

PUB-LAB-001: Reference Prefiled Evidence of Philip Raphals Export Report, page 2, 2nd paragraph, 2nd sentence

- (i) Please provide support for the statement that "... power flows will be almost totally unidirectional".
- (ii) Please describe the reasons why there can be flow on the HVDC line that is not unidirectional.
- (iii) Please provide an estimate of how much of the flow will be unidirectional.

Mr. Raphals responds:

My use of the phrase "in that power flows will be almost totally unidirectional" was simply intended to summarize a point made by Christensen Associates Energy Consulting, which wrote:

Furthermore, the power flow pattern anticipated for Hydro's physically interconnected system is not conventional when compared with the rest of the Eastern Interconnection. Hydro expects that in virtually all hours, barring an outage at Muskrat Falls or on the LIL, power will flow in one direction, south to the Island and points beyond.¹ (emphasis added)

Barring highly unusual circumstances, power flow on the HVDC line is of course expected to be unidirectional. I have not attempted to estimate the frequency with which such circumstances might occur, or the extent of any unidirectional flows that might result.

¹ Christensen Associates, Cost-of-Service Methodology Review Revised Version (November 15, 2018), page 6 (62 pdf).