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

WUTC Staff Request No. 21

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WUTC STAFF DATA REQUEST NO. 21:
Re: Witness Roger Morin

Please indicate if Dr. Morin is aware of any academic or other studies that all investors rely exclusively on analysts' earnings per share estimates. Please cite any such studies.

Response:

There are two key findings of academic research in the last twenty years on financial analysts' earnings forecasts:

Finding 1. Extensive academic researches in the past two decades have documented and confirmed repeatedly the overwhelming superiority of analysts' earnings forecasts over the uni-variate time-series forecasts. This latter category includes many ad hoc forecasts from statistical models, ranging from the naive methods of simple averages, moving averages, etc. to the sophisticated time-series techniques such as the Box-Jenkins modeling techniques.

This literature suggests that analysts' earnings forecasts incorporate all the public information available to the analysts and the public at the time the forecasts are released. Furthermore, these forecasts are statistically more accurate than forecasts solely based on historical earnings, dividends, book value equity, and the like.

This finding is based on researches on data from 1950s to 1980s. Important papers include Brown and Rozeff (1978), Cragg and Malkiel (1982), Harris (1986), Vander Weide and Carleton (1988), and Lys and Sohn (1990).

Finding 2. More recent studies provide evidence that analysts make biased forecasts and misinterpret the impact of new information. For example, several studies in the early 1990s suggest that analysts either systematically under-react or over-react to new information. Easterwood and Nutt (1999) discriminate between these different reactions and reported that analysts under-react to negative information, but over-react to positive information.

However, it should be pointed out that these new studies do not necessarily contradict with the earlier literature, upon which finding 1 is based. As a matter of fact, the earlier research focused on whether analysts' earnings forecasts are better at forecasting future earnings than historical averages are, whereas the recent literature investigates whether the analysts' earnings forecasts are unbiased estimates of future earnings. It is possible that even though the analysts' forecasts are biased, they are still closer to the future earnings than the historical averages are, although this hypothesis has not been tested in the recent studies. One way to assess the concern that analysts' forecasts may be biased upward is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast. Unlike investment banking firms and stock brokerage firms, independent research firms such as Value Line have no incentive to distort earnings growth estimates in order to bolster interest in common stocks.

The following is a summary of the papers reviewed.

Lawrence D. Brown and Michael S. Rozeff, 1978, The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings, Journal of Finance, Vol. XXXIII, No. 1, pp. 1 to 16

Using data (1951 to 1975) from 50 non-utility firms, the authors compared forecasting errors between forecasts reported in Value Line Investment Survey and forecasts from a sophisticated time-series methodology (Box-Jenkins). They concluded that "Value Line Investment Survey consistently makes significantly better earnings forecasts than the BJ [Box-Jenkins] and naive time series models." (p.13)

J. Cragg and B. G. Malkiel, Expectations and the Structure of Share Prices, National Bureau of Economic Research, University of Chicago Press, 1982

See quotation below from Harris (1986).

Robert S. Harris, 1986, **Using Analusts' Growth Forecasts to Estimate Shareholder Required Rates of Return**, Financial Management, Spring 1986, pp. 58 - 67

The main focus of this paper was to derive required return on equity using expected rather than historical earnings growth rates. Harris used IBES consensus earnings forecasts as a proxy for investor expectation. In his review of the literature on financial analysts' forecasts (FAF), Harris wrote

Moreover, a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices. Such studies typically employ a consensus measure of FAF calculated as a simple average of forecasts by individual analysts. Elton, Gruber, and Gultekin show that stock prices react more to changes in analysts' forecasts of earnings than they do to changes in earnings themselves, suggesting the usefulness of FAF as a surrogate for market expectations. In an extensive NBER study using analysts' earnings forecasts, Cragg and Malkiel conclude "the expectations formed by Wall Street professionals get quickly and thoroughly impounded into the prices of securities. Implicitly, we have found that the evaluations of companies that analysts make are the sorts of ones on which market valuation is based." (p.59, footnote omitted)

James H. Vander Weide and Willard T. Carleton, 1988, **Investor Growth Expectations: Analysts vs. History**, The Journal of Portfolio Management, Spring 1988; pp. 78 - 82

This paper updated the study by Cragg and Malkiel (1982), which suggests that the stock valuation process embodies analysts' forecasts rather than historically based growth figures such as the ten-year historical growth in dividends per share or the five-year growth in book value per share. (The Cragg and Malkiel study is based on data for the 1960s).

In this paper, the authors used data from 1971- 1983 for approximately sixty-five utility firms. They "found overwhelming evidence that the consensus analysts' forecasts of future growth is superior to historically oriented growth measures in predicting the firm's stock price." Their results "also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions." (p. 81)

Thomas Lys and Sungkyu Sohn, 1990, **The Association between Revisions of Financial Analysts' Earnings Forecasts and Security-Price Changes**, Journal of Accounting and Economics, vol. 13, pp. 341 - 363

Using virtually all publicly available analyst earnings forecasts for a sample of 58 companies in the 1980 - 86 period (over 23,000 individual forecasts by 100 analyst firms), the authors showed that stock returns responded to individual analyst earnings forecasts, even when they were closely preceded by earnings forecast made by other analysts or by corporate accounting disclosures.

John C. Easterwood and Stacey R. Nutt, 1999, **Inefficiency in Analysts' Earnings Forecasts: Systematic Misreaction or Systematic Optimism?** Journal of Finance, Vol. LIV, No. 5, pp. 1777 - 1797

Using actual and IBES data from 1982 - 1995, the authors regressed the analysts' forecast errors against either historical earnings changes or analysts' forecasting errors in the prior years. Their results show that analysts tend to under-react to negative earnings information, but over-react to positive earnings information.