

**CASCADE NATURAL GAS CORPORATION**  
**Washington Utility & Transportation Commission**  
**2006 Rate Case Data Request**

**WUTC Staff Request No. 14**

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**WUTC STAFF DATA REQUEST NO. 14:**

Re: Witness Roger Morin

Regarding the statement on page 4, lines 24-27 and page 5, line 1 that Dr. Morin's recommended return would be "significantly higher" in the absence of a decoupling mechanism and purchased gas cost adjustment mechanism, please indicate, in Dr. Morin's professional judgment, how much additional equity return is applicable to the absence of each of these two mechanisms.

**Response:**

It is Dr. Morin's judgment that absent such protection mechanisms, the cost of equity capital would increase by 25-50 basis points on account of the additional risks faced by the Company. This range is based on three considerations. First are the yield differences between bonds of adjacent credit rating categories. The current spread between utility bonds rated Baa and A is approximately 40 basis points.

Second, it is reasonable to assume that a company with both a purchased gas adjustment and a decoupling mechanism would be assigned a one-step reduction change in the S&P Business Risk Score rankings.<sup>1</sup> Each one-step change in the S&P Business Risk Score is approximately equivalent to a 3% - 4% reduction in the common equity ratio for the company to maintain the same bond rating.

Several researchers have studied the empirical relationship between the cost of capital and capital-structure changes. Comprehensive and rigorous empirical studies of the relationship between cost of capital and leverage for public utilities are summarized in

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<sup>1</sup> Standard & Poor's assigns business profile scores to utility companies along with bond rating financial benchmarks. A regulated utility's business position is assessed on a scale of 1 through 10 (1 being lowest risk and 10 being the highest). Financial guidelines are provided for each business profile score for a given bond rating. The financial benchmarks include three principal ratios: debt to capital, interest coverage, and cash flow to debt. The higher the business risk score, the more stringent the financial guidelines become for a given bond rating.

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Morin, Regulatory Finance, Public Utilities Report, Inc., Arlington, VA, 1994, Chapter 17. The results of these studies indicate that equity costs increase from a low of 34 to a high of 237 basis points for each 1% increase in the debt ratio. The average increase is 138 basis points from the theoretical studies and 76 basis points from the empirical studies, or a range of 7.6 to 13.8 basis points per one percentage point increase in the debt ratio. The more recent studies indicate that the upper end of that range is more indicative of the repercussions on equity costs. If the presence of adjustment mechanisms allow for a 3%-4% decrease in the equity ratio (i.e. increase in the debt ratio), the required downward adjustment to the cost of equity ranges from 7.6 to 13.8 basis points times 3%-4%, which equals approximately 30-40 basis points.

Third, given the observed range in the betas of natural gas utilities, it is reasonable to state that in the absence of the adjustment mechanisms, the Company's beta factor would increase by 0.05. The CAPM formula can then be used to approximate the return (cost of equity) differences implied by the increase in beta. The basic form of the CAPM states that the return differential is given by the differential in beta times the excess return on the market,  $(R_M - R_F)$ . The return differential implied by an increase in beta of 0.05 is given by 0.05 times the market risk premium  $(R_M - R_F)$ . Using an estimate of 7% for  $(R_M - R_F)$ , the return adjustment is 35 basis points. Based on all these considerations and various frameworks, an increase of 25-50 basis points is not unreasonable.