Q. Reference: Section 5.3.2, Revenue to Cost Ratios
Section 5.3.3, Proposed Rates

(a) Are the revenue to cost ratios in Tables 5-5 and 5-6 inclusive or exclusive of forecasted credits under the Curtailable Service Option ($29/kVA)?

(b) Please identify where in the Cost of Service Study (Vol 2, Tab 7) credits under the Curtailable Service Option are included. If they are included, on what basis are they allocated to the customer classes. If they are not included, please provide revised versions of Tables 5-5 and 5-6 based on revenues net of Curtailable Service Option credits.

(c) Please provide the actual total credits received by customers in Rate Classes 2.3 and 2.4 under the Curtailable Service Option as well as the amounts included in (a) the COSS study and (b) the revenue forecast (Table 3-1).

(d) Please provide NP's analysis of the cost of the Curtailable Service Option (i.e., total value of credits) versus the system benefits of the Curtailable Service Option. Include any DMI impact in order to show the costs versus benefits from the customer's perspective.

A. (a) The revenue to cost ratios are inclusive of the forecast credits under the Curtailable Service Option ("CSO").

(b) The costs of providing the CSO are included in *Energy Services – General DSM Programs* in the Cost of Service Study and allocated in the same manner as administrative and general costs.

(c) The CSO credits provided to customers in 2008 totalled $263,000. The $263,000 is included as a cost in the 2008 Cost of Service Study. The revenue forecast for 2010 includes CSO credits of $257,000.

(d) Currently, the CSO provides operational benefits in dealing with system constraints on the isolated system; and it may be beneficial in planning for future system capacity requirements.[1] The CSO may provide additional benefits should the Labrador Infeed proceed.

The current demand charge in Hydro's wholesale rate is $48 per kW per year ($4 per kW per month). The $48 per kW charge is considered to reasonably reflect

[1] On the Isolated System, the value of the CSO from a system planning perspective will depend on whether the system is energy-constrained or demand-constrained, as well as on the reliability of the CSO in achieving demand reductions.

the longer-term marginal cost of capacity for the Isolated System for the purpose of retail rate design.[2]

The current CSO credit of $29 per kVA appears reasonable in light of the wholesale demand charge, providing approximately 50% of the wholesale demand charge savings to CSO participants.[3] The remaining savings are provided to the general customer population through lower test year purchased power costs used in determining customer rates.[4]

The potential for wholesale demand charge savings provides an ongoing incentive to Newfoundland Power to increase customer participation in the CSO.

The Company reduces its forecast peak demand requirements from Hydro based on the assumption that CSO participants are curtailing during the peak period. This reduces the forecast purchased power cost from what it would otherwise have been. During a test year, this results in a lower revenue requirement and lower customer rates.[5]

Transfers to the DMI Account may be impacted, depending on the impact on purchased power demand costs of any variance from test year forecast of the actual peak load reduction resulting from the CSO. The DMI Account limits the impacts on the Company of variability in demand supply cost to ±1 percent of test year wholesale demand charges. Variations from the test year forecast CSO peak load reduction that contribute to a demand supply cost variance in excess of ±1% of test year wholesale demand charges will result in either savings or additional costs to customers.[6]

A detailed review of the CSO is provided in Section 4.1.8 of the Rate Design Report. Section 4.1.8 of the Rate Design Report is provided as Attachment A.

[2] Concerns were expressed during preliminary discussions relating to the Retail Rate Review that the very low generation capacity costs estimated in the 2007 Marginal Cost Study were unreasonably low for use in the Retail Rate Review. As a result, the Consumer Advocate, Hydro and Newfoundland Power agreed that the marginal capacity costs for purposes of retail rate design be increased to $48 /kW per year.

[3] The $29 per kVA is equivalent to approximately $25 per kW (at 90% power factor).

[4] Over the long term, the savings from the CSO will depend on how the reduction in Newfoundland Power's peak requirement impacts Hydro's costs. The impact on Hydro's costs will affect Newfoundland Power's purchased power rate and, ultimately, customers' electricity costs.

[5] For 2010, the forecast peak demand reduction resulting from the CSO is 8.5 MW. This results in a $408,000 reduction in demand supply cost for the 2010 test year ($48/kW X 8,500 kW). The 2010 test year forecast CSO credits are $257,000.

[6] A report on the operation of the DMI Account is provided in *Demand Management Incentive Account (Volume 2, Tab 8).*

Curtailable Service Option Excerpt from Rate Design Report

4.1.7 Early Payment Discount

There is a maximum early payment discount of $500 per month that comes into effect for large General Service customers. The 1.5% discount amounts to $500 when the monthly bill exceeds $33,333.33.

The discount cap comes into effect for a few high usage customers on Rate 2.3 and almost half the Rate 2.4 customers. The Company's largest customer has a monthly bill of approximately $500,000 per month. The early payment discount is less than 0.1% per month for this customer.

The early payment discount does not treat all customers consistently. A more consistent approach would be to provide the 1.5% discount to all customers and eliminate the $500 maximum.

4.1.8 Curtailable Service Option

General

Interruptible/Curtailable rate options are common among Canadian and U.S. utilities.[155] A customer accepting service under either one of these rate options receive a discount based upon the amount of load which can be interrupted or curtailed and the duration of curtailments.

With interruptible service, the utility would control one or more of the customer's circuits and would shed, from a remote location, any non-essential loads that the customer had previously identified. With curtailable service, the utility requests the customer, via telephone or email, to shed any non-essential loads that had been previously identified.

The Company has a Curtailable Service Option (the "CSO") available to its General Service customers that can reduce winter peak demand by 300 kW or more.[156] The CSO provides customers with an incentive to reduce their demand during peak periods. The CSO provides the Company approximately 9 MW of available peak load reduction.

The Company currently has 21 customers on the CSO.[157] These customers include public sector customers such as health care facilities, and private sector customers from tourism, telecommunications, and manufacturing.

Rate Option Characteristics

Firm demand
The firm demand is the demand requirement which the customer must not exceed during a curtailment request. All CSO participants have declared their firm demand on their CSO Application. All CSO applicants must demonstrate their ability to curtail prior to being accepted on the CSO.

[155] Source: Appendix D, Utility Rates Survey.
[156] To a maximum of 5,000 kVA.
[157] For the 2004-2005 winter season, there were 8 customers on the Curtaillable Service Option.

Notice Period
A minimum notice period is provided prior to an interruption or curtailment. Short notice periods within interruptible/curtailable rates provide increased flexibility to the utility in responding to system constraints.

The minimum notice period provided by Newfoundland Power is 1 hour. It takes the Company approximately 30 minutes to contact all customers for curtailment requests. Therefore, the calls to curtail must start approximately 1 1/2 hours prior to the required load reduction to ensure all customers receive 1 hour notice. The Company is satisfied with the current notice period. Based on discussions with CSO participants, most customers would have difficulty successfully curtailing if the notice period was shortened to less than 1 hour.

Curtailment Frequency
Newfoundland Power requests customers to curtail either when Newfoundland Power is approaching a winter peak demand or when Newfoundland Hydro requires curtailments during the winter season to meet system requirements.[158]

The use of curtailable load to manage peak demand under the demand and energy wholesale rate, implemented in 2005, has resulted in more frequent curtailment requests of CSO participants.[159] If Newfoundland Power does not curtail CSO participants during the period in which its peak demand is established, higher demand costs to Newfoundland Power will result.

It has been recognized, in the Newfoundland Hydro report on *Review of Demand Billing to Newfoundland Power*, that utilizing the CSO to minimize the Company's peak demand may not result in the most effective use of curtailable load to the system.[160] The report concluded it may be more efficient to have Newfoundland Hydro determine when curtailments are required and request CSO implementation by Newfoundland Power. The demand savings to Newfoundland Power that would normally result from customer curtailments could be provided through a demand credit applied to reduce billing demand.[161]

Newfoundland Hydro will propose this approach at its next general rate application. This proposed approach would reduce the frequency of customer curtailments and result in the more efficient use of the CSO. A high frequency of curtailment requests, over the longer term, may result in dissatisfaction by CSO participants leading to reduced curtailable load available.

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158 The use of a billing demand based on the highest peak during the winter season or based on the monthly peaks during the winter season provides Newfoundland Power with a direct incentive to reduce its peaks through the use of the CSO.

159 There were 5 curtailment requests for the 2007-2008 winter season and 4 for the 2006-2007 winter season. For the 5 years prior to the implementation of the demand and energy wholesale rate, there were typically 1 to 2 curtailments per year.

160 On many peak days, the system has adequate generation available to meet customer demand requirements and curtailments are not required from a system perspective. The report on *Review of Demand Billing to Newfoundland Power* was filed with the Board in April 2008.

161 This approach would be similar to the approach used to provide for the most efficient use of Newfoundland Power's generation during peak periods.

Failure to Curtail
Customers that fail to curtail forfeit their potential savings; no additional penalty is applied. Some utilities apply a billing penalty to the customer in addition to the lost savings as a result of failing to curtail upon request.

The average CSO success response rate over the past 5 years has been reasonable at approximately 90%. It is anticipated that implementing a penalty approach within the rate option may dissuade customer participation.

Value

On the Isolated System, the CSO provides operational benefits in dealing with system constraints and may be beneficial in planning for future system capacity requirements.[162] The CSO may provide additional benefits when the Labrador Infeed proceeds.

The current credit of $29 per kVA appears reasonable based on the current demand charge from Hydro of $48 per kW per year ($4 per kW per month).[163] The $48 per kW is also assumed to reasonably reflect the longer-term marginal cost of capacity for the Isolated System.

The current curtailment credit provides approximately 50% of the wholesale demand charge savings to CSO participants. The remaining savings are provided to the general customer population through lower test year purchased power costs used in determining customer rates.

The potential for wholesale demand charge savings provides an ongoing incentive to Newfoundland Power to increase customer participation on the CSO.

4.1.9 Assessment

The assessment of the General Service rate designs included a review of the: basic customer charges; demand charges; energy charges; maximum monthly charge and blocking structures. The assessment also provided a review of the consistency in the application of the early payment discount and a review of the Curtailable Service Option.

Basic Customer Charge

The assessment indicates that separate basic customer charges can be justified in Rate 2.1 and Rate 2.2 for customers with unmetered services, single phase services and three phase services. The review also indicated that reducing the basic customer charges for Rate 2.3 and Rate 2.4 can be justified.

[162] On the Isolated System, the value of the CSO from a system planning perspective will depend on whether the system is energy constrained or demand constrained and the reliability of the CSO in establishing demand reductions.

[163] The $29 per kVA is equivalent to approximately $25 per kW (at 90% power factor).