

- 1 **Q. (Reference Application and Board Order P.U. 14(2023)) In Order No. P.U.**
 2 **14(2023) (Page 3), the Board states "Newfoundland Power has a limited fleet**
 3 **of portable substations and cannot install one at the Memorial Substation until**
 4 **2024 without compromising the availability of portable units to maintain**
 5 **service to customers during substation maintenance, capital projects, and**
 6 **equipment failures."**
- 7 **a) What is the purpose of the portable substations?**
 8 **b) Has NP ever deployed a portable substation even though by doing so it**
 9 **would compromise the ability to maintain service to customers during**
 10 **substation maintenance?**
 11 **c) Please provide a table identifying each occasion over the past five years**
 12 **that a portable substation has been deployed, the start and end dates of the**
 13 **deployment, and the reason for the deployment.**
 14 **d) Please provide a table illustrating the number of portable substations NP**
 15 **has purchased over the previous ten years, and the cost of each.**
- 17 **A.** a) Newfoundland Power uses portable substations to minimize customer power outages
 18 resulting from failures of substation power transformers, and for execution of the
 19 Company's substation capital and maintenance programs. This is consistent with
 20 Canadian utility practice.¹
 21
- 22 b) Newfoundland Power has a limited fleet of portable substations and uses
 23 engineering judgement to determine when a portable substation will be deployed.
 24 Newfoundland Power's fleet of portable substations is appropriately sized to support
 25 substation maintenance activities, capital projects, and short-term emergency
 26 response. The Company prioritizes service to customers when it schedules portable
 27 substation deployment. In an emergency situation, if a portable substation is
 28 deployed for a maintenance activity or a capital project and is needed elsewhere to
 29 provide service to customers, the maintenance activity or capital project will be
 30 paused and the portable substation redeployed.
 31
- 32 c) Table 1 shows portable substation deployment for Newfoundland Power purposes
 33 over the past five years. The time frames in the table show the amount of time the
 34 portable substations were energized. Additional time is also required to transport,
 35 install, remove and integrate each portable substation installation into the electrical
 36 system.

¹ A 2021 survey conducted by the Centre for Energy Advancement through Technological Innovation ("CEATI") indicated that utilities manage power transformer failures through a combination of portable substations and spare transformers. For more details on the CEATI survey, see Newfoundland Power's 2023 Capital Budget Application, report 2.2 Substation Spare Transformer Inventory, section 2.3.

Table 1
Newfoundland Power Portable Substation Deployments
(2018 to 2022)

Portable Substation	Deployed to Substation	Start Date	End Date	Reason
P135	Victoria	9/14/2022	9/21/2022	In-Service Failure (“ISF”)
P135	Pasadena	5/5/2022	6/1/2022	Maintenance
P135	Rattling Brook	10/22/2021	11/19/2021	Capital Project, Maintenance
P135	Petty Harbour	9/29/2021	10/21/2021	ISF, Maintenance
P135	Trinity	8/16/2021	9/14/2021	ISF, PCB, Maintenance
P135	Abrahams Cove	5/10/2021	7/8/2021	ISF, Maintenance
P135	Howley	9/17/2020	9/22/2020	ISF, PCB, Maintenance
P135	Humber	8/14/2020	8/21/2020	Maintenance
P135	Humber	8/26/2020	9/3/2020	Maintenance
P135	Hearts Content	6/2/2020	7/14/2020	PCB, Maintenance
P135	St. Georges	10/24/2019	12/3/2019	ISF, Maintenance
P135	Gillams	6/13/2019	7/16/2019	ISF, Maintenance
P135	Doyles	5/30/2019	6/14/2019	ISF
P135	Summerville	5/6/2019	5/24/2019	PCB, Maintenance
P135	Petty Harbour	3/22/2019	4/12/2019	FDR Automation, Maintenance
P335	Goulds	8/19/2022	10/3/2022	Maintenance
P335	Western Avalon	8/26/2021	6/28/2022	ISF, Maintenance
P335	Port Blandford	7/19/2021	8/17/2021	ISF, Maintenance
P335	Sunnyside	5/28/2021	7/6/2021	ISF, Maintenance
P335	Pasadena	11/5/2020	11/10/2020	ISF
P335	Lewisporte	10/3/2019	12/10/2019	Capital Project
P335	Bonavista	11/25/2018	12/14/2018	Emergency Response
P335	Webbers Cove	9/7/2018	10/11/2018	Maintenance
P335	Kenmount	8/3/2018	8/17/2018	ISF
P335	Summerford	6/21/2018	7/18/2018	ISF, Maintenance
P335	Riverhead	4/27/2018	6/1/2018	ISF
P435	Wesleyville	10/7/2022	11/9/2022	ISF, Maintenance

Table 1
Newfoundland Power Portable Substation Deployments
(2018 to 2022)

Portable Substation	Deployed to Substation	Start Date	End Date	Reason
P435	New Chelsea	5/1/2022	6/26/2022	ISF, Maintenance
P435	Blaketown	3/25/2021	11/10/2021	ISF, Maintenance
P435	Marystown	10/24/2020	12/12/2020	Capital Project, Maintenance
P435	Deer Lake	7/16/2020	8/6/2020	Maintenance
P435	Milton	3/19/2020	5/15/2020	ISF, Maintenance
P435	Kelligrews	11/12/2019	1/1/2020	ISF, Maintenance
P435	Monkstown	8/13/2019	9/20/2019	PCB, Maintenance
P435	Bay L'Argent	6/14/2019	8/1/2019	Maintenance
P435	Pulpit Rock	1/12/2019	3/6/2019	Emergency Response
P435	Old Perlican	10/23/2018	11/24/2018	Maintenance
P435	Springfield	10/1/2018	10/10/2018	ISF
P435	Seal Cove Road	7/30/2018	9/12/2018	ISF, Maintenance
P535	Glovertown	7/27/2022	12/21/2022	Capital Project, Maintenance
P535	Bonavista	7/14/2020	11/22/2020	Capital Project
P535	Bonavista	12/14/2018	10/1/2019	Emergency Response
P535	Bayview	6/17/2018	11/27/2018	Capital Project, Maintenance
P535	Holyrood	3/5/2018	4/12/2018	ISF, Maintenance

1 Table 2 shows Newfoundland Power portable substation deployments for
2 Newfoundland and Labrador Hydro ("Hydro") purposes over the past five years. The
3 dates provided represent the time frame in which a Newfoundland Power portable
4 substation was operating or on standby for Hydro. During the time period of 2018
5 to 2022, Newfoundland Power portable substations were designated for Hydro
6 purposes for a total of 359 days.

Table 2 Portable Substation Deployments for Hydro (2018 to 2022)			
Portable Substation	Substation	Start Date	End Date
P135	Barachoix	10/18/2022	11/17/2022
P135	Jackson's Arm	11/22/2022	12/1/2022
P135	Conne River	6/6/2022	6/17/2022
P135	Bay D'Espoir	6/18/2022	8/22/2022
P335	Hawke's Bay	3/1/2022	3/30/2022
P335	St. Anthony	11/19/2021	12/6/2021
P335	Hawke's Bay	1/17/2021	3/30/2021
P135	English Harbour West	10/13/2020	11/1/2020
P135	Howley	9/22/2020	10/10/2020
P435	Howley	9/20/2020	10/11/2020
P135	Parson's Pond	7/16/2020	7/27/2020
P335	Hawke's Bay	2/15/2020	4/12/2020

- 1 d) Newfoundland Power has purchased one portable substation over the past ten years.
 2 Portable Substation P535 was purchased as a multi-year project from 2012 to 2014.²
 3 The total project cost was approximately \$3.8 million.

² The purchase of Portable Substation P535 was approved in Board Order No. P.U. 26 (2011).