IN THE MATTER OF the *Public Utilities Act*, (the "Act"); and

IN THE MATTER OF an Application by Newfoundland and Labrador Hydro for an Order approving: (1) its 2012 capital budget pursuant to s. 41(1) of the Act; (2) its 2012 capital purchases, and construction projects in excess of $50,000 pursuant to s. 41 (3) (a) of the Act; (3) its leases in excess of $5,000 pursuant to s. 41 (3) (b) of the Act; and (4) its estimated contributions in aid of construction for 2012 pursuant to s. 41 (5) of the Act and for an Order pursuant to s. 78 of the Act fixing and determining its average rate base for 2010.

SUBMISSION OF THE CONSUMER ADVOCATE

Newfoundland and Labrador Hydro's 2012 Capital Budget Application

Phase II

Submitted by:
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INTRODUCTION

1. Section 41 of the Public Utilities Act, RSNL, c. P-47., as amended (the "Act"), requires a public utility to submit an annual capital budget of proposed improvements or additions to its property for approval of the Board.

2. Section 78 of the Act vests authority in the Board to fix and determine the rate base for the service provided or supplied to the public by the utility and also gives the Board the power to revise the rate base.

3. On August 3, 2011, Hydro filed its Capital Budget Application (the "Application") with the Board. In the Application, Hydro requested that the Board make an Order *inter alia*:

(a) approving its purchase and construction in 2012 of the improvements and additions to its property in the amount of approximately $87.9 million; and

(b) fixing and determining its average rate base for 2010 in the amount of $1,484,659,000.

4. The Electrical Power Control Act, 1994 SNL 1994 c. E-5.1., as amended, mandates in section 3(b)(iii) that utilities manage and operate its facilities in a manner that results in power being delivered to consumers in the province at the "...lowest possible cost consistent with reliable service".

5. The amounts spent on capital projects by each of the utilities will need to be financed as either debt or equity and consumers will pay the interest on the debt and the return on equity as well as the costs of depreciation on the acquired assets.

6. The onus rests upon the utility to establish before the Board that the expenditures proposed are necessary in the year in which they are proposed and represent the lowest cost alternative for the provision of electricity service in the province.

7. These submissions address those projects of Hydro's Application which are being dealt with in Phase II, being those projects specifically addressing the Holyrood Thermal Generating facility.

8. Page A-18 of the Application breaks down the proposed budget for Phase II items as follows:

PROJECT DESCRIPTION (in '000's)	2012	Future Years	Total
THERMAL PLANT			
Rewind Generator Units 1 and 2	112	11,789	11,901
Upgrade Marine Terminal	5,860		5,860
Replace Fuel Oil Heat Tracing	1,474	1,414	2,888
Install Plant Operator Training Simulator	1,028	1,073	2,101
Upgrade Stack Breaching Unit 2	1,505		1,505
Upgrade Forced Draft Fan Ductwork Unit 2	929		929
Replace Beta Attenuation Monitoring Analyzers	161		161
TOTAL THERMAL PLANT	11,069	14,276	25,345
MAJOR OVERHAULS AND INSPECTIONS			
Overhaul Unit 1 Turbine	4,193		4,193
Condition Assessment and Life Extension Phase 2	1,216		1,216
TOTAL MAJOR OVERHAULS AND INSPECTIONS	5,409		5,409

9. Appendix A (p. A-3) to the currently filed 2012 Capital Plan points to significantly increased capital expenditure projections in the coming years. It is unclear at this stage whether these amounts will remain as projected once Hydro files its revised Capital Plan, scheduled for later this year. The current forecasts are as follows:

2013	2014	2015	2016
$121,369,000	$151,686,000	$155,237,000	$146,973,000

10. In Hydro's 2011 Capital Plan filed August 2010, capital spending for the period 2012 to 2015 was forecast to be as follows:

2012	2013	2014	2015
$70,159,000	$65,667,000	$60,496,000	$64,384,000

11. The difference between the Capital Plan filed in August 2010 and the current Plan is obviously significant.

12. Given the current planned Lower Churchill infeed, it is becoming increasingly likely that Holyrood will cease as a thermal generating plant . The possibility that Holyrood would cease operations in its current form is not a new issue to the Board or the Parties.

13. Previously, the Board in its Decision and Order No. P.U. 36 (2008) at p. 9 stated,

> "The Board remains cognizant that all proposed projects for the Holyrood facility must be considered in the context of the uncertainty at this time of the future of the facility."
>
> "The Board also notes that Hydro has confirmed that the fuel storage facility will not be required if an HVDC transmission line to the Island is constructed as part of the development of the Lower Churchill project. However, the Board also has responsibility to ensure that Hydro is able to continue to operate the facility safely and reliably until at least 2015, which is the earliest time the plant's role might change. It is in the context that the Board will approve this project."

14. While the foregoing comments were made in the context of considering refurbishment to a fuel storage tank, it is submitted that they are equally applicable to all projects Hydro currently outlines in its Application. In fact, it is increasingly likely that Holyrood's role will be changing.

<u>Phase II Projects</u>

15. While the Consumer Advocate is not providing comments on all proposed projects for Phase II, this should not be taken as an implicit endorsement of same. The focus herein will be on those projects which from the Consumer Advocate's perspective, represent the most contentious and problematic.

A. Fuel Oil Heat Tracing (Volume I, Tab 4)

16. Hydro is seeking close to $3,000,000.00 between 2012 and 2013 for this project. The current heat tracing system is run continuously, due to concerns that it cannot be turned on again if shut off (Page 17, section 3.12). The heat tracing system is required to keep the Bunker C fuel heated to allow transfer from the marine terminal to the fuel storage tanks.

17. The Consumer Advocate accepts the importance of the fuel oil heat tracing system, however, takes issue with whether the costs of this project should be placed on consumers.

18. The current heat tracing system was replaced in 2002. In response to P2-PUB-NLH-44, Hydro outlined the following:

> "However, a lower cost option provided by Tyco was chosen and Hydro installed the copper Mineral Insulated (MI) cable...In an attempt to prevent corrosion of the copper Mineral Insulated cables, this time it had the additional feature of a High Density Polyethylene (HDPE) jacket provided as well."

The HPDE jacket ultimately melted.

19. There was a recommendation by Tyco to reduce voltage by 10%, as set out in Hydro's response to P2-PUB-NLH-46. This was not followed by Hydro and there is no explanation as to why this recommendation was not followed. Hydro had been informed by Tyco that the new electric heat tracing cable scheduled to be installed would be running at higher than allowable sheath temperature due to part of the circuit being by-passed by teck cables. Hydro was specifically asked by Tyco to reduce voltage by ten percent to address the jacket heating issue. It doesn't get much clearer than that.

20. Hydro has acknowledged that the "...failure of the electric heat tracing system after the repairs between 2002 and 2004 was due to a Hydro error." This was stated in response to P2-IC-NLH 32. Further, Hydro states in response to P2-CA-NLH-49: "It appears that a proper investigation did not take place by Hydro at that time which would have identified the future overheating problem that would be experienced if HDPE jacket was installed without changing the cable

length. The result of the decision to use HDPE jacket cable, without changing its length, resulted in pre-mature failure of the EHT cables."

21. When the repairs were completed in 2002, it was anticipated by Hydro that the heat training system would last in excess of 20 years. The cost was $1.12 million (P2-IC-NLH 33 and 34). The system began to fail almost immediately.

22. Hydro is a sophisticated utility that failed to heed a clear recommendation. It is clear that the negligence of Hydro and its employees is the cause of the very costly proposal the Board is faced with today. Customers should not be asked to foot the bill for a project which requires redress solely due to Hydro's errors. Had the proper diligence been implemented in 2002, the heat tracing system would have operated in excess of the expected generating life of Holyrood. Hydro decided, on its own, to implement the HDPE jacket over the cable, without input from the manufacturer Tyco and this jacket was one of the primary causes for the premature failure of the cable (P2-PUB-NLH-75).

23. In attempting to justify consumers paying for its errors, Hydro states: "Hydro believes that when performing business activities it is normal and expected that some errors and misjudgements will be made from time to time and processes are always subject to improvement...In Hydro's view, the costs associated with correcting errors that occur in good faith in the design and operation of a complex system should be recoverable from customers." See P2-CA-NLH-50.

24. The Consumer Advocate takes issue with Hydro's assertion that a prudence review involves an assessment of Hydro's good faith. Hydro cites no authority for that proposition. Rather, the Consumer Advocate would submit that the Board may consider as guidance, the decision of the Ontario Energy Board of December 13, 2002 (RP-2001-0032).

Reference: Re <u>Enbridge Gas Distribution Inc.</u>, RP-2001-0032, December 13, 2002 O.E.B. [Excerpt at Tab 1] for full text see http://www.ontarioenergyboard.ca/documents/cases/RP-2001-0032/decision_171202.pdf

25. At paragraph 3,12,2 (p. 62) the Board stated:

"The Board agrees that a review of prudence involves the following:

- Decisions made by the utility's management should generally be presumed to be prudent unless challenged on reasonable grounds.
- To be prudent, a decision must have been reasonable under the circumstances that were known or ought to have been known to the utility at the time the decision was made.
- Hindsight should not be used in determining prudence, although consideration of the outcome of the decision may legitimately be used to overcome the presumption of prudence.
- Prudence must be determined in a retrospective factual inquiry, in that the evidence must be based on facts about the elements that could or did enter into the decision at the time."

26. In the Ontario Energy Board's decision the Board concluded that it was not satisfied that the ECG's decision to enter into two contracts was prudent (see paras 3.12.23 and 3.12.27). In the result, the Board (para. 3.12.41) directed the ECG to credit $11 million to the 2002 PGVA.

27. Another decision which the Board may consider is the British Columbia's Utility Commission's decision of March 13, 2009. An area of challenge is that case which involve the B.C. Hydro and Power Authority were matters concerning the catastrophic failure on March 2, 2008 of the turbine runner on Unit 3 at the G.M. Shum Generating Station. Notably this case, like the one at issue in this case with the heat tracing system, involves failure to follow recommendations. At p. 79, the Board stated,

> "BC Hydro's operational and maintenance management saw fit to "not accept and implement the recommended safeguards, despite their modest cost and the virtual certainity that if implemented they would have secured the units against a suite of possible failure events which would have included the particular mechanism of the GMS Unit 3 failure."

Reference: Re <u>B.C. Hydro and Power Authority</u>, March 13, 2009 (B.C.U.C.) [Excerpt at Tab 2] for full text see http://www.bcuc.com/Documents/Proceedings/2009/DOC_21286_BCH2009RR_WEB.pdf

28. It is interesting to note that the evidence in the BC case (see p. 76) was that improved vibration monitoring was proposed in the mid-1990s by Generation Engineering with extensive studies and recommendations presented in 2000 but no action was taken. The Board (at top of p. 79) while accepting that BC Hydro

was unaware of the potential for the exact mechanism of failure that took place, did not accept. . . "BC Hydro's argument that inasmuch as it did not know of the precise mechanism of failure, that it was not in its and its ratepayers best interests to put in place its own engineering staff's recommendations for shear pin failure detection systems and enhanced vibration monitoring of the GMS Units."

29. In the result, the panel (p. 79) found that the evidentiary record was sufficient to overcome a presumption of prudency claimed by Hydro. The panel found however that any determination as to the reasonableness of BC Hydro's management of GMS units and hence it ability to recover the costs associated with the Unit 3 failure must of necessity consider a more complete evidentiary record. Hydro was directed to segregate all of the incurred-to-date and future direction and indirection costs of the outage and repair in a separate regulatory account and to apply to the BCUC for their recovery. The Board stated,

> "At such time BC Hydro is expected to include in its application the studies and reports which recommended the installation of the safeguards, and its reason for not responding constructively to them, in order that a determination as to the reasonableness of its managements' decisions at that time can be made."

30. In the case of the heat tracing, the record is clear. Hydro has admitted fault. Hydro failed to follow a recommendation. This failure followed and has not been explained other than by saying, "we acted in good faith." That cannot suffice.

31. While errors will occur, from the Consumer Advocate's perspective this is an error with attendant costs which would have been avoided had Hydro undertaken a complete and thorough investigation at the time of implementing this system in 2002. Issues were raised by Tyco in relation to the new system, but the recommendations presented by them to Hydro were never followed up on, with no explanation as to why. While an error made after a full investigation is one matter, not taking the time to undertake an investigation is another entirely. In the latter circumstances, it is submitted that there is no basis to place the costs of rectifying the error on customers. With respect, this is not a matter of good faith or bad faith-it is a matter of not putting customers to unnecessary and imprudently incurred costs.

32. The Consumer Advocate's position on this heat tracing project is that while it is something that requires addressing, the costs associated with repairing the system should not be borne by customers and as such, this project should not be approved as part of Hydro's Application. Hydro should proceed with this project but at its own cost. While the Consumer Advocate notes that Hydro did not seek approval for the heat tracing in 2002 as it was a subcomponent of a larger asset, being the pipeline (P2-PUB-NLH-48) the fact remains that the heat tracing only requires replacing solely due to Hydro's actions, or lack thereof.

B. Training Simulator (Volume 1, Tab 5)

33. In the light of escalating capital budget requests, this type of project is simply beyond what customers should be expected to bear the cost of. The stated purpose of the Training Simulator is to allow Hydro to "...train new operators, test new control logic before installation, develop response strategies for outages and adjust operating parameters to optimize efficiency." (Page 1-2, Volume 1, Tab 5). The cost of this project is $2,101,000.00 in total, with $1,028,000.00 to be incurred in 2012.

34. Hydro further outlined that the "...presence or absence of an OTS will not materially affect the advancement of an Operator from the TPO classification to the LTPO classification." (P2-IC-NLH-51). The current crop of employees classified as Thermal Plant Operators will presumably be the first batch of employees considered for advancement to the Lead Thermal Plant Operator positions, yet the simulator will not benefit these employees in terms of advancement. The simulator will only shorten the time required for new hires to become Thermal Plant Operators (P2-IC-NLH-54). Thermal operations will cease altogether once the infeed commences.

35. The issue facing Hydro which is the basis for this project is recruitment, particularly given that the anticipated infeed will permanently alter Holyrood's role. While last year's Muskrat Falls announcement crystallized Holyrood's future, other issues such as new industry growth in the province and retirements were concerns which existed prior to the announcement, not only for Hydro but for other utilities and firms.

36. As outlined previously, the Board and indeed the parties have been aware for some time that the future for Holyrood was uncertain. With this reality, the Consumer Advocate questions the need for this simulator at this time.

37. Hydro's training system for employees operating the Holyrood plant has been effective to date and has been found to be consistent with other thermal generating facilities as outlined by AMEC in its Condition Assessment and Life Extension Study (See P2-CA-NLH-26). If this project is not approved, Hydro will continue with the training for employees that has been used to date with no modifications, which again confirms the existing training program's effectiveness (P2-CA-NLH-36).

38. Hydro is not in a unique situation when it comes to its employees retiring in the near future. This is an issue facing all employment environments given an aging workforce. Hydro outlines that between now and 2021 (after thermal generation would have ceased) there are 4 Lead Thermal Plant Operators eligible for retirement (P2-IC-NLH-49). Currently, there are an additional 7 operators each year between 2012 and 2017 who can qualify to become a Lead Thermal Plant Operator assuming all certification is complete (P2-CA-NLH-33).

39. Hydro has implemented other programs at Holyrood to help in its recruitment, retention and training initiatives, specifically the Employee Liaison and Action Committee. From the information provided during the Technical Conference, this appears to have been a recent development, but may be a legitimate way to address some of Hydro's concerns.

40. The other issue concerning this project to be addressed by the Board is whether, given the timeline for Holyrood acting as a generating system, this project is necessary considering the time it will take to produce a first "graduate". As detailed during the Technical Conference, it will take approximately 2 years to get the training simulator up and running, given that the processes and mechanics of the Holyrood thermal generating system have to be created within the program. Then, Hydro is anticipating that training time for a new employee will be reduced from 2 years to six months. Therefore, at the earliest, an employee will be able to complete the program according to Hydro's estimations, in 2.5 years. While in response to P2-IC-NLH-48 Hydro has outlined that the training simulator will be in use by September 2013, it is still a significant amount of time before a graduate of the program will occur. How the level of training compares to the program in place remains to be seen.

41. Further, the training program is being designed to simulate the Holyrood thermal generating facility. As stated in Hydro's Capital Budget Application:

> "The operation of a thermal generating station requires complex processes that must be monitored and regulated by plant operators. An Operator Training Simulator (OTS) is a platform that will provide the plant operators with a means by which these processes and various operating conditions can be simulated at any time and in a manner which is safe for personnel, the plant and the electrical grid. An OTS can be used to train new operators, test new control logic before installation, develop response strategies for outages and adjust operating parameters to optimize efficiency." (Tab 5, page 1)

42. Despite Hydro's assertions that the program would have applications at other plant systems through changes to the program (P2-PUB-NLH-51), the system will be designed specifically for the Holyrood system. There is no indication as to cost of adapting the program to accommodate the intricacies of another facility, however, it is reasonable to expect that the time and costs associated with same would be similar to what is being advanced in this Application. Hydro states that it does not expect any further costs to the training simulator, (P2-IC-NLH-39), but it seems unlikely that this will be the case.

43. The Consumer Advocate is also concerned with Hydro's assertion that training for employees will be reduced from 2 years to 6 months. Hydro outlined that no detailed research has been completed into the anticipated reduction in training time, (P2-CA-NLH-20). Would this be an employee training on the simulator consistently for all of her/his shifts for the entire 6 months? Hydro has not provided enough details to reasonably conclude that the reduction estimated is even realistic. Nor has Hydro provided enough information, or conducted enough research to conclude that the training simulator will maintain the level of current training. Further, the training simulator will not decrease the time an employee must spend in "Outside Operator Training" which is 2 years alone (Tab 5, page 15, volume 1 of Capital Budget Application).

44. The training currently in place has steadily evolved over time as changes occur. A major revision to the training which occurs at Holyrood has apparently not been contemplated before. The Consumer Advocate submits that there is insufficient evidence to demonstrate a need for a complete revamping of the training regime currently in place at Holyrood at this time, particularly when one considers the plant's future role and the pressures already being placed on customers by escalating capital budget requirements.

45. Given the circumstances surrounding the future of the Holyrood thermal generating facility, the Consumer Advocate submits that this project is not justifiable. There is little doubt that by the time this expensive project is up and running, Holyrood is expected to be even closer to the end of its thermal generating life. The issues of retention and recruitment identified by Hydro will not be addressed by this operating simulator. This project is not required to allow Holyrood to operate in a safe and reliable manner given the current timelines.

C. Marine Terminal (Volume 1, Tab 3)

46. The marine terminal, like the heat tracing system, associated fuel lines, and the tank field, are set to be de-commissioned after 2020.

47. The marine terminal has had some issues arise over the last few years, in particular, the failure and loss of gravity fender 4 in 2008.

48. The terminal has continued receiving vessels and oil without disruption since that time.

49. In 2010, Hatch preformed an assessment for risk mitigation and repair recommendations. One of the recommendations was that vessels unloading fuel at the Holyrood facility should be less than 55,000 DWT and 200m. As outlined in P2-CA-NLH-9, these recommendations have actually been the case for dockings at Holyrood since 2009.

50. Holyrood receives oil deliveries 6 to 7 times a year, which will mean that between now and 2020, the terminal will be used approximately 48 to 56 times before decommission occurs.

51. While the Consumer Advocates acknowledges that there have been 40 protest letters between 2006 and 2011, which can be referenced at P2-CA-NLH-7, it is of note that issues of high back pressure and ships not being able to discharge at their full capacity (discharge rate) were known to Hydro prior to the loss of gravity fender 4. These are not new concerns for Hydro yet were not a priority before.

52. It is interesting to note that Hydro did not perform a cost benefit analysis on this project as they felt there was no quantifiable benefits associated with same.

53. The reality is that the current terminal has been in use with its existing issues for a significant amount of time. Even with the loss of gravity fender 4, the facility has continued its operations.

54. There is no urgency to this project at this time, particularly considering the budget sought as compared to the remaining time for the terminal. While safety is a concern, no breakdown is provided as to the various aspects of the marine terminal remediation. Perhaps the "man overboard" system and the lighting issue can be addressed individually upon Hydro providing particulars on the costs of same. Hydro agrees that in terms of priority for this project, life safety would have a relatively higher priority (P2-CA-NLH-45).

RESPECTFULLY SUBMITTED AND DATED at St. John's, in the Province of Newfoundland and Labrador, this 24th day of November, 2011.

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RP-2001-0032

IN THE MATTER OF the *Ontario Energy Board Act, 1998,* S.O. 1998, C.15, Sch. B;

AND IN THE MATTER OF an Application by Enbridge Gas Distribution Inc., formerly The Consumers' Gas Company Ltd., for an order of orders approving or fixing rates for the sale, distribution, transmission and storage of gas for its 2002 fiscal year.

BEFORE: Sheila K. Halladay
Presiding Member

A.Catherina Spoel
Member

Bob Betts
Member

DECISION WITH REASONS

2002 December 13

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APPENDICES (Contained in Volume 2)

3. ALLIANCE AND VECTOR

3.1 BACKGROUND

The Alliance Pipeline Project

3.1.1 Alliance Pipeline Limited Partnership and Alliance Pipeline L.P. (together "Alliance") announced its pipeline project on June 10, 1996. The project involved a large scale natural gas pipeline extending from northeastern British Columbia and northwestern Alberta to Joliet in the vicinity of Chicago, Illinois ("Chicago"). The pipeline provided western Canadian gas producers with greater exit capacity from producing regions in northeast British Columbia and parts of Alberta and direct access to the major gas markets of the midwest region of the United States. EI was one of the 18 original sponsors of the Alliance pipeline and initially held a 10.9% ownership interest.

3.1.2 ECG advised the Board that the purpose of the Alliance pipeline was to provide an alternative to the existing TransCanada Pipelines Ltd. ("TCPL") pipeline which had insufficient capacity at the time to serve market growth projections and served as a limit on the extent to which western Canadian producers could supply that market growth.

3.1.3 Alliance received regulatory approval from the U.S. Federal Energy Regulatory Commission ("FERC"), in the form of a Certificate of Public Convenience and Necessity, on September 17, 1998. Similar regulatory approval was received from the Canada's National Energy Board ("NEB") on November 26, 1998.

3.1.4 About the same time as Alliance was announced, there were a number of competing proposals, including TCPL's NEXUS project and the Northern Border project which, if approved and built, would also improve exit capacity and provide additional access to the U.S. Midwest markets.

3.1.5 ECG made its first formal commitment to the Alliance project in November 1996. At the time ECG made this commitment, it had not yet made firm arrangements to complete the physical delivery of the Alliance-delivered gas from Chicago to ECG's storage pools near Dawn, Ontario.

3.1.6 In the summer of 1996 however, ECG had begun discussions with parties about moving gas from Chicago to Dawn. ECG's most promising transportation route, at the time, was the path proposed by ANR Pipeline Company ("ANR") comprising ANR's system, expanded as required, and the Link pipelines with Michigan Consolidated Gas Company ("MichCon") as the intermediate transporter between the two.

3.1.7 With the withdrawal of ANR in February 1997, the ANR/MichCon/Link pipelines were not going to be built as planned. This meant that ECG was required to find another physical route to connect the gas delivered to Chicago by the Alliance pipeline to its storage pools near Dawn.

The Vector Pipeline Project

3.1.8 On June 27, 1997, Vector Pipeline L. P. and Vector Pipeline Limited Partnership (together "Vector") announced the Vector project, a new international pipeline project that would provide natural gas transportation service between the large market hub located at Chicago, Illinois and the existing hub located at Dawn. Gas transported on Vector could be purchased either at the Chicago hub or further upstream from a number of American and western Canadian supply basins.

3.1.9 TriState was a pipeline proposal in competition with Vector at the time. TriState filed its application with the FERC on November 9, 1998 and with the NEB on December 23, 1998. With the withdrawal of TriState's applications in January 2000, Vector became the only physical route from Chicago to Dawn.

3.1.10 ECG made its first formal commitment to the Vector project on June 1, 1999 and a subsequent commitment for transportation capacity was made to Vector on December 22, 1999.

3.1.11 ECG's first Vector commitment was designed to accommodate it's Firm Transportation ("FT") and Authorized Overrun Service ("AOS") entitlements with Alliance when the "rich gas" is converted to energy units. ECG described its Alliance commitments and the first commitment to Vector as a "matched pair" that created a single transportation path for ECG from western Canada to Dawn.

3.2 THE ISSUE

3.2.1 This issue in this proceeding concerns the prudence of ECG's decisions to enter into long term transportation arrangements with Alliance and Vector, including a review of the associated cost consequences of these arrangements.

3.2.2 There were four specific decisions made by ECG at issue in this proceeding:

- in November 1996 ECG's decision to enter into precedent agreements with Alliance, for a term of 15 years once all contractual conditions were satisfied, to acquire Firm Transportation ("FT") service from Alliance for a daily volume of 1,415.4 10^3m^3/d and 50.0MMcf/d, plus authorized overrun service ("AOS") respectively in Canada and United States ("Alliance 1");

- in November 1997 ECG's decision to increase its commitment to Alliance by 708.2 10^3m^3/d and 25.0 MMcf/d to 2,124.6 10^3m^3/d and 75.0 Mmcf/d,of FT Service plus AOS ,respectively in Canada and United States by accepting an assignment of this capacity from Alberta Energy Company Ltd. ("AEC") at the same time as EI acquired an additional ownership interest of 8.036% in Alliance from AEC ("Alliance 2");

- ECG's decision, in June 1999 to acquire FT service from Vector for 96,000 Dth/d and 101,295 GJ/d, respectively in the United States and Canada ("Vector 1"); and

- ECG's decision, in December 1999 to acquire a second tranche of FT service from Vector for 79,000 Dth/d and 83,360 GJ/d, respectively, in the United States and Canada ("Vector 2").

3.2.3 The prudence of ECG's actions in entering into these long term transportation arrangements was challenged by several of the intervenors. CAC, CME and VECC each took a position challenging the prudence of ECG's decision, Union supported ECG, IGUA took no position, and CEED, HVAC and Schools were silent on this issue.

2001 Settlement Proposal

3.2.4 This issue arose in this proceeding as part of the 2001 Settlement Proposal. Intervenors were concerned about the cost consequences of ECG's new transportation path for gas sourced in western Canada relative to those of ECG's traditional transportation path (on TCPL's Canadian Mainline from Empress to, for comparative purposes, ECG's delivery points in TCPL's Central Delivery Area ("CDA") including Parkway).

3.2.5 ECG and the intervenors agreed in the 2001 Settlement Proposal that an examination of this issue would be facilitated by quantifying, during the 2001 Test Year, the cost differential between the two transportation paths by means of a notional deferral account (the "Notional Deferral Account"). The parties agreed that the entries in this

Notional Deferral Account, together with the other information ECG provided, would form an evidentiary basis for examining whether the entire cost differential should be allowed for ratemaking purposes and, if not, the amount that should be disallowed. ECG and the intervenors agreed in the 2001 Settlement Proposal that any such disallowance would not be retroactive, however, but rather any amount disallowed would be applied prospectively as a credit to ECG's revenue requirement for the 2002 Test Year.

3.2.6 The 2001 Settlement Agreement provided that any party could challenge the cost consequences of the new transportation path, in this proceeding or thereafter, on any grounds including, without limitation, the prudence of management actions that gave rise to such gas cost consequences by reference, for example, to the delivered cost of gas via the new transportation path relative to market area prices.

3.2.7 In this proceeding, ECG filed evidence showing the amounts in the Notional Deferral Account and a written account of the events surrounding the Alliance and Vector transportation arrangements. The Notional Deferral Account showed that the transportation cost differential for the 10 month period from December 1, 2000 (the in-service date) to September 30, 2001, was $12.4 million in favour of the traditional path via TCPL.

3.2.8 ECG noted that the Notional Deferral Account recorded a "hypothetical" cost differential and suggested that there should two adjustments to this amount: namely a commodity price adjustment and a TCPL tolls adjustment.

3.2.9 ECG suggested a commodity price adjustment of $11 million, as a "means of normalizing the abnormally high commodity cost of gas for the new path in December 2000". ECG advised the Board that this cost was abnormally high because for this month "ECG's suppliers insisted on spot -- daily -- pricing rather than monthly pricing".

3.2.10 ECG also suggested another adjustment to reflect TCPL's final tolls for the 10-month period rather than ECG's forecast of them. ECG suggested that the adjustment should be $0.57 million in favour of the traditional path, rather than $3.33 million in favour of the new path.

3.3 REVIEW OF PRUDENCE

3.3.1 In a prudence review, ECG suggested the following guidelines, based on a study prepared by the National Regulatory Research Institute ("NRRI").

- A utility's decision should be presumed to be prudent.
- A prudence review should consider what a reasonable person would have done in the similar circumstances.
- A prudence review should take into account the information available to managers when the regulated firm made the decision in question.
- Prudence is determined by using factual information. Evidence must include facts, not merely opinion, about the elements that went into the decision.

3.3.2 ECG submitted that the test for prudence, in practice, is the "reasonable person" test. Would a reasonable person consider that a utility's management decision was formed by good judgment based on facts and premises that management knew or ought to have known? A reasonable person would have regard to prevailing industry practices in existence at the time the decision was taken.

3.3.3 ECG argued that a regulator's decision on the prudence of a utility's management is, "by its nature, a once and for all decision". A utility's management cannot be found to have acted prudently in making a decision in one proceeding and prudently in making the same decision in another proceeding.

3.3.4 ECG submitted that a regulator's decision that a utilities management was prudent is not a "blank cheque" in effect for the future. Utility's have an ongoing responsibility to provide a "best cost" service, which means "utilities will provide safe and reliable services at the lowest reasonable costs".

3.3.5 Union agreed that the Board should apply the four-part test established by the NRRI for determining the prudence of utility management's business decisions.

3.3.6 CAC submitted that a determination of the issue of the prudence of a decision requires that the Board determine the following sub-issues:

- What is the test of prudence?
- Who bears the onus of establishing prudence or the absence thereof?
- What evidence is required to demonstrate prudence?
- If the Board were to determine that ECG was not prudent, what amount should it be entitled to recover with respect to its supply arrangements? To

put the matter another way, what is the monetary measure of a finding that ECG was not prudent?

- What implications, if any, would a finding that ECG had not been prudent have beyond the test year?

3.3.7 CAC submitted that the test of prudence has been drawn from a number of authorities in the United States, which provide that the test should have the following components:

- There is a presumption that the investment decisions of utilities are prudent;
- The presumption of prudence can be overcome by an allegation of imprudence that is backed up by substantive evidence creating a serious doubt about the prudence of the investment decision;
- To be prudent, a utility decision must have been reasonable under the circumstances that were known or could have been known at the time the decision was made;
- The regulator should not use hindsight in determining prudence and it unwise for a regulator to supplement the reasonableness standard for prudence with other standards that look at the final outcome of a utility's decision, although consideration of outcome may have legitimately been used to overcome the presumption of prudence;
- Prudence must be determined in a retrospective factual inquiry. The evidence needs to be retrospective in that it must be concerned about the time at which the decision was made. Testimony must present facts, not merely opinion, about the elements that did or could have been entered into the decision at the time.

3.3.8 CAC submitted that, in restating the test of prudence, the Board should underscore ECG's obligation to keep detailed records of the decision-making process, indicating what factors were considered, and by whom those factors were considered, and setting out the rationale for each decision.

3.3.9 CAC submitted that the evidence in this case on the Alliance/Vector issue suggests that it is both necessary and appropriate to re-state the test of prudence.

3.3.10 The original rationale for the so-called presumption of prudence, as expressed in the US authorities, was that the presumption would allow a utility the freedom to make decisions that were in the interests of ratepayers without undue constraint arising from the fear of regulatory oversight. CAC submitted that it is clear, on the evidence, the value of the presumption must be weighed against the fact that the operation of the presumption may have a significant detrimental effect.

3.3.11 CAC acknowledged that some form of presumption of prudence allows a utility to make small investments without having the positive burden of showing that each one was prudent. Balanced against that, however, is the danger, evident in this case, that the presumption will operate as a screen, allowing a utility to make significant decisions without regard to the best interests of ratepayers, evident conflicts of interest, and the obligation to consider all reasonable alternatives.

3.3.12 CAC submitted that the presumption of prudence should be eliminated, at least in the case of decisions that may have rate-making implications above some threshold of materiality. Where the presumption is eliminated, the Board should require ECG to satisfy it that it considered all reasonable alternatives in order to arrive at a decision that was in the best interests of ratepayers.

3.3.13 CAC argued that the existing formulation of the test, which allows the presumption of prudence to be dislodged where there is evidence of a conflict of interest or where the outcome is clearly disadvantageous to ratepayers, provides insufficient protection to ratepayers who wish to examine the prudence of ECG's decisions. That argument ignores the significant problems which ratepayers have in showing the existence of a conflict of interest, for example. Under existing rules, a utility can hide crucial evidence, or simply deny its existence, and do so with reasonable confidence that it will neither be caught nor sanctioned.

3.3.14 CAC acknowledged a legitimate concern with the use of hindsight. CAC further acknowledged that the prudence of a decision should not be assessed solely on the basis of the outcome of the decision. However, exercising caution in the use of hindsight, and eliminating the presumption of prudence, would still allow ECG considerable freedom to demonstrate that it appropriately considered all of the relevant factors at the time the decision was made.

3.3.15 VECC had no fundamental disagreement with ECG's description of the test for prudence and did not dispute that the focus of the review should be on the circumstances that existed at the time that the impugned decision was made. In VECC's view, however, these circumstances must include a review of the reasonableness of the utility's expectations of future developments and of the future state of the market at the time that the relevant decisions were made.

3.3.16 VECC argued that this approach does not involve the use of hindsight; rather it is the recognition that utility decisions must be prudent, not just for circumstances that are contemporaneous with the decision, but also for future circumstances that could be anticipated at that time the decision was made.

3.4 OVERCOMING THE PRESUMPTION OF PRUDENCE

3.4.1 ECG argued that since it had agreed that the issue of the prudence of these decisions was open to any party to raise, it was not necessary for the Board to make a determination on whether the presumption of prudence was overcome in this case.

3.4.2 The intervenors put forward two bases on which it argued that the Board should find that the presumption of prudence had been overcome:

- there was a conflict of interest between EI and ECG; and,
- the outcome of the decisions to contract for capacity on the Alliance and Vector pipelines dislodged the presumption of prudence.

Conflict of Interest

3.4.3 Dr. Foster, ECG's expert witness, agreed that if there were evidence that a decision to make an investment were influenced by a conflict of interest, that would overcome the presumption of prudence. However, he did not see a conflict on interest in this case. ECG and EI "have pretty much the same interests, the LDC has the requirement to have long-term firm capacity delivered to their system, and the parent owns a portion of that pipeline".

3.4.4 Although ECG has never denied that EI made suggestions in favour of both Alliance and Vector, ECG strongly denied any suggestion that EI used its parental role to dictate ECG's decisions on Alliance and Vector.

3.4.5 CAC argued that since ECG's decision to contract for capacity on the Alliance and Vector pipelines conferred a benefit on EI by virtue of EI's ownership interests in Alliance and Vector this meant that ECG had a conflict of interest in deciding whether to contract for this capacity. While ECG has an obligation to its ratepayers to enter into contracts that benefit those ratepayers, ECG's decision to contract for capacity on Alliance and Vector would confer a benefit on EI, but might not benefit ratepayers. A decision to contract for Alliance and Vector capacity should not, in CAC's submission, benefit EI at the expense of ECG's ratepayers.

3.4.6 CAC stated that there is no evidence that ECG considered the conflict of interest it faced except to the extent that the concept of conflict of interest may a consideration of whether Board approval is required under the Undertakings.

3.4.7 Similarly, CME had problems with ECG's request that the Board find that there was no conflict of interest with respect to EI, favouring Alliance and Vector, and that ECG should be allowed to rely on the "presumption of prudence". ECG is effectively requesting the Board to give it the benefit of the doubt. CME was also concerned that ECG has not maintained adequate written records that would assist intervenors and the Board in assessing this matter after the fact.

3.4.8 CME submitted that ECG should not be allowed, under the circumstances, to rely on the presumption of prudence. EI made an investment in Alliance and EI received a benefit through Alliance. CME argued that a conflict of interest arises since ECG conferred a benefit on EI, by contracting for capacity on the Alliance gas pipeline since it helped EI obtain regulatory approval for the pipeline.

Outcome of the Decision

3.4.9 CAC argued that the amount recorded in the Notional Deferral Account shows that, in both the ten-month period and the 2001 Test Year, the TCPL route was cheaper than the Alliance/Vector routes, even factoring in the effect of the recent, NEB-approved, TCPL toll increase. Accordingly, CAC argued that the presumption of prudence has been overcome.

3.4.10 ECG argued that any consideration of the outcome of the decisions necessarily involved the use of hindsight and therefore should not be a consideration of the Board.

3.5 PRUDENCE OF ECG'S DECISIONS

3.5.1 In CAC's submission, since the presumption of prudence is dislodged, the onus then shifts to ECG to establish that the decisions to contract for Alliance and Vector capacity were prudent.

3.5.2 CAC stated that the second component of the test of prudence is the determination of the time period during which the decisions were made, and, therefore, the time period within which prudence must be assessed.

3.5.3 Since there were separate decisions for each of the Alliance and Vector contracts, and since the decisions were made at different times, CAC submitted that they should be considered separately.

3.6 ALLIANCE 1

Company's Position

3.6.1 ECG's evidence is that its decision to enter into the Alliance 1 contract was made in the period from approximately June of 1996 to November of 1996 and that is the appropriate time period for purposes of assessing prudence.

3.6.2 ECG submitted that it made its commitment to Alliance for the following reasons:

- ECG required incremental transportation to serve market growth in its franchise areas;
- ECG's comparative analysis of Alliance and TCPL, after giving effect to NEXUS and other TCPL-related projects, favoured Alliance on the basis of the information available at the time;
- Alliance would comprise the major segment of an alternative transportation path for gas sourced by EGC in western Canada; and
- Alliance's capacity could be expanded by compression, rather than pipe, so that expansion capacity would be cheaper to install on a unit basis than the original capacity.

3.6.3 ECG advised the Board that prior to contracting for capacity on Alliance, a comparative analysis of Alliance and TCPL was prepared. This analysis was synthesized in an internal memorandum dated October 25, 1996 from Juri Otsason, a member of ECG's Gas Supply Department, to Rudy Riedl, then Senior Vice President, Strategic Planning and Gas Supply of ECG and Janet Holder ("Otsason Memo"). The Otsason Memo was the centrepiece of the evidence offered by ECG in support of its decision to contract on Alliance.

3.6.4 At the hearing ECG also provided the Board with a number of other miscellaneous documents, including internal memos, options and risks assessments, and rudimentary financial analysis spreadsheets. ECG argued that these documents supported all of the factors identified in the Otsason Memo.

3.6.5 The Otsason Memo described the "pros" and "cons" of the two options identified as the traditional NOVA/TCPL route as its system would have been after expanding by 2.3 Bcf/d for the NEXUS project and the Alliance/ANR/Union/TCPL route to ECG's CDA, southern Ontario, in 2000. Other options such as purchasing gas on the Chicago market or using the Northern Border pipeline were not analysed at that time.

3.6.6 The "pros" of the Alliance route outlined in the Otsason Memo were as follows:

- The Alliance route was estimated to cost 5¢/GJ more than the TCPL route, although the range of cost differentials was from 23¢/GJ higher to 12¢/GJ lower;
- Alliance would provide competition to NOVA/TCPL, and would reduce the rate of expansion of TCPL and the rate of escalation of its tolls, although these would happen whether or not ECG contracted on Alliance;
- Alliance would allow ECG to diversify its transportation portfolio;
- By passing through an area such as Chicago with an active gas market, Alliance would enhance ECG's ability to provide transactional services and take advantage of arbitrage;
- ECG would be able to utilize its entitlement on the Link Pipeline;
- Alliance would enhance the prospects of third parties contacting for capacity on the Link Pipeline;

- Reduced risks of exposure to increased TCPL tolls; and
- An alternate supply route enhances physical security of supply.

3.6.7 The Otsason Memo also identified the following "cons" of the Alliance pipeline:

- Alliance involved a long term commitment at a time of uncertainty of future role for ECG regarding upstream capacity;
- Alliance had considerably higher risks of adverse regulatory treatment, in-service delays and cost overruns;
- Alliance increased reliance on Union for M12 transportation;
- Acquisition of gas supply for Alliance was more complex;
- The Alliance route was operationally and administratively more complex; and
- Alliance created potential complexities for direct purchase.

3.6.8 The Otsason Memo also pointed out that ECG contracting on Alliance would enhance the probability of the Alliance pipeline being built. The Otsason Memo made a recommendation in favour of Alliance instead of TCPL.

3.6.9 The Otsason Memo quantified the financial risks in broad terms and described the assumptions made about some of them. For example, it assumed that exchange rates for the U.S. and Canadian dollar would change in favour of the Canadian dollar.

3.6.10 ECG argued that the comparative analysis in the Otsason Memo also demonstrated that ECG not only looked at the "cons" as well as the "pros" of Alliance, but also the range of possible outcomes in the light of various assumptions for both Alliance and TCPL.

3.6.11 Ms. Holder testified at the hearing that the Otsason Memo "was never intended to capture everything that was already known by Mr. Riedl and myself at the time" "We were very knowledgeable people or individuals in this business at the time; that was Mr. Riedl's life and my life as well as Mr. Otsason's. So there were many discussions that went along with those memos." Mr. Riedl, in turn, passed on the Otsason Memo to Mr. R.D. Munkley who was ECG's President at the time.

3.6.12 The precedent agreements with Alliance were signed in November 1996 by Mr. Riedl and John Aiken, another Senior Vice President, on behalf of ECG. ECG advised the Board that together they had the authority to execute, without approval by ECG's board of directors, agreements for the transportation of natural gas with an annual value of up to $30.0 million. At the time, the annual value of ECG's initial commitment to Alliance was $18.3 million.

Intervenors' Positions

3.6.13 CAC, using the criteria in the *New England Power Company* case, contended that the relevant time periods in which to consider the Alliance contracts was either the six month period in 1996 when the decision was made or the period at the beginning of 2000 when the gas began to move on the Alliance pipeline, and ECG was thus obligated to pay.

3.6.14 CAC argued that its expert witness, Mr. Stauft, suggested that in 1996 there were at least four alternatives, reflecting developments that had occurred or were likely to occur before gas actually had to move, in 1999, that ECG knew about or should have known about.

Chicago Market

3.6.15 CAC took issue with ECG's suggestion that the development of Chicago as a market alternative would not have been known to them. CAC submitted, however, that the evidence suggests that, even within that narrow time frame, that was not the case. The expansion of the Northern Border pipeline, and the building of the Alliance pipeline itself, were going to add approximately 2.7 Bcf to the Chicago market from the Alberta supply basin alone. CAC submitted that the addition of this additional capacity could reasonably have been predicted to have an effect, whether on Alberta prices or the development of Chicago as a market, or both.

3.6.16 CAC pointed out that ECG's evidence, under cross-examination, was that it did not consider Chicago as an alternative supply source because it was not ECG's practice to contract back to a supply hub but rather to contract for long-term transportation back to the supply basin.

3.6.17 CAC took issue with Dr. Foster's assertion that, in 1996, Chicago was not a well-developed, functioning market centre. CAC said that assertion would be relevant only if the decision to contract for Alliance capacity either had to be made in 1996, which it didn't, or if the planning horizon for the decision to contract for capacity was limited to six months in 1996, which it wasn't.

3.6.18 Dr. Foster conceded, in cross-examination, that, in making its decision, ECG should have considered factors that might affect the contract over its 15-year term, which would seem, reasonably, should have included the development of the Chicago market in the nearly three years before the Alliance pipeline was scheduled to be completed.

3.6.19 CAC pointed out that ECG itself did eventually consider Chicago as a viable market as noted in the May 31, 1999 memo from Mr. G. Dann of ECG's Gas Supply Department ("Dann Memo").

Timing of the Decision

3.6.20 CAC expressed doubts about Dr. Foster's assertions concerning the alleged benefits of the Alliance/Vector contracts. He asserted, for example, that ECG needed gas in 1996, leaving the impression that ECG had to contract for Alliance capacity in 1996. In fact, ECG contracted for Alliance capacity in 1996 when, at the earliest, it would be available in late 1999, and at a time when it had no way of getting the Alliance gas from Chicago to Ontario.

3.6.21 Further, CAC pointed out that ECG's own expert, Dr. Foster, conceded that the development of the Chicago market was a predictable outcome of the expansion of the Northern Border pipeline and the building of the Alliance pipeline.

3.6.22 During the oral phase of the hearing ECG's witnesses strongly asserted that the ECG's participation was not required at the time that ECG contracted for capacity in order for the Alliance pipelines to be constructed.

Lack of Physical Route from Chicago to Dawn

3.6.23 CAC argued that there is no evidence that ECG was under any pressure to enter into a supply arrangement by the Fall of 1996. The evidence that TCPL capacity would not have been available by the Fall of 1999 is, at best, ambiguous. At worst, however, there was no greater uncertainty about the availability of TCPL capacity than there was about the completion of the Alliance pipeline on time. In addition, the evidence is that when the first Alliance contract was signed, there were no arrangements in place, or indeed even any arrangements on the horizon, by which ECG could get the gas from Chicago into Ontario.

Diversifying Supply

3.6.24 With respect to achieving the objective of diversifying supply, CAC stated that contracting for supply in the Chicago market would have accomplished that goal. Since TCPL and Alliance have essentially the same supply basin, contracting for capacity in the Chicago would have accomplished the goal of diversifying supply more readily than would have contracting for capacity on Alliance.

3.6.25 With respect to the objective of putting competitive pressure on TCPL, CAC suggested that this would have been accomplished merely by building the Alliance pipeline. ECG's own witnesses conceded that it was not necessary for ECG to contract for capacity on the Alliance pipeline in order to achieve that objective. In addition, competitive pressure would have been placed on TCPL by using the Chicago market as a source of supply.

3.6.26 CAC submitted that it is important to remember that ECG had conducted no studies or analyses to support its belief that its contracting for capacity on Alliance would cause TCPL rates to drop. ECG conducted no study or analysis to suggest that even if TCPL rates did drop, they would offset what ECG staff recognized would be the higher cost on the Alliance system.

Security of Supply

3.6.27 ECG stated that it examined alternatives to Alliance and Vector from a long term perspective and also "in light of a public utility's duty to provide security of supply – delivery as well as commodity – for its franchise areas on a long term basis". ECG advised the Board that its "preferred means of delivery in 1996, and for the foreseeable future at the time, was upstream pipeline capacity extending all the way back to supply basins."

3.6.28 With respect to security of supply, CAC relied on Mr. Stauft's testimony that "from the perspective of 1996, in particular, Chicago should have been seen as at least as good an option and likely a far better option for purposes of acquiring supply on a reliable basis.... at that time, it was pretty clear that the Northern Border pipeline extension -- expansion/extension project would go ahead, and ECG was clearly assuming that the Alliance project would go ahead; otherwise, they wouldn't be analysing the economics of doing that. Given all of that, and those two projects together represented about 2.7 Bcf a day of new incremental supply into the Chicago area, I think the only reasonable conclusion at that time would have been that that additional supply would have made Chicago fine as a supply source".

3.6.29 Mr. Stauft also pointed out that the supply market available to Alliance shippers is limited and consists of approximately 30-odd gas plants in Alberta plus some interconnects with the ATCO system. Mr. Stauft indicated that directionally, it "wouldn't be fair to say that Chicago was worse, from a security of supply perspective, than Alliance, even in 1996".

3.6.30 CAC questioned whether there were any factors at work, in 1996, that required ECG to contract for capacity on Alliance rather than allowing the Chicago market to develop.

3.7 ALLIANCE 2

Company's Position

3.7.1 ECG stated that it increased its commitment to Alliance by 708.2 $10^3m^3/d$ in Canada and 25.0 Mmcf/d in the Untied States in November 1997, by means of an assignment of capacity from the Alberta Energy Company Ltd. ("AEC"). This occurred at the same time as EI acquired an additional ownership interest of 8.036% in Alliance from AEC.

3.7.2 ECG stated that it was willing to accept the assignment from AEC because, at the time, ECG's updated forecast of market growth indicated that ECG would require more than the assigned volume for the 2000-01 gas year and beyond. ECG noted that its updated forecast of market growth formed part of ECG's written evidence for the hearing, before the NEB, of Alliance's Canadian facilities application (NEB file GH-3-97).

3.7.3 ECG argued that its opportunity to acquire this additional capacity with Alliance arose between TCPL's applications for its 1998-99 (GH-2-97) and its 1999-2000 (GH-3-98) expansion programs (J3.5/J3.6) and for this reason, acquiring additional capacity on TCPL was not an alternative at the time.

3.7.4 ECG's evidence was that the opportunity to increase its commitment on Alliance also arose after EI had announced the Vector project and TCPL and two other sponsors joined EI in the Vector project. As ECG pointed out, given the timing of the Vector announcement in June 1997, there was the prospect of a transportation path to move the increased volume from Chicago to Dawn at the time of signing Alliance 2 in November 1997.

Intervenors' Positions

3.7.5 CAC submitted that ECG's evidence does not establish that its initial decision to contract for Alliance capacity was a prudent one, even on its own chosen criteria. Beyond that, CAC submitted that there is no better or different evidence in support of its decision to contract for the second tranche of Alliance capacity.

3.7.6 The other Intervenors raised no additional concerns with respect to Alliance 2, but relied on their general concerns with respect to the Alliance project.

Company Reply

3.7.7 ECG countered intervenors with the argument that Chicago became a well-developed functioning market only when the Northern Border expansion/extension and thereafter Alliance became operational.

3.7.8 Dr. Foster's opinion was that ECG acted prudently when deciding to make commitments to Alliance and Vector.

3.7.9 ECG argued that it is the utility's commitment and the circumstances at the time, rather than the utility's subsequent compliance with the commitment by incurring costs, that should be the focus of a prudence review.

3.7.10 ECG argued that when considering likely future circumstances, a reasonable person would have regard to prevailing industry practices at the time; for example, the prevailing practice of an Ontario utility contracting for long-term transportation back to the supply basins.

3.8 VECTOR 1

Company's Position

3.8.1 ECG did not make a commitment to Vector 1 until June 1, 1999, when it signed precedent agreements for a term of 15 year once all the contractual conditions were satisfied. The 15-year term would commence on Vector's in-service date which, at the time, was expected to be November 2000.

3.8.2 ECG stated that it sized Vector 1 to accommodated ECG's FT and AOS entitlements with Alliance, post 1997, when "rich gas" is converted to energy units. According to ECG, Alliance and Vector 1 are a "matched pair" and, as such, comprise a single transportation path for ECG from western Canada to Dawn.

3.8.3 ECG stated that it examined not only physical transportation alternatives, but also Chicago-to-Dawn gas swaps, before committing to Vector 1. ECG submitted that it looked at the "cons" as well as the "pros" and selected Vector 1 - the cheapest route instead of swaps because:

- "it was uncertain as to whether [gas marketers] would be able to do the total volume" but, even if so, "the Dawn basis would likely increase because Dawn is thinly traded"; and
- "the potentially higher cost of Vector and all other physical transportation options versus a swap arrangement is offset by the non-monetary benefits of a physical route".

Intervenors' Positions

3.8.4 CAC stated that the considerations bearing on the prudence of ECG's decisions to contract for capacity on the Vector pipeline are somewhat different from the considerations that apply to its decision to contract for capacity on the Alliance pipeline.

3.8.5 It was CAC's position that ECG's decisions to contract for Alliance capacity were not prudent. As a result of those decisions, ECG had a substantial volume of gas, arriving in the Chicago market, which it then had to move to Ontario. It is arguable, accordingly, that the decisions to contract for Vector capacity were necessitated by the imprudent decision to contract for Alliance and were, accordingly, imprudent. To put the matter another way, ratepayers should not have to bear the cost consequences of a decision itself necessitated by an imprudent decision.

3.8.6 However, had ECG contracted for capacity in the Chicago market, it would have had to move the gas to Ontario and, as a practical matter, Vector was the only alternative. From that perspective, the decision to contract for Vector capacity was a necessary one. A necessary decision is, arguably, neither an imprudent nor a prudent one.

3.8.7 In CAC's view, the open question is whether ECG, in 1999, should have considered purchasing gas at Dawn as an alternative to Vector. ECG's staff recognized, in the Dann Memo, that it would be cheaper to buy gas at Dawn. Mr. Dann offset, against that cost benefit, what he characterized as the "non-monetary benefits" of a physical route from Chicago. Those benefits included the following:

- diversity of supply sources from, among other places, the US. That is, in other words, the benefit of purchasing gas supply in the Chicago market, something ECG, as a matter of "policy", had been unwilling to consider in 1996; and
- increased natural gas trading liquidity and price transparency in Ontario.

3.8.8 CAC argued that these would result from the building of a pipeline. Mr. Dann could see these results for Ontario, but his colleagues were evidently not able to see the same results for Chicago from the combination of Northern Border and Alliance pipelines in 1996.

3.8.9 CAC asserted that the issue for the Board is whether it is clear, from the evidence, that ECG adequately considered Dawn as an alternative market. The problem in undertaking that analysis is in assessing ECG's conflict of interest. At the time that the decision was made to contract for Vector capacity, EI had a substantial interest in the Vector pipeline. The reality is that Mr. Dann's analysis of monetary and non-monetary benefits was academic since:

- the Alliance gas had to move out of Chicago; and
- EI had an investment in Vector which its subsidiary could support in monetary and non-monetary ways.

3.8.10 VECC argued that in the C. Serpanchy memo to L. Beattie, dated May 31, 1999, the opening statement of the letter seems to imply there is an expectation to contract on Vector as opposed to renewing some TCPL capacity as the memo opens with the following statement: We expect to contract for Vector Pipeline capacity of 79,000 Dth/d from Chicago.

3.9 VECTOR 2

ECG's Position

3.9.1 ECG's evidence was that it needed Vector 2 to replace ECG's corresponding FT service entitlements with TCPL. ECG was effectively "swapping" FT capacity from TCPL to Vector as opposed to serving market growth requirements.

3.9.2 ECG submitted that was mindful of concerns about trading, in effect, one-year renewable service entitlements with TCPL for Vector 2's 15-year service entitlement. ECG accordingly negotiated a "put/call" arrangement with EI whereby, if need be, ECG can convert Vector 2 into medium-term capacity. ECG pointed out that it now has the benefit of a lower toll, at the negotiated 15-year level with a U.S. $0.25/Dth rate cap, that would not otherwise be available.

3.9.3 ECG made its commitment to Vector 2 at a time when EI held a 45% ownership interest in Vector. EI was then one of three sponsors of the Vector project. ECG denied that there was a directive from EI to make a commitment to Vector 2. ECG instead maintained that it made its commitment because Vector 2 was cheaper than a renewal of ECG's corresponding FT service entitlements with TCPL.

3.9.4 ECG advised the Board that it examined delivered service and Dawn supply as alternatives to renewing ECG's corresponding FT service entitlements with TCPL. ECG submitted that it looked at the "cons" as well as the "pros" and selected Vector 2 instead of the non-physical alternatives for the following reasons:

- the cost of delivered service "is likely to rise as competition for delivered service increases with further non-renewals" even though, for comparative purposes, delivered service and Dawn supply "are deemed to be equal";
- although Vector 2 with Chicago supply is more expensive, "Dawn is not a very liquid market centre" and, without "adequate supply at Dawn to meet all future demand...provided by a pipeline, the prices at Dawn will rise as competition for limited supplies at Dawn increase rapidly"; and
- "[t]he potentially higher costs of Chicago (via Vector) over the Dawn supply option is off-set by the non-monetary benefits of a physical route listed below".

3.10 GENERAL COMMENTS ON ALLIANCE AND VECTOR

3.10.1 In Union's submission, whether or not the Board finds that the initial presumption of prudence is overcome on the facts of this case, the record does lead to the conclusion, considering only the reasonableness of the decision in light of the circumstances that existed *at the time*, excluding all consideration of hindsight, that ECG acted prudently in contracting for upstream capacity on the Alliance and Vector pipelines.

3.10.2 CME was of the view that it was not prudent for ECG to enter into the Alliance and Vector long term contracts, particularly in circumstances where the contracts are with parties owned in part by ECG and/or its affiliates. In this regard, CME supported the position expressed by the CAC's expert witness, Mark P. Stauft, namely that there were more reasonable alternatives available to ECG than the Alliance/Vector option.

3.10.3 VECC argued that the pipeline ownership interests of ECG's parent EI were a significant, if not the primary, concern in the making of the decisions to contract for capacity on Alliance and Vector. VECC argued that there were numerous circumstances where the "conspicuous symmetry" of the actions of the utility and the interests of its parent are revealed.

3.10.4 VECC noted that the relevant decisions represent major financial commitments by ECG to new methods of gas supply. Unlike previous transportation paths, ECG would be contracting for capacity on pipeline systems owned by its parent.

3.10.5 VECC submitted that it is the reality of the cross ownership interests of EI that is the smoking gun for this issue, not the presence of a marching order from EI. It would also generally be thought to be incumbent on ECG to demonstrate that measures were taken to ensure independence in the face of the potential conflict.

3.10.6 VECC pointed out that there are some telling examples of the conflict available in the record of this proceeding. These include:

- ECG conceded that there were suggestions from EI favour of both Alliance and Vector ;

- ECG had communications with its parent concerning the development of transportation paths that would move the Chicago gas from Alliance Pipeline into pipelines owned by its parent EI;
- evidence provided in the proceeding appears to document an effort on the part of ECG to determine ways of using EI pipeline assets to move gas from Chicago to ECG s market and to assess what tolls are required from Chicago to the city gate to make the Alliance Pipeline competitive.

3.10.7 VECC pointed out that ECG never examined the Foothills/Northern Border pipelines as an alternative to bypass TCPL in the past, "an omission consistent with its affinity for its parent's project". The evidence suggested that ECG had never been in the queue for Transportation Services on the Foothills or Northern Border pipeline nor inquired about the 1998 expansion on the Northern Border system.

3.10.8 VECC submitted that there is little on the record to dispel the natural inference that ECG and its management acted, at all times, to favour its pipeline-owning parent. The evidence disclosed a trail of favouritism towards its parent's investment in the decisions of ECG, as well as providing evidence of demonstrable imprudence.

3.10.9 CAC submitted that the Board should find that ECG's decisions to contract for Alliance and Vector capacity were not prudently made. In the case of the decisions to contract for Alliance capacity, the Board should find that ECG failed to consider all reasonable alternatives, and in particular failed to consider the alternative of acquiring supply in the Chicago market.

3.10.10 With respect to both the Alliance and Vector contracts, CAC submitted that the Board should find that ECG has failed to prove that the contracts were made to benefit ratepayers as opposed to its parent, EI. In CAC's view, the evidence clearly points to a conflict of interest especially in light of the fact that Union and ECG are the only LDCs to contract for significant capacity on both pipelines, ones that their parents have a considerable interest in.

3.10.11 CAC is suspicious about the nature of Mr. Foster's retainer. Mr. Foster claimed that he was retained to provide an opinion on the prudence of ECG's decision to contract for capacity on Alliance and Vector. To support that opinion, Mr. Foster claimed that he had reviewed the record in this case. Yet at the time he delivered his opinion, in the form of his pre-filed evidence, the Otsason Memo and the Dann Memo, which are the only evidence of what ECG considered in reaching its decisions, were not yet part of the record. Accordingly, Mr. Foster arrived at his opinion without ever looking at what ECG considered. CAC submitted that the only reasonable conclusion is that Mr. Foster was retained to provide a patina of independence and respectability for ECG's own assertions.

3.10.12 CAC stated that it is clear that, with one exception, he has made no independent assessment but is relying on ECG's own assertions. The one exception is his contact with three, unidentified Chicago LDCs in an attempt, one presumes, to provide an independent assessment of the perception of the Chicago market. Not only does he not identify the three LDCs, he makes no effort to establish that what they purportedly say is representative of the entire market.

3.11 RELIEF AND REMEDIES

Relief Requested by ECG

3.11.1 ECG is seeking the following Board findings on the Alliance and Vector issue in this proceeding:

- The cost differential recorded in the Notional Deferral Account between ECG's new and traditional paths for the 10-month period preceding the test year is reasonable, under the circumstances, and so it is allowed in its entirety for rate-making purposes;
- The cost consequences of the new path for the test year are reasonable, under the circumstances, and so they are allowed in their entirety for rate-making purposes; and
- ECG's management was prudent in taking the actions that give rise to the cost consequences of the new path not only in the 10-month period, as reflected in the cost differential, but also in the test year.

Intervenors' Position

3.11.2 CAC submitted that the Board should find that:

- for the ten-month period, ECG should not be entitled to recover, in rates, the amount in the Notional Deferral Account; and
- for the 2002 Test Year, ECG should not be entitled to recover, in rates, the amount in the Notional Deferral Account.

3.11.3 With respect to the duration of the Alliance and Vector contracts, CAC submits that the following relief should be granted:

- that the Notional Deferral Account should be continued, but solely for the purpose of providing a short-hand means of assessing the outcome of the decisions to contract for Alliance and Vector capacity;
- that the Notional Deferral Account should be expanded to include calculation of the costs of acquiring similar volumes of gas at Chicago and Dawn;
- that, in each rate case, ECG should be required to submit evidence as to why it should be allowed to recover, in rates, more than the lowest cost of the four alternatives, namely Alliance/Vector, TCPL, Chicago and Dawn.

3.11.4 VECC did not agree with ECG's interpretation of the 2001 Settlement Agreement, to the effect that intervenors and the Board are precluded from examining in the 2001 fiscal year the Alliance and Vector cost consequences with the exception of the Notional Deferral Account. The Notional Deferral Account was established to facilitate the technical requirements of the resolution of the cost consequences issue, and was not intended to function as a substantive limitation.

3.11.5 VECC submitted that the Board should provide the financial impacts to ECG for fiscal 2001 on the cost differential associated with what the Board deems to be a prudent action versus the actual actions ECG has taken.

3.11.6 CME stated that ECG should be required to seek Board approval prior to entering into any contracts longer than the applicable period of regulatory review. Requiring ECG to obtain Board approval for long-term contracts (ie: longer than a PBR period) would help to ensure that ECG documents its "thought processes" and rationale for pursuing certain options. Intervenors and the Board would be able to properly assess whether decisions affecting ratepayers are being made in their best.

3.12 BOARD COMMENTS AND FINDINGS

Review of Prudence

3.12.1 While the parties described it in somewhat varying terms, in the Board's view they were in substantial agreement on the general approach the Board should take to reviewing the prudence of a utility's decision.

3.12.2 The Board agrees that a review of prudence involves the following:

- Decisions made by the utility's management should generally be presumed to be prudent unless challenged on reasonable grounds.
- To be prudent, a decision must have been reasonable under the circumstances that were known or ought to have been known to the utility at the time the decision was made.
- Hindsight should not be used in determining prudence, although consideration of the outcome of the decision may legitimately be used to overcome the presumption of prudence.
- Prudence must be determined in a retrospective factual inquiry, in that the evidence must be concerned with the time the decision was made and must be based on facts about the elements that could or did enter into the decision at the time.

3.12.3 While a party challenging the prudence of a decision made by the utility has an obligation to raise reasonable grounds for undertaking such a review, it does not need to establish a *prima facie* case that the utility's decision was imprudent; rather it must demonstrate that there is an issue to be determined on further inquiry by the Board. This is particularly true in the case of a regulated utility where it is the only party in possession of all the relevant information about how and why the decision was in fact made.

3.12.4 A party can raise reasonable grounds through such means as an examination of the outcome of the decision, the inherent conflict of interest of related parties to a transaction and relevant industry practices at the time the decision was made.

3.12.5 Once a party has persuaded the Board that a prudence review is warranted, or, as some have put it, the presumption of prudence has been "overcome", the onus is then on ECG to demonstrate that the decision it made was prudent at the time.

3.12.6 The Board does not agree with ECG's assertion that other parties have an obligation to demonstrate that another course of action would, objectively, have been better than the one taken by ECG.

3.12.7 There were two bases on which the intervenors challenged the presumption of prudence of ECG's decisions:

- that there was an inherent conflict of interest between ECG and its parent, EI; and
- that the outcome of the decisions appeared to have resulted in a higher cost than might otherwise have been the case.

3.12.8 ECG argued that since it had consented to the issue of prudence being raised in this proceeding, there was no need for the Board to make a specific finding that the intervenors had raised reasonable grounds for a prudence review.

3.12.9 Notwithstanding ECG's consent that prudence would be an issue in this proceeding, the Board finds that it would be helpful in this case to make the specific finding that there is an inherent conflict of interest between the regulated utility and its affiliate or affiliates and that such conflict of interest is sufficient grounds to inquire into the prudence of the decisions made by ECG.

3.12.10 The Board agrees with ECG that EI and ECG may have had a shared interest in having the pipelines built; however, their interests were not always the same. For example, the Board notes that EI's interest as an investor in the pipeline was to ensure the project's profitability in order to maximize its own profits, while ECG's interest, as a regulated utility, was to obtain transportation service at the least reasonable cost.

3.12.11 While the fact that EI may have profited from these arrangements is not by itself sufficient evidence to establish that the arrangements were not prudent for ECG, it is, however, sufficient evidence to overcome the presumption of prudence and invite further inquiry by the Board.

3.12.12 The Board agrees with the intervenors that the outcome of a decision may also overcome the presumption of prudence. The Board notes that as the Notional Deferral Account used to track the cost differences between the two transportation paths has a balance in favour of the "traditional path", this also suggests that the prudence of ECG's decision should be examined.

3.12.13 The Board finds that the presumption of prudence has been overcome and that there are reasonable grounds to inquire into the prudence of ECG's decisions to enter into long term transportation arrangements with the Alliance and Vector pipelines.

Alliance 1

3.12.14 The Board's review of prudence of ECG's decision to enter into Alliance 1 centres largely on the Otsason Memo since ECG's evidence was that it summarized the factors taken into account by ECG in making its decision.

3.12.15 The Otsason Memo's rudimentary financial analysis presented a range of possible financial outcomes and concluded that the Alliance transportation path was likely to be more expensive than the NOVA/TCPL alternative with which it was compared. Therefore, ECG must satisfy the Board that it had good reasons for choosing this alternative.

3.12.16 The Board notes that several of the advantages, such as ECG's legitimate objectives of encouraging competition with TCPL and securing alternative sources of supply, would have occurred as a result of the Alliance pipeline being built irrespective of ECG's participation in the fall of 1996. At the same time, ECG's evidence was that ECG's participation was not crucial to ensuring that the pipeline was built.

3.12.17 While the Otsason Memo suggests that shipping through Alliance to Chicago would provide ECG with transactional service and arbitrage opportunities, the Board notes that these opportunities would exist only if Chicago were a functioning, liquid market. This position is consistent with Mr. Stauft's evidence that ECG should have known that the Chicago market would develop by the time ECG would be in a position to ship gas through Alliance.

3.12.18 The Otsason Memo is inconsistent with ECG's witnesses testimony that the Chicago market was not, in their view, well developed and there was no way in 1996 that they could have foreseen that it would be. ECG's evidence was that at that time, the only alternatives they seriously considered were those that involved a physical transportation route from a supply source.

3.12.19 The Otsason Memo assumed that the ANR/MichCon/Link path would be used to complete the path from Chicago to Dawn, and ECG contracted on the basis of this assumption. However, the Otsason Memo made no comment about the likelihood of approval of the ANR/MichCon/Link path or its in-service date. In light of ECG's position that only a physical route from the supply basin was appropriate, the Board questions ECG's willingness to enter into a long term commitment with no assurances about the completion of the route.

3.12.20 One of the disadvantages identified in the Otsason Memo was the risk of in-service delays for the Alliance pipeline. This risk in fact materialized; the in-service date was delayed by over one year from November 1999 to December 2000.

3.12.21 One way ECG could have demonstrated the prudence of its decision was to provide the Board with evidence that it has considered and analyzed the full range of reasonable alternatives. Yet ECG did not provide evidence that it considered the effects of the Alliance pipeline on gas markets and other transportation alternatives. In addition, particularly in light of ECG's evidence that its participation was not required to build the Alliance pipeline, ECG has not provided the Board with evidence that it evaluated the option of waiting until the Alliance pipeline was built before making a long term commitment.

3.12.22 The Board is not convinced by ECG's argument that there is an obligation on the intervenors to demonstrate that there was a better alternative available. To so require would be to allow ECG's decisions to in effect "win by default".

3.12.23 Based on the evidence, the Board is not satisfied that ECG's decision to enter into the Alliance 1 contract in 1996 was prudent.

Alliance 2

3.12.24 While ECG argued that it entered into Alliance 2 because it required additional capacity to meet projected market growth, it provided the Board with limited evidence to support this position. The Board's concerns with respect to Alliance 1 are equally applicable to Alliance 2.

3.12.25 In addition, the Board notes that at the time ECG entered into Alliance 2, there was still a measure of uncertainty surrounding the transportation of gas from the western supply basin to Ontario. The Alliance pipeline had still not been approved by the NEB, although FERC preliminary approval had been granted in August 1997. Further, it appeared that ANR/MichCon/Link was not going to proceed but EI was proposing the construction of the Vector pipeline, although no application for approval had yet been filed with the appropriate regulators.

3.12.26 The Board notes that AEC transferred its ownership interest in Alliance to EI at the same time that ECG increased its commitment to Alliance by a similar percentage. While ECG denied being directed by EI to assume the additional capacity, the Board remains unconvinced that ECG was not influenced by EI in some way.

3.12.27 Particularly in the absence of independent additional analysis, the Board is not satisfied that ECG's decision to enter into the Alliance 2 contracts in 1997 was prudent.

Vector 1

3.12.28 The Board acknowledged that with the demise of the ANR/MichCon/Link route ECG was faced with the requirement to complete the transportation path from Chicago to Dawn.

3.12.29 ECG provided evidence that it analyzed the two options reasonably available to it at the time: gas swaps between Chicago and Dawn, and a physical pipeline route. The Board also notes that in the case of Vector 1, ECG did not make a firm commitment pipeline until it had received regulatory approval.

3.12.30 The Board does not agree with CAC that once an imprudent decision has been made, all decisions flowing from it are also imprudent. The Board notes that ECG has an ongoing obligation to review and mitigate the consequences of all of its decisions.

3.12.31 Under the circumstances, the Board agrees with ECG that contracting on Vector to complete the path from Chicago to Dawn was a reasonable decision. The Board finds that ECG's decision to enter into the Vector 1 contract in 1999 was prudent.

Vector 2

3.12.32 While ECG advised the Board that it entered into the Vector 2 contract in order to replace expiring capacity on TCPL, it did not provide the Board with sufficient evidence and analysis, including alternatives, to justify this decision.

3.12.33 The Board notes that the Vector 2 decision was independent from its previous decisions to enter into the Alliance 1 and 2 and Vector 1 contracts and was not required in order to complete the single continuous transportation path from the western Canada supply basin to southern Ontario. In addition, the Board notes that the cost consequences of the Vector 2 contract were not included in the calculation of the Notional Deferral Account, which is a key element of the Board's prudence review of the Alliance and Vector arrangements.

3.12.34 As a result, the Board is not prepared at this time to make a determination of the prudence of ECG's decision to enter into the Vector 2 contract.

Relief and Remedies

3.12.35 The Board notes that the parties agreed in the 2001 Settlement Proposal to establish the Notional Deferral Account as a means, among others, of ascertaining whether the entire cost differential should be allowed for rate making purposes and, if not, the amount that should be disallowed.

3.12.36 The Notional Deferral Account was intended as a measure to ascertain whether the cost differential between the old and the new paths was substantial, such that it would raise the issue of whether the presumption of prudence had been overcome. It was not intended as a method of determining the cost consequences and any potential disallowance of costs if the Board were to find that entering into the Alliance and Vector agreements were not prudent.

3.12.37 Based on the Board's finding that the Alliance 1 and Alliance 2 contracts were not prudent, the Board is not prepared to grant ECG's request to allow the full amount of $12.4 million recorded in the Notional Deferral Account to be recovered from ratepayers.

3.12.38 The Board notes that ECG's evidence indicates that of the $12.4 million in the Notional Deferral Account, $11.0 million is attributable to the fact "ECG suppliers for the new path were concerned about the uncertainty of Alliance's December 1st in-service date, in light of previous delays, and so they insisted on spot pricing rather than monthly pricing for December 2000. There was a price spike during the month that drove spot prices much higher than monthly prices. "

3.12.39 The Board notes that the "considerably higher risks of in-service delays" was one of the disadvantages of the Alliance pipeline specifically identified in the Otsason Memo. The Board is not satisfied that ECG took appropriate action to mitigate this identified risk. As a result, the Board finds that $11.0 million is an appropriate amount reasonably attributable to these delays.

3.12.40 The Board is not prepared to continue or expand the basis of the Notional Deferral Account as suggested by CAC: it is a one-time disallowance. The Board finds that it is neither reasonable nor practical to continue to examine the cost differential in future rates cases, as suggested by CAC.

3.12.41 The Board directs ECG to credit $11.0 million to the 2002 PGVA and to provide the Board with sufficient evidence of this credit when dealing with the clearance of the 2002 PGVA in the 2003 rates proceeding.

4. SYSTEM GAS

4.1 BACKGROUND

4.1.1 As part of the 2001 Settlement Proposal, ECG undertook to conduct a study of the existing gas supply management costs which are assigned to its system gas and direct purchase customers. The study (the "2002 FAC Study") was to use the fully allocated costing methodology and was to examine, in detail, the existing cost allocation methodology which results in the assignment of gas supply management costs to system gas customers and to direct purchase customers.

4.1.2 In addition, ECG agreed to retain a consultant to undertake an examination of the hypothetical costs of managing system gas as a discrete business, on a stand-alone basis. The consultant was also to ascertain how these costs would vary from those costs allocated to system gas customers in 2002 FAC Study.

4.1.3 The Company filed both the 2002 FAC Study and the consultant's report in this proceeding.

BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

AND

F2009 AND F2010 REVENUE REQUIREMENTS

DECISION

March 13, 2009

Before:

L.A. O'Hara, Panel Chair and Commissioner
R.J. Milbourne, Commissioner
A.A. Rhodes, Commissioner

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In reply, BC Hydro addresses the matters described above as raised by the CEC and BCOAPO in general terms, and submits that, given the circumstances, its forecast cost of energy should not be arbitrarily amended. It then deals, in order, with the areas of challenge it has identified, and submits that none of the challenges should be accepted as valid by the Commission.

Commission Determination

The Commission Panel notes that the variances from BC Hydro's forecast energy costs are captured in either the HDA or NHDA as the case may be, and further that its approval to defer the impact of load variation on the cost of energy as described in Section 4.1 above of this Decision should mitigate the concern raised by the CEC. **Accordingly, subject to modification by the Commission Panel's determinations below in the areas of challenge identified by BC Hydro, BC Hydro's forecast of domestic energy costs is approved.**

The balance of this Section deals in turn with each of the areas of challenge.

4.3.1 G.M. Shrum Unit 3 Failure

In its July EU, BC Hydro reported that on March 2, 2008, the turbine runner on Unit 3 at the G.M. Shrum (GMS) Generating Station experienced a catastrophic failure and is expected to be out of service for a year. In combination with other factors this outage led to forecast shortfalls of 340 GWh and 482 GWh for F09 and F10, respectively, from the hydroelectric generation forecast in the Application (Exhibit B-10, p. 16).

While the final cost of returning the unit to service was not available, pursuant to Order G-96-04, BC Hydro noted that it has approval to, and would defer those costs in the HDA (Exhibit B-10, p. 17).

BC Hydro filed two reports concerning the GMS Unit 3 failure. These were its internal "Technical Report" (Exhibit B-25), and a "Root Cause Report" provided by a third party consultant (Exhibit B-50). During the Oral Hearing, BC Hydro's EARG Panel was examined at length by both Intervenors and the Commission Panel as to the foreseeability and preventability of the catastrophic failure as well as its revenue and cost implications.

In an exchange with the Commission Panel, BC Hydro disclosed that it carried insurance with a deductible of $5.0 million against the currently estimated $24 to $28 million cost to return the unit to service, but that the additional total impact on the cost of energy, currently estimated at $17 million was not covered. The matters related to BC Hydro's practices with respect to insurance coverage are described in Section 6.4 of this Decision.

In terms of the failure itself, inquiries of BC Hydro's witnesses focused on such matters as BC Hydro's maintenance personnel replacing a previously failed shear pin with a shear pin from a bin labeled "do not use," inasmuch as it was the failure of this latter pin that triggered the series of events that led to the catastrophic failure. Other matters pursued included the apparent failure of BC Hydro to implement preventative measures that had been recommended to it by its engineering personnel that would, if implemented, have detected the failure of the shear pin and/or the vibration level accompanying the ensuing cascading failure and taken the unit off-line without the consequent catastrophic damage.

In its witnesses' responses, and as summarized in its Argument, BC Hydro takes and maintains the position that the failure was neither foreseeable nor preventable in that:

> "The evidence is that the failure of shear pins, and [this] pin in particular, was not an uncommon occurrence, and had occurred numerous times in the history of the unit without causing the cascading failure that had led to the unit outage. Indeed, units were run with broken shear pins to allow for replacements at opportune times without incident. Nothing in either report suggests that the specific shear pin .... was a primary or even secondary cause of the cascading failure ... . Crucially, the design limitation and failure mode was unknown until it occurred even though the turbines have been the subject of extensive engineering analysis over a period of 40

> years. It is for these reasons that the actions identified in the two reports that *could* have been taken, and which *might* have prevented the failure, provide no basis on which a finding of imprudence can be made." (BC Hydro Argument, p. 48; emphasis in original)

The JIESC takes issue with BC Hydro's position and submits that "BC Hydro's imprudence was not that it did not know of a latent defect, it was in allowing faulty parts to be used and not having normal recommended safeguards in place for detecting shear pin failure and monitoring vibration", and further that "the responsibility for the associated costs .... must be borne by BC Hydro and its shareholder" (JIESC Argument, p. 38).

In support of its position, the JIESC quotes extensively from the two technical reports entered and adopted without qualification as evidence by BC Hydro, which establish that:

(i) the failed shear pin that triggered the cascading failure was date stamped with " ...the same date stamped on several pins found in GMS stores tagged "do not use, emergency use only"; and

(ii) risks associated with shear pin failures were not fully recognized, despite failures which continued through to March 2008; and

(iii) Unit 3 was not equipped with a shear pin failure detection system as "In 2000 the "GMS G1 – G10 V*ibration Monitors Replacement Project Definition Phase" was initiated, which included shear pin failure detection. However the project was not implemented";* and

(iv) *"improved vibration monitoring was proposed in the mid 1990's by Generation Engineering with extensive studies and recommendations presented in 2000.",* but no action was taken; and

(v) "the costs of installing shear pin detection and vibration monitoring for GMS Units 1-5 was estimated to be under $1.5 million."

(JIESC Argument, pp.42-43, emphasis in original)

The only other Intervenor to comment directly on the GMS Unit 3 failure was the CEC, who submits that " ... in the case of the G.M. Shrum failure, [CEC] does not believe on balance that BC Hydro was imprudent but rather the evidence is that it was unaware of a potential failure sequence" (CEC Argument, p. 122).

In reply, BC Hydro reiterates much of its Argument in this matter and submits that neither of the reports support the JIESC thesis that BC Hydro ought to have known of the defect, even with the benefit of hindsight. Specifically, BC Hydro notes that:

(i) "shear pin failures had occurred many times previously without incident and without even necessitating an immediate shutdown"; and

(ii) the use of a faulty shear pin is irrelevant inasmuch as "a shear pin is intended to be the weak link that breaks first when a mechanical problem arises, to prevent further more extensive damage"; and

(iii) "In this case the failure of a shear pin actually caused, rather than prevented, extensive damage ..."; and

(iv) "the turbine units at the G.M. Shrum station had been the subject of extensive engineering analysis for many years without the defect being discovered"; and

(v) "... because the latent defect and failure mode were not known, and not reasonably knowable, each and every one of the safeguards could only have prevented the failure by dumb luck – and under any meaning of the word it can not be "imprudent" to not get lucky"; and

(vi) "the small cost of the safeguards relative to the cost of the failure is irrelevant in light of the unknown failure mode [i.e.] management and engineers simply could not have considered the relative costs and benefits of the safeguards in light of the costs of the failure because there was no knowledge of the latter"; and

(vii) "The Root Cause Report was not intended to, and does not address ... whether the unit failure was the consequence of imprudence. Instead its focus is entirely about what contributed to the failure, and how future performance can be improved."

(BC Hydro Reply, pp.18 –19)

Given the magnitude and uncertainty of the cost and the unknown return to service date of the failed unit, the Commission Panel invited further submissions in Oral Argument in respect of the regulatory accounting treatment for the direct and indirect costs of the failure, pursuant to item 4 of Exhibit A-26.

BC Hydro argues that the determination as to the prudency of its management decisions should be made based on the evidentiary record in this proceeding. It also submits that it expects all of the costs to be recovered from its insurance, except for a "relatively small" $5.0 million deductible. In response to clarification from the Panel Chair that the costs being considered by the Commission Panel as "indirect" included an increase in the cost of energy, BC Hydro acknowledged that, given that that cost was not known, and that it could be relatively large, it might be better put into a deferral account or, depending on the circumstances, taken as an expense in one year. BC Hydro suggests that it could identify all of the failure related costs in its existing deferral accounts and provide the total in its deferral account reporting without setting up a specific deferral account - which could be done if required (T15: 2840-2844).

BCOAPO took no position in respect of the recoverability of the costs of the failure by BC Hydro, but submits that "concerns that customers will pay the right amount trump concerns that the correct generation of customers are paying that amount" (T15: 2849).

The JIESC agrees with BC Hydro that the determination as to the prudency matter should be settled now, but that if a deferral account were created to allow for the quantification of the direct and indirect costs that would not raise any particular concerns (T15: 2851).

The CEC supports the use of a deferral account to assess the quantum of the impact of the failure prior to determination of any amortization periods (T15: 2853).

No other Intervenor made submissions on the matter. BC Hydro made no submissions in reply.

Commission Determination

The Commission Panel accepts BC Hydro's argument that it was unaware of the potential for the exact mechanism of failure that took place in the present case. It does not, however, accept BC Hydro's argument that inasmuch as it did not know of the precise mechanism of failure, that it was not in its and its ratepayers best interests to put in place its own engineering staff's recommendations for shear pin failure detection systems and enhanced vibration monitoring of the GMS Units.

The Commission Panel notes that the recommendations for those safeguards as referenced in the Root Cause Report are contained in certain BC Hydro internal studies and reports, which were not filed in this proceeding. The Commission Panel infers that those arose from concerns that BC Hydro's qualified technical staff had in respect of the integrity and security of the units. BC Hydro's operational and maintenance management saw fit to not accept and implement the recommended safeguards, despite their modest cost and the virtual certainty that if implemented they would have secured the units against a suite of possible failure events which would have included the particular mechanism of the GMS Unit 3 failure. The Commission Panel does not accept BC Hydro's linkage of its decision to not implement the safeguards to its engineering and maintenance personnel's inability to do a cost-benefit analysis against the particular failure mode of GMS Unit 3.

The Commission Panel finds that the evidentiary record is sufficient to overcome a presumption of prudency claimed by BC Hydro in respect of its past decisions regarding its management of the GMS units. The Commission Panel finds, however, that any determination as to the reasonableness of BC Hydro's management of the GMS units and hence its ability to recover the costs associated with the Unit 3 failure must of necessity consider a more complete evidentiary record than that available to this proceeding. **Accordingly, given the seriousness and materiality of the GMS Unit 3 failure, BC Hydro is directed to segregate all of the incurred-to-date and future direct and indirect costs of the outage and repair, inclusive of the impact on its cost of energy, in a separate regulatory account ("the GMS3 RA"), and to apply, at its discretion, to the Commission**

for recovery of those costs at such time as all of the costs are known and can be appropriately allocated by the Commission. At such time BC Hydro is expected to include in its application the studies and reports which recommended the installation of the safeguards, and its reasons for not responding constructively to them, in order that a determination as to the reasonableness of its management's decisions at that time can be made.

4.3.2 F2006 Call for Energy (the "F2006 Call")

Electricity purchased under the F2006 Call is at issue in this proceeding due to the fact that BC Hydro made the decision to purchase 5,725 GWh per year of Firm Electrical Energy from large IPP projects and 1,400 GWh per year of Non-Firm Electrical Energy from large and small IPP projects when the NSP Agreement approved by the Commission in the 2005 REAP proceeding contemplated purchases of 2,500 GWh per year of firm electrical energy, together with associated non-firm electrical energy from large projects and 200 GWh per year of non-firm electrical energy from IPP projects "at relatively high prices" (F2006 Call Decision, pp. 8, 20).

In its opening statement COPE indicated that it would question whether the incremental costs (Electricity Purchase Agreement ("EPA") vs. market cost of electricity) of the F2006 Call energy coming on stream in the test period should be allowed as a recoverable expense, noting that when the Commission accepted the F2006 contract awards in its September 21, 2006 Decision it stated that BC Hydro would bear the regulatory risk of the Commission not accepting BC Hydro's estimated load requirements and, in particular, the Commission's decisions regarding the non-firm allowance that BC Hydro should use in determining its requirements – the deficits BC Hydro presented in support of the need for additional resources as soon as 2009 assumed no market allowance. In its subsequent 2006 IEP Decision (Exhibit C-3-11) the Commission indicated that BC Hydro should continue to rely on the 2,500 GWh market allowance and that the market allowance should not necessarily be restricted to domestic resources (T3: 264-265).