Requests for Information
Newfoundland & Labrador Hydro ("Hydro") 2003 General Rate Application

Cost of Service Rates

NP-148 NLH — Further to NP-116 NLH: Please provide the capacity factors for each of Hydro's hydraulic and thermal plants on the Island Interconnected System for 2001, 2002 and forecast for 2003 and 2004 (as previously requested).

NP-149 NLH — Of the utilities listed in response to NP-131 NLH, which utilities operate on an electrical system primarily served by Hydroelectric energy?

NP-150 NLH — Provide a list of 20 investor-owned distribution utilities in North America that are subject to a cost of service based demand/energy charge for purchases. For each investor-owned utility subject to a demand/energy rate, please provide;

- the percentage of their energy sales purchased through the wholesale rate,
- the generation mix of the supplier utility,
- the demand charge, and
- how the utility deals with the financial impact of demand forecast errors.

NP-151 NLH — Further to IC-177 NLH: Indicate the specific directive from the Board in P.U. 7 (2002-2003) upon which Hydro concluded that a demand energy rate structure is in the best interests of efficient and fair rates.

NP-152 NLH — Further to IC-177 NLH: Please identify the specific factors which influenced the change in Hydro's position from that contained in Mr. Brickhill's supplemental testimony filed in the 2001 Hydro Hearing which concluded that the energy-only rate combined with the RSP was an acceptable wholesale rate.

NP-153 NLH — Further to NP-132 NLH: The sample rate filed by Hydro includes a maximum risk to Hydro of 2% of forecast demand costs but has no limit on the maximum demand cost than can be charged to Newfoundland Power. Therefore, please explain why it is expected that "any expense gains or losses will tend to zero-out over time".

NP-154 NLH — How much reduction in demand at the system peak hour is required of Newfoundland Power (assuming no energy reductions) to defer the next plant addition.

NP-155 NLH — Provide a graph showing the annual percentage change in NP system peak for the period 1991 to 2002 (i.e., year 1, 1991 system peak divided by 1990 system peak; year 2, 1992 peak divided by 1991 system peak, etc.).

NP-156 NLH	Further to IC-155 NLH: Provide a comparison of the annual error on a percentage basis in the NP forecast of total produced and purchased and the NP forecast of system peak for each year from 1993 to 2002. Include in the comparison the average of the absolute value of the annual percentage errors and the standard deviation of the annual percentage errors.
NP-157 NLH	Further to CA-132 NLH: Confirm annual earnings to Hydro will be the same under both the energy only rate and the sample demand energy rate only if Newfoundland Power is 100% accurate in its system peak forecast.
NP-158 NLH	PUB-149 NLH states "the illustrative rate is generation-independent". Does the inverted rate block in the sample demand energy rate provide an incentive to Newfoundland Power to increase storage levels at it's hydro plants during Autumn to generate more power during the winter months and maximize savings in purchased power costs?
NP-159 NLH	Further to NP-158 NLH: Assume Newfoundland Power responds to this price signal by increasing storage during Autumn to shift production into the winter months. Does Hydro agree that this approach to storage modification would increase the likelihood of spilling at NP's hydro plants?
NP-160 NLH	Please express the upside and downside risk identified in PUB-152 NLH in basis points of return on equity for Hydro.
NP-161 NLH	Further to PUB-154 NLH: Please explain the statement "Under a demand and energy rate structure for NP, the risks associated with forecast variance, although having different causes, are more comparable".
NP-162 NLH	Further to CA-73 NLH: Provide evidence that implementing a demand energy rate will increase system load factor and defer new capacity.
NP-163 NLH	Further to CA-73 NLH: Assume NP responded to the sample rate energy price of 3.44¢ per kWh during non-winter months and undertook measures to improve annual system load factor by promoting increased sales to customers in summer months. Would not this approach accelerate the requirement to add generation due to firm energy criteria?
NP-164 NLH	Further to NP-129 NLH: Does Hydro agree a wholesale rate that prices energy for most months of the year at a cost significantly below the short-run cost of producing that energy is inefficient? If not, why not?
NP-165 NLH	Further to NP-118 NLH: Is the difficulty suggested in offering a credit to NP for peak load reductions similar to the problems facing NP in providing credits to its customers for load reduction at the time of system peak? If not, why?

NP-166 NLH Further to NP-118 NLH: Could Hydro provide NP a credit for peak load reductions based on the information NP gathers to provide credits to its customers?

NP-167 NLH Further to NP-126 NLH: Does Hydro believe that DSM options should be evaluated on a marginal cost or embedded cost basis?

NP-168 NLH Further to NP-126 NLH: Confirm that Hydro is proposing to use a demand cost derived from an embedded cost of service study to encourage NP actively pursue load management.

NP-169 NLH Further to NP-126 NLH: Under what time frame is Hydro proposing that the technical assessment group develop a mutually acceptable weather normalization computer model?

NP-170 NLH Further to NP-117 NLH: Provide the actual and weather normalized NP system peak for the years 1991-2002.

NP-171 NLH Further to NP-128 NLH: Confirm that the cost of providing energy at Holyrood on a ¢ per kWh basis is approximately the same for all months of the year.

NP-172 NLH Further to NP-128 NLH: If NP reduced demand requirements for the system peak hour by 25 MW, would Hydro automatically reduce production at Holyrood or would Hydro reduce generation at one of its Hydro plants?

NP-173 NLH Further to NP-129 NLH: The sample wholesale rate price for energy during non-winter months is significantly below the short-run marginal cost (3.44¢ per kWh vs. 5.13¢ per kWh) and slightly below the average energy cost of 3.55¢ per kWh. Does Hydro conclude that the proposed non-winter energy charge of 3.44¢ per kWh is not an efficient pricing signal?

NP-174 NLH In the last 15 years, has Mr. Greneman designed a wholesale rate to apply to a utility served by a supplier operating a predominantly hydro power system? If yes, provide details on each rate design implemented (i.e., utilities involved, the proposed rate, the approved rate, transcript of Mr. Greneman's evidence before a regulator on the issue of the wholesale rate, and the cost basis for the rate design and date of implementation).

NP-175 NLH Describe how utilities deal with earnings volatility resulting from being billed on wholesale demand and energy rate structures.

NP-176 NLH Further to NP-130 NLH: Provide the monthly and annual demand charge required under the rate form proposed by Hydro if the energy charge was set at the 5.13 ¢ per kWh short-run marginal energy cost of supplying energy at Holyrood.

NP-177 NLH NP-132 NLH states, in referring to NP system peak forecast errors, that "the extent of these deviations are fairly regular and small in magnitude, it is uncertain as to whether they can be characterized as being volatile". Reconcile this statement with the demand variations and dollar impacts illustrated in response to PUB-151 NLH and PUB-152 NLH.

NP-178 NLH Further to NP-136 NLH and IC-194 NLH: Hydro has discontinued a 46 MW demand reduction that cost $28.20 per kW because there is no current benefit to the system. At the same time, Hydro is proposing to pay NP $84 per kW through its wholesale rate to reduce demand at time of peak. Please reconcile these proposals and how they fit with the system expansion plan.

NP-179 NLH Further to NP-136 NLH: Does the discontinuance of the Interruptible B contract at $28.20 per kW imply that the incremental cost of demand on the system is less than $28.20 per kW per year?

NP-180 NLH Further to NP-142 NLH: The energy-only rate is derived based on the total of the demand, energy, customer and rural deficit costs from the cost of service study filed in this proceeding. Therefore, explain the statement "..an energy-only rate bears ***no relationship*** in either magnitude or proportion of demand and energy to costs Hydro incurs in serving NP".

NP-181 NLH Further to NP-145 NLH: Does Hydro agree it is equally important to give an efficient pricing signal to all customers? If yes, why should the tail block be set to give an efficient pricing signal to NP but not to the Industrial customers?

NP-182 NLH Further to NP-143 NLH: If Industrial customers increase consumption such that they don't increase their billing demand and do not ask for interruptible demand, what price do they pay for the increased energy?

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NP-184 NLH Further to NP-143 NLH: If Industrial customers increase consumption such that they ask for interruptible demand, what price do they pay for increased energy?

NP-185 NLH Further to CA-13 NLH: Is Hydro proposing to either the Board or the Government to increase the lifeline block for Rural Isolated customers?

NP-186 NLH Further to IC 155 NLH: Please expand the response to include the actual and forecast data for 2002.

NP-187 NLH In Stone and Webster's report *Review of Rate Design for Newfoundland Power,* the sample rate design proposes a means to reduce volatility by removing weather effects from the billing demand. Will this method require weather normalizing the peak load for every hour to ensure the billing demand reflects the maximum weather normalized demand?

NP-188 NLH What new cost effective DSM programs is Hydro proposing to implement for island interconnected customers?

Operating & Maintenance Expenses

NP-189 NLH Further to NP-9 NLH: Corporate staff levels reduced from 904 in 1997 to 791 in 2003. While some departments have been eliminated and some new ones added, the total number of departments in 2003 remains at 19, the same number as in 1997. Has Hydro considered reducing the number of departments?

NP-190 NLH Further to NP-15 NLH: CF(L) Co recoveries forecasted for 2003 and 2004 are $1,795,500 and $1,735,500 respectively. Does Hydro carry any receivables in respect of these CF(L) Co charges and if so is CF(L) Co charged interest by Hydro. If interest is charged please provide the details of the interest rates and the amounts charged from 1998 to forecasted 2004.

NP-191 NLH Further to NP-27 NLH: The totals for helicopter rentals for the period 1998 – 2002 averaged in excess of $1 million annually. Please provide the details of how often helicopter patrols for line inspections are carried out annually and the typical results of helicopter patrols. How many ground patrols of these same lines are carried out annually?

NP-192 NLH Provide a listing of off-road vehicles (muskeg type) by location referred to in NP-25 NLH. Please provide the model, year of purchase and hours of operation for each unit for the period 1998 – 2002.

NP-193 NLH Further to NP-24 NLH: The number of Hydro vehicles in 2002 is 282 which is a slight increase from the 274 vehicles in 1998. During that same period of time permanent staff levels have reduced by 98 (see Response to Request for Information NP-9 NLH.) Please explain the necessity to maintain a slightly higher number of vehicles in 2002 than was the case in 1998 in light of the reduction in permanent staff levels.

NP-194 NLH Further to NP-12 NLH: Hydro indicates that it does not incur any contractor labour. Does Hydro use contractors to install poles? If so, please provide details of costs for 1998 – 2002.

Production/Purchased Power Expense

NP-195 NLH Further to NP-64 NLH: It is reasonable to assume that over time upgrades and improvements (i.e. runner replacements, penstock upgrades, re-winds, etc.) to plants would improve plant efficiency and therefore the conversion factor. In Hydro's opinion, would it be more appropriate to use current (most recent) conversion factors and historical inflows to determine the expected hydro production in a test year? If not, why wouldn't it be more appropriate to use the most recent conversion factors that reflect plant upgrades and efficiency improvements?

NP-196 NLH Further to NP-66 NLH: Provide a line graph *by plant* of the actual conversion factor and inflows over the past 30 year record. Please produce 2 graphs, one for conversion factors and the other for inflows.

NP-197 NLH Further to NP-71 NLH: Of those utilities that use energy estimates in rate setting, does Hydro know the basis on which these estimates are determined?

NP-198 NLH Further to NP-74 NLH: The computer system installed in 1995 to assist operators to optimize unit performance would be expected to provide continued performance improvements on a go forward basis as the operators gain experience with the system. The higher conversion rates realized in 2001 and 2002 seem to reflect a continued improvement in conversion factors. Why has the trend for the past several years as opposed to a more current period been used to arrive at a 2004 conversion factor?

NP-199 NLH Further to NP-76 NLH: Explain the difference in firm energy capability from hydroelectric (5393 GWh) and average energy production of 4582 GWh (Production Evidence, Table 7 Page 30).

NP-200 NLH Further to NP-66 NLH: Provide the same table format showing hydraulic generation by plant but calculated using the operating history of each plant to determine historic inflows.

NP-201 NLH Further to NP-70 NLH: Provide further explanation on the method used to conclude "the absence of long term trends". For example, a consistent trend over how many years is required to be viewed as a "long term" trend?

NP-202 NLH Further to NP-75 NLH: Provide an explanation from an operations perspective on why the conversion factors at Holyrood in the months of January and March during 1999 were significantly below January and March for the other years in the table.

NP-203 NLH Further to NP-75 NLH: Provide details on any initiatives that Hydro has undertaken that would have improved the annual conversion factors at Holyrood since March 1999.

NP-204 NLH Further to NP-75 NLH: The conversion factors in January 1999 and March 1999 were 556.7 kWh/bbl and 531.4 kWh/bbl respectively. The average conversion factors for the same months in the other years provided in the response were 635.6 kWh/bbl in January and 631.1 kWh/bbl in March. Calculate a 1999 pro-forma fuel conversion factor by reducing the fuel consumed in 1999 to reflect a 635.6 kWh/bbl efficiency in January and 631.1 kWh/bbl efficiency in March.

NP-205 NLH Further to NP-204 NLH: recalculate the 2004 fuel conversion factor using the 1999 pro-forma fuel conversion factor in a format similar to the response provided in NP-74 NLH.

NP-206 NLH Further to NP-205 NLH: if the recalculated 2004 Holyrood conversion factors was used to determine the 2004 revenue requirement, quantify the dollar impact.

NP-207 NLH Further to NP-75 NLH: what is the 2003 year-to-date (to end of June) fuel conversion factor at Holyrood?

NP-208 NLH Further to NP-75: Assuming Hydro's fuel conversion forecast of 624 kWh/bbl for the remainder of 2003 is accurate, provide an estimate of the year-end 2003 fuel conversion factor (recognizing year-to-date activity).

Rural Deficit

NP-209 NLH Further to NP-53 NLH: Section 5.3.5 of the "Report on a Task Force Review of Operational and Financial Initiatives on Hydro's Isolated Diesel Systems" discusses a policy on Capital Cost Recovery when generating equipment is installed at the request of a major general service customer. This policy was to be implemented in late 1994. Under this policy would not contributions have been required for the system expansions in Charlottetown and Little Bay Islands? If yes how much?

NP-210 NLH Further to NP 209 NLH: If the Capital Cost Recovery Policy was not implemented, why not?

NP-211 NLH Further to NP-55 NLH: Provide the details of the calculation of the $1.4 million estimate of deficit reduction resulting from the contract with Hydro Quebec for power purchases to serve customers in L'Anse au Loup to Red Bay.