

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Stingray Pipeline Company, L.L.C.	§	Docket No. RP08-____-000
	§	
	§	

**PREPARED DIRECT TESTIMONY OF
J. PETER WILLIAMSON
ON BEHALF OF
STINGRAY PIPELINE COMPANY, L.L.C.**

JUNE 30, 2008

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**SUMMARY OF THE
PREPARED DIRECT TESTIMONY OF
J. PETER WILLIAMSON
ON BEHALF OF
STINGRAY PIPELINE COMPANY, L.L.C.**

In his Prepared Direct Testimony, Exhibit No. SPC-20, Professor Williamson explains and supports the cost of common equity, cost of preferred equity, capital structure, cost of debt, and overall rate of return requested by Stingray Pipeline Company, L.L.C. (“Stingray”) in this rate filing. In addition to his testimony, Professor Williamson sponsors Statements F-1, F-2, F-3, and F-4, and Exhibit Nos. SPC-21 through SPC-34.

Professor Williamson develops a range of costs for common equity by performing a Discounted Cash Flow analysis using the Commission’s approved methodology with respect to six proxy companies, and supports the cost of common equity of 13.23% chosen by Mr. Douglas V. Krenz from that range.

Because Stingray does not issue its own debt, to develop the capital structure of 47.18% equity and 52.82% debt and the cost of debt of 6.93% for Stingray, Professor Williamson supports and relies upon the average of the capital structure and cost of debt of MarkWest Energy Partners, L.P. and Enbridge, Inc., the two entities that, through subsidiaries, provide the financing for Stingray.

Using the cost of common equity directed by Mr. Krenz, the cost of preferred equity reported in Enbridge Inc.’s Form 40-F, and the cost of debt calculated by Professor Williamson, Professor Williamson calculates that Stingray is requesting an overall rate of return of 9.87% percent in this rate filing.

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Docket No. RP08-____-000

**PREPARED DIRECT TESTIMONY OF
J. PETER WILLIAMSON
ON BEHALF OF
STINGRAY PIPELINE COMPANY, L.L.C.**

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

2 A. My name is J. Peter Williamson. My business addresses are 89 Main Street, West
3 Lebanon, New Hampshire 03784, and P.O. Box 5160, Hanover, New Hampshire
4 03755.

5 **Q.2 On whose behalf are you testifying in this proceeding?**

6 A. I am testifying on behalf of Stingray Pipeline Company, L.L.C. (“Stingray” or the
7 “Company”).

8 **Q.3 What is your occupation?**

9 A. I am the Laurence F. Whittemore Professor of Finance Emeritus at the Amos
10 Tuck School of Business Administration, Dartmouth College. I have retired from
11 teaching and continue to act as a consultant to various organizations, both
12 business and nonprofit institutions, on matters pertaining to corporate finance and
13 investments. I have testified in numerous proceedings before the Federal Energy
14 Regulatory Commission (the “FERC” or “Commission”) and other regulatory

1 agencies regarding cost of equity, capital structure, and other financial matters.

2 My education and qualifications are set out in some detail in Exhibit No. SPC-21.

3 **Q.4 What is the purpose of your direct testimony in this case?**

4 A. I explain and support the cost of equity, capital structure, and cost of long-term
5 debt figures included in the cost-of-service study developed for Stingray in this
6 proceeding, which is attached to the Prepared Direct Testimony of Mr. Robert W.
7 Neustaedter, Exhibit No. SPC-4.

8 **Q.5 Are you sponsoring any statements and exhibits?**

9 A. Yes. I am sponsoring Statements F-1 to F-4 and Exhibit Nos. SPC-21 through
10 SPC-34. Statements F-1 to F-4 are provided in the cost of service contained in
11 Exhibit No. SPC-4.

12 **Q.6 Were these statements and exhibits prepared by you or under your direction**
13 **or supervision?**

14 A. Yes, they were prepared under my direction and supervision using information
15 provided to me, whether directly or through publicly available information, by
16 Enbridge Inc. and MarkWest Energy Partners, L.P. (“MarkWest Energy”).

1 **I. COST OF COMMON EQUITY**

2 **A. Summary of the DCF Methodology**

3 **Q.7 Please summarize your determination of the cost of common equity for**
4 **Stingray.**

5 A. As shown in Exhibit No. SPC-22, my overall approach was to apply the
6 Discounted Cash Flow (“DCF”) method to determine the required return on
7 common equity using a set of six publicly traded proxy companies.

8 **Q.8 Please explain the DCF method.**

9 A. The origin of the method can be found in the work of John Burr Williams entitled
10 *The Theory of Investment Value*, which was published in 1938. Williams said the
11 value of a share of stock is the discounted present worth of all the dividends to be
12 received on that share. *Id.* at 55-75. The equation he set out is:

13
$$\text{Share Value} = \text{Div}_1/(1+i) + \text{Div}_2/(1+i)^2 + \text{Div}_3/(1+i)^3 + \dots$$

14 where Div_1 is the dividend to be received next year; Div_2 is the dividend to be
15 received in the following year, and so on until the dividends cease. *Id.* at 55-56.
16 Most of the proxy companies I use are master limited partnerships (“MLP”), and
17 strictly speaking, corporations pay “dividends” to shareholders, while partnerships
18 make “distributions” to unit holders. The DCF model makes no distinction
19 between dividends and distributions. The denominator in each term in the right
20 hand side of the equation is a discount factor and i is, in Williams’ words, the
21 “interest rate sought by the investor.” *Id.* at 56. He went on to point out that if

dividends are expected to grow at a constant rate g , then $\text{Div}_2 = \text{Div}_1(1+g)$ and so on, and $\text{Div}_1 = \text{Div}_0(1+g)$, where Div_0 is the dividend in the year just past. *Id.* at 87-88. Further, if we assume that the stream of dividends is infinite then the equation above becomes:

$$\text{Share Value} = \text{Div}_0(1+g)/(i-g)$$

Q.9 Did you use Williams' equation in your determination of the cost of common equity for Stingray?

A. I used the equation in a different form. Williams was concerned with determining the value of a share of stock. His starting point was the investor's desired rate of return. Professors M. J. Gordon and E. Shapiro turned Williams' equation around to the form generally recognized as the DCF equation for the cost of common equity. In an article published in 1956, they pointed out that if we *start* with a figure for the value in Williams' equation we can *calculate* the investor's desired rate of return. See M. J. Gordon & E. Shapiro, *Capital Equipment Analysis: The Required Rate of Profit*, 3 Management Science 102 (1956). If the *market price* is used for value, then the equation will give us the rate of return required by the *market*.

The Gordon and Shapiro version of Williams' constant growth equation is:

$$\text{Share Price } P_0 = \text{Div}_0/(k-g)$$

so that $k = D_0/P_0 + g$

1 where k is the rate of return required by the market (not necessarily by any
2 particular investor); D_0 is the dividend or distribution most recently announced;
3 and P_0 is the price at the point in time when k is determined. *See id.* at 106.

4 **Q.10 Did you use the equation above in your determination of the cost of common**
5 **equity for Stingray?**

6 A. Not quite. There is a small difference between the Gordon and Shapiro equation:

7
$$k = D_0/P_0 + g$$

8 and Williams' equation, which can be rewritten as:

9
$$k = D_1/P_0 + g$$

10
$$= D_0(1+g)/P_0 + g$$

11 The difference is due to Williams' assumption that dividends are paid once a year
12 at the year-end, while Gordon and Shapiro assumed that they are paid
13 continuously. Neither assumption is quite correct, and the FERC has expressed a
14 preference for a third formulation:

15
$$k = (1+.5g)y + g, \text{ where}$$

16 k = market required rate of return,

17 y = current dividend yield (current annual dividend divided by current
18 market price), that is D_0/P_0 ,

19 g = dividend growth rate,

20 $(1 + .5g)$ = dividend adjustment factor for quarterly dividend payments.

21 I have used the FERC formula above, and applied it to the proxy companies.

1 **Q.11 Please describe the method of adjusting the dividend yield for quarterly**
2 **dividend payments that Commission Staff normally uses in its testimony.**

3 A. In *Transcontinental Gas Pipe Line Corp.*, the Commission relied on Staff
4 testimony that averaged the “continuous” dividend yield with the “discrete”
5 dividend yield. 84 FERC ¶ 61,084 (1998) (“Opinion No. 414-A”). The
6 continuous yield is the ratio D_0/P_0 , from the Gordon and Shapiro formula above.
7 The discrete yield is calculated as $(D_0/P_0) \times (1+g)$, from Williams’ equation
8 above. Averaging the two leads to the same result as $(D_0/P_0) \times (1+.5g)$.

9 **Q.12 Please provide a summary of the DCF methodology you applied in Exhibit**
10 **No. SPC-22.**

11 A. I applied the formula above, $k = (1+.5g)y + g$, to a set of six publicly traded gas
12 pipeline proxy companies. They are El Paso Corporation (“El Paso”), Enbridge
13 Energy Partners, L.P. (“Enbridge”), Enterprise Products Partners L.P.
14 (Enterprise), Kinder Morgan Energy Partners, L.P. (“KMEP”), ONEOK Partners,
15 L.P., (“ONEOK Partners,” formerly Northern Border Partners, L.P.), and The
16 Williams Companies, Inc. (“Williams Companies”). I will discuss my choice of
17 these proxy companies later in my testimony.

18 I first determined the dividend yield y for each of the proxy companies.
19 Then I turned to forward-looking estimates of growth. I made use of the analysts’
20 earnings growth projections reported by the Institutional Brokers Estimate System
21 (“IBES”). To determine g , I used a weighted average of the IBES forecast
22 (weighted two-thirds) and a forecast of Gross Domestic Product (“GDP”) growth
23 averaged from three different sources (weighted one-third). I combined y and g in

1 the formula above. In compliance with the Commission's April 2008 order in
2 Docket No. PL07-2, I used 50 percent of the average projected growth in GDP for
3 each proxy group member that is a Master Limited Partnership ("MLP").
4 *Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on*
5 *Equity*, 123 FERC ¶ 61,048, at PP 42, 106 (2008) ("April 2008 Policy
6 Statement").

7 **B. The DCF Methodology is Market-Based**

8 **Q.13 What criteria did you use for your determination of the cost of common**
9 **equity?**

10 A. My understanding of the Supreme Court decisions in *Bluefield Water Works &*
11 *Improvement Co. v. Public Service Comm'n*, 262 U.S. 679, 692-93 (1923), and
12 *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 605 (1944), is
13 that the utility must be allowed a rate of return that assures confidence in the
14 utility's financial integrity, that allows it to maintain its credit, and that enables it
15 to attract capital. Thus, I used these criteria in my determination.

16 **Q.14 Do these criteria require a methodology that is based on measurement of**
17 **actual investor expectations?**

18 A. I believe the answer is yes, that the regulated utility must be able to attract
19 investment capital in a free and competitive capital market. It must offer
20 investors the prospect of a competitive rate of return, and its allowed rate of return
21 must therefore reflect investor expectations.

1 **Q.15 Does the cost of common equity proposed by Stingray in this proceeding**
2 **yield a rate of return that reflects investor expectations?**

3 A. Yes, I believe it does.

4 **Q.16 The DCF model that you have set out in your testimony is: $k = (1+.5g)y + g$.**
5 **What is the basis for stating that the DCF model that you have described is**
6 **“market based”?**

7 A. The element y in the formula is the dividend yield actually available in the market
8 place for a particular stock. It is, as I have stated above, the dividend per share,
9 which is a known quantity for any particular stock, divided by the quoted market
10 price of a share of stock, which is also a known number and one established in a
11 free market where shares are traded frequently. There is rarely any significant
12 dispute over the value of the y to be used in the DCF model in any particular case.
13 In the case of an MLP, of course, we substitute partnership units for shares of
14 stock and distributions for dividends. For the value of g to be market based, it
15 must reflect the growth rate expected by the investment community for the
16 particular company.

17 **C. The Use of Proxy Companies**

18 **Q.17 Please explain your use of proxy companies in Exhibit No. SPC-22, rather**
19 **than the use of Stingray itself.**

20 A. The “market based” DCF model can only be applied to companies for which the
21 common stock or unit is publicly traded. All or almost all of the natural gas
22 pipeline companies that are regulated by the FERC, including Stingray, are to my
23 knowledge, not themselves publicly traded. They are subsidiaries of companies
24 that are publicly traded. It has been the practice of the FERC to apply the DCF

1 model in these circumstances to a set of proxy companies that are publicly traded
2 and are representative of the gas pipeline industry.

3 **Q.18 How did you choose your particular set of gas pipeline proxy companies?**

4 A. I began with the Commission's statement of policy in *EPGT Texas Gas Pipeline,*
5 *L.P.*, 99 FERC ¶ 61,295 (2002). In that decision, the Commission said:
6 "Commission policy in natural gas cases has been to use a proxy group consisting
7 solely of companies operating natural gas pipelines. The companies should be
8 publicly traded, engaged largely in natural gas transmission and own natural gas
9 pipelines regulated by the Commission." *Id.* at 62,251.

10 I then considered the Commission's April 2008 Policy Statement, which
11 indicated that parties choosing to include MLPs in a proxy group should strive to
12 use MLPs tracked by Value Line and that have been in operation as MLPs for at
13 least five years. *See* April 2008 Policy Statement at P 79. I note, however, that
14 these conditions are not absolute.

15 **Q.19 Are the companies you chose as proxy companies engaged largely in natural**
16 **gas transmission and do they own natural gas pipelines regulated by the**
17 **Commission?**

18 A. Yes.

19 **Q.20 Are your proxy companies tracked by Value Line?**

20 A. Yes. As evidenced in the Value Line reports contained in Exhibit No. SPC-23,
21 Value Line tracks each of the companies included in Exhibit No. SPC-22.

1 **Q.21 Have your MLP proxy companies been in operation for at least five years?**

2 A. Yes. All of the MLPs in my proxy group, with the exception of ONEOK
3 Partners, have been in operation as an MLP under their current name for at least
4 five years. ONEOK Partners has also been in operation as an MLP for at least
5 five years; however, prior to 2006, it operated under the name Northern Border
6 Partners, L.P. I have included a press release in Exhibit No. SPC-24, which
7 notified the public of the name change.

8 **Q.22 What documents did you examine to determine that the proxy group**
9 **companies used in your DCF analysis were appropriate?**

10 A. I examined the Securities and Exchange Commission (“SEC”) Form 10-Ks of
11 companies I believed, based on my experience and judgment, might be candidates
12 for the proxy group. I included in my proxy group all of the candidates that I
13 concluded, based on my examination, meet the Commission’s criteria set forth in
14 the April 2008 Policy Statement.

15 **Q.23 Have you included the Form 10-Ks for each of the proxy companies you**
16 **selected with your testimony?**

17 A. Yes, I have included the relevant excerpts of the Form 10-Ks for each of my
18 proxy companies. In the April 2008 Policy Statement, the Commission also
19 stated that parties should provide “as much information as possible regarding the
20 business activities of each firm they propose to include in the proxy group,
21 including their recent SEC filings and investor service analyses of the firms.”
22 April 2008 Policy Statement at PP 51. I am providing in Exhibit No. SPC-25
23 excerpts from the Form 10-Ks for each of the proxy companies in Exhibit No.

1 SPC-22. These excerpts discuss the business activities of each proxy company
2 and earnings by business segment (*e.g.* natural gas pipelines, product pipelines).
3 These excerpts, together with the Value Line reports contained in Exhibit No.
4 SPC-23, validate my conclusion that the proxy companies used in Exhibit No.
5 SPC-22 are appropriate.

6 **Q.24 Which companies did you choose to use in your DCF analysis?**

7 A. In testimony some years ago, I made use of the publicly-traded companies that the
8 Commission also used in decisions involving gas pipelines, including Opinion
9 No. 414-A. The six proxy companies used in Opinion No. 414-A were The
10 Coastal Corporation (“Coastal”), El Paso Corporation (“El Paso”), Enron Corp.
11 (“Enron”), Panhandle Eastern Corporation (“Panhandle”), Sonat Inc. (“Sonat”),
12 and the Williams Companies. Since that time, Coastal, Panhandle and Sonat have
13 ceased to be publicly-traded companies. Enron filed for bankruptcy protection
14 and subsequently liquidated most of its assets. About six years ago, El Paso and
15 the Williams Companies both experienced significant financial difficulties that
16 caused the Commission to reject their use as proxy group members. However, as
17 I shall explain below, I believe both companies have recovered and should now be
18 included.

19 I now recommend a new proxy group with the following companies: El
20 Paso, Enbridge, Enterprise, KMEP, ONEOK Partners, and the Williams
21 Companies.

1 **Q.25 Why are the six companies you have chosen appropriate to use as proxy**
2 **companies in this proceeding?**

3 A. Enbridge and Enterprise have extensive natural gas pipeline assets. Enbridge
4 owns three FERC regulated interstate pipeline systems, including Enbridge
5 Pipelines (Midla) L.L.C., Enbridge Pipelines (AlaTenn), L.L.C. and Enbridge
6 Offshore Pipelines (UTOS) LLC. In addition, it owns approximately 10,000
7 miles of natural gas gathering and transportation pipelines, as well as 24 natural
8 gas processing plants and 10 natural gas treating plants.

9 Enterprise owns approximately 1,555 miles of offshore natural gas
10 pipelines, as well as an interest in six multi-purpose offshore hub platforms with
11 crude or natural gas processing capabilities. It has approximately 17,758 miles of
12 onshore natural gas pipeline systems, plus two natural gas storage facilities. In
13 addition, it owns an interest in a natural gas liquids processing plant and related
14 pipelines. As part of its merger with GulfTerra Energy Partners, L.P. in 2004,
15 Enterprise absorbed High Island Offshore System, L.L.C. and Petal Gas Storage,
16 L.L.C., both of which are subject to FERC regulation.

17 KMEP was known primarily as an oil pipeline company for many years,
18 but has since diversified substantially into gas pipelines. It currently has
19 approximately 14,700 miles of natural gas transmission pipelines and gathering
20 lines, plus natural gas storage, treating and processing facilities, through which
21 natural gas is gathered, transported, stored, treated, processed and sold. It is the
22 operator and 51 percent owner of the 1,679-mile Rockies Express Pipeline
23 system, which, when fully completed, will be one of the largest natural gas

1 pipelines ever constructed in North America. KMEP also holds an ownership
2 interest in several other major gas pipelines, including Trailblazer Pipeline
3 Company, LLC, Kinder Morgan Interstate Gas Transmission, LLC, and
4 TransColorado Gas Transmission Company, LLC.

5 ONEOK Partners, which was previously known as Northern Border
6 Partners, L.P., is mainly engaged in the ownership and operation of FERC-
7 regulated gas pipeline systems, including Northern Border Pipeline Company, in
8 which it owns a fifty percent interest, Midwestern Gas Transmission Company,
9 Guardian Pipeline, OkTex Pipeline, and Viking Gas Transmission Company. In
10 addition, ONEOK Partners owns or reserves storage capacity in underground
11 natural gas storage facilities in Oklahoma, Kansas, and Texas.

12 For many years, El Paso and the Williams Companies were included as
13 proxy group members in gas pipeline rate cases because they owned expansive
14 natural gas pipeline assets. Then, about six years ago, both companies
15 experienced significant financial difficulties, which caused the Commission to
16 reject their use as proxy companies. In my judgment, both companies have
17 recovered from these financial difficulties and their distributions have improved.
18 Therefore, I believe it is appropriate to once again include them as proxy group
19 members. Some parties in this proceeding may nevertheless argue that El Paso
20 and the Williams Companies should be excluded from my proxy group. For
21 exemplary purposes, I have included in Exhibit No. SPC-26 a DCF analysis
22 demonstrating that even if both El Paso and the Williams Companies are excluded
23 from my proxy group, the end result for purposes of calculating the cost of

1 common equity in this proceeding is essentially the same as the result reflected in
2 Exhibit No. SPC- 22.

3 El Paso owns or has interests in North America's largest interstate pipeline
4 system, with approximately 42,000 miles of pipeline that connect North
5 America's major natural gas producing basins to its major consuming markets. It
6 owns one-hundred percent of Tennessee Gas Pipeline, El Paso Natural Gas,
7 Mojave Pipeline, Cheyenne Plains Gas Pipeline and various smaller percentages
8 in Southern Natural Gas, Colorado Interstate Gas, Wyoming Interstate, and
9 Florida Gas Transmission, all of which are subject to regulation by the FERC. El
10 Paso also provides approximately 230 Bcf of storage capacity.

11 In conjunction with their subsidiaries, the Williams Companies own
12 approximately 14,200 miles of natural gas pipelines, with a total annual
13 throughput of approximately 2,700 trillion British Thermal Units of natural gas
14 and peak-day delivery capacity of approximately 12 MMdt of gas. They own
15 Transcontinental Gas Pipe Line Corporation and Northwest Pipeline GP, as well
16 as an interest in several joint venture systems, including a fifty-percent interest in
17 Gulfstream Natural Gas System.

18 **Q.26 Are all of the proxy companies you recommend publicly traded?**

19 A. Yes, all of the companies have been traded on the New York Stock Exchange,
20 under their name or the name of their predecessor, for many years.

1 **Q.27 Have you prepared an exhibit showing the contributions of the various**
2 **segments of each of your proxy companies to the proxy company's income?**

3 A. Yes. In Exhibit No. SPC-27, I show the contributions of the various segments of
4 each proxy company to the proxy company's income. The income measure used
5 by each proxy company varies, but it is the one used by each proxy company in
6 its published segment analysis.

7 **Q.28 What conclusions do you draw from Exhibit No. SPC-27, with respect to**
8 **each of your proxy companies?**

9 A. The magnitude of the income from gas pipeline sources, and/or the percent of gas
10 pipeline income, together with the Value Line Reports contained in Exhibit No.
11 SPC-23, shows that gas pipelines are a meaningful activity for all of the members
12 of the proxy group.

13 **D. DCF Model with MLP Proxy Companies**

14 **Q.29 Is it appropriate to include MLPs in your set of proxy companies?**

15 A. I believe it is. Since the majority of the companies that are publicly traded and for
16 which a relatively important part of their business is natural gas pipelines are
17 MLPs, and since a proxy group must be based on companies with comparable
18 risks, the inclusion of MLPs in the proxy group is necessary. The Commission
19 recently acknowledged in its April 2008 Policy Statement that "more and more
20 gas pipeline assets are being transferred to publicly-traded MLPs, whose business
21 is narrowly focused on pipeline activities. As a result, these MLPs are likely to be
22 more representative of predominantly pipeline firms than the diversified gas
23 corporations still available for inclusion in a proxy group. As such, including

1 MLPs in the gas pipeline proxy group should render the proxy group more ‘risk-
2 appropriate’” April 2008 Policy Statement at P 49.

3 **Q.30 Please explain your application of the DCF methodology when several of the**
4 **proxy companies are organized as MLPs.**

5 A. An MLP is a limited partnership with the limited partners’ interests represented
6 by units that are publicly traded. All of the MLPs that I have used and that the
7 Commission has used as proxy companies have had their units listed and traded
8 for some years on the New York Stock Exchange. As I previously explained,
9 while MLPs do not pay “dividends” to shareholders and instead make
10 “distributions” to their unitholders, there is no meaningful difference between
11 dividends and distributions for purposes of the DCF model.

12 The procedure that I followed, and the one that the Commission has
13 followed, is to use the formula I discussed earlier in my testimony:

14
$$k = (1+.5g)y + g$$

15 where k is the rate of return expected by investors; y is now the annual
16 distribution per unit by the MLP rather than the dividend per share paid by the
17 corporation, divided by the price of a unit (the average of six monthly high and
18 low prices) rather than by the same average price of a share in a corporation; and
19 g is computed as described above for a corporation proxy. However, in
20 compliance with the April 2008 Policy Statement, I reduced the GDP growth
21 forecast for each MLP used in my DCF analysis by fifty percent. April 2008

1 Policy Statement at PP 42, 106. I note that IBES publishes expected growth rates
2 for all of the proxy MLPs I use.

3 **Q.31 Is it appropriate to use the distribution per unit in the DCF model for proxy**
4 **companies organized as MLPs in the same manner that the dividend per**
5 **share is used for proxy companies organized as corporations?**

6 A. Yes, I believe so. The cash flows received by shareholders out of the assets of
7 their corporation are analogous to the cash flows received by unitholders from the
8 assets of their MLP. In both cases, the total return to the investor is the series of
9 (generally quarterly) cash flows — dividends or distributions — and the cash
10 proceeds when the shares or units are sold. In both cases, these cash flows are all
11 that the investor expects to receive from his or her investment. The dividends or
12 distributions are, therefore, the cash flows to be used in the DCF Model. This is
13 consistent with the Commission's conclusion in the April Policy Statement. *See*
14 April 2008 Policy Statement at P 42.

15 **E. Dividend Yield**

16 **Q.32 How did you determine the dividend or distribution yield for each of your**
17 **proxy companies?**

18 A. I averaged the monthly high and low prices for each company for the six month
19 period ending February 2008, and divided the average price into the annualized
20 dividend or distribution to arrive at a yield for each company. I used the six
21 month period ending February 2008 because I understand that this is the end of
22 the base period. The prices, dividends, distributions and yields are shown in
23 Exhibit No. SPC- 22.

1 **Q.33 Does the Commission generally favor the use of six-month averages to**
2 **compute yields for use in the DCF model?**

3 A. Yes, I believe so.

4 **F. Growth**

5 **Q.34 Is the determination of the value of g as straightforward as the determination**
6 **of y ?**

7 A. No. There are practical difficulties in determining the market-based growth rate
8 g . First, not all investors may have the same growth expectation. Second, growth
9 expectations may vary depending upon the length of the future period for which
10 the growth rate is to apply. There is, therefore, no entirely objective way to
11 determine the correct period for the g to be used in the DCF method. In theory,
12 the model I have described calls for a growth rate “to infinity.” But, as a practical
13 matter, investors are not interested in expected growth to infinity. In my
14 experience, investors generally have little use for growth forecasts that purport to
15 go beyond about five years, because such forecasts are believed to be unreliable.

16 There are different sources of values for g . At one time, witnesses in rate
17 cases made extensive use of historical growth rates as predictors of future growth
18 rates. Then, published growth forecasts prepared by professional securities
19 analysts began to be available. These forecasts presumably incorporate all that
20 can be learned from history plus the expertise of the analysts in judging the future
21 for a particular company. Different analysts, of course, provide different
22 forecasts, but there is generally a range of agreement.

1 **Q.35 How, in your judgment, should the growth rate g be determined for use in**
2 **the DCF equation?**

3 A. First, it is important to note that the rate g is the growth rate *expected* by the
4 market, that is by investors as a whole. It is not necessarily a correct growth
5 forecast; the market may be wrong. But the cost of common equity to a regulated
6 enterprise depends upon what the market expects, not upon what is actually going
7 to happen.

8 Since the DCF method requires the use of growth rates expected by
9 investors, it is important to use the best evidence of the growth rates actually
10 expected by the investment community. There is a body of empirical evidence
11 showing that the most reliable measure of investor expected growth rates for use
12 in the DCF model is the set of growth forecasts published by professional
13 securities analysts. Therefore, I examined analysts' earnings forecasts reported
14 for February 2008 by IBES, copies of which are included in Exhibit No. SPC-28.
15 IBES is a service sold by subscription. IBES regularly collects five-year earnings
16 growth forecasts from about 2,400 securities analysts for about 5,000 companies.
17 The forecasts are tabulated and distributed monthly to subscribers. The
18 Commission is one of the subscribers.

19 **Q.36 Do you believe that the growth forecasts provided by IBES are the best**
20 **available for use in the DCF model?**

21 A. Yes.

1 **Q.37 Does the Commission require the use of IBES-reported forecasts?**

2 A. I believe so. This is the Commission's longstanding policy, as described in the
3 April Policy Statement. *See* April 2008 Policy Statement at P 73.

4 **Q.38 Are the earnings growth forecasts reported by IBES strictly five-year**
5 **forecasts?**

6 A. IBES identifies them as "long-term growth" forecasts, although they are based on
7 five-year projections. So far as investors are concerned, I believe that a five-year
8 forecast is regarded as "long-term."

9 **Q.39 Please explain the Commission's two-stage growth DCF model.**

10 A. The Commission has adopted a two-stage growth model, making use of the IBES-
11 reported earnings growth forecasts that I have discussed and also of forecasts of
12 long-term growth in GDP derived from three different sources and then averaged.
13 The original sources were Data Resources, Inc. ("DRI") / McGraw Hill, the
14 Energy Information Administration ("EIA"), and Wharton Econometric
15 Forecasting Associates ("WEFA"), an economic forecasting organization. In
16 recent years, the Commission has added the Social Security Administration, and
17 DRI and WEFA have combined to form Global Insight and now produce a single
18 forecast.

19 The Commission has directed that the "short-term" (IBES-reported)
20 growth forecast be given a two-thirds weight and the long-term (GDP) forecast be
21 given a one-third weight. In addition, the April 2008 Policy Statement requires
22 that the "long-term growth projection for MLPs shall be 50 percent of projected
23 growth in GDP." April 2008 Policy Statement at PP 42, 106.

1 **Q.40** **In your judgment, does the Commission’s two-stage model accurately reflect**
2 **the process by which investors make the decision to buy or sell shares of**
3 **stock?**

4 A. No. I believe that the use of the second-stage growth forecast does not accurately
5 reflect investor behavior, and that the Commission’s method does not qualify as a
6 strictly “market-based” method. So far as investors are concerned, I believe that a
7 five-year forecast is regarded as “long-term.”

8 **Q.41** **Did you nevertheless perform your analysis using the Commission’s two-**
9 **stage growth model?**

10 A. Yes. I followed the Commission’s instructions for purposes of this proceeding. I
11 gave the “short-term” (IBES-reported) growth forecast a two-thirds weight and
12 the long-term (GDP) forecast a one-third weight. In accordance with the April
13 2008 Policy Statement, my DCF analysis in Exhibit No. SPC-22 uses 50 percent
14 of average projected growth in GDP for each MLP proxy company. My
15 calculation of all the GDP growth rates appears in Exhibit No. SPC-29.

16 **G. Conclusions Regarding Cost of Common Equity**

17 **Q.42** **What were your conclusions from application of the Commission’s DCF**
18 **method to the proxy companies?**

19 A. As shown in Exhibit No. SPC-22, I found the range of reasonableness for cost of
20 equity to be from 11.48% to 13.89%, with a median of 12.56%.

21 **Q.43** **Do you know what cost of common equity Stingray is requesting in this rate**
22 **filing?**

23 A. Yes, as set forth in the Prepared Direct Testimony of Mr. Douglas V. Krenz,
24 Exhibit No. SPC-1, Stingray is requesting a cost of common equity of 13.23%.

1 **Q.44 Do you believe 13.23% is an appropriate cost of common equity for**
2 **Stingray?**

3 A. I believe it is. The testimony of Mr. Allan M. Schneider, Exhibit No. SPC-10,
4 explains the increased operational risks and the testimony of Mr. Stephen L.
5 Merritt, Exhibit No. SPC-7, explains the increased commercial risks that Stingray
6 faces as an offshore pipeline in the Gulf of Mexico, as compared with an average
7 onshore pipeline. I believe these risks justify a cost of common equity that is
8 approximately midway between the proxy group's median of 12.56% and the top
9 of the proxy group's range of reasonableness at 13.89%, which is 13.23%.

10 **Q.45 Do you provide source documents to support Exhibit No. SPC-22?**

11 A. Yes. They are contained in Exhibit Nos. SPC-28 to SPC-31. The sources include
12 the IBES growth forecasts (Exhibit No. SPC-28), the GDP growth forecasts
13 (Exhibit No. SPC-29), the unit prices (Exhibit No. SPC-30), and the unit
14 distributions (Exhibit No. SPC-31).

15 **II. COST OF PREFERRED EQUITY**

16 **Q.46 Has either Enbridge Inc. or MarkWest Energy Partners LP issued preferred**
17 **stock?**

18 A. Yes, as shown on Statement F-4 and in Exhibit No. SPC-32, Enbridge Inc. has
19 issued preferred stock.

20 **Q.47 Have you included Enbridge Inc.'s preferred stock in your capital structure**
21 **analysis and cost of equity calculations?**

22 A. Yes, as shown in Exhibit No. SPC-32, I have included Enbridge Inc.'s preferred
23 stock in my capital structure analysis and applied the cost identified in Enbridge

1 Inc.'s 2007 Form 40-F, which I understand is essentially the equivalent of a Form
2 10-K for a foreign company, for its preferred stock to the preferred stock
3 component of the total equity to determine the weighted average cost of capital
4 for Stingray. The detail behind Enbridge Inc.'s preferred stock is provided in
5 Statement F-4, which is based on data provided to me by Enbridge Inc.

6 **Q.48 What is the cost of preferred equity reflected in your calculations?**

7 A. As shown in Exhibit No. SPC-32, 5.5%, which is the cost reported in Enbridge
8 Inc.'s 2007 Form 40-F.

9 **III. COST OF DEBT FOR STINGRAY**

10 **Q.49 What cost of debt is Stingray using in this proceeding?**

11 A. The cost of debt is 6.93%. The determination of this cost of debt is shown in my
12 Exhibit No. SPC-34. The 6.93% cost of debt is the average of the costs of debt of
13 Enbridge Inc. and MarkWest Energy, the two entities that, through subsidiaries,
14 provide the financing for Stingray.

15 **Q.50 What was the source for your cost of debt calculations in Exhibit No. SPC-**
16 **34?**

17 A. I used the source data contained in Exhibit No. SPC-33 to prepare this exhibit.

18 **IV. CAPITAL STRUCTURE OF STINGRAY**

19 **Q.51 What capital structure is Stingray using in this proceeding?**

20 A. The capital structure is 46.71% common equity, 0.47% preferred equity, and
21 52.82% long-term debt. Stated in terms of overall equity to debt, the ratio is

1 47.18% equity, 52.82% debt. The determination of this capital structure is shown
2 in my Exhibit No. SPC-32. This equity and debt ratio is the average of the equity
3 and debt ratios of Enbridge Inc. and MarkWest Energy, the two entities that,
4 through subsidiaries, provide the financing for Stingray. The details of the debt
5 issuances underlying these calculations for Enbridge Inc. and MarkWest Energy
6 are shown in Statement F-3, which is based on data provided to me by those
7 companies.

8 **Q.52 What was the source for your capital structure calculations in Exhibit No.**
9 **SPC-32?**

10 A. I used Enbridge's SEC Form 40-F for 2007 and MarkWest Energy's SEC Form
11 10-K for 2007 to prepare this exhibit. Relevant excerpts of these documents are
12 included in Exhibit No. SPC-33.

1 **V. OVERALL RATE OF RETURN FOR STINGRAY**

2 **Q.53 What rate of return is Stingray requesting in this rate filing?**

3 A. As shown on Statement F-1, based on the capital structure I have identified, the
4 cost of debt I have calculated, Enbridge Inc.'s reported cost of preferred equity,
5 and the cost of common equity identified by Mr. Krenz in his Prepared Direct
6 Testimony, Exhibit No. SPC-1, Stingray is seeking an overall rate of return of
7 9.87%. The determination of this overall rate of return is shown in Exhibit No.
8 SPC-32, as summarized in Statement F-2.

9 **Q.54 Do you believe that this is a reasonable overall rate of return for Stingray?**

10 A. Yes, I believe 9.87% constitutes a fair return level for Stingray and is the
11 minimum rate of return required consistent with the present costs of capital and
12 business risks faced by Stingray, as identified by Mr. Merritt and Mr. Schneider in
13 their Prepared Direct Testimonies, Exhibit Nos. SPC-7 and SPC-10, respectively.

14 **Q.55 Does this complete your direct testimony?**

15 A. Yes. It does.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

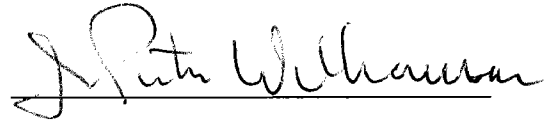
Stingray Pipeline Company, L.L.C.

§
§
§

Docket No. RP08-____-000

AFFIDAVIT OF J. PETER WILLIAMSON

J. Peter Williamson, being first duly sworn, hereby states that he is the witness whose Prepared Direct Testimony is attached hereto; that, if asked the questions which appear in the text of aforesaid Prepared Direct Testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid Prepared Direct Testimony as his sworn, direct testimony in this proceeding.



J. Peter Williamson

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the State of New Hampshire, County of Grafton, this 20 day of June, 2008.



Notary Public

JASON ACHMOODY, Notary Public
My Commission Expires September 19, 2012

My commission expires: _____

Experience and Qualifications of J. Peter Williamson

**EDUCATION, TEACHING, RESEARCH AND
PROFESSIONAL EXPERIENCE OF
J. PETER WILLIAMSON**

Education

University of Toronto, B.A. in 1952, Mathematics, Physics & Chemistry; Harvard Business School, MBA in 1954, DBA in 1961; Harvard Law School LL.B. in 1957.

Teaching and Research

From 1957 to 1961, Assistant Professor of Business Administration at the Harvard Business School. In 1961 joined the faculty of the Amos Tuck School of Business Administration at Dartmouth College as Associate Professor. On the Amos Tuck School faculty since 1961 and Professor since 1966 (except for one year on the faculty of the University of Toronto Law School). Currently the Laurence F. Whittemore Professor of Finance, Emeritus, at the Amos Tuck School.

Teaching at the Amos Tuck School included courses in corporation finance, financial institutions, investments and federal taxation. Research in these fields has led to a dozen or so books and monographs and to articles in the *Journal of Finance*, the *Financial Analysts Journal*, the *Journal of the Eastern Financial Association*, the *Journal of Bank Research*, the *Journal of Portfolio Management* and other professional journals.

Consulting and Research

Consulting activity, in addition to work for regulated utilities, has included valuations of businesses, advice on investment portfolios and specifically on investment expectations; and several publications have been specifically concerned with investment strategies, risk and likely rates of return.

Author of four books that are largely concerned with this subject and a number of articles.

The book, *Performance Measurement and Investment Objectives for Educational Endowment Funds*, was published by the Common Fund in 1972. The book, *Funds for the Future*, published by the Twentieth Century Fund in 1975, consists chiefly of a discussion of investment of college and university endowment funds, including investment risk and expected rates of return. A revised and updated edition of this book, entitled *Funds for the Future: College Endowment Management for the 1990s*, was published by the Common Fund in 1993. The book, *Spending Policy for Educational Endowments*, co-authored with Richard Ennis of Ennis, Knupp & Gold, Inc., was published by the Common Fund in 1976. It deals with the relationship between spending plans and expectations of risk and return. Author of chapters in *The Handbook of Financial Markets and Institutions* (6th ed. 1986) and in *The Investment Manager's Handbook* (1980) entitled, respectively, "Performance Measurement" and "Educational Endowment Funds." Editor of, and author of two chapters in the *Investment Banking Handbook* published by John Wiley & Sons in 1988. Author of a chapter in the *Handbook of Modern Finance*, published by Warren Gorham Lamont in 1993.

Trustee of the Common Fund 1978-90, and Chairman of its Short-term Fund Committee. Participated as a trustee in the hiring, reviewing and replacement of over thirty investment managers who managed 5.5 billion dollars invested long-term. Worked more closely with three managers who managed another 4.5 billion dollars short-term funds of the Common Fund.

In 1966-67 and 1977-79, retained by the Canadian Government's Department of Consumer and Corporate Affairs to consider appropriate federal regulation of securities markets in Canada. One of four authors of *Proposals for a Securities Market Law for Canada* (1979) and the author of two working papers published as part of the *Proposals*: "Canadian Capital Markets" and "Canadian Financial Institutions."

Prepares summaries for publication of all the presentations made at the semi-annual seminars of the Institute for Quantitative Research in Finance and has done so for 33 years. The set of summaries for each seminar is published following the seminar, and in addition six volumes of summaries organized by topics have been published, covering 1976 through 2005.

Regulatory Proceedings

Has testified on behalf of a number of utilities and on behalf of several consumer representatives. Testified in 1980 on behalf of the Public Service Company of New Hampshire before the New Hampshire Board of Taxation in connection with the franchise tax paid by utilities in New Hampshire. Testified over several years in electric utility rate cases before the Vermont Public Service Board at the request of the Counsel for the Public, the Department of Public Service and the Public Service Board).

Testified, at the request of the Vermont Public Service Board, on a proposed amendment by Central Vermont Public Service Corporation to its first mortgage bond indenture (Docket 4206), and on the proposals by Green Mountain Power and Central Vermont to purchase participations in the Seabrook nuclear plant in the summer of 1979. Also testified before the Board at the request of the Department of Public Service on a proposal by Central Vermont Public Service corporation to sell its participation in the Seabrook plant (Docket 5045). Testified at the request of Central Vermont Public Service Corporation on a proposal to classify its Board of Directors (Docket 5103), and at the request of the Vermont Electric Cooperative on a proposed restructuring of its debt (Docket 5630/5632).

Testified before the Rhode Island Public Utilities Commission at the request of the Rhode Island Division of Public Utilities and Carriers in connection with an application for rate relief made by Narragansett Electric Company (Docket 1288).

Testified before the New Hampshire Public Utilities Commission at the request of the New Hampshire Electric Cooperative in rate cases (Dockets DR 77-

83, DR 78-24, DR 79-178, DR 80-189, DR 81-340 and DR 98-025) and in a financing case (Docket DF 83-360). Also testified before the New Hampshire PUC at the request of the Consumer Advocate on a petition for rate relief filed by Public Service Company of New Hampshire (Docket DR 79-187), at the request of Public Service Company of New Hampshire on its petitions for rate relief (dockets are listed below), and at the request of EnergyNorth Natural Gas in its petition for rate relief (Docket DR91-212).

Testified before the California Public Utilities Commission in dockets listed below.

Testified before the Regulatory Commission of Alaska on behalf of TAPS Carriers, Case No. P-03-4, December, 2003. Filed testimony with the Commission on behalf of Northstar Pipelines. December 1, 2003.

Filed testimony with the Federal Energy Regulatory Commission in dockets listed below

Testified before the Public Service Commission of Utah in Mountain Fuel Supply and Questar Gas Company (Cases Nos. 89-057-15 and 02-057-02).

Filed testimony with the State of New York Public Service Commission in Empire State Pipeline, Case No. ____ (9/30/95).

Filed testimony with the Michigan Public Service Commission at the request of Dominion Midwest Energy, Inc., in Case No. U-12342, March 2000.

Testified three times before the Ontario Securities Commission, once in July 1982 in hearings on diversification in the Canadian securities industry, again in June 1983 in hearings on the entry of banks into the brokerage business, and again in December 1984 in hearings on ownership of securities firms.

**FERC Testimony
of Professor J. Peter Williamson
on Rate of Return**

(R) indicates rebuttal testimony
(RS) indicates responding testimony
(S) indicates supplemental testimony
(SR) indicates supplemental and rebuttal testimony
(Ans) indicates answering testimony
(VS) indicates Verified Statement
(Surreb) indicates Surrebuttal

Company Name	Docket No.	Date
Southern Star Central Gas Pipeline, Inc.	RP08-350	April 30, 2008
SFPP, L.P. (Supplemental)	OR03-5-001	April 25, 2008
SFPP, L.P. (Ans)	OR03-5-001	February 29, 2008
AOPL Affidavit	PL07-2-000	February 11, 2008
AOPL Affidavit	PL07-2-000	August 30, 2007
Calnev Pipe Line LLC	IS06-296-002	June 14, 2007
SFPP, L.P.	IS06-283	September 5, 2006
BP Pipelines (Alaska) (TAPS) (R)	IS05-82	August 11, 2006
Mid-America Pipeline Company LLC	IS05-216-003	June 30, 2006
BP Pipelines (Alaska) (TAPS) (Ans)	IS05-82	May 26, 2006
BP Pipelines (Alaska) (TAPS) (S)	IS05-82	April 4, 2006
SFPP, L.P. (R)	IS05-230-000	January 5, 2006
BP Pipelines (Alaska) (TAPS)	IS05-82	December 7, 2005
SFPP, L.P.	OR92-8-025	October 20, 2005
SFPP, L.P.	IS05-230-000	August 26, 2005
El Paso Natural Gas Company	RP05-422-000	June 30, 2005
Texas Gas Transmission, LLC	RP05-317-000	April 30, 2005

Maritimes & Northeast Pipeline, L.L.C.(R)	RP-04-360-000	April 11, 2005
SFPP, L.P. (S)	IS-98-1-000	March 15, 2005
SFPP, L.P. (Surreb)	IS-98-1-000	February 14, 2005
SFPP, L.P. (R)	IS-98-1-000	January 28, 2005
Enbridge Energy Company, Inc. (VS)	OR05-	December 10, 2004
SFPP, L.P. (Ans))	IS-98-1-000	December 10, 2004
Southern LNG Inc.	CP99-579-003	December 1, 2004
Southern Natural Gas Company	RP04-523	August 31, 2004
Maritimes & Northeast Pipeline, L.L.C.	RP-04-360	July 1, 2004
Southern Star Central Gas Pipeline, Inc.	RP04-276	April 30, 2004
Algonquin Gas Transmission Company	RP04-24-000	December 12, 2003
High Island Offshore System, L.L.C.(S)	RP03-221	November 17, 2003
High Island Offshore System, L.L.C.(R)	RP03-221	October 8, 2003
Florida Gas Transmission	RP-04-12-000	October 1, 2003
Trailblazer Pipeline Company (R)	RP03-162-000	July 29, 2003
Enbridge Offshore Pipelines (UTOS), L.L.C.	RP03-335	March 25, 2003
BP Transportation (Alaska) Inc.	IS01-504-001	March 4, 2003
High Island Offshore System, L.L.C.	RP03-221	December 31,2002
Trailblazer Pipeline Company	RP03-162-000	November 27, 2002
Pine Needle LNG Company LLC	RP02-407-000	August 1, 2002
Cove Point LNG Limited Partnership	RP01-217-001	June 30, 2002
Canyon Creek Compression Company	RP02-356-000	May 31, 2002
SFPP, L.P. (Ans))	OR96-2-000	July 31, 2001
Mojave Pipeline Company (RS)	RP01-172-	June 29, 2001,
SFPP, L.P. (RS)	OR96-2-000	May 15, 2001

Transcontinental Gas Pipe Line Corporation	RP01-245-000	March 1, 2001
Venice Gathering System, L.L.C.	RP01-	December 22, 2000
Mojave Pipeline Company	RP01-172-	November 30, 2000
Texas Gas Transmission Corporation	RP00-260-	April 20, 2000
Trailblazer Pipeline Company (S)	RP97-408-	January 21, 2000
Colonial Pipeline Company	OR99-16-000	October 22, 1999
Stingray Pipeline Company (R)	RP99-166-000	October 22, 1999
Southern Natural Gas	RP99-496-000	September 11, 1999
Stingray Pipeline Company	RP99-166-000	December 1, 1998
Northern Natural Gas	RP98-203-000	May 1, 1998
Transcontinental Gas Pipe Line Corp. (S)	RP97-71-000	March 24, 1998
Trailblazer Pipeline Company (R)	RP97-408	March 6, 1998
Wyoming Interstate Co., Ltd. (R)	RP97-375	March 5, 1998
Ocean State Power (R)	ER97-1899-000	October 6, 1997
Ocean State Power II	ER97-1890-000	
Transcontinental Gas Pipe Line Corp.(R)	RP97-71-000	September 29, 1997
Trailblazer Pipeline Company (S)	RP97-408	September 24, 1997
Wyoming Interstate Co., Ltd. (S)	RP97-375	September 10, 1997
Transcontinental Gas Pipe Line Corp.(RS)	RP97-71-000	August 22, 1997
Ocean State Power	ER97-1899-000	July 3, 1997
Ocean State Power II	ER97-1890-000	
Trailblazer Pipeline Company	RP97-408	July 1, 1997
Wyoming Interstate Co., Ltd.	RP97-375	May 29, 1997
Texas Gas Transmission Corp	RP97-344-000	April 30, 1997
Mississippi River Transmission Corp. (R)	RP96-199-000	April 30, 1997
Sea Robin Pipeline Company	RP95-167-000	November 22, 1996

Transcontinental Gas Pipe Line Corp.	RP97-71-000	October 17, 1996
Florida Gas Transmission Co.	RP96-366-000	August 22, 1996
Ozark Gas Transmission System	RP96-189-000	April 12, 1996
Mississippi River Transmission Corp.	RP96-199-000	April 1, 1996
Colorado Interstate Gas Co.	RP96-190-000	March 29, 1996
Williams Natural Gas Co. (R)	RP95-136-000	March 21, 1996
NEES Transmission Services, Inc.	ER96-	March 12, 1996
Williams Natural Gas Co. (RS)	RP93-109-000	February 1, 1996
ANR Pipeline Company (R)	RP94-43-000	November 21, 1995
SFPP, L.P.(SR)	OR92-8-000	November 17, 1995
Transcontinental Gas Pipe Line Corp Update	RP95-197-000	November 17, 1995
Ocean State Power (R)	ER95-533-000	November 7, 1995
Ocean State Power II	ER95-530-000	
Transcontinental Gas Pipe Line Corp (R)	RP95-197-000	October 30, 1995
Ocean State Power	ER95-533-000	September 11, 1995
Ocean State Power II	ER95-530-000	
Questar Pipeline Company	RP95-407-000	August 15, 1995
Natural Gas Pipeline Company of America	RP95-326-000	June 15, 1995
Williams Natural Gas Co. (SR)	RP93-109-000	April 26, 1995
SFPP, L.P.	OR92-8-000	April 4, 1995
Transcontinental Gas Pipe Line Corp	RP95-197-000	March 10, 1995
Northern Natural Gas	RP95-185-000	March 8, 1995
Williams Natural Gas Co. (S)	RP93-109-000	February 17, 1995 ANR
Pipeline Company (Revised)	RP94-43-000	February 17, 1995
Williams Natural Gas Co.	RP95-136-000	February 10, 1995
Texas Gas Transmission Corp (S)	RP94-423-000	February 1, 1995

Florida Gas Transmission Co.	RP95-103-000	January 10, 1995
Tennessee Gas Pipeline Co.	RP95-112-000	January 10, 1995
Southern Natural Gas (SR)	RP93-15-000	January 9, 1995
Texas Gas Transmission Corp	RP94-423-000	November 1, 1994
Ocean State Power	ER94-998-000	August 8, 1994
Ocean State Power II	ER94-999-000	
New England Power Co.	ER95-267-000-	August 1, 1994
Stingray Pipeline Company	RP94-301-000	June 30, 1994
Wyoming Interstate Co., Ltd.	RP94-267-000	June 9, 1994
Natural Gas Pipeline Co. of Am. (R)	RP93-36-000	May 30, 1994
Colorado Interstate Gas Co. (R)	RP93-99-000	May 4, 1994
Williams Natural Gas Co. (R)	RP93-109-000	April 28, 1994
Southern Natural Gas (R)	RP93-15-000	April 1, 1994
Ozark Gas Transmission System (R)	RP94-105-000	March 23, 1994
High Island Offshore System	RP94-162-000	March 9, 1994
U-T Offshore System	RP94-161-000	March 9, 1994
Williams Natural Gas Co. (RS)	RP93-109-000	March 4, 1994
Ozark Gas Transmission System (S)	RP94-105-000	February 23, 1994
Lakehead Pipe Line Company (R)	IS93-33-000	January 24, 1994
Ozark Gas Transmission System	RP94-105-000	January 17, 1994
Overthrust Pipeline Co.	RP94-104-000	January 17, 1994
Southern Natural Gas	RP94-94-000	January 14, 1994
High Island Offshore System (R)	RP93-59-000	December 16, 1993
U-T Offshore System (R)	RP93-61-000	December 13, 1993
ANR Pipeline Company	RP94-43-000	November 16, 1993
Massachusetts Electric Company	ER94-129-000	November 5 1993

Lakehead Pipe Line Company	IS93-33-000	September 30, 1993
Wyoming Interstate Co., Ltd. (R)	RP85-39-009	September 21, 1993
Kern River Gas Transm. Co. (R)	RP92-226-000	September 7, 1993
New England Power Company	ER93-920-000	September 1, 1993
Texas Gas Transmission Co.	RP93-106-001	May 7, 1993
Williams Natural Gas Co.	RP93-109-000	May 6, 1993
Colorado Interstate Gas Co.	RP93-99-000	April 7, 1993
Lakehead Pipe Line Company (R)	IS92-27-000	February 8, 1993
Trailblazer Pipeline Company	RP93-55-000	January 8, 1993
High Island Offshore System	RP93-59-000	January 8, 1993
U-T Offshore System	RP93-61-000	January 8, 1993
Southern Natural Gas (R)	RP92-134-000	December 18, 1992
Natural Gas Pipeline Co. of Am.	RP93-36-000	December 5, 1992
Southern Natural Gas	RP93-15-000	November 15, 1992
Alabama-Tennessee Natural Gas Company	RP92-237-000	October 15, 1992
United Gas Pipe Line Co.	RP92-235-000	October 15, 1992
Tennessee Gas Pipeline Co.	RP91-203-000 RP92-132-000	September 25, 1992
Kern River Gas Transm. Co.	RP92-226-000	September 15, 1992
New England Power Co.	ER92-764-000	August 3, 1992
Lakehead Pipeline Co., L.P.	IS92-27-000	June 3, 1992
Questar Pipeline Company (R)	RP91-140-000	May 4, 1992
Southern Natural Gas	RP92-134-000	March 16, 1992
South Georgia Natural Gas	RP92-74-000	January 6, 1992

Viking Gas Transmission Company	RP92-48-000	December 12, 1991
U-T Offshore System	RP92-47-000	December 11, 1991
High Island Offshore System	RP92-50-000	December 11, 1991
East Tennessee Natural Gas	RP91-204-000	August, 1991
Tennessee Gas Pipeline Co.	RP91-203-000	August, 1991
Ocean State Power II	ER89-563-000	August 1, 1991
New England Power Co.	ER91-565-000	July 19, 1991
Midwestern Gas Transmission Co.	RP91-189-000	July 9, 1991
Williams Natural Gas Co.	RP91-152-000	May 16, 1991
Questar Pipeline Company	RP91-140-000	May 15, 1991
South Georgia Natural Gas Co. (R)	RP89-225-000	April 19, 1991
United Gas Pipe Line Co.	RP91-126, CP91-1669 CP91-1670, CP91-1671 CP91-1672, CP91-1673	April 12, 1991
Colorado Interstate Gas Co. (RS)	RP90-69-000	April 5, 1991
Tarpon Transmission Co.	RP84-82-004	November 14, 1990
Colorado Interstate Gas Co. (R)	RP90-69-000	October 19, 1990
New England Power Co.	ER90-525-000	August 1, 1990
Southern Natural Gas Co.	RP90-139-000	July 18, 1990
New England Hydro-Transmission Electric Co., Inc. New England Hydro-Transmission Corporation	ER90-450-000	May 24, 1990
U-T Offshore System (R)	RP89-38-000	May 14, 1990
East Tennessee Natural Gas Co.	RP90-111-000	May 10, 1990
Southern Natural Gas Co.	RP89-224-000	April 23, 1990
ANR Pipeline Company (R)	RP89-161-000	March 30, 1990
Colorado Interstate Gas Co.	RP90-69-000	January 4, 1990

Transcontinental Gas Pipe Line Corp.	RP90-8-000	October 25, 1989
Alabama-Tennessee Natural Gas Co.	RP89-251-000	October 11, 1989
South Georgia Natural Gas Co.	RP89-225-000	September 13, 1989
ANR Pipeline Company	RP89-161-000	May 17, 1989
U-T Offshore System	RP89-38-000	December 9, 1988
High Island Offshore System	RP89-37-000	December 9, 1988
Tennessee Gas Pipeline Co.	RP88-228-000	August 16, 1988
Natural Gas Pipeline Co. of America	RP88-209-000	July 15, 1988
Questar Pipeline Co.	RP88-93-000	April 15, 1988
United Gas Pipe Line Co.	RP87-52-000	August 7, 1987
Kern River Gas Transm Co. (R)	CP85-437-000	June 24, 1987
Alabama-Tennessee Natural Gas Co.	RP87-41-000	February 19, 1987
Public Service Co. of NH	ER87-277-000	December, 1986
Kern River Gas Transmission Co.	CP85-437-000	September 9, 1986
Mountain Fuel Resources, Inc. (R)	RP86-7-000	April 7, 1986
Mountain Fuel Resources, Inc.	RP86-7-000	November 8, 1985
Tarpon Transmission Co. (R)	RP84-82-000	May 3, 1985
	RP84-82-001	May 3, 1985
Tarpon Transmission Co.	RP84-82-000	March 20, 1985
	RP84-82-001	March 20, 1985
Tennessee Gas Pipeline Co. (R)	RP80-97	September, 1981
	RP81-54	September, 1981
Public Service Co. of NH	ER81-659	July 31, 1981

**Testimony Before the
REGULATORY COMMISSION OF ALASKA**

Northstar Pipelines (S)	P-00-19 and P-01-11	September 7, 2004
TAPS Carriers (R)	P-03-4	October 15, 2003
Milne Point Product Pipeline	P-01-10	October 1, 2003
TAPS Carriers	P-03-4	June 3, 2003
Northstar Pipelines	P-00-19 and P-01-11	December 1, 2003

**Testimony Before the
STATE OF CALIFORNIA PUBLIC UTILITIES COMMISSION**

Chevron Pipeline Company	08-02	April 1, 2008
SFPP, L.P (R)	03-02-027	September 9, 2003
SFPP, L.P	03-02-027	July 16, 2003
SFPP, L.P (R)	97-04-025	November 26, 1997

**Testimony Before the
MICHIGAN PUBLIC SERVICE COMMISSION**

Michigan Consolidated Gas Co.	U-12342	March 6, 2000
Michigan Consolidated Gas Co. (R)	U12342	August 28, 2000

**Testimony Before the
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

NH Electric Coop., Inc.	DR98-025	April 14, 1998
EnergyNorth Natural Gas	DR91-212	January & Sept., 1992
PSNH	DR87-151	July 2, 1987
PSNH	DR86-122	1986
PSNH	DR82-333	December 29, 1982 & June 30, 1983

NH Electric Coop., Inc.	DR81-340	December, 1981
PSNH	DR81-6	February 2, 1981
NH Electric Coop., Inc.	DR80-189	August 29, 1980
NH Electric Coop., Inc.	DR79-178	November, 1979
PSNH	DR79-187	1979
NH Electric Coop., Inc.	DR78-24	March, 1978
NH Electric Coop., Inc.	DR77-93	July 19, 1977

**Testimony Before the
NEW MEXICO PUBLIC REGULATION COMMISSION**

Re Petition of Public Service Company of New Mexico	03-00017-UT	January 10, 2003
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**Testimony Before the
PUBLIC SERVICE COMMISSION OF NEW YORK**

Empire State Pipeline Company	September 30, 1995
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**Testimony Before the
STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION**

Company Name	Docket No.	Date
The Narragansett Electric Company (R)	2290	July 27, 1995
The Narragansett Electric Company	2290	March 1, 1995
The Narragansett Electric Company	1288	January, 1978

**Testimony Before the
PUBLIC SERVICE COMMISSION OF UTAH**

Questar Gas Company	02-057-02	May 3, 2002
Mountain Fuel Supply	89-057-15	August 17, 1990

Mountain Fuel Supply	89-057-15	March 30, 1990
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**Testimony Before The
VERMONT PUBLIC SERVICE BOARD**

Company Name	Docket No.	Date
Green Mountain Power	6107	June 29, 1998
Central Vermont Public Service Corp.	6120	June 19, 1998
Green Mountain Power (SR)	5983	December 8, 1997
Green Mountain Power (R)	5983	November 17, 1997
Central Vermont Public Service Corp.	6018	October 11, 1997
Green Mountain Power	5983	July 10, 1997
Green Mountain Power	5780	October, 1994
Central Vermont Public Service Corp.	5701, 5724	March 8, 1994
Vermont Electric Cooperative	5630/5632	March & Sept. 1993
Green Mountain Power Corp.	5428	October, 1990
Green Mountain Power Corp.	5428	June, 1990
Green Mountain Power Corp.	5370	July 14, 1989
Green Mountain Power Corp.	5282	October 4, 1988
Vermont Electric Cooperative, Inc.	5009/5112	August 6, 1986
Central Vermont Public Service Corp.	5030	November 11, 1985
Green Mountain Power Corp.	5125	August 15, 1986
Central Vermont Public Service	5030	September 13, 1985
Central Vermont Public Service Corp.	5045	September 11, 1985

Green Mountain Power Corp.	5013	August 30, 1985
Green Mountain Power Corp.	4890	May 17, 1984
Green Mountain Power Corp.	4865	April 10, 1984
Green Mountain Power Corp.	4796	August 10, 1983
Green Mountain Power Corp.	4796	May 25, 1983
Green Mountain Power Corp.	4661	September 8, 1982
Central Vermont Public Service Corp.	4634	May 10, 1982
Central Vermont Public Service Corp.	4634	April 5, 1982
Central Vermont Public Service Corp.	4634	January 29, 1982
Green Mountain Power Corp.	4570	September 24, 1981
Green Mountain Power Corp.	4503/4537	June 12, 1981
Central Vermont	4230	1977
Green Mountain Power	3758	October, 1974
Central Vermont Public Service Corp.	3744	1974