

1 Q. **Reference Application Rev. 1, Volume 1, Section E: Projects Over \$50,000 but less than**
2 **\$200,000, Purchase SF₆ Gas Recovery Systems, pages E-11 to E-14**

3 The Deferral alternative states that it *“is not recommended by Hydro”*. Please identify the
4 expected costs of deferral and quantify the environmental risk and the impact on reliability if
5 the project is deferred.

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8 A. Newfoundland and Labrador Hydro (“Hydro”) does not recommend deferral of this project due
9 to the legislative requirement to ensure SF₆¹ gas is not released to the environment. Hydro
10 operates and maintains 196 SF₆ breakers (173 on the Island and 23 in Labrador with this number
11 going to 42 by 2027). As a result, there will be an ongoing requirement to remove gas from
12 breakers to perform gas leak repairs or overhauls. SF₆ gas recovery units are essential for this
13 work. Hydro has one SF₆ recovery unit which is currently located in Bishop's Falls. To ensure
14 ready access to SF₆ recovery equipment to minimize downtime of circuit breakers and maintain
15 reliability, Hydro is recommending the purchase of two additional SF₆ gas recovery units; one for
16 the western and northern areas and another for the Labrador region. The additional units will
17 ensure ready access to the SF₆ gas recovery units for the Island and Labrador and ensure Hydro
18 maintains at least one additional unit on the island in the event one unit were to fail.

19 Without such units available, Hydro could be delayed in restoring transmission lines resulting in
20 a significant impact on reliability to customers. As an example, if one of Hydro's breakers on one
21 of the 230 kV lines to Wabush from Churchill Falls were to have a leak and require repairs, not
22 having the SF₆ recovery equipment available would delay repairs and have a high potential to
23 cause load reduction to industrial customers such as Iron Ore Company and Canada with one
24 transmission line out of service.

¹ Sulfur hexafluoride (“SF₆”).

1 Due to this equipment being specialized and not readily available on the Island or within
2 Labrador, Hydro will have to depend on companies such as GE to provide this equipment. Over
3 the next 5 years Hydro plans use an SF₆ gas recovery unit to complete, on average, 5 overhauls
4 per year plus an estimated three leak repairs per year for a total of eight uses per year. The cost
5 to rent and transport this unit is currently \$3,400 and, as a result, could cost Hydro upwards to
6 \$27,200 annually. With the possibility of Hydro completing half of these pieces of work with its
7 current SF₆ gas recovery, the deferred cost to Hydro is estimated to be \$13,600 annually. With
8 the estimated project cost, Hydro would pay for both units requested in rental and
9 transportations savings within approximately 10 years. The life of these units is expected to be
10 greater than 15 years.

11 Due to the cost noted above, ready access to this equipment to ensure prompt response to
12 address reliability concerns, and the legislative requirement to capture SF₆ gas, Hydro is
13 recommending two additional SF₆ gas recovery units be purchased, with one for the western
14 and northern areas and another for the Labrador region.