

Q. **Reference: Life Extension Application, Schedule 1, page 7, Table 1.**

a) Table 1 provides a list of past investments such as refurbishment, replacement, and condition assessment activities completed during the in-service life of Bay d’Espoir Unit 7. Expand Table 1 to include a column for the costs incurred for each item listed in the table.

b) Other than preventative maintenance and the investments listed in Table 1, provide additional detail on the annual operational history of the unit, including issues or concerns.

A. a) Table 1 of the Life Extension Application is provided below with the additional column to provide the costs incurred for each line item. Costs incurred prior to 2000 pre-date Newfoundland and Labrador Hydro’s (“Hydro”) financial and asset management systems and are therefore not readily available.¹

Table 1: Historical Investments

Year	Title of Investment	Cost Incurred (\$)
2023	Level 2 Condition Assessment	379,405
2020	Upgraded Protection	261,922
2019	Turbine Refurbishment	4,282,678
2015	Carbon Seal Replacement	46,558
2015	Turbine Base Plate Replacement	46,361
2014	Excitation Transformer Replacement	157,930
2009	Service Water Upgrades	137,590
2004	Field Breaker Replacement	Included in Exciter Replacement Below
2004	Exciter Replacement	648,715
1998	Synchronous Condense Compressor Replaced	57,000
1998	Air Gap Monitoring System Installed	90,000
1991	Synchronous Condense Blower Replaced	N/A
1990	Partial Discharge Monitoring Installed	N/A
1982	Rotor Brake Plate Replacement	N/A
1982	Guide Bearing Segments Replaced	N/A

¹ 1998 costs were extracted from Hydro’s 1998 Capital Expenditures Report. Capital Expenditures reports prior to 1997 are not readily available.

- 1 **b)** As discussed in the Life Extension Application,² Unit 7 has historically demonstrated above
2 average levels of reliability when considering Electricity Canada standard measures. The
3 charts provided in Section 3.2 of the Life Extension Application are expanded below to
4 include five additional years of data.

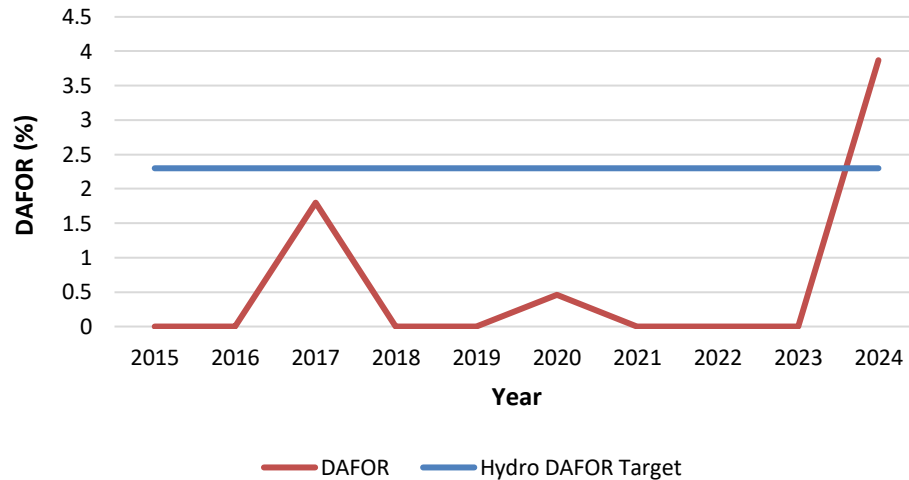


Chart 1: Five-Year DAFOR³

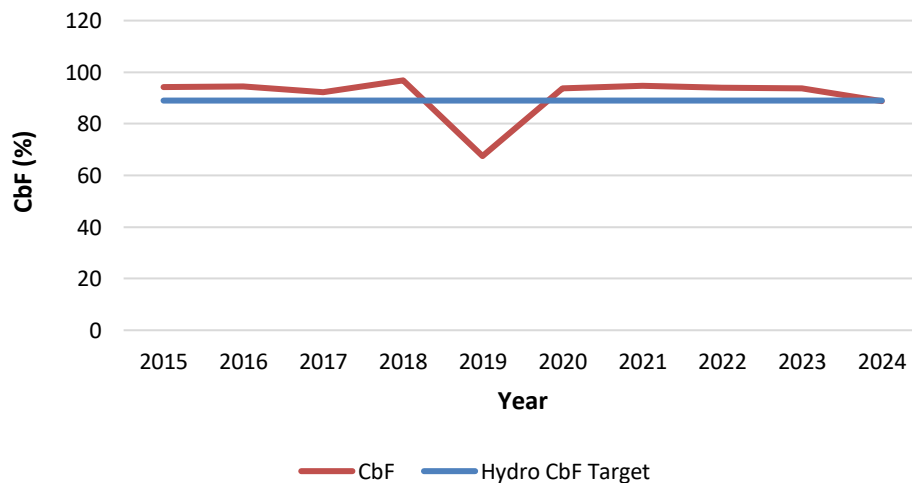


Chart 2: Five-Year CbF⁴

² "Life Extension Application – Bay d’Espoir Unit 7," Newfoundland and Labrador Hydro, June 20, 2025, sch. 1, sec. 3.2.

³ Derated Adjusted Forced Outage Rate ("DAFOR"). DAFOR measures the percentage of time that a unit or group of units is unable to generate at its maximum continuous rating due to forced outages or unit deratings. For DAFOR, a lower number is better.

⁴ Capability Factor ("CbF"). CbF measures the percentage of time that a unit or group of units is available to generate at its maximum continuous rating. It is impacted by both planned and forced outages. For CbF, a higher number is better.

1 In the last ten years, Unit 7 has experienced only two forced outage events which resulted in
2 the unit being unavailable for more than one day.⁵ The first, in 2017 lasted six days and
3 occurred because a flashover occurred between the positive and negative slip ring, resulting
4 in damage to the brush gear assembly. The second, in 2024 when the unit experienced a
5 forced extension to the planned outage, lasting 12 days, after the failure of the generator
6 bearing coolers. Both events were isolated incidents, resolved in a timely manner and have
7 not resulted in any long-term issues.

8 Despite the above average performance shown in the charts above, and the limited forced
9 outages experienced, the unit has experienced a number of issues associated with various
10 equipment and systems; examples include synchronous condenser system malfunctions,
11 cooling water pressure reducing valve issues, generator bearing oil leaks, higher than
12 normal bearing temperatures, ongoing concerns with the temporary operating ring pads,
13 and leaks around the unit's scroll case.

14 Given the installed capacity of the unit, and the importance of its availability to the Island
15 Interconnected System, Hydro has taken considerable efforts to reduce the number of
16 forced outages and impacts associated with other equipment issues by ensuring items are
17 addressed in a timely manner and remedial actions are identified and implemented. In some
18 cases, short-term repairs have been completed to allow the unit to return to operation with
19 increased monitoring until a permanent solution can be implemented during a future
20 scheduled outage.

⁵ The noticeable decline in CbF performance in 2019 was due to the extended planned outage for turbine refurbishment work.