P-886 ORIGINAL Exhibit- N-14

BEFORE THE

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF The *Public Utilities Act*, R.S.N.S., 1989, c. 380, as amended

— and —

IN THE MATTER OF an Application of Nova Scotia Power Incorporated for approval of certain revisions to its Rates, Charges, and Regulations

EVIDENCE FILED BY:

JOHN ANTONUK, DONALD T. SPANGENBERG, JR., and JOHN B. ADGER, JR.

On behalf of:

The Utility and Review Board Staff

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Nova Scotia Utility and Review Board

December 20, 2006

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1. Introduction

Q. PLEASE STATE YOUR NAMES, BUSINESS ADDRESSES, AND POSITIONS.

A. My name is John Antonuk. My business address is: The Liberty Consulting Group, 65 Main Street, P.O. Box 1237, Quentin, Pennsylvania 17083, USA. I am a founder of The Liberty Consulting Group ("Liberty") and I serve as its president.

My name is Donald T. Spangenberg, Jr. My business address is: The Liberty Consulting Group, 65 Main Street, P.O. Box 1237, Quentin, Pennsylvania 17083, USA. I am a senior Liberty consultant.

My name is John B. Adger, Jr. My business address is: The Liberty Consulting Group, P. O. Box 1237, Quentin, Pennsylvania 17083, USA. I am a senior Liberty consultant.

Q. HAVE YOU PREPARED SUMMARIES OF YOUR BACKGROUNDS AND QUALIFICATIONS?

A. Yes, they are provided as Exhibit LCG-1.

Q. WHAT IS THE PURPOSE OF YOUR EVIDENCE IN THIS PROCEEDING?

A. We are responding to the evidence presented to the Utility and Review Board ("UARB" or "the Board") by Nova Scotia Power Incorporated ("NSPI" or "the Company") and its witnesses in NSUARB-P-886, concerning NSPI's application for approval of revision to its rates, charges, and regulations. We specifically address fuel costs and markets,

management of fuel used for power generation (including coal, pet coke, natural gas and fuel oil), and fuel strategies. We address these subjects in light of:

- Recommendations made by Liberty in the prior rate case
- NSPI's responses to those recommendations
- NSPI commitments and expenditures since that prior case
- Any material changes in circumstances within NSPI
- Any material changes in external market and other circumstances.

We present a number of recommendations concerning NSPI's application.

Q. DO YOU HAVE ANY GENERAL COMMENTS ON THE COMPANY'S DEVELOPMENT OF ITS ANTICIPATED TEST YEAR FUEL-RELATED COSTS?

A. NSPI estimated its costs for 2007 on the basis of market conditions and price expectations current at the end of July of this year, which was several months prior to its filing. That was a time of record-high oil prices, a time when prices for fuel oils and natural gas were at their highest levels of this year, and a time when fuel markets were still recovering from the effects of circumstances spurred in major part by disastrous U. S. Gulf Coast Region storms of the preceding season, among other factors.

Fuel prices declined markedly between July and the date of the Company's filing, and have remained at levels considerably below those assumed in NSPI's estimates of what its 2007 fuel costs will be. The Company's use of estimates that were not representative

of current conditions at the time of the filing, and that remain unrepresentative today, makes its test year cost estimates highly unlikely to be representative of test year costs. Examples include NSPI's filed costs of fuel oil and natural gas, including the estimated offsets to those costs generated by the Company's sales of natural gas that is available to it under its supply contracts, but are excess to its requirements for generation fuel (NSPI's "excess" gas). Liberty advised NSPI several days after the filing of Staff IRs in this case of this problem, when explaining to NSPI that Liberty had asked for data and analyses based on more recent prices in order to develop costs not rendered inapt by reason of large changes in fuel markets and their impacts on the fuels used by NSPI. The Company has not provided the requested and more useful information as yet. We therefore believe that the NSPI filing does not provide a properly substantiated representation of what its 2007 costs can be reasonably expected to be.

We faced a December 20, 2006 deadline to file evidence, notwithstanding the Company's lack of timely responses to requests for important information. Therefore, where we could, we have developed adjustments to solid fuel costs, to gas profits based on the volumes available for resale, and to light fuel oil costs. Incorporation of these adjustments will provide sound, tangible, supportable changes in the Company's costs.

We emphasize, however, that it would be incorrect to conclude that what remains of NSPI's claimed increase in test year fuel costs is itself sound and supportable. Even after the adjustments this evidence sets forth, therefore, we believe that the Company's filed costs are not reasonably representative of test year costs, and so do not provide an

appropriate basis for new rates. Our specific adjustments produce better cost estimates, but by no means good or even acceptable ones. Major remaining problems lie in the areas of gas and heavy fuel oil. We hope that additional information, to be provided by NSPI by January 8, will allow us to adjust NSPI's filed costs to produce reasonable figures for the test year.

There are a variety of ways that current, more appropriate information could lead to significant further adjustments in NSPI's filed costs. These ways include detailed revisions based directly on more recent price data, adjustments to certain key inputs such as gas resale profits based on historic experience, and broad adjustments such as the "normalization" approved by the Board in 2002. We are sensitive to the need to consider NSPI's request for a prompt decision, although we note that this desire has not been accompanied by a concomitant willingness to provide critical information on a basis that supports expedition of the resolution of its request. Our sensitivity therefore leads us to an openness to considering the full range of options for adjustments. However, we cannot, given the lack of response to requests for information, be certain that there will exist an adequate record to demonstrate that NSPI has sufficiently established that its projected fuel costs increases are supportable. If there continues to be a failure to provide the needed information, we will recommend that NSPI's filing be rejected and that, until a satisfactory filing is made, there be no change in NSPI's rates. If NSPI does provide the information requested, we will do our level best to validate it, and to make any further adjustments, if necessary, beyond those proposed in this evidence.

Q. HOW HAVE YOU EXAMINED THE COMMITMENTS AND CHANGES THAT NSPI HAS MADE IN RESPONSE TO YOUR RECOMMENDATIONS FROM THE LAST CASE?

A. The answer varies based on the particular recommendation. In the last case, Liberty made nine recommendations regarding NSPI's conduct of its fuels-management activities, and recommended a comprehensive audit of NSPI's transactions with its affiliates. The Board's order in that case adopted those recommendations as directives to NSPI. The Board also directed that NSPI liaise with Liberty in the implementation of these recommendations. There has been significant interaction between Liberty and NSPI, beginning with a kickoff meeting in Halifax on April 26, 2006 among representatives of Liberty, NSPI and the Staff of the NSUARB.

Overall, NSPI has made good progress in implementation of Liberty's recommendations. Marginal progress has been made on a few recommendations. Perhaps the most important progress has been made by NSPI in completion of its solid fuel portfolio, ahead of the directed deadline of December 31, 2007. Later in this testimony, Liberty details the progress that NSPI has made on each of the Liberty recommendations.

2. Summary and Recommendations

Q. WHAT ARE THE KEY POINTS OF YOUR EVIDENCE?

A. The key points are:

Fuel Forecasting

- Prices in fuels markets are cyclical, volatile, and difficult to predict with a substantial degree of certainty.
- Establishing base rates using mid-2006 estimates of market conditions is not appropriate, given volatility in general and significant market movements since that time in particular.
- Changes in the forecasted price relationship between natural gas and heavy fuel oil (HFO) can have a significant impact on fuel and energy costs because they can cause large changes in natural gas burn and, consequently, in the profits realized by selling the Company's "excess" gas.
- Fuel management strategies must recognize the unpredictable nature of the fuels markets.

2007 Fuel Cost Review

- Volatility in market prices for the fuels used for electricity generation has continued.
- There is substantial reason to believe that this volatility will remain in the period during which NSPI will collect the rates to be established in this proceeding.
- Such volatility will create a substantial risk of over- or under-recovery of costs.
- That risk exists, no matter how sound the evaluation methods and the application of them to forecasts by NSPI.
- A significant concern that Liberty has about 2007 costs as presented by NSPI relates to the profits that NSPI will realize through the sale of excess natural gas.
    - The use of mid-2006 forward fuel price assumptions causes NSPI to anticipate significant use of gas for generation, which will make much less

gas available for sale at positive profits; the use of more-current assumptions may produce significant changes in forecast gas use.

- If the changes call for less use of gas as a generation fuel, the excess gas amounts available for sale will increase.
- NSPI, as it has done previously, has made an unduly pessimistic assumption about the amount of natural gas that it will likely receive from [redacted] This assumption has the effect of reducing the offset that natural gas sales will provide to fuel and energy costs.
- NSPI's persistent failure to adopt and execute an appropriate method for selling its excess natural gas causes the profits it realizes to be lower than it could reasonably obtain.

- The most recent process that NSPI used to select affiliate Emera Energy Services (EES) as the entity to purchase its excess natural gas continued to show favoritism to EES.
- We are pessimistic about whether an NSPI-conducted process of selling its excess natural gas will generate sufficient market interest to make the process workably competitive in the near term.
- NSPI's estimate of its 2007 solid fuel costs has turned out to be too high, as recent NSPI purchases have reduced the amount of uncommitted tonnages, at prices less than NSPI had estimated.
- NSPI's estimate of its natural gas and HFO costs may prove to be too high because of use of mid-2006 price information. A conclusion on this matter cannot

be made at the present time, because NSPI until recently declined to provide updated information.

- NSPI's estimate of its costs for light fuel oils (LFOs), "furnace" oil and diesel fuel, are definitely too high, as the prices of those fuels, as measured by the 2007 NYMEX "strip" (the average of the futures prices for each month in 2007) for home heating oil have declined considerably since the end of July. Home heating oil is the same product as diesel fuel.

Fuel Management Directives

- NSPI has made substantial progress in addressing the fuel management weaknesses that we observed in the last case. A few challenges remain to be met; however, we believe that NSPI has responded well to the Board's directives in its order in the last rate case. A detailed discussion of NSPI's progress on implementing the recommendations is provided later in this testimony.

Q. WHAT ARE YOUR RECOMMENDATIONS?

A. Liberty's recommendations are as follows:

Fuel Cost Adjustments

1. NSPI's fuel expense estimate for the Rate Year (2007) should be reduced by C$5,506,000 because the Company has been able to secure at lower-than-estimated prices much of the solid fuel that was uncommitted at the time of the Company's filing.
2. NSPI's fuel expense for the Rate Year (2007) should be reduced by C$8,182,388 to account for [redacted] delivery volumes beyond those assumed by NSPI, because those added volumes can reasonably be expected to occur.

3. NSPI's fuel expense for the Rate Year (2007) should be reduced by C$2,056,550 to account for the decline in the prices of LFOs since July 31, 2006 (the date when the Company selected fuel oil and natural gas prices for use in estimating its Rate Year fuel expense).
4. NSPI's fuel expense for the Rate Year 2007 should be adjusted as necessary to reflect 1) changes in the estimated costs of fuel oils and gas as a result of using more-current information for the prices of those fuels during the Rate Year; and 2) changes in the estimated costs of fuel oils, and changes in the resale margin for natural gas, that may follow from changed dispatch of NSPI's generating plants caused by updated price information. Whether an adjustment should be made, and how much any such adjustment should be, await updated fuel-cost information from the Company.
5. A further adjustment may be appropriate to account for reduced profits realized by the Company from sales of its excess gas due to the Company's repeated award of its gas to its affiliate EES. We will provide a recommendation regarding any such adjustment in our report to the Board on our audit of NSPI's relationships with its affiliates.

Organization and Procedures

6. NSPI should continue its work on developing a more comprehensive set of fuel hedging policies and procedures.
7. NSPI should continue its work on development of a complete set of procedures for the procurement of purchased power.
8. NSPI should present a revised and updated Fuel Procurement Policies and Procedures Manual for final review, in order to allow specific changes already shared by NSPI to be

examined in their final context. This manual should include updated procedures on both hedging and procurement of purchased power.

3. The Solid Fuel Supply Portfolio

Q. WHAT PROGRESS HAS NSPI MADE IN BUILDING THE REQUIRED SOLID FUEL SUPPLY PORTFOLIO?

A. NSPI has made significant progress in building the required portfolio. It now holds a portfolio that reflects the sound execution of an effective portfolio strategy. The status of the portfolio as of November 27, 2006 was as follows:

Component	Length	Target	Actual
[redacted]	[redacted]	[redacted]	[redacted]

Q. WHAT ACTIONS HAS NSPI TAKEN TO EXECUTE ITS NEW STRATEGY?

A. Since the last case, NSPI has worked to balance the most difficult component of its portfolio to fill; *i.e.*, the long-term component. In January 2006, NSPI issued an RFP for 1,000,000 tonnes of low sulfur coal for 2007 delivery. Considerable quantities of coal were available on the market at this time. [redacted]

NSPI was interested in having the option of buying coal from [redacted]

[redacted]

Liberty found that NSPI properly handled the solicitation for this RFP, by including a sufficient number of qualified potential suppliers, conducting bid evaluations, and making a decision that appears sound from the bids and the evaluations that we reviewed. NSPI did not actually issue an RFP for the 2008 and 2009 coal supply, but proceeded to commit to supply for these two years because of a number of factors:

[redacted]

Given these factors, the attractiveness of the [redacted] Liberty believes that NSPI's actions on this [redacted] were reasonable.

In September 2006, made a second major change to its portfolio. NSPI concluded negotiations with [redacted]

Liberty examined the documentation for each of the two long-term coal contracts discussed above. Liberty found that the documentation provided by NSPI did not exhibit any of administrative problems noted in the last case regarding thoroughness of evaluations and necessary approvals of the appropriate levels of management, including the Fuel Strategy Table.

Q. HOW DOES THE NSPI PORTFOLIO COMPORT WITH YOUR VIEWS OF GOOD UTILITY PRACTICE?

A. NSPI has established an appropriate fuel supply portfolio strategy, and has taken appropriate efforts in building a portfolio that corresponds to it. Given the short time

since the March 2005 decision in a prior case directing assembly of this new portfolio, NSPI's assembly of it by this time demonstrates strong performance.

4. Estimates of Solid Fuel Costs for the Rate Year

Q. HAVE YOU EVALUATED NSPI'S ESTIMATES OF 2007 SOLID FUEL COSTS.

A. Yes.

Q. PLEASE SUMMARIZE YOUR EVALUATION OF THESE COSTS.

A. Solid fuel costs for 2007 as contained in NSPI's filing consisted of the Company's estimates of the delivered costs it would pay for low-sulfur imported coal, mid-sulfur and high-sulfur imported coal, domestic coal, petcoke and test coal. In estimating costs for each of these fuels, NSPI used: (a) existing pricing for the solid fuels for which commitments had been made, and (b) estimates of future prices for the solid fuels that were uncommitted at that time.

NSPI has continued to make commitments. As a result, it now has [redacted] This change actually increased NSPI's projections for 2007 for

the domestic coal component of solid fuel costs. NSPI has, however, been able to fill formerly uncommitted amounts of low, medium and high-sulfur coals at prices less than previously estimated. The savings here more than offset the increase from domestic coal.

[redacted]

NSPI has received a forecast from Jacobs Consultancy that shows [redacted]

[redacted]

Liberty observed that NSPI has made, since filing its evidence, three major changes in the coal supply portfolio that affect the level of uncommitted tonnages. [redacted]

[redacted]

[redacted] Second, an NSPI change in the [redacted]

[redacted]

[redacted]

Finally, NSPI changed its [redacted]

[redacted]

[redacted] All of these changes to the solid fuel portfolio occurring since filing of the Direct Evidence are displayed in Exhibit LCG-3.

The following table summarizes the effects on 2007 solid fuel costs of all of the changes in the solid fuel portfolio since NSPI's filing of its evidence.

Solid Fuel Type	Change in Costs CDN$
[redacted]	[redacted]
Total	**($5,506,000)**

Exhibit LCG-4 provides the calculation details, and the assumptions supporting them.

5. Fuel Oil and Natural Gas

Q. PLEASE PROVIDE SOME BACKGROUND ON THE USE OF FUEL OILS AND NATURAL GAS AT NSPI.

NSPI's generation is mostly fired with solid fuels. The Company's solid-fuel units run largely in a "base-load" position; *i.e.*, they run more-or-less continuously. The Company

meets daily and seasonal load fluctuations with oil- and gas-fired generating units. The largest such units are at the Tufts Cove Generating Station. The three large steam generating units there were built to run on heavy fuel oil (HFO). Natural-gas firing capability was added to these units in 1999, when gas production from offshore Nova Scotia began. These units can now burn either HFO or gas. NSPI switches between the two fuels depending on which is lower in cost, taking into account the market price of each fuel, plus delivery and handling costs. There are also two large combustion turbines at the Tufts Cove Station. These units burn only natural gas.

The Company uses additional light-oil-fired units, located at strategic points on its system, to meet daily and seasonal variations in load and to serve load growth. Light-oil-fired combustion turbines are located at Burnside, Sydney (Victoria Junction Station) and Tusket.

Finally, relatively small amounts of light fuel oils (LFO), diesel fuel and furnace oil, are used as start-up fuel at all of the Company's generating stations. Also, most of the solid-fueled generating stations have some capacity to burn HFO, but that capacity has been little used recently since solid fuels have been so much lower in cost than HFO.

Q. PLEASE PROVIDE SOME BACKGROUND ON NSPI'S ARRANGEMENTS FOR THE SUPPLY OF THESE FUELS.

A. The Company buys HFO through an annual-tender process. NSPI contacts potential suppliers in the fall of most years to bid on requirements for the succeeding calendar

year. NSPI provides an estimate of the quantity that it thinks it will require, but does not commit to a purchase volume. Suppliers agree to deliver cargoes, within a specified time after they are ordered, to NSPI's port facilities at Tufts Cove, at a price tied to a published market-price index at New York Harbor.

Minor amounts of HFO are distributed by truck to the other locations where it is used (Trenton, Lingan and Point Tupper). The trucking service is put out for bid periodically, most recently in the fall of 2005, for a contract to cover calendar years 2006 and 2007.

NSPI also purchases LFO through periodic tenders, most recently in the first quarter of 2006, for a two-year period (April 1, 2006 through March 31, 2008). Pricing is on a delivered basis, and suppliers quote relative to published prices at Imperial Oil's refinery in Dartmouth.

NSPI acquires natural gas under a [redacted] The contract covers larger volumes than NSPI could presently use. However, the Maritimes & Northeast Gas Pipeline system (M&NP) provided access to gas markets in the Northeast U. S., where any excess over the Company's requirements could be re-sold. Moreover, at the time that the contract was signed, the Company envisioned adding gas-fired generating capacity as its load grew and as part of its emissions-reduction program.

The gas is acquired at the outlet of the processing facility for offshore production, located at Goldboro, Nova Scotia. The Company has two contracts on the M&NP system for

transportation of the gas. M&NP runs from Goldboro to St. Stephen, on the U.S./Canada border in New Brunswick. M&NP also has a lateral that runs from the main line to the Halifax area, and delivers directly to NSPI's Tufts Cove plant.

NSPI also buys a smaller quantity of gas from [redacted] NSPI largely resells this gas into the U.S. market.

Q. HOW ARE THESE ARRANGEMENTS AFFECTING NSPI'S COSTS?

A. NSPI is forecasting very large increases in the prices of the fuel oils that it uses. NSPI's request for a rate increase is largely "driven by" these increases. Comparing NSPI's Test Year forecast for 2006 with Compliance rates (Case 2006C from Table 8 in Appendix A to the Company's Notice of Application and Direct Evidence) with the Company's Test Year forecast with proposed rates (Case 2007F) shows that the weighted-average cost of solid fuels increases only from [redacted] The total estimated cost for these fuels actually goes down slightly, from C$277.4 million to C$276.8 million. Similarly, the weighted-average cost of natural gas increases from [redacted]

The estimated cost of HFO, on the other hand, increases from [redacted] The estimated cost of LFO increases

from [redacted] The total estimated cost of fuel oils and gas increases from C$154.5 million (2006C) to C$211.8 million (2007F), or 37.1%. That increase represents almost 84% of the total increase in the costs of fuel and purchased power proposed by the Company, which, in turn, represents 84% of the increase in revenue requirement proposed by the Company in this case.

Q. HOW DO THESE PRICE INCREASES AFFECT THE COMPANY'S FUEL COSTS?

A. Increases in the prices of fuel oils affect the Company's estimated fuel costs in two ways:

- Directly, through an increase in the cost of a given amount of fuel
- Indirectly, through changes to the likely dispatch of the Company's generating units; when fuel oils increase in price relative to the prices of other fuels, particularly natural gas, the optimum mix of fuels usage changes.

In fact, the Company's proposed rates are based on a fuels mix that is different from that of previous years. Specifically,

- Solid fuels, as a proportion of the total, decline from a relatively high level in 2006 (Case 2006F) (88.7% of total Btus) to a more normal level (80.4% of Btus) as the load becomes more "normal;" *i.e.*, normal weather and the expected resumption of operations by large customer Stora Enso

- Consumption of HFO and natural gas are more evenly split than in 2004 or 2005, as the Company's dispatch model suggests burning gas in the summer, rather than selling it
- LFOs (furnace oil and diesel) increase marginally above what they were (proportionately) in 2004, due to normal weather and load growth in places where generating capacity is fueled by LFOs.

Details of these comparisons (taken from Liberty Exhibit LCG-5 in the 2006 Rate Case and Liberty IR-66) are presented in the table below.

NSPI Fuel Consumption, Actual and Forecast

	2004 Actual		2005 Actual		2006 Forecast		2007 Forecast	
Fuel	**MMBtu**	**%**	**MMBtu**	**%**	**MMBtu**	**%**	**MMBtu**	**%**
Solid fuel (coal/ pet coke)	95,725,849	83.6	91,180,380	83.1	[redacted]	[redacted]	[redacted]	[redacted]
Heavy fuel oil	17,092,481	14.9	16,242,436	14.8	[redacted]	[redacted]	[redacted]	[redacted]
Light fuel oils	718,115	0.6	245,644	0.2	[redacted]	[redacted]	[redacted]	[redacted]
Natural gas	981,818	0.9	2,014,684	1.8	[redacted]	[redacted]	[redacted]	[redacted]
Total	114,518,263		109,683,144		[redacted]		[redacted]	

Q. WHAT HAVE YOU OBSERVED ABOUT PROFITS FROM SALES OF NATURAL GAS?

A. Profits from sales of natural gas are also affected in two ways by changes in the relative prices of fuel oils and gas:

- When relative prices are such that NSPI switches from HFO to gas for the steam units at Tufts Cove, there is less gas available for sale

- Part of the gas provided under the [redacted]

Q. WHAT DOES NSPI ESTIMATE FOR GAS SALES PROFITS?

A. In the 2006 Compliance case, the Company would have burned only [redacted] and would have re-sold the rest. The quantities in the two contracts are [redacted] Thus, if the full contract quantities are available under the two contracts, the Company would have [redacted] MMBtu/year available for either use or sale. Less than the full contract quantity has been available from [redacted] however, so resales would have been something less than [redacted] minus the quantity burned. The 2007 Rate Year forecast consumption of [redacted] MMBtu reflects use of gas in the Tufts Cove steam units in the seven summer months. Unit margins would also be compressed, [redacted]

The net result is that the Company estimates gas resale profits in the Rate Year at C$33.6 million, a reduction of [redacted] million from the 2006 Compliance case. Adding this amount to the [redacted] million estimated increase in the cost of HFO and gas to be burned yields a total increase in fuel costs caused by the increase in fuel-oil prices of [redacted]

[redacted], which is almost [redacted]% of the Company's proposed increase in revenue requirement.

Q. WHAT IS YOUR OPINION OF THESE INCREASES?

A. They are too high. The Company filed its Application on October 10 of this year; however, the forward prices for fuel oils and gas incorporated into the Company's fuel-cost estimates were of a significantly earlier vintage; *i.e.*, July 31 of 2006. Forward prices for oil and gas were at their high points for the year during the month of July. Forward prices for 2007 have declined considerably since the end of July. The Company's fuel costs should be re-estimated under more-current price information.

Q. HOW MUCH HAVE PRICES FOR FUEL OILS AND NATURAL GAS DECLINED SINCE JULY?

A. The table below shows how much the "strips" (average of the 12 monthly prices) for 2007 have declined since July. HFO futures are traded over-the-counter, but not on public exchanges. The strip for West Texas Intermediate (light, sweet) crude oil has been included here as a surrogate for HFO, and is shown in the far right column. All prices are in US$. Prices quoted in terms of the quantities typically traded; *i.e.*, per MMBtu for natural gas, per gallon for heating oil, and per barrel for WTI.

	Natural Gas	**LFO (heating oil)**	**WTI**
2007 strip on 7/31/06	9.82	2.22	78.16
2007 strip on 11/30/06	8.68	1.90	67.16

Q. WOULD THE COMPANY'S FUEL-COST HEDGES PREVENT IT FROM TAKING ADVANTAGE OF THESE PRICE DECLINES?

A. To some extent, they would. The Company's hedging program provides for hedging [redacted] At these levels, some portion of the Company's estimated requirements for HFO for the winter of 2006/2007 would have been [redacted] Thus, the Company's incremental purchases after July would have been made at lower prices. Moreover, NSPI's policy is not to hedge its LFO requirements at all. Therefore, all of those purchases could be made at the lower prices that have prevailed since the end of July.

Another factor is potential "optimization" of hedge positions. If hedged fuels that are substitutable move in price relative to each other, it is possible to sell some hedges and buy others as a means of lowering overall costs. Comparing the ratio of the natural gas price strip to that of WTI (on an energy-equivalent basis) on July 31 to that same ratio on November 30 suggests that, indeed, natural gas has moved up in price relative to HFO; therefore, some optimization of hedge positions should be possible.

Because of these factors, we are not persuaded that the Company's hedging program has prevented it from taking advantage of the fuel-price declines that have occurred since the end of July.

Q. WHAT ADJUSTMENTS DO YOU PROPOSE TO MAKE?

A. We noted earlier that changed fuel prices could have the effect of changing the dispatch of NSPI's generating units. In particular, the Tufts Cove Generating Station could burn as little as [redacted] In-place hedges also affect both the prices and the quantities of fuels to be adjusted. Providing a proposed adjustment is therefore more complicated than simply multiplying a fixed quantity of a particular fuel by a different price.

The Company has recently agreed to provide new fuel-cost estimates using prices (as hedged) in effect on November 27th of this year. The Company has told us that it expects to have this information available by January 8, 2007. Liberty will examine the information that the Company provides, and file supplemental evidence as soon as possible after we receive the new information.

In the absence of credible estimates of these parameters (which may or may not come in the January run NSPI will provide), Liberty recommends that the UARB not change the allowance for fuel oil and gas costs that are in the Company's present rates.

Q. WHAT IS YOUR VIEW OF THE COMPANY'S ESTIMATE OF ITS PROFITS FROM SALES OF NATURAL GAS?

A. We believe that estimate is understated. Relative movement in the prices of HFO and gas will have affected the amount of margin some. More importantly, however, the Company

has reduced the volume of gas available under the [redacted] This reduction was taken to account for [redacted] record of under-deliveries to NSPI in the past.

[redacted] performance under the contract, however, has been much improved since resolution of the arbitration of the terms of that contract. Company representatives told us that, through October of this year, [redacted] Internal documents (See, especially, the Company's response to Liberty IR-99) suggest that the Company expects delivery of [redacted]

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO PROFITS ON GAS SALES?

A. How much gas is burned, and when it is burned, determines how much gas is available for sale, and when. When the gas is available for sale also affects the unit margins that it commands when it is re-sold. We will recommend some adjustments if those quantities change with the new fuel-cost estimates to be provided by the Company.

An adjustment for the increased availability of gas under the [redacted] contract seems appropriate now, however. Since the gas required for generation has already been committed, the increased [redacted] MMBtu/day, which represents the difference between [redacted] of the contract quantity, should be available for sale year-round. At an average margin of [redacted] per MMBtu, that additional volume of gas sales should result

in an additional C$8,182,388 in additional margin. NSPI's Rate Year fuel and purchased-power costs should be reduced by that much.

An additional concern is that the establishment of rates in this proceeding will be followed by an effort to replace the current arrangement under which NSPI sells all of its resale gas to its affiliate. Later in this testimony, we detail our concerns about prior such arrangements, and about the ability to use a similar process to make future ones. Given continuing problems, late efforts to correct them, and the short time remaining before the next solicitation, we believe that some regulatory measure may be required to provide NSPI with an incentive to secure the best possible value. We will address the question of an appropriate incentive when we present the results of our affiliates audit to the Board.

6. Natural Gas Sales From NSPS To Affiliate EES

Q. HOW DOES NSPI SELL THE NATURAL GAS THAT IT HAS AVAILABLE UNDER THE [redacted] CONTRACTS, BUT DOES NOT USE FOR GENERATING ELECTRIC POWER?

A. Until early 2004, NSPI sold most of the excess gas through monthly auctions of gas delivered to the U. S.-Canada border. NSPI's affiliate EES was a buyer, as were at least three other, unaffiliated companies. During the first quarter of 2004, however, NSPI conducted a process for selecting a purchaser under a one-year gas sales arrangement. NSPI selected its affiliate EES as that purchaser. The initial term of the agreement was

April 1, 2004 through March 31, 2005. That agreement was extended in several steps through January, 2006.

Q. WHAT WAS YOUR OPINION OF THOSE ARRANGEMENTS?

A. As detailed in our testimony last year, Liberty was troubled by a number of aspects of the early-2004 arrangements. They were not consistent with good utility practice, with the Company's obligations under its Board-approved Code of Conduct, or with the Board's Order in the Company's 2002 Rate Case. Our recommendations were that:

- NSPI bid, on a fully-competitive and arm's-length basis, its sale of excess natural gas for a one-year term, and arrange for and coordinate that bidding and the cancellation of the existing agreement with EES with all reasonable dispatch
- NSPI promptly conduct a complete and objective study of the net economic and other impacts of establishing an in-house function to perform this sale function, to be filed with the Board within six months
- NSPI seek Board approval of the approach that it intends to use (*e.g.*, asset management, internal function, operation by NSPI within/without Canadian markets) to sell excess gas after the expiration of the new, one-year contract.

We also recommended a comprehensive audit of affiliate transactions directly and indirectly affecting NSPI fuel procurement, sales, and costs in order to verify that such transactions are not adversely affecting utility fuel costs.

Q. DID THE BOARD ADOPT THOSE RECOMMENDATIONS?

A. Yes.

Q. WHAT HAS HAPPENED IN RESPONSE TO YOUR RECOMMENDATION FOR ANOTHER COMPETITIVE SOLICITATION?

A. NSPI retained a consultant who administered two competitions for its excess gas, one for the months of February and March, 2006, and a second for the one-year period April 1, 2006 through March 31, 2007. Again, the affiliate won both competitions.

Q. DESCRIBE HOW THOSE COMPETITIONS CONFORMED WITH YOUR EXPECTATIONS ABOUT ARM'S-LENGTH DEALING.

A. We found them not to be sufficient.

Q. WHAT HAS HAPPENED WITH RESPECT TO THE STUDY OF ALTERNATIVES?

A. We met and spoke by phone with NSPI representatives through the spring of this year about this and the other requirements regarding fuels management contained in the Board's Order in the 2006 Rate Case. Through those discussions, the focus of this work evolved. Rather than addressing the question of whether NSPI should sell its own gas, the consultant engaged by the Company was asked to address the following questions:

- Evaluate and develop the structure of term-sale offerings by the Company that can provide value and options for the natural gas being sold to the market

- Evaluate and model the Company's ability to sell firm natural gas economically against the fuel-switch flexibility of Company gas and oil-fired units in conjunction with environmental constraints and the volatility of the Company's customer load
- Research and analyze the market customers' use and value of the Company's natural gas, and develop a process for market penetration by understanding the customers' needs. Develop and enhance the Company's sale process to gain value.

Q. WHAT WERE THE RESULTS OF THE STUDY?

A. The Company awarded the work to ICF International (ICFI). NSPI filed ICFI's report, entitled *Issues and Options for Enhancing the Value of Resale Gas for NSPI Customers*, with the Board under cover of a letter dated November 1, 2006.

Q. HOW DOES THAT REPORT RESPOND TO YOUR RECOMMENDATION FOR A STUDY OF ALTERNATIVES?

A. ICFI's report may be a significant contribution to the underlying objective, which is to enhance the value of NSPI's rights under the [redacted] contract. The report is unclear in some areas; we need to follow up with ICFI in order to clarify a number of factors prior to making a final assessment. Several parts of the report affirm our concerns about the earlier competitions for NSPI's gas, and ICFI's recommendations for improving those competitions look quite similar those we would make, were NSPI to continue on its current course. The ICFI report (at appendix B to the ICF report) provides a useful compilation of the views of market participants, and identifies a number of gas-market issues that NSPI will have to deal with going forward.

Q. PLEASE ELABORATE.

A. First, the Board's requirement was for the Company to conduct a study of whether NSPI should sell its own gas. ICFI's report seems to take NSPI's role as a given, and focuses on analytical and process steps that NSPI can take to enhance the value of the gas. If we read the report correctly in that regard, we believe it established a fundamentally important baseline for proceeding in the future.

Second, we noted ICFI's recommendation for "bidder outreach" meetings. We strongly support this aspect of ICFI's recommended process. Unfortunately, the evidence strongly suggests that multiple prior competitions which have achieved the same result, namely award of the gas to the affiliate, [redacted]

We sought to test this hypothesis, as part of our audit work, by gathering information about EES's transactions that bear a similarity to those it undertakes with NSPI. To date, EES has declined to provide the information.

In any event, wholesale gas markets in most market centers are increasingly competitive. Margins are being driven down as increasingly sophisticated and well-financed participants enter (or re-enter) these markets. [redacted]

Again, we tried to get information that would test the nature and quality of the competition and the degree to which the prices that NSPI is receiving reflect market prices. [redacted] To date, however, access to that information has been denied, which is cause for concern, given the circumstances.

[redacted]

Q. WHAT IS YOUR VIEW OF ICFI'S OTHER RECOMMENDATIONS?

A. We interpret ICFI's process recommendations as seeking changes similar to those that we view as important; we certainly support them as far as they go. [redacted]

Q. WHAT DO YOU CONCLUDE ABOUT THE APPROPRIATENESS OF NSPI'S CONDUCT OF THE PROCESS LEADING TO THE DECISION TO ENTER A ONE-YEAR CONTRACT UNDER WHICH IT WOULD SELL ITS EXCESS GAS TO EES?

A. We conclude that that competition was flawed. That flawed competition probably resulted in a reduced price for the excess gas.

We note with some interest that ICFI attempted to calculate the value of NSPI's rights under the [redacted] contract as part of its work for NSPI. ICFI would have required a market value for the gas in order to perform that calculation. How that calculation was done is another area that we would like to discuss with ICFI as soon as possible.

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO FUTURE ARRANGEMENTS FOR THE SALE OF NSPI'S EXCESS GAS?

A. We recommend that NSPI sell its own gas. With additional gas supplies coming into Nova Scotia from the Deep Panuke project and from potential LNG projects, and with the availability of new gas production in New Brunswick, there may also be an active market for NSPI's capacity rights on the M&NP system. We recommend that NSPI develop a program for [redacted]

7. Rate Year Heavy Fuel Oil Costs

Q. PLEASE DESCRIBE THE COMPANY'S FORECAST OF ITS HFO EXPENSE.

A. The Company is estimating that its HFO expense will decline, from [redacted] million in the Rate Year case. In physical units, the forecast decline is sharper, from [redacted] As noted earlier, however, the price that the Company expects to pay increases sharply, from [redacted]

At this price, consumption of HFO is forecast to decline because the economic fuel choice for the Tufts Cove steam units in the summer is natural gas, rather than HFO. Thus, the Rate Year forecast shows just over half as much HFO consumption as the 2006 Compliance case.

Q. WHAT IS YOUR OPINION OF THESE FORECASTS?

A. Again, we think the Rate Year expense number is wrong because the HFO price is too high. When the Company re-estimates its HFO expense with more-current prices, however, we don't know whether that expense will go up or down because we don't know whether HFO or gas will be the economic fuel choice in the summer.

Q. WHAT IS YOUR OPINION OF NSPI'S PROCESS FOR ACQUIRING HFO?

A. NSPI uses an annual tender process for acquiring HFO. Prospective suppliers bid on the right to provide supply delivered to the Company's Tufts Cove receiving and storage facilities at a price tied to published prices in the New York Harbor. Deliveries are usually in 250,000-bbl cargoes.

Because of the change in the delivered-price relationship between HFO and gas that occurred in 2006, the Company has used considerably less HFO than originally estimated. Also during 2006, Imperial Oil's refinery in Dartmouth found itself with HFO product available. NSPI was able to work out an arrangement with that refinery to take the product in 60,000- and 10,000-bbl lots at a price that was very nearly the same as the contract for larger volumes. The smaller lots were better suited to the Company's

requirements this year. At present, the Company does not know whether this arrangement will continue.

We reviewed both tenders for 2006, the one for larger lots that was conducted in late 2005, and the negotiations with Imperial Oil in early 2006. We also reviewed a tender for HFO trucking services during 2006 and 2007 that was conducted in late 2005. All of these tenders were satisfactory.

Q. WHAT OTHER INQUIRY DID YOU MAKE INTO HEAVY FUEL OIL PURCHASES?

A. Former affiliate Emera Fuels was sold to a non-affiliate entity, the managers of which were formerly managers of Emera Fuels. Liberty is seeking in the affiliates audit to determine whether the sale agreement imposes any post-sale obligations on NSPI. Liberty has not yet been able to secure the data necessary to make that determination, or, if there is one, to identify any impact it does or should have on forecasted 2007 costs. Efforts to secure that information continue.

8. Rate Year Light Fuel Oil Costs

Q. SUMMARIZE THE COMPANY'S FORECAST OF ITS LFO EXPENSE.

A. The Company is forecasting a large increase in the consumption of LFOs, from [redacted] million gallons in the Rate Year

case. The price is also forecast to increase considerably, from [redacted] in the Rate Year case.

We asked the Company to explain why its estimated consumption of LFOs increased so much. The Company's answer focused on two factors, 1) changes in the Company's Extra Large Industrial Interruptible Rate (ELIIR), and 2) load growth. We are looking forward to exploring the influence of these factors further when the Company's new fuel-cost estimates are available.

Regarding the expected price, our concern is the same: the prices used to prepare the estimate were the forward prices for 2007 as observed on July 31, 2006, which was near the high point for the year. The Company's hedging program has not included LFOs, so the decline in price since July should flow directly into a reduced forecast for the cost of this fuel.

LFOs are mostly used in peaking units and Liberty expects their fuel utilization to change relatively little in the new information to be provided by the Company on January 8. Because of that, the quantity of LFOs forecast to be used should change little. Thus, the reduction in cost that is occasioned by lower prices can be estimated now. Using data presented in the table above for the change in the LFO strips, we estimate that reduction to be C$2,056,550.

Q. PLEASE DESCRIBE WHAT YOU FOUND IN EXAMINING NSPI'S LFO SOLICITATIONS.

A. NSPI buys LFOs through a periodic tender process. Bidders compete on the basis of a mark-up to Halifax Published Rack prices. A tender was conducted in early 2006, and a two-year contract was awarded as a result. Liberty reviewed that tender and found it to have been handled appropriately.

9. Detailed Recommendation Summary

Q. PLEASE PROVIDE A DETAILED DISCUSSION OF NSPI'S PROGRESS IN IMPLEMENTING LIBERTY'S RECOMMENDATIONS FROM THE LAST CASE.

A. Since the last case, NSPI has made good progress on implementing each of Liberty's recommendations. In reporting on its progress with respect to each recommendation/directive, NSPI adopted the numbers from our testimony. Those numbers are used in the discussion that ensues. Recommendations #8, #9, & #10 related to dollar adjustments and did not require liaison between Liberty and NSPI.

Liberty believes that NSPI has completed action on the following recommendations:

- Recommendation #1 – Re-evaluation of Generating System (SO2 emissions). Liberty is satisfied that issues relating to re-evaluation of the generating system in terms of controlling SO_2 emissions will be resolved through a robust Integrated Resource Plan process.
- Recommendation #6 – Tighten Controls on the Fuel Procurement Process.

NSPI has sufficiently tightened its controls over the fuel procurement process.

NSPI has very nearly completed action on the following recommendations:

- Recommendation #4 – Refinement of Internal Spreadsheet Model.

  NSPI is very close to completing necessary refinements in its internal spreadsheet model.

- Recommendation #5 – Refine the Fuel Procurement Policies and Procedures.

  NSPI has significantly improved its Fuel Procurement Policies and Procedures. NSPI is very close to completing the necessary changes to most procedures, but there remain marginal opportunities for improvement in the area of procurement of purchased power, and hedging procedures.

- Recommendation #7 – Build the Fuel Supply Portfolio.

  NSPI has made satisfactory progress in building its new fuel supply portfolio, and has achieved the commitment-type targets set forth in its Fuel Procurement Policies and Procedures, well in advance the Company's planned date of December 31, 2007.

Significant further work remains for NSPI to complete on the following recommendation:

- Recommendation #3 – Procedures for the Procurement of Purchased Power.

Liberty has not yet received a complete and revised Fuel Procurement Policies and Procedures Manual from NSPI. Liberty needs to review the entire manual in order to verify full compliance with Recommendations #3, #4, #5 and #7.

The UARB also directed the conduct of an audit of NSPI's affiliate relationships. This audit is currently in progress. Liberty expects to provide a summary of its results at or before hearings in this proceeding. In addition to broader and non-fuel areas this audit will examine two fuel-related recommendations issues:

- Recommendation #11 – Sale of Excess Natural Gas.
- Recommendation #12 – Study of In-House Capability to Sell Excess Gas.

There remains as well Recommendation #2 – Fuel Hedging Policies and Procedures. We can make no estimate of the timing of our assessment of NSPI's progress on that recommendation, because NSPI has yet to provide revised policies and procedures. The expected timing of that submission ("year-end 2006") may render it impracticable to address the subject by the time of hearings in this proceeding.

10. Fuel Forecasting

Q. PLEASE REVISIT YOUR VIEWS ON FUEL MARKETS AND HOW THEY AFFECT NSPI IN LIGHT OF CURRENT CIRCUMSTANCES.

A. Events since the last rate case have underscored the fundamental point underlying our previous testimony; *i.e.*, that developing and maintaining a utility fuel strategy from a belief that one understands or has need to guess at the direction markets will take does not reflect good utility practice, and is not prudent. Fuel markets have continued to demonstrate the significant swings that we discussed in the prior rate case. Moreover, prices have reached yet more high-water marks. Increasing world demand and incidents

of supply disruption, both actual and threatened, have had particularly dramatic effects in recent months.

Q. WHAT HAS BEEN THE IMPACT OF MARKET CONDITIONS ON NSPI?

A. NSPI was at the time of the last case experiencing significant swings in the prices of the fuels it uses to generate electricity. Exhibit LCG-2 shows the changes in the contributors to NSPI's overall fuel costs between 2002A (actual) and 2007F (forecast). The term "2006C" refers to approved rates for that year; the amount in the column labeled 2007 shows NSPI's forecast for that year. The NSPI forecast in this case identifies 2007 fuel and purchased power expenses of $498.724 million, which represents an increase of $68.489 million over 2006C. In addition to showing these changes in terms of the individual fuel cost contributors, the final line in the table shows the changes in fuel costs on a $/MWH basis.

Q. WHAT DO CURRENT-YEAR MEASURES TELL US ABOUT NSPI FORECASTS?

A. The unpredictability of fuel costs continues to be a major challenge for NSPI and for the Board. Caution dictates recognition that unpredictable and volatile fuel prices makes it as hard today as it has been in the past to determine fuel cost directions. We value the preparation of quality estimates. Our hesitation is not in making estimates, but in determining what reliance to place on them.

Of particular interest at the present time are NSPI's forecasts about the amount of natural gas it will burn to generate electricity. To date, NSPI has generated substantial profits by

selling gas rather than using it as a generation fuel. The Company's ability to switch between the use of gas and oil as a generation fuel allows it to consider profits available from selling gas in its determination of how to optimize costs. In real time, NSPI makes its buy/burn decisions on the basis of actual market conditions. For rate case purposes, however, the Company must use forecasted prices in a model run that hypothetically dispatches its generating units based on the relative costs of oil versus gas as affected by 1) the profits that can be made by selling (or not buying) whichever fuel is not used to fuel a generating station, and 2) the hedges that the Company has used to "lock" the prices of each fuel.

Four variables have a material influence on the buy/burn decision:

- The market price of HFO
- The market price of natural gas
- NSPI's hedge position on its HFO purchases; and
- NSPI's hedge positions on both the natural gas that it buys and that which it sells.

In six months all four of these variables can change significantly. NSPI's Rate Year Forecast case used estimates for these variables that were current in mid-2006. Both the market and NSPI's commitment costs have moved significantly since then, however. In such conditions, the most current market conditions and assumptions should be used. Liberty asked NSPI to do so; it declined until recently. It has now committed to providing a forecasted dispatch for 2007, along with the resulting costs, net of sales of unburned, committed fuel. It will not do so, however, until January 8, 2007 or so. If there is time to

adequately review the accuracy and completeness of that forecast, we plan to address its impacts on costs at or before our appearance at the hearing.

Q. SUMMARIZE WHY YOU TESTIFIED IN THE LAST CASE THAT NSPI HAS TURNED MORE TO THE INTERNATIONAL MARKET FOR COAL.

A. New, more restrictive 2005 regulations substantially reduced the Company's SO_2 cap, which led NSPI to a compliance strategy relying primarily on increased consumption of low-sulfur coal. NSPI's choice, following a mid-2001 study, allowed it to avoid the substantial capital costs of cleaning equipment at the expense of burning pricier, low-sulfur fuels. This strategy in turn caused a substantial reliance on ocean deliveries of low-sulfur coal from the international coal market. The need for this reliance and for the development of a suitable strategy to manage it arose at the time of that choice.

Q. WHAT HAVE YOUR INQUIRIES ABOUT THAT STRATEGY IN THIS CASE SHOWN?

A. NSPI has developed a comprehensive fuel procurement strategy, and made much progress since the last case in building a solid fuel portfolio such that the makeup of this portfolio is now in accord with this strategy. Liberty believes that NSPI has diligently used the flexibility it has appropriately incorporated into its portfolio strategy to optimize its portfolio of solid fuel contracts.

Q. HOW DO YOUR OBSERVATIONS ABOUT FUEL MARKETS COMPARE WITH WHAT YOU TESTIFIED TO IN THE PRIOR RATE CASE?

A. They continue to be applicable. Last year, for example, Liberty indicated that the coal market was strong, but that prices would continue to be cyclical and volatile. In general, Liberty continues to believe that the future remains uncertain. Over the last year, international coal prices have generally trended upwards, from a relative low point in late 2005. However, the additional supply coming onto the market, as noted in the Company's evidence, should ultimately cause a softening of prices, the timing of which is difficult to predict.

The uncertain nature of the coal market demonstrates the risk in trying to outguess coal prices, and underscores Liberty's continuing belief that the best approach is to adopt and apply a defined portfolio strategy that: (a) combines a mix of long-term, mid-term and short-term procurement, and (b) lessens the need for reflexive response to temporal market conditions. Liberty believes that NSPI has adopted a sound portfolio strategy, and has been attentively managing it to match market conditions. We likewise continue to believe that oil and natural-gas markets will remain volatile.

It therefore remains true that utility fuel managers should not act in the belief that they have achieved sufficient certainty about what markets will do. There remains no reason to abandon a balanced fuel portfolio strategy, such as the one implemented by NSPI. Such a strategy remains the best way to deal with the uncertainties associated with forecasted fuel prices.

11. Emission Control Requirements

Q. PLEASE SUMMARIZE WHAT YOU SAID IN THE LAST CASE ABOUT NSPI'S ENVIRONMENTAL-COMPLIANCE PLANNING.

A. Given NSPI's prior decision not to build the scrubber, it became incumbent on NSPI as of that decision to begin to employ a portfolio approach to its resulting need for substantial quantities of low-sulfur coal. A goal of such a strategy would have been to moderate the impacts of future price fluctuations. NSPI, however, did not adopt an appropriate portfolio for more than three years after it should have begun one; instead it continued to rely upon the spot market for much too great a share of its coal.

We also found that no evidence that NSPI had considered, as we believe it should have, the construction of new and use of existing gas-fired power plants as an economic and environmental-compliance (including CO_2) option.

Q. WHAT PRINCIPAL STEPS HAS NSPI TAKEN TO DETERMINE OPTIMUM MEANS FOR MEETING EMISSION-CONTROL REQUIREMENTS?

A. Since the conclusion of the last case, NSPI filed with the Board a plan for Air Emissions Capital Expenditures. While this application has been discontinued, NSPI will produce an Integrated Resource Plan for submission to the Board. Liberty and NSPI have agreed that NSPI's submission of an Integrated Resource Plan to the Board will satisfy Liberty's recommendation relating to emission control requirements.

12. The Fuel Procurement Evaluation Model

Q. WHAT PRINCIPAL STEPS HAS NSPI TAKEN TO IMPROVE ITS MODELING IN ORDER TO RESPOND TO THS RECOMMENDATION?

A. NSPI uses the CanMet Model to provide a fully evaluated fuel comparison to the boiler steam header outlet (the steam header outlet is equivalent to the bus-bar evaluation). NSPI updates the parameters in the model as necessary to respond to changes in fuel characteristics, or to address operational feedback. The model incorporates fuel quality impacts on ash disposal costs, as well as a range of operational costs.

NSPI also uses a second SO_2 model to assist in the evaluation of the best fuel alternative relative to environmental constraints. This model answers the question of which fuel will most economically achieve the desired level of SO_2 emissions, as various fuel switching options are considered.

In the previous case, Liberty was concerned that NSPI was not utilizing its procurement model sufficiently, but was relying on EVA's procurement evaluations. In the current case, Liberty reviewed data on all of the solicitations conducted in 2005 through late 2006 and found that NSPI is now consistently using its own models as part of the solid fuel procurement evaluation process. NSPI has effectively addressed Liberty's concerns in this area.

Q. PLEASE COMMENT ON ANY REMAINING CONCERNS THAT LIBERTY HAS RELATED TO NSPI'S USE OF MODELS IN THE PROCUREMENT EVALUATION PROCESS.

A. Liberty is comfortable that the CanMet Model is a good tool for evaluating coal quality impacts on the costs of delivering energy to the bus-bar from various solid fuels. However, Liberty continues to have procedural questions related to the need for flexibility to evaluate the quality of any new coal supplies as they are presented, or any changes in quality characteristics of existing fuel supplies, as they occur. These are issues that Liberty and NSPI are continuing to discuss.

13. Fuel and Power Procurement Process Controls

Q. PLEASE SUMMARIZE THE SPECIFIC CONCERNS UNDERLYING YOUR RECOMMENDATIONS IN THE LAST CASE ABOUT CONTROLS OVER THE COAL-SUPPLY PROCUREMENT PROCESS AND THE NSPI RESPONSE TO THEM.

A. Liberty's primary concern was that review of procurement documentation did not lead one to conclude that the appropriate levels of management, including the Fuel Strategy Table, had reviewed and approved the subject procurement. In addition, in the prior case, in its review of fuel management files, Liberty was not always able to find the necessary evaluations, or track the logic of procurement decision-making.

NSPI has developed a suitable outline, with the appropriate forms, of all of the necessary steps of the procurement process. Liberty believes that the outline and the forms are reasonable, and found that NSPI has used them in recent procurement decision-making. In the last case, fuel management information for solid fuel was presented in five large 3-ring binders. In the current case, the same type of information, for an equivalent time period, was presented in nine large 3-ring binders. The information provided was substantial, and contained sufficient analyses and recommendations by both NSPI as well as EVA, and presented adequate justification for the decisions being made.

Liberty thoroughly reviewed the solicitations that NSPI provided for procurements for supply in 2005 and beyond. Liberty found that NSPI managed the contracts within its solid fuel supply portfolio with adequate care, sophistication, and aggressiveness.

Q. PLEASE PROVIDE EXAMPLES OF WHAT YOU FOUND.

A. There are a number of examples that demonstrate to Liberty that NSPI has taken fuel management seriously, and has pursued constructive steps to manage its solid fuel supply in ways that benefit the operations of the utility as well as reduce the costs of these operations.

The first example is related to the RFP issued by NSPI in late 2006 for 200,000 tonnes of low-sulfur coal for the first two quarters of 2007 [redacted]

[redacted]

A second example was the previously mentioned renegotiation of the [redacted]

[redacted]

The third example occurred in May 2005 when NSPI issued an RFP for petcoke for 2006,

[redacted]

By way of a fourth example, in March 2006, NSPI received an unsolicited offer from [redacted]

Finally, while not an actual fuel procurement, Liberty found to be constructive NSPI's engagement of a consulting firm to evaluate solid fuels handling at NSPI, with the goal of improving the storage and management of fuel. Success will be measured by reduction of costs associated with off loading vessels, terminal stockpiling and transloading coal by truck or rail, inventorying fuel at the stations and delivery of the appropriate blends of coal to the unit bunkers at the stations. NSPI is now evaluating the recommendations of the study.

Q. DID YOU EXAMINE NSPI'S PROCUREMENT OF PURCHASED POWER.

A. Yes. For the years 2005, 2006 and 2007, NSPI's purchased power costs and forecast (CDN$ 000) are as follows:

Purchased Power	Actual 2005	2006C	Forecast 2007
Emera Energy	229.3	-	-
Brookfield	113.9	-	-
Hydro Quebec	3,057.1	-	-
New Brunswick Power	15,438.1	64.9	5,160.3
ISO-NE	8,010.7	-	-
Imports	**26,849.1**	64.9	5,160.3
IPP – Post 2001	5,604.5	10,835.9	12,002.2
IPP – Pre 2001	15,776.6	14,950.0	15,065.2
Total	48,230.2	25,850.8	32,227.7

The forecasted power purchases for 2006 and 2007 are not under contract. NSPI makes purchases on an hourly or daily basis as needed to supplement the most economic running of the overall NSPI generation fleet. These purchases are made by the 24-hour energy desk, which monitors the incremental costs of generating energy with NSPI plants, and compares it with market pricing available for import. Generally, it is more economical to provide energy from NSPI plants. For example, the 2006C NSPI cost for total purchased power is [redacted] MWh, compared to the cost of generating power from import coal of [redacted] MWh. NSPI forecasts purchases of independent power ("IPP") under long-term contracts currently in place with various independent power producers. NSPI's authority matrix, as described in the Fuel Procurement Policies and Procedures Manual governs purchase power procurements.

NSPI has not made sufficient progress in developing its procedures governing the procurement of purchased power. Lack of procedures for purchased power was an issue in the prior case. The drafts of new procedures submitted to Liberty for review as part of

the Board-directed liaison between Liberty and NSPI have not been as complete or thorough as Liberty would have expected.

We view the lack of procedures with concern. Procurement of purchased power involves significant expense for NSPI, and detailed procedures for its procurement, including responsibilities, review processes, establishment of need, documentation requirements, and overall management control should be clearly described.

14. Organization and Staffing

Q. PLEASE SUMMARIZE THE CONCERNS YOU RAISED ABOUT ORGANIZATION AND STAFFING IN THE LAST RATE CASE.

A. We observed a lack of expertise in the structure and staffing of NSPI's fuel procurement organization. Specifically, Liberty believed that a senior fuel procurement manager with international coal market and coal procurement experience was required to guide NSPI's solid fuel procurement operations.

Q. WHAT HAS NSPI DONE TO ADDRESS THIS ISSUE?

A. NSPI has retained an executive search firm to identify and recommend for hiring a senior fuel procurement manager with international coal market and coal procurement experience. Originally, NSPI expected to have someone in this position by October 2005. However, such an individual has not yet been found, and NSPI and its search firm are still searching for the proper candidate. The individual found for this position would report to the Director, Energy, Fuels and Risk Management. Additionally, the consulting

firm of Energy Ventures Analysis Inc. continues to support NSPI fuel procurement activities. It has proven particularly difficult to find a person with the right experience, who is willing to relocate to the Maritimes region at a compensation level that is commensurate with the salary structure and job requirements.

Additionally, NSPI reports that it is continuing to develop the expertise of a current NSPI employee to take on full responsibility for solid fuel procurement. NSPI reports that:

> *this employee has gained significant solid fuel procurement experience. A formal development plan is in place and the components of this plan are being fulfilled, which build on his existing skills in a timely manner. Developing this individual's skill sets and experience is presently supported by external resources. External experts have judged this employee's present skill levels as highly desirable in the international fuels market.*

NSPI updates the Board regularly on the progress of filling this position, and expects to report again to the Board on its progress no later than January 31, 2007.

Q. HOW WELL DO THESE CHANGES RESPOND TO YOUR PRIOR RECOMMENDATIONS AND TO THE WEAKNESSES UNDERLYING THEM?

A. Liberty believes that NSPI's efforts to find an outside candidate have been diligent, and that efforts to develop internal resources are sound, both in the short and the long term. We have met with the employee being developed, and have had the opportunity to examine key decisions in which he has been involved. We believe that he shows the

degree of potential that has caused NSPI and its fuel consultant to show confidence in his ability to grow into the position that we think needs to be filled. Given the difficulty in attracting an outside candidate, we believe that NSPI should structure an aggressive and focused development program for the individual, including specific training, close interaction with an experienced utility fuels consultant, and, if possible, mentoring, in order to accelerate his development. In the meantime, NSPI should continue the use of an outside consultant to provide oversight and an independent view of key decisions and actions, much as it has been doing for several years. NSPI should not abandon its efforts to seek a more senior person, but, given developments internally, could seek as an alternative a senior, perhaps retired person with long experience to serve in the mentoring role. Such an approach would satisfactorily respond to Liberty's prior recommendations and the weaknesses underlying them.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, it does.

Exhibit LCG-1
Qualifications of

John Adger

Areas of Specialization

Strategic analysis and business planning for the natural gas industry; natural gas supply and procurement strategy; natural gas marketing strategy; U.S. and Canadian gas industry regulation. Also, management studies for public utility commissions.

Relevant Experience

Management Studies for Public Utility Commissions

Currently serving as Leader of the Gas Procurement Analysis Team in a focused audit of affiliate transactions and gas procurement and general management audit of New Jersey Natural Gas Company for the New Jersey Board of Public Utilities. Responsible for all natural gas issues in the audit, including procurement and hedging programs.

Currently serving as Lead Consultant in Liberty's Focused Management Audit of Peoples Gas and North Shore Gas Companies for the Illinois Commerce Commission. Responsible for the review of the Company's hedging program, storage and operations activities, gas procurement, and forecasting.

Served as Lead Consultant in an audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Responsible for the review of the Company's hedging program, and for reviews of its contracting and supply management practices for natural gas.

Served as Lead Consultant for natural gas issues for Liberty's role as the Arizona Corporation Commission's fuels expert in a pending rate case for APS. Liberty's work included the identification of any required, specific adjustments to the Company's proposed fuel costs, net of various offsets (such as off-system sales), for the Rate Year (2006). Liberty analyzed APS's fuel accounts and supporting work papers as part of this effort.

For the State Corporation Commission of Virginia, served as a Consultant for an assessment of Virginia Natural Gas Company's asset-management agreement with its affiliate, Sequent Energy Management Company. Responsible for reviews of Sequent/VNG/AGLS roles and responsibilities and of gas supply operations, and for transaction analysis.

Served as Project Manager for a review of the supply planning and asset management agreements of EnergyNorth Natural Gas, Inc. for the New Hampshire Public Utilities Commission. Presented testimony to the Commission in the Company's Winter 2004/05

purchased-gas-cost proceeding, and in a special proceeding convened to consider the results of the review.

Served as Leader of the Gas Procurement Analysis Team in a focused audit of affiliate transactions and gas procurement and general management audit of South Jersey Gas Company for the New Jersey Board of Public Utilities. Responsible for all reviews in the focused audit, and for the review of system operations in the general management audit.

Lead consultant on Liberty's focused audit of the affiliate relationships within NUI Corporation, parent of Elizabethtown Gas Company, for the New Jersey Board of Public Utilities. Responsible for the review of transactions among NUI's energy affiliates.

Lead consultant on Liberty's management audit of the gas-purchasing function at the five largest gas distribution companies in Kentucky (Columbia Gas of Kentucky, Delta Natural Gas Company, Louisville Gas & Electric Company, Union Light, Heat and Power Company, and Western Kentucky Gas Company) for the Kentucky Public Service Commission. Responsible for reviews in gas supply planning, supply management, gas transportation services and system balancing.

Lead Consultant on Liberty's examination of cost allocation issues at Arkansas Western Gas Company for the Arkansas Public Service Commission. Responsible for the review of staffing levels.

Lead Consultant on Liberty's management audit of The Southern Connecticut Gas Company for the Connecticut Department of Public Utility Control. Responsible for reviews of gas supply and marketing activities, and manufactured gas plant remediation activities.

Lead Consultant on Liberty's management audit of Connecticut Natural Gas Corporation for the Connecticut Department of Public Utility Control. Responsible for reviews of gas supply and marketing activities.

Managed Liberty's audit of the gas purchasing and supply management policies and practices of K N Energy, Inc. for the Wyoming Public Service Commission. Responsible for the reviews of gas acquisition, gas transportation and storage, relationships with affiliates, and response to regulatory change. Conducted supplemental evaluations in response to Liberty's initial findings, and presented testimony to the Commission in the proceeding to consider K N's pilot program for unbundling its services in Wyoming.

Lead Consultant on Liberty's management audit of Yankee Gas Services Company for the Connecticut Department of Public Utility Control. Responsible for the review of gas supply activities and manufactured gas plant remediation activities.

Consultant on Liberty's management audit of the Tennessee operations of United Cities Gas Company for the Tennessee Public Service Commission. Responsible for reviews in system operations, marketing, and affiliate relationships.

Lead Consultant on Liberty's audit of gas purchasing policies and practices at Pike Natural Gas Company and Eastern Natural Gas Company for the Public Utilities Commission of Ohio. Responsible for the reviews of gas acquisition, gas transportation services, and response to regulatory change.

Consultant on Liberty's audit of the affiliate relationships of Public Service Enterprise Group (holding company for Public Service Electric & Gas Company) for the New Jersey Board of Regulatory Commissioners. Responsible for reviews of systems and processes, affiliate relationships, and transaction analysis with regard to (a) the purchase of gas from the Group's gas-producing subsidiary, (b) the purchase of electric power from the Group's IPP subsidiary, and c) the Group's real estate subsidiary.

Led the evaluation of gas supply activities as part of Liberty's management audit of New York State Electric & Gas Corporation for the New York Public Service Commission.

Lead Consultant on a general management audit of the Peoples Natural Gas Company, a subsidiary of Consolidated Natural Gas Corporation, for the Pennsylvania Public Utility Commission. Responsible for the review of gas-supply activities.

Natural Gas Supply Strategy

For two municipal electric power systems, directed an evaluation of capacity availability on a pipeline-system segment serving a large number of gas-fired electricity-generating facilities. The results of that evaluation were used to develop alternative approaches to gas-supply contracting for a generating facility owned by the cities.

For Kansas Pipeline Operating Company, evaluated certain gas supply contracts entered into by Western Resources' KPL Gas Service Company, and Southern Union's Missouri Gas Energy. Presented testimony to the Kansas Corporation Commission, and to the Missouri Public Service Commission.

Performed gas supply evaluations as part of a general work process improvement study for a power-supply cooperative in the southeast U. S.

For a steam utility in Pennsylvania, solicited offers for gas supply, and helped evaluate the responses.

For the Potomac Electric Power Company, assisted in the development of comprehensive policies and procedures for fuels procurement. Responsible for gas acquisition policies and procedures.

Directed development of a gas supply strategy for a power-supply cooperative's first combustion turbines. (Coop's generation previously all coal-fired.)

For Delmarva Power & Light Company, assisted an internal review of gas supply planning for electric power generation.

Served as gas supply consultant to two major Midwestern gas distributors. In that capacity, directed development of long-term supply plans, short-term contracting strategies, and peak-load management plans. Also provided staff support to teams formed to negotiate with producers regarding long-term gas supply contracts, and with pipelines regarding conditions of service. Directed quantitative analysis of particular supply decisions, and did documentation projects.

For an investment banking group, explored the influence of the Midland Cogeneration Project's gas supply contracts on the Project's economic viability.

For the Interstate Natural Gas Association of America (trade association of gas pipeline companies), participated in a comparative study of supply contracting practices for gas, coal, and fuel oil. Developed recommendations for gas supply contracting.

For the Wisconsin Distributors Group, directed an analysis of gas supply alternatives for the State of Wisconsin. Directed a similar study of gas supply alternatives for the municipal Gas Department of the City of Charlottesville, Virginia.

Natural Gas Marketing Strategy

Assisted a production-area storage developer in identifying prospective users of a proposed gas storage facility, and in marketing interests in the project.

For National Fuel Gas Supply Corporation, analyzed potential markets for gas storage and pipeline capacity in particular sectors and particular geographic areas. Also recommended opportunities in electric utility industry restructuring for consideration by NFGS management.

For an offshore supplier of LNG, participated in an evaluation of North America as a potential market for its gas.

For the municipal Gas Department of the City of Charlottesville, Virginia, directed a rate design study. Also recommended modifications to customer service agreements.

For the Canadian Petroleum Association and the Independent Petroleum Association of Canada, participated in an analysis of regional markets for Canadian gas in the U.S.

For various U.S. and Canadian gas producers, evaluated particular regional and sectoral gas markets in the U.S. Also developed strategies for market penetration.

For U.S. and Canadian producers and pipeline companies, directed analyses of alternative gas transportation systems. Also for U.S. gas distribution companies.

For U.S. and Canadian gas pipelines and marketers, participated in preparation of a multi-client study of the market for residual fuel oil. Also developed strategies for gas sellers to use in competing with residual oil.

U.S. and Canadian Gas Industry Regulation

Evaluated the fuel-oil and natural-gas supply activities of Nova Scotia Power, Inc. for the Staff of the Nova Scotia Utility and Review Board. Presented testimony to the Board regarding findings in the Company's 2004 and 2005 rate cases. Currently assisting the Board in monitoring Company implementation of Liberty recommendations for improvements in fuel-supply management practices.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control in a general rate case for the State's largest distributor, Yankee Gas Services Company. Principal responsibilities were gas supply/gas cost, system expansion, interruptible target margin, and manufactured gas plant remediation.

For a regional marketer of gas and electricity, directed an analysis of the role of the purchased-gas-cost adjustment mechanism in forming retail prices for natural gas in Ohio.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control in a prior general rate case for Yankee Gas Services Company. Principal responsibilities were Yankee's proposed expansion plans, including special rate provisions to support those plans; evaluation of a proposed liquefied natural gas production and storage facility; manufactured gas plant remediation; and gas supply/gas cost. Assisted the Staff in subsequent evaluations of the proposed LNG facility, and of specific system-expansion projects.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for its consideration of proposed Gas Portfolio Optimization Agreements between Connecticut Natural Gas Corporation and BP Energy Company, and between The Southern Connecticut Gas Company and BP Energy. Similarly assisted the DPUC in considering implementation of those Agreements, and in considering two extensions of those Agreements.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for its consideration of the winter 2000/2001 purchased-gas adjustments of the three gas distributors in Connecticut, Connecticut Natural Gas Corporation, The Southern Connecticut Gas Company and Yankee Gas Services Company.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for its consideration of an audit of the affiliate relationships of The Southern Connecticut Gas Company.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for its consideration of proposed incentive rate plans for The Southern Connecticut Gas Company and Connecticut Natural Gas Corporation. Principal responsibilities were gas-cost reduction incentives, and comparative analysis of plans used in other jurisdictions.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for its consideration of Consolidated Edison Company's proposed acquisition of Northeast Utilities. Principal responsibilities included affiliate relationships and evaluation of the effects of the transaction on gas supply options for Connecticut.

Presented expert witness testimony on FERC rate-design policy to a pipeline-rates proceeding before the Railroad Commission of Texas.

Served as an extension of the Staff of the Connecticut Department of Public Utility Control for two distribution-company rate cases (The Southern Connecticut Gas Company and Connecticut Natural Gas Corporation), and one facilities-certification proceeding.

For the staff of a regulatory commission in the northeast U.S., evaluated a gas-service and capacity-release project that was proposed by a jurisdictional utility.

Directed Liberty's analysis for the Georgia Public Service Commission of the impacts of FERC's Order 636 on gas rate structures in Georgia.

Prepared and presented a seminar on U.S. regulation of oil and gas pipelines for staff members of the Argentina Task Force on Privatization of the Oil Industry.

For a syndicate of U.S. and Canadian commercial banks, prepared an analysis of the influence of certain FERC Gas Tariff issues on pipeline cash flow. Also provided technical support to a "due diligence" investigation for project-type financing.

For a major U.S. pipeline company, prepared an analysis of certain Federal (FERC, Council on Environmental Quality) and State (California) regulatory issues.

Directed an evaluation of the marginal costs of the District of Columbia Natural Gas Company, a division of the Washington Gas Light Company, for the Public Service Commission of the District of Columbia.

For Yankee Gas Marketing (subsequently Enron Access Energy), directed an analysis of line-of-business restrictions as applied to the gas industry. This analysis was attached to Yankee's filing in the FERC's rule-making proceeding regarding rules of conduct for pipeline-affiliated marketers (proceeding resulted in the issuance of FERC Order 497).

For the U.S. Department of Energy, financial institutions, pipelines, and distribution companies, prepared various studies exploring the impacts of regulatory change on segments of the gas industry and on specific firms.

For the U.S. Department of Energy, participated in a study of Canadian gas export policies, and the potential influence on U.S. policies toward gas imports.

Served as Director of the U.S. Federal Energy Regulatory Commission's Alaska Gas Project Office. Evaluated financing and tariff aspects of gas transportation system proposals. Responsible for policy development, managing FERC proceedings, representing the FERC to government and industry, and liaison with counterpart officials in the Government of Canada.

Served as Director of the U.S. Federal Energy Administration's Office of Energy Project Operations. Evaluated legislative and regulatory impediments to energy project development. Recommended changes and prepared testimony.

As a Policy Analyst for the Federal Energy Administration, produced research, analysis, writing, and recommendations in oil and gas exploration and production, price control and allocation programs for crude oil and petroleum products, and the international petroleum market.

Strategic Analysis and Business Planning

Consultant on a merger-benefits study performed for an electric distribution cooperative and a local farmers' cooperative.

Lead consultant on a business-enhancement project for a Rocky-Mountain-area electric cooperative. Responsible for diversification-planning task.

For an investment banking group, identified themes for enhancing the value of gas distribution and transmission/storage business segments through acquisitions, and used those themes to develop criteria for acquisitions.

Co-directed a project to develop a comprehensive unbundling strategy for a gas distributor with operations in 12 states.

Directed a project to assist an electric utility in exploring opportunities in related businesses. Options considered included gas pipeline and storage projects; distribution of other fuels including natural gas, propane and heating oil; and ventures in telecommunications.

For a combination electric and gas utility company in the Midwest U.S., participated in a major re-evaluation of its strategy for its gas business unit.

For a major Canadian pipeline company, prepared an analysis of strategic factors in U.S. pipeline industry mergers. Subsequently presented findings of the study to the company's Corporate Strategy and Policy Committee.

For an investor group, evaluated three gas-gathering systems and an intra-state pipeline for possible acquisition. One gathering system was acquired, and a workout plan was developed.

For two gas distribution companies, consulted on strategy development for non-utility subsidiaries.

For a syndicate of U.S. and Canadian commercial banks, evaluated financing and tariff restructuring for a major U.S. interstate pipeline company.

For a major Canadian pipeline company, prepared a study of possible changes in rate design and capacity planning with decontrol of the Canadian gas market. Also researched pipeline capacity allocation problems and their relationship to rate design.

Conducted several assignments in business strategy development for gas distribution companies: market segmentation, cost allocation, structuring tariffs and service contracts, etc.

Evaluated several U.S. pipeline companies for possible acquisition by investor groups.

Participated in evaluation of the economic viability of gas-fired cogeneration projects for equity investors and banks. Evaluations included the impact of possible regulatory change.

Other Experience

As a geologist for Mobil Oil Corporation, conducted oil and gas exploration activities in Libya and Indonesia.

Education

M.S., cum laude, Geology and Geophysics, The Massachusetts Institute of Technology
B.S., cum laude, Earth Sciences and Chemical Physics (double major), The Massachusetts Institute of Technology

Publications and Conference Presentations

Presented a paper entitled "The Alaska Gas Pipeline: Déjà Vu All Over Again" to the Deutsche Banc Alex. Brown 2001 Global Energy Perspectives Conference. February 2001.

Presented a paper entitled "Regulatory Perspectives on Performance-Based Rate-Making" to a meeting of the Rates and Strategic Issues Committee, American Gas Association. April 2000.

Presented a paper entitled "Capital Budgeting for the New Millenium" at the Conference on Gas Company Productivity and Management, sponsored by the Institute of Gas Technology. November 1999.

Presented a paper entitled "Can the Conflict Between Maintenance/Replacement Projects and Expansion/Upgrade Projects Be Mitigated by Using a Different Approach to Capital Budgeting?" at the Conference on Gas Company Management Under Limited Budgets, sponsored by the Institute of Gas Technology. October 1998.

Presented a paper entitled "Skills for Effective Competition" at the IGT Technical Business Forum on Enhancing Corporate Performance, sponsored by the Institute of Gas Technology. September 1997.

Panelist on Contract Abandonment at a public seminar entitled "Natural Gas: The Regulatory Crisis Now," sponsored by The Energy Daily. July 1987.

Presented a paper on the natural gas pipeline industry to The Energy Week Conference, held annually by The First National Bank of Chicago. April 1987.

Presented a paper entitled "New Approaches to Gas Supply Strategies" at a symposium entitled The Outlook for Gas Distributors in the New Market Place, sponsored by the Institute of Gas Technology. November 1986.

Presented a paper entitled "Diversification Issues in the Natural Gas Industry" to the Williamsburg Conference on the Institute of Public Utilities. December 1984. Later published in The Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation, edited by Patrick C. Mann and Harry M. Trebing (MSU Public Utilities Papers, 1985).

Presented a paper entitled "International Competition in the California Gas Market" at the Annual North American Conference of the International Association of Energy Economists. November 1984.

Presented a paper on the Alaska Natural Gas Transportation System entitled "The Intersection of 'Public' and 'Private': Studies in Energy Decision Making" to a panel at the Annual Meeting of the American Political Science Association. August 1984.

John Antonuk

Areas of Specialization

Executive management; corporate governance; management audits and assessments; service quality and reliability management and measurement, utility planning and operations; litigation strategy; management of legal departments; human resources; risk management; regulatory relations; affiliate transactions and relations; subsidiary operations; and testimony development and witness preparation.

Relevant Experience

Natural Gas

Currently serving Project Manager in a focused audit of affiliate transactions and general management audit of New Jersey Natural Gas Company for the New Jersey Board of Public Utilities. This project includes detailed examinations of gas procurement, hedging, affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other *code-of-conduct* issues.

Currently serving as Lead Consultant in Liberty's Focused Management Audit of Peoples Gas and North Shore Gas Companies for the Illinois Commerce Commission. This project includes examinations of gas procurement and planning, hedging, storage and hub operations, and transactions with affiliates.

Project manager for Liberty's focused and general management audits of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other *code-of-conduct* issues. Personally performed the reviews of governance, EDECA requirements compliance, and legal services.

Project manager for Liberty's work with staff of the Virginia State Corporation Commission to evaluate the services of an affiliate providing gas portfolio management services under an asset management agreement with Virginia Natural Gas, an operating utility subsidiary of Atlanta-based AGLR.

Project manager for Liberty's focused audit of NUI Corporation and NUI Utilities. This audit included a detailed examination of the reasons for poor financial performance of non-utility operations, downgrades of utility credit beneath investment grade, and retail and wholesale gas supply and trading operations. Also examined performance of

telecommunications, engineering services, customer-information-system, environmental, and international affiliates. The audit included detailed examinations of financial results, sources and uses of funds, accounting systems and controls, credit intertwining, cash commingling, and affiliate transactions, among others. Liberty's examination included very detailed, transaction-level analyses of commodities trading undertaken by a utility affiliate both for its own account and for that of utility operations.

Project manager for Liberty's comprehensive management audit of United Cities Gas Company for the Tennessee Public Service Commission. Responsible for the focused reviews of affiliate interests, executive management and corporate planning, and vehicle management.

Lead consultant in Liberty's management audit of Connecticut Natural Gas Company for the Connecticut Department of Public Utility Control (DPUC). Responsible for reviews of organization and executive management and legal management.

Lead consultant in Liberty's management audit of Southern Connecticut Gas Company for the DPUC. Responsible for organization and executive management, affiliates, and legal management. Included valuation of a major, rate-based LNG facility being offered for sale.

Directed Liberty's management audit of Yankee Gas Services Company for the DPUC.

Engagement Director for Liberty's evaluation of regulatory needs and alternatives for the Georgia Public Service Commission in regulating the state's local-gas-distribution companies in the aftermath of FERC Order 636.

Project Director for Liberty's review of gas-purchasing policies and practices at Pike Natural Gas Company and Eastern Natural Gas Company for the Public Utilities Commission of Ohio. Responsible for the review of organization and staffing and regulatory-management issues.

Combination Utilities

Served as Engagement Director for Liberty's role as the Arizona Corporation Commission's fuels expert in a pending rate case for APS. Liberty's work included the identification of any required, specific adjustments to the Company's proposed fuel costs, net of various offsets (such as off-system sales), for the Rate Year (2006). Liberty analyzed APS's fuel accounts and supporting work papers as part of this effort.

Served as Project Manager in an audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Part of that assignment is evaluating the performance of APS's new power supply adjustment ("PSA") mechanism, approved by the ACC in early 2005.

Engagement Director for Liberty's examination of the cost-allocation methods of Baltimore Gas & Electric Company and its affiliates for the Maryland Office of People's Counsel.

Project Director for Liberty's focused management audit of affiliate transactions of Public Service Electric & Gas Company (PSE&G) and the unregulated subsidiaries of Public Service Enterprise Group, Inc., the parent, for the New Jersey Board of Regulatory Commissioners. Task leader for the review of organization and planning, and executive management.

Project Director for Liberty's management and operations audit of New York State Electric & Gas Corporation for the New York Public Service Commission (NYPSC). Responsible for managing the review of corporate planning and organization, service centralization, specific corporate services, and finance and accounting.

Project Director for Liberty's management and operations audit of Central Hudson Gas & Electric Corporation for the NYPSC.

Electricity

Project Manager for Liberty's audit for the New Jersey Board of Public Utilities of the competitive service offerings of the state's four major electric companies. Scope included corporate structure, governance, and separation, service company operations and charges, inter-affiliate cost allocations, arm's-length dealing with respect to a variety of code-of-conduct requirements, and protection of customer and competitor proprietary information.

Project Manager and witness for the staff of the Arizona Corporation Commission addressing the merits of the proposed acquisition of UniSource by a group of private investors.

Project Manager and witness before the Oregon Public Utility Commission addressing the merits of the proposed acquisition of Portland General Electric by a group of private investors.

Engagement director for Liberty's provision of engineering and technical assistance to the Vermont Public Service Board in connection with review of public necessity and convenience related to the Northwest Reliability Project, which would add a major new 345kV transmission plan to provide an additional source of electricity to serve Vermont's major load growth in its northwest region. The project would also involve transmission reinforcements at lower voltages and significant substation upgrade work. The proceedings have numerous public, private, and government intervenors, who have raised issues regarding project need, available electrical alternatives, routing and design, and electromagnetic radiation.

Project Manager for Liberty's support for the New Hampshire Public Utilities Commission in its charge to oversee the divestiture of the Seabrook nuclear plant as part of a major restructuring settlement. The sale produced record high compensation for nuclear facilities in the country.

Project Manager and witness for Liberty's assessment of fuel procurement, affiliate transactions, and automatic adjustment clause implementation for the staff of the Nova Scotia Utility and Review Board in rate case of Nova Scotia Power.

Project Manager for Liberty's engagement on behalf of Boston Edison to examine the company's affiliate relations, including issues of the valuation of assets transferred to an affiliate. Testified in proceedings before the Massachusetts Department of Telecommunications and Energy (formerly the Department of Public Utilities) on several telecommunications issues, including: (a) development of competition, and legislative and regulatory-policy changes supporting it, (b) electric-utility entry into telecommunications markets, (c) costs, prices, and market value of network elements, (d) requirements of the Telecommunications Act of 1996, (e) assessment of compliance with commission orders, company procedures, and service agreements regarding limits on affiliate interactions, (f) inter-company loans, guarantees, and credit support among utilities and their affiliates, (g) accounting for affiliate transactions, (h) obligations to allow nondiscriminatory access to network infrastructure to third parties, and (i) cost pools, overhead factors, and allocation of common costs among utility and non-utility affiliate activities and entities.

Project Manager for Liberty's major consulting engagement for the New Hampshire Public Utilities Commission. Liberty examined management, operations, and costs at Public Service Company of New Hampshire/Northeast Utilities, which is engaged in the operational and cost-accounting separation of its network into segments, for the purposes of restructuring service offerings to allow competition in certain aspects of electric-energy supply. This engagement included an assessment of valuations of nuclear and fossil units, as well as supply contracts with independent-power producers. Liberty is also assisting in efforts to settle rate case and restructuring disputes involving, among other issues, stranded costs associated with power plants. The scope of Liberty's current work includes the development of plans and protocols for power plant (fossil, hydro, and nuclear) and power supply contract assets, as well as the oversight of activities associated with asset auctions.

Engagement Director for Liberty's evaluation of corporate relations and affiliate arrangements of Dominion Resources, Inc. and Virginia Power for the Virginia State Corporation Commission. This project addressed all significant aspects of corporate governance, operating relationships, and affiliate arrangements between the two entities.

Project Director for Liberty's evaluation of a report prepared by a consultant to the Hawaii Public Utilities Commission on the relationship between Hawaiian Electric Industries (HEI), a diversified utility-holding company, and Hawaiian Electric Company (HECO), its principal subsidiary and operating electric utility.

Project Director for all aspects of Liberty's comprehensive management and operations audit of West Penn Power Company for the PAPUC. Managed focused reviews of the Company's affiliated costs, power dispatch and bulk power transactions, customer services, finance, and corporate services. Presented testimony before the PAPUC on behalf of the Office of Trial Staff regarding the results of the audit in West Penn's rate case.

Lead consultant for affiliate relations for Liberty's assignment of providing assistance to Delmarva Power & Light Company in developing and implementing self-assessment and continuous-improvement processes.

Project Director for Liberty's reviews of fossil-fuel procurement and administration in Liberty's management/performance audits of the Centerior Energy Company's operating companies- Cleveland Electric Illuminating Company and Toledo Edison Company-and Ohio Edison, Monongahela Power (an Allegheny Power System operating company), and Cincinnati Gas & Electric, for the Public Utilities Commission of Ohio.

Served as advisor to the administrative-law judge of the Delaware PSC responsible for hearing cases regarding the implementation of the new law that restructures the electric-utility industry in Delaware.

Engagement Director for nuclear-plant performance-improvement projects that Liberty conducted for Duquesne Light Company, Centerior Energy, Nebraska Public Power District, and Pennsylvania Power & Light Company (PP&L).

Engagement Director for a Liberty assignment for Florida Power Corporation, regarding a proposal by the Tampa Electric Company to construct transmission lines to serve the cities of Wauchula and Fort Meade, Florida. Liberty's testimony helped convince the Florida Public Service Commission that Tampa Electric Company's proposed line was uneconomic.

Directed Liberty's engagement to assist a regional electric generation and transmission cooperative, whose members' combined operations make it a major competitor in the state's electricity business, to conduct its first-ever comprehensive and formal strategic-planning process.

Telecommunications

Arbitrator named by the District of Columbia Public Service Commission to address industry-wide need for amendments to interconnection agreements as a result of the FCC's Triennial Review Order.

Project manager for assistance being provided to the Administrative Law Judge of the Delaware Public Service Commission hearing the arbitration to address industry-wide need for amendments to interconnection agreements as a result of the FCC's Triennial Review Order.

Project Manager for Liberty's engagement to serve as advisors to commissioners of the District of Columbia Public Service Commission in their review of the Section 271 application of Verizon to provide in-region, interLATA service in the District.

Project Manager for Liberty's engagement to serve as advisor to the administrative law judge of the Delaware Public Service Commission in the review of the Section 271 application of Verizon to provide in-region, interLATA service in the state.

Retained by the Idaho PUC to serve as administrative law judge in complaint proceedings involving three paging companies and Qwest, involving a variety of financial disputes arising out of interconnection and tariff purchases.

Conducted wholesale performance metrics training for staff members and commissioners of the Pennsylvania Public Utility Commission as part of efforts to monitor service quality and payments under the Verizon Performance Assurance Plan adopted in connection with the RBOC's entry into the in-region inter-LATA market in Pennsylvania.

Engagement Director for Liberty's comprehensive financial review of Verizon New Jersey Inc. *(VNJ)* for the New Jersey Board of Public Utilities. The review had three parts: a financial evaluation; a review of merger costs and savings; and an assessment of affiliate costs and transactions.

Engagement Director for Liberty's audit of Ameritech-Ohio policies, procedures and compliance with service quality performance requirements under Ohio's Minimum Telephone Service Standards.

Engagement Director for Liberty's audit of Qwest's performance measures for the Regional Oversight Committee *(ROC)*. Responsible for the evaluation of the processes and data tracking of several hundred wholesale and retail performance indicators including service areas such as provisioning, OSS access, maintenance and repair, and billing.

Project Manager and hearing administrator for Qwest's 271 hearings for the commissions of Idaho, Iowa, Montana, New Mexico, North Dakota, Utah, and Wyoming.

Engagement Director for Liberty's assistance provided to the Staffs of the Virginia State Corporation Commission and the New Jersey Board of Public Utilities in the implementation of the 1996 Telecommunications Act.

Project Manager for Liberty's assistance to Delaware PSC arbitrators in seven different interconnection cases arising out of the Telecommunications Act.

Served on an arbitration board in Mississippi, and as the sole arbitrator in two cases in Idaho regarding interconnection agreements between incumbent local-exchange companies and new entrants to the local telephone market.

Engagement Director for Liberty's work determining permanent prices for the unbundled-network elements of Southwestern Bell Telephone for the Oklahoma Corporation Commission.

Engagement director for Liberty's provision of arbitration services to the North Dakota Public Service Commission and Nebraska Public Service Commission in cases involving implementation of the Telecommunications Act of 1996.

Engagement Director for Liberty's combined comprehensive management/affiliate-relations audit of Bell Atlantic - Pennsylvania for the PAPUC, and affiliate relations audit of Bell Atlantic - District of Columbia for the Public Service Commission (DCPSC) of the District of Columbia. Served as team leader with responsibility for the coordination of the review of executive management, finance, and support services.

Engagement Director for Liberty's examination of the accounting and allocation on lobbying costs of Bell Atlantic for an 8-year period for the DCPSC. Engagement included an examination of the propriety of policies and procedures for assigning and allocating lobbying costs.

Engagement Director management audit of GTE South, Inc. for the Kentucky Public Service Commission. This examination included a review of GTE's affiliate transactions.

Project Director for Liberty's evaluation of New York Telephone's transactions with affiliates for the NYPSC. Responsible for the review of affiliates involved in directories publishing, government affairs, international activities, information services, and the legal-affairs entity.

Project Director for Liberty's management audit of the affiliated interests of C&P Telephone of Maryland performed on behalf of the Maryland Public Service Commission.

Engagement Director for Liberty's two assignments for the DCPSC in reviewing Bell Atlantic - District of Columbia's construction-program planning and quality-of-service standards.

Other Companies

Set up and managed service and facilities section of the PP&L Regulatory Affairs Department. Counseled utility management on regulatory and legislative matters. Litigated rate related and facility construction proceedings before agencies and the courts.

Attorney for the PAPUC. Assigned as counsel to the Commission's Audit Bureau in developing a comprehensive management-audit system. Negotiated contracts for the first commission-ordered management audits in Pennsylvania. Revised Commission organization and practice to conform to regulatory-reform legislation.

Testimony

Nova Scotia Utility and Review Board – testimony on the prudence of fuel procurement, affiliate relationships associated with fuel management, and use of an automatic adjustment clause to recover fuel costs.

Arizona Corporation Commission – testimony on the merits and conditions of the proposed acquisition of UniSource by private investors.

Oregon Public Utility Commission – testimony on the merits and conditions of the proposed acquisition of Portland General Electric by private investors.

Virginia State Corporation Commission - testimony in arbitration cases regarding interconnection agreements between Bell Atlantic - VA and competing local exchange companies.

PAPUC - presentation of management-audit recommendations and benefits for selected conclusions in West Penn Power Company request for rate increase.

Maryland Public Service Commission - presentation and defense of management-audit conclusions, recommendations, and cost implications in C&P Telephone Company of Maryland (Bell Atlantic) rate case.

Illinois Commerce Commission - testimony about fuels organization, procurement, and management in fuel-cost reconciliation proceedings.

Maryland Public Service Commission - testified regarding Baltimore Gas & Electric Company's affiliate relations.

Tennessee Regulatory Authority - testified regarding Liberty's recommendations in a management audit of United Cities Gas Company.

Education

J.D., with academic honors, Dickinson School of Law
B.A., cum laude, Dickinson College

Donald T. Spangenberg, Jr.

Areas of Specialization

Over 30 years of experience in the energy industry, with emphasis on fuel procurement, management, and portfolio design and execution for power generation; experienced project manager on consulting engagement in the gas and electric utility industry; strategic-business planning; fuels supply evaluation, procurement, marketing, contract negotiation, and administration; development of comprehensive fuel-procurement programs and contract-administration systems.

Relevant Experience

Commission-Sponsored Studies

Served as a Lead Consultant in an audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Responsible for examining all aspects of fuel management as related to coal supply for the utility's generating stations.

Served as Lead Consultant for coal issues for Liberty's role as the Arizona Corporation Commission's fuels expert in a pending rate case for APS. Liberty's work included the identification of any required, specific adjustments to the Company's proposed fuel costs, net of various offsets (such as off-system sales), for the Rate Year (2006). Liberty analyzed APS's fuel accounts and supporting work papers as part of this effort.

Assistant Project Manager and Senior Coal Consultant for Liberty's project to assist the Nova Scotia Utility and Review Board on fuel matters related to the 2005 rate application of Nova Scotia Power, Inc.

Project Manager and Senior Consultant for Liberty's management/performance audit of natural gas procurement and management of Cincinnati Gas and Electric Company for the Public Utilities Commission of Ohio (PUCO).

Project Manager and Senior Consultant for Liberty's focused management audit of the fuel procurement policies and practices of Kentucky Utilities Company and Louisville Gas and Electric Company for the Kentucky Public Service Commission.

Project Manager and Senior Consultant for Liberty's management/performance audit of natural gas procurement and management of Vectren Energy Delivery of Ohio for the Public Utilities Commission of Ohio (PUCO).

Project Manager and Senior Consultant for Liberty's natural gas procurement and supply management audit of Kentucky's five major local distribution companies for the Kentucky Public Service Commission.

Senior Consultant and Task Area leader for Liberty's audit of transmission and distribution revenue requirements of the Commonwealth Edison Company for the Illinois Commerce Commission.

Project Manager and Lead Consultant for Liberty's Management and Operations Audit of East Kentucky Power Cooperative for the Kentucky Public Service Commission.

Lead Consultant in the areas of preparation for competition in Liberty's Management and Operations Audit of the New York Power Authority for the New York State Office of the State Comptroller.

Project Manager and Lead Consultant for Liberty's review of the fuel purchasing policies, procurement models, and fuel management practices at Columbus Southern Power Company and Ohio Power Company (subsidiaries of American Electric Power Company) for the Public Utilities Commission of Ohio (*PUCO*).

Project Manager for Liberty's review of the natural gas purchasing policies, procurement models, and fuel management practices at East Ohio Gas Company for the Public Utilities Commission of Ohio (*PUCO*).

Project Manager and Lead Consultant for Liberty's review of the fuel-purchasing policies, procurement models, and fuel-management practices at Cincinnati Gas & Electric Company for the Public Utilities Commission of Ohio *(PUCO)*.

Project Manager and Lead Consultant for Liberty's review of the fuel-purchasing policies, procurement models, and fuel-management practices at Monongahela Power Company for the Public Utilities Commission of Ohio (*PUCO*).

Senior Consultant in the area of fuels management for Liberty's management and financial audit of the management and operations of Public Service Company of New Hampshire, for the New Hampshire Public Utilities Commission.

Lead Consultant for Liberty's review of the fuel-purchasing policies, procurement models, and fuel-management practices at Ohio Edison for the PUCO.

Lead Consultant for Liberty's audit of the natural-gas-purchasing and supply-management policies and practices of KN Energy, Inc. for the Wyoming Public Service Commission. Responsible for the reviews of gas-supply planning, and organization, staffing, and controls.

Lead Consultant for Liberty's review of the fuel-purchasing policies, procurement models, and fuel-management practices of the Centerior companies (Cleveland Electric Illuminating Company and Toledo Edison Company) for the PUCO.

Led Liberty's review of fuel planning, acquisition, management, transportation, and disposal as part of a comprehensive management audit of West Penn Power Company for the Pennsylvania Public Utility Commission.

Utility Strategy

Project Manager and Lead Consultant for Liberty's facilitation of strategic planning for Powder River Energy Corporation, a Wyoming electric-distribution cooperative. Project Manager for a second project aimed at improving operations and evaluating opportunities for diversification.

Project Manager and Lead Consultant for Liberty's facilitation of a meeting of participants in the Wyoming power-generation industry, for the Governor of Wyoming, with the objective of developing the basis for a strategic-energy plan for the State of Wyoming.

Project Manager and Lead Consultant for Liberty's power-marketing project for a western owner of power plants. This project included development of options for sale of electric power from the company's facilities, training in the operation of local and regional electric-power markets, and assistance with the evaluation and selection of the optimal market for this electric power.

Senior Consultant for Liberty's project for a western regional utility to explore options to ownership of its generating assets, because of expected changes in power-sales agreements. Liberty defined the components of the utility's current generation operations for comparison with alternative scenarios in the areas of power resources, ownership structures, operating entities, asset-securitization structures, and methods of gaining added operational leverage. Strategic options were structured, and the framework for comparative analysis was established to provide decision-making information for the utility's management and its board of directors.

Managed Liberty's project that assessed the effects of electric-industry restructuring on all of the members of the Colorado Independent Energy Association *(CIEA)*. CIEA represents about 20 owners of small power-generation projects (qualifying facilities—QF—as defined under PURPA) who sell power to their local electric utility. The project involved detailed assessment of the current regional market for electric-power sales, evaluation of existing power-sales agreements, and analysis of the operations and economics of the QF facilities. The project included a review of national electric-industry initiatives and programs, and a formal presentation of findings and strategies to CIEA's members.

Lead Consultant for Liberty's study for Colorado Springs Utilities to assist this utility in addressing the organizational impacts associated with a transition to automated meter reading *(AMR)*. Consideration of the issues of human-resource management in conjunction with technical changes was a large part of this work. Liberty's work included a survey of the experiences and lessons learned from 25 utilities who had already experienced the transition to AMR.

Senior Consultant for Liberty's assessment of the manpower-planning and workforce-management activities of the Gas & Electric Distribution unit of Public Service Company of Colorado. Specific elements of focus included activity tracking and timekeeping as it related to workforce-management processes. This project included interviews with selected managers and concluded with a workshop involving these same individuals to identify opportunities for process improvement and develop action plans in workforce management.

Senior Consultant for Liberty's project to review the natural-gas main-extension policy of Dayton Power & Light Company and to recommend revisions to this policy to permit the company to maintain its competitiveness after the restructuring of the natural-gas industry.

Fuels Management

Project Manager and Lead Consultant for Liberty's process-improvement project for Alabama Electric Cooperative, Inc. This project included analysis of operations and development of recommendations for improvement of policies, practices, processes, and procedures in the areas of fuel management for electricity-generating stations, and operations and maintenance of the stations.

Lead Consultant for Liberty's preparation of a comprehensive set of fuel-management policies and procedures for the Fuel Department of Potomac Electric Power Company. This project included development of governing policies and the procedures for all aspects of procurement, transportation, utilization, contract administration, and inventory management of coal, oil, and natural gas as power-generation fuels.

Led a fuel procurement and management study for Missouri Public Service Company. Conducted assessment of the organizational requirements for fuel-procurement systems and procedures. Analyzed and recommended action in the following areas related to fuel management: organization, personnel, and job descriptions; fuel planning and budgeting; fuel procurement; selection of coal suppliers and carriers; coal-contracting strategy; coal sales; and reporting and information systems.

Served as Project Leader of two projects at Ohio Edison Company: an analysis of fuel-information flow and a fuel-supply organization study. Evaluated effectiveness of fuel-material flow and associated information flow, and made recommendations to improve efficiency. Assessed capabilities of personnel. Studied organization alternatives and recommended new organization structure.

Served as co-project leader of a retrospective analysis of key fuel-procurement actions and decisions of Central Illinois Public Service Company to determine whether prior actions and decisions were reasonable. Conclusions included evaluation of contractor performance, contract administration, fuel-procurement operations and procedures, and organizational issues.

Led a fuel-management systems study for Intermountain Power. Identified fuel-management needs of a utility that had not burned coal before. Developed conceptual design of suitable system. Conducted detailed interviews with all utility departments that had dealings with the fuel function, as well as with coal suppliers and railroads. Surveyed fuel management practices of 18 other utilities.

Led a coal-contract-escalation structure and evaluation project for Missouri Public Service Company. Recommended new concepts, correlated deficiencies in existing concepts, and structured new contract language.

Legal Industry

Led Liberty's project at National Fuel Gas Distribution Corporation to develop the strategy and procedures for selection and management of outside legal counsel. This work included establishing the need for outside counsel, selection and contracting with outside counsel, and management and evaluation of the services of outside counsel.

Served as chief operating officer for two Colorado law firms with responsibility for all aspects of law-firm business management. Responsibilities included risk management, financial management, personnel management, strategic planning, marketing, and general business management and operation.

Management consultant to over 25 law firms on strategic planning, marketing, personnel management, risk management, and general business management and operation of the law firm.

Other Experience

President, Management Insight – Formed this management consulting firm providing specialized consulting to users and suppliers in the energy industry. Assisted clients in fuel-supply evaluation and procurement, fuel management and contract preparation, negotiation, and administration. Also provided general management consulting, including strategic analysis, business planning, and development of marketing programs.

Vice President, Marketing, Northern Coal Company – Responsible for development and implementation of marketing program, including sales and customer relations, market research and planning, and contract and traffic administration for $20-million coal subsidiary of InterNorth. Restructured the marketing department. Negotiated and administered six coal supply agreements with customers in Japan and Korea, including first agreements made by Japanese utilities with a western U.S. coal supplier.

Fuel Supply Manager, Public Service Company of Colorado – Responsible for management of energy supplies required to fuel electricity-generating stations of a $1 billion electric and gas utility. Principal evaluator of fuel supplies and negotiator and administrator of fuel contracts for $175 million in annual fuel purchases.

General Electric, Nuclear Division. Nuclear Field Engineer, starting up BWRs in Germany (KRB) and India (Tarapur). Also worked as a nuclear fuel sales specialist, preparing, presenting, and negotiating contracts for sale of nuclear fuel and nuclear-fuel reprocessing services to electric utilities in the U.S.

Education

M.B.A., Stanford University
B.S.E., *cum laude*, Chemical Engineering, Princeton University

Publications and Presentations

Taught numerous courses in the Colorado Continuing Legal Education program on business management and marketing of law firms. Representative course titles included: Building Your Trial Practice, Developing and Marketing Your Practice, Business Planning for Law Firms, The Competitive Lawyer, and Effective Client Development Strategies.

Wrote numerous articles for *The Colorado Lawyer*. Representative article titles included: "The Business Management Approach To Avoiding Legal Malpractice Claims," "The Attorney's Professional Liability Insurance Alternative," and "Good Business Management Decreases Malpractice Exposure."

Certified Instructor at the National Legal Resource Center. Primary course was entitled Marketing and Client Development

Exhibit LCG-2
Variability of NSPI Fuel Costs
Millions of Dollars (CAD)

	2001A	2002A	2003A	2004A	2005A	2006F	2006C	2007F
Fuel								
Coal	192.7	196.6	175.7	172.9	217.3			
Petcoke	10.2	16.1	32.4	30.2	35.2			
Gas	46.9	63.2	10.7	5.2	14.5			
BunkerC	37.8	14.2	78.0	80.1	98.7			
Other	6.4	5.7	11.3	11.3	7.7			
Total	**294.0**	**295.8**	**308.0**	**299.8**	**373.3**			
Purchased Power	21.6	22.9	28.2	32.6	46.8			
Fuel & Purchased Power	**315.7**	**318.7**	**336.3**	**332.4**	**420.1**			
Fuel for Resale								
Costs	58.4	31.7	119.8	115.9	131.6			
Recoveries	(83.1)	(42.2)	(190.6)	(152.5)	(182.1)			
Net	**(24.7)**	**(10.5)**	**(70.8)**	**(36.6)**	**(50.5)**			
Export Sales	8.9	17.9	14.4	5.9	7.7			
Water Royalties	-	-	0.8	0.8	0.8			
MTM on HFO & Gas	-	-	-	-	(4.5)			
Total Fuel & Purchased Power	**299.8**	**326.1**	**280.6**	**302.5**	**373.6**			
Total Fuel Cost/MWH	**$25.74**	**$27.10**	**$22.76**	**$24.07**	**$29.93**			

A = Actual
C = Compliance
F = Forecast
Other = Furnace, Diesel and Additives
Source: Response to Stutz IR-25

Exhibit LCG-3
NSPI
Solid Fuel
Summary of Portfolio Status
2007



Exhibit LCG-4
Calculation of the Overestimate of 2007 Solid Fuel Costs

For the purposes of this calculation, solid fuel for 2007 consists of low sulfur coal, mid sulfur coal, high sulfur coal, petcoke, domestic coal, and test coal. All dollars are expressed in Canadian Dollars.

The basis of the following calculations is that when NSPI prepared its Direct Evidence, certain quantities of solid fuels for 2007 had not yet been committed, and estimates had been made for the prices at which this uncommitted solid fuel would eventually be procured. In addition, since the time of filing its Direct Evidence, NSPI has changed the requirements and contract quantities for its solid fuels, as indicated in Exhibit LCG-3. Finally, portions of the solid fuel previously listed as uncommitted have now been procured, and this procurement has been at prices lower than originally estimated by NSPI.

A. Low Sulfur Coal Costs

Direct Evidence			
Tonnes (000)	**BTU/pound**	**$/MMBtu**	**$ (000)**
[redacted]			

Notes:

- BTU/pound and $/MMBtu figures in Direct Evidence are based on weighted averages, when necessary, taken from data provided in response to Liberty IR-43.
- Current Portfolio Status quantity figures based on data provided in response to SEB IR-95, dated November 27, 2006.
- [redacted] $/MMBtu figure for [redacted]

B. Mid Sulfur/High Sulfur Coal Costs

Direct Evidence			
Tonnes (000)	**BTU/pound**	**$/MMBtu**	**$ (000)**
[redacted]			

Notes:

- BTU/pound and $/MMBtu figures in Direct Evidence are based on weighted averages, when necessary, taken from data provided in response to Liberty IR-43.
- Current Portfolio Status quantity figures based on data provided in response to SEB IR-95, dated November 27, 2006.

[redacted] $/MMBtu figure for [redacted]

[redacted] $/MMBtu figure for [redacted]

C. Petcoke Costs

Direct Evidence			
Tonnes (000)	**BTU/pound**	**$/MMBtu**	**$ (000)**
[redacted]			

Notes:

- BTU/pound and $/MMBtu figures in Direct Evidence are taken from data provided in response to Liberty IR-43.
- Current Portfolio Status quantity figures based on data provided in response to SEB IR-95, dated November 27, 2006.
- Current Portfolio Status $/MMBtu figure for committed tonnage taken from response to Liberty IR-43.
- [redacted] Current Portfolio Status $/MMBtu figure for [redacted]

D. Domestic Coal Costs

Direct Evidence			
Tonnes (000)	**BTU/pound**	**$/MMBtu**	**$ (000)**
[redacted]			

Notes:

- BTU/pound and $/MMBtu figures in Direct Evidence are taken from data provided in response to Liberty IR-43.
- Current Portfolio Status quantity figures based on data provided in response to SEB IR-95, dated November 27, 2006.
- [redacted]Curent Portfolio Status $/MMBtu figure based on procurement evaluations found in response to Liberty IR-14 for procurement of this product [redacted]

E. Test Coal Costs

Direct Evidence			
Tonnes (000)	**BTU/pound**	**$/MMBtu**	**$ (000)**
[redacted]			

Notes:

- Test coal costs in Direct Evidence determined by a "difference" calculation
- [redacted] Individual Components of the total solid fuel costs of [redacted]

F. Summary of Cost Changes

Original Evidence Compared to Current Portfolio

Product	Change in Costs – CDN$
Low Sulfur Coal	[redacted]
Mid Sulfur/High Sulfur Coal	
Petcoke	
Domestic Coal	
Test Coal	
Total	**($5,506,000)**

Notes:

- The current portfolio is as described in response to SEB IR-95, with portfolio date of November 27, 2006.