



**BC Ferry Commission  
Memorandum 41**

To: Mr. Rob Clarke  
Executive Vice President and CFO  
BC Ferry Services Inc.

From: Martin Crilly  
BC Ferry Commissioner

Date: January 4, 2011

**Re: Preliminary Determination of Return on Equity of 12.73% per year  
for the Third Performance Term**

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***A. Purpose of This Memorandum***

This memorandum gives a preliminary determination of BC Ferries Services Inc. ("BC Ferries) regulated return on equity ("ROE") which the commissioner must determine for the purpose of setting price caps for the third performance term ("PT3") under the Coastal Ferry Act ("the Act").

***B. Statutory Requirements***

Under s.41(2)(b) of the Act, the commissioner is required to set price caps which must enable the ferry operator to receive a pre-tax return on equity. This return is to be calculated by adding (i) an equity risk premium (equivalent to that of other regulated businesses with similar risk characteristics) and (ii) a bond yield that is consistent with Government of Canada 30 year bonds.

Under s.38(1) of the Act the commissioner must undertake regulation of core ferry services and tariffs in accordance with a number of principles but priority is to be placed on the financial sustainability of the ferry operators. Under amendments to the Act enacted in 2010, the commissioner must now under s.38(2)(g) consider the interests of ferry users in the regulation of core ferry services and tariffs.

***C. Process and Methodology***

The commissioner engaged PricewaterhouseCoopers LLP ("PwC") to advise on the methodology and best practice in the determination of an appropriate return on equity for BC Ferries for the third performance term. As was the case for the determination of the ROE for the second performance term, PwC has recommended the widely accepted Capital Asset Pricing Model ("CAPM") for determining equity returns for regulated

entities. PwC examined regulated businesses with reasonably similar risk characteristics in countries with similar developed economies. Using the CAPM methodology PwC then computed an equity risk premium and provided a range for the commissioner to consider as a company specific risk adjustment. BC Ferries was given the opportunity to comment on the methodology and findings via face-to-face meetings with PwC and the commissioner and in written submissions to the commissioner. In summary, BC Ferries is in agreement with the methodology but has suggested that the commissioner consider a higher risk profile in the determination of a company specific risk adjustment due primarily to the uncertainty around future traffic volumes.

#### ***D. Significance of the ROE Value***

The return on equity is an important issue for BC Ferries, its investors and ferry users. For example, under the price cap regulatory regime, a one percentage point higher allowed pre-tax ROE could, through a higher price cap, increase BC Ferries tariff revenues by approximately \$3 million per year (based on the projected equity level at the end of the second performance term). At the same time, for ferry users the same one percentage point increase in ROE could increase fares by 0.6%, other things being equal.

#### ***E. Balancing of Interests of Ferry Operator and Ferry Users***

Three years ago, in setting the final ROE at 13.16% for PT2, the commissioner believed that the requirement to enable a pre-tax return on equity, coupled with exemption of BC Ferries from paying income taxes, was intended by legislators to enable BC Ferries to build equity to facilitate financing for their fleet renewal program.

As stated in Commission Memorandum 25 dated December 14, 2007, the commissioner's methodology first established an after-tax ROE and then "grossed up" the value (by dividing by 100% minus the then corporate income tax rate, as seen in the final calculation step in the worksheet attached to this memo) to arrive at a pre-tax ROE. This methodology means, in effect, that the benefit of being a tax-exempt entity accrues to BC Ferries, and not to ferry users in the form of lower-than-otherwise price caps.

As noted above, under the Act as amended in 2010, the commissioner must now consider the interests of ferry users in the regulation of core ferry services and tariffs. The commissioner has considered carefully whether this new provision has any import for the determination of the ROE for PT3. In particular, could the new provision be interpreted to mean that ferry users should now receive some or all of the benefit of BC Ferries tax-exempt status, by the commissioner determining a lower-than-otherwise ROE? Such a lower rate would result if, for example, the commissioner changed the "gross-up" step in the calculation by using a value of zero for the corporate income tax rate, i.e. the tax rate that effectively applies to BC Ferries today.

The interests of ferry users are not defined in the Act and it is therefore left to the commissioner to interpret this new provision. It is reasonable to assume that the legislators intended there be some consideration of balancing the interests of the ferry operator and ferry users. However, the commissioner notes that in a recent British Columbia Utilities Commission decision regarding the determination of an ROE for a

regulated utility, a Commission Panel did not accept that balancing of interests to mean that the exercise of determining a fair return is an exercise of balancing customers' interests in low rates with the shareholders' interest in a fair return. Their conclusion was based on their duty to determine a fair return for the applicant.

In the case of the Coastal Ferry Act, the commissioner must set price caps to enable the ferry operator to receive a pre-tax rate of return on equity and regulate core ferry services and tariffs in accordance with six principles. A priority is to be placed on the financial sustainability of the ferry operator. In view of the statutory requirements, the commissioner must also take the position that the determination of a pre-tax return for BC Ferries is not an exercise in balancing the interests of the ferry operator and the ferry users. Accordingly, the benefit of being a tax-exempt entity must continue to accrue to the ferry operator and not to the ferry users.

This position is buttressed by the third of the six regulatory principles in the Act, which calls upon the commission to encourage fair and open competitive processes in the search for alternative service providers (ASPs) of ferry service. To lower price caps to reflect BC Ferries' tax-exempt status would distort the competition between BC Ferries and ASPs: it would, in effect, other things being equal, put BC Ferries on a lower-cost footing for the evaluation of its own service offering versus the bid of a non-tax exempt ASP.

Furthermore, the commissioner takes note that tax exemption is now explicitly recognized in the Act as a possible source of unfair competitive advantage in the newly enacted section 45.1. If the Commission were to lower price caps to reflect of BC Ferries tax-exempt status, this would effectively cause BC Ferries, on average, to under-price its services and perhaps, as suggested by the wording of section 45.1, unfairly so for any competitive services being offered by BC Ferries, as defined in s. 45.1.

Accordingly, while the new requirement (i.e. that the commissioner consider the interests of ferry users) will not find expression in the ROE determination, the commissioner will examine other approaches to satisfying the requirement in other aspects of the price cap-setting process.

#### ***The Preliminary Determination***

The preliminary determination is an ROE of 12.73% for PT3. This will be used for determining the PT3 price caps on a preliminary basis on or before March 31, 2011. A final ruling on the ROE will be made prior to the final decision on PT3 price caps which will be made on or before September 30, 2011.

The calculations behind the ROE figure are summarized in the attached worksheet. They are based on the statutory requirements, the methodology recommended by PwC and the considerations outlined herein:

The risk-free rate will be forward-looking and based on the forecast of 30 year Government of Canada bond yields.

1. The preliminary ruling on the **risk free rate is 3.59%** (as per the December 30, 2010 forecast of 30 year Government of Canada bond yields published by Bloomberg).
2. The equity beta is 0.7. The market risk premium is 5.50%. Accordingly the **Equity Risk Premium is 3.85%**.
3. The net effect between the small-cap premium and the company-specific adjustment is **+1.66%**. The commissioner partially accepts BC Ferries position that there is increased risk associated with their business due to the uncertainty regarding future traffic volumes but feels the risk profile of BC Ferries is still relatively low given the long term contract with the provincial government and the monopoly position that the company enjoys. The company specific adjustment has therefore been reduced from negative 3.0% to negative 2.5%.
4. Accordingly the **after-tax ROE** is  $3.59\% + 3.85\% + 1.66\% = 9.10\%$ .
5. The income tax rate is **28.5%**.
6. Accordingly the **pre-tax ROE** is  $9.10/(1.0-.285) = 12.73\%$

**References (in reverse date order)**

- BC Ferries Response dated November 30, 2010 to PwC's Return on Equity Discussion Paper below.
- BC Ferries Submission dated September 30, 2010 for the third performance term.
- PricewaterhouseCoopers Return on Equity Determination for BC Ferry Services Inc. – Discussion Paper Confidential Draft, dated September 2, 2010.
- British Columbia Utilities Commission Decisions In The Matter Of Terasen Gas Inc. and subsidiaries regarding the Return On Equity And Capital Structure dated March 2, 2006 and December 16, 2009.
- British Columbia Ferry Commission Memorandum 25 dated December 14, 2007, giving the Commission's Determination of a Return on Equity for BC Ferries for the Second Performance Term.

**Attachment to Memorandum 40**

<b>The CAPM Model</b>				
After-tax ROE = $R_f + \beta (R_m - R_f) + R_{cp} + R_{cs}$				
Where				
$R_f$ = the risk free rate				
$R_m - R_f$ = the market risk premium				
$\beta$ = the correlation between the security and the market return				
$R_{cp}$ = small cap premium				
$R_{cs}$ = company specific risk premium/deduction				
Item	Formula	Final Ruling for Perfronace Term Two (see Commission Memorandum 25)	Commission Preliminary For Use in PT3 Price Caps	Comments*
3-month forecast of 10-year bond yield		4.10%		
12-month forecast of 10-year bond yield		4.40%		
Average of 3 and 12-month bond yields		4.25%		
Plus average 10-year – 30-year bond yield spread		0.40%		
Risk-free rate	$R_f$	4.65%	3.59%	PricewaterhouseCoopers (PwC) data used for the mean over the past 5 years as a forecast of future spread For PT3 there is a 30 year forward looking rate available from Bloomberg. This means that the above lines working up to this figure are not needed for the PT3 determination of ROE.
correlation betw. the security & market return	$\beta$	0.5	0.7	Accept PwC argument (relevered, median of comparables). For PT3, different tax rates of jurisdictions were recognized in PwC report.
the market risk premium	$R_m - R_f$	5.50%	5.50%	As found by PwC
	$R_f + \beta (R_m - R_f)$	7.40%	7.44%	
small cap premium	$R_{cp}$	4.55%	4.16%	As per PwC
company specific risk premium/deduction	$R_{cs}$	-3.00%	-2.50%	For PT2 ruling, Commission accepted PwC high end of range, on grounds of strong regulatory protection of BC Ferries, CF Act's principles, availability of s42, weakness of s69, good bond rating. For PT3, smaller adjustment reflects newly recognized uncertainty in ferry traffic levels.
After Tax ROE		8.95%	9.10%	
General Active Business Income Tax rate for CCPC in British Columbia over \$400,000 in earnings	t	32.00%	28.50%	
Pre-Tax ROE	After Tax ROE/(1-t)	13.16%	12.73%	Interpret the Act and Tax Ruling to intend that BC Ferries receive the income tax savings from its tax-exempt status, as opposed to ferry customers receiving them.

\*References to PricewaterhouseCoopers (PwC) draw upon the September 2, 2010 report referenced in Memorandum 41.