

- 1 **Q. Laurence D. Booth Report, page 42, lines 1-5 and Appendix B. Dr. Booth estimates**
2 **the market risk premium of common equities over long-term Canada bonds at**
3 **4.87% and the equivalent in the U.S. at 6.58% based on capital market history from**
4 **1926 until 2023. Mr. Coyne in his evidence at page 46 shows both a historical market**
5 **risk premium and a forward-looking market risk premium. Mr. Coyne states that**
6 **“to temper the results” of the CAPM analysis only the historical market risk**
7 **premium is used for the recommendation in this proceeding.**
8
- 9 (i) **In Dr. Booth’s opinion should a forward-looking market risk premium ever**
10 **be considered in the CAPM analysis?**
11
- 12 (ii) **Mr. Coyne’s historical market risk premium is 5.62% for Canada and 7.17%**
13 **for the U.S. are both higher than Dr. Booth’s estimates. Does Dr. Booth agree**
14 **with Mr. Coyne’s method to calculate the historic market risk premium?**
15
- 16 **A. (i)** The market risk premium, like the beta and forecast LTC yield, should always be
17 forward looking. The reason for starting with the historic estimate for the market
18 risk premium is that it reflects the market’s trade-off of risk versus expected return,
19 that is aggregate risk aversion. This is mainly a human trait that is unlikely to
20 change much over time unless we are more (or less) risk averse than our parents,
21 grandparents or great grandparents, or there are major regulatory changes. The
22 historic market risk premium in Canada since 1926 been 4.87%. Dr. Booth does
23 not rely entirely on this estimate for the reasons given on pages 9-10 of his
24 Appendix B. Instead, he references the US evidence over the same period, as the
25 US is known to be the “winner” economy of the last 97 years, which means a
26 biased high estimate of the market risk premium. He also references the results of
27 Fernandez 2023 survey of professionals on the market risk premium, and other
28 independent experts such as Kroll and Professor Damadoran of NYU, in an attempt
29 at estimating the current market risk premium required to make equity investments.
30 The historic evidence is simply a constraint on a reasonable forward-looking
31 estimate.
32
- 33 (ii) Mr. Coyne’s historic estimates of the market risk premium are not internally
34 consistent since he estimates the actual realised equity return and then subtracts the
35 actual yield on the LTC bond, not its realised return. Consequently, he mixes yields
36 and returns, and ignores the fact that the equity return is partly driven by changes
37 in interest rates, as of course are the bond returns.
38
- 39 In 2012, NP put forward Ms. Kathleen McShane as their cost of capital expert, and
40 in her schedule 8 she had the following schedule. Note that she reported the market
41 risk premium in two ways. The top panel subtracts what she refers to as the total

1 bond return from the equity market return, whereas the next calculation subtracts
 2 what she referred to as the income return from the equity market return. Her “total”
 3 return is the actual return from holding the long Canada bond for a year and
 4 includes both the income (interest) and the capital gain or loss from holding the
 5 bond. This is the same calculation as for the equity market return where the
 6 dividend replaces the interest income. What she refers to as the “income” return is
 7 the interest where she ignores the capital gain or loss. This is the same calculation
 8 made by Mr. Coyne.

9
 10 Of importance is that this income return is not a one-year return on the LTC bond
 11 equivalent to the one-year equity return unless the bond’s price is equal to its par
 12 value of \$1,000 and never subsequently changes, which means of course that
 13 interest rates never change! Consequently, it is not a correct way of estimating the
 14 market risk premium. Note that in 2012 the use of this incorrect methodology
 15 increased Ms. McShane’s estimate of the market risk premium for that of the
 16 standard methodology from 4.8% to 5.4% for Canada, and from 5.6% to 6.6% for
 17 the US.
 18

Schedule 8
 Page 2 of 2

HISTORIC EQUITY MARKET RISK PREMIUMS
 (Arithmetic Averages)

Canada (1924-2011)		
<u>Stock Return</u>	<u>Bond Total Return</u>	<u>Risk Premium</u>
11.4	6.6	4.8
<u>Stock Return</u>	<u>Bond Income Return</u>	<u>Risk Premium</u>
11.4	6.0	5.4
United States (1926-2011)		
<u>Stock Return</u>	<u>Bond Total Return</u>	<u>Risk Premium</u>
11.8	6.1	5.6
<u>Stock Return</u>	<u>Bond Income Return</u>	<u>Risk Premium</u>
11.8	5.2	6.6

Source: www.bankofcanada.ca; Canadian Institute of Actuaries, *Report on Canadian Economic Statistics 1924-2011*; www.federalreserve.gov; Ibbotson Associates, *Stocks, Bonds, Bills and Inflation: 2012 Yearbook*.