

CONFIDENTIAL (Attachment Only)

Request IR-11:

In response to IR-2, NS Power states:

Please refer to Attachment 1, which provides a GIS map view of the L-5031-Hubbards to East Chester scope, including the replacement of structures L-5031-000 through L-5031-075.

(a) Please confirm in Attachment 1, for the section between 87W and Robinsons Corner, whether this section of L-5031 shares the same corridor with transmission lines L-6002 and L-7008.

(b) Please provide a transmission system connection diagram identifying all substations and switching sites connected to transmission line L-5031.

Response IR-11:

(a) Yes, this corridor serves as NS Power's main transmission corridor in the western region and includes transmission lines L-5031, L-6002, L-7008, and L-7009 between 87W and the Robinsons Corner section.

(b) Please refer to Confidential Attachment 1.

REDACTED (CONFIDENTIAL INFORMATION REMOVED)

CI C0061550 IR-11 Confidential Attachment 1 has been removed due to confidentiality.

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Request IR-12:

In response to IR-2, NS Power states:

The mobile transformer unit was initially installed at the Robinsons Corner location, at the intersection of L-5031-113 and L-5031A-030A.

(a) Please describe the connection of the mobile transformer and explain the purpose of the mobile transformer.

(i) Please include diagrams and GIS maps identifying the primary and secondary feeders associated with the transformer connection, the voltage level of each feeder, and the corresponding service area or substations.

(ii) Please indicate the route of the L-5031A, and location of L-5031A-030A.

(b) Please explain how NS Power determined that three bypass structures at different locations were required to replace the function of a single mobile transformer.

(c) Please describe the connections associated with the three bypass structures and explain the purpose of each.

(i) Please identify the feeders associated with each connection and the corresponding service area and substation.

(ii) Please include diagrams and GIS maps illustrating each connection.

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1 Response IR-12:

2
3 (a) The purpose of the mobile transformer unit is to step down the 138 kV voltage from Line
4 L-6002 to match the 69 kV operating voltage of Line L-5031. The mobile unit enabled NS
5 Power to maintain service to customers supplied from 85W and 84W, without the regular
6 use of the L-5031 transmission line configuration.

7
8 (i) Please refer to Attachment 1.

9
10 (ii) L5031A is part of the L5031 line at the end. 84W is fed from L5031A section.
11 Please refer to Attachment 1.

12
13 (b) NS Power reviewed the project and proposed options to move construction forward.
14 Extensive site visits and collaborative internal discussions were undertaken to assess
15 potential solutions and ensure the best course of action was chosen to advance the project
16 construction in a positive and efficient manner. Due to the configuration of transmission
17 lines L-5031, L-5037, and L-5031A, and given that this is the only viable option for
18 obtaining the required outage window without the use of a mobile transformer unit, a
19 section of L-6002 between 87W and 103W will be temporarily operated at 69 kV.

20
21 This temporary configuration will replace the function normally provided by the mobile
22 transformer, which steps voltage down from 138 kV to 69 kV to supply customers at 84W
23 and 85W. Operating this section of L-6002 at 69 kV will maintain service to customers on
24 L-5037 (84W and 85W) while enabling the planned conductor replacement work to
25 proceed.

26
27 The bypass option, compared to the mobile unit option, uses a wired connection from
28 L5031-002 to energize an isolated section of L6002 that runs parallel to L5031 between
29 87W and 103W. Since L6002 normally operates at 138 kV, its voltage is too high to directly
30 serve customers at 84W and 85W. As a result, an additional connection is required to

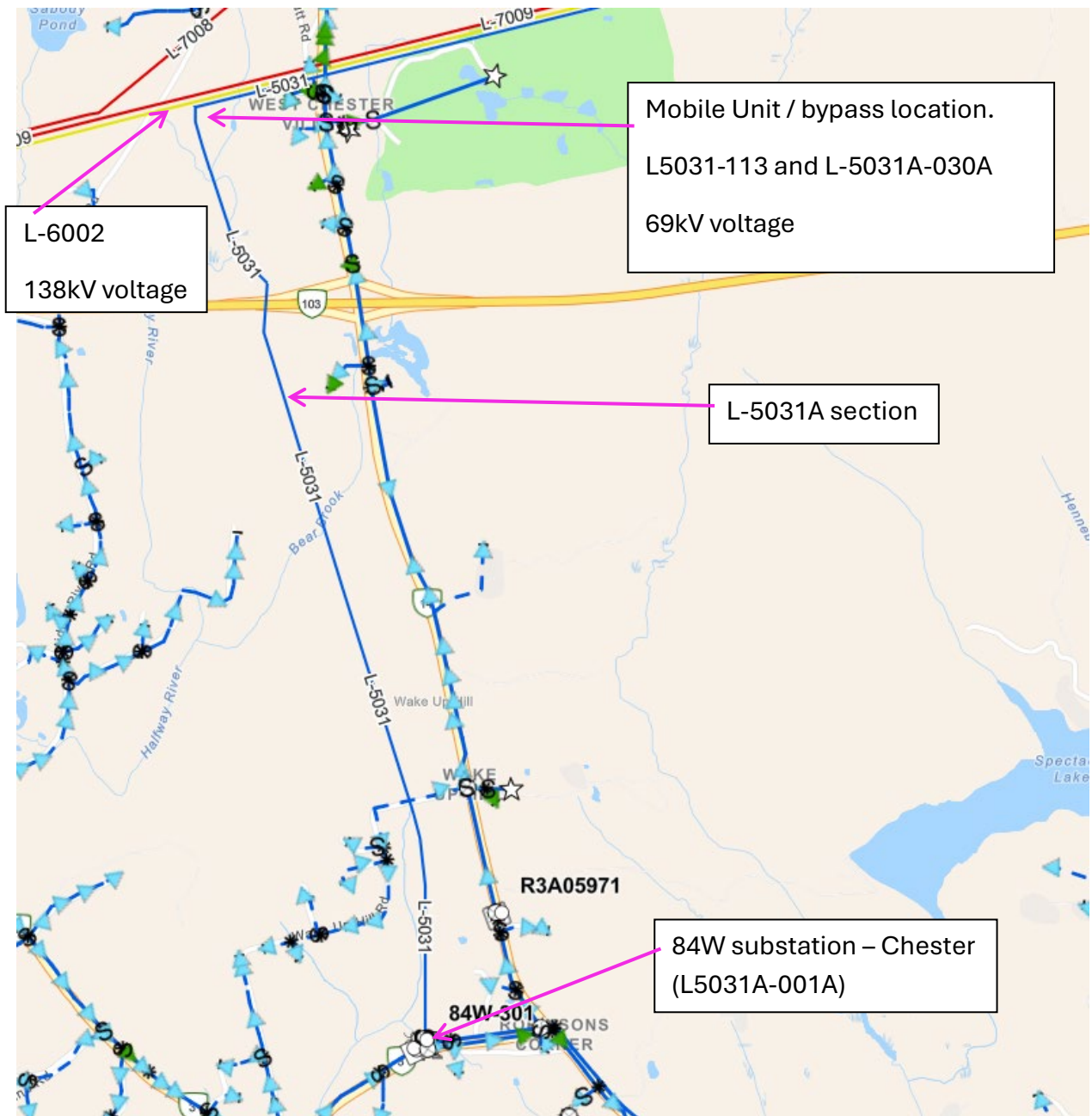
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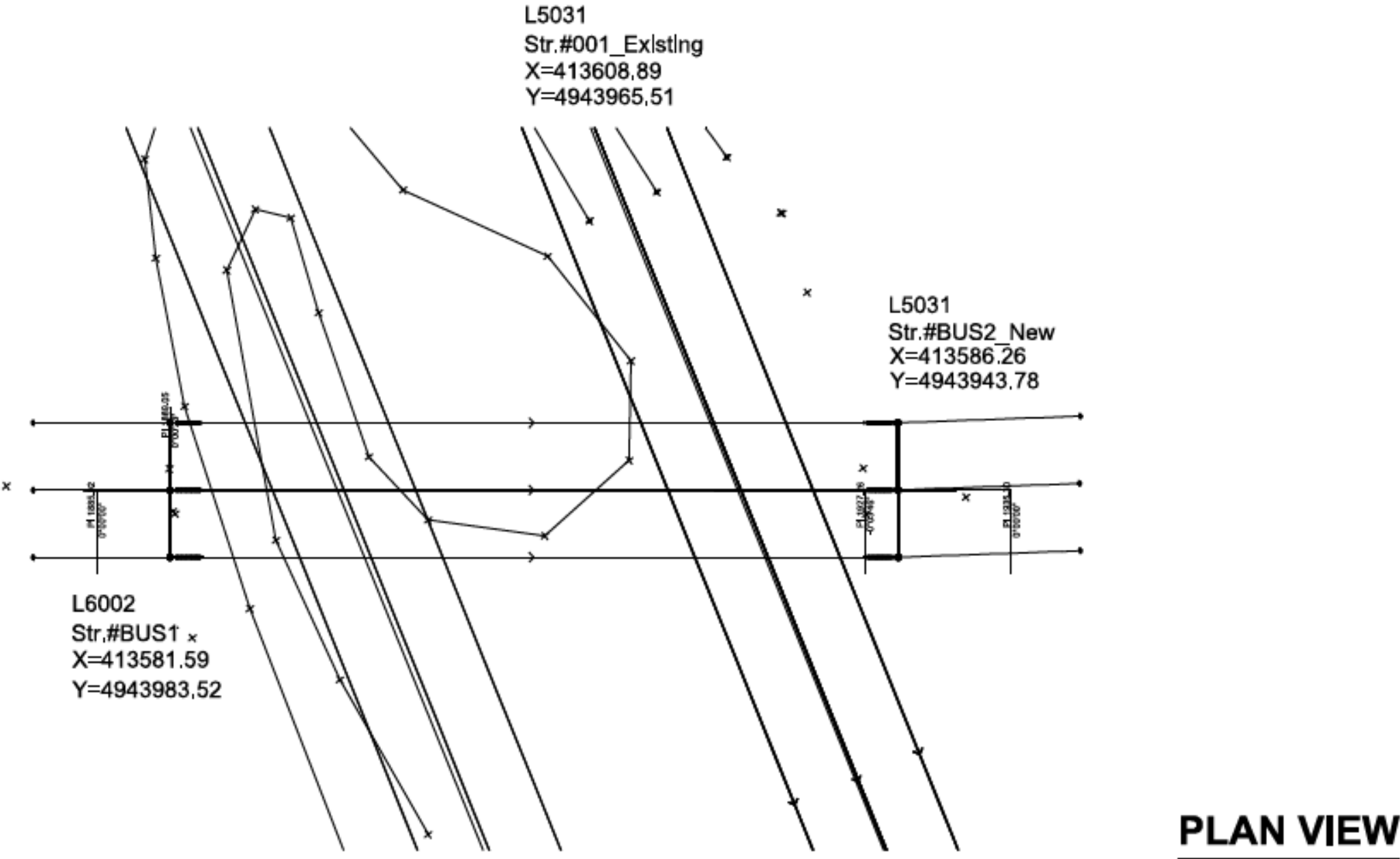
1 provide the appropriate voltage level. In contrast, the mobile unit option requires only a
2 single connection because the mobile unit can step down the voltage to a level suitable for
3 customer service.

4
5 (c) The first bypass at 87W will be used to introduce 69 kV from L-5031 at 87W to L-6002-
6 184. The second bypass will transfer 69 kV from L-6002-263 and connect it to L-5031A-
7 030A. Together, these bypasses will establish the temporary 69 kV supply arrangement
8 required to maintain service during construction activities.

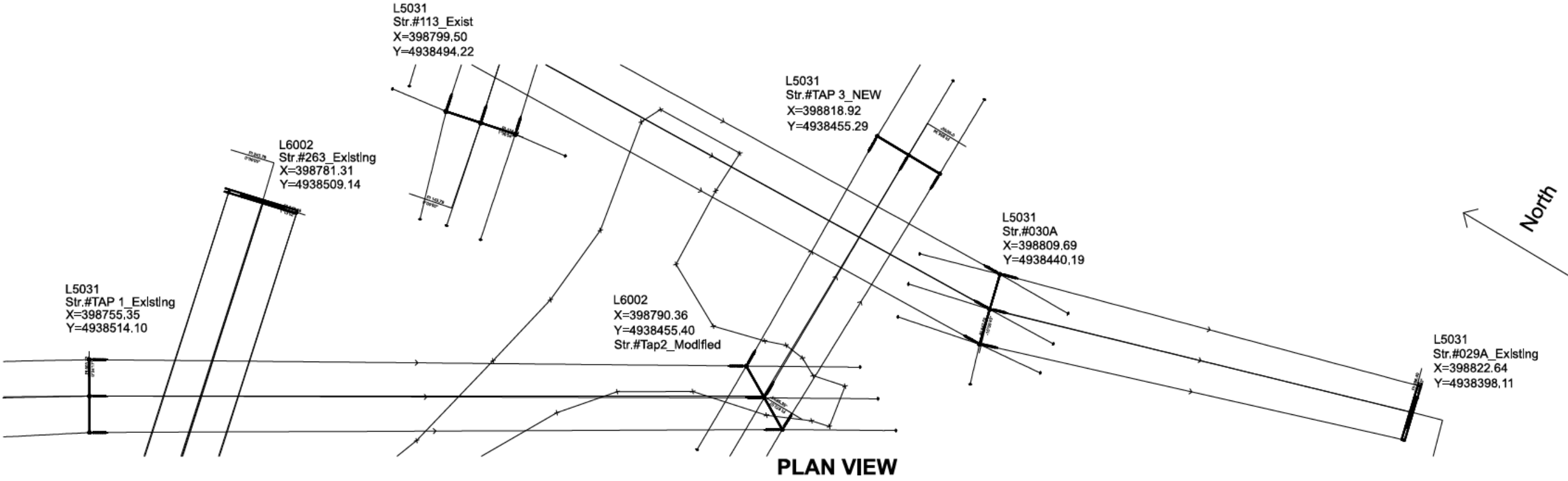
9
10 A third bypass will be installed exclusively to supply the customer at 85W, allowing
11 conductor replacement work to proceed in the vicinity of the L-5037 tap to 85W without
12 interrupting customer service.

13
14 Please refer to Attachment 2 for the detailed design and configuration of the three bypass
15 installations.

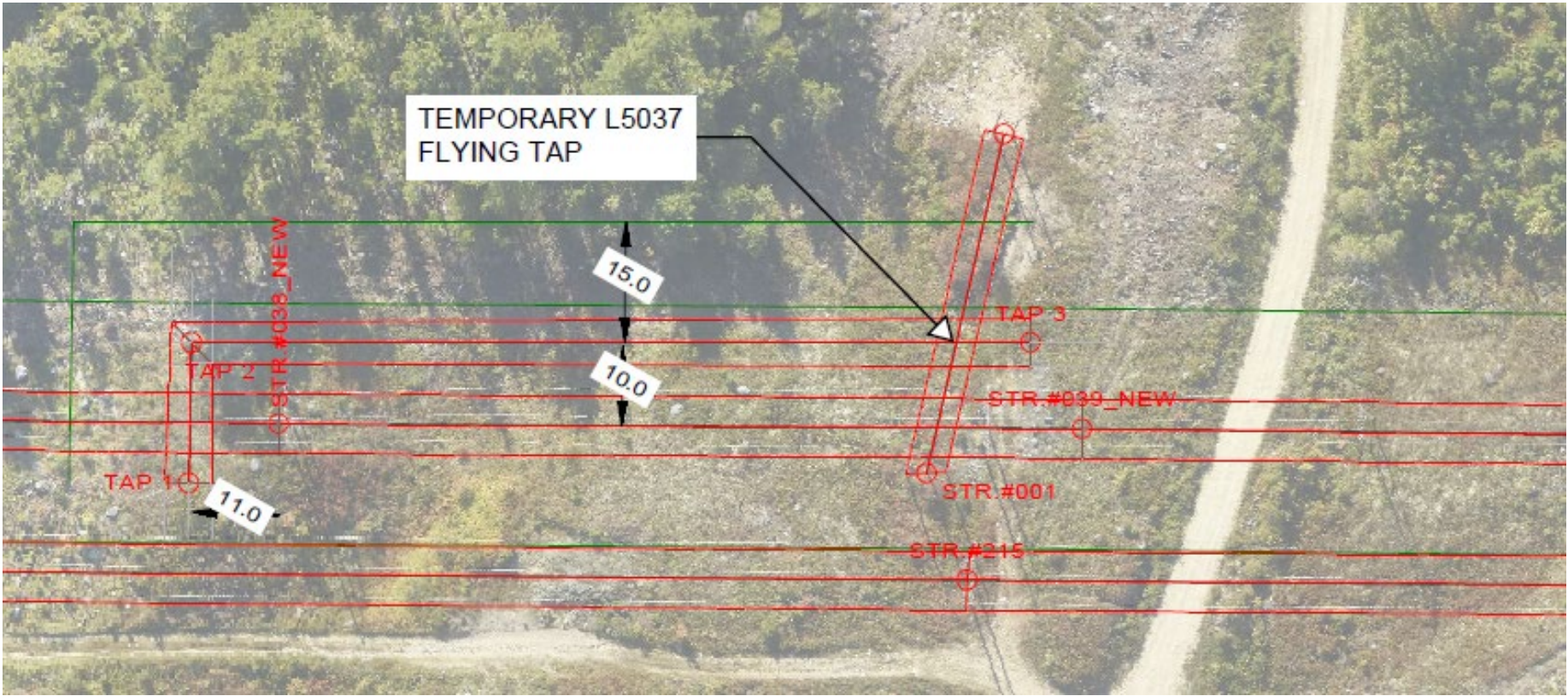
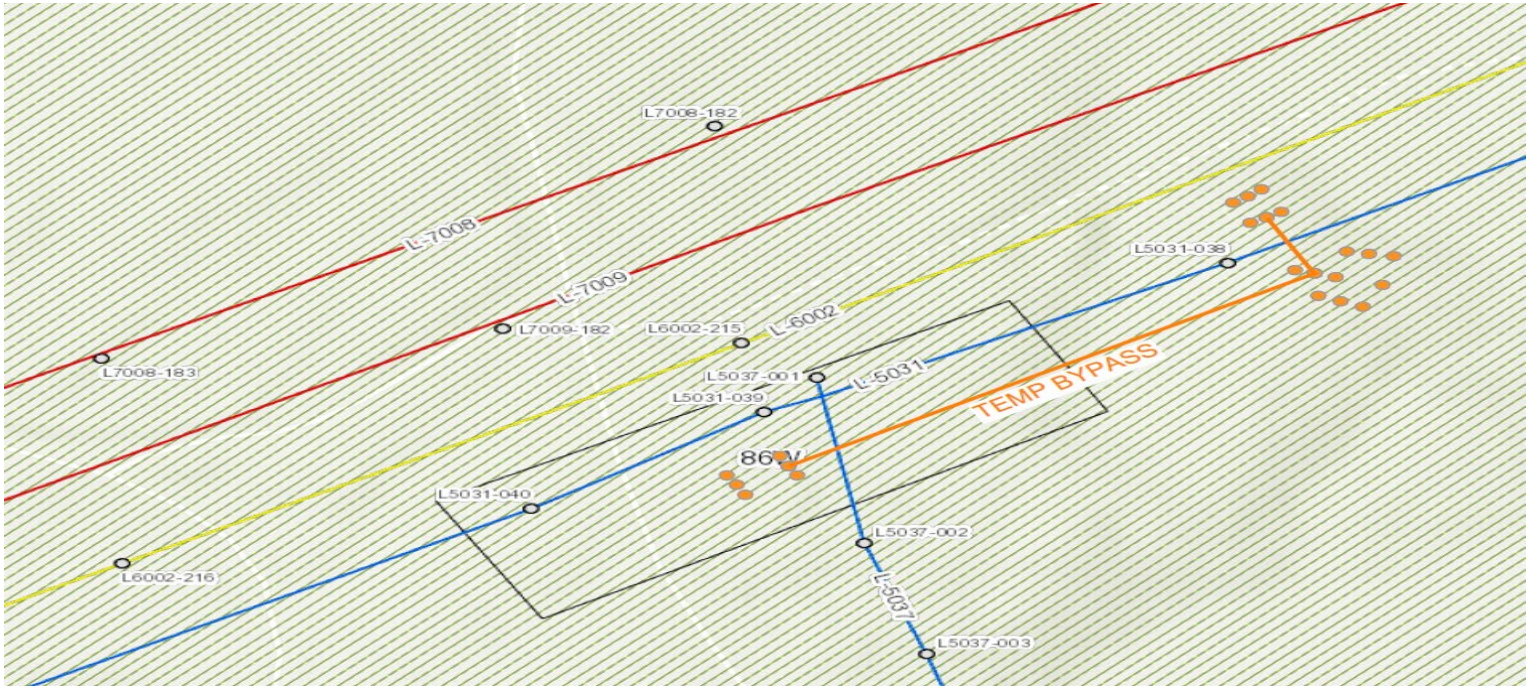




1st Bypass structure at 87W location (L6002-184 to L5031-001)



2nd Bypass structure at Robinsons Corner location (L6002-263 and L5031A-030A)



3rd Bypass structure at 86W to feed customer on L5037 (L5031-038 and L5037-002)

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Request IR-13:

In response to IR-5 a), NS Power states:

NS Power owns three 25 MVA mobile transformers. To ensure emergency preparedness across the system, at least one 25 MVA mobile transformer must remain available for deployment and should not be committed to long-term service. In January 2025, a substation transformer in the Glace Bay area failed, and in order to maintain service while the repairs were completed, one of the 25 MVA mobile transformers was required to be installed. A second mobile transformer was already in service at another substation to temporarily support winter peak loading conditions to serve firm customer load. A third 25 MVA that was installed on L-5031 and had to be removed from service to ensure one was available for deployment.

(a) As it relates to the third 25 MVA mobile transformer that was installed on L-5031 but eventually had to be removed from service:

(i) When was the mobile transformer installed on L-5031?

(ii) If the third 25 MVA mobile transformer was left in service on L-5031 instead of being removed from service to ensure one mobile transformer was available for deployment, for how much longer would it have been required until completion of the L5031 Replacements and Upgrade project?

(b) As it relates to the 25 MVA mobile transformer that was installed in the Glace Bay area:

(i) When was the 25 MVA mobile transformer removed from service in the Glace Bay area?

(ii) How many customers are served by the substation transformer that failed in the Glace Bay area?

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1
2 **(c) As it relates to the second 25 MVA mobile transformer that was already in service:**

3
4 **(i) Where was this mobile transformer installed?**

5 **(ii) When was this mobile transformer installed?**

6 **(iii) When was this mobile transformer removed from service?**

7 **(iv) How many customers are served by the substation at which the mobile**
8 **transformer was installed?**

9 **(v) Please explain why the mobile transformer was needed to support winter peak**
10 **loading conditions to serve a firm customer load.**

11
12 **a. What other options did NS Power consider to address this situation**
13 **rather than installing the mobile transformer?**

14 **b. If any, please explain why these other options were not preferred.**
15

16 **(d) Please explain specifically why the third 25 MVA that was installed on L-5031 was**
17 **removed from service to ensure emergency preparedness rather than removing one**
18 **of the other two mobile transformers that were in service.**
19

20 **(e) As it relates to NS Power’s emergency preparedness protocols, please define what**
21 **“long-term service” means (i.e., what duration?) when NS Power states: “To ensure**
22 **emergency preparedness across the system, at least one 25 MVA mobile transformer**
23 **must remain available for deployment and should not be committed to long-term**
24 **service.”**
25

26 **(f) NS Power’s response to IR-8 f) i. states: “Construction of the three bypass structures**
27 **is scheduled to commence in August 2026. The start of construction was ultimately**
28 **delayed due to transmission line outage restrictions.” Please explain specifically why**
29 **one of NS Power’s three 25 MVA mobile transformers remains unavailable for use**
30 **on the L5031 Replacements and Upgrades project, particularly given that one was**

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1 **deployed in January 2025 in Glace Bay to facilitate repairs at a substation in the area,**
2 **and another was installed only to temporarily support winter peak loading conditions.**
3

4 **(i) What is the expected completion date for the outstanding work on the L5031**
5 **Replacements and Upgrades project?**
6

7 **(ii) Please describe the transmission line outage restrictions that occurred after**
8 **Q2 2025 that resulted in the delay of the start of bypass structure construction**
9 **to August 2026.**
10

11 Response IR-13:
12

13 (a) As it relates to the third 25 MVA mobile transformer that was installed on L-5031 but
14 eventually had to be removed from service:

15 (i) The mobile transformer was installed on L-5031 in January 2025.

16 (ii) If the mobile unit was left in service to support this project, completion was
17 estimated between 6-8 weeks.
18

19 (b) As it relates to the 25 MVA mobile transformer that was installed in the Glace Bay area:

20 (i) The mobile transformer was removed from service in the Glace Bay area in March
21 2025.

22 (ii) The number of customers fed from the 81S substation is 8,049.
23

24 (c) As it relates to the second 25 MVA mobile transformer that was already in service:

25 (i) The mobile transformer was installed in the Mount Uniacke area.

26 (ii) It was installed in December 2024.

27 (iii) It was removed from service in March 2025.

28 (iv) The number of customers fed from the 143H substation is 3,717.

29 (v) The loading on 131H-422 exceeded the rating of the feeder design and protection
30 during peak winter conditions. This area of Mount Uniacke had experienced

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1 significant development in recent years. To safely and reliably serve customers, NS
2 Power installed a mobile transformer to temporarily support customer load while
3 permanent solutions were studied and developed.

4 a. A temporary fixed substation was investigated to be constructed at a nearby
5 location.

6 b. This option was ultimately not viable due to land permission challenges for
7 temporary placement of a substation, as well as the substantial cost for a
8 temporary substation. NS Power concluded that the temporary mobile
9 solution was the optimal solution while the permanent Mount Uniacke
10 substation was constructed.

11
12 (d) The mobile transformer installed in the Glace Bay area was required to support customer
13 load due to the failure of an existing in-service transformer. The mobile transformer at
14 Mount Uniacke was also used to support customer load as explained above in part (c) (v).
15 The only viable option that did not immediately impact the delivery of electricity to
16 customers was the relocation of the mobile transformer supporting the L-5031 project.

17
18 (e) NS Power's emergency preparedness plans require one 25 MVA mobile transformer to
19 always be available for unforeseen equipment failures where customer load must be
20 supported. If the mobile that was available is required for an equipment failure, then
21 another mobile must be made available.

22
23 (f) Due to the inability to secure a mobile unit for a continuous period of 6 to 8 weeks, bypass
24 structures are the only viable option for supporting the outage required to complete the
25 construction work. The availability of mobile units continues to be a constraint. They are
26 prioritized to support transformer outages and other failures that have a direct impact on
27 customers as well as for required transformer maintenance and replacements.

28
29 (i) The project is currently scheduled for completion in December 2026.
30 Approximately 6 to 8 weeks of construction work remain outstanding.

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1
2 (ii) The delay is driven by operational constraints associated with the required
3 sectionalizing and derating of line L-6002 to supply customers normally served by
4 line L-5031. Based on transmission loading conditions in the western region,
5 opportunities to utilize line L-6002 are limited to two seasonal outage windows: the
6 spring and fall periods.

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Request IR-14:

In response to IR-5 b), NS Power states:

The project team also evaluated the option of widening the existing transmission right-of way to allow construction of the new L-5031 transmission line parallel to the energized line. Under this approach, the new structures could be constructed while the existing line remained in service, with only short customer outages required to complete the final connections at the substations. The existing transmission structures would then be retired and removed. However, this option was ultimately deemed infeasible due to environmental and land-use constraints. Portions of the existing transmission corridor traverse environmentally sensitive areas, and widening the right-of-way would have required the acquisition of additional easements and associated regulatory approvals. Due to the sensitivities of the land parcels noted, it is unlikely NS Power would gain approvals. As a result, this alternative was not considered a viable solution for the project.

(a) Please describe the environmental sensitivities within the potentially widened right-of-way.

(b) Did NS Power complete any environmental studies and/or assessments related to the potentially widened right-of-way?

(i) If not:

a. Why not?

b. Please explain specifically how NS Power confirmed and assessed the presence of these sensitivities.

c. Please explain specifically how NS Power assessed the potential costs associated with addressing/mitigating these sensitivities if a new L-5031 transmission line was constructed parallel to the existing L-5031 line.

(ii) If so, please provide a copy of these study reports.

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Response IR-14:

(a) The transmission corridor between structures L-5031-043 and L-5031-050 crosses the East River and traverses an environmentally sensitive area. This area contains significant species and habitat and is managed by the Nova Scotia Department of Environment and Climate Change, as well as Nova Scotia Department of Natural Resources. The corridor segment is located within the South Panuke Wilderness Area.

(b) No environmental studies were undertaken as part of this project for the proposed widening of the transmission corridor option.

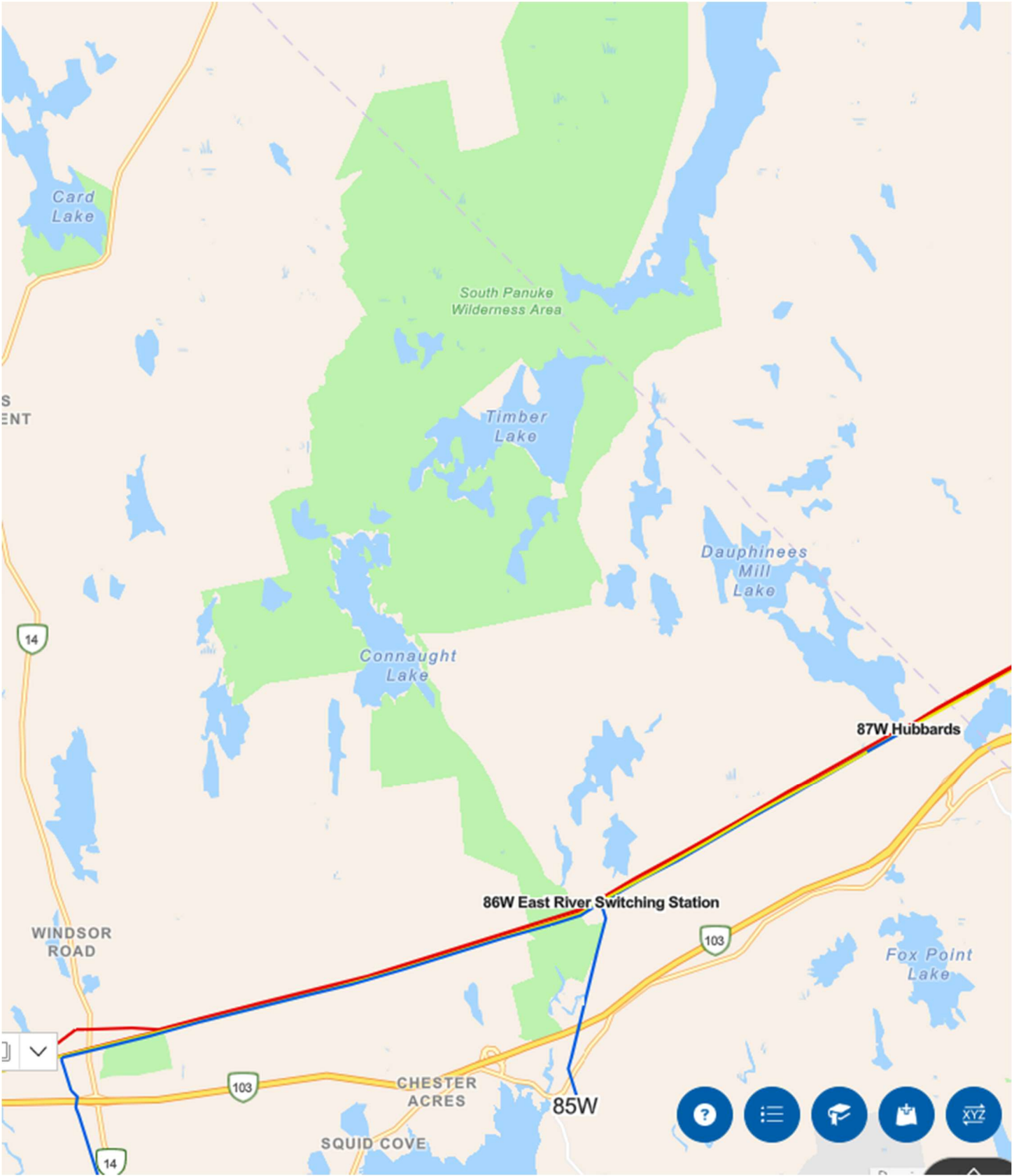
(i) (a) NS Power's internal environmental scientists participated in the evaluation of the Right-of-Way widening option and reviewed environmental constraints associated with the required additional easements. Information provided by the Nova Scotia Department of Natural Resources identified significant species and habitat sensitivities within the South Panuke Wilderness Area. Based on these constraints, it was determined that obtaining the additional easements required to implement the Right-of-Way widening option was unlikely. As a result, further environmental studies for this option were not advanced, as the option was considered unlikely to be feasible from a permitting and land access perspective.

(b) Similar environmental concerns within the South Panuke Wilderness Area have been communicated by the Nova Scotia Department of Natural Resources. These sensitivities are also reflected in NS Power's GIS environmental layers (refer to Attachment 1), where active Osprey nest habitat has been identified.

(c) Based on the identified environmental restrictions, this option was deemed not feasible and was therefore excluded from further evaluation.

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1 (ii) N/A.



OneGIS Map – showing NS Power transmission corridor (L5031) passing through a portion of the South Panuke Wilderness Area

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1 **Request IR-15:**

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3 **In response to IR-5 d), NS Power states:**

4
5 **The option to rent or purchase a mobile substation unit were considered by**
6 **the project team, however, due to the significant cost and expected delivery**
7 **times, these were not a viable solution for this project. The estimated cost of**
8 **the bypass structures is approximately \$489,351, whereas the cost of**
9 **purchasing a mobile substation units would be approximately 3 million**
10 **dollars. The cost to rent a mobile substation 25 MVA for a period of 3 months**
11 **would total over \$540,000.**
12

13 **On page 2 of 6 of the ATO application, NS Power states:**

14
15 **The bypass costs increased contract and materials by approximately \$1M.**
16

17 **Please reconcile this statement with the \$489,531 cost of the bypass structures noted in**
18 **response to IR-5 d).**
19

20 **Response IR-15:**

21
22 **The \$1M figure stated in NS Power's ATO application was a typographical error. The total cost**
23 **to construct the bypass structures is \$489,351 as stated in IR-5(d).**

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Request IR-16:

In response to IR-5 j), NS Power states:

The bypass structure on L-5037 is a temporary installation and will be removed once construction activities are complete. This bypass is temporary and is designed to facilitate construction while ensuring that a key customer remains supplied throughout the construction period.

(a) Please explain whether the temporary structure on L5037 would still be required if the mobile transformer was not removed at the Robinsons Corner.

(i) If yes, please explain why the bypass structure was not included in the original project plan and when NS Power determined that the bypass structure would be required.

Response IR-16:

(a) Yes, the bypass structure components at the L-5037 tap location are required regardless.

(i) At the time of the original project submission, the isolation requirements were included in the construction work order. However, the engineering design for the temporary bypass was not completed until after project approval. Engineered designs are required for all temporary and permanent structures within the transmission network to ensure system reliability, safety, and operational integrity. The project team identified the issue during a pre-construction planning site visit in October 2024. The design was subsequently developed and completed in January 2025.

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1 **Request IR-17:**

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3 **IR-5 j) i. b. asked NS Power to provide asset and criticality information for NS Power’s five**
4 **most recently completed similar transmission replacement and upgrades relative to the time**
5 **that each project was submitted for Board approval.**

6
7 **In response, NS Power stated:**

8
9 **NS Power has not undertaken a full transmission line replacement project**
10 **comparable to the L-5031 project within at least the past five years.**
11

12 **(a) In Appendix I of NS Power’s 2026 ACE Plan application (M12619), NS Power**
13 **provided a list of transmission main replacement and upgrade projects that it has**
14 **completed since the filing of the 2021 ACE Plan.**

15
16 **(i) Please explain why the projects listed in Appendix I of NS Power’s 2026 ACE**
17 **Plan are considered different in scope from the L5031 Replacements and**
18 **Upgrades project.**

19
20 **(ii) For the five most recently completed projects listed in Appendix I, please**
21 **provide the information requested in IR-5j) i. b., including the dates when**
22 **construction of each project started and when construction of each project was**
23 **complete.**

24
25 **Response IR-17:**

26
27 **(a)**

28 **(i) The L-5031 project consists of a full line rebuild, requiring replacement of all poles,**
29 **conductor, and associated attachment hardware. The projects identified in**

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1 Appendix I of NS Power's 2026 ACE Plan are completing component replacements
2 on a transmission line as opposed to complete line rebuilds.

3
4 (ii) As explained in response to part (a)(i), the projects identified in Appendix I of NS
5 Power's 2026 ACE Plan are not comparable to the L-5031 Replacements and
6 Upgrades Project. The referenced projects involved targeted replacements and
7 upgrades of specific transmission assets, whereas the L-5031 project is a full
8 transmission line rebuild involving replacement of all poles, conductor, and
9 associated hardware over the entire line. As a result, this information has not been
10 provided as asset condition, criticality information, and project execution metrics
11 associated with those targeted replacement projects would not provide a meaningful
12 basis for comparison to the L-5031 project and are not relevant to the matters under
13 consideration in this proceeding.

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1 **Request IR-18:**

2
3 **In response to IR-9 a), NS Power stated:**

4
5 **The Transmission Capital Project team has evaluated alternative rock-**
6 **breaking methods, including drilling and controlled blasting. However, the**
7 **capability doesn't exist currently in Nova Scotia to perform these alternatives.**
8 **Some factors include specialized equipment, employee training, permitting**
9 **requirements, and enhanced safety measures necessary to perform the work.**
10 **Consequently, the current rock-breaking method remains the only practical**
11 **and viable solution available to NS Power for the excavation activities required**
12 **to install the transmission poles.**
13

14 **(a) In the context that rock blasting in Nova Scotia is conducted routinely by a number**
15 **of contractors, please provide background material to support NS Power's contention**
16 **that the capability to complete rock drilling and controlled blasting does not currently**
17 **exist in Nova Scotia.**

18
19 **(b) Please provide NS Power's assessment of estimated project costs related to rock**
20 **breaking vs. rock drilling and controlled blasting.**
21

22 **Response IR-18:**

23
24 **(a) To clarify, NS Power has explored if rock blasting services for the purposes of wood pole**
25 **installation can be leveraged under existing Services Agreement for transmission line**
26 **structure replacement and installation projects.**

27
28 **To date, the Company has found the use of an excavator is the most efficient method for**
29 **pole installations. Other methods such as blasting and drilling have been previously tested**
30 **and were found not to be efficient due to access constraints along the transmission ROW.**
31

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1 Blasting along the transmission ROW presents unique challenges compared to other
2 locations across Nova Scotia. Due to the proximity of critical transmission infrastructure,
3 blasting could adversely affect adjacent structures within the corridor and potentially lead
4 to the failure of multiple transmission circuits. The corridor accommodates four
5 transmission lines within a confined area, making careful planning and risk mitigation
6 essential.

7
8 (b) At this time, no assessment has been undertaken, and the excavator remains the only
9 excavation method proposed by NS Power's contractors.