to examine the long-term premium of
12 large company common stock returns as compared with returns on corporate bonds.
13 This premium has averaged 600 basis points (6.0 percent) annually over a long
14 period of time in the past. When this premium is added to the 6.3 percent yield on
15 Moody's corporate bonds that has prevailed in recent months, the result is an
16 investor return requirement for large company stocks of 12.3 percent. However,
17 over the long-term companies in Iroquois' size range have had a premium of 1,000
18 basis points (10.0 percent) over the average returns on long-term corporate bonds.
19 When added to the recent average corporate bond yields, this size-related premium
20 suggests an expected return of 16.3 percent.

I. Alternative Equity Investment Analysis

Q56. Have you analyzed the returns available on common equity investments in other industries?

A. Yes. When investors consider whether to invest their funds in a particular company or line of business, they evaluate the returns potentially available from other companies. This process whereby projects and companies compete for scarce equity capital ensures that capital resources are deployed efficiently. As a result, regulated natural gas transmission operations must bid against other companies and other possible projects within the same company for equity capital by offering potential returns that investors find attractive relative to the risks involved.

Q57. What level of returns are potentially available to unregulated companies?

A. The potential returns are often considerably above 20 percent and the average returns for broad-based, diversified portfolios have averaged 20.0 percent or more in recent years. For example, page 3 of Schedule 1 of Exhibit No. ____ (JSG-2) shows the average return on equity book value earned by companies in the S&P 500 each year from 1977 to 2000. It can be seen, in fact, that average returns for the S&P 500 companies were generally close to 20 percent in the latter years shown. Undoubtedly these returns have been lower in the past two years, but these more recent data have been unavailable from S&P in recent years. For purposes of comparison with allowed returns for regulated gas transmission operations, a better indicator of earnings on alternative equity investments is provided by data on 702 industrial companies published by *The Value Line Investment Survey*. Excluding

1 extraordinary and non-recurring items, the average returns on the original cost book
2 value of common equity for these companies in recent years have been:

3	1997	29.31
4	1998	28.62
5	1999	30.28
6	2000	31.85
7	2001	24.61
8		
9	5-year Average	28.93%

10
11 **Q58. Is it appropriate to set the allowed rate of return for a gas transmission**
12 **company equal to the average return available to industrial companies?**

13 A. The average return for industrials serves as a useful indicator of the cost of capital
14 because gas transmission companies must offer potential returns that are
15 competitive with other investments in order to attract capital. It is important to
16 remember that an industrial company has an opportunity to earn returns far in excess
17 of 20 percent. In fact, the average company has earned normal returns on the book
18 value of equity well in excess of 20 percent in recent years. This average reflects
19 many companies that experienced enormous losses as well as those with large
20 returns.

21 Similarly, when a regulator sets an allowed return it is providing only an
22 opportunity to earn that return. In exceptionally good times a regulated company
23 might earn slightly more than this amount, but it might earn substantially less than
24 the allowed return and, in fact, often does earn less than that amount. Thus,
25 investors would expect that there is a significant probability they will actually earn
26 something less than the allowed amount. Gas transmission companies generally
27 now have risks that are similar to those of the average large industrial company.

Consequently, it would be appropriate to view average returns earned by a broad cross-section of industry as being a general indicator for reasonable allowed returns.

As a benchmark, allowed returns for gas transmission companies can be compared to returns on book value for large companies. Normal returns for large companies have averaged 28.9 percent during the past five years. As this comparison indicates, an *allowed* return of 15.25 percent for the Eastchester Project would be quite low in comparison with the returns actually *earned* by other companies.

III. RISK ANALYSIS

Q59. What are the major risks faced by the Eastchester Expansion project?

A. As a general matter, Eastchester faces all of the risks that most other pipelines face, including operational risks, market risks, regulatory risks and financial risks. However, the combination of operational, market and regulatory risks faced by the Eastchester Project at this time are extremely high relative to those of most other pipeline companies.

For example, from an operational standpoint, the Eastchester Project is primarily a marine pipeline that is being laid on the bottom of the Long Island Sound and the East River in the extremely densely populated New York city area. These characteristics have led to route changes and construction problems that have delayed and greatly increased the costs of the project. Market risks are unusually high because there is substantial competition from other natural gas pipelines that serve the New York City market and much of the Eastchester

1 capacity is being constructed to serve the highly competitive electric generation
2 market. Regulatory risks also are exceptionally high give the Commission's
3 policy for new pipelines, as well as the Commission's determination that rates for
4 the Eastchester project, as well as fuel percentages, are to be calculated on an
5 incremental basis.

6 **Q60. Do most natural gas pipelines now face significant competition?**

7 A. Yes. As a result of growth in the North American natural gas pipeline system,
8 development of new supply sources, and a fundamental change in Commission
9 regulatory policies during the past two decades, numerous new pipelines have been
10 constructed, and existing pipelines have expanded, into service territories that
11 traditionally have been served by other pipelines. This overlap of pipelines is
12 increasingly eliminating most of whatever monopoly power that pipelines might
13 have had at one point. An article in the April 13, 2000 edition of *The Wall Street*
14 *Journal* titled "Natural Gas Pipelines Are in a Predicament" focused on the changes
15 that have turned regulated pipelines that formerly had monopoly power into
16 companies that, although still regulated, largely no longer have monopoly power.

17 According to the article:

18 *As North American pipelines capacity grows, customers*
19 *increasingly find they can safely reject the long-term contracts that*
20 *once guaranteed them service—and guaranteed pipeline companies*
21 *hefty profits. Instead, customers are negotiating shorter, more*
22 *flexible gas-transmission contracts and getting discounts to boot.*

23
24 *In the U.S., contracts for more than 13% of total available*
25 *pipeline capacity will come up for renewal in the next three years.*
26 *Most shippers will seek to renew at shorter terms or at discounted*
27 *rates, predicts Mary Kay Miller, a vice president of the pipeline*

1 Division of Enron Corp. , Houston. She says that raises questions
2 about the ability of many pipelines to even make a profit.
3

4 **Changing Fast**
5

6 To be sure, most pipelines are still producing healthy returns,
7 and many are expected to thrive in the new environment. But
8 pipeline economics are changing fast. **In the U.S, new inter-**
9 **connections between pipelines, and in Canada, new pipelines**
10 **themselves have opened up alternative transportation routes. This**
11 **has pressured pipelines that once held monopolies on key routes**
12 **to offer competitive tolls. And by unplugging bottlenecks and**
13 **allowing more efficient gas-flow through a network of pipelines,**
14 **the new links have helped create excess pipeline capacity in most**
15 **places most of the time** (though shortages can still occur at peak
16 times).

17 Although most pipelines now face a great deal of competition, Eastchester is an
18 example of a pipeline that faces extreme competition. During the period these
19 rates are expected to be in effect, it is virtually assured that Eastchester will be
20 unable to earn a reasonable rate of return on common equity.

21 **Q61. What markets are served by Iroquois' Eastchester Project?**

22 A. The Eastchester Project is designed to receive Western Canadian and
23 U.S.-source natural gas at an interconnect with TransCanada Pipeline at the
24 Canadian border and transport that gas to a delivery point in Brooklyn, New York.
25 The project consists of additional compression at three compressor stations along
26 the existing Iroquois mainline, and an extension of pipeline from Huntington on
27 Long Island to the East River in New York city where the extension runs
28 underwater for 36 miles and delivers gas to the Bronx in New York City.

29 As discussed in the testimony of Iroquois witness Scott E. Rupff, the
30 Eastchester Project competes with several transportation alternatives that provide

1 natural gas for the electric generation and gas distribution loads in New York city.
2 It should be noted that Iroquois does not have a monopoly position with respect to
3 any of the Eastchester customers. All of the customers are connected to the New
4 York facilities systems of ConEd and KeySpan that are tied into the interstate
5 pipeline facilities of Transcontinental Gas Pipe Line Corporation, Texas Eastern
6 Transmission Corporation, and Tennessee Gas Pipeline Company. In addition,
7 Millennium and Islander East are two potential new pipelines that have received
8 FERC certificates and that could serve the same market as Eastchester.
9 Consequently, Eastchester is a supplemental or alternative supplier to the New
10 York city market. In addition, as a market-area pipeline Eastchester has no
11 assured gas supply in its upstream market. Gas delivered to Iroquois by
12 TransCanada primarily comes from western Canada or the Dawn, Ontario hub.
13 However, gas supplies available at these two points generally must travel a very
14 long distance and easily could be diverted to many other markets in North
15 America. Thus, Eastchester faces substantial competition to attract supply and
16 conceivably could be easily displaced in its efforts to serve end-use customers in
17 the New York City market.

18 **Q62. Please describe the contracts that Iroquois has with shippers on the**
19 **Eastchester Project.**

20 A. As discussed in the testimony of Mr. Rupff, all but 20 MDth/d of the Eastchester
21 expansion capacity of 230 MDth/d is committed under firm contracts during 2004.
22 However, another 40 MDth/d is under contract for less than one year and there is
23 not an identifiable market for additional capacity at this time. Although this

1 project is more than 90 percent subscribed initially, it is unlikely that the
2 Eastchester Project will generate revenues that will recover all of its costs,
3 including the required rate of return, during the first several years of operation.

4 **Q63. Why is it likely that the Eastchester Project will fail to earn a reasonable rate**
5 **of return on common equity during the first several years of operation?**

6 A. As described in the testimony of Iroquois witness Mr. Scott Rupff, Exhibit No.
7 ____ (SER-1), Eastchester currently has unsubscribed capacity of 20,000 Dth per
8 day and will have total unsubscribed capacity of approximately 60,000 Dth per
9 day by the end of 2004. Given the excess capacity on other pipelines serving the
10 New York City market, the significant change in basis differentials during the past
11 two years, and the Commission's determination that fuel for Eastchester shippers
12 should be charged incrementally, the current and soon-to-be unsubscribed
13 Eastchester capacity has a value that is far below the cost-based, maximum
14 regulated rates at this time. Nevertheless, Iroquois has assumed full risk for the
15 unsubscribed capacity by designing the Eastchester rates using the assumption that
16 the pipeline is fully subscribed (i.e., 230,000 Dth/d) at maximum rates.

17 In addition, some of the contracts for the Eastchester Project have a
18 fixed, or market, rate that applies throughout the term of the contracts. As a result
19 of the large increase in Eastchester's construction costs, and the Commission's
20 "at-risk" policy, those fixed, or market, rate contracts will recover an amount that
21 is far less than Eastchester's cost of service during the initial term of the contracts.

1 **Q64. How have basis differentials for the Eastchester Project changed ?**

2 A. A “basis differential” is the difference between the market price of gas at two
3 different locations. When there is a sufficiently large basis differential, there is an
4 economic gain produced by transporting gas from a low-price market to a market
5 with higher prices. In order for a pipeline to be able to attract customers and
6 remain viable in the long run, the expected basis differential must exceed the
7 pipeline’s costs of providing transportation service.

8 As described in the testimony of Mr. Rupff, a primary purpose of the
9 Eastchester is to carry gas from Waddington, New York to the Bronx for electric
10 generation and other purposes. However, basis differentials between those two
11 points have declined significantly and are now substantially below Eastchester’s
12 cost of providing service. As Mr. Rupff explains, changes in basis differentials
13 and the Commission’s decision to reject rolled-in calculations of fuel percentages
14 for Eastchester shippers have reduced the market value of Eastchester capacity by
15 approximately \$0.50 per MDth/d. The combination of this decline in market
16 value and the large increase in construction costs for the Eastchester Project,
17 means that it is unlikely that Iroquois could obtain contract commitments in the
18 future for a volume and a rate that are sufficient to recover the costs of the
19 Eastchester Project. Consequently, any common equity investor looking at this
20 project today would have to consider the real possibility that this pipeline will not
21 earn its allowed rate of return on common equity for at least the next several
22 years.

1 **Q65. Have you examined the relative financial risks of Eastchester?**

2 A. Yes. Evaluation of the financial risks of the Eastchester Project is complicated by
3 the fact that the Commission has ordered the application of incremental rates for
4 Eastchester, but it has suggested that the capital structure for establishing
5 incremental rates should be the capital structure of Iroquois as a whole. As a
6 result, the filed debt costs and capital structure reflect those of Iroquois as a whole
7 and not the incremental debt and capital structure costs of Eastchester. One
8 indicator of relative financial risk is the debt and equity ratio. By this measure,
9 Eastchester's common equity ratio of 41.85 percent is lower than that of any of
10 the Pipeline Proxy companies and its pro forma financial risk would be greater
11 than the financial risks of the Pipeline proxy group.

12 **Q66. How do the overall risks of the Natural Gas Pipeline proxy companies**
13 **compare with the risks faced by the Eastchester Project?**

14 A. The Eastchester capacity is under contract for 10 years or less and faces
15 immediate market risks. Between its extremely competitive market, and the
16 Commission's "at-risk" and incremental rate policies, Iroquois will be unable to
17 earn a reasonable rate of return on its investment in the Eastchester Project for
18 several years. Overall, the market and regulatory risks of the Eastchester Project
19 are far greater than those faced by the typical pipeline proxy company.

20 Eastchester's operating risks also are unusually high because this is a
21 marine pipeline being constructed through a congested area. In addition, all of the
22 natural gas pipeline proxy companies are significantly more diversified than the
23 Eastchester Project as to both geographic end-use markets, supply markets, and

1 lines of business. This greater diversification serves to reduce the overall
2 volatility and risk of expected earnings. Finally, Eastchester faces greater
3 financial risks than any of the pipeline proxy companies.

4 **Q67. What are your conclusions concerning Eastchester's risks relative to those of**
5 **the Pipeline Proxy companies?**

6 A. Eastchester's risks exceed those of the typical company in the Pipeline Proxy
7 group. Although shifting basis differentials have undermined the current value of
8 the Eastchester Project, this project is likely to provide substantial long-term
9 benefits to the people of New York. In the long run this capacity that is being
10 constructed through a difficult and congested marine right of way into the heart of
11 New York City will provide a competitive alternative to other interstate pipelines
12 and may provide cost savings and greater supply reliability for the local
13 distribution system. In addition, to the extent that Eastchester's capacity is used to
14 fuel electric generating facilities located within the city, this project may provide a
15 reliable local alternative to the interstate electric transmission grid. Thus, in the
16 longer term the Eastchester Project provides large potential benefits for the people
17 of New York. However, these benefits will be the result of the substantial risks
18 undertaken by Eastchester's investors. To the extent that the Eastchester Project
19 is successful, its equity investors should be rewarded with an opportunity to earn
20 an allowed rate of return that is commensurate with the risks that they are bearing
21 in undertaking and completing this project. A rate of return equal to 15.25
22 percent, the median cost of capital for the specific group of Pipeline Proxy

1 companies used in my analysis, is the lowest return on common equity that would
2 be commensurate with the risks faced by this project.

3 **Q68. How do Eastchester's risks compare with those of the Public Utility Company**
4 **group that you used as a low-end benchmark in your analysis?**

5 A. The risks of the Eastchester Project are not at all similar to those of the Public
6 Utility benchmark group. For example, the Public Utility proxy companies are
7 larger than Eastchester and generally have some diversification of their businesses.
8 Most significantly, major portions of their businesses involve local public utility
9 services that are subject to far less competition, and far more predictable demand,
10 for their services than Eastchester faces. Eastchester's regulatory risks also are
11 significantly higher than those faced by the public utility companies because those
12 companies rarely face anything resembling the FERC's "at risk" condition for new
13 projects. In addition, Eastchester's pro forma financial risk is greater than that of
14 the typical company in the public utility proxy group as only one company in the
15 group has a lower common equity ratio than Eastchester. Considering its
16 significantly higher market and operating risks and higher level of all types of risk,
17 the Eastchester Project faces overall risks that are far greater than the risks that are
18 typical for the Public Utility Company proxy group.

19 **IV. SUMMARY AND CONCLUSIONS**

20 **Q69. Would you please summarize the results of your cost of capital study?**

21 A. Yes. I conducted several DCF analyses on a group of natural gas pipeline
22 companies that have a range of risks that includes risks roughly comparable to those

1 of the Eastchester Project. The results of my various analyses can be summarized as
2 follows:

	Natural Gas Pipeline Proxies		
	Op. 414-A	Retention Growth	Basic
High	16.3%	19.5%	20.3%
Median	15.10%	15.24%	19.54%
Low	14.0%	13.7%	13.4%

3 The Commission's Opinion No. 414-A method of calculating investors'
4 expected growth rates yields a median cost of capital for the Natural Gas Pipeline
5 Proxy companies of 15.1 percent. The Opinion No. 414-A method relies on a
6 forecast of U.S. GDP growth as the second stage of a growth rate analysis. If the
7 Commission is interested in a simple, formulaic approach for calculating a DCF
8 required rate of return that utilizes a two-stage analysis, my second-stage retention
9 growth method is more supportable and is a better indicator of expected long-term
10 growth than the U.S. GDP growth because projected retention growth is sustainable
11 indefinitely and it is directly related to the growth rate expectations for an individual
12 company. My second-stage retention growth analysis of the Natural Gas Pipeline
13 proxy companies indicates a median cost of capital of approximately 15.24 percent.
14 Consequently, there is very little difference in the results produced by these two
15 alternative methods of estimating investors' future growth rate expectations.
16 Finally, my Basic DCF analysis indicates a median cost of capital of 19.5 percent.

1 Although the Eastchester Project is somewhat riskier than the typical
2 company in the Natural Gas Pipeline proxy group at this time, Eastchester is
3 sufficiently similar in risk to the proxy companies that an allowed rate of return of
4 15.25 percent is a reasonable estimate of the cost of common equity capital for this
5 project. An allowed rate of return of 15.25 percent is approximately equal to the
6 median result indicated by my Second-Stage Retention Growth DCF analysis and it
7 is also close to the median DCF result produced by the Commission's Opinion No.
8 414-A growth rate analysis.

9 **Q70. Is your recommended rate of return reasonable in comparison with your**
10 **benchmark measures?**

11 A. Yes. The benchmark analyses indicate the following:

<u>Benchmark Analyses</u>		<u>Benchmarks for the Cost of Common Equity Capital</u>
<u>DCF of Public Utility Proxies:</u>	<u>Median</u>	<u>Range</u>
- Opinion No. 414-A Growth	10.9%	9.6% - 12.5%
- Second-Stage Retention Growth	11.1%	9.9% - 14.8%
- Basic DCF Analysis	11.8%	8.9% - 13.8%
<u>Risk Premium Return Based On:</u>	<u>Average</u>	
- U.S. Treasury Bonds		
v. Large Companies	11.4%	
v. Companies Eastchester's Size	15.4%	
- Corporate Bonds		
v. Large Companies	12.3%	
v. Companies Eastchester's Size	16.3%	
<u>Alternative Investments</u>		
- S&P 500	20.7%	
- Value Line Industrials	28.9%	

12

1 Eastchester is significantly riskier than any of the companies in the Public
2 Utility Company proxy group. Thus, an allowed rate of return of 15.25% satisfies
3 this benchmark test because it is above the top of the range for the Second-Stage
4 Retention Growth Analysis.

5 The risk premium analyses indicate that the requested rate of return for
6 ratemaking purposes produces a premium over corporate bond yields that is 105
7 basis points below the average long-run premium available from common stocks in
8 Eastchester's size range. In addition, the 15.25 percent return on common equity
9 that Iroquois is proposing to use for ratemaking purposes is far below the 28.9
10 percent average normal returns earned by the Value Line Industrials in recent years.
11 Thus, an allowed rate of return of 15.25 percent for ratemaking purposes is not
12 unreasonable relative to these benchmarks. Nevertheless, Iroquois is requesting an
13 allowed rate of return on equity of 14.90 percent in order to mitigate the impacts of
14 the required rate increase for Eastchester.

15 **Q71. Does this conclude your Prepared Direct Testimony?**

16 A. Yes.