Q. **Reference: 2018 Cost of Service Methodology Review Report, page 10, lines 1-4**

Both Hydro and CA Energy recommend the use of the equivalent peaker method for classification of Muskrat Falls power purchase costs. The Brattle Group in its report page 32, line 4 to page 37, line 7 recommends that these costs be classified based upon system load factor. Brattle provides five reasons for its recommendation. Explain in detail whether or not (i) Hydro and (ii) CA Energy accept Brattle's recommendation in this regard. In the response provide commentary on each of the five reasons Brattle relies on for its recommendation in this regard.

A. **(i) Newfoundland and Labrador Hydro's Response:**

For clarification, The Brattle Group, Inc. ("Brattle") recommended that purchase power costs related to Muskrat Falls generation should be classified based on system load factor and purchase power costs related to the Labrador-Island Link ("LIL") and the Labrador Transmission Assets ("LTA") be 100% demand-related.

Table 1 provides the resulting overall demand-energy classification reflecting Brattle's classification recommendation, based on the "Illustrative 2021 Cost of Service Study" provided with Newfoundland and Labrador Hydro's ("Hydro") Application.

Table 1: Classification of the Muskrat Falls Project Power Purchase Costs, The Brattle Group, Inc.

	Method	Demand-Related		Energy-Related		Total
		($000)	%	($000)	%	($000)
Muskrat Falls Generation	System Load Factor	133,031.9	45.4	159,989.9	54.6	**293,021.8**
Net Export Revenues	System Load Factor	(24,238.5)	45.4	(29,150.2)	54.6	**(53,388.7)**
LIL-Related	100%-Demand	379,849.0	100	0	0	**379,849.0**
LTA-Related	100%-Demand	52,887.3	100	0	0	**52,887.3**
Total		**541,529.7**	**80.5**	**130,839.6**	**19.5**	**672,369.3**

Table 1 shows that, using Brattle's classification recommendations, slightly greater than 80% of the projected 2021 purchase power costs related to the Muskrat Falls project would be classified as demand related. Prior to the accessibility of off-island purchases, approximately 85% of the test year revenue requirement related to Holyrood was classified as energy-related costs.[1]

It is the replacement of the Holyrood Thermal Generating Station (primarily energy-related) costs with the Muskrat Falls supply cost payments that has created the need to review the cost of service methodology. From a cost-causation perspective, Hydro does not agree with Brattle's recommendation that the overall classification of the Muskrat Falls project purchased power expense be approximately 80% demand-related and only 20% energy-related.

In part (ii) of this response, Christensen Associates Energy Consulting ("CA Energy Consulting") provides commentary on each of the five reasons Brattle relies on for its recommendation for classification of the purchased power expense related to Muskrat Falls generating assets. Hydro agrees with CA Energy Consulting's comments on Brattle's classification recommendation.

(ii) Christensen Associates Energy Consulting's Response:

CA Energy Consulting does not agree with Brattle's recommendation that Hydro be required to use system load factor as the cost classification mechanism for Muskrat Falls power purchase costs. Instead, we continue to recommend that the Board of Commissioners of Public Utilities consider the equivalent peaker methodology for the reasons stated in our report. The Brattle report cites five reasons for their

[1] For the 2007 and 2004 Test Years, respectively, 86% and 82% of the Holyrood Thermal Generating Station revenue requirement was classified as energy-related. For the 2015 Test Year approximately 84% of overall Holyrood Thermal Generating Station costs would be classified as energy-related.

recommendation that Hydro use system load factor. The Brattle Group reasons, with our responses follow.

1. Claim: Hydro uses system load factor for classifying the costs of many of its other generators.

   Response: Hydro currently uses more than just system load factor for cost classification of generation. Hydro, the PUB, and stakeholder should face no constraint on the selection of a method for classifying Muskrat Falls costs arising from the use of SLF for selected facilities.

2. Claim: System Load Factor is a simpler method.

   Response: System load factor is indeed simpler, but, as the NARUC Cost of Service Manual states, no method of classification is superior to all others, and simplicity is just one dimension providing value to the classification process. The Equivalent Peaker approach has the advantage of methodological soundness, as it aligns with least-cost planning and resource choice, in which planners select from among the set of feasible technologies, sometimes characterized as baseload, intermediate, and peaking plants/sources depending on capital and fuel cost alternatives. The analytical methods utilized in resource choice can obtain least total costs, accounting for substitution between charges for primary fuels, capital-related charges, and fixed and variable O&M costs, among others.

3. Claim: Under Equivalent Peaker, the energy portion of cost is a residual after computation of demand-related cost, and is thus vulnerable if baseload generator investment is unusually high or low. An example is construction cost overruns, which can inflate the energy-related share of costs.

   Response: That energy share is a residual is not, by definition, a disadvantage, especially since both peaking plant and total costs are separately estimated.

The residual element of energy is not definitionally problematic—in fact, fuel-cost related share of total expenditure aligns with efficient marginal cost-based pricing and least cost facility planning (as discussed above).

Under Equivalent Peaker cost allocation, the fuel cost savings-related share can rise (or fall) more than the demand-related share. Such result is appropriate: indeed, the relevant industry history with respect to cost overruns reveals that it is the base load generators that often experience cost overruns.

Understanding that the only reason to invest in base load generation is for the expected realization of fuel cost savings, Equivalent Peaker cost allocation gets it right: potential cost overruns accrue to energy, exactly where they belong. Under Equivalent Peaker, cost overruns that are accepted for recovery by regulators are rightly incorporated in classification calculations. If a base load generating unit has a serious overrun and if those costs are recoverable, then it is appropriate that a comparatively high cost share—a result of intended fuel cost savings--be allocated to energy, since the purpose of the committing to base load generation, legitimately incurred, is for the realization of fuel cost savings.

A subsidiary question is whether the inclusion of dedicated generation feeder (transmission) line is inappropriate. In our view, if the lines must be included in generation cost, then a case can be made for inclusion of such costs in the Equivalent Peaker computation.

4. Claim: The price signal that results from an application of Equivalent Peaker cost allocation with a high energy share would be a high energy price and low demand price, allegedly reducing the energy conservation incentive that would result from a high demand charge.

   Response: This line of argument reasons from outcome, which is dubious. Furthermore, it is not appropriate to select a classification system based upon

views as to what the level of the demand charge should be. Additionally, a demand charge, on its own is not likely to be a price signal used by retail customers. Instead, overall perception of the cost of increasing usage (marginal price) is a better guide. The demand price is just one component of the price.

Another consideration is that a high energy charge and low demand charge that are based on a sound Cost of Service study would cause prices to align well with resource cost configuration, and least total cost. High load factor systems would utilize base load facilities more intensively than a low load factor system, and would obtain lower total costs insofar as investment decisions that substitute capital expenditures for primary fuel expenditures would naturally result from the least cost selection of resources. In addition, the efficient pricing incentives associated with Equivalent Peaker are appropriate, and follow directly from differences in the configuration of systems.

5. Claim: The Muskrat Fall power purchase agreement calls for regular monthly lump sum payments by Hydro to sister/parent companies; where the lump sums do not depend on the level of consumption of the generator's power or the variability of the energy provided to meet demand.

Response: Muskrat Falls is like all other generators: the physical plant is a fixed cost. However, this does not determine its classification. The NARUC COS Manual does not focus on the share of plant that represents fixed cost in reviewing classification methods. Instead, the focus is no reviewing methods under demand-only and demand and energy classification alternatives, with the latter not being restricted to certain types of generation plant. As stated above, the Equivalent Peaker approach formally links system planner behavior to the classification computation to a greater extent than other methods. Despite greater complexity, the Equivalent Peaker approach arguably has an advantage from the perspective of economic theory.