

**SUBMISSIONS OF
TERASEN GAS (VANCOUVER ISLAND) INC.**

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1. INTRODUCTION

Terasen Gas (Vancouver Island) Inc. (“TGVI”), formerly Centra Gas British Columbia Inc., provides natural gas service to more than 76,000 residential, commercial and industrial customers on Vancouver Island and the Sunshine Coast. Service is provided through approximately 640 km of high-pressure transmission pipeline, including three compressor stations, and over 3,200 km of distribution mains. TGVI’s largest customers are the Vancouver Island Gas Joint Venture (“VIGJV or “Joint Venture””) representing seven pulp and paper mills, and British Columbia Hydro and Power Authority (“BC Hydro”) for service to the Island Cogeneration Project (“ICP”). One of the members of the Joint Venture is Norske Skog Canada Limited (“NorskeCanada”), which has presented evidence in this proceeding of its proposal to supply electrical generation on Vancouver Island.

The TGVI evidence (Exhibit 12) describes TGVI’s proposal to meet current and future natural gas requirements for all natural gas customers on Vancouver Island, including the needs of the Vancouver Island Generation Project (“VIGP”). The TGVI evidence specifically addresses the ability of TGVI to meet the gas transportation requirements for service to ICP and VIGP, in response to the application of Vancouver Island Energy Corporation (“VIEC”) for a certificate of public convenience and necessity (“CPCN”), and the also addresses the ability of TGVI to meet the requirements of the NorskeCanada generation proposal.

In his opening statement Mr. Anderson discussed TGVI’s interest in this proceeding. At Tr.6: 1186 he said:

Our interests in this proceedings is fundamentally to support the viability of gas-fired generation on Vancouver Island through a staged approach to meeting capacity requirements resulting in a more economic generation solution at the end of the day.

And at page 1187:

Our interest is in maximizing the use and the efficient use of the existing Terasen system on Vancouver Island, for solidifying the financial viability and future of

Terasen gas (Vancouver Island), by providing what we believe is the most economic and practical capacity solution.

2. THE TGVI PROPOSAL

TGVI's proposal to serve the natural gas demand on Vancouver Island, including the requirements of VIGP, involves expansion of, and addition of new facilities to, TGVI's existing transmission system. The TGVI proposal is presented as an alternate gas transportation option to the proposed Georgia Strait Crossing ("GSX"). A major benefit of TGVI's proposal is that it involves efficient use of existing facilities and allows the staging of additional facilities to match new demand requirements as they occur. As a result, TGVI's proposal can meet existing and future requirements on Vancouver Island at a lower cost than the proposed GSX. Consequently, TGVI's proposal will deliver greater benefits to both electric customers and gas customers on Vancouver Island.

GSX is proposed to be in service in 2005 to provide gas transportation to meet the requirements of the existing ICP generation facility and as well as the requirements of the proposed VIGP. TGVI's proposed facility additions can be in place to meet the requirements of both ICP and VIGP, allowing BC Hydro to meet its objective to have new generation capacity in place by November 2006, one year in advance of the retirement of the HVDC cables.

The TGVI proposal allows the timing and related costs of new facilities to adapt to the requirements of Vancouver Island generation and the availability of load curtailment during peak periods. This stageability of the TGVI distinguishes it from the GSX proposal that involves a new pipeline with attendant major up-front capital costs. TGVI's evidence and subsequent filing (Exhibits 12 and 13G), have described the facility requirements under different scenarios. The main components of the TGVI proposal to meet the requirements of on-island generation are the addition of new compression facilities and construction of an on-island liquefied natural gas ("LNG") storage facility.

The TGVI staged approach can also meet the requirements of gas-fired generation projects other than those of BC Hydro/VIEC. In its evidence TGVI has described the facility additions and costs for meeting the requirements of the NorskeCanada proposal. Depending on demand forecasts and the availability of load curtailment, the need for a LNG facility may be deferred or avoided.

The new facilities contemplated by the TGVI proposal will expand TGVI's existing system and will be a part of the infrastructure to meet the requirements of its residential, commercial and industrial customers, as well as the long-term requirements of gas-fired generation facilities on Vancouver Island. The addition of new high load factor gas customers on Vancouver Island, together with the recovery of appropriate tolls from those customers, will assist in maximizing the efficient use of the TGVI system and will benefit gas customers of TGVI while providing BC Hydro/VIEC, or other gas-fired generation projects, with the lowest cost transportation.

3. GAS-FIRED GENERATION ON VANCOUVER ISLAND

TGVI submits that gas-fired generation is the preferred source of new electrical capacity and energy on Vancouver Island. BC Hydro's primary requirement is that of electrical capacity to meet peak demand on Vancouver Island. Island-based gas-fired generation provides that capacity and in doing so improves the overall reliability of the electrical grid. As set out by VIEC in paragraph 54 of its Final Argument, "there should be a better generation-to-load balance ... on the Island". As discussed in paragraph 115, current on-island dependable generation capacity would only serve 32% of the peak forecast load for 2006/07 without new on-island capacity equal to the VIGP. Locating generation close to load centres provides for efficient use of electric facilities and contributes to system reliability. Vancouver Island suffers from the lack of on-island generation. TGVI submits that gas-fired generation can provide the solution, and can do so in the time frame that meets BC Hydro's requirements.

While other Intervenor may suggest that there are alternatives other than gas-fired generation to provide BC Hydro with the required capacity, the fact is that electric generation using natural gas as an energy source is the principal form of new generation at the present time. Dr. Pickel gave evidence that of the currently proposed electric generating plans in the U.S., 92% of capacity is proposed to be gas-fired (Tr.8: 1710).

Mr. Makinen was called as a witness by the GSXCCC. In cross examination he was asked to describe what he understood to be the attractions of gas-fired generation that cause it to be the marginal generation resource in North America. At Tr.3: 516-17 he responded by saying:

Your other major supply options are oil-fired thermal plants, nuclear, coal, and renewables such as wind as we talked about. And other people would lump in small hydro, biomass, cogeneration.

So relative to the bigger power plants such as coal and nuclear, gas turbines of course have a shorter lead time, a lower capital cost. They can be more easily situated near load centre. I think it would be very difficult to locate a nuclear power plant near a large urban centre, and B.C. of course has made the Energy Plan such that we're a non-nuclear province, for example. Coal-fired power plants have their own challenges too. We live in the post-Kyoto environment.

So natural gas has the lower greenhouse gas intensity benefit relative to oil and coal-fired thermal power plants. And by being closer [to the] load centre, of course, there's less transmission losses. Nuclear and coal, in following the comments you just made about their challenges, they would have to be located farther away from urban centres meaning more capital would be private transmission lines.

So even though their costs have increased and natural gas prices have gone up, a lot of people still think that CCGTs will be in place across North America because of that ability to site them easier and because of lower greenhouse gas intensity.

The additional gas consumption on Vancouver Island for gas-fired generation, together with the associated rates to be paid to TGVI for transportation service, will assist in lowering the unit costs of the TGVI system and consequently will assist in the use of natural gas for space heating on Vancouver Island and the Sunshine Coast. The use of natural gas for space heating benefits the electric system (by reducing demand from what it would otherwise have been), benefits gas consumers by means of lower rates, and also provides for more efficient use of natural gas.

Mr. Marchant (Tr. 2: 450) acknowledged that it is in the interests of BC Hydro to reduce the use of electricity on Vancouver Island for space heating. In paragraph 4 of its Final Argument VIEC acknowledges the high number of households on Vancouver Island with electric space and water heating. Mr. Marchant (Tr.3: 701) explained that BC Hydro was looking at means of incenting residential owners to use gas heating rather than electric heating on Vancouver Island. At Tr.3: 510-11 Mr. Makinen discussed with Ms. Fung a passage in his evidence that addressed the issue of gas vs. electric space heating. Mr. Makinen agreed that if the TGVI system were expanded in a cost effective manner it could reduce unit costs and could provide a signal to consumers to increase the use of natural gas for space heating purposes. Mr. Makinen went on to discuss the relative efficiency of the direct use of natural gas at the customer location as compared to the use of natural gas in a gas-fired facility and the subsequent use of electricity for space heating. He noted that it is more efficient to have direct-fired natural furnaces in homes.

TGVI submits that gas-fired generation on Vancouver Island can meet BC Hydro's requirement for the timely addition of capacity on Vancouver Island while having the ancillary benefit of

reducing unit costs to gas consumers and thereby encouraging the use of gas for spacing heating purposes.

4. ALTERNATIVES TO GAS-FIRED GENERATION

Some Intervenors may suggest that electric cables, rather than gas-fired generation on Vancouver Island, will solve the electrical requirements of Vancouver Island. TGVI submits that the evidence before the Commission demonstrates that new electrical cables to Vancouver Island are not the solution to Vancouver Island's electrical requirements.

4.1 Cost Uncertainty of Electric Cables

In Portfolio 3 the cables to Vancouver Island in 2008 are estimated to cost \$168 million (\$2002) with a second set of cables required in 2018 for \$141 million (\$2002). The Application (page 33, section 5.3.1) states that, "As work on the option is in a preliminary planning phase, there is uncertainty surrounding the estimates of both cost and timing." Mr. Mumick elaborated on this at Tr.4: 791-92 stating that a lot of design and engineering work is still required, citing detailed route surveys and seismic studies as two examples. The statements of Mr. Mumick and Mr. Mansour regarding the lack of current engineering work, potential seismic issues, and alternative routes for both the mainland and marine portions suggest that the costs of new 230 kV AC cables are not well understood:

- Mr. Mumick indicated that the estimates may have to be revisited based on recent HVDC cable work that cost more than was expected (Tr.5: 1037-38).
- Mr. Mansour indicated that estimates are based on the mid-point and the actual numbers could vary $\pm 25\%$ with another 15% for contingencies; costs could be 40% higher, without accounting for the uncertainty in cable prices (Tr.5: 1043).
- Mr. Mumick also indicated that further work is required on underwater routing and further geotechnical information is required (Tr.5: 1029).

4.2 Regulatory Uncertainty of Electric Cables

Paragraph 56 of VIEC's Final Argument discusses the regulatory process for the 230 kV project. TGVI has not reviewed the regulatory requirements for that project, but submits that the outline presented by VIEC appears reasonable. The time and cost required to obtain regulatory approval may be the greatest source of uncertainty relating to the 230 kV project. Exhibit 4A, VIEC's response to BCUC Staff IR 1.21.1, shows a schedule for the 230 kV cable option. The schedule

allows 2 years for regulatory process; the VIEC Final Argument suggests that may be lengthened to 2.5 years.

The construction of new 230kV lines would not meet the planned HVDC retirement in 2007, which results in near term reliability issues or additional cost to mitigate these issues. The Application indicates the earliest in-service date as 2008 (more likely 2009 is indicated in the VIEC final Argument) and refers to regulatory uncertainty (page 33, section 5.3.1):

Lead time for design, regulatory approval and construction is estimated at five years, so the earliest in-service date for this option is 2008. Regulatory issues would include the fact that a new double circuit 230 kV overhead line portion would have considerably more visual impact than the existing 138 kV transmission lines, and widening of the right-of-way would be required at Sansum Narrows and on Saltspring Island.

Throughout his testimony Mr. Mansour referred to the 2008 in-service date as a guess. In doing so Mr. Mansour described two additional sources of regulatory uncertainty: (Tr.4: 842-845):

- The effect of shifting generation requirement – in this case the people effected by the new generation facility would not require the generation for their immediate needs. It is reasonable to expect those effected by the generation would join those effected by the cables in opposition: (Tr.4: 843-45)
- The 230 kV project is based on replacement the existing 138 kV cables that traverse US territory. Mr. Mansour stated that the 138 kV route is not safe from a seismic point of view and that a different route will be required. (Tr.4: 790). Mr. Mumick indicates that as a minimum both a U.S. review of the existing permits and CEAA review will be required. (Tr.4: 914-15) Due to the lack of engineering development there is little certainty as to the extent of the regulatory review that will be required.

In paragraph 23 of its Final Argument (page 9) VIEC says “The project is not as advanced as the VIGP and therefore could not be in service until 2008 at the earliest and, more likely, 2009.”

TGVI submits that there is a large amount of uncertainty respecting the 230 kV AC cable project, and it should not be regarded as a project that meets BC Hydro’s requirements.

The opposition that the GSX project has faced in proposing an underwater gas pipeline near the Gulf Islands may be an indication of the type of opposition that will be encountered by a proposal to build a new electric transmission line that crosses a major Gulf Island. The potential opposition should not be underestimated.

As set out in paragraph 60 of the VIEC Final Argument, replacing the HVDC cables is riskier than the 230 kV AC option.

4.3 Upgrading of Electric Transmission on the Mainland

The choice of new electric cables over VIGP would advance the requirement for \$215 million of Mainland transmission capital by at least one year. The Application states that:

Aside from the 230 kV AC cables to the Island, the major future transmission reinforcement is a new 500 kV transmission line from the Interior to the Lower Mainland. It is assumed to be the second 500 kV Nicol-Meridian line, 5L83, with a capital cost of \$215 million. In Portfolio 3 (Mainland Generation), it is assumed to have an-service date of 2012/13. Since the VIGP and future on-island CCGTs are dependable generation located in or near load centres (Vancouver Island and Lower Mainland), they can defer the need for this transmission addition. The VIGP defers 5L83 by one year; future on-island CCGTs defer this addition by two years. (VIEC Application, page 36, section 5.6.2)

There is little evidence in this proceeding regarding the transmission reinforcement required on the Mainland if new generation facilities are not constructed on Vancouver Island. But just as there are cost and regulatory uncertainties associated with new electric cables to Vancouver Island, so is there cost and regulatory uncertainty associated with new transmission on the Mainland. The Commission should not conclude that the costs of reinforcement of Mainland transmission will be as assumed by BC Hydro, and should not assume that new transmission facilities on the Mainland will not be delayed by regulatory, environmental and other issues, which delay will also have an effect on costs.

Furthermore, new electric cables to Vancouver Island do not provide a solution to the requirement for more electric generation; electric cables simply defer a decision on the location and type of generation. If new electric cables are chosen as the means of meeting the near-term capacity requirements of Vancouver Island (which TGVI submits they do not) then in a subsequent proceeding the Commission will be required to address the issues of where to locate the generation and what type of generation that should be.

TGVI submits that the Commission should not accept arguments that replacement electric cables are the solution to Vancouver Island's capacity and energy requirements. The Commission should not conclude that replacement electric cables can be in service within the time frame needed to meet BC Hydro's requirements, nor at the costs assumed in BC Hydro's portfolio

analysis. TVGI submits that new capacity is required on Vancouver Island at an early date; new electric cables are not a viable means of meeting that requirement. Replacement electric cables to the Island, reinforcement of the transmission system on the Mainland, and the type and location of generation facilities on the Mainland are all issues that involve substantial cost and regulatory uncertainty. TGVI submits that gas-fired generation on the Island will involve known technology that is widely used and can proceed without significant regulatory and timing uncertainty. TVGI submits that the Commission should conclude that electric generation on Vancouver Island is the preferred location for generation and that gas-fired generation meets BC Hydro's immediate requirements.

5. THE TGVI PROPOSAL FOR GAS TRANSPORTATION

There are two alternate means of transporting gas to Vancouver for the VIGP or other gas-fired generating facilities: transportation service via an expansion of the TGVI transmission system; or transportation service via GSX with on-island transportation service from TGVI. TGVI submits that transportation service via an expansion of the TGVI transmission system is the preferred alternative.

As stated by Mr. Anderson in his opening statement (Tr.6: 1186):

What the Terasen proposal does is it incrementally expands the capacity of our existing system through a combination of compression, looping and a liquefied natural gas storage facility, and that liquefied natural gas storage facility is similar to the existing plant that's run by Terasen Gas on the Mainland at Tilbury. Incremental facilities to the Terasen system would be added as load is confirmed and as capacity dictates the need.

In our analysis and in our view the facilities that we're proposing as an alternative gas supply to VIGP and the other customers on Vancouver Island, is less costly than the proposed GSX supply alternative ...

In his opening statement Mr. Anderson also discussed why the TGVI proposal was brought forward in this proceeding (Tr.6: 1187-91). Mr. Anderson noted that when BC Hydro selected GSX as the supply alternative to Vancouver Island, TGVI did not oppose that decision. The lack of opposition was premised upon fair and reasonable transportation agreements being entered into for service across the TGVI system which would allow TGVI customers to benefit from the growth of gas-fired generation on Vancouver Island, and was also premised on the belief that the GSX and the TGVI pipelines would be interconnected and operated to maximum efficiency.

However, since the time of that decision the costs of GSX have risen significantly, BC Hydro has continued to advocate the rolling-in of GSX costs into the TGVI cost of service, public opposition to the GSX has been expressed, there is a lack of certainty within BC Hydro and more generally respecting a third and fourth power generation plant on Vancouver Island, and the NorskeCanada proposal has come forward. Mr. Anderson stated that these issues have created a measure of uncertainty around the integration of the VIGP with the GSX proposal. TGVI is interested in promoting gas-fired generation on Vancouver Island, and so to provide support for the VIGP and the NorskeCanada proposal, TGVI advanced the proposal for expansion of its system that is now before the Commission. As Mr. Anderson said at page 1190:

... what we felt it was incumbent for us to do was come forward [with] a supply alternative that was more costs effective in our view and more efficient in meeting the staged growth of demand on Vancouver Island, and thereby supporting the efforts of BC Hydro and/or Norske in the development of gas-fired generation.

TGVI's proposal involves adding facilities as required to meet demand on Vancouver Island. This staged approach is a major benefit of the TGVI proposal. In contrast, service via GSX involves up-front investment in transportation capacity that exceeds near term demand and may, depending on whether further gas-fired plants are constructed, exceed the long-term demand requirements.

In paragraph 139 (page 51) of its Final Argument VIEC says that "the TGVI system is strained to meet future demands" and refers to the "piecemeal approach of expanding TGVI's system". TGVI's system is not "strained" and TGVI's approach is not piecemeal. TGVI submits that VIEC has resorted to the use of such disparaging terminology without consideration of the merits of the TGVI approach. TGVI's proposal has capital expenditures being made only as and when required. This is not a piecemeal approach, but rather an efficient and cost effective approach to expansion of gas transportation facilities.

The costs associated with the TGVI proposal have been addressed in the TGVI evidence (Exhibit 12), in TGVI's response to Exhibit 4P (Exhibit 13G), and in the Joint Submission discussed below. TGVI submits that under the financial analyses in all of those documents the costs of service under the TGVI proposal are shown to be less than the costs of service via GSX. Further, the costs of the GSX transportation alternatives have failed to take into account the costs of on-island transportation service. In paragraph 131 of its Final Argument VIEC says that TGVI's proposal is not as mature a proposal as is the GSX project. In paragraph 136 VIEC refers to the

TGVI cost estimates as “planning” and “feasibility level” estimates. TGVI acknowledges that it has not spent in excess of \$50 million on its proposal as has BC Hydro on GSX, however, as set out on page 10 of Exhibit 13G:

... the TGVI costs, consist primarily of site related compressor and LNG storage facilities. For such facilities, there are fewer uncertainties. The majority of the costs are related to design, pumps, compressors, heaters, ancillary equipment and piping. The scope of the project is relatively straightforward to outline and the related costs and schedule are relatively easy to determine prior to construction.

In paragraph 131 VIEC also says that TGVI chose not to submit its proposal to the Joint Review Panel. The TGVI proposal is not within federal jurisdiction and accordingly it is not a matter for consideration by the Joint Review Panel or the National Energy Board. As discussed by Mr. Anderson in his opening statement, TGVI did not oppose BC Hydro’s initial decision to select GSX, but since the date of that decision the costs of the GSX proposal, the relative certainty of a third or fourth gas-fired generating facility on Vancouver Island, and other factors, have changed considerably.

TGVI submits that its proposal represents a viable, and efficient, means of transporting natural gas to Vancouver Island to meet the requirements of its existing customers plus the requirements for gas-fired generation such as the VIGP and the NorskeCanada proposals.

In paragraph 140 of its Final Argument VIEC comments on integrated operation of the GSX and the TGVI system. VIEC commences that discussion by ascribing to TGVI an assertion that TGVI has not made [“TGVI asserts that it cannot contemplate achieving the benefits of integrated operation with the GSX project unless it receives essentially free service on the GSX pipeline and controls the GSX project operations”] and then stating that VIEC does not agree with the assertion. TGVI submits that optimization of the GSX and TGVI systems (which BC Hydro assumes in its analyses) will not be achieved without full operational integration of the two systems. Operational integration is discussed below. Furthermore, TGVI has not asserted that it should receive free service on the GSX pipeline. What TGVI has asserted is that it will not accept unjustified rolling-in of the costs of the GSX pipeline with the costs of its system (Mr. Anderson at Tr.6: 1195) and that BC Hydro should be required to pay a fair rate for on-island transportation service on the TGVI system, rather than service at zero cost as assumed by BC Hydro. At paragraph 179 of its Final Argument VIEC says that it continues to favour rolling-in GSX costs with the TGVI transmission system.

With regard to transportation via GSX and the issue of operational integration, both BC Hydro/VIEC and TGVI agree that operational integration of the GSX and TGVI systems is possible and has the potential to benefit the TGVI system. There are three aspects to integrated operation: the potential for lower variable transportation costs on GSX; the potential for avoidance of capital upgrades on the TGVI system in favour of firm capacity on GSX; and the facilities and agreements required for TGVI to maintain and manage line-pack on its system.

To realize the full benefits of this integration will require agreements between TGVI and GSX PL is required that will give TGVI a large degree of operational control over GSX. To date, TGVI's discussion with Williams have not led to that degree of integration. To the extent that full operational integration is not achieved costs of service via GSX will be greater than assumed. As discussed by Mr. Jones at Tr.6: 1205-06:

Our preliminary design work with Williams considered this and has led to a preliminary interconnect point pressure of 1800 pounds minimum, and flow control at the interconnect point. What this does, this high interconnect pressure and flow control, it allows TGVI to maintain the same level of line pack on the TGVI system, and it also conversely allows Williams to use line pack on the GSX side for the benefit of Williams. So in essence, under this configuration you have two separate systems and not the minimum pressure, optimum operation referred to [by BC Hydro].

Operational integration is only an issue if the GSX pipeline is constructed. BC Hydro's analyses and the costs of the GSX option assume the benefits of operational integration are fully realized. TGVI submits that if GSX is the transportation route, then operational integration will have to be considered in the costs of that alternative.

Notwithstanding VIEC's statement that it will continue to work with TGVI (which implies that BC Hydro/VIEC accept the possibility of TGVI's proposal being the lowest cost gas transportation alternative), VIEC has a section of its Final Argument (starting at page 46) asserting that GSX is the preferred gas transportation alternative. TGVI finds this curious since it suggests that BC Hydro has pre-determined the results of its further discussions with TGVI.

In paragraph 141 of its Final Argument the VIEC lists a number of alleged benefits which VIEC says are not offered by the TGVI proposal. Those alleged benefits are listed below in italics, with the response of TGVI following each of the items.

- *potential to share the costs with U.S. Mainland shippers* – the value of this potential has not been demonstrated in the hearing. There is no evidence of contracts or customers who have agreed to share the costs.
- *higher security and reliability of gas supply to Vancouver Island resulting from construction of a new pipeline system on an independent corridor* – while additional security of supply is always desirable, the issue is always the cost of such additional security. The existing TGVI system is secure.
- *higher interruptible capacity to supply Island industrial customers* – gas transportation capacity is not normally built to supply interruptible load. Further, there is no evidence that there is additional interruptible load seeking interruptible transportation. The creation of a large amount of interruptible capacity may simply cause existing shippers to reduce their firm transportation capacity and ship on an interruptible basis, thereby placing a higher cost burden on remaining shippers.
- *no impact on gas transportation to Burrard Thermal GS* – TGVI’s proposal allows BC Hydro to make more efficient use of its existing CTS capacity to serve ICP and VIGP, while still maintaining firm capacity to Burrard that is sufficient to run 5 of its 6 generating units. If BC Hydro decides to make all 6 units at Burrard operational then additional firm CTS capacity can be provided. As noted in paragraph 62 of the VIEC Final Argument, BC Hydro is not in a position to decide on the repowering of Burrard.
- *lower incremental expansion cost to meet gas load growth on the Island* – the GSX proposal in effect seeks to have today’s customers pay for the possibility of lower expansion costs in the future. It is uncertain that incremental expansion capability of the GSX will be required.

At pages 48 to 50 of its Final Argument VIEC refers to the July 8 ruling of the Joint Review Panel (“JRP”) on the motion of GSXCCC for a declaration that the JRP hearing is still open. VIEC appears to be suggesting that the Commission give the JRP ruling some evidentiary weight in this proceeding. TGVI submits that the Commission should not: the JRP ruling related only to the application to declare its hearing still open; and the JRP has not heard evidence of the TGVI proposal, whereas this Commission has. No weight should be given to the JRP ruling.

The role of the JRP is to consider the GSX. TGVI does not say that the GSX is not a viable project. TGVI does not dispute that the GSX project can be constructed to provide incremental natural gas service to Vancouver Island. From the perspective of TGVI and its customers the GSX project could be beneficial, but only if the customers’ interests are protected from the unjustified rolling-in of GSX costs and if BC Hydro pays an appropriate rate for on-island transportation service. TGVI supports gas-fired generation on Vancouver Island and the GSX project, together with on-island service from TGVI, can provide a transportation route for

additional natural gas demand on Vancouver Island. While TGVI recognizes that the GSX project is a viable alternative for gas transportation service to Vancouver Island, TGVI believes that its proposal is more responsive to changes in the level of demand for natural gas on Vancouver Island and is a more cost effective alternative.

6. THE TGVI COST OF SERVICE

6.1 Cost of Service Model

TGVI proposes to add additional facilities to TGVI's existing system. The TGVI proposal is based on a reasonable set of cost estimates and assumptions regarding load requirements and operating parameters. The new facilities will be added to the utility's existing rate base and the associated costs recovered through its rates. The expected impact of the new facilities on the overall utility revenue requirement was calculated using a cost of service model in which the incremental cost of service in each year of the evaluation period was determined based on the utility's approved capital structure and weighted average cost of capital. The model then calculated the present value by discounting the annual revenue streams using a 10% nominal discount factor. The result was then compared to the cost of service for GSX.

TGVI did not model the cost of service of GSX, but used the annual revenue requirement provided by VIEC in the Application, and subsequently updated by VIEC in Exhibit 4P, to determine the present value of the GSX costs over the evaluation period. The updated GSX costs had the effect of reducing the annual revenue requirement from \$53 million to \$42 million, largely due to an updated forecast of debt costs and U.S./Canadian dollar exchange rate.

TGVI presented the cost of service comparison of the TGVI proposal to GSX in its evidence (Exhibit 12, Section 4) and subsequently updated the information in Exhibits 13G and 13L. The difference in the results between Exhibit 12 and 13G and 13L are principally due to the following changes:

- Increase of ICP firm demand from 42.5 TJ/d to 45 TJ/d, and assumption that ICP curtailment would not be available;
- Increase of the planning and evaluation period from 22 years to 25 years (ending October 2027);
- Update of debt cost and U.S./Canadian dollar exchange rate to reflect current market forecasts;

- Revised fuel consumption based on actual inlet pressure data and revised natural gas price forecast provided by VIEC in Exhibit 4FF; and
- Lower GSX costs provided by VIEC in Exhibit 4P.

The updated results show the present value of the incremental cost of service for the TGVI proposal is \$194 million versus \$374 million for GSX. Some of this lower cost is offset by higher compressor fuel costs associated with the TGVI proposal, with a present value of the net savings of the TGVI proposal estimated to be \$116 million (Joint Submission, page 9, Schedule E, TGVI View).

6.2 TGVI/VIEC Joint Submission Dated July 14, 2003

VIEC presented its views of the cost of the TGVI proposal in Exhibit 4P. There were significant differences between the TGVI and VIEC estimates of costs. A number of these differences were resolved in the VIEC/TGVI Joint Submission dated July 14, 2003 (the “Joint Submission”). A large part of the cost difference was due to differences in financial modeling methodology; but in the Joint Submission VIEC and TGVI have agreed that the TGVI Cost of Service model is a reasonable tool to evaluate the TGVI proposal (Joint Submission, page 1). As a result of using this model VIEC’s estimate of the present value (“PV”) cost of the TGVI proposal decreased by \$50 million.

The remaining PV difference of \$94 million (Joint Submission, page 7, Schedule C, line 12 “Revised PV with fuel” [397 – 303 = \$94 million]) between TGVI’s estimate and VIEC’s estimate of the present value of TGVI’s proposal is a result of the different assumptions used to determine the facility requirements on the TGVI system, VIEC’s inclusion of its view of the impact on Terasen Gas’s Coastal Transmission System (“CTS”), and the assumptions used to determine the compressor fuel consumption, as follows:

- Difference due to facility requirements on the TGVI system (\$33 million) (page 7, Schedule C, line 8 “Revised Cost” [227 – 194 = \$33 million])
- Difference due to consideration of impact to the CTS System (\$30 million) (page 7, Schedule C, line 9 “Add in revised CTS costs” [30 – 0 = \$30 million])
- Difference due to forecast of compressor fuel requirements (\$31 million) (page 7, Schedule C, line 11 “Add in fuel costs as filed” [140 – 109 = \$31 million])

For the purposes of the comparison to GSX, both the TGVI and VIEC views assume that TGVI is able to avoid future upgrades to the TGVI transmission system if GSX proceeds. Both views also assume that co-ordinated operation of GSX and TGVI systems will allow reduced overall fuel requirements. To the degree that operational integration is not achieved, GSX costs will be higher.

In paragraph 130 of its Final Argument VIEC continues to refer to VIEC's evidence of the NPV cost of the TGVI proposal being \$447 million, and a variance in the estimated costs of \$144 million. Those amounts are based on VIEC's earlier use of its own model to calculate the cost of service for TGVI. In the Joint Submission BC Hydro/VIEC has agreed that the TGVI model is a reasonable tool to evaluate the TGVI proposal, and based on the use of the TGVI model the revised BC Hydro/VIEC view is that the cost of the TGVI proposal is now \$397 million (\$50 million less than previously estimated by BC Hydro/VIEC) and the revised difference is \$94 million (also \$50 million less than previously estimated by BC Hydro/VIEC). Those portions of the VIEC Final Argument that refer to estimates based on VIEC's earlier use of its own model have been superseded by the material in the Joint Submission.

6.3 Facility Requirements on the TGVI Transmission System

TGVI performed detailed and comprehensive engineering and hydraulic analysis of the TGVI transmission system to determine the incremental facility requirements to meet current and future demands. VIEC engaged SAEL to perform an analysis, however TGVI has the advantage of being the long-term owner and operator of the system, and is able to compare and verify its hydraulic model results to actual and expected operation of the system. Regardless, the main difference in the capacity requirements modeled by TGVI and SAEL in the two plant scenario (ICP and VIGP) is due to different assumptions provided to SAEL by VIEC on long-term VIGJV contract demand and the heat content of the gas delivered at Huntingdon. In paragraph 138 of its Final Argument VIEC claims that TGVI has used aggressive assumptions on natural gas heat content and the VIGJV load. The TGVI assumptions are not aggressive; they are realistic, as discussed below. Another difference is the assumptions used for capital, operating costs and overhead. BC Hydro/VIEC has no experience in the operation of gas transmission facilities; the TGVI assumptions have been developed using its experience with the existing system and similar facilities.

6.3.1 VIGJV Demand

TGVI has forecast a decrease in VIGJV contract demand from 37.6 to 33.6 TJ/d, while VIEC has assumed that the current contract demand continues in effect over the period of the analyses. Aside from the BC Hydro service to ICP, the VIGJV is TGVI's biggest customer. TGVI's forecast of future VIGJV demand is based on ongoing discussions with the VIGJV members and TGVI's knowledge of a number of initiatives and general reduction in the steam requirements at several of the mills, the kraft mill shutdown at Powell River and the additional steam from the ICP plant flowing to the Elk Falls mill (TGVI response to VIEC IR 1-7.1, Exhibit 13C). Mr. Bennett in evidence (Tr.6: 1243) stated that the VIGJV planning assumptions have been used by TGVI for some time, including during TGVI's recent rate hearing, and have not been challenged by the Joint Venture. In contrast, the VIEC assumption of VIGJV contract demand is simply based on the assumption that the current contract demand continues; BC Hydro/VIEC has not made inquiries of the Joint Venture to determine its long-term plans (cross examination of Mr. Simpson at Tr.7: 1527-28).

6.3.2 Heat Content

TGVI uses a planning assumption of 38 MJ/m³ based on its evaluation of the potential for the heat content to decrease from its current level of 38.4 MJ/m³ (TGVI's response to VIEC IR 1-1.4, Exhibit 13C). While there has been a decrease in the heat content of the gas delivered off the Duke system at Huntingdon since 1999, Mr. Davies makes the distinction (Tr.6: 1246-1247) that this has been not been a steady trend but the result of distinct events such the rebuilding of the Solex Plant in January 2000 and the Alliance Pipeline startup in December 2000. Mr. Bennett also confirmed that the main causes of the decrease in the past were the Alliance Pipeline and the rebuilding of the Solex Plant (Tr.6: 1248). Mr. Davies also pointed out that adoption of a lower heat content value would not only have an impact on TGVI's proposal but would also cause advancement of expansions across both the TGVI and the Terasen Gas distribution and transmission systems (Tr.6: 1202). TGVI believes its assumed heat content is reasonable for planning purposes.

TGVI submits that its views regarding facility requirements on the TGVI system, and the costs thereof, should be accepted by the Commission.

6.4 Facility Requirements on the Coastal Transmission System of Terasen Gas

TGVI's proposal to serve ICP and VIGP will result in additional demand transported across the CTS to Eagle Mountain. The need for facility additions to the CTS system, however, is principally dependant on the future operation of Burrard Thermal that currently requires 230 TJ/d to serve all six generating units, and on the growth of Terasen Gas's Lower Mainland core market that currently has a peak day requirement of approximately 1300 TJ/d.

If GSX proceeds, and TGVI loads currently served by CTS are transferred to GSX to the maximum extent contemplated by VIEC, there would still be requirements for upgrades to the CTS system to meet core market growth. This is recognized in the Joint Submission, and a CTS PV cost of \$17 million have been included under the VIEC view of the GSX compared to \$30 million for the VIEC view of TGVI's proposal. The \$13 million PV difference represents a significant reduction in VIEC's view of the benefits attributable to GSX.

TGVI submits that CTS upgrade costs should not be considered in comparison of gas transportation alternatives.

The future requirements of Burrard Thermal have a significant effect on the requirement for CTS upgrades. The benefit claimed by VIEC is based on the assumption that Burrard Thermal will continue to require 230 TJ/d throughout the study period. If this facility is re-powered or shut-down the requirements under both the TGVI and GSX alternatives would be reduced. Likewise much of the potential benefit claimed by VIEC would be eliminated.

The VIEC view of CTS costs appears to be based on the belief that if GSX proceeds, future upgrades of the CTS system can be deferred or avoided by moving both the ICP volumes and existing TGVI loads over GSX instead of the CTS, which would effectively strand existing capacity on the TGVI transmission system. The VIEC also assumes that gas for TGVI loads moving over GSX would not pay a toll (or fails to take the toll into account).

TGVI has shown that if GSX transport is limited to ICP and VIGP demand then GSX has little impact on the requirement for CTS upgrades. The table on page 12 of Exhibit 13G shows a negligible difference in CTS requirements between those of the TGVI proposal and the GSX – Separate System Case. In order to realize further savings TGVI would also have to reduce capacity on the CTS. TGVI must hold firm capacity to serve its core market demand, and

therefore as Mr. Davies pointed out (Tr.6: 1208-1209), if TGVI were to reduce its capacity on the CTS system, it would have to contract for firm capacity on GSX.

Terasen Gas (Vancouver Island) has to hold firm capacity in order to serve their core market. Today they do that over the coastal transmission system and they use their existing transmission system. If they were to reduce their contract demand over the coastal transmission system, it would mean that they would then have to hold firm capacity over GSX, and our assumption is that that would come at some cost.

So from the point of view of a Terasen Gas (Vancouver Island) customer, they would therefore be paying not only for the existing transmission system, but they would be paying for firm capacity over GSX, and this -- in order to realize the deferral of coastal transmission system upgrades.

VIEC has not included an allowance for the costs of this firm TGVI transportation on GSX in its view of GSX related costs. In its Final Argument (paragraph 140, page 52) VIEC says that GSX can access interruptible capacity on GSX at tolls as low as \$0.01, but that statement fails to appreciate the need for firm transportation service to serve the firm loads of TGVI's core market customers. Firm transportation service would be required, and although the cost to TGVI of holding GSX firm capacity to replace CTS capacity is an unknown today, at Tr.7: 1548 Mr. Simpson acknowledged:

... it would be beneficial to GSX if were to offer a toll that is just below the avoided costs of those facilities that Terasen would otherwise have to put in.

TGVI plans to maintain its ability to use the firm capacity across its transmission system, and therefore does not plan to reduce its CTS capacity. With this consideration, and the uncertainty of the future operation of Burrard and other loads on the CTS, TGVI has not included the impact of CTS upgrades in its evaluation.

The VIEC views on CTS costs overestimate the savings, fail to put forward a mechanism for transferring any avoided CTS costs to the benefit of the GSX project, and fail to appreciate the need for, and cost of, the firm transportation requirements of the TGVI core market load if TGVI were to rely on GSX for transportation of gas to Vancouver Island. TGVI submits that its views respecting CTS costs should be accepted by the Commission.

6.5 Compressor Fuel Requirements

The views of compressor fuel requirements for the TGVI proposal differ between TGVI and VIEC due to different assumptions regarding the timing and the nature of the facility additions. However, the majority of the difference respecting fuel requirements is due to the differing assumptions regarding the average delivery pressure at Eagle Mountain. TGVI has used the most recent three-year average Eagle Mountain delivery pressure for all except the 10 highest demand days; on those 10 days contract minimum pressure is assumed (Exhibit 13G, page 4, Section 2.1). Similarly, TGVI has used a three-year average Sumas pressure for its calculation of GSX fuel consumption. In contrast, VIEC has assumed lower delivery pressures which results in a higher estimate of fuel consumption for TGVI relative to GSX.

While TGVI's proposal has a higher fuel gas requirement than GSX the extent of this difference is dependant on the level of demand. To the degree that demand is lower than expected the difference will be reduced. For example, in determining the fuel consumption both TGVI and VIEC have assumed that ICP and VIGP are operated as baseload plants. To the degree these plants are dispatched at less than the forecast high load factor, lower fuel consumption will result. This would increase the relative benefit of TGVI's proposal.

TGVI submits that its analysis of the fuel requirements on its system should be accepted by the Commission as they are based on realistic forecasts of operating conditions.

It is submitted that the Commission should accept the views of TGVI respecting the remaining differences between itself and VIEC on the present value of the costs of the TGVI proposal. However, in the final analysis it is not the gas facilities costs alone that are most relevant to the ultimate analysis of the cost of incremental power output from VIGP. What is most relevant is the rates that will have to be paid by BC Hydro/VIEC for gas transportation service via the existing TGVI system, or gas transportation service via GSX with on-island service from TGVI. The cost of service model discussion above does not fully address those costs to BC Hydro/VIEC. The lower cost capital additions on the TGVI system will enable lower rates than GSX as they result from a more efficient investment in infrastructure. But the analysis in the model is limited to the cost of service via TGVI, with a comparison to GSX costs; the model does not include consideration of the cost to BC Hydro/VIEC of on-island service from TGVI under the GSX service scenario. The on-island transportation costs are not a separate cost in the TGVI proposal, and are not a "GSX" cost, but are a real cost to the VIGP in gas transportation

service via GSX. The costs of on-island service cannot be ignored (as BC Hydro/VIEC has done) in an analysis of the costs that the VIGP will incur.

TGVI has presented estimates of illustrative rates under various scenarios, all of which demonstrate the merits of its staged, lower cost plan for facilities. In paragraph 137 (page 50) of its Final Argument, VIEC refers to TGVI's illustrative risk-adjusted rates. TGVI presented these tolls in response to information requests. Even after including a risk factor the illustrative TGVI rates to serve VIGP are less than the costs of service via GSX and on-island service from TGVI. TGVI's estimated rates for service to ICP and VIGP (Exhibit 13C, TGVI response to VIEC IR 1-11.1, 1-11.2 and 11.3) do include a risk factor for providing a long term fixed rate. While BC Hydro/VIEC expresses a desire for gas transportation cost certainty, the Powerex agreement with GSX PL (Exhibit 4E, VIEC response to BCUC IR 54.1) establishes a fixed tolling methodology over the 30 year term of the contract, but does not provide for a fixed toll. The actual GSX transportation costs will be subject to the final cost to develop, construct and commission the project, and, on an on-going basis, will also be subject to risks associated with debt costs, operating costs, foreign exchange rates, inflation, and regulatory changes. As well, in the case of an expansion of GSX there is the potential risk that the debt/equity ratio will move to a 60/40 split from the initial 70/30, increasing the cost of the transportation (Exhibit 4AA). TGVI's risk-adjusted rates would provide BC Hydro/VIEC with more certainty than would the financial arrangements with GSX.

7. CPCN CONDITIONS RESPECTING GAS TRANSPORTATION

At Tr.11: 2274 the Chairperson requested that TGVI file an exhibit (now exhibit 13K) setting out the views of TGVI respecting conditions that should be included if a CPCN is issued for the VIGP. Subsection 45(9) of the *Utilities Commission Act* provides authority to the Commission to impose conditions when giving approval for the construction of a public utility plant such as the proposed VIGP. If the Commission believes that its authority to impose conditions is limited, then it can refuse to grant a CPCN until conditions have been met and it is satisfied that the project is in the public convenience and necessity. Such a refusal would be similar to the Commission's first Southern Crossing Pipeline project Decision (referenced at paragraph 149 of VIEC's Final Argument) in which the Commission refused a CPCN and declared that it expected certain contractual arrangements to be undertaken.

In its Final Argument, commencing at paragraph 143 (page 52), VIEC discusses the conditions that TGVI proposed should be included in a CPCN. VIEC says "... there is a question as to the Commission's jurisdiction to require BC Hydro to negotiate and enter into a long-term transportation agreement with TGVI to serve BC Hydro's needs on Vancouver Island". TGVI recognized that such a question existed, and in Exhibit 13K did not suggest that the Commission require BC Hydro/VIEC to negotiate and enter into a long-term contract with TGVI. VIEC's lengthy submission respecting this issue (pages 52 to 56) appear to be primarily addressed to a passage in Exhibit 12, and not to Exhibit 13K, the more detailed discussion of the appropriate conditions to be included in a CPCN for the VIGP. As discussed below, TGVI submits that a CPCN granted for the VIGP should include as a condition the requirement that VIEC resolve the existing uncertainty respecting gas transportation costs.

VIEC has argued that its search found no authority to support the view that the Commission could order a CPCN condition as expansive as that proposed by TGVI (paragraph 145). Perhaps the reason that VIEC was unable to locate a condition comparable to that proposed by TGVI is because other persons seeking CPCN's have included evidence of all major elements of the cost of the proposed project, while VIEC has not. It must also be recognized that in most applications for a CPCN the applicant is not also the proponent of another project that is one of the major components of the costs of the project being considered for a CPCN. Before the Commission grants an unconditional CPCN for a project it should have before it evidence of all significant costs associated with the project. VIEC has not presented to the Commission sufficient evidence relating to the cost of transporting gas to the proposed VIGP. There are two possible means of transporting gas to the VIGP: via the GSX with on-island service from TGVI; and via an expansion of the existing TGVI system. The VIEC evidence respecting the costs of both of the transportation options is insufficient.

With regard to service via GSX, VIEC presented evidence relating to the current forecasts of GSX costs, and some evidence of the contractual arrangements with the owner of GSX. VIEC did not present evidence of up to date contracts for GSX service and did not present evidence of a firm toll for service via GSX. VIEC did not present evidence of a contract with TGVI for on-Vancouver Island service, nor evidence of the toll for that on-island service. TGVI put into evidence an illustrative on-island toll of 60 cents (TGVI responses to BCUC Staff IRs 3.3, 6.3 and 6.4, Exhibit 13B). As discussed above, TGVI identified an unresolved issue of operational integration with the GSX line (Tr.6: 1203, 1205-07, Exhibit 13G, pages 7 and 8). VIEC

suggested that the operational integration issues will be resolved, but the means, and results, of resolving those issues are not before the Commission and are complicated by the existence of Williams as the operator of the GSX line; with no evidence before the Commission of William's views on the resolution.

With regard to service via an expansion of the existing TGVI system there has been collaboration between BC Hydro and TGVI regarding the model to be used to develop the cost of service for transportation via the TGVI system. The model and the differences that remain between BC Hydro and TGVI are discussed above (see Section 6 of this Submission). TGVI put into evidence an illustrative risk-adjusted toll of \$1.20 - 1.30 for service to ICP and VIGP (TGVI response to VIEC IR 2.2, Exhibit 13C). Neither TGVI nor VIEC presented evidence of the contractual terms for such service.

TGVI submits that a CPCN granted to VIEC for the VIGP should include as a condition the requirement that VIEC resolve the uncertainty respecting gas transportation costs to the VIGP. TGVI submits that in order to resolve that uncertainty VIEC must provide to the Commission either A or B listed below with evidence of the reasons A or B was chosen (or provide both A and B with evidence of the relative merits of each):

A. Gas Transportation via an expansion of the existing TGVI system

1. A long-term contract with TGVI establishing a rate (or rate-setting methodology) for service via an expansion of the TGVI system, and the conditions for such service, and a process for obtaining Commission approval of such contract; or a process for establishing such a rate and conditions of service (such as a complaint to the BCUC and BCUC adjudication) in which case the condition would not be satisfied until there was adjudication; and
2. A proposal for the disposition of the costs associated with the GSX project.

B. Gas Transportation via GSX, with on-island transportation from TGVI

1. A long-term contract with GSX PL establishing a rate (or rate-setting methodology) for service on GSX, and the conditions of such service; and a process for obtaining all necessary approvals of that contract;
2. A long-term contract with TGVI establishing a rate (or rate-setting methodology) for service on Vancouver Island, and the conditions of such service, and a process for obtaining Commission approval of such contract; or a process for establishing such a rate and conditions of service (such as a complaint to the BCUC and BCUC adjudication) in which case the condition would not be satisfied until there was adjudication; and

3. A contract between GSX PL and TGVI that establishes the degree of operational integration between TGVI and the GSX.

Contrary to the submissions of VIEC, TGVI is not submitting that BC Hydro/VIEC be required to negotiate and enter into a long-term transportation agreement with TGVI to serve BC Hydro's needs on Vancouver Island (for example, items A2 and B2 above provide for the possibility of a complaint and year-to-year rates as an alternative to a long-term contract). TGVI is submitting that BC Hydro/VIEC should present good evidence to the Commission of the means, and costs, of transporting gas all the way to the proposed project. The conditions proposed by TGVI only seek to ensure that evidence of all significant costs has been presented to the Commission before final approval of the project is granted. In paragraph 150 of its Final Argument VIEC submits that the Commission should not widen the scope of the hearing to include a *de facto* hearing on TGVI's proposal and also submits that the Commission is well-equipped to assess the prudence of the VIGP gas transportation costs in a future revenue requirement application. In paragraph 180 of its Final Argument VIEC says it believes the settlement of TGVI tolling issues is beyond the scope of these proceedings. Those submissions fail to address the need to consider all major cost elements of the project before an unconditional CPCN is granted; by the time the project is complete and a revenue requirement hearing is held (and it is not clear whose revenue requirement hearing that would be) there will be no means of reversing a commitment by VIEC to a higher than necessary gas transportation cost.

TGVI submits that in its Decision the Commission should include a provision to ensure that the VIGP makes use of the transportation alternative with the lowest long-term cost.

8. THE PROPOSED CFT PROCESS

In Exhibit 4QQ BC Hydro/VIEC has put forward a CFT evaluation process. TGVI supports the concept of an open and transparent process for the evaluation of proposals to serve the capacity and energy requirements on Vancouver Island. TGVI also recognizes the critical timing requirements of BC Hydro and submits that the evaluation of competing generation proposals should take into account both the near term requirements for generation on Vancouver Island as well as the long-term costs associated with any proposal.

TGVI is concerned that while not expressly stated, elements of the CFT process proposed by BC Hydro may have the effect of linking a generation proposal (i.e. the VIGP) with a gas

transportation alternative (i.e. GSX). TGVI submits that there is no integral link between VIGP and GSX. This was acknowledged by Mr. Elton at Tr.1: 95-96 where he said:

... if there is a firm proposal from Terasen Gas within the time lines that we talked about earlier, that shows that the Terasen alternative would be better than the GSX alternative, then of course they would not be integrally linked.

On page 3 of Exhibit 4QQ, under the heading *Fuel Supply*, it states "... alternatively, those risks, other than non-GSX gas transportation alternatives, may be allocated to BC Hydro ...". That passage was discussed with Ms. Farrell at Tr.13: 2876-79. Ms. Farrell said that BC Hydro's major concern around gas transportation risks for its customers is that for a long-term plant such as VIGP BC Hydro have a secure stream of gas transportation costs associated with the plant. At pages 2878-79 the following discussion occurred:

MR. JOHNSON: Q: -- long-term cost certainty. I don't have any difficulty with that. What I am having some difficult with is the words in this document.

MS. FARRELL: A: So am I actually.

MR. JOHNSON: Q: And as I read the document and I tried to interpret what was there, I read it as saying B.C. Hydro would be prepared to take the risks associated with GSX transportation, but would not be prepared to take the risks associated with non-GSX transportation.

MS. FARRELL: A: Yes, so let me just try one more time. What's behind our thinking of what GSX transportation means to us, what is that code for. It's code for that we have a fixed-price contract over 25 years and we fixed the price of the transportation. We are comfortable with taking that kind of risk on behalf of our customers.

MR. JOHNSON: Q: Okay, so if Terasen could come forward or a bidder making use of the Terasen transportation option were to come forward and that included a contract --

MS. FARRELL: A: A long-term.

MR. JOHNSON: Q: -- contract of 25 year sort of fixed price contract or a 25-year contract where you'd know with certainty what the costs were going to be over that 25 years. I take from what you just told me, Ms. Farrell, you would be -- B.C. Hydro would be prepared to accept that type of a proposal equally as well as it would be prepared to accept a GSX type of proposal.

MS. FARRELL: A: That is correct.

Ms. Farrell agreed that BC Hydro would be prepared to accept a long-term fixed price contract for transportation service from TGV I equally as well as it would be prepared to accept a GSX type of proposal. TGV I submits that the CFT process as approved by the Commission should explicitly include a provision that makes it clear that a long-term contract with TGV I that provides gas transportation cost certainty will be as acceptable as a similar arrangement for transportation by GSX.

As discussed in Section 7 of this Submission, any arrangements for gas transportation service via the GSX alternative will have to include consideration of the cost of on-island transportation service from TGV I.

TGV I submits that the CFT process should involve Commission oversight and that there should be independent evaluation of the proposals. In the circumstance where BC Hydro is a proponent, a fair process, and the perception of a fair process, requires independent evaluation of all of the major elements of the competing proposals.

9. SUMMARY AND CONCLUSION

BC Hydro's electric customers expect to receive reliable service throughout the year, and year-to-year. In this proceeding BC Hydro has demonstrated the need for new facilities to be put in place in the near-term to serve the capacity and energy requirements on Vancouver Island and thereby to provide reliable service.

TGV I submits that locating generation near load centres is both logical and efficient. Gas-fired generation on Vancouver Island can be implemented in a time frame that meets BC Hydro's reliability requirements. TGV I submits that new gas fired-generation on Vancouver Island is required to provide BC Hydro's customers with the reliable service they expect.

In addition to providing electric customers with the reliable service they expect, appropriately-tolled service for additional gas-fired generation on Vancouver Island will lower unit costs for natural gas service on Vancouver Island and the Sunshine Coast, thereby benefiting gas consumers in those regions and encouraging the use of natural gas for space heating.

TGV I submits that its evidence and the Joint Submission establish that the TGV I proposal will provide the lowest cost gas transportation to Vancouver Island. The TGV I proposal is a staged approach that does not involve investment in facilities until they are necessary. TGV I submits

that its proposal is efficient and cost effective, and contributes to the optimal generation solution on Vancouver Island.

TGVI supports the concept of an open and transparent evaluation of alternatives that are able to meet the BC Hydro timing requirements. If a CFT process is approved by the Commission the Commission's Decision should make it clear that a long-term contract with TGVI that provides gas transportation cost certainty is as acceptable as a similar arrangement for transportation via GSX.

TGVI submits that the Commission should not grant VIEC an unconditional CPCN as BC Hydro/VIEC might consider such a CPCN to be an acceptance of gas transportation via GSX. If the Commission grants VIEC a conditional CPCN then, TGVI submits, that conditional CPCN should ensure that good evidence of all gas transportation costs is before the Commission, and the gas transportation alternatives have been fairly evaluated, before the CPCN conditions are satisfied.

All of which is respectfully submitted.

"Original signed by C.B. Johnson"
C.B. Johnson, counsel for Terasen Gas (Vancouver Island) Inc.

July 22, 2003