1.0 Reference: None

1.1.0 Given that BC Legislation requires BC Hydro to acquire energy from new resources at least cost, what information is provided in the application released to the interveners that allows them, BCUC or the public to make this determination?

RESPONSE:

BC Hydro's Report on the CFT Process contains information outlining the Quantitative Evaluation Methodology (QEM), which was used to determine which portfolio was the most cost effective, that being the one with the lowest Net Portfolio Cost on an NPV basis. As per the design parameters of the CFT, all eligible resources had to meet the size thresholds (25 to 300 MW) and constitute new, dependable capacity in the form of on-Island generation utilizing proven technology.

2.0 Reference: None

1.2.0 Does Duke Point provide contingency for the failure of both 500 kV lines, the 5L29 and the 5L31, for example from avalanche on the Sechelt Peninsula? In other words, if the demand is high, and the Duke Point Plant is operating and both 500 kV lines fail, will Vancouver Island experience a blackout or other consequences?

RESPONSE:

The scenario described in the information request is considered the worst-case scenario with respect to Vancouver Island electricity supply since an avalanche implies that the outage would occur without warning and would result in an extended outage of both 500 kV circuits.

An important advantage of Duke Point is that it would increase from 690 MW to 942 MW the amount of on-Island generation available to provide emergency electrical service to Vancouver Island customers during an extended outage of the 500kV system; particularly if the ageing HVDC system and the planned new 230 kV cable were unavailable.

If the outage occurred without warning, extensive industrial load shedding would immediately occur. Further load shedding of residential and commercial customers may also be unavoidable. Generation from the Duke Point Power project may reduce the amount of load shedding that would occur if both 500 kV circuits failed. However, the disturbance could be severe enough to cause the on-Island generation, including Duke Point, to temporarily shutdown to protect itself from extensive damage caused by severe frequency or voltage excursions.

3.0 Reference: None

1.3.0 Why is building the Duke Point Plant preferred over upgrading the HVDC link to Vancouver Island, when Duke Point will both create a dependency on supply from off Island to generate power, and will also be more costly than power supplied by transmission of electricity from the mainland? In answering this request we would like you to take into account that ABB has provided a firm bid to SBP-RTS to provide a turnkey 1100 MW HVDC Light installation that would be in service before the end of 2007, thus being able to match up with the date for derating the current HVDC lines. Also, please take into account that HVDC Light does not have the sensitivity to being installed in a liquefaction zone that HVDC Classic shows and therefore could be installed at Arnott Substation.

RESPONSE:

This Information Request is out of scope.

4.0 Reference: None

1.4.0 SBP-RTS has approached Hydro about the concept of a P-3 partnership to build such a line. As this would take the capital requirements for such a project away from the rate base, why would not the transmission costs, being the only costs associated with such service, be of less cost to the rate base than energy from Duke Point at extreme commodity risk?

RESPONSE:

This Information Request is out of scope.

5.0 Reference: None

1.5.0 How can the public review, envisioned as one of the purposes of the BCUC, be adequately performed by interveners if BC Hydro will not release the actual cost of gas being bought for Duke Point, doesn't know the cost of gas, and/or is unwilling to release the terms of the EPA regarding price of electricity?

RESPONSE:

This Information Request is out of scope.

6.0 Reference: None

1.6.0 What is the expected yearly gas consumption of the Duke Point Plant in the VICFT?

RESPONSE:

~~**Please see the response to BCUC IR 1.25.1, particularly the attached response to BCUC IR 1.3.4 in the TGVI proceeding.**~~

~~**The expected year-by-year gas consumption was filed on a confidential basis with the BCUC in response to BCUC IR 1.25.1**~~

Please see BC Hydro's response to BCUC IR 1.25.1, particularly the attached response to BCUC IR 1.2.3 in the TGVI proceeding.

Please see BC Hydro's response to JIESC IR 1.7.0 (c).

7.0 Reference: None

1.7.0 Will the Duke Point Plant be used as a peaking plant or must run? Will it be run out of merit or as economic dispatch?

RESPONSE:

The Duke Point Power plant is a gas-fired tolling, dispatchable, non-peaking capacity plant. It will run based on economic dispatch, subject to the technical parameters of the plant.

8.0 Reference: None

1.8.0 If the plant is to be used only to supply peak consumption, what compensation is provided to Pristine Power for the stand-by time?

RESPONSE:

The Duke Point Power plant will be used to supply peak consumption, and will be used to provide system energy when it is economic to do so. Please also see the response to Gold River IR 1.2.11.

9.0 Reference: None

1.9.0 How much will this project cost in order to comply with Kyoto requirements – i.e. will BC Hydro have to purchase RECs or ERCs to comply with Kyoto and how much will they cost? Has this cost been factored into the overall energy cost? How does BC Hydro reconcile this with their stated goal of not increasing their emissions signature?

RESPONSE:

Please see responses to Gold River IR 1.5.25, GSXCCC IR 1.23.2 and Green Island IR 15.2.

10.0 Reference: None

1.10.0 What is the expected peak gas consumption of the Duke Point Plant?

RESPONSE:

44.6 TJ/day.

11.0 Reference: None

1.11.0 At what price will the Duke Point Plant buy natural gas?

RESPONSE:

On average, BC Hydro expects that its purchase cost of gas will be close to its long-term price forecast. This forecast is included in the response to BCUC IR 1.24.3.

12.0 Reference: None

1.12.0 What is the utilization of the Island Cogeneration Plant since it has been able to operate at its full 240 MW rated capacity?

RESPONSE:

This Information Request is out of scope.

13.0 Reference: None

1.13.0 At what price is the Island Cogeneration Plant buying its natural gas?

RESPONSE:

This Information Request is out of scope.

14.0 Reference: None

1.14.0 What is the heat rate of the Island Cogeneration Plant?

RESPONSE:

This Information Request is out of scope.

15.0 Reference: None

1.15.0 What is BCH's expected future price for natural gas over the years 2007 to 2042?

RESPONSE:

The forecast used in the CFT Quantitative Evaluation has a term of 25 years starting in 2007. Please see the response to BCUC IR 1.24.3 for that forecast.

16.0 Reference: None

1.16.0 How are you determining the expected future price of natural gas over the years 2007 to 2042?

RESPONSE:

The forecast used in the CFT Quantitative Evaluation has a term of 25 years starting in 2007. Please refer to section 3.4 of the Quantitative Evaluation Methodology document posted on the BC Hydro website at www.bchydro.com/rx_files/info/info14505.pdf

17.0 Reference: None

1.17.0 What forecasts are you basing your expected future price on? Given the results of independent analysis regarding the difference between using gas forecasts and gas forward prices (see, for example, "Accounting for Fuel Price Risk When Comparing Renewable to Gas-Fired Generation: The Role of Forward Natural Gas Prices," Bolinger, Wiser and Golove, Ernest Orlando Lawrence Berkeley National Laboratory, January, 2004. attached) why would you use gas forecasts instead of gas forward prices? What is the cost differential of the electricity that could have been produced from Duke Point since the time of Hydro's last forecast given that the forecast and actual prices differed?

RESPONSE:

With respect to why futures for forwards prices are not an appropriate basis for a long-term energy price forecast, please refer to the response to BCUC IR 1.26.6.

BC Hydro has not undertaken the analysis indicated in the last sentence of the question.

18.0 Reference: None

1.18.0 When you made previous forecasts for future gas prices for the September 8th 2003 VIEC VIGP BCUC decision, what was the expected price for 2004?

RESPONSE:

The BC Hydro price forecasting methodology uses market forwards and futures quotes for the near term (out to approximately 2 years).

On 08 September 2003, BC Hydro would have used NYMEX futures prices as the basis of a short-term (2004) forecast. Please see Table IR 1.18.0 for the NYMEX futures for 2004 on 08 September 2003.

Table IR 1.18.0

NYMEX Market Forwards for:	
08 September, 2004	
	Price (USD/MMBTU)
January-04	5.354
February-04	5.304
March-04	5.209
April-04	4.789
May-04	4.704
June-04	4.711
July-04	4.713
August-04	4.721
September-04	4.706
October-04	4.721
November-04	4.876
December-04	5.030

Notes:

- **These numbers are in US$/MMBTU delivered at Henry Hub, Louisiana**
- **The Call for Tenders EPA Term starts in 2007.**

19.0 Reference: None

1.19.0 We note that Quebec recently completed a wind RFP that resulted in an electricity price that was 10% lower than the stated cost of electricity published in the VIG hearing, question No. 2.56.6 of $0.0751/KwHr. Since the price that BC Hydro used for this projection was $4.42/MMBtu, what would the price now be given the current price of natural gas at U.S. $7.63 MMBtu (Nymex November '04 close)?

RESPONSE:

This Information Request is out of scope.

20.0 Reference: None

1.20.0 Using known Natural Gas prices, if Duke Point had been put in service in January '04, what would have been the cost of electricity from that facility? On a per Kw basis? How much time would the plant have run? What would the total cost of both electricity and stand-by costs have been?

RESPONSE:

This Information Request is out of scope.

21.0 Reference: None

1.21.0 In the gas utilization models that BC Hydro is using, what is the expected heat rate of new Combined Cycle Gas Turbine (CCGT) plants built after 2007?

RESPONSE:

Please see the Quantitative Evaluation Methodology (QEM), Appendix H to the CFT Report, section 3.4.2, where CCGT performance parameters, including heat rates, are set out.

22.0 Reference: None

1.22.0 In those models, what is the expected heat rate of new Simple Cycle Gas Turbine (SCGT) plants built after 2007?

RESPONSE:

SCGT plant cost or performance parameters were not used in the QEM.

23.0 Reference: None

1.23.0 In those models, what part of new generation built after 2007 is expected to be CCGT and what part is expected to be SCGT?

RESPONSE:

In BC Hydro's price forecasting methodology, the market prices post-2012 are estimated based on the cost of a CCGT plant.

24.0 Reference: None

1.24.0 Generally, an increase in demand for a commodity increases its price. How much, if any, will the increase in demand from the Duke Point Plant increase the price of natural gas on Vancouver Island for all customers?

RESPONSE:

It is not expected that the Duke Point plant would alter the price of natural gas for Vancouver Island consumers.

25.0 Reference: None

1.25.0 How much does the Duke Point Plant reduce the Expected Energy not Served (EENS) on Vancouver Island in 2007?

RESPONSE:

Please see Exhibit A-13, in which the Commission has relieved BC Hydro of the obligation to respond to BCUC IR 1.27.3, which asks a similar question.