

1 Q. **Reference: Application, Attachment 1, Page 19, Lines 2 - 5**

2 Please provide a listing of other locations where Hydro has interconnected a formerly isolated
 3 community or communities that previously had a diesel generating station. In any of these
 4 locations, did the diesel generating station that previously supplied customers remain in service
 5 as emergency and standby generation?

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8 A. Since 1976, there have been 30 communities interconnected that were formerly served by
 9 diesel plants. Table 1 provides a list of locations that were previously isolated and had diesel
 10 generation and are now interconnected, to either regional systems or the Island/Labrador
 11 Interconnected Systems:¹

Table 1: Communities Interconnected from 1976 to Present

Community	Year Interconnected	Backup Present (Y/N)
Happy Valley-Goose Bay	1976	Y
Cook's Harbor	1980	N
English Harbor East	1980	N
Grand LaPierre	1980	N
Greenspond	1980	N
Gallants	1980	N
Long Island	1980	N
Millertown	1980	N
Hampden	1981	N
St. Lunaire	1981	N
Sop's Arm	1981	N
Raleigh	1981	N
Flowers Cove	1983	N
Pond Cove	1983	N

¹ Interconnected since 1976.

Community	Year Interconnected	Backup Present (Y/N)
Croque	1986	N
Grandois	1986	N
Burgeo	1987	N
Change Islands	1988	N
Monkstown	1988	N
Fogo	1989	N
Main Brook	1990	N
Petit Forte	1993	N
St. Anthony	1996	Y
Roddickton	1996	N
Westport	1996	N
Hawke's Bay	1996	Y
South East Bight	1998	N
Mud Lake	1998	Y
La Poile	1999	N
Recontre East	2006	N

1 Of these 30 communities,² backup diesel generation remains for 4: Happy Valley-Goose Bay,
 2 Mud Lake, St. Anthony, and Hawke's Bay. These interconnections are unique from the proposed
 3 southern Labrador interconnection and the requirement for backup was based on reasons not
 4 present for the proposed project. Each of Newfoundland and Labrador Hydro's ("Hydro") system
 5 is unique and the amount of backup or requirement of backup generation is determined on the
 6 basis of reliability analysis where incremental cost is considered. Some considerations include:

- 7 ● Length of Transmission Line: In the case of the Northern Peninsula and Labrador East, the
 8 lines/connections to the central network are of significant length. This results in an
 9 increased probability of an outage as well as increased restoration times. Backup generation
 10 in such cases can be justified on the basis of reliability of the transmission lines.

² L'Anse-au-Loup is connected to Hydro-Québec but the diesel generating station remains due to non-firm nature of the contract between Hydro and Hydro-Québec.

- 1 ● Maintenance: Keeping diesel generating stations in service can be a consideration to allow
2 for transmission line maintenance. Given the significant length of transmission lines and
3 demand requirements in the cases described above, extensive outages can be required for
4 annual preventative maintenance or more extensive wood pole line management. In such
5 cases, there is value in having sufficient generation available to support lighter/summer
6 loads during maintenance season to avoid major customer interruption or installing mobile
7 generation.
- 8 ● Voltage Support: In the case of Labrador East, the gas turbine is required to provide voltage
9 support. Without this unit, system capacity is significantly reduced. On the Northern
10 Peninsula, generation must be brought online in certain restoration scenarios to increase
11 the short circuit level of the system and ensure acceptable voltage regulation when
12 switching very long lines and switched shunt devices including the capacitor banks and
13 reactors.

14 Given that reliability is expected to improve with the proposed interconnection of the southern
15 Labrador communities,³ Hydro does not intend to maintain the existing diesel generating
16 stations in each community to provide backup.

³ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, app. C.