British Columbia Utilities Commission
Order No. G-21-03

Re: Vancouver Island Energy Corporation
Application for a
Certificate of Public Convenience and Necessity for the
Vancouver Island Generation Project

FINAL ARGUMENT
OF THE INTERVENORS
GSX CONCERNED CITIZENS COALITION and
NANAIMO CITIZENS ORGANIZING COMMITTEE

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Key Points

Dismissal of the CPCN application

1. GSXCCC and NCOC respectfully request that the Commission dismiss VIEC's application for a CPCN for VIGP because VIEC has not established on the balance of probabilities that VIGP is the most cost-effective means to reliably meet power needs on Vancouver Island.

2. VIEC has neutralized the portfolio NPV analysis by costing all portfolios on the basis of gas-fired generation; by ignoring the potential financial liability of GHG emissions; and by ignoring smaller, incremental means of meeting electricity needs on the Island. For the NPV analysis to have been more useful, it should have included a broader range of portfolio options.[1]

3. Ironically, partly as a result of this homogenization, the NPV analysis does not prove that VIGP is the most cost-effective alternative.

4. Consequently, VIEC relies on one main *qualitative* factor to justify VIGP. VIEC argues that VIGP is the only feasible option to meet an asserted electricity capacity shortfall for planning purposes (the "short-term gap") on Vancouver Island of approximately 213 MW between 2007/2008 and the earliest feasible in-service date of a 230 kV sub-sea electrical cable system to the Island. However, VIEC has not proven that the short-term gap will be as large as 213 MW. Further, VIEC has not proven that VIGP is the most cost-effective way to bridge the gap. (Discussed further, below.)

5. The evidence[2] shows that construction of a new 230 kV cable transmission system from the Mainland to Vancouver Island would be *more reliable* than VIGP and a third CCGT on the Island (i.e., Portfolio 2) in terms of Expected Electricity Not Served (EENS). The evidence[3] also shows that the new 230 kV system together with advancement of Revelstoke 5 and a five-year delay of additional capacity (i.e., Portfolio 3)[4] would be *more cost-effective* than

[1] Tim Makinen. Transcript Vol. 3, pp.490-494.
[2] Li, Wenyuan. "Reliability Evaluation of Three Scenarios for Vancouver Island Power Supply - An Expected Energy Not Served (EENS) Study" (June 2003), attached to Exhibit 4E, VIEC Response to BC UC Staff IR 60.4. And see the evidence of Mr. Mansour at Transcript Vol. 4, pp.782-783.
[3] See Exhibit 4AAA (without sunk costs) and Exhibit 4FF (including sunk costs).
[4] See Exhibit 4TT.

Portfolio 1 (VIGP and GSX) in meeting Vancouver Island's electricity needs in the *medium* and *long* term.

6. VIGP and GSX would tend to lock Vancouver Island into gas-fired generation in the future. VIEC considers this a virtue, referring to GSX's excess initial capacity and later expansion possibilities as an option value of VIGP.[5] However, almost all the costs of GSX are incurred in Portfolio 1; there would be only slight increases for gas transportation costs to expand on-Island generation in Portfolio 2.[6] Thus, building VIGP supplied by GSX would create a strong financial incentive to distribute the costs of GSX among future additional on-Island gas-fired generators.

7. However, the joint BC Hydro-TGVI submission[7] confirms that incremental expansion of TGVI is an economically feasible alternative to building an entirely new gas pipeline. GSXCCC and NCOC take the position that it is generally preferable to avoid additional fossil fuel-based generation in order to minimize potential GHG liability and, in the case of gas, to avoid the risk of high future gas prices.[8] In addition, as Mr. Makinen testified, in a "least cost planning approach" it may be more prudent to match load growth with incremental additions to generation:[9]

> MR. MAKINEN: A: Thanks. It comes back down to again the least cost planning approach. Is it prudent to have a very capital-intensive resource built for the core that will lock you into a natural gas future for the Island? The GSX has been inextricably linked with the turbine, and to pay for that pipeline you'll need a high load factor. However, if demand on the Island is reduced, then is there the potential for partial stranding or underutilization of that asset? It may be more prudent instead to match load growth in a march step with incremental resources and a diversity of resources, versus facing a future where there may be demand loss on the Island for whatever unforeseen reason. But that fixed asset will be there for twenty years being paid for by the ratepayer.

[5] VIEC Final Argument, paragraph 89.
[6] Exhibit 4FF, Schedules 3 & 4 ("GSX Gas Transportation Cost"). And, Exhibit 1, Application, p.43.
[7] "BC Hydro & Terasen Gas (Vancouver Island) Inc. Joint Submission" 14 July 2003 – Exhibit number not known at the time of writing.
[8] See Exhibit 19A Evidence of Timo Makinen, Attachment 3: "BC's Electricity Options: Multi-Attribute Trade-Off Analysis of the Natural Gas Strategy for Vancouver Island: Final Report", pp.16-21.
[9] Transcript Vol. 3, p.506.

8. Indeed, were it not for the short-term gap, VIGP would probably not be a justifiable resource addition at this point. The BC Hydro system has sufficient energy to meet requirements to beyond 2011/12 – without VIGP or CCGT additions and with electricity purchases within BC Hydro's 2,500 GWh/year guideline amount.[10] And, the BC Hydro system has sufficient *capacity* to meet requirements until 2010/11 – without VIGP or CCGT additions and with the advancement of Revelstoke 5 as per Portfolio 3.[11]

9. In addition, again setting aside the short-term gap for the moment, there is strong reason to believe that the system-wide requirements for new generation – that VIEC assumes will be met by CCGTs – could instead be met with zero-GHG and low-GHG generation resources. This would include Vancouver Island in particular; if there was adequate transmission capability from the Mainland to the Island. BC Hydro's October 2002 Green Energy call for proposals resulted in 70 proposals, totaling some 5,500 GWh/yr and 1,000 MW, with an estimated firm capacity potential of 200-425 MW and a unit energy cost less than that of VIGP.[12] That process moves to a competitive call for tenders scheduled for August 2003, which will likely firm-up substantial amounts of zero-GHG and low-GHG power. And, Mr. Makinen's evidence[13] confirms the feasibility of the "green energy" resource. The Portfolio 3 option[14] confirms that, with a Vancouver Island transmission upgrade, BC Hydro would not require substantial new generation on a system-wide basis before 2010/11. That gives BC Hydro and IPPs ample time – seven years – to develop the ability of green energy projects to substitute for new CCGTs in B.C. This is the 'green option value' of early implementation of the 230 kV system, compared to locking into gas-fired generation with the VIGP-GSX approach.

10. Turning to the short-term gap, GSXCCC and NCOC argue that VIEC has failed to prove that there will be a gap as large as 213 MW and that VIGP is the only means to meet the gap.

    (a) The following table shows five areas in which the 213 MW gap could be reduced. It also shows a figure for an addition to the gap to account for the contingency that the in-

[10] Exhibit 6, VIEC response to GSXCCC IR1.2.2, table 2.2.B.
[11] Exhibit 6, VIEC response to GSXCCC IR1.2.2, table 2.2.A.
[12] Exhibit 6, VIEC response to GSXCCC IR1.4.1, p. 3.
[13] Exhibit 19A, "Is the VIGP the Least Cost Resource?", pp. 4 & 5.
[14] Exhibit 4TT, Table 4A.

service date of the 230 kV line is delayed from 2008/09 to 2009/10. For illustration purposes, these figures are totaled. However, it is recognized that there are uncertainties associated with some of the items.

VIEC estimated capacity gap 2007/08[15]	213 MW
On-Island Resource Smart opportunities[16]	-14 MW
Additional Power Smart savings identified in the Conservation Potential Review[17]	-20 MW
Effect on peak demand of anticipated future electricity rate increases[18]	-50 MW
Adjustment of the unexplained 154 MW jump between 2001/02 fully adjusted actual and 2002/03 first forecasted peak[19]	-83 MW
Adjustment of forecasted annual growth of peak between 2002/03 and 2007/08 from 32 MW/y to 10 MW/y[20]	-110 MW
Allowance for annual growth in peak in the event of a one-year delay of the 2008 in-service date of the 230 kV system[21]	+10 MW
Illustrative revised 2007/08 gap (surplus)	-54 MW

(b) The above table shows that the gap is likely to be considerably smaller than 213 MW.

(c) Further, Mr. Elton testified that if a CPCN was not issued for VIGP, then BC Hydro would initiate the 230 kV project and meet the Island capacity gap by seeking "short-term fill solutions" using "a competitive open transparent price process." He said "we'd

[15] Exhibit 1, Appendix C.
[16] Exhibit 4, VIEC Response to BCUC Staff IR 3.7. Transcript Vol. 3, pp.605-606. Also, VIEC Final Argument, para.47.
[17] Transcript Vol. 3, p.614, line 25.
[18] Exhibit 3, p.23, plus supplementary page 24. Transcript Vol. 3, p.622.
[19] VIEC shows a jump of 154 MW between the 2001/02 unadjusted actual peak of 2,005 MW and the first forecasted year (2002/03) without Power Smart at 2,159 MW: Exhibit 6, VIEC Response to GSXCCC IR 1.1.2, p.4. The listed temperature adjustment for that year accounts for 61 MW. As a proxy for expected annual growth in peak, use 10 MW/y (being the mean growth rate in historical adjusted peaks for 1990/91 to 2001/02, rounded up). 154 MW – 61 MW – 10 MW = 83 MW. See also Exhibit 19E, para.86. The figure of 10 MW/y peak growth is considerably higher than the Miller estimates for "Vancouver Island Peak Load Forecast Population Based" at Exhibit 19E, Figure 4, p.22; "Vancouver Island Peak Load Forecasts Using Alternative Methods" at Exhibit 19E, Figure 6, p.24; and "Effect of Temperature Adjustment on Population Based Forecast" at Exhibit 19J, Figure 2.
[20] VIEC mean annual forecasted peak load growth before Power Smart from 2002/03 to 2007/08 is 32 MW/y. See previous footnote for explanation of 10 MW/y estimated annual growth of peak. (32 MW/y - 10 MW/y = 22 MW/y) x 5 years = 110 MW.
[21] See second previous footnote for explanation of 10 MW/y estimated annual growth of peak.

look for what was the variety of solutions that could help us in … the period between 2007 and whatever we felt the most likely date was for 230 kV."[22]

(d) GSXCCC and NCOC submits that what Mr. Elton described is an entirely reasonable – and feasible – solution to the short-term gap (and to meeting the system-wide requirements.) Simply put, it cannot be said that VIGP is the only feasible means of meeting the short-term gap. And, in the absence of the results of the CFT, VIEC has not proven that VIGP is the most cost-effective way to bridge the gap.

11. VIEC acknowledges "concerns that completion of the VIGP will be more costly than alternative proposals."[23] VIEC further acknowledges that BC Hydro "does not currently have conclusive information to make this determination"[24] (i.e., whether VIGP will be more costly than alternative proposals). Accordingly, BC Hydro intends to implement a Call For Tenders (CFT) process so that "BC Hydro can determine if there is a more cost-effective project or combination of projects to meet BC Hydro's obligation to serve Vancouver Island with reliable, timely, low cost supply."[25]

12. BC Hydro maintains that "it is unlikely that other projects can be undertaken more economically than completing VIGP."[26] However, the fact that BC Hydro proposes the CFT clearly establishes that at this time neither BC Hydro – nor, by inference, the Commission – has sufficient information upon which to determine that VIGP is the most cost-effective means of meeting electricity needs on Vancouver Island. It follows inescapably that the Commission cannot issue an unconditional CPCN for VIGP at this time.

13. In my respectful submission, it also follows inescapably that the Commission cannot, at this time, issue a CPCN conditional on BC Hydro completing the CFT process as VIEC proposes.[27] There are two related reasons for this conclusion:

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[22] Transcript Vol. 13, p.2917, lines 12-26.
[23] Exhibit 4KK, p.1.
[24] *Ibid.*
[25] *Ibid.*
[26] *Ibid.* Ms. Hemmingsen testified: "In the event that the CFT identifies a preferred alternative we would envision proceeding with that one and in the event that a preferred alternative isn't identified the [conditional] CPCN would allow us to proceed with VIGP…". Transcript Vol. 11, p.2281, lines 1-5.
[27] VIEC Final Argument, paragraph 210.

14. First, sections 45 and 46 of the *Utilities Commission Act* do not authorize the Commission to issue a CPCN that is subject to a condition that goes to the heart of the Commission's determination of whether to issue a CPCN in the first place.

    (a) Section 45(1) authorizes the Commission to issue a CPCN where, and only where, the Commission forms the opinion that "public convenience and necessity require or will require the construction or operation" of the proposed facility. Such a finding by the Commission is a *condition precedent* to the Commission's authority to issue a CPCN.

    (b) Section 46(3) authorizes the Commission to "attach to the exercise of the right or privilege granted by the certificate, terms, including conditions about the duration of the right or privilege under this Act as, in its judgment, the public convenience or necessity may require." [underline added] The ordinary meaning of s.46(3) makes it clear that the terms that the Commission is authorized to attach to a CPCN are ancillary to the CPCN itself. The terms *limit* the holder of the CPCN in its exercise of the rights and privileges granted by the CPCN. The terms *implement* the Commission's judgment; they do not *substitute* for the Commission's judgment.

    (c) Yet, VIEC asks the Commission to attach to a CPCN for VIGP a condition that seeks to determine the answer to the very question that the Commission must answer in the affirmative before it has the authority to issue a CPCN: Is VIGP is the most cost-effective means of meeting electricity needs on Vancouver Island? With respect, the Commission has no authority to do so.

15. Second, the *Utilities Commission Act* authorizes the *Commission* to issue or to refuse to issue a CPCN, with or without conditions. It does not authorize the Commission to sub-delegate this authority to anyone else; not to an independent reviewer and not to BC Hydro. *Delegatus non potest delegare*.[28] Yet, that is exactly what VIEC asks the Commission to do. VIEC's requested conditional CPCN[29] includes the following requested conditions:

    (a) In paragraph 210(a), VIEC asks for a condition that BC Hydro conduct an RFQ/CFT "consistent with the process outlined in Schedule A to this Order." VIEC has filed a draft

[28] One who is already a delegate cannot delegate (in the absence of express authority to do so).
[29] VIEC Final Argument, paragraph 210.

proposed Schedule A as Exhibit 4QQ.[30] The essence of Exhibit 4QQ in this respect is that "BC Hydro will evaluate all tenders…".[31]

(b) In paragraph 210(b), VIEC asks for the CPCN to be subject to a condition that the independent reviewer "files a final report in a form satisfactory to the Commission" confirming that the RFQ/CFT has been carried out according to Schedule A, fairly, and impartially. I submit that the effect of this condition would be to delegate to the independent reviewer the Commission's authority to judge the credibility of the evidence provided to it by the applicant.

(c) In paragraph 210(c), VIEC asks for the CPCN to be subject to a condition that

> The Commission has satisfied itself that BC Hydro has fairly determined that none of the tenders received in the RFQ/CFT process is preferable to the construction of the Vancouver Island Generation Project by BC Hydro. [underline added]

(d) Here, VIEC asks the Commission to delegate to BC Hydro the Commission's authority to make a judgment as to whether any of the alternative proposals is preferable to VIGP. That is precisely the issue that the Commission itself must decide: Is VIGP is the most cost-effective means of meeting electricity needs on Vancouver Island? Again, the Commission has no authority to subdelegate that authority to BC Hydro.

16. For all the above reasons, GSXCCC and NCOC respectfully request that the Commission refuse to issue a CPCN – whether unconditional or conditional as proposed by VIEC – to VIEC for VIGP.

17. GSXCCC and NCOC would not oppose the Commission's dismissal of VIEC's application for a CPCN for VIGP being made with leave to VIEC to re-apply following the conclusion of the CFT process.

[30] Note that counsel for VIEC orally withdrew the last bulleted paragraph on p.5 of Exhibit 4QQ. However, in my respectful submission, this does not solve the invalid subdelegation problem; it merely transfers it back to the requested terms of the CPCN. VIEC will file a final proposed Schedule A as part of its Reply: VIEC Final Argument, paragraph 210, footnote 280.
[31] Exhibit 4QQ, p.4.

In the alternative

18. In the alternative, if the Commission decides *not* to dismiss VIEC's application for a CPCN for VIGP, then GSXCCC and NCOC respectfully request that the Commission make any CPCN for VIGP subject to significant conditions,[32] discussed in the following paragraphs.

19. The conditional CPCN should contemplate that VIEC will submit the results of the CFT process as evidence in this hearing, followed by an expedited opportunity for input from the parties. The conditional CPCN should specify that it will not come into effect unless and until, *inter alia*, the Commission determines on all of the evidence that VIGP is the most cost-effective means to reliably meet power needs on Vancouver Island. This process would at least avoid an invalid sub-delegation of the Commission's statutorily delegated authority to an independent reviewer and to BC Hydro.[33]

20. The conditional CPCN should specify certain mandatory requirements of the CFT process.

21. The conditional CPCN should set the *minimum required aggregate capacity* for 2007/08. GSXCCC and NCOC propose a minimum required aggregate capacity of 100 MW, half of VIEC's proposed 200 MW proposal, based on the factors set out in the table at paragraph 10(a), above.

22. The conditional CPCN should require the CFT to require each tender to disclose the project's estimated GHG emissions per unit energy, and to specify whether the associated credit or liability would be acquired by the proponent or by BC Hydro.

23. The conditional CPCN should require the CFT to allow the $3.00/MWh premium for projects with zero greenhouse gas emissions.[34]

24. The conditional CPCN should require the CFT not to exclude proposals that address only the short-term gap. VIEC proposes a CFT "term" of 20 to 25 years from COD because "BC

[32] I emphasize that this is an *alternative* argument. It applies only where the Commission finds, contrary to my primary argument, that it *is* authorized to issue a CPCN with conditions prior to receiving the information which would allow the Commission to determine whether VIGP is the most cost-effective means of meeting electricity needs on Vancouver Island.
[33] However, this proposed process would not avoid the 'cart before the horse' problem – whether the Commission has the authority to issue a conditional CPCN prior to making the judgment that the proposed facility is required by the public convenience and necessity. I reiterate that this proposed process is presented as an alternative argument.
[34] See the evidence of Ms. Hemmingsen at Transcript Vol. 11, pp.2499-2500.

Hydro is seeking a long-term solution…".[35] However, VIEC's main qualitative rationale for VIGP over the 230 kV system is that VIGP would address the short-term gap.

25. The conditional CPCN should require the CFT not to impose a minimum project size. GSXCCC and NCOC submit that it would be unfortunate to arbitrarily preclude small projects from the CFT merely because of their size. VIEC has given no basis for a minimum size of project.

26. The conditional CPCN should require either that VIGP be tendered into in the CFT process or that VIEC complete the standardized tender form for VIGP. It is important to maximize the extent to which the tenders will be readily comparable to VIGP.

27. BC Hydro's draft Schedule A states that load displacement proposals "will be submitted in accordance with BC Hydro's existing Power Smart program terms, but will be evaluated under this RFQ/CFT."[36] The wording is not entirely clear; the conditional CPCN should require the CFT to provide that the price of load displacement proposals will be specified by the bidder.

[35] Exhibit 4QQ, p.3, definition of "Term". COD – Commercial Operation Date.
[36] Exhibit 4QQ, p.2.

Response to VIEC Final Argument

28. At paragraph 15 of VIEC's 15 July 2003 Final Argument, VIEC "seeks a certificate that confirms the public convenience and necessity for the VIGP, whether completed by VIEC or by an IPP." In response:

    (a) The implications for electricity rates of a sale of VIGP to an IPP[37] have not been addressed in the evidence before the BCUC in this hearing.

    (b) Hence, GSXCCC and NCOC take the position that if a CPCN is issued for VIGP such CPCN should be conditional on VIGP being completed by VIEC. Whether an IPP-purchaser of VIGP would be required to apply for a CPCN for VIGP is not before the Commission at this point.

29. In paragraphs 16 and 17, VIEC argues that if the BCUC issues a CPCN for VIGP "it should also conclude that an EPA[38] with the VIGP's purchaser would be in the public interest." In response:

    (a) The BCUC does not have before it (i) an application for approval of an EPA between BC Hydro and a private owner of VIGP, (ii) the terms and conditions of such an EPA, or (iii) any evidence of whether such an EPA would be in the public interest.

    (b) Accordingly, GSXCCC and NCOC oppose VIEC's request that the Commission conclude that an EPA with a private purchaser of VIGP would be in the public interest.

30. In paragraph 18, VIEC acknowledges that it has proposed, as an alternative to its requested unconditional CPCN, "a CPCN conditioned on issuing a call for tenders (CFT) to supply electric energy and capacity on Vancouver Island," and asks that the Commission issue a decision by "early September 2003" and "if need be" that reasons for the decision follow. In response:

    (a) The GSXCCC and NCOC do not oppose the notion of the Commission issuing a decision with reasons to follow.

[37] IPP – Independent Power Producer.
[38] EPA – Energy Purchase Agreement.

(b) However, if the Commission decides to issue a conditional CPCN for VIGP then the conditions themselves will be critically important. In particular, VIEC, the intervenors, the potential respondents to the CFT, and the public at large will need to know what exactly are the conditions under which the CFT process will be conducted.

(c) Accordingly, if the Commission decides to issue a conditional CPCN with reasons to follow, then GSXCCC and NCOC ask that the initial decision specify the conditions to which the CPCN is subject.

31. In paragraph 20, VIEC summarizes its NPV analysis as follows:

> BC Hydro plans for new electricity resources over the long term and in the context of its entire system. The particular planning challenge here is to avoid the risk of a capacity shortfall anticipated on the Island by 2007, yet to do so in a manner consistent with the entire system's future capacity and energy needs. As discussed below, BC Hydro addressed this challenge by formulating and analyzing alternative 20-year resource portfolios for meeting forecast capacity and energy requirements and comparing the net present value (NPV) of the costs of each. [underline added]

32. In response, VIEC takes the position that Portfolio 3 does not "avoid the risk of a capacity shortfall anticipated on the Island by 2007".[39] For that reason, VIEC argues that even though the NPVs of Portfolios 1 and 3 are roughly equal[40] Portfolio 1 is superior to Portfolio 3.[41] GSXCCC and NCOC submit that this approach defeats the purpose of a NPV analysis.[42] Since VIEC formulated Portfolio 3 in such a way that it does not meet "[t]he particular planning challenge here" it is inevitable that Portfolio 3 will be rejected because it does not meet "[t]he particular planning challenge here."[43] With respect, that is circular reasoning.

33. In paragraph 21, VIEC acknowledges the Commission's duty to oversee BC Hydro but implies that the Commission's role is secondary to BC Hydro's responsibility to provide

[39] See Transcript Volume 5, p.1145, lines 3-8.
[40] See Transcript Volume 5, p.1145, lines 12-17.
[41] See Transcript Volume 5, p.1145, lines 18-23.
[42] The purpose of an NPV analysis is to compare the respective NPVs of various alternative methods of achieving pre-defined objectives.
[43] VIEC Final Argument, para.20.

reliable electricity service. In support of this point, VIEC cites the *BC Hydro v. BC*[44] case and a decision of the Alabama Public Service Commission.[45] In response,

(a) BC Hydro's responsibilities do not diminish the responsibility – and authority – of the Commission to ensure that the service provided by BC Hydro is "in all respects adequate, safe, efficient, just and reasonable."[46] This principle is not affected by the Court of Appeal's decision in the *BC Hydro v. BC* case.

(b) The quote from the Alabama Public Service Commission does not apply to the supervisory role of the BCUC in relation to BC Hydro.

34. In paragraph 23, VIEC states that Vancouver Island peak demand is "currently at approximately 2200 MW." With respect, that is incorrect. Vancouver Island peak demand for 2001/02 (the most recent in evidence) is 2005 MW (including transmission losses and not temperature adjusted), which has been temperature-adjusted to 2066 MW.[47]

35. In paragraph 24, VIEC refers to "the expected retirement of a significant part of the bulk transmission facilities that connect the Island to the Mainland electric system." [underline added] As was clarified a number of times during the hearing, BC Hydro plans to zero-rate the HVDC system for planning purposes; not necessarily to decommission it.

36. In paragraph 35, VIEC discusses the EENS analysis of Portfolio 2, Portfolio 3, "Do nothing", and HVDC Life Extension, and emphasizes that both Portfolio 2 and Portfolio 3 outperform the other two scenarios. However, VIEC does acknowledge that by 2012 Portfolio 3 has an EENS of 3,021 MWh compared to an EENS of 4,141 MWh for Portfolio 2. Hence, in the long-term, Portfolio 3 substantially outperforms Portfolio 2 in terms of EENS. In addition, the EENS analysis itself shows that as early as 2008, when the 230 kV line in Portfolio 3 comes into service, Portfolio 3 has an EENS of 1,503 MWh compared to 4,237 MWh for

[44] *British Columbia Hydro & Power Authority v. British Columbia (Utilities Commission)*, (1996) 20 B.C.L.R (3d) 106, (CA), at Tab 2 of VIEC's Final Argument and Materials.
[45] VIEC Final Argument, Tab 11.
[46] *Utilities Commission Act*, RSBC 1996, c.473, s.38.
[47] Exhibit 6, VIEC Response to GSXCCC IR No. 1.1.2 Revised Response Issued 16 June 2003, p.4 of 4.

Portfolio 2.[48] Hence, Portfolio 3 also substantially outperforms Portfolio 2 in terms of EENS in the medium term (2008-2012).

37. In paragraph 37, VIEC attempts to minimize Portfolio 3's EENS advantage over Portfolio 2 by noting that by quantifying EENS reduction "one can see that the cumulative EENS reduction for 2006 and 2007 has a potentially large value…" In response:

    (a) By focusing exclusively on 2006 and 2007 (when Portfolio 2 would be in service but Portfolio 3 would not), VIEC's analysis drastically over-emphasizes the short-term (two-year) EENS advantage of Portfolio 2 over Portfolio 3, in comparison with the medium-term and long-term EENS advantage of Portfolio 3 over Portfolio 2.

    (b) VIEC's analysis here does not take into account other methods of reducing EENS during the 2006-2008 period before Portfolio 3 comes into service, such as the Norske Canada energy project and other on-Island energy projects.

38. In paragraph 38, VIEC states "In the past, Island load growth has been uneven but sustained…". In response, it would be more accurate to describe Island peak load growth as significant during the 1980s but essentially flat during the 1990s.[49]

39. In paragraph 40, VIEC states

> The recent warming tendency has dampened the apparent rate of peak load growth. On a weather-normalized basis, which takes into account year-to-year temperature variations, the weather-adjusted peak load shows growth that is more consistent with the future growth forecasts. [Footnote reference to Exhibit 6, VIEC 16 June 2003 Revised Response to GSX CCC IR 1.2(b).] [underline added]

40. In response, an examination of Exhibit 6, 16 June 2003 Revised VIEC Response to GSX CCC IR 1.2.2, p.4 does not support the claim that "the weather-adjusted peak load shows growth that is more consistent with the future growth forecasts." The figures range from

[48] Exhibit 4, VIEC 12 June 2003 Supplementary Response to BCUC Staff IR No. 2.60.4, Table 1, p.11 of 42.
[49] For example, Vancouver Island actual peak loads (strike adjusted, not temperature adjusted, not including transmission losses) from 1990-91 to 2002-03 show an essentially flat slope (i.e., no increase). "Vancouver Island Electricity Supply and Demand: The Need for GSX-VIGP," by Steve Miller and Associates, May 2003, paragraphs 62-63 and Figure 1, p.19, Exhibit 19E. In response to an undertaking, Mr. Miller recalculated the slope of the trend line leaving out the 1990-91 data point. The slope changed to 2.7168 MW per year, which he says "remains an 'essentially negligible slope'". Undertaking by S. Miller, Transcript Volume 7, p.1387, Exhibit number not available at the time of writing.

1,961 MW in 1990-91 to 2,066 in 2001-02, an increase of only about 10 MW per year over the period. In contrast, the "Forecast With Power Smart With Losses" from the same table increases about 33 MW per year from 2002-03 to 2022-23. That shows that BC Hydro's Island forecasted peak load growth is about three times as high as the average temperature-adjusted peak growth in the past decade of warming temperatures.

41. In paragraph 46, VIEC states that Power Smart is a mitigation strategy for greenhouse gas emissions. To clarify, GSXCCC and NCOC acknowledge that Power Smart does result in avoided GHG emissions. However, Dr. Bramley's evidence suggests that Power Smart initiatives are not likely to count toward VIGP's GHG potential liability:[50]

> If [BC Hydro's Power Smart program] is treated as an offset, then one has to be vigilant to avoid double counting, because if the activity in question is reducing BC Hydro's own emissions, it's already been counted one time in BC Hydro's own emissions total. It would then be incorrect to count it a second time as an offset.

42. In paragraph 48, VIEC states that "An additional 39 MW of dependable capacity from Resource Smart projects is possible by adding generating units at Strathcona GS (16 MW) and Ladore GS (23 MW)." For clarity, GSXCCC and NCOC do not rely on these possible energy resources in their argument.

43. In paragraphs 50-51, VIEC dismisses green energy based on its limited ability to supply firm capacity:[51]

> Thus, BC Hydro sees green energy as an important part of its BC Clean resource acquisition program [footnote deleted], but not as a substitute for the VIGP, because it does not have the VIGP's ability to reliably meet peak demand.

44. In response, for clarity, GSXCCC and NCOC do not rely on possible green resources to meet the short-term gap to support their position. However, green resources have a large potential to contribute to BC Hydro's system-wide requirements. In addition, existing hydro-electric facilities (i.e. Revelstoke and Mica) have a large potential for reliable system capacity expansion.[52] Together, green resources and expansion of existing hydro-electric resources

[50] Transcript Vol. 7, p. 1406.
[51] VIEC Final Argument, para.51.
[52] Exhibit 1, Application, s. 5.6 "Common Elements," p. 36

negate any argument that VIGP is a preferred resource on a system-wide basis. Put another way, there is insufficient evidence before this proceeding to conclude that the energy and capacity profiles of gas-fired generation (CCGT) would be preferable to those of green energy, taken on a system-wide basis.

45. In paragraph 54, VIEC summarizes oral testimony by Mr. Mansour. In response:

    (a) Mr. Mansour also testified that beyond the period of time when VIGP could be in service and the 230 kV line could not yet be in service (i.e., approximately 2006 to 2008) the 230 kV transmission line would have a better (i.e., lower) EENS than would Portfolio 2.[53] This is corroborated by the EENS study by Dr. Li.[54]

    (b) The Li study did not analyze EENS of Portfolio 1. Presumably, however, Portfolio 1 would have a better EENS than Portfolio 2, because Portfolio 1 includes a 230 kV transmission line in 2010 (sooner than in Portfolio 2).

46. Beginning at paragraph 55, VIEC addresses Net Present Value (NPV) Portfolio Analysis. In response:

    (a) GSXCCC and NCOC do not accept the NPV costing used by BC Hydro, which fails to distinguish between gas-fired generation and non-fossil fuel generation.

    (b) In addition, GSXCCC and NCOC do not accept that, as a practical matter, CCGT generation would be required on the Mainland if VIGP were not approved. Interpreting VIEC's response to GSXCCC IR 1.2.2 shows that even without the addition of VIGP and a third CCGT on the Island in 2010, the BC Hydro system is not *energy* constrained until 2011-12.[55] It also shows that if Revelstoke 5's 500 MW capacity were added to BC Hydro's resource stack in 2008/09 (as per Portfolio 3) then the full system would not be *capacity* constrained until 2011-12.[56]

[53] Transcript Vol. 5, p.1067, lines 20-23.
[54] Li, Wenyuan. "Reliability Evaluation of Three Scenarios for Vancouver Island Power Supply - An Expected Energy Not Served (EENS) Study" (June 2003), attached to Exhibit 4E, VIEC Response to BC UC Staff IR 60.4.
[55] Exhibit 6, VIEC Response to GSXCCC IR No. 1.2.2, Table 2.2B.
[56] Exhibit 6, VIEC Response to GSXCCC IR No. 1.2.2, Table 2.2A.

(c) Therefore, GSXCCC and NCOC believe that once the Island's immediate planning-purposes capacity gap is met it will be lower cost and less risky to source non-fossil fuel Mainland generation (and on-Island generation).

47. In paragraph 68, VIEC states, "The VIGP would be new generation located in a constrained region of the system, thereby reducing that region's reliability problem." In response, as noted above, the 230 kV line has a better EENS than VIGP in all but the two years between when VIGP could be in service and the 230 kV line could be in service.

48. In paragraph 68, VIEC continues "Apart from the fact that new transmission cannot be available in time to address the firm supply shortfall expected in 2007, BC Hydro needs to demonstrate that advancing new system generation and locating it on Vancouver Island is a least cost solution from the perspective of all domestic customers." In response, apart from the 2007-08 capacity for planning purposes gap (which is addressed above), Hydro has *not* demonstrated that VIGP is a least-cost solution, given that the NPV of Portfolio 3 is (slightly) lower than the NPV of Portfolio 1, and that BC Hydro has not yet received the responses to the CFT.

49. In paragraph 69, VIEC states:

> In applying its reliability planning criteria, BC Hydro considers both the peak demand and annual energy demand on its electrical system. The energy reliability planning criterion of 2,500 GWh/year reliance on market purchases limits BC Hydro's exposure to high import costs during periods of low stream-flow conditions. Both criteria act to ensure that BC Hydro's own supplies are adequate to meet the probable demands on its system and, as a result, that it limits its exposure to having to purchase high-priced spot market energy.

50. In response: VIEC has not established that the 2500 GWh/yr maximum electricity import criterion is relevant to the comparison of Portfolio 1 (or 2) and Portfolio 3. On the contrary, Exhibit 4FF shows that Portfolio 3 is less expensive than Portfolio 1, even though in Portfolio 3 CCGT additions are delayed compared to Portfolios 1 and 2.[57]

[57] Exhibit 4TT.

51. In paragraph 71, VIEC argues that the BC Hydro system needs new dependable capacity by 2008/09. In response, Revelstoke 5 can meet the system capacity needs quite handily, and Revelstoke 6, Mica 5 and Mica 6 are also available.[58]

52. In paragraph 76, VIEC reiterates its argument that "CCGTs are an appropriate representation of the cost of future new resources." In response: While the long-term marginal cost of electricity produced by CCGTs is expected to be a significant driver of the long-term wholesale market price of electricity, it is not the only such factor. For example, non-gas-fired generation is not directly affected by volatility and upward trends in the price of gas. While VIEC argues that non-gas-fired IPPs will be able to capture the difference between their respective average costs and the market price of electricity, BC Hydro itself is in a monopsony position with respect to most IPPs in B.C. Therefore, BC Hydro has been able capture the rent that would otherwise have accrued to the IPPs. This is reflected in the fact that BC Hydro's paying price for Green Energy and CBG is routinely lower than the unit energy cost of CCGT-fired electricity.

53. In paragraph 86, it is significant that VIEC acknowledges that "Based on the portfolios analyzed in the Application and updated during the hearing, [footnote omitted] the incremental NPV costs of Portfolio 1 are marginally higher than those of Portfolio 3."

54. In paragraph 87, VIEC argues that "Higher gas/electricity prices tend to favour Portfolio 1 because of the increased value of the advanced generation from VIGP and the increased value associated with avoiding transmission losses." In response,

    (a) VIEC's analysis does not take into account the variations over time in the ratio of gas price to electricity price.

    (b) In addition, VIEC's analysis does not take into account the fact that where both gas price and electricity price rise in tandem more non-gas-fired electrical generation becomes economically feasible. Portfolio 3 has the advantage that it would be able to utilize these non-gas-fired generation sources; whereas Portfolio 1 would remain reliant on expensive gas-fired generation.

[58] Exhibit 1, section 5.6.1, page 36; and various iterations of the portfolios, such as Exhibit 1, page 38, and Exhibit 4TT.

55. In paragraph 89, VIEC argues that Portfolio 2 has the lowest NPV of the three portfolios, reflecting the option value of VIGP-GSX "to locate future gas-fired generation on Vancouver Island…" However, VIEC also argues in the same paragraph that "…since there isn't a significant difference between Portfolio 1 and Portfolio 3, a decision to grant the VIGP a CPCN does not imply a commitment or requirement to follow VIGP with future on-Island CCGTs." In response:

    (a) These two arguments are mutually inconsistent. Technically, of course, a CPCN for VIGP does not imply "a commitment or requirement" to future CCGTs on the Island. However, as argued in paragraph 6, above, building VIGP supplied by GSX would create a strong financial incentive to distribute the costs of GSX among future additional on-Island gas-fired generators. This is what GSXCCC and NCOC refer to as locking Vancouver Island into a natural gas future.

    (b) As acknowledged in VIEC's evidence, the 230 kV system is clearly better than Portfolio 2 from an EENS perspective.[59]

    (c) In addition, the evidence on GHG emissions liability and gas price risk suggest there is considerable value in avoiding commitments to more gas-fired generation.

56. In paragraph 91, VIEC states that "In the NPV portfolio analysis, BC Hydro is assumed to pay the market price for its future energy requirements because it expects to acquire its future electricity supply from independent power producers (IPP)." In response, as argued above, this ignores Hydro's monopsony power in relation to most B.C. IPPs, who have no other feasible purchaser of their power.

57. In paragraph 92, argues that "Older, inefficient, gas-fired generation [in Southern California] acts as the swing supply for the total electric energy production in the WECC…" In response, that is another example of a driver of wholesale electricity prices in addition to new CCGTs.[60]

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[59] Li, Wenyuan. "Reliability Evaluation of Three Scenarios for Vancouver Island Power Supply - An Expected Energy Not Served (EENS) Study" (June 2003), attached to Exhibit 4E, VIEC Response to BC UC Staff IR 60.4. And see the evidence of Mr. Mansour at Transcript Vol. 4, pp.782-783.

[60] Dr. Pickel concurs that incremental electricity prices reflect the marginal cost of generation by the older gas-fired units (as distinct from new CCGTs). Transcript Vol. 8, p.1563, lines 24-26.

58. In paragraph 114, VIEC argues that "With the government's preference that the VIGP be developed by the private sector, flexibility of the proposed plant to respond over a wide range of operation in a tolling management agreement would be very important to BC Hydro in managing the gas price risk." In response, this is a curious point for VIEC to make given VIEC's position that the sale of VIGP to an IPP would not affect how VIGP is dispatched.

59. In paragraph 185, VIEC addresses "the contingent liability that BC Hydro may face from possible future greenhouse gas (GHG) emissions regulations on plants like the VIGP." In response, Mr. Soulsby of BC Hydro testified: "... our analysis shows the range of potential exposure to be between effectively zero dollars and upwards of $400 million ..."[61]

60. In paragraph 186, VIEC lists a number of aspects of Dr. Bramley's evidence with which VIEC says it agrees.

    (a) In response to the third bullet: This is of limited relevance. Dr. Bramley's evidence strongly emphasizes the likelihood of higher prices beyond the first commitment period of the Kyoto Protocol (i.e. 2008 - 2010). He states, "... in the evidence that I'm presenting regarding VIGP, the majority, if not the vast majority of the financial liability that seems likely to be attached to VIGP comes from years post 2012 ..."[62] .

    (b) In response to the fifth bullet: Dr. Bramley strongly qualifies the characterization of BC Hydro as being toward the progressive end of the spectrum: "So while one might regard BC Hydro's performance regarding managing carbon risk as rather good in the next few years, at least up to 2010, at least in relative terms compared to other major greenhouse gas emitting companies in Canada, there then seems to be an absence of any management of carbon risk post 2010, and the numbers in my evidence are overwhelmingly influenced by the years post 2012, actually."[63]

    (c) In response to the sixth bullet: Dr. Bramley defines offsets more clearly than is suggested by VIEC's characterization. Specifically, Dr. Bramley specifies that Power Smart activities would be unlikely to count as offsets of VIGP's GHG emissions: "If [BC Hydro's Power Smart program] is treated as an offset, then one has to be vigilant to avoid

[61] Transcript Volume 10, page 1432, lines 12-14.
[62] Transcript Volume 7, p. 1396, line 19-22.
[63] Transcript Volume 7, p. 1397, lines 1-9.

double counting, because if the activity in question is reducing BC Hydro's own emissions, it's already been counted one time in BC Hydro's own emissions total. It would then be incorrect to count it a second time as an offset."[64]

61. In paragraph 187, VIEC argues that "BC Hydro believes its current GHG risk management efforts are sufficient to address potential GHG liabilities associated with the VIGP." In response: VIEC offers no basis for its conclusion. VIEC does not provide evidence of GHG risk management efforts that address any of the major points of Dr. Bramley's evidence or the "policy context" that Dr. Bramley addresses. Dr. Bramley repeatedly challenged BC Hydro in his testimony. For example: "... I would challenge anyone to point to any statements made by BC Hydro about managing carbon risk beyond 2010."[65]

62. In paragraph 189, VIEC argues that "…VIGP, with its lower heat rate and lower GHG intensity relative to other thermal resources, would be economically advantaged in a regulatory world that attributes GHG costs in proportion to relative GHG intensities." In response, this does little to address the question of GHG liability.

    (a) The scenario assumes a comparison between VIGP and more GHG-intense alternatives. But, in any likely GHG liability scenario (whether based on absolute or relative GHG emission rates) VIGP would perform worse than non-fossil fuel energy sources or demand-side management, which do not emit GHG.

    (b) While GSXCCC and NCOC acknowledge that GHG liability might be assigned on the basis of "relative GHG intensities," there is insufficient evidence to rely on this assumption.

63. In paragraph 190, VIEC argues that "BC Hydro submits that any GHG policy that discriminates against more efficient resources over less efficient resources is likely to have the perverse effect of increasing GHG emissions, and is therefore a policy that is highly unlikely to be implemented or sustained." In response: VIEC mischaracterizes the likely effects of federal policy. While it is conceivable that Burrard Thermal could be given a

[64] Transcript Vol. 7, p. 1406.
[65] Transcript Volume 7, p.1399, lines 23-25.

"more ... generous [GHG reduction] target" because it is a pre-existing plant,[66] the over-all evidence shows that such measures would take place in the context of measures to generally discourage fossil fuel use. The underlying reasons for GHG policies are not to address relative efficiencies of generation, but rather to address the extremely serious hazard of global warming and climate change. The evidence in this proceeding shows that policies to restrict and discourage GHG emissions are likely to be implemented and are likely to put a financial penalty on any fossil fuel use.

64. In paragraph 191, VIEC argues that BC Hydro manages GHG risks and responds to the implications of the Kyoto Protocol in its electricity planning process.

(a) In response: The record does not support BC Hydro's claim to be managing its GHG liability risks, given the present global situation (physical and political) and present federal policy. Dr. Bramley says:[67]

> There is also now broad recognition in the business community, especially among large companies in the electricity and oil and gas sectors, that GHG emissions pricing is a long-term reality for them. Companies are recognizing this and seeking to manage the future financial liability it creates by voluntarily adopting ... GHG emissions pricing ...

(b) GSXCCC suggests that, given current best practices in the industry, the cost of VIGP cannot be considered to have been adequately evaluated without explicit factors for its GHG liability risk.

65. In paragraph 192, VIEC implies that its $3/MWh GHG price adjustment contributes to managing BC Hydro's potential GHG liability. In response, GSXCCC and NCOC acknowledge that the $3/MWh price adjustment does reflect GHG liability issues in relation to Green Energy and CBG projects.[68] However there is no evidence that this adjustment has been applied to VIGP or affects VIGP's potential GHG liability.

[66] Transcript Volume 7, p. 1385, lines 22-23.
[67] Exhibit 19B, section 3.2, pp. 4-5.
[68] Exhibit 5A, IR1.3.3, Tab A, p. 120; and Tab B, p. 11.

66. In paragraph 192, VIEC cites its 50% "offset" commitment as evidence of its "overall GHG management strategy." In response, as noted in paragraph 60 (above), Dr. Bramley's evidence calls into question the validity of such putative offsets.

67. In paragraph 193, VIEC cites the National Energy Board's report *Canada's Energy Future: Scenarios for Supply and Demand to 2025*.[69] In response, there is no evidence on the record to justify giving credence to this document.

    (a) During this proceeding, no witness spoke to *Canada's Energy Future: Scenarios for Supply and Demand to 2025* ("*Canada's Energy Future*") or its scenarios.

    (b) No authors are cited for *Canada's Energy Future*, and there is no indication that any of the authors or contributors are qualified, competent or experienced in assessing GHG risks and liability.

    (c) The methodology used to create the scenarios in *Canada's Energy Future*, including the "Techno-Vert" scenario, is not transparent and appears to be entirely qualitative.[70] Regarding climate change issues and GHG liability, it is not clear what specific policy actions are incorporated into the scenarios or how their effects are predicted.[71]

    (d) Within the "Techno-Vert" scenario, the assumed extent of policy action to address GHG reductions is not clear. There is no discussion of carbon prices or specific GHG reduction targets.[72]

    (e) The "Techno-Vert" scenario assumes a climate change scenario that is inconsistent with present scientific opinion. While initially accepting global climate change as a serious problem[73], the scenario then suggests that, by 2020-25, the global climate might respond "more quickly than expected" to "clean fuels technology" that are developed in North America and exported.[74]

[69] Exhibit 4, VIEC Response to BCUC Staff IR 13.2, attaching the report.
[70] Exhibit 4, VIEC response to BCUC IR1.13.2, attachment p.3.
[71] Exhibit 4, VIEC response to BCUC IR1.13.2, attachment p.4.
[72] Exhibit 4, VIEC response to BCUC IR1.13.2, pp. 13-19.
[73] Exhibit 4, VIEC response to BCUC IR1.13.2, p. 14.
[74] Exhibit 4, VIEC response to BCUC IR1.13.2, p. 19.

(f) The overwhelming consensus of professional climate scientists is that climate change will not be reversed within a time-span of decades. Present GHG emissions are expected to affect global climate systems for centuries into the future.[75]

68. In paragraphs 194 and 195, VIEC quotes from *Canada's Energy Future* and states that "the NEB report suggests that Kyoto implementation and further climate change policy actions to address GHG emissions would encourage increased used of natural gas-fired generation." In response, as discussed above, the scenarios in *Canada's Energy Future* do not merit any credence. No evidence or analysis is given to support the assumption in the "Techno-Vert" scenario that natural gas use would be increased in response to increased environmental concerns and action. GSXCCC and NCOC acknowledge that natural gas, having a lower GHG intensity than other fossil fuels, is, in some ways, a relatively preferred energy source. However, the evidence in this proceeding shows that all sources of GHG, including natural gas generation, are likely to be subjected to increasing costs, restrictions and liabilities. This is not addressed in the "Techno-Vert" scenario.

69. In paragraph 196, VIEC states that "BC Hydro's perspective on its future GHG liabilities is supported by an independent ranking of BC Hydro's environmental performance by Innovest Strategic Value Advisers." In response, the Innovest EcoValue '21 Rating[76] is of insufficient depth and substance to be relied on in assessing VIGP's potential GHG liability:

(a) No evidence has been brought to establish the credibility of Innovest or its EcoValue '21 Rating.

(b) The evidence of Innovest's methodology for assessing potential GHG liability is too scanty to assess its credibility.

(c) There is some indication that BC Hydro's high EcoValue '21 rating may result from the high proportion of hydro-electric generation in its existing resource stack.[77]. This has not been shown to be relevant in assessing VIGP's GHG liability;

[75] IPCC's third *Assessment Report and Summaries for Policymakers*, referenced in Dr. Bramley's evidence, Exhibit 19B, p.2, footnote 4.
[76] Exhibit 19G.
[77] Exhibit 19G, "Risk Factors".

(d) BC Hydro's high rating relies, in part, on its 50% GHG "voluntary reductions at two new gas facilities."[78] Innovest does not appear to have factored in the 2010 termination date of this commitment.[79]

70. In paragraphs 197 and 198, VIEC makes two main points: (i) only its 50% GHG commitment is affected by the 2010 termination date, while it continues to employ a long-term GHG risk management strategy; and (ii) BC Hydro's over-all EcoValue '21 rating is somehow relevant to VIGP's potential GHG liability because "a corporate-wide, or portfolio, approach is consistent with industry practice," and it is preferable to use such a company-wide treatment in order to foster more conservation and green power.

(a) In response to the first point: Quoting Dr. Bramley's testimony: "... I would challenge anyone to point to any statements made by BC Hydro about managing carbon risk beyond 2010."[80]

(b) In response to the second point: While it may be possible for BC Hydro to dilute the impacts of VIGP's GHG liability across its portfolio, this avoids the question of the liability itself. The liability is relevant to whether VIGP is the "most cost-effective" means to meet Vancouver Island's electricity requirements.[81]

71. In paragraph 199, VIEC argues the Innovest document supports BC Hydro's conclusion that "potential future GHG liabilities will not preclude the development of CCGT plants." In response, Innovest itself, as quoted by Dr. Bramley, states:[82]

> Given the current GHG regulatory environment, we believe the inclusion of carbon shadow prices into liquidity, valuation and balance sheet calculations is a prudent step towards managing carbon risks. The corollary of this is that asset pricing may be significantly affected by carbon risk premiums.

[78] Exhibit 19G, "Eco-Efficiency Initiatives".
[79] Exhibit 6, VIEC response to GSXCCC IR1.8.3 (a).
[80] Transcript Vol. 7, p.1399, lines 23-25.
[81] BC Government's Energy Plan, Policy Action #6, quoted in Transcript Volume 1, p.3.
[82] Exhibit 19B, page 11.

Conclusion

72. GSXCCC and NCOC respectfully request that the Commission dismiss VIEC's application for a CPCN for VIGP, either unconditional or conditional as proposed by VIEC, because VIEC has not established on the balance of probabilities that VIGP is the most cost-effective means to reliably meet power needs on Vancouver Island.

73. In the alternative, GSXCCC and NCOC respectfully request that the Commission make any CPCN for VIGP subject to significant conditions, discussed in paragraphs 18 to 27 above.

74. On behalf of GSXCCC and NCOC, I would like to take this opportunity to acknowledge the hard work and dedication shown by the staff and consultants of BC Hydro during this hearing, and to thank all of the parties, counsel and the Commission staff for contributing to what has been a very effective and efficient hearing.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

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North Vancouver, BC