

EXHIBIT NO. ___(RAM-18)
DOCKET NO. UE-07___/UG-07___
2007 PSE GENERAL RATE CASE
WITNESS: DR. ROGER A. MORIN

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-07___
Docket No. UG-07___

**SEVENTEENTH EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF
DR. ROGER A. MORIN
ON BEHALF OF PUGET SOUND ENERGY, INC.**

DECEMBER 3, 2007

PUGET SOUND ENERGY, INC.

**SEVENTEENTH EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF DR. ROGER A. MORIN**

FLOTATION COST ALLOWANCE

CONTENTS

I. MAGNITUDE OF FLOTATION COSTS1
II. APPLICATION OF THE FLOTATION COST ADJUSTMENT4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

PUGET SOUND ENERGY, INC.

**SEVENTEENTH EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF DR. ROGER A. MORIN**

FLOTATION COST ALLOWANCE

To obtain the final cost of equity financing from the investors’ expected rate of return, it is necessary to make allowance for underpricing, which is the sum of market pressure, costs of flotation, and underwriting fees associated with new issues. Allowance for market pressure should be made because large blocks of new stock may cause significant pressure on market prices even in stable markets. Allowance must also be made for company costs of flotation (including such items as printing, legal and accounting expenses) and for underwriting fees.

I. MAGNITUDE OF FLOTATION COSTS

According to empirical studies, underwriting costs and expenses average at least 4% of gross proceeds for utility stock offerings in the U.S. (See Logue & Jarrow: “Negotiations vs. Competitive Bidding in the Sale of Securities by Public Utilities”, Financial Management, Fall 1978.) A study of 641 common stock issues by 95 electric utilities identified a flotation cost allowance of 5.0%. (See Borum & Malley: “Total Flotation Cost for Electric Company Equity Issues”, Public Utilities Fortnightly, Feb. 20, 1986.)

1 Empirical studies suggest an allowance of 1% for market pressure in U.S. studies.
2 Logue and Jarrow found that the absolute magnitude of the relative price decline due to
3 market pressure was less than 1.5%. Bowyer and Yawitz examined 278 public utility
4 stock issues and found an average market pressure of 0.72%. (See Bowyer & Yawitz,
5 “The Effect of New Equity Issues on Utility Stock Prices”, Public Utilities Fortnightly,
6 May 22, 1980.)

7 Eckbo & Masulis (“Rights vs. Underwritten Stock Offerings: An Empirical
8 Analysis”, University of British Columbia, Working Paper No. 1208, Sept., 1987) found
9 an average flotation cost of 4.175% for utility common stock offerings. Moreover,
10 flotation costs increased progressively for smaller size issues. They also found that the
11 relative price decline due to market pressure in the days surrounding the announcement
12 amounted to slightly more than 1.5%. In a classic and monumental study published in
13 the prestigious Journal of Financial Economics by a prominent scholar, a market pressure
14 effect of 3.14% for industrial stock issues and 0.75% for utility common stock issues was
15 found (see Smith, C.W., “Investment Banking and the Capital Acquisition Process,”
16 Journal of Financial Economics 15, 1986). Other studies of market pressure are reported
17 in Logue (“On the Pricing of Unseasoned Equity Offerings, Journal of Financial and
18 Quantitative Analysis, Jan. 1973), Pettway (“The Effects of New Equity Sales Upon
19 Utility Share Prices,” Public Utilities Fortnightly, May 10 1984), and Reilly and Hatfield
20 (“Investor Experience with New Stock Issues,” Financial Analysts’ Journal, Sept.- Oct.
21 1969). In the Pettway study, the market pressure effect for a sample of 368 public utility
22 equity sales was in the range of 2% to 3%. Adding the direct and indirect effects of

1 utility common stock issues, the indicated total flotation cost allowance is above 5.0%,
2 corroborating the results of earlier studies.

3 As shown in the table below, a comprehensive empirical study by Lee, Lochhead,
4 Ritter, and Zhao, "The Costs of Raising Capital," Journal of Financial Research, Vol.
5 XIX, NO. 1, Spring 1996, shows average direct flotation costs for equity offerings of
6 3.5% - 5% for stock issues between \$60 and \$500 million. Allowing for market pressure
7 costs raises the flotation cost allowance to well above 5%.

FLOTATION COSTS: RAISING EXTERNAL CAPITAL (Percent of Total Capital Raised)		
Amount Raised in \$ Millions	Average Flotation Cost: Common Stock	Average Flotation Cost: New Debt
\$2.00 – \$9.99	13.28%	4.39%
\$10.00 – \$19.99	8.72%	2.76%
\$20.00 – \$39.99	6.93%	2.42%
\$40.00 – \$59.99	5.87%	1.32%
\$60.00 – \$79.99	5.18%	2.34%
\$80.00 – \$99.99	4.73%	2.16%
\$100.00 – \$199.99	4.22%	2.31%
\$200.00 – \$499.99	3.47%	2.19%
\$500.00 and Up	3.15%	1.64%

8 Note: Flotation costs for IPOs are about 17 percent of the value of common stock issued if
9 the amount raised is less than \$10 million and about 6 percent if more than \$500
10 million is raised. Flotation costs are somewhat lower for utilities than others.

11 Source: Lee, Inmoo, Scott Lochhead, Jay Ritter, and Quanshui Zhao, "The Costs of Raising
12 Capital," *The Journal of Financial Research*, Spring 1996.

13 Therefore, based on empirical studies, total flotation costs including market
14 pressure amount to approximately 5% of gross proceeds. I have therefore assumed a 5%
15 gross total flotation cost allowance in my cost of capital analyses.

1 stock issues, a flotation cost adjustment is still permanently required. Examples there
2 also demonstrate that the allowance applies to retained earnings as well as to the original
3 capital.

4 From the standard DCF model, the investor's required return on equity capital is
5 expressed as:

$$6 \quad \mathbf{K = D_1/P_o + g}$$

7 If P_o is regarded as the proceeds per share actually received by the company from
8 which dividends and earnings will be generated, that is, P_o equals B_o , the book value per
9 share, then the company's required return is:

$$10 \quad \mathbf{r = D_1/B_o + g}$$

11 Denoting the percentage flotation costs 'f', proceeds per share B_o are related to
12 market price P_o as follows:

$$13 \quad \mathbf{P - fP = B_o}$$

$$14 \quad \mathbf{P(1 - f) = B_o}$$

15 Substituting the latter equation into the above expression for return on equity, we
16 obtain:

$$17 \quad \mathbf{r = D_1/P(1-f) + g}$$

18 that is, the utility's required return adjusted for underpricing. For flotation costs of 5%,
19 dividing the expected dividend yield by 0.95 will produce the adjusted cost of equity

1 capital. For a dividend yield of 6% for example, the magnitude of the adjustment is 32
2 basis points: $.06/.95 = .0632$.

3 In deriving DCF estimates of fair return on equity, it is therefore necessary to
4 apply a conservative after-tax allowance of 5% to the dividend yield component of equity
5 cost.

6 Even if no further stock issues are contemplated, the flotation adjustment is still
7 permanently required to keep shareholders whole. Flotation costs are only recovered if
8 the rate of return is applied to total equity, including retained earnings, in all future years,
9 even if no future financing is contemplated. This is demonstrated by the numerical
10 example contained in pages 7-9 of this Appendix. Moreover, even if the stock price,
11 hence the DCF estimate of equity return, fully reflected the lack of permanent allowance,
12 the company always nets less than the market price. Only the net proceeds from an
13 equity issue are used to add to the rate base on which the investor earns. A permanent
14 allowance for flotation costs must be authorized in order to insure that in each year the
15 investor earns the required return on the total amount of capital actually supplied.

16 The example shown on pages 7-9 shows the flotation cost adjustment process
17 using illustrative, yet realistic, market data. The assumptions used in the computation are
18 shown on page 7. The stock is selling in the market for \$25, investors expect the firm to
19 pay a dividend of \$2.25 that will grow at a rate of 5% thereafter. The traditional DCF
20 cost of equity is thus $k = D/P + g = 2.25/25 + .05 = 14\%$. The firm sells one share
21 stock, incurring a flotation cost of 5%. The traditional DCF cost of equity adjusted for
22 flotation cost is thus $ROE = D/P(1-f) + g = .09/.95 + .05 = 14.47\%$.

1 The initial book value (rate base) is the net proceeds from the stock issue, which
2 are \$23.75, that is, the market price less the 5% flotation costs. The example
3 demonstrates that only if the company is allowed to earn 14.47% on rate base will
4 investors earn their cost of equity of 14%. On page 8, Column 1 shows the initial
5 common stock account, Column 2 the cumulative retained earnings balance, starting at
6 zero, and steadily increasing from the retention of earnings. Total equity in Column 3 is
7 the sum of common stock capital and retained earnings. The stock price in Column 4 is
8 obtained from the seminal DCF formula: $D_1/(k - g)$. Earnings per share in Column 6 are
9 simply the allowed return of 14.47% times the total common equity base. Dividends start
10 at \$2.25 and grow at 5% thereafter, which they must do if investors are to earn a 14%
11 return. The dividend payout ratio remains constant, as per the assumption of the DCF
12 model. All quantities, stock price, book value, earnings, and dividends grow at a 5%
13 rate, as shown at the bottom of the relevant columns. Only if the company is allowed to
14 earn 14.47% on equity do investors earn 14%. For example, if the company is allowed
15 only 14%, the stock price drops from \$26.25 to \$26.13 in the second year, inflicting a
16 loss on shareholders. This is shown on page 9. The growth rate drops from 5% to
17 4.53%. Thus, investors only earn $9\% + 4.53\% = 13.53\%$ on their investment. It is
18 noteworthy that the adjustment is always required each and every year, whether or not
19 new stock issues are sold in the future, and that the allowed return on equity must be
20 earned on total equity, including retained earnings, for investors to earn the cost of
21 equity.

1

ASSUMPTIONS:

ISSUE PRICE = \$25.00
 FLOTATION COST = 5.00%
 DIVIDEND YIELD = 9.00%
 GROWTH = 5.00%

EQUITY RETURN = **14.00%**

(D/P + g)

ALLOWED RETURN ON EQUITY = **14.47%**

(D/P(1-f) + g)

2

	COMMON STOCK	RETAINED EARNINGS	TOTAL EQUITY	STOCK PRICE	MARKET/ BOOK RATIO	EPS	DPS	PAYOUT
Yr	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	\$23.75	\$0.000	\$23.750	\$25.000	1.0526	\$3.438	\$2.250	65.45%
2	\$23.75	\$1.188	\$24.938	\$26.250	1.0526	\$3.609	\$2.363	65.45%
3	\$23.75	\$2.434	\$26.184	\$27.563	1.0526	\$3.790	\$2.481	65.45%
4	\$23.75	\$3.744	\$27.494	\$28.941	1.0526	\$3.979	\$2.605	65.45%
5	\$23.75	\$5.118	\$28.868	\$30.388	1.0526	\$4.178	\$2.735	65.45%
6	\$23.75	\$6.562	\$30.312	\$31.907	1.0526	\$4.387	\$2.872	65.45%
7	\$23.75	\$8.077	\$31.827	\$33.502	1.0526	\$4.607	\$3.015	65.45%
8	\$23.75	\$9.669	\$33.419	\$35.178	1.0526	\$4.837	\$3.166	65.45%
9	\$23.75	\$11.340	\$35.090	\$36.936	1.0526	\$5.079	\$3.324	65.45%
10	\$23.75	\$13.094	\$36.844	\$38.783	1.0526	\$5.333	\$3.490	65.45%

5.00%

5.00%

5.00%

5.00%

1

	COMMON STOCK	RETAINED EARNINGS	TOTAL EQUITY	STOCK PRICE	MARKET/ BOOK RATIO	EPS	DPS	PAYOUT
Yr	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	\$23.75	\$0.000	\$23.750	\$25.000	1.0526	\$3.325	\$2.250	67.67%
2	\$23.75	\$1.075	\$24.825	\$26.132	1.0526	\$3.476	\$2.352	67.67%
3	\$23.75	\$2.199	\$25.949	\$27.314	1.0526	\$3.633	\$2.458	67.67%
4	\$23.75	\$3.373	\$27.123	\$28.551	1.0526	\$3.797	\$2.570	67.67%
5	\$23.75	\$4.601	\$28.351	\$29.843	1.0526	\$3.969	\$2.686	67.67%
6	\$23.75	\$5.884	\$29.634	\$31.194	1.0526	\$4.149	\$2.807	67.67%
7	\$23.75	\$7.225	\$30.975	\$32.606	1.0526	\$4.337	\$2.935	67.67%
8	\$23.75	\$8.627	\$32.377	\$34.082	1.0526	\$4.533	\$3.067	67.67%
9	\$23.75	\$10.093	\$33.843	\$35.624	1.0526	\$4.738	\$3.206	67.67%
10	\$23.75	\$11.625	\$35.375	\$37.237	1.0526	\$4.952	\$3.351	67.67%
			4.53%	4.53%		4.53%	4.53%	

2