**BOARD STAFF - 01**

**Reference:** Exhibit A / Tab 2 / Schedule 1 / page 3

**Preamble:** WPLP states that under its current project schedule, the Line to Pickle Lake is expected to come into service in August 2022. WPLP proposes that the OEB incorporate the associated revenue requirement for the Line to Pickle Lake into the updated UTRs for existing transmitters effective January 1, 2023.

**Question(s):**

a) Please confirm when the Line to Pickle Lake comes into service. If the line does not come into service during the proceeding, please advise when it is expected to come into service.

---

**Response:**

a) WPLP confirms that the Line to Pickle Lake went into service on August 12, 2022.

**BOARD STAFF - 02**

**Reference:** Exhibit A / Tab 4 / Schedule 1 / page 1
Exhibit A / Tab 5 / Schedule 2 / pages 2-3

**Preamble:** Based on the current project schedule, it is anticipated that the Pikangikum First Nation will be connected to WPLP's transmission system mid to late August 2022, at which point the Pikangikum distribution line will form part of the Transmission System that is the subject of WPLP's electricity transmission licence. Once this conversion takes place, WPLP intends to request cancellation of its electricity distribution licence.

**Question(s):**

a) Please advise whether the Pikangikum First Nation has been connected to WPLP's Transmission System. If it has not been connected, please provide an updated schedule.

---

**Response:**

a) The Pikangikum First Nation has not been connected to WPLP's Transmission System. As explained in WPLP's September 9, 2022 application to extend its electricity distribution licence (EB-2022-0244), conversion of the distribution line to form part of WPLP's Transmission System was rescheduled to September 4, 2022 as a result of third-party delays in establishing various telecommunication circuits. As further explained in EB-2022-0244, in the lead-up to the rescheduled conversion WPLP experienced complications in certain testing and commissioning activities between its Red Lake SS and Hydro One's Ear Falls TS as a result of issues outside of its control. These complications require changes to Hydro One's SCADA database that cannot be completed until October 2022. WPLP is therefore working towards converting the Pikangikum distribution line to form part of its Transmission System in October 2022. However, as the final stage in the conversion process requires an extended community outage, conversion may need to be deferred until the spring of 2023 to mitigate outage risk to the community during the winter months. On September 22, 2022, the OEB approved an extension of WPLP's distribution licence to June 30, 2023 in EB-2022-0244 so that the company continues to be appropriately authorized to own and operate the distribution system throughout this period.

**BOARD STAFF - 03**

**Reference:** Exhibit B / Tab 1 / Schedule 1 / page 10
Exhibit B / Tab 1 / Schedule 3 / page 6

**Preamble:** WPLP states that it has made certain routing refinements, primarily in five locations increasing the line length from 1736 km to 1744 km.

WPLP states the risk that further routing changes are required based on cultural or environmental sensitivities or constraints identified during ongoing engagement activities, or through field observations leading up to construction in each area has been significantly mitigated as most of the final routing has been determined and agreed to by the relevant stakeholders and First Nation communities. There only remain a couple of outstanding routing refinements, primarily around the 25kV and 44kV lines.

**Question(s):**

a) Please provide a full list of routing changes that have been made.

b) What has been the impact, if any, of the routing changes on the substations?

c) Please clarify whether the routing changes outlined in a) have been made to address concerns raised by Indigenous communities, to address concerns raised by other stakeholders or to address construction related challenges.

d) What is the total cost impact associated with the routing changes? Please provide a breakdown aligning with the list provided in a).

e) Please provide detailed information of the outstanding routing refinements under consideration.

f) Please provide any additional forecasted costs including use of contingency amounts for each of the outstanding line sections and stations.

g) Please provide any expected impacts on energization dates for each of the outstanding line sections and stations.

---

**Response:**

a) The table below identifies all executed routing changes that have been made between execution of the EPC contract (September 10, 2019) and September 30, 2022.

| Route Change | Driver of Change | Cost Impact ($ 000's) |
|---|---|---|
| Line-w54w-Route change PH1-275 (Km 280-285) | Community Driven | 382 |
| Line-JI-Route change Km 15-20 | Community Driven | 367 |
| Line-VY-Route change PH2-R7 km 5-15 | Community Driven | (449) |
| Line-G1-Route change PH2-PL5 - Substation G | Community Driven | 0 |
| Line-KM-Route change PH2-PL6 km 55-61 | Community Driven | 60 |
| Line-EF-Route change PH2-PL9. Str. 152-261 | Community Driven | 17 |
| Line-BC-Route change PH2-PL10 km 48-49 | Community Driven | (125) |
| Line-QR-Route change PH2-RL14 - Berens River str. 1-9 | Community Driven | (35) |
| Line-W54W-Route change PH1-102 km 102 | Construction Driven | 64 |
| Line AB S 104 | Construction Driven | 0 |
| Additional Land Required. Substation S expansion and ingress. | Construction Driven | 0 |
| Line AB- Route Change to avoid MTO quarry S215-233 | Stakeholder Driven | 147 |
| Line KM route change PH2-PL13 S16-33 | Community Driven | (411) |
| Sachigo Lake (Line EG) North - route change. Str 190-220 | Community Driven | (1,471) |
| Line AB Route Change - S270 | Construction Driven | 0 |
| Line AB S 392 | Community Driven | 0 |
| Line AB S835 | Construction Driven | 0 |
| Line BC 111-119 | Construction Driven | (3) |
| Line CD - Route Change - S300-315 - Wabbit Trail | Construction Driven | (243) |
| Line-JI-Route Changes(S338-356) | Construction Driven | 42 |
| Substation M- Ingress changes. | Construction Driven | 0 |
| Line-JK-Route Change 45-59; 91-103; 233-234 | Construction Driven | (265) |
| Line-RT-Route Change (km 38-42) - Critchell Lake | Community Driven | 1,684 |
| Line-RT-Route Change (km 28-32) - McInnes Lake | Community Driven | (533) |
| Line-KM-Route Change (Str 12-13) | Construction Driven | 0 |
| Line-TU-Route Change (Structure 31-32) | Construction Driven | 0 |
| Line-AB-Route Change (Str 247-251) | Construction Driven | 0 |
| Sachigo Lake (Line EG) South 80-144 | Community Driven | 451 |
| Substation I - Expansion and relocation | Community Driven | 0 |
| Line CJ - 93 &114 | Construction Driven | 0 |
| Line RT - A frame re-route Sub R | Construction Driven | 0 |
| Line RT - A frame re-route Sub T | Construction Driven | 0 |
| 25 kV re-route Line J1 | Construction Driven | 0 |
| Line VY Route Change - Winter Road Conflicts str 109-113; 195-198 | Construction Driven | 6 |

| | | |
|---|---|---|
| Line ZW Route Change - Winter Road Conflicts Str 139-141 | Construction Driven | 0 |
| Line QR ingress change into R | Construction Driven | 0 |
| Line RS egress change from R | Construction Driven | 0 |
| S1 Reroute - 25 kV Reroute Str. 4-10 | Construction Driven | 115 |
| G1 Reroute- 25 kV | Community Driven | 553 |
| Line EG- Ingress to sub G | Community Driven | 12 |
| Line ZW Route Change Str. 139-141 | Construction Driven | (35) |
| Line DE Route Change (Str 195-Sub E) | Community Driven | 8,000* |
| I1 Reroute - 25 kV Reroute | Community Driven | 11** |
| Station I - ingress | Community Driven | 59*** |
| **Total** | | **8,398**[1] |

*Reflective of forecasted value at time of filing. Change order was executed subsequent to rate application filing for $9 million cost increase.
** Reflective of forecasted value at time of filing. Change order was executed subsequent to rate application filing for nil value.
***Executed subsequent to rate application filing at value presented in table.

b) The routing changes have resulted in minor location changes for various substations. No substation location changes resulted in impacts to any new landowners. WPLP has secured all land rights and required permits for its substations.

c) Please refer to the "Driver of Change" column in the table provided in response to part (a) above.

d) Please refer to the "Cost Impact" column in the table provided in response to part (a) above.

e) The table below identifies all outstanding routing changes that are under consideration, along with the relevant driver and the estimated cost impact. Note that although these changes remain under consideration, WPLP has already assumed they will be implemented so they are reflected in the amount of contingency that has been used per B-1-5, Table 3**.**

| **Route Change** | **Driver of Change** | **Cost Impact (000's)** |
|---|---|---|
| Line - TZ - Route Change (str 40-44) | Construction Driven | [redacted] |
| Sub V - Line VY- Ingress | Construction Driven | |
| Sub V - V1 - Egress | Construction Driven | |
| Substation KL - Relocation - Reroute | Community Driven | |
| Substation L1 - 25 kV Reroute | Community Driven | |
| E1 Reroute - 25 kV Reroute | Community Driven | |
| Line KM - A Frame to S 7 | Construction Driven | |

[1] The total may not add due to rounding.

| | | |
|---|---|---|
| K1- 25 kv - Entire Line | Construction Driven | [redacted] |
| ZV Reroute | Construction Driven | |
| | | |

f) Please refer to the response to part (e) above.

g) WPLP does not anticipate any impacts on energization dates for any of the line sections or stations resulting from the outstanding routing changes. Note that adjustments to 2022 energization date forecasts, which are not related to routing changes, are addressed in response to OEB Staff IR 2(a) (for Pikangikum), and in response to OEB Staff IR 6(c) and HONI IR 6(a) (for North Caribou Lake First Nation and Kingfisher Lake First Nation).

[2] The total may not add due to rounding.

**BOARD STAFF - 04**

**Reference:** Exhibit B / Tab 1 / Schedule 2 / pages 12-13

**Preamble:** The reference outlines WPLP's efforts in regard to Indigenous and Métis engagement.

**Question(s):**

a) Please provide a detailed breakdown of WPLP's 2023 costs in relation to Indigenous and Métis engagement (including training). Please note whether the cost category is related to capital, OM&A or overhead. Also provide as much detail as possible associated with each cost category, including, number of in-person meetings, number of community radio shows, number of training sessions, number of trained individuals and other relevant details.

---

**Response:**

a) The table below provides a breakdown of WPLP's 2023 costs in relation to Indigenous and Métis Engagement (including training). Given these costs are considered overhead costs, in accordance with WPLP's Overhead Cost Allocation methodology, found in Appendix A of Exhibit B-1-5, the table below also provides the allocation between Capital and Indirect Operating costs.

| | | | **Capital ($000's)** | **Indirect Operating ($000's)** | **Total ($000's)** |
|---|---|---|---|---|---|
| **Indigenous Engagement & Communications** | | | | | |
| | Affiliate Costs (Labour) | (A) | 570 | 662 | 1,232 |
| | Community and Tribal Council Support | (B) | 789 | 916 | 1,705 |
| | Environmental Communications | (C) | 139 | 161 | 300 |
| | Communications | (D) | 42 | 48 | 90 |
| | Software | (E) | 6 | 8 | 14 |
| | Events/Meetings | (F) | 256 | 297 | 553 |
| | Travel | (G) | 70 | 82 | 152 |
| | Other | | 87 | 101 | 188 |
| | | | **1,959** | **2,275** | **4,234** |
| | | | | | |
| **Indigenous Participation** | | | | | |
| | Affiliate Costs (Labour) | (A) | 732 | 850 | **1,582** |
| | Community and Tribal Council Support | (B) | 68 | 78 | **146** |
| | Training Programs | (H) | 720 | 836 | **1,556** |
| | Events/Meetings | (F) | 140 | 163 | **303** |
| | Travel | (G) | 80 | 92 | **172** |
| | Other | | 120 | 123 | **243** |
| | | | **1,859** | **2,142** | **4,002** |

(A) OSLP services related to administering project and programs for WPLP relating to community engagement, community readiness, education and training, business readiness, stakeholder engagement, communications and capacity building.

(B) Community Liaison and Tribal Council support to aid in information sharing and ensuring appropriate communication with communities. These services mitigate access related risk for the project.

(C) Indigenous knowledge advisory services for environmental and land use monitoring.

(D) Communications and publication costs including, social medial integration/promotion, brochures and radio ads on positive Indigenous impacts of the Project.

(E) Engagement tracking software for records of engagement.

(F) Includes 2 in-person community meetings per community (48 meetings), 27 Project specific meetings/events on unique issues facing the Project and/or ceremonies, and 3 regional events for Community Liaisons on environmental monitoring, business readiness and Indigenous participation. These costs include travel for participants, room and incidental costs and elder services.

(G) Travel costs associated with OSLP employees to administer project and programs described in A above. Employee travel is not included in point (F) or (H), only travel costs for participants.

(H) Training programs include 7 programs with anticipated 118 participants. Programs include Powerline Construction and Work Readiness training, Line Crew Ground Support training, Project Management training and Operation Education and Awareness training. Costs include tuition/program delivery, accommodations, transportation, training facilities and other participant incidentals/support services. Refer to the response to HONI-01 for further details on WPLP's efforts in regard to Indigenous and Métis engagement.

**BOARD STAFF - 05**

**Reference:** Exhibit B / Tab 1 / Schedule 3 / Table 2 / pages 3-4
Exhibit B / Tab 2 / Schedule 1 / Appendix B / page 3

**Preamble:** WPLP's current in-service schedule by line segment and station is presented in Table 2. Table 2 includes the in-service schedule for 9 line segments of the Red Lake Remote Connection Lines.

Appendix B includes a summary of WPLP line segments which includes 15 line segments for the Red Lake Remote Connection Lines.

**Question(s):**

a) Please update Table 2 to include the in-service schedule for the 15 line segments of the Red Lake Connection Lines shown in Appendix B.

---

**Response:**

a) The table below updates Exhibit B-1-3, Table 2 to show the in-service schedule for all 15 line segments associated with the Red Lake Connection Lines.

| Asset Designation | Description | Current Forecast In-Service Date |
|---|---|---|
| **Red Lake Remote Connection Lines** | | |
| WPQ[1] | 115 kV - Red Lake SS to Existing Pikangikum 44 kV Line | 12-Oct-22 |
| Q1 | 25 kV - Pikangikum TS to HORCI 25 kV | In-Service[2] |
| WQR | 115 kV - Pikangikum TS to Poplar Hill SS | 18-Apr-24 |
| WRS | 115 kV - Poplar Hill SS to Poplar Hill TS | 18-Apr-24 |
| S1 | 25 kV - Poplar Hill TS HORCI 25 kV | 18-Apr-24 |
| WRT | 115 kV - Poplar Hill SS to Deer Lake SS | 16-May-24 |
| WTU | 115 kV - Deer Lake SS to Deer Lake TS | 16-May-24 |
| U1 | 25 kV - Deer Lake TS to HORCI 25 kV | 16-May-24 |
| WTZ | 115 kV - Deer Lake SS to Sandy Lake SS | 16-Jun-24 |
| WZW | 115 kV - Sandy Lake SS to Sandy Lake TS | 16-Jun-24 |
| W1 | 25 kV - Sandy Lake TS to HORCI 25 kV | 16-Jun-24 |
| WZV | 115 kV - Sandy Lake SS to North Spirit Lake TS | 14-Jul-24 |
| V1 | 25 kV - North Spirit Lake TS to HORCI 25 kV | 14-Jul-24 |
| WVY | 115 kV – North Spirit Lake TS to Keewaywin TS | 11-Aug-24 |
| Y1 | 25 kV - Keewaywin TS to HORCI 25 kV | 11-Aug-24 |

[1] WPLP has changed the name of this designation, previously known as Line P1P2.

[2] This 25 kV line segment was placed in service in 2018.

**BOARD STAFF - 06**

**Reference:** Exhibit B / Tab 1 / Schedule 3 / pages 2-3

**Preamble:** The reference outlines expected energization dates by community for the project. The reference notes that delays in certain of the community energization are primarily driven by: (1) multiple forest fires in the summer of 2021 within project site, (2) cumulative COVID-19 impacts and (3) delays in construction progress in the 2022 winter construction season.

Further, the reference specifically notes that the Kasabonika Lake community and the Wunnumin Lake community are currently expected to be energized months and 12 months earlier than previously expected, respectively.

**Question(s):**

a) Specific to energization dates noted in Table 1, please explain the assumptions made with regards to forest fires during Summer 2022 and Summer 2023. In the response, please detail the extent to which the possibility of forest fires has been incorporated into the schedule. If applicable, please identify the source of information.

b) Specific to energization dates noted in Table 1, please explain the assumptions made with regards to potential delays in construction due to the winter seasons in 2023 and 2024. In the response, please detail the extent to which construction delays have been incorporated into the schedule. If applicable, please identify the source of information.

c) Please explain the reasons for earlier than expected energization of the Kasabonika Lake community and the Wunnumin Lake community.

---

**Response:**

a) Valard updated its construction schedule as of May 30, 2022. The May 30, 2022, schedule reflects Valard's construction plan based on its experience and planned construction activities. WPLP's understanding is that Valard has planned for a normal level of forest fire activity, which reflects a degree of risk that Valard is able to manage with fire protection measures and no extended work outage. As a result, a normal level of forest fires during the Summer of 2022 and the Summer of 2023 would result in no impact on the May 30, 2022 schedule.

b) It is WPLP's understanding that Valard planned for a normal level of winter construction delays in its May 30, 2022 schedule, which reflects a degree of risk that Valard is able to manage with no extended work outage. As a result there are not any specific delays related to winter construction in 2023 and 2024.

c) When preparing the May 30, 2022 schedule, Valard took into account the respective First Nation energization needs along with available construction resources. As a result, the Kasabonika Lake First Nation and the Wunnumin Lake First Nation energization dates were moved to 2023 and Sachigo Lake First Nation was moved to 2024.

**BOARD STAFF - 07**

**Reference:** Exhibit B / Tab 1 / Schedule 3 / pages 2-3

**Preamble:** WPLP states that on May 30, 2022, it received a further updated project schedule from its EPC Contractor reflecting all factors known as of that date. That schedule represents the most current available project schedule and has therefore been used as the basis for this Application.

**Question(s):**

a) In consideration of the significant amount of construction activity and associated capital spending that is forecasted to take place between May 30, 2022, and the expected date of the OEB's decision, does WPLP intend to update its capital cost forecasts, OM&A forecasts, in-service additions (and the impacts of changes to in-service additions on the calculation of rate base and load forecast), or any other material changes, at any time during the remainder of the proceeding? If so, please specify when WPLP anticipates filing its update.

---

**Response:**

a) Construction of the planned 2023 in-service rate base additions is proceeding according to the May 30, 2022 construction schedule. Any changes in relation to the planned 2022 in-service rate base additions will be captured in the OEB-approved In-Service Date Variance Account. As a result, WPLP does not plan on updating its capital cost forecasts, OM&A forecasts, in-service additions (or the impacts of changes to in-service additions on the calculation of rate base and load forecast) during the remainder of the proceeding.

**BOARD STAFF - 08**

**Reference:** Exhibit B / Tab 1 / Schedule 3 / pages 5-6
Exhibit B / Tab 1 / Schedule 5 / pages 16-17

**Preamble:** In the first reference, WPLP states that risks from material and equipment delivery and from routing changing have been significantly mitigated.

In the second reference, WPLP states that based on the Owner's Engineer's latest Quantitative Risk Analysis (QRA), no change to contingency requirements has been made for the remaining construction period at this time.

**Question(s):**

a) Please provide the latest report or analysis related to the Owner's Engineer's QRA.

b) Please provide a breakdown of the contingency category and for each sub-category, please indicate the specific allocation and how much of it has been used to date.

c) Please elaborate on why the contingency category cannot be further reduced given WPLP has indicated that the risks associated with material and equipment delivery and with routing changes have been significant mitigated.

---

**Response:**

a) Attachments 1 and 2 hereto contain the latest Owner's Engineer's QRA reports for the Project. The report in Attachment 1 covers Owner and EPC Costs. The report in Attachment 2 covers COVID-19 risks. The reports were prepared as of July 1, 2022. Please note that Attachments 1 and 2 are being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

**b)** WPLP uses the QRA analysis prepared by the Owner's Engineer to allocate the contingency to 13 EPC Risk categories, 1 Non-EPC risk category and COVID-19. The table below provides the requested breakdown of the contingency category and for each sub-category the specific allocation amount and how much of it has been used to date. Please note that part of this response is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

| | | Contingency | Utilization | Remaining |
|---|---|---|---|---|
| **EPC Contingency** | | | | |
| 1 | Line route change | | [redacted] | |
| 2 | Substation location change | | | |
| 3 | Owner Permit delays | | | |

| | | |
|---|---|---|
| 4 | Onerous (new) permit conditions | [redacted] |
| 5 | LiDAR data error | |
| 6 | HONI-HORCI delays | |
| 7 | Archeological finding (major) | |
| 8 | Pre-existing hazardous material | |
| 9 | Review delays | |
| 10 | Forest fire (major) | |
| 11 | Work stoppage – access issue (major) | |
| 12 | Additional scope | |
| 13 | Design requirements/code change | |
| **Total EPC Contingency** | | |
| Non-EPC Contingency | | |
| **Total Project Contingency** | | |

A separate table has been provided for COVID-19 contingency. Given the COVID-19 risk was not foreseen, the full forecast is reflected in contingency.

| | **Contingency** | **Utilization** | **Remaining** |
|---|---|---|---|
| COVID-19 Contingency | [redacted] | | |

c) Notwithstanding that the risks associated with material and equipment delivery and routing changes have been significantly mitigated, it is not appropriate for WPLP to reduce contingency at this time because there are a number of potential claims being discussed with the EPC contractor (Forest Fire, Access and COVID-19). WPLP also notes that, as described in Exhibit H-1-1, p. 8, it is not seeking to add contingency to its rate base in this application consistent with the approach that was approved in EB-2021-0134. As a result, there is no impact on ratepayers other than potentially increasing the cap on the Deferred Contingency Deferral Account, which would enable incremental amounts to be recorded that would be subject to consideration in a future OEB rate proceeding.

# Attachment 1

## Wataynikaneyap Power Transmission Project QRA Results
## August 10, 2022

# Wataynikaneyap Power Transmission Project

## Quantitative Risk Analysis (QRA) Results

August 10, 2022

Wataynikaneyap Power

HATCH

# Owner's Cost
# [Excluding Spent Cost and EPC Cost]

HATCH

# Owner's Remaining Construction Cost Base Estimate and Associated Ranges

| Cost Category | Total Remaining Spend | Price | | | | | Quantity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min (P1) | Low (P10) | Det | High (P90) | Max (P99) | Min (P1) | Low (P10) | Det | High (P90) | Max (P99) |
| EPC Excluded (Insurance, LIDAR, Stumpage) | $ 1,329,254 | 0.80 | 0.90 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Other Infrastructure | $ 9,294,608 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Office Capital | $ 714,540 | 0.80 | 0.90 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| HONI Interconnection | $ 3,913,000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Non EPC Costs | | | | | | | | | | | |
| Engineering | $ 28,405,614 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 0.90 | 0.95 | 1.00 | 1.10 | 1.15 |
| Health and Safety | $ 620,981 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permitting | $ 603,444 | 1.00 | 1.00 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Environmental | $ 1,565,572 | 1.00 | 1.00 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Land Rights | $ 1,503,999 | 0.85 | 0.95 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Land Access | $ 3,601,608 | 0.80 | 0.90 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Aboriginal Engagement | $ 150,357 | 0.80 | 0.90 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Communications | $ 595,009 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.10 | 1.15 |
| Regulatory | $ 851,465 | 0.95 | 0.97 | 1.00 | 1.05 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Accounting/Finance | $ 4,350,393 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.10 | 1.15 |
| Executive Oversight | $ 898,529 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.10 | 1.15 |
| PM Exectutive Oversight | $ 444,043 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.10 | 1.15 |
| Human Resources | $ 483,309 | 1.00 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.10 | 1.15 |
| Information Technology | $ 329,621 | 0.85 | 0.95 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Aboriginal Land Rights | $ 62,405 | 0.95 | 0.97 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Aboriginal Participation | $ 145,393 | 0.80 | 0.90 | 1.00 | 1.15 | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| OSLP Costs | | | | | | | | | | | |
| Indigenous Engagement & Comm. | $ 4,402,633 | 0.75 | 0.85 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Stakeholder Engagement | $ 100,198 | 0.75 | 0.85 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Indigenous Participation | $ 4,027,112 | 0.75 | 0.85 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Regulatory | $ 36,883 | 0.75 | 0.85 | 1.00 | 1.10 | 1.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Land Access | $ - | | | | | | | | | | |
| Administration | $ 1,568,963 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Total** | **69,998,931** | | | | | | | | | | |

- Owner's Remaining Cost : Estimate developed based on Owner's experience with other projects (in-house data), budgetary estimates and inputs from service providers.
- Owner's cost updated in July 2022 and reflect construction continuing into 2024.
- Estimate ranges updates provided by the Owner team

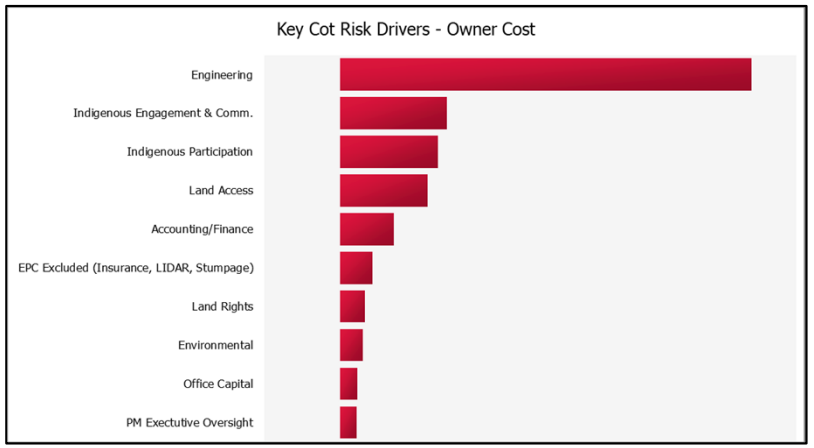
HATCH

# Owner's Cost - Contingency Values and Percentages

- Base estimate of remaining cost $69,998,931
- P50 Contingency (50/50 chance of being underspent/overspent): [redacted]
- P99 Contingency: [redacted]

| Percentile | Total Owner's Cost | Contingency $ | Contingency % |
|---|---|---|---|
| 1% | $64,693,592 | [redacted] | |
| 5% | $66,208,801 | | |
| 10% | $67,237,255 | | |
| 15% | $67,971,624 | | |
| 20% | $68,631,525 | | |
| 25% | $69,177,850 | | |
| 30% | $69,740,999 | | |
| 35% | $70,269,861 | | |
| 40% | $70,804,974 | | |
| 45% | $71,263,872 | | |
| 50% | $71,822,335 | | |
| 55% | $72,336,871 | | |
| 60% | $72,856,238 | | |
| 65% | $73,321,949 | | |
| 70% | $73,861,171 | | |
| 75% | $74,379,857 | | |
| 80% | $74,953,116 | | |
| 85% | $75,739,706 | | |
| 90% | $76,595,931 | | |
| 95% | $77,800,202 | | |
| 99% | $79,796,670 | | |

[redacted]




The tornado graph shows the cost items the Owner's team should focus their mitigation efforts on in order to reduce contingency.

HATCH

# Project's EPC Cost

HATCH

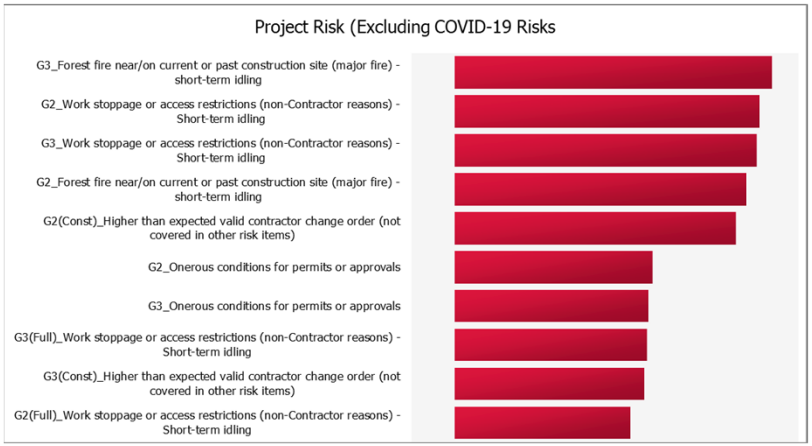
# Contingency Category-1

Contingency Category -1 (Formerly “75% & 90% probability of occurrence risk events”)
This amount to be added to the QRA based contingencies calculated in subsequent slides.

| Risk | Contingency $ |
|---|---|
| G1_Forest fire impacts – full Group (4-weeks) | [redacted] |
| G2_Forest fire impacts – full Group (4-weeks) | |
| G3_Forest fire impacts – full Group (8-weeks) | |
| **Contingency Category 1 Total** | |

# Project Risk Events for Contingency Category-2

[redacted]




The tornado graph (left) shows the risk events the Owner's team should assign mitigation efforts to in order to reduce contingency.

Contingency for Project Risk Events :

- P50 Contingency: [redacted]
- P99 Contingency: [redacted]

| | |
|---|---|
| 1% | [redacted] |
| 5% | |
| 10% | |
| 15% | |
| 20% | |
| 25% | |
| 30% | |
| 35% | |
| 40% | |
| 45% | |
| 50% | |
| 55% | |
| 60% | |
| 65% | |
| 70% | |
| 75% | |
| 80% | |
| 85% | |
| 90% | |
| 95% | |
| 99% | |

# Project Risk Events Ranges – 1/4

| No. | Risk Event - Category 2 | % Probability | | Cost Risk | | | Notes |
|---|---|---|---|---|---|---|---|
| | | Will Happ | Will Not Happe | Min | ML | Max | |
| 1 | G1_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | [redacted] | | | | | |
| 2 | G2_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | | | | | | |
| 3 | G3_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | | | | | | |
| 4 | G1_Work stoppage or access restrictions (non-Contractor reasons) - crew shifting | | | | | | |
| 5 | G2_Work stoppage or access restrictions (non-Contractor reasons) - crew shifting | | | | | | |
| 6 | G3_Work stoppage or access restrictions (non-Contractor reasons) - crew shifting | | | | | | |
| 7 | G1(Full)_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | | | | | | |
| 8 | G2(Full)_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | | | | | | |
| 9 | G3(Full)_Work stoppage or access restrictions (non-Contractor reasons) - Short-term idling | | | | | | |
| 10 | G1_Work stoppage or access restrictions (non-Contractor reasons) - Long-term delay | | | | | | |
| 11 | G2_Work stoppage or access restrictions (non-Contractor reasons) - Long-term delay | | | | | | |
| 12 | G3_Work stoppage or access restrictions (non-Contractor reasons) - Long-term delay | | | | | | |
| 13 | G1_Forest fire near/on current or past construction site (major fire) - short-term idling | | | | | | |
| 14 | G2_Forest fire near/on current or past construction site (major fire) - short-term idling | | | | | | |
| 15 | G3_Forest fire near/on current or past construction site (major fire) - short-term idling | | | | | | |

HATCH

# Project Event Risks Ranges – 2/4

| No. | Risk Event - Category 2 | % Probability | | Cost Risk | | | Notes |
|---|---|---|---|---|---|---|---|
| | | Will Happ | Will Not Happe | Min | ML | Max | |
| 16 | G1_Forest fire near/on current or past construction site (major fire) - crew shifting | [redacted] | | | | | |
| 17 | G2_Forest fire near/on current or past construction site (major fire) - crew shifting | | | | | | |
| 18 | G3_Forest fire near/on current or past construction site (major fire) - crew shifting | | | | | | |
| 19 | G1(Design)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 20 | G2(Design)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 21 | G3(Design)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 22 | G1(Material)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 23 | G2(Material)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 24 | G3(Material)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 25 | G1(Const.)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 26 | G2(Const)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 27 | G3(Const)_Higher than expected valid contractor change order (not covered in other risk items) | | | | | | |
| 28 | G1_Potential archaeological findings (Major) | | | | | | |
| 29 | G2_Potential archaeological findings (Major) | | | | | | |
| 30 | G3_Potential archaeological findings (Major) | | | | | | |

HATCH

# Project Event Risks Ranges – 3/4

| No. | Risk Event - Category 2 | % Probability | | Cost Risk | | | Notes |
|---|---|---|---|---|---|---|---|
| | | Will Happ | Will Not Happe | Min | ML | Max | |
| 31 | G1_Unmanageable submittals schedule of contractor | [redacted] | | | | | |
| 32 | G2_Unmanageable submittals schedule of contractor | | | | | | |
| 33 | G3_Unmanageable submittals schedule of contractor | | | | | | |
| 34 | G1_Onerous conditions for permits or approvals | | | | | | |
| 35 | G2_Onerous conditions for permits or approvals | | | | | | |
| 36 | G3_Onerous conditions for permits or approvals | | | | | | |
| 37 | G1_Change in line route | | | | | | |
| 38 | G2_Change in line route | | | | | | |
| 39 | G3_Change in line route | | | | | | |
| 40 | G1_Change in sub-station location | | | | | | |
| 41 | G2_Change in sub-station location | | | | | | |
| 42 | G3_Change in sub-station location | | | | | | |
| 43 | G1_Change in line route - [Owner permitting cost] | | | | | | |
| 44 | G2_Change in line route - [Owner's permitting cost] | | | | | | |
| 45 | G3_Change in line route - [Owner's permitting cost] | | | | | | |
| 46 | G1_HONI-HORCI delays in commissioning | | | | | | |
| 47 | G2_HONI-HORCI delays in commissioning | | | | | | |
| 48 | G3_HONI-HORCI delays in commissioning | | | | | | |
| 49 | G1_Delay in Watay permits (e.g. Water crossings) that cause Contractor delays | | | | | | |
| 50 | G2_Delay in Watay permits (e.g. Water crossings) that cause Contractor delays | | | | | | |
| 51 | G3_Delay in Watay permits (e.g. Water crossings) that cause Contractor delays | | | | | | |

# Project Event Risks Ranges – 4/4

| No. | Risk Event - Category 2 | % Probability | | Cost Risk | | | Notes |
|---|---|---|---|---|---|---|---|
| | | Will Happ | Will Not Happe | Min | ML | Max | |
| 52 | G1_Error in LiDAR data | [redacted] | | | | | |
| 53 | G2_Error in LiDAR data | | | | | | |
| 54 | G3_Error in LiDAR data | | | | | | |
| 55 | G1_Idling of Skycrane helicopter due to non-Contractor reasons | | | | | | |
| 56 | G2_Idling of Skycrane helicopter due to non-Contractor reasons | | | | | | |
| 57 | G3_Idling of Skycrane helicopter due to non-Contractor reasons | | | | | | |
| 58 | G1_Long-term stranded cranes due to non-Contractor reasons | | | | | | |
| 59 | G2_Long-term stranded cranes due to non-Contractor reasons | | | | | | |
| 60 | G3_Long-term stranded cranes due to non-Contractor reasons | | | | | | |
| 61 | G1_Major forest fire (impacting full group) | | | | | | |
| 62 | G2_Major forest fire (impacting full group) - inadequate provision in Contingency Category-1 | | | | | | |
| 63 | G3_Major forest fire (impacting full group) - inadequate provision in Contingency Category-1 | | | | | | |

HATCH

# Notes

1. COVID-19 impacts are not included in the above QRA.
2. Cost items that are already being included in the forecast or in the Change Orders are not included in this QRA.
3. Any Owner initiated schedule compressions are not included in the above QRA.
4. Any Owner initiated work stoppages are not included in the above QRA.
5. Extra works (not directly required for the Project) but may have to be executed (e.g. All-season roads where not required for Project construction) are not included.
6. Pre-existing contaminations at locations other than Pickle Lake are not included. Low probability.
7. Future changes in CSA specifications are not included. [Not applicable retroactively; but can be considered, if occurs].
8. Owner cost due to project delays are not included.
9. Valard has issued notice related to access issues in the Whitefeather Forest area. The corresponding impacts are not included.
10. Group-1 is mostly completed and that is accounted for in the analysis.
11. Crew strengths and camp costs are increased to account for the increased number of work fronts expected to be active; and the activity-types (e.g. stringing) which require more personnel.

HATCH

# Recommendations and Next Steps

- Recommendations are as follows:
  - Total project contingency to be calculated as the sum of Owner's cost contingency, EPC Cost Contingency Category 1 and EPC Cost Contingency Category 2.
  - Regular QRA assessments and updates during the course of Project.

HATCH

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# Attachment 2

## Wataynikaneyap Power Transmission Project COVID-19 Risks
## August 10, 2022

# Wataynikaneyap Power Transmission Project

## Quantitative Risk Analysis (QRA) Results



August 10, 2022

[COVID-19 Risks Only for Project EPC Cost]

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HATCH

# Project Risk Events (COVID-19 Risks only) for Contingency Category-2

## Contingency for COVID Risks :

- P50 Contingency: [redacted]
- P99 Contingency: [redacted]

## Risk Ranges:

| No. | Risk Event | Will Happen | Will Not Happen | Min | ML | Max | Notes |
|---|---|---|---|---|---|---|---|
| C1 | COVID-19 Vaccination costs - July to December 2022 | [redacted] | | | | | |
| C2 | COVID-19 Testing costs - July to December 2022 | | | | | | |
| C3 | COVID-19 Quarantine costs - July to December 2022 | | | | | | |
| C4 | COVID-19 Variable costs (productivity only) - July to December 2022 | | | | | | |
| C5 | COVID-19 Variable costs (excluding productivity) - July to December 2022 | | | | | | |
| C6 | COVID-19 Vaccination costs - January to June 2023 | | | | | | |
| C7 | COVID-19 Testing costs - January to June 2023 | | | | | | |
| C8 | COVID-19 Quarantine costs - January to June 2023 | | | | | | |
| C9 | COVID-19 Variable costs (productivity only) - January to June 2023 | | | | | | |
| C10 | COVID-19 Variable costs (excluding productivity) - January to June 2023 | | | | | | |

| Percentile | Contingency |
|---|---|
| 1% | [redacted] |
| 5% | |
| 10% | |
| 15% | |
| 20% | |
| 25% | |
| 30% | |
| 35% | |
| 40% | |
| 45% | |
| 50% | |
| 55% | |
| 60% | |
| 65% | |
| 70% | |
| 75% | |
| 80% | |
| 85% | |
| 90% | |
| 95% | |
| 99% | |

HATCH

# Notes

1. Only variable costs are considered.
2. Cost for major delays are not considered.
3. Potential credit for early resolution of COVID-19 impacts on flight costs are not considered.

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**BOARD STAFF - 09**

**Reference:** Exhibit B / Tab 1 / Schedule 4 / page 13

**Preamble:** WPLP states that further to the ongoing inspection, maintenance and emergency response procurement process, to satisfy the immediate need for 24/7 control operations, WPLP is in the process of negotiating an agreement for Hydro One Networks Inc. to provide control room services for an interim period until such time that WPLP develops its own control room.

**Question(s):**

a) Please advise when the control room services are expected to come into service.

b) What is the expected duration and annual cost of the interim control room services?

c) When does WPLP anticipate having its own control room in service?

---

**Response:**

a) The control room service agreement with HONI was executed on August 18, 2022, with an effective service date of August 18, 2022.

b) The initial term of the agreement runs until December 31, 2022. The agreement shall thereafter be automatically renewed for successive periods of one year upon the same terms and conditions. The annual cost of the interim control room service is determined based on a number of factors: (1) Circuit Kilometers Operated, (2) Auto-Transformers included, (3) Transformers Operated, and (4) Network Management System ("NMS") Points associated with equipment. For the 2023 Test Year, the estimated cost of interim control services is $3.12 million as provided for in Table 2 - 2023 OM&A Cost Drivers (Exhibit F-2-1).

c) WPLP has not set a fixed date for having its own control room.

**BOARD STAFF - 10**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 3

**Preamble:** WPLP cost categories include EPC-Contract costs (including incremental construction costs related to COVID-19), Non-EPC Capital costs, overhead costs, direct O&M costs, and contingency costs. Through a changing order process, these costs are updated to reflect changes impacting the overall project execution. In reference to incremental COVID-19 costs, change orders and contingency costs:

**Question(s):**

a) Please explain how these costs are categorized, identified, and accounted for to avoid duplication.

b) Please elaborate on the contingency costs and how these costs are identified.

---

**Response:**

a) WPLP has a robust budgeting, forecasting and accounting process to ensure its costs are identified, categorized, and accounted for in a manner that avoids duplication. WPLP uses SAP (System Applications and Products in Data Processing), Docusign and Ipas (to track and categorize costs) software to manage these processes. In addition, these software packages are subject to internal audit and SAP processes are also tested as a part of WPLP's external audit. The costs are accounted for as follows:

- EPC-Contract Costs are provided from the EPC Contractor and are subject to the terms and conditions of the EPC Contract. To the extent there are realized incremental EPC-Contract Costs they are captured via a change order. The executed change order allocates the costs to the appropriate cost categories within the EPC Contract.

- Non-EPC Capital Costs are incurred directly by WPLP and are not included in the EPC Contract. When incurring Non-EPC Capital Costs, WPLP may procure the relevant services through Valard via a change order to minimize costs. In those circumstances, WPLP separately tracks the Non-EPC Capital Costs incurred from Valard and allocates the costs to the appropriate Non-EPC Capital Costs to ensure the costs are categorized, identified, and accounted for without duplication.

- Non-EPC Costs (overhead costs, direct O&M costs) are incurred by WPLP, either directly or indirectly through WPPM or OSLP, and are tracked accordingly to avoid

duplication. These costs follow WPLP's robust, bottom-up budgeting approach with process controls reviewed by internal audit.

- Contingency utilization is determined through a comprehensive risk management system that tracks all known project risks. WPLP assigns a provisional value to a project risk once any such risk is determined to be the responsibility of WPLP. To the extent the utilization of a contingency is realized, the cost is tracked within the applicable cost category noted above. To the extent the contingency utilization has not been realized, WPLP separately tracks the contingency utilization and allocates the contingency to EPC-Contract Costs or Non-EPC Capital Costs, as appropriate, to ensure the costs are categorized, identified, and accounted for without duplication.

b) WPLP has implemented a comprehensive risk management system to track all known project risks. WPLP identifies project risks through: (1) Contractor Change Requests submitted by the Contractor (where Contractor is requesting a change), (2) Contemplated Change Order provided by WPLP (where WPLP is requesting a change), or (3) by internally (but not officially communicated to Valard via a Contemplated Change Order) identifying risks that have not been identified through a Contractor Change Request or Contemplated Change Order. Once a risk is identified to be WPLP's responsibility, WPLP, with assistance from its Owner's Engineer, Hatch, assigns a provisional monetary value to a project risk. WPLP and Hatch meet bi-weekly to review the provisional values and make adjustments based on the best available information. When a change order is executed, or the costs are incurred, WPLP adjusts the provisional value to reflect actual costs. WPLP does not record reductions in project costs unless a Change Order is executed pursuant to the EPC contract.

**BOARD STAFF - 11**

**Reference:** Exhibit B / Tab 1 / Schedule 2 / pages 11-12

**Preamble:** In the context of Independent Power Authorities (IPAs), WPLP states that target completion dates for all construction activities and other transfer requirements and conditions are aligned with the target in-service dates for each community. WPLP further states that Asset Transfer Agreements and Section 28 (2) permits will be finalized on a rolling basis in parallel with the completion of those activities for each community.

**Question(s):**

a) Please provide an update on the timing of when the Asset Transfer Agreements and Section 28(2) permits will be finalized. Please also explain whether there is any risk these items will not be finalized prior to the scheduled in-service dates for the IPA communities. If so, please outline the potential implications of such a risk materializing.

b) Are there any other outstanding items, including permits and approvals required, that may impact the timing of the construction of the Transmission System? If so, please specify which ones and the expected timeframe for acquiring them.

---

**Response:**

a) As indicated in Exhibit B-1-2, pp. 11-12, the conversion of the IPA communities is outside the scope of WPLP's responsibility. WPLP nevertheless monitors the progress of the IPA conversions through OSLP, and reports provided by Indigenous Services Canada. WPLP is not aware of any risk items that will not be finalized prior to the scheduled in-service dates for the IPA communities. Attachment 1 hereto is a copy of the most recent IPA update, which has been provided by Indigenous Services Canada. The attached IPA update includes the best information available.

b) WPLP is not aware of any outstanding items, such as permits or approvals, that may impact the timing of the construction of the Transmission System.

# Attachment 1

## ISC IPA Upgrades and Transfer Projects Report

# Status Update: Watay Project Parallel Process Projects
## September 2022

## IPA Upgrades & Transfer Projects

Overview: In six communities currently serviced by Independent Power Authorities (IPA), bring local distribution (Dx) systems up to provincial standards, construct Compound (C) sites for Hydro One Remote Communities Inc. (REMOTES), collection customer information for REMOTES, and execute Transfer Agreements and permits.

| COMMUNITY | PROJECT ACTIVITIES AND STATUS | | | | | OVERALL STATUS |
|---|---|---|---|---|---|---|
| | DESIGN, TENDER & PRE-CONSTRUCTION | CONSTRUCTION | CUSTOMER INFO COLLECTION | AGREEMENTS / PERMITS (✓ Executed) | GRID CONNECTION DATE*** | |
| **Wunnumin** | ✓ | Dx: ESA** inspected (passed); project close-out underway<br>C: substantial completion targeted fall 2022 | Underway | Transfer Agreement<br>28(2) permit | May 2023 | ✓ **On track** |
| **Muskrat Dam** | ✓ | Dx: ESA inspected (passed); project close-out underway<br>C: substantial completion targeted fall 2022 | Forthcoming | ✓ MNRF Land Use Permit (C)<br>Transfer Agreement<br>28(2) Permit (Dx) | June 2023 | ✓ **On track** |
| **Wawakapewin** | ✓ | Dx: ESA inspected (passed); project close-out underway<br>C&H: substantial completion targeted fall 2022 | Forthcoming | Transfer Agreement<br>28(2) permit | July 2023 | ✓ **On track** |
| **Poplar Hill** | ✓ | Dx: ESA inspected (passed); project close-out underway<br>C: substantial completion targeted fall 2022 | Underway | ✓ MNRF Land Use Permit (C)<br>Transfer Agreement<br>28(2) Permit (Dx) | April 2024 | ✓ **On track** |
| **North Spirit Lake** | ✓ | Dx: ESA inspected (passed); project close-out underway<br>C: Substantially complete | Forthcoming | Transfer Agreement<br>28(2) permit | July 2024 | ✓ **On track** |
| **Keewaywin** | ✓ | Dx: ESA inspected; minor deficiencies being addressed<br>C: Substantially complete | Forthcoming | Transfer Agreement<br>28(2) permit | August 2024 | ✓ **On track** |

***Connection dates are from Watay Power's semi-annual update to the OEB in June 2022 https://www.rds.oeb.ca/CMWebDrawer/Record?q=casenumber:EB-2022-0149&sortBy=recRegisteredOn-&pageSize=400#form1

Green = Complete / Yellow = Underway / Red = To be completed
GCDOCS # 87251332

**BOARD STAFF - 12**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / pages 8-10

**Preamble:** EPC costs for transmission line facilities are $18.3 million higher when compared with WPLP's 2022 rate application forecast, while EPC costs for station facilities are $6.4 million higher.

WPLP states that the difference is attributable to executed and expected change orders related to forest fire impacts and route changes for the remainder of the construction period.

**Question(s):**

a) Please provide a breakdown of the increase in EPC costs associated with the transmission line facilities and station facilities separately for the Line to Pickle Lake and the Remote Connection Lines. Below is a sample template to provide the information.

| | Total Variance($000s) | Variance Attributable to Forest Fire Impacts | Variance Attributable to Route Changes |
|---|---|---|---|
| **Transmission Line Facilities- Line to Pickle Lake** | **1,861** | | |
| **Transmission Line Facilities- Remote Connection Lines** | **16,434** | | |
| **Station Facilities- Line to Pickle Lake** | **1,783** | | |
| **Station Facilities- Remote Connection Lines** | **4,612** | | |

b) What steps did WPLP and its Owner's Engineer take to satisfy themselves that the increase in EPC costs for transmission line facilities are appropriate? Please also provide any available reports that discuss or analyze the cost increases.

c) For each of the 10 transmission line sections going into service in 2023, please provide in table format the 2022 rate application as amended estimate compared to the current cost forecast. For any transmission line segments with cost increases of more than 5%, please briefly explain the reasons for the cost increase and whether it is related to forest fire impacts, route changes or other factors.

d) What steps did WPLP and its Owner's Engineer take to satisfy themselves that the increase in EPC costs for station facilities are appropriate? Please also provide any available reports that discuss or analyze the cost increases.

e) For each of the 5 stations going into service in 2023, please provide in table format the 2022 rate application as amended estimate compared to the current cost forecast. For stations with cost increases of more than 5%, please briefly explain the reasons for the cost increase and whether it is related to forest fire impacts, route changes or other factors.

---

**Response:**

a) Please see table below with the breakdown of the increase in EPC costs associated with the transmission line facilities and station facilities. Please note part of this response is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

| | **Total Variance** | **Forest Fire Impacts** | **Route Changes** | **Additional Scope** | **Design Changes** |
|---|---|---|---|---|---|
| **Transmission Line Facilities- Line to Pickle Lake** | **1,861** | [redacted] | | | |
| **Transmission Line Facilities- Remote Connection Lines** | **16,434** | | | | |
| **Station Facilities- Line to Pickle Lake** | **1,783** | | | | |
| **Station Facilities- Remote Connection Lines** | **4,612** | | | | |
| **Total** | **24,690** | | | | |

b) Consistent with the process described in Staff-10(b), the increase in EPC costs for transmission line facilities was initially considered through WPLP's risk management process. WPLP with assistance from its Owner's Engineer, Hatch, analyzed the risk to

determine the provisional value, and subsequently requested that Valard provide change order details as required under the EPC Contract. Once received, WPLP with assistance from Hatch utilized the unit pricing included in the EPC Contract and their previous experience to determine if the costs were reasonable. To the extent the risks were not identified by Valard or Valard did not provided an estimate, WPLP with the assistance of Hatch used unit pricing in the contract and their past experience to determine the proper value.

Attachment 1 contains all available reports completed by Hatch to support the cost increases to transmission line facilities provided in response (a) above. The forest fire report attached therein, is applicable to cost increases for both transmission line and substation facilities. Please note that portions of Attachment 1 is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

c) The following table compares EPC costs between the 2022 rate application as amended and the current forecast for the 10 transmission lines coming into service in 2023.

| **Asset Designation** | **Description** | **EPC Costs** | | **Variance ($000)** | |
|---|---|---|---|---|---|
| | | **2022 Rate Application as Amended** | **Current Cost Forecast** | | |
| Line WJK | 115 kV - Kingfisher Lake TS to Wawakapewin TS | [redacted] | | -1% | |
| Line WK1 (25kV) | 25 kV - Wawakapewin TS to HORCI Wawakapewin | | | 0% | |
| Line DE | 115 kV - North Caribou Lake TS to Muskrat Dam TS | | | 16% | (A) |
| Line E1 (25kV) | 25 kV - Muskrat Dam TS to HORCI Muskrat Ram | | | 17% | (B) |
| Line EF | 115 kV - Muskrat Dam TS to Bearskin Lake TS | | | 0% | |
| Line F1 (25kV) | 25 kV - Bearskin Lake TS to HORCI Bearskin Lake | | | 0% | |
| Line JI | 44 kV - Kingfisher TS to Wunnumin TS | | | 2% | |
| Line I1 (25kV) | 25 kV - Wunnumin TS to HORCI Wunnumin | | | 1% | |
| Line KL | 44 kV - Wawakapewin TS to Kasabonika TS | | | 2% | |
| Line L1 (25kV) | 25 kV - Kasabonika TS to HORCI Kasabonika | | | 0% | |
| | | | | **5%** | |

(A) This is a community driven route change (structure 195-substation E). The change was

made to address environmental concerns with the initial route and to allow for a potential community road in future, located within the initial right of way.

(B) This is a community driven route change to the 25kV segment to accommodate community road locations near the initial right of way.

For additional information on route changes please refer to OEB Staff IR 3 (e).

d) The response to (b), above, also applies to the increase in EPC costs for station facilities.

Attachment 2 contains copies of the available reports that discuss or analyze the referenced cost increases related to substation facilities. Please refer to the forest fire report provided in response to part (b), above, as applicable to the substation facilities cost increase. Please note that Attachment 2 is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

e) The following table compares EPC costs between the 2022 rate application as amended and the current forecast for the 5 stations coming into service in 2023.

| **Asset Designation** | **Description** | **EPC Costs** | | **Variance ($000)** |
|---|---|---|---|---|
| | | **2022 Rate Application as Amended** | **Current Cost Forecast** | |
| Station E | Muskrat Dam TS | [redacted] | | 1% |
| Station F | Bearskin Lake TS | | | 2% |
| Station K | Wawakapewin TS | | | 0% |
| Station I | Wunnumin Lake TS | | | 1% |
| Station L | Kasabonika Lake TS | | | 1% |
| | | | | **1%** |

# Attachment 1

# Hatch's Reports re Transmission Line Facilities

# Wataу Power

## Cost Reviews for – Summer 2021 Forest Fire Claim-1

## [ for July 11 to August 18, 2021]

ᐊ·Uσbσᑦ Wataynikaneyap Power

**November 19, 2021 [Rev-C]**

HATCH

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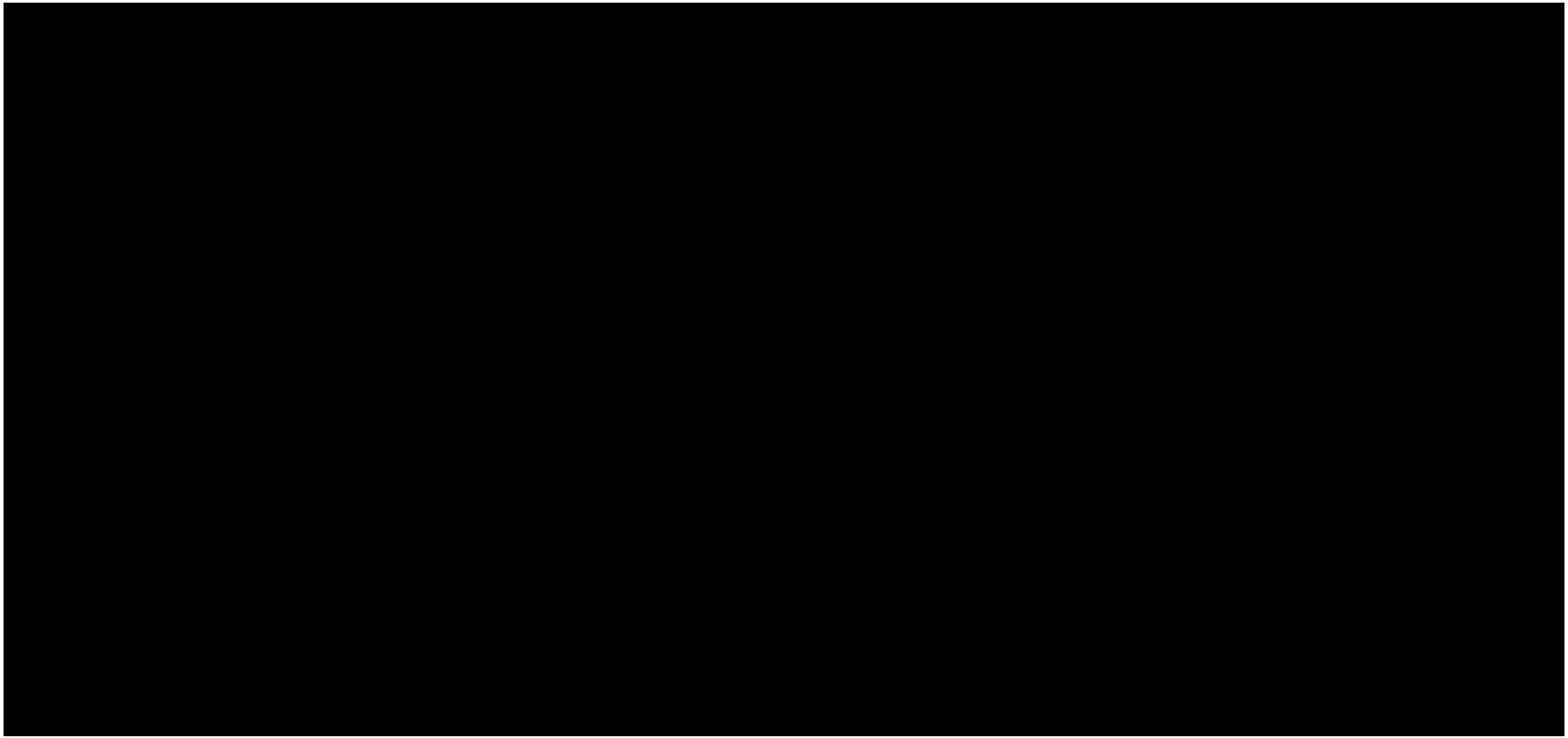

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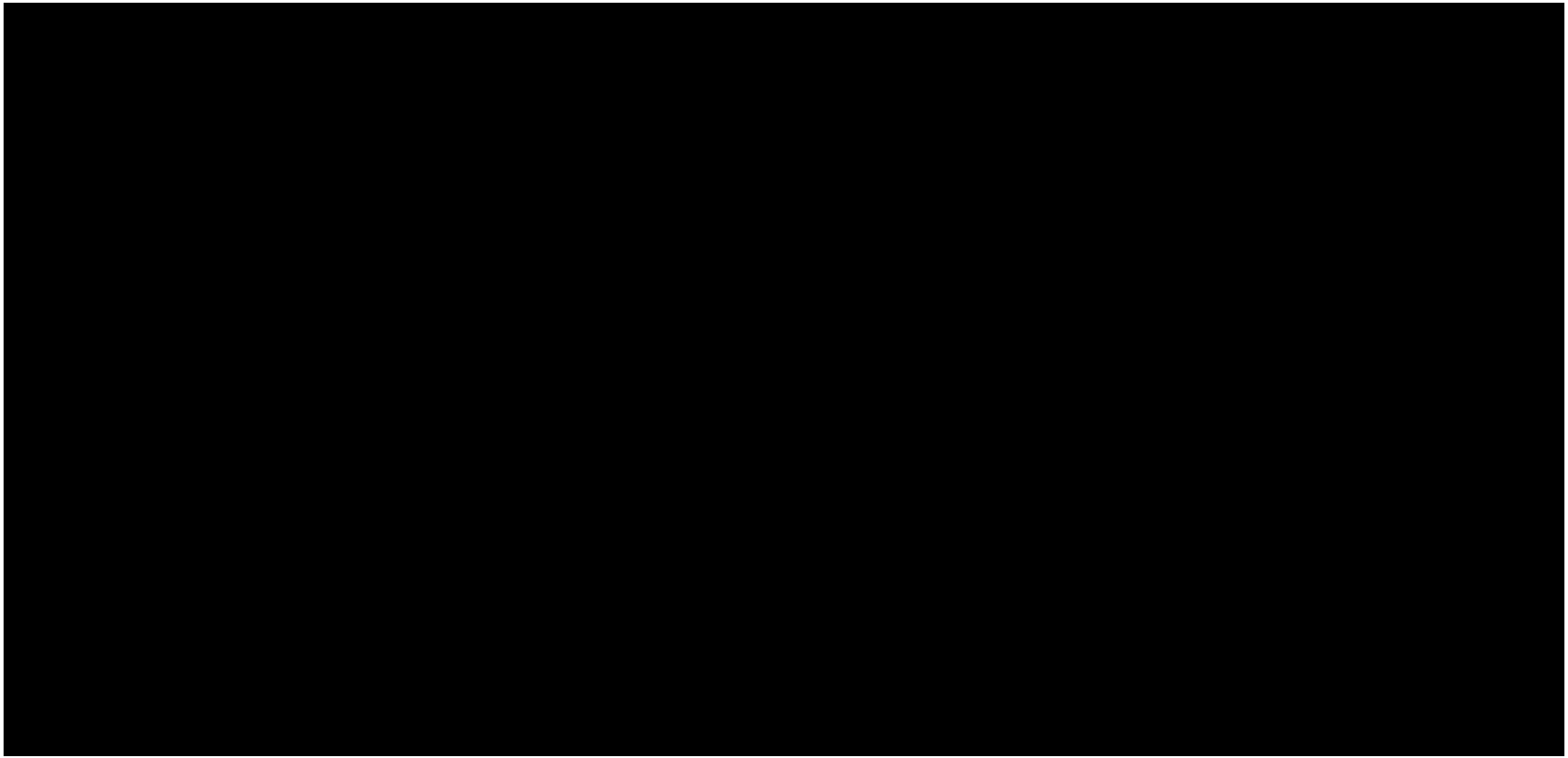

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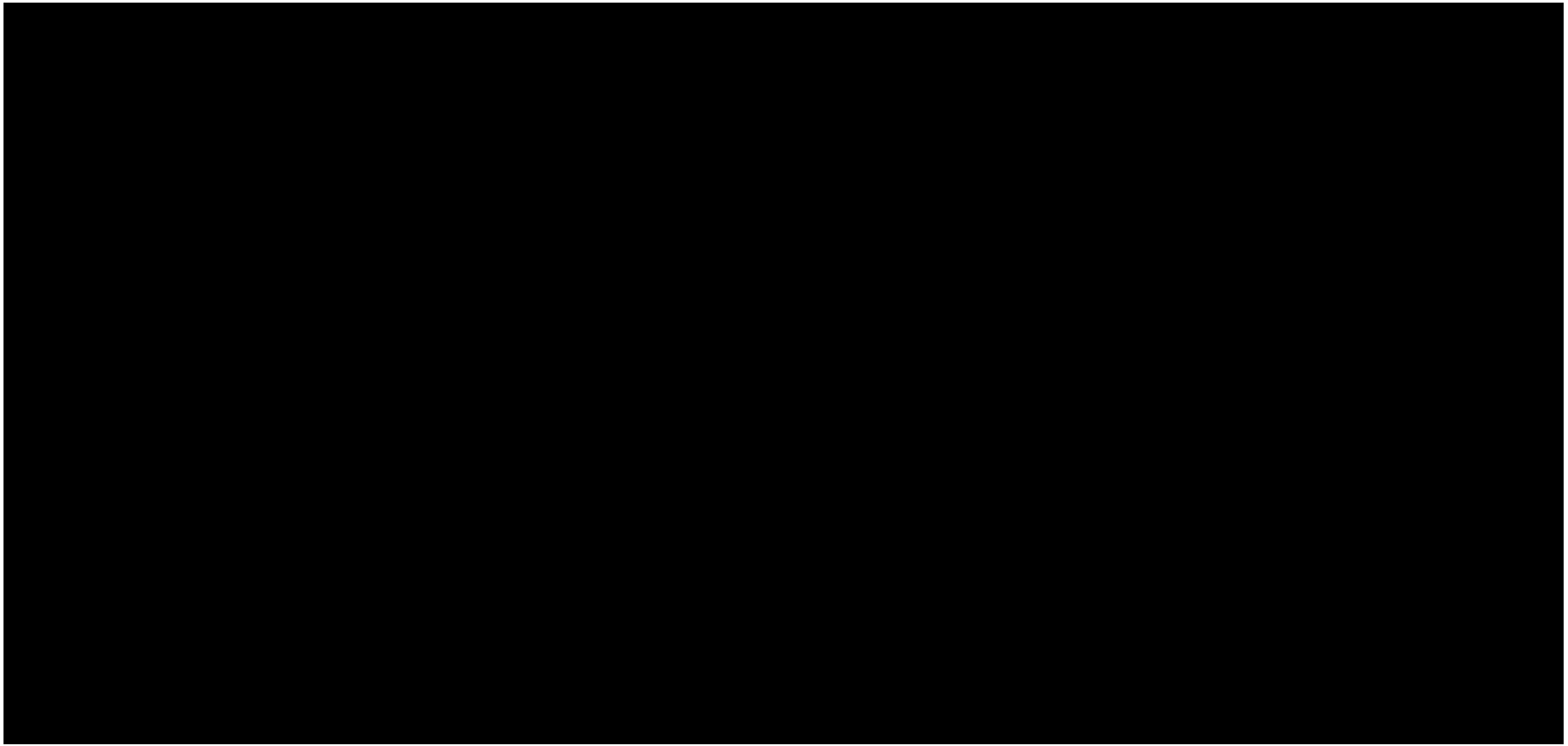

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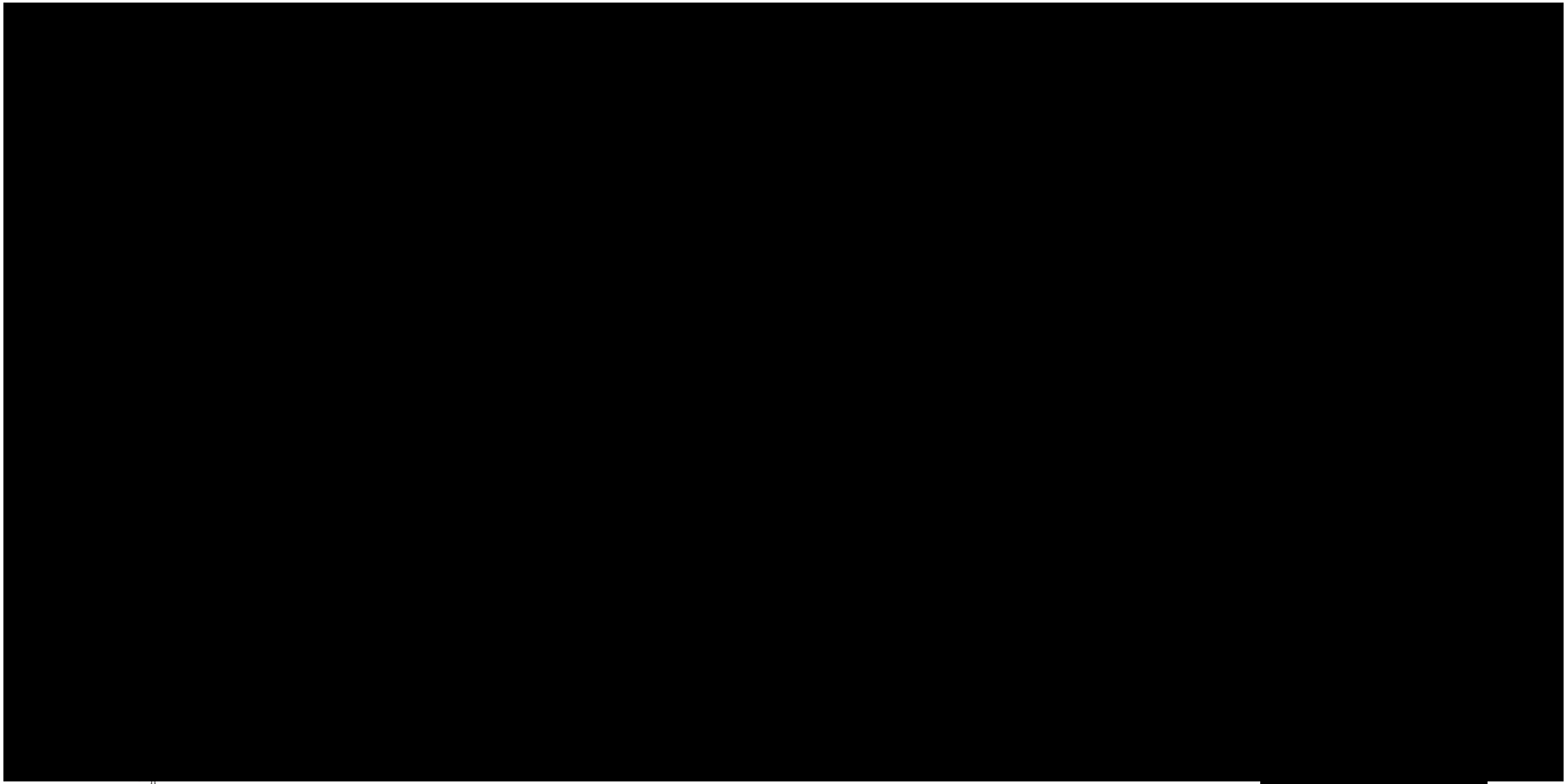

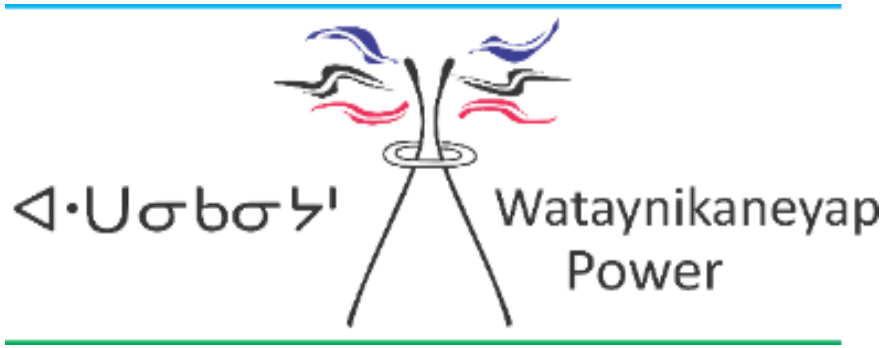


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Wataynikaneyap
Power

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## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | ID-18 |
| RFI Number | RFI-0169 |
| Segment | JI |

**Previous Alignment Proposed by Valard**

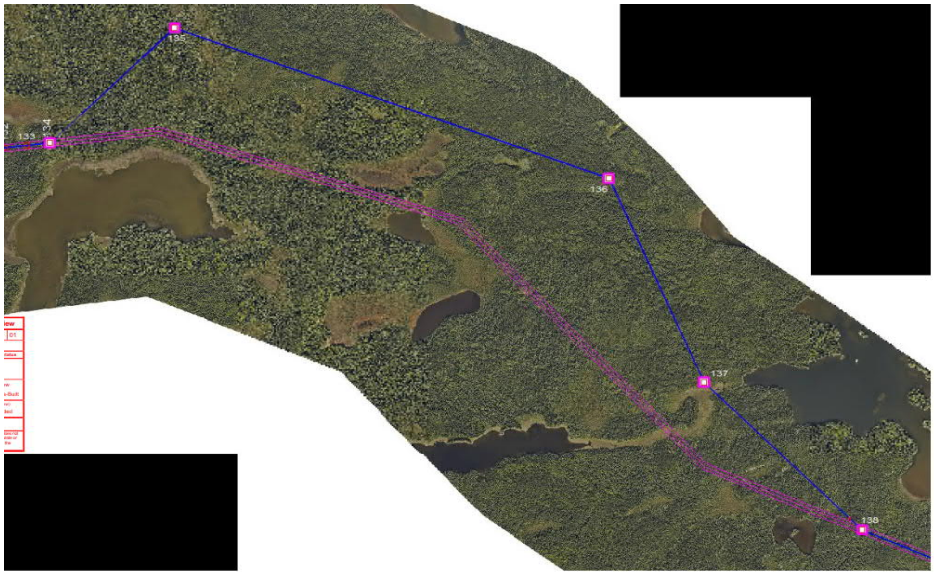
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| A-frame 1 | A-frame | 707181.197 | 5878978.462 | 267.024 | 44.96 | | |
| 1 | H-frame DDE | 707308.057 | 5878962.488 | 269 | 127.86 | 13.08 | |
| 2 | Tangent | 707418.874 | 5878948.533 | 269.063 | 111.69 | | |
| 3 | Tangent | 707531.119 | 5878934.399 | 270.019 | 113.13 | | |
| 4 | Tangent | 707650.828 | 5878919.325 | 268.571 | 120.65 | | |
| 5 | Tangent | 707754.977 | 5878906.21 | 268.295 | 104.97 | | |
| 6 | Tangent | 707899.191 | 5878888.051 | 269.417 | 145.35 | | |
| 7 | Tangent | 708014.818 | 5878873.491 | 270.591 | 116.54 | | |
| 8 | Tangent | 708156.88 | 5878855.602 | 268.894 | 143.18 | | |
| 9 | Tangent | 708291.586 | 5878838.639 | 271.554 | 135.77 | | |
| 10 | Tangent | 708380.849 | 5878827.399 | 272.305 | 89.97 | 17.43 | |

| Item | Description | Unit | Qty | Material/ Equipment | Construction | Unit Total | Total |
|---|---|---|---|---|---|---|---|
| C.1 | Clearing RoW | km | 4.8303 | | | | |
| C.2 | Timber management of above | km | 2.9711 | | | | |
| C.5 | Clearing off-RoW access | km | 0.0729 | | | | |
| C.7 | ROW Management | Lump sum | 0.0911 | | | | |
| D.1 | Winter-only Access | km | 5.1493 | | | | |
| D.4 | Trail | km | 4.9853 | | | | |
| D.11 | Access road gates | EA | 1.1028 | | | | |
| D.12 | Signage | EA | 11.0277 | | | | |
| | Lump sum Total for D | | | | | | |
| *F.14* | Average Pole Foundation | Str. | 40 | | | | |
| *F.15* | Avearge Anchor | Anchor | 18 | | | | |
| *H.1* | 44-SP-TANG | Str. | 37 | | | | |
| *H.4* | 44-SP-HADE | Str. | 3 | | | | |
| *J.1* | Counterpoise | km | 5.0126 | | | | |
| *J.4* | 1-pole structure | Str | 40 | | | | |
| *M.1* | OPGW&ADSS accessories - Vibration Damper | EA | 80 | | | | |
| N.1c | Conductor Stringing 44kV - 477 ACSR Hawk | cct-km | 5.0126 | | | | |
| P.1b | OPGW Stringing 44kV - 96 fibre | km | 5 | | | | |

## Re-Alignment Vs Previous Alignment Proposed By Wataу

| Re-Alignment-Proposed by Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| A-frame 1 | A-frame | | | | 44.96 | | |
| 1 | H-frame DDE | 707308.057 | 5878962.488 | 269 | 147 | 13.08 | |
| 2 | Light angle (l) | 707418.874 | 5878948.533 | 269.063 | 111.69 | -13.08 | |
| 3 | Tangent | 707531.119 | 5878934.399 | 270.019 | 113.13 | | |
| 4 | Tangent | 707650.828 | 5878919.325 | 268.571 | 120.65 | | |
| 5 | Tangent | 707754.977 | 5878906.21 | 268.295 | 104.97 | | |
| 6 | Tangent | 707899.191 | 5878888.051 | 269.417 | 145.35 | | |
| 7 | Tangent | 708014.818 | 5878873.491 | 270.591 | 116.54 | | |
| 8 | Tangent | 708156.88 | 5878855.602 | 268.894 | 143.18 | | |
| 9 | Tangent | 708291.586 | 5878838.639 | 271.554 | 135.77 | | |
| 10 | Tangent | 708380.849 | 5878827.399 | 272.305 | 89.97 | 17.43 | |
| 11 | Light angle (R) | | | | 125.84 | | |

| Item | Description | Unit | Qty | Material/ Equipment | Construction | Unit Total | Total |
|---|---|---|---|---|---|---|---|
| A.1 | Design and Engineering | Lump sum | 0 | [redacted] | | | |
| C.1 | Clearing RoW | km | 6 | | | | |
| C.2 | Timber management of above | km | 3 | | | | |
| C.5 | Clearing off-RoW access | km | 0 | | | | |
| C.7 | ROW Management | Lump sum | 0 | | | | |
| D.1 | Winter-only Access | km | 6 | | | | |
| D.4 | Trail | km | 6 | | | | |
| D.11 | Access road gates | EA | 1 | | | | |
| D.12 | Signage | EA | 13 | | | | |
| *F.14* | Average Pole Foundation | Str. | 46 | | | | |
| *F.15* | Avearge Anchor | Anchor | 30 | | | | |
| *H.1* | 44-SP-TANG | Str. | 41 | | | | |
| *H.4* | 44-SP-HADE | Str. | 5 | | | | |
| *J.1* | Counterpoise | km | 5.7705 | | | | |
| *J.4* | 1-pole structure | Str | 46 | | | | |
| *M.1* | OPGW&ADSS accessories - Vibration Damper | EA | 92 | | | | |
| N.1c | Conductor Stringing 44kV - 477 ACSR Hawk | cct-km | 5.7705 | | | | |
| P.1b | OPGW Stringing 44kV - 96 fibre | km | 5.7705 | | | | |
| | | | | | | | |
| | | | | | | | |



# Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 26 |
| RFI Number | RFI-0322 |
| Segment | EF |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting Centerline (m) | Y Northing Centerline (m) | Z Elevation Centerline (m) | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 152 | 57012.574 | 627544.644 | 5973580.211 | 242.82 | 423.255 | | W1A |
| 153 | 57435.829 | 627918.492 | 5973778.66 | 239.904 | 363.909 | | W1A |
| 154 | 57799.738 | 628239.923 | 5973949.284 | 236.434 | 393.84 | | W1A |
| 155 | 58193.578 | 628587.79 | 5974133.941 | 231.082 | 404.926 | | W1A |
| 156 | 58598.504 | 628945.449 | 5974323.796 | 242.424 | 327.785 | | W1B |
| 157 | 58926.289 | 629234.971 | 5974477.483 | 251.483 | 305.712 | -74.1339 | W1E |
| 158 | 59232.001 | 629170.917 | 5974776.409 | 236.288 | 381.77 | | W1A |
| 159 | 59613.771 | 629090.927 | 5975149.705 | 232.334 | 405.42 | | W1A |
| 160 | 60019.191 | 629005.982 | 5975546.126 | 238.693 | 340.971 | | W1A |
| 161 | 60360.162 | 628934.54 | 5975879.529 | 236.566 | 346.091 | | W1A |
| 162 | 60706.253 | 628862.025 | 5976217.938 | 233.987 | 282.485 | | W1A |
| 163 | 60988.737 | 628802.838 | 5976494.152 | 231.704 | 279.005 | 52.1546 | W1E |

## Coste Estimate-Previous Alignment

| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 4.3 | [redacted] |
| Access | | | per Str | 12 | |
| Foundation (W1A) | Normal Instalation | | per Str | 9 | |
| Foundation (W1B) | Normal Instalation | | per Str | 1 | |
| Foundation (W1C) | Normal Instalation | | per Str | | |
| Foundation (W1D) | Normal Instalation | | per Str | | |
| Foundation (W1E) | Normal Instalation | | per Str | 2 | |
| Foundation Heli (W1A) | | | per Str | | |
| Foundation Heli (W1B) | | | per Str | | |
| Foundation Heli (W1C) | | | per Str | | |
| Foundation Heli (W1D) | | | per Str | | |
| Foundation Heli (W1E) | | | per Str | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 9 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 2 | |
| Str. Assembly Heli (W1A) | | | per Str | | |
| Str. Assembly Heli (W1B) | | | per Str | | |
| Str. Assembly Heli (W1C) | | | per Str | | |
| Str. Assembly Heli (W1D) | | | per Str | | |
| Str. Assembly Heli (W1E) | | | per Str | | |
| Grounding | | | per Str | 12 | |
| Dampers | | | per Str | 12 | |
| OPGW Accessories | | | per Str | 12 | |
| OPGW Installation & Testing | | | per km | 4.3 | |
| Conductor Installation | | | per km | 4.3 | |
| Structure Accessories | | | per Str | 12 | |
| Total | | | | Total= | |

**Previous Alignment Provided By Valard**

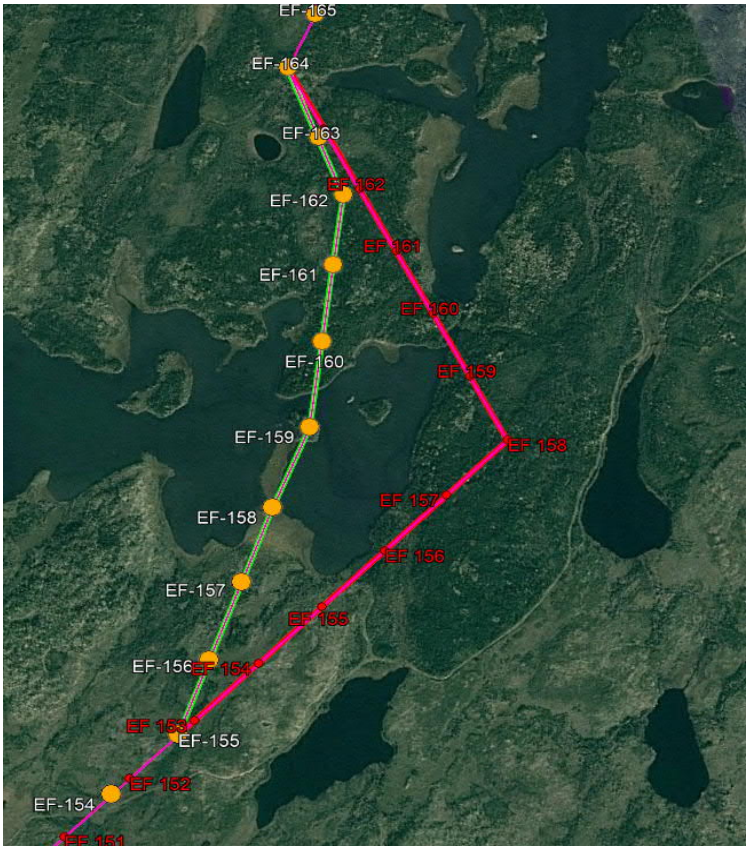
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z | Ahead Span (m) | Line Angle (deg) | Structure |
|---|---|---|---|---|---|---|---|
| CEF-155 | 57080.515 | 627544.306 | 5973580.02 | 242.824 | 352.279 | -26.096 | W1D |
| CEF-156 | 57432.794 | 627751.089 | 5973865.224 | 237.084 | 375.162 | | W1A |
| CEF-157 | 57807.956 | 627971.304 | 5974168.954 | 229.923 | 364.387 | | W1A |
| CEF-158 | 58172.343 | 628185.194 | 5974463.96 | 229.802 | 403.049 | 2.3357 | W1D |
| CEF-159 | 58575.392 | 628434.88 | 5974780.354 | 231.466 | 407.541 | -15.3729 | W1D |
| CEF-160 | 58982.933 | 628593.505 | 5975155.757 | 230.716 | 370.241 | | W1A |
| CEF-161 | 59353.174 | 628737.612 | 5975496.802 | 229.908 | 343.282 | | W1A |
| CEF-162 | 59696.095 | 628871.085 | 5975812.681 | 234.344 | 308.941 | -28.6547 | W1C |
| CEF-163 | 60004.673 | 628840.177 | 5976119.708 | 235.913 | 376.142 | | W1A |
| CEF-164 | 60386.283 | 628802.502 | 5976493.958 | 231.66 | 289.006 | 45.8086 | W1E |

## Coste Estimate-Re-Alignment

| Item | Tower Type | Average Price | Unit | Quantity | Cost | Column1 |
|---|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 3.6 | [redacted] | |
| Access | | | per Str | 10 | | |
| Foundation (W1A) | Normal Instalation | | per Str | 5 | | |
| Foundation (W1B) | Normal Instalation | | per Str | | | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | | |
| Foundation (W1D) | Normal Instalation | | per Str | 3 | | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | | |
| Foundation Heli (W1A) | | | per Str | | | |
| Foundation Heli (W1B) | | | per Str | | | |
| Foundation Heli (W1C) | | | per Str | | | |
| Foundation Heli (W1D) | | | per Str | | | |
| Foundation Heli (W1E) | | | per Str | | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 5 | | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | | | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 3 | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | | |
| Str. Assembly Heli (W1A) | | | per Str | | | |
| Str. Assembly Heli (W1B) | | | per Str | | | |
| Str. Assembly Heli (W1C) | | | per Str | | | |
| Str. Assembly Heli (W1D) | | | per Str | | | |
| Str. Assembly Heli (W1E) | | | per Str | | | |
| Grounding | | | per Str | 10 | | |
| Dampers | | | per Str | 10 | | |
| OPGW Accessories | | | per Str | 10 | | |
| OPGW Installation & Testing | | | per km | 3.6 | | |
| Conductor Installation | | | per km | 3.6 | | |
| Structure Accessories | | | per Str | 10 | | |
| Total | | | | Total= | | |
| Cost Difference | | | | | | |

Note:

[redacted]



## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 24 |
| RFI Number | RFI-0305 & RFI-202 |
| Segment | QR |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting Centerline (m) | Y Northing Centerline (m) | Z Elevation Centerline (m) | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 2 | 83.592 | 442425.393 | 5735852.63 | 343.775 | 132.929 | -44.7939 | W1D |
| 3 | 216.521 | 442555.057 | 5735881.911 | 341.657 | 244.237 | 8.4498 | W1B |
| 4 | 460.759 | 442798.615 | 5735900.119 | 340.129 | 225.181 | 5.1832 | W1B |
| 5 | 685.939 | 443023.767 | 5735896.551 | 338.995 | 225.18 | | W1A |
| 6 | 911.12 | 443248.919 | 5735892.984 | 338.165 | 312.612 | -11.506 | W1B |
| 7 | 1223.732 | 443556.198 | 5735950.48 | 334.329 | 335.893 | -27.7046 | W1C |
| 8 | 1559.625 | 443819.789 | 5736158.673 | 337.643 | 210.583 | | W1A |
| 9 | 1770.208 | 443985.044 | 5736289.196 | 339.998 | 244.882 | -32.5938 | W1D |
| 10 | 2015.09 | 444065.187 | 5736520.592 | 349.369 | 226.085 | 26.8585 | W1D |

**Coste Estimate-Previous Alignment**

| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| Access | | [redacted] | per Str | | [redacted] |
| Foundation (W1A) | Normal Instalation | | per Str | 2 | |
| Foundation (W1B) | Normal Instalation | | per Str | 3 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | 3 | |
| Foundation (W1E) | Normal Instalation | | per Str | | |
| Foundation Heli (W1A) | | | per Str | | |
| Foundation Heli (W1B) | | | per Str | | |
| Foundation Heli (W1C) | | | per Str | | |
| Foundation Heli (W1D) | | | per Str | | |
| Foundation Heli (W1E) | | | per Str | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | | |
| Str. Assembly Heli (W1A) | | | per Str | | |
| Str. Assembly Heli (W1B) | | | per Str | | |
| Str. Assembly Heli (W1C) | | | per Str | | |
| Str. Assembly Heli (W1D) | | | per Str | | |
| Str. Assembly Heli (W1E) | | | per Str | | |
| Grounding | | | per Str | | |
| Dampers | | | per Str | | |
| OPGW Accessories | | | per Str | | |
| OPGW Installation & Testing | | | per km | 1.972 | |
| Conductor Installation | | | per km | 1.972 | |
| Structure Accessories | | | per Str | 9 | |
| **Total** | | | | **Total=** | |

| Previous Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| | | | | | | | |
| 1 | 116.147 | 442463.005 | 5735841.151 | 342.739 | 305.579 | -37.0333 | W1E |
| 2 | 421.726 | 442768.049 | 5735859.228 | 339.758 | 307.089 | | W1A |
| 3 | 728.815 | 443074.6 | 5735877.394 | 339.681 | 317.544 | | W1A |
| 4 | 1046.359 | 443391.588 | 5735896.178 | 277.25 | 263.652 | -22.2309 | W1D |
| 5 | 1310.012 | 443629.314 | 5736010.191 | 334.677 | 287.17 | -12.5358 | W1D |
| 6 | 1597.182 | 443855.119 | 5736187.614 | 338.299 | 164.606 | | W1A |
| 7 | 1761.788 | 443984.551 | 5736289.313 | 340.009 | 245.222 | -32.7386 | W1D |
| 8 | 2006.67 | 444064.694 | 5736520.709 | 349.346 | 226.426 | 26.8586 | W1C |

## Coste Estimate-Re-Alignment

| Item | Tower Type | Average Price | Unit | Quantity | Cost | |
|---|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 1.969 | [redacted] | |
| Access | | | per Str | | | |
| Foundation (W1A) | Normal Instalation | | per Str | 3 | | |
| Foundation (W1B) | Normal Instalation | | per Str | | | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | | |
| Foundation (W1D) | Normal Instalation | | per Str | 3 | | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | | |
| Foundation Heli (W1A) | | | per Str | | | |
| Foundation Heli (W1B) | | | per Str | | | |
| Foundation Heli (W1C) | | | per Str | | | |
| Foundation Heli (W1D) | | | per Str | | | |
| Foundation Heli (W1E) | | | per Str | | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 3 | | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | | | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 3 | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | | |
| Str. Assembly Heli (W1A) | | | per Str | | | |
| Str. Assembly Heli (W1B) | | | per Str | | | |
| Str. Assembly Heli (W1C) | | | per Str | | | |
| Str. Assembly Heli (W1D) | | | per Str | | | |
| Str. Assembly Heli (W1E) | | | per Str | | | |
| Grounding | | | per Str | | | |
| Dampers | | | per Str | | | |
| OPGW Accessories | | | per Str | | | |
| OPGW Installation & Testing | | | per km | 1.97 | | |
| Conductor Installation | | | per km | 1.969 | | |
| Structure Accessories | | | per Str | | | |
| Total | | | | Total= | | |
| Cost Difference | | | | | | |

**Note:**

This estimate has been revised according to the following informatino provided byValard;

[redacted]

| Cost Estimate Comparison_Route Change | |
|---|---|
| Register ID | 8 |
| RFI Number | RFI- |
| Segment | AB |

## 1. Previous Route Alignment Provided by Valard

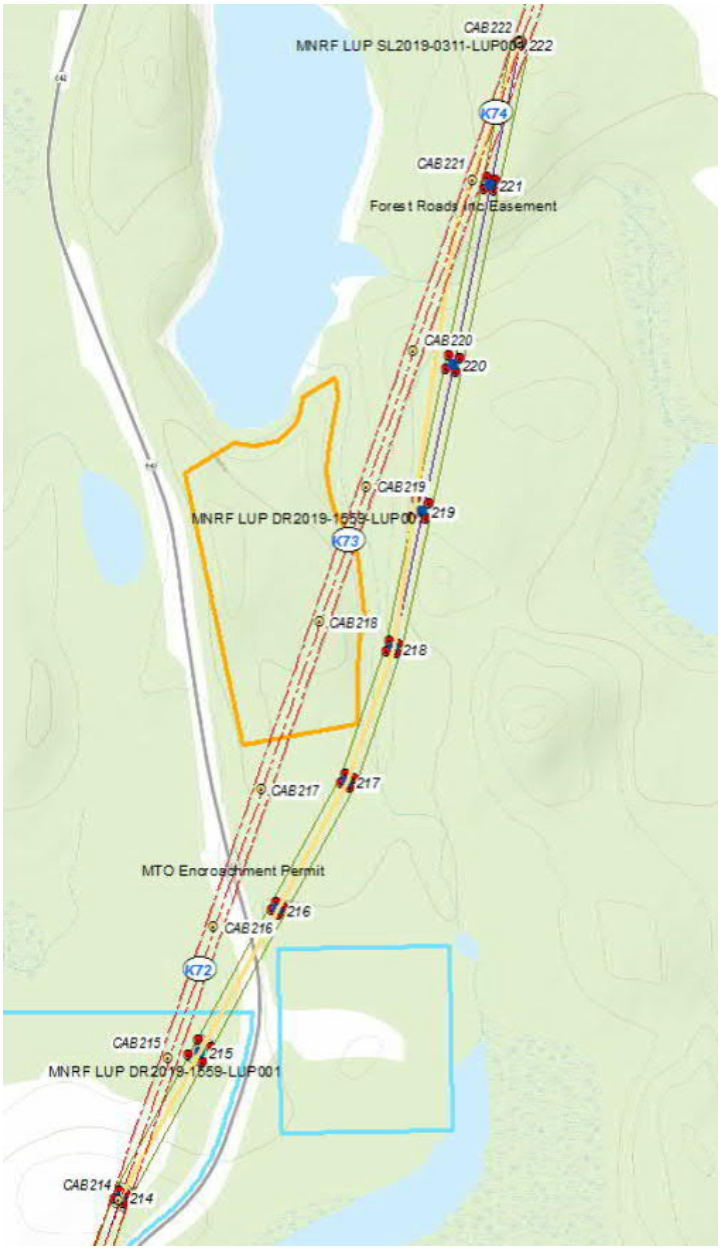
| Previous Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| CAB213 | K71.1 | 593794.74 | 5540466.79 | 361.53 | | | W2A |
| CAB214 | K71.5 | 593920.04 | 5540805.91 | 331.25 | | | W2A |
| CAB215 | K71.8 | 594034.84 | 5541116.63 | 307.23 | | | W2A |
| CAB216 | K72.1 | 594141.31 | 5541404.83 | 320.15 | | | W2A |
| CAB217 | K72.4 | 594252.27 | 5541705.14 | 392.02 | | | W2A |
| CAB218 | K72.8 | 594388.13 | 5542072.87 | 315.46 | | | W2A |
| CAB219 | K73.1 | 594497.46 | 5542368.78 | 315.99 | | | W2A |
| CAB220 | K73.5 | 594606.97 | 5542665.19 | 400.51 | | | W2A |
| CAB221 | K73.9 | 594745.77 | 5543040.87 | 317.75 | | | W2A |
| CAB222 | K74.2 | 594855.89 | 5543338.93 | | | | W2D |

| Coste Estimate-Previous Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | | [redacted] |
| Access | | | per Str | 10 | |
| Foundation W2A | W2A | | per Str | 9 | |
| Foundation W2B | W2B | | per Str | | |
| Foundation W2D/W2E | W2D | | per Str | 1 | |
| Foundation W2D/W2E | W2E | | per Str | | |
| Str. Assembly W2A | W2A | | per Str | 9 | |
| Str. Assembly W2B | W2B | | per Str | | |
| Str. Assembly W2D | W2D | | per Str | 1 | |
| Str. Assembly W2E | W2E | | per Str | | |
| Grounding | | | per Str | 10 | |
| Dampers | | | per Str | 10 | |
| OPGW Accessories | | | per Str | 10 | |
| OPGW Installation & Testing | | | per km | | |
| Conductor Installation | | | per km | | |
| Structure Accessories | | | per Str | 10 | |
| | | | | Total | |

## 2. Re-Alignment Provided By Hatch

| Re-Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| CAB213 | | 593794.742 | 5540466.79 | 370.62 | | | W2A |
| CAB214 | | 593923.186 | 5540814.44 | 350.94 | 9.9106 | | W2B |
| CAB215 | | | | 350.94 | | | W2A |
| CAB216 | | | | 350.94 | | | W2A |
| CAB217 | | 594452.588 | 5541724.48 | 310.76 | -10.2092 | | W2B |
| CAB218 | | 594558.767 | 5542016.54 | 304.56 | -11.0301 | | W2B |
| CAB219 | | 594700.889 | 5542919.09 | 304.56 | | | W2A |
| CAB220 | | 594855.891 | 5543338.93 | 304.56 | | | W2A |
| CAB221 | | 5542919.093 | | 223.77 | 11.3154 | | W2B |
| CAB221A | | | | 223.77 | | | W2D |
| CAB222 | | 5543338.927 | | | | | |

Re-Alignment Provided By Valard



| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 0.0 | [redacted] |
| Access | | | per Str | 10 | |
| Foundation W2A | W2A | | per Str | 5 | |
| Foundation W2B | W2B | | per Str | 4 | |
| Foundation W2D/W2E | W2D | | per Str | 1 | |
| Foundation W2D/W2E | W2E | | per Str | | |
| Str. Assembly W2A | W2A | | per Str | 5 | |
| Str. Assembly W2B | W2B | | per Str | 4 | |
| Str. Assembly W2D | W2D | | per Str | 1 | |
| Str. Assembly W2E | W2E | | per Str | | |
| Grounding | | | per Str | 10 | |
| Dampers | | | per Str | 10 | |
| OPGW Accessories | | | per Str | 10 | |
| OPGW Installation & Testing | | | per km | 0.0 | |
| Conductor Installation | | | per km | 0.0 | |
| Structure Accessories | | | per Str | 10 | |
| | | | | Total | |
| | | | | Cost Difference | |

## 3. Cost Comparison

[redacted]

# Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 9 |
| RFI Number | RFI-0331 |
| Segment | EG |

Previous Alignment Provided By Valard

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 189 | 72629.36 | 543165.692 | 5971993.918 | 280.623 | 316.676 | | W1A |
| 190 | 72946.036 | 543325.738 | 5972267.174 | 283.407 | 326.34 | | W1A |
| 191 | 73272.376 | 543490.668 | 5972548.769 | 282.11 | 389.968 | 1.6768 | W1A |
| 192 | 73662.343 | 543697.517 | 5972879.357 | 276.871 | 373.794 | | W1A |
| 193 | 74036.138 | 543895.788 | 5973196.234 | 265.534 | 422.244 | | W1A |
| 194 | 74458.382 | 544119.758 | 5973554.183 | 270.785 | 400.074 | | W1A |
| 195 | 74858.455 | 544331.967 | 5973893.337 | 275.341 | 353.91 | | W1A |
| 196 | 75212.365 | 544519.691 | 5974193.358 | 280.774 | 378.063 | | W1A |
| 197 | 75590.428 | 544720.225 | 5974513.853 | 282.556 | 379.38 | | W1A |
| 198 | 75969.808 | 544921.459 | 5974835.465 | 288.952 | 357.614 | | W1A |
| 199 | 76327.423 | 545111.147 | 5975138.626 | 288.945 | 337.673 | -14.0473 | W1B |
| 200 | 76665.095 | 545215.421 | 5975459.796 | 278.548 | 372.966 | | W1A |
| 201 | 77038.061 | 545330.593 | 5975814.533 | 279.36 | 311.759 | | W1A |
| 202 | 77349.82 | 545426.865 | 5976111.056 | 279.621 | 328.295 | | W1A |
| 203 | 77678.116 | 545528.243 | 5976423.306 | 275.511 | 330.796 | 26.3225 | W1C |
| 204 | 78008.912 | 545759.315 | 5976660.016 | 278.176 | 338.252 | | W1A |
| 205 | 78347.164 | 545995.596 | 5976902.061 | 269.98 | 313.204 | 47.8114 | W1E |
| 206 | 78660.367 | 546308.585 | 5976890.469 | 269.119 | 342.496 | | W1A |
| 207 | 79002.863 | 546650.847 | 5976877.794 | 268.229 | 345.13 | | W1A |
| 208 | 79347.994 | 546995.74 | 5976865.021 | 270.388 | 348.561 | | W1A |
| 209 | 79696.555 | 547344.063 | 5976852.121 | 269.333 | 276 | | W1A |
| 210 | 79972.555 | 547619.874 | 5976841.906 | 268.861 | 291 | 52.3073 | W1E |
| 211 | 80263.555 | 547789.155 | 5976605.21 | 267.74 | 385.966 | | W1A |
| 212 | 80649.522 | 548013.68 | 5976291.27 | 266.793 | 395.188 | | W1A |
| 213 | 81044.709 | 548243.569 | 5975969.829 | 265.793 | 368.275 | | W1A |
| 214 | 81412.985 | 548457.803 | 5975670.278 | 263.854 | 392.48 | -10.762 | W1B |
| 215 | 81805.465 | 548741.713 | 5975399.287 | 262.69 | 362.255 | | W1A |
| 216 | 82167.72 | 549003.758 | 5975149.166 | 260.658 | 360.938 | | W1A |
| 217 | 82528.658 | 549264.851 | 5974899.954 | 257.117 | 366.207 | | W1A |
| 218 | 82894.865 | 549529.756 | 5974647.103 | 259.297 | 352.47 | | W1A |
| 219 | 83247.335 | 549784.723 | 5974403.738 | 259.703 | 408.195 | -4.477 | W1B |
| 220 | 83655.53 | 550101.1 | 5974145.806 | 261.126 | 397.822 | | W1A |
| 221 | 84053.352 | 550409.436 | 5973894.428 | 259.8 | 408.338 | | W1A |
| 222 | 84461.69 | 550725.924 | 5973636.405 | 257.558 | 422.925 | -14.1887 | W1B |

| Coste Estimate-Previous Alignment | | | | | |
|---|---|---|---|---|---|
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 12.26 | [redacted] |
| Access | | | per Str | 34 | |
| Foundation (W1A) | Normal Instalation | | per Str | 27 | |
| Foundation (W1B) | Normal Instalation | | per Str | 4 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | | |
| Foundation (W1E) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 27 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 4 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 2 | |
| Grounding | | | km | 12.26 | |
| Dampers | | | per Str | 34 | |
| OPGW Accessories | | | per Str | 34 | |
| OPGW Installation & Testing | | | per km | 12.26 | |
| Conductor Installation | | | per km | 12.26 | |
| Structure Accessories | | | per Str | 34 | |
| | | | | Total= | |

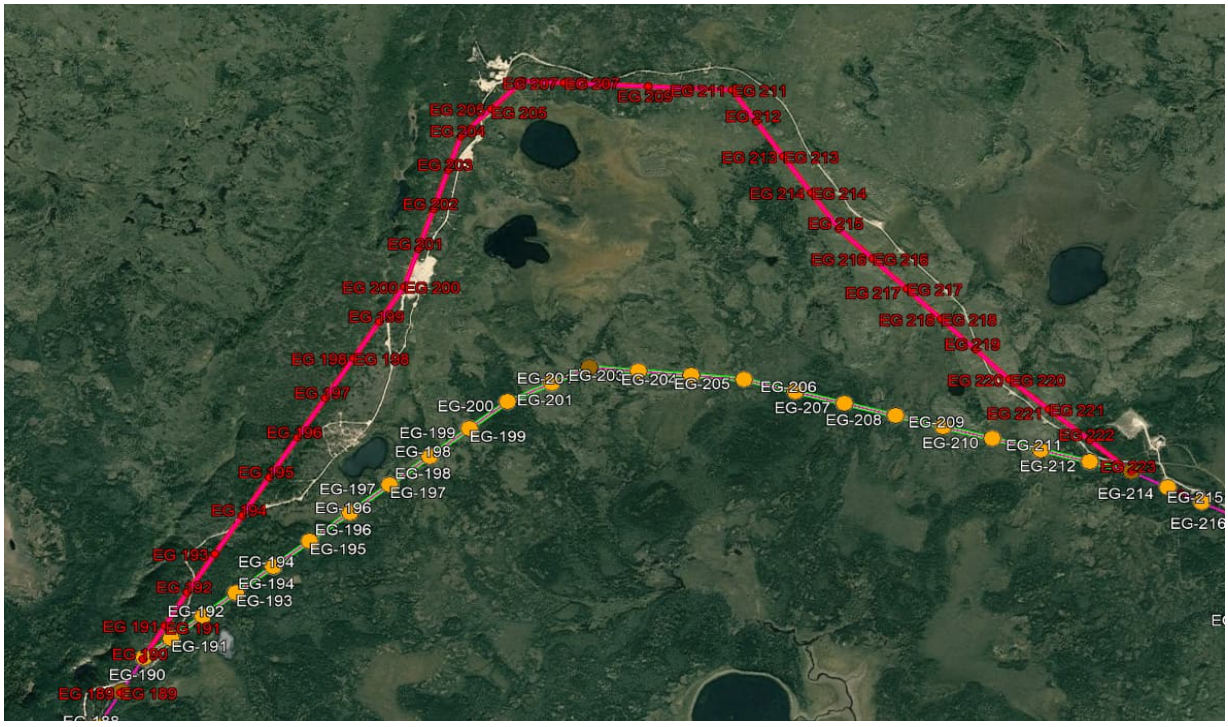
| Re-alignment Provided by Valard on 2020-11-17 for Re-route 3 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| 190 | 73322.193 | 543167.768 | 5971997.92 | 280.632 | 262.631 | 21.2695 | W1C |
| 191 | 73584.552 | 543373.454 | 5972160.787 | 282.751 | 305.596 | | W1A |
| 192 | 73890.148 | 543613.037 | 5972350.495 | 286.418 | 315.299 | | W1A |
| 193 | 74205.447 | 543860.227 | 5972546.225 | 269.489 | 358.594 | | W1A |
| 194 | 74564.041 | 544141.36 | 5972768.833 | 268.44 | 347.177 | | W1A |
| 195 | 74911.218 | 544413.542 | 5972984.353 | 264.149 | 391.459 | | W1A |
| 196 | 75302.677 | 544720.441 | 5973227.362 | 258.972 | 383.301 | | W1A |
| 197 | 75685.978 | 545020.943 | 5973465.307 | 259.537 | 389.688 | | W1A |
| 198 | 76075.666 | 545326.453 | 5973707.216 | 260.742 | 384.374 | | W1A |
| 199 | 76460.04 | 545627.797 | 5973945.827 | 261.607 | 370.204 | | W1A |
| 200 | 76830.243 | 545918.032 | 5974175.642 | 263.928 | 375.1 | 12.9887 | W1B |
| 201 | 77205.344 | 546256.917 | 5974336.442 | 262.054 | 318.474 | | W1A |
| 202 | 77523.818 | 546544.644 | 5974472.968 | 260.831 | 378.946 | 29.7363 | W1D |
| 203 | 77902.764 | 546922.497 | 5974444.212 | 261.579 | 409.191 | | W1A |
| 204 | 78311.955 | 547330.508 | 5974413.161 | 260.504 | 408.135 | | W1A |
| 205 | 78720.089 | 547737.466 | 5974382.191 | 257.622 | 408.345 | 9.6648 | W1B |
| 206 | 79128.435 | 548133.653 | 5974283.287 | 259.72 | 390.972 | | W1A |
| 207 | 79519.407 | 548512.984 | 5974188.59 | 257.189 | 408.427 | | W1A |
| 208 | 79927.834 | 548909.249 | 5974089.667 | 255.14 | 377.718 | | W1A |
| 209 | 80305.552 | 549275.721 | 5973998.181 | 255.297 | 391.125 | | W1A |
| 210 | 80696.677 | 549655.2 | 5973903.448 | 255.879 | 384.488 | | W1A |
| 211 | 81081.165 | 550028.24 | 5973810.322 | 256.042 | 388.778 | | W1A |
| 212 | 81469.943 | 550405.442 | 5973716.157 | 259.939 | 329.948 | | W1A |
| 213 | 81799.891 | 550725.566 | 5973636.242 | 257.563 | 309.091 | 10.9838 | W1B |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 8.79 | [redacted] |
| Access | | | per Str | 24 | |
| Foundation (W1A) | Normal Instalation | | per Str | 19 | |
| Foundation (W1B) | Normal Instalation | | per Str | 3 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | 1 | |
| Foundation (W1E) | Normal Instalation | | per Str | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 19 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | | |
| Grounding | | | per km | 8.79 | |
| Dampers | | | per Str | 24 | |
| OPGW Accessories | | | per Str | 24 | |
| OPGW Installation & Testing | | | per km | 8.79 | |
| Conductor Installation | | | per km | 8.79 | |
| Structure Accessories | | | per Str | 24 | |
| | | | | Total= | |
| | | | | Difference | |

-221914.5

3. Cost Comparison

[redacted]



## Cost Estimate Comparison-Route Change

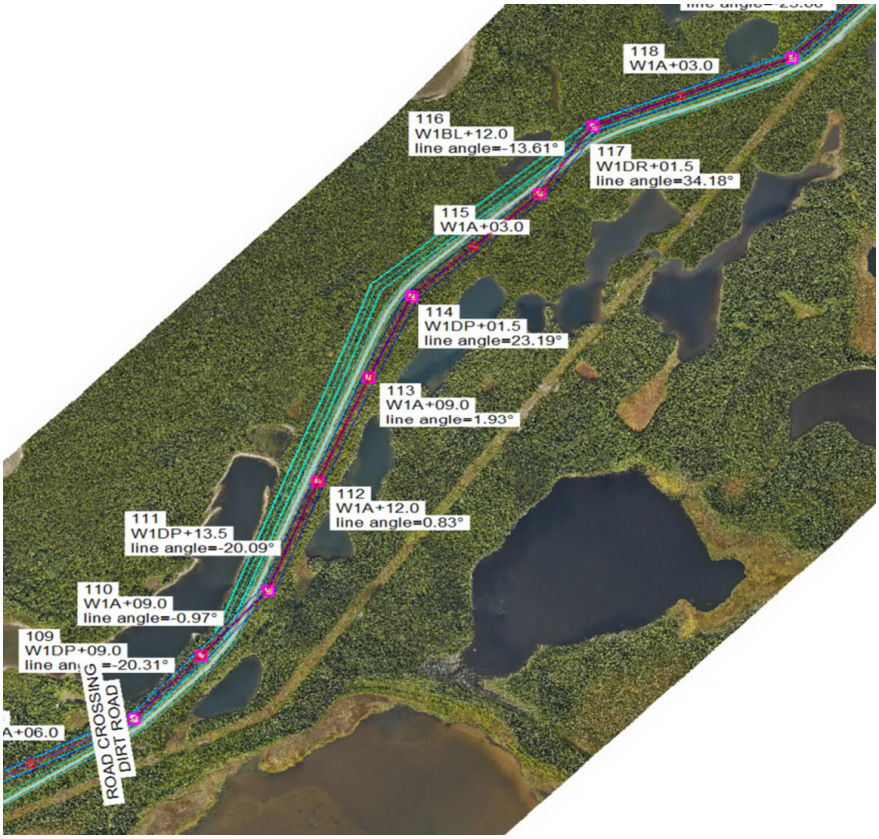
| | |
|---|---|
| Register ID | 50 (CCR-033) |
| RFI Number | RFI-0201 |
| Segment | BC |

| Previous Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| | | | | | | | |
| WBC-110 | | | | | 251 | 21.35 | W1D |
| WBC-111 | | | | | 340 | | W1A |
| WBC-112 | | | | | 296 | | W1A |
| WBC-113 | | | | | 233 | 0 | W1A |
| WBC-114 | | | | | 207 | 29.39 | W1D |
| WBC-115 | | | | | 273 | - | W1A |
| WBC-116 | | | | | 323 | | W1A |
| WBC-117 | | | | | 292 | 18.72 | W1D |

| Coste Estimate-Previous Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 2.5 | [redacted] |
| Access | | | per Str | 8 | |
| Foundation (W1A) | W1A | | per Str | 5 | |
| Foundation (W1B) | W1B | | per Str | 0 | |
| Foundation (W1D/W1E) | W1D | | per Str | 3 | |
| Foundation (W1D/W1E) | W1E | | per Str | 0 | |
| Str. Assembly (W1A) | W1A | | per Str | 5 | |
| Str. Assembly (W1B) | W1B | | per Str | 0 | |
| Str. Assembly (W1D) | W1D | | per Str | 3 | |
| Str. Assembly (W1E) | W1E | | per Str | 0 | |
| Grounding | | | per Str | 8 | |
| Dampers | | | per Str | 8 | |
| OPGW Accessories | | | per Str | 8 | |
| OPGW Installation & Testing | | | per km | 2.5 | |
| Conductor Installation | | | per km | 2.5 | |
| Structure Accessories | | | per Str | 8 | |
| | | | | Total | |

| Re-Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| | | | | | | | |
| WBC-110 | 40564.495 | 345.606 | 345.606 | 133.38 | 309.937 | - | W1A |
| WBC-111 | 40874.432 | 348.795 | 348.795 | 123.63 | 410.933 | -19.503 | W1D |
| WBC-112 | 41285.365 | 351.667 | 351.667 | 113.88 | 399 | - | W1A |
| WBC-113 | 41684.365 | 357.041 | 357.041 | 113.88 | 316.222 | 0 | W1A |
| WBC-114 | 42000.587 | 362.593 | 362.593 | 126.32 | 260.018 | 24.887 | W1D |
| WBC-115 | 42260.605 | 358.789 | 358.789 | 138.77 | 278.948 | - | W1A |
| WBC-116 | 42539.553 | 358.249 | 358.249 | 131.96 | 289.783 | -13.609 | W1B |
| WBC-117 | 42829.336 | 360.335 | 360.335 | 142.25 | 298.027 | 34.179 | W1D |

Re-Alignment Vs Previous Alignment Provided by Valard




| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | | per km | 2.6 | |
| Access | | | per Str | 8 | |
| Foundation (W1A) | W1A | | per Str | 4 | |
| Foundation (W1B) | W1B | | per Str | 1 | |
| Foundation (W1D/W1E) | W1D | | per Str | 3 | |
| Foundation (W1D/W1E) | W1E | | per Str | 0 | |
| Str. Assembly (W1A) | W1A | | per Str | 4 | |
| Str. Assembly (W1B) | W1B | | per Str | 1 | |
| Str. Assembly (W1D) | W1D | | per Str | 3 | |
| Str. Assembly (W1E) | W1E | | per Str | 0 | |
| Grounding | | | per Str | 8 | |
| Dampers | | | per Str | 8 | |
| OPGW Accessories | | | per Str | 8 | |
| OPGW Installation & Testing | | | per km | 2.6 | |
| Conductor Installation | | | per km | 2.6 | |
| Structure Accessories | | | per Str | 8 | |
| | | | | Total | |
| | | | | Cost Difference | |

Note:

1) Valard has not provided original structure list with RFI. The originlal structure list is from the below structure list

| | |
|---|---|
| Job Name: | Wataynikaneyap Power Transmission Project |
| Subject: | Structure List |
| Drawing Number: | E353781-LBC01-230-250-0001 |
| Coordinate System: | UTM15N |
| Horizontal Datum: | NAD83 |
| Date: | 11/19/2019 |

# Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 47 (part of CCR-034) |
| RFI Number | RFI-0223 |
| Segment | CD |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| CCD-305 | 111493.98 | 611179.977 | 5852009.63 | 289.416 | 414.114 | 30.7153 | W1D |
| CCD-306 | 111908.094 | 611422.911 | 5852345 | 289.731 | 379.351 | 0 | W1A |
| CCD-307 | 112287.445 | 611645.452 | 5852652.22 | 293.269 | 418.986 | 0 | W1A |
| CCD-308 | 112706.431 | 611891.244 | 5852991.54 | 290.439 | 430.152 | 0 | W1A |
| CCD-309 | 113136.583 | 612143.587 | 5853339.9 | 292.433 | 424.112 | 0 | W1A |
| CCD-310 | 113560.695 | 612392.386 | 5853683.36 | 293.963 | 426.892 | 0 | W1A |
| CCD-311 | 113987.587 | 612642.816 | 5854029.08 | 291.644 | 431.471 | 0 | W1A |
| CCD-312 | 114419.058 | 612895.933 | 5854378.51 | 293.645 | 373.435 | 0 | W1A |
| CCD-313 | 114792.493 | 613115.003 | 5854680.94 | 303.306 | 334.64 | 0 | W1A |
| CCD-314 | 115126.89 | 613310.155 | 5854952.78 | 300.688 | 343.892 | 19.0233 | W1C |

## Coste Estimate-Previous Alignment

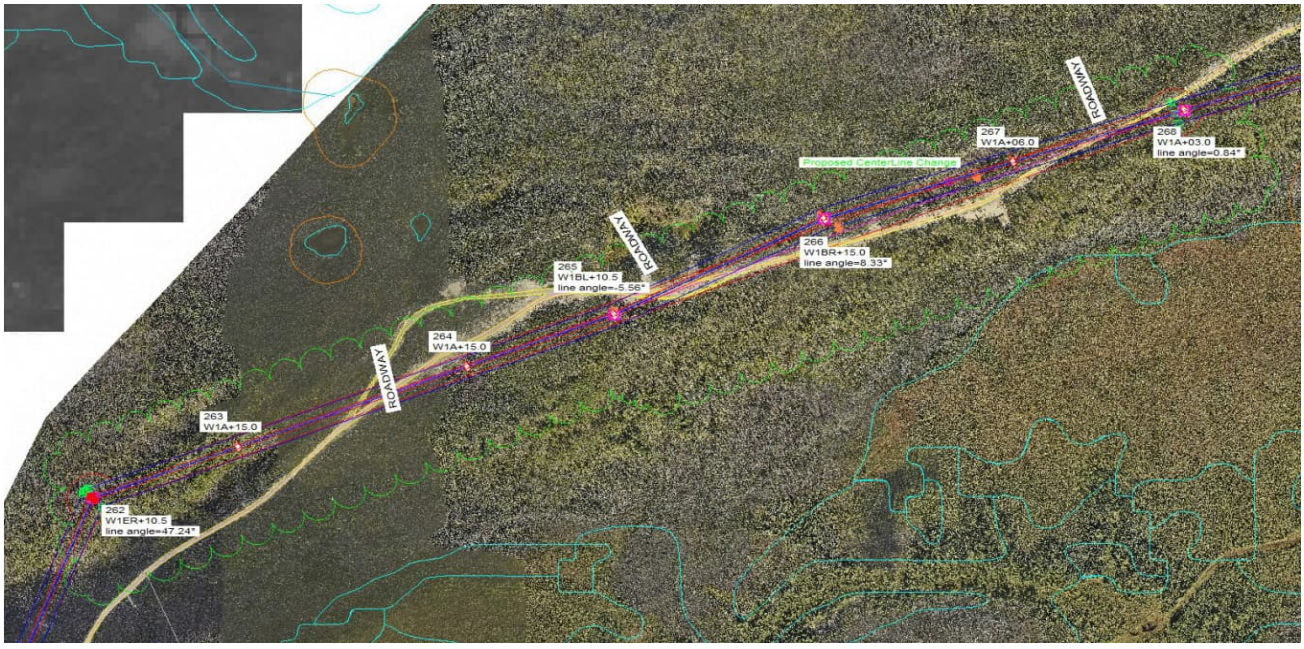
| | Tower Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 4.0 | [redacted] |
| Access | | | per Str | 10 | |
| Foundation (W1A) | W1A | | per Str | 8 | |
| Foundation (W1B) | W1B | | per Str | 0 | |
| Foundation (W1C) | W1C | | per Str | 1 | |
| Foundation (W1D/W1E) | W1D | | per Str | 1 | |
| Foundation (W1D/W1E) | W1E | | per Str | 0 | |
| Str. Assembly (W1A) | W1A | | per Str | 8 | |
| Str. Assembly (W1B) | W1B | | per Str | 0 | |
| Str. Assembly (W1C) | W1C | | per Str | 1 | |
| Str. Assembly (W1D) | W1D | | per Str | 1 | |
| Str. Assembly (W1E) | W1E | | per Str | 0 | |
| Grounding | | | per Str | 10 | |
| Dampers | | | per Str | 10 | |
| OPGW Accessories | | | per Str | 10 | |
| OPGW Installation & Testing | | | per km | 4.0 | |
| Conductor Installation | | | per km | 4.0 | |
| Structure Accessories | | | per Str | 10 | |
| | | | | Total | |

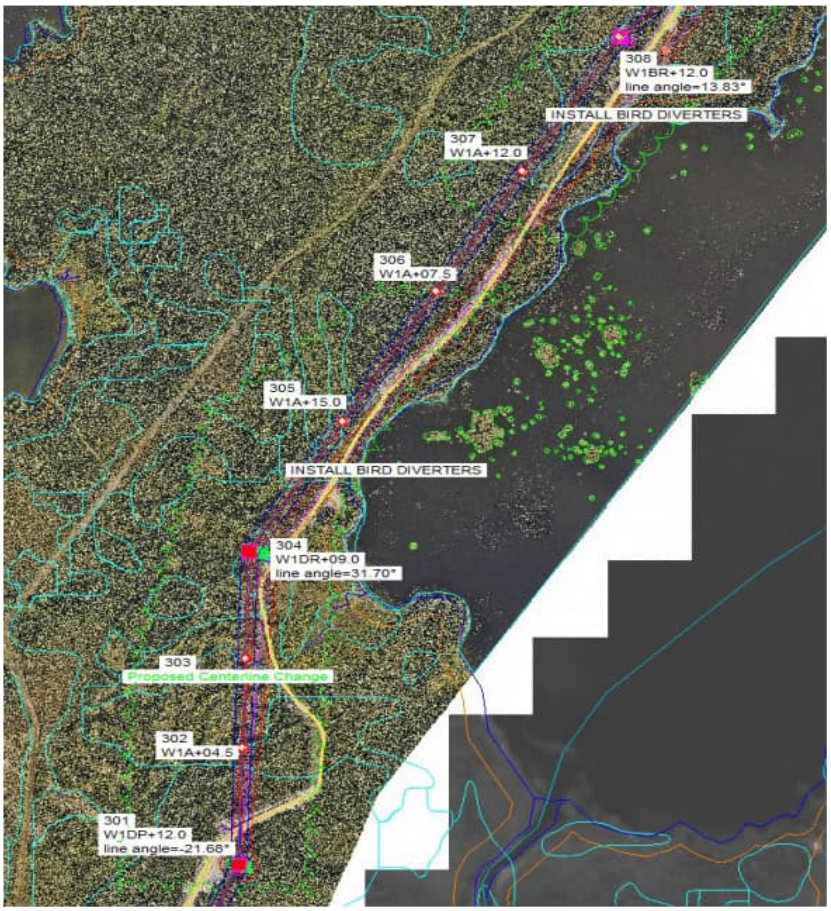
**Re-Alignment Provided By Valard**

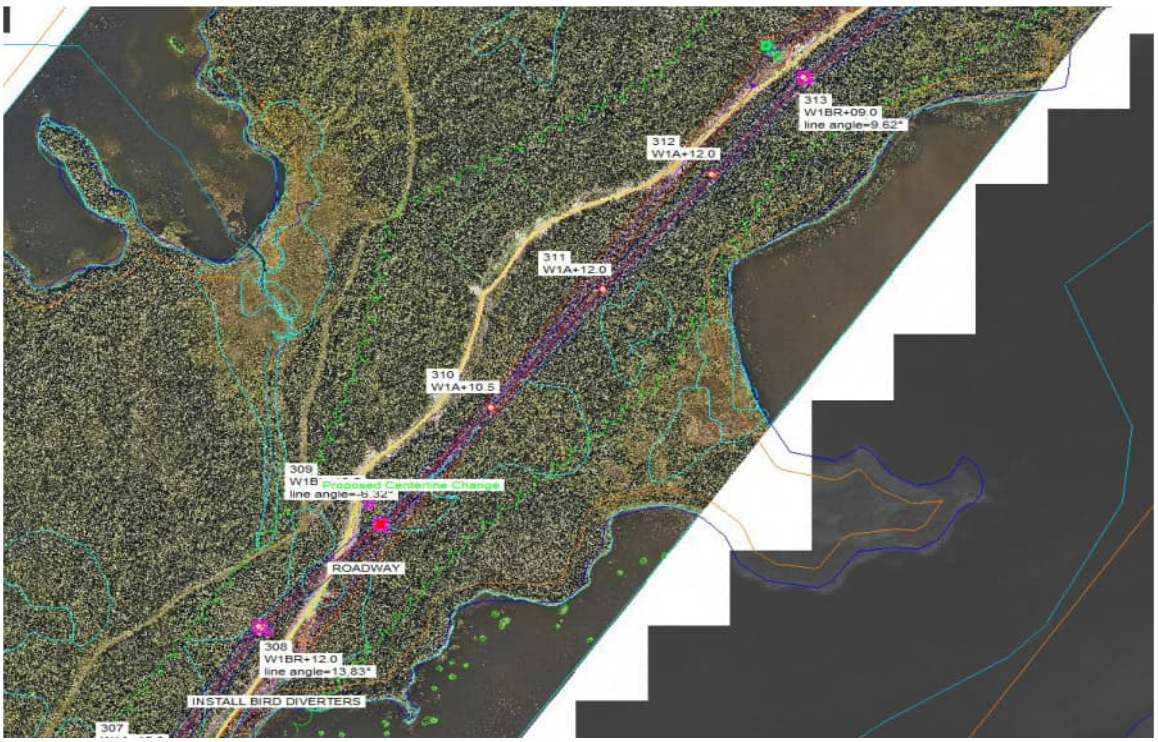
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| CCD-304 | 111497.524 | 611179.977 | 5852009.63 | 289.416 | 244.255 | 26.2297 | W1D |
| CCD-304A | 111741.78 | 611307.357 | 5852218.04 | 289.605 | 310.921 | -0.4146 | W1A |
| CCD-305 | 112052.701 | 611467.578 | 5852484.5 | 290.423 | 356.256 | 9.2115 | W1B |
| CCD-306 | 112408.957 | 611697.669 | 5852756.49 | 292.705 | 361.028 | -0.4934 | W1A |
| CCD-307 | 112769.985 | 611928.459 | 5853034.12 | 290.198 | 433.912 | -4.4267 | W1B |
| CCD-308 | 113203.897 | 612179.259 | 5853388.21 | 293.143 | 401.531 | 0.5818 | W1A |
| CCD-309 | 113605.428 | 612414.658 | 5853713.5 | 293.389 | 367.169 | | W1A |
| CCD-310 | 113972.597 | 612629.912 | 5854010.95 | 291.44 | 393.771 | | W1A |
| CCD-311 | 114366.368 | 612860.762 | 5854329.96 | 293.224 | 357.672 | 1.807 | W1A |
| CCD-312 | 114724.04 | 613079.481 | 5854612.96 | 304.107 | 410.436 | -3.3311 | W1B |
| CCD-313 | 115134.476 | 613311.172 | 5854951.75 | 300.688 | 380.039 | 20.5745 | W1D |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 4.0 | [redacted] |
| Access | | | per Str | 11 | |
| Foundation (W1A) | W1A | | per Str | 6 | |
| Foundation (W1B) | W1B | | per Str | 3 | |
| Foundation (W1C) | W1C | | per Str | 0 | |
| Foundation (W1D/W1E) | W1D | | per Str | 2 | |
| Foundation (W1D/W1E) | W1E | | per Str | 0 | |
| Str. Assembly (W1A) | W1A | | per Str | 6 | |
| Str. Assembly (W1B) | W1B | | per Str | 3 | |
| Str. Assembly (W1C) | W1C | | per Str | 0 | |
| Str. Assembly (W1D) | W1D | | per Str | 2 | |
| Str. Assembly (W1E) | W1E | | per Str | 0 | |
| Grounding | | | per Str | 11 | |
| Dampers | | | per Str | 11 | |
| OPGW Accessories | | | per Str | 11 | |
| OPGW Installation & Testing | | | per km | 4.0 | |
| Conductor Installation | | | per km | 4.0 | |
| Structure Accessories | | | per Str | 11 | |
| Total | | | | Total= | |
| | | | | Cost Difference | |

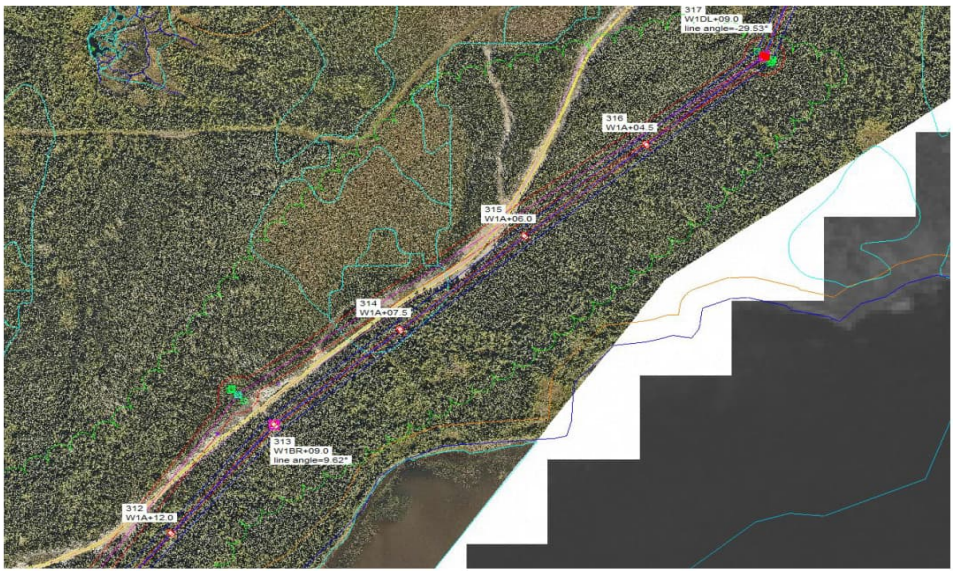
[redacted]

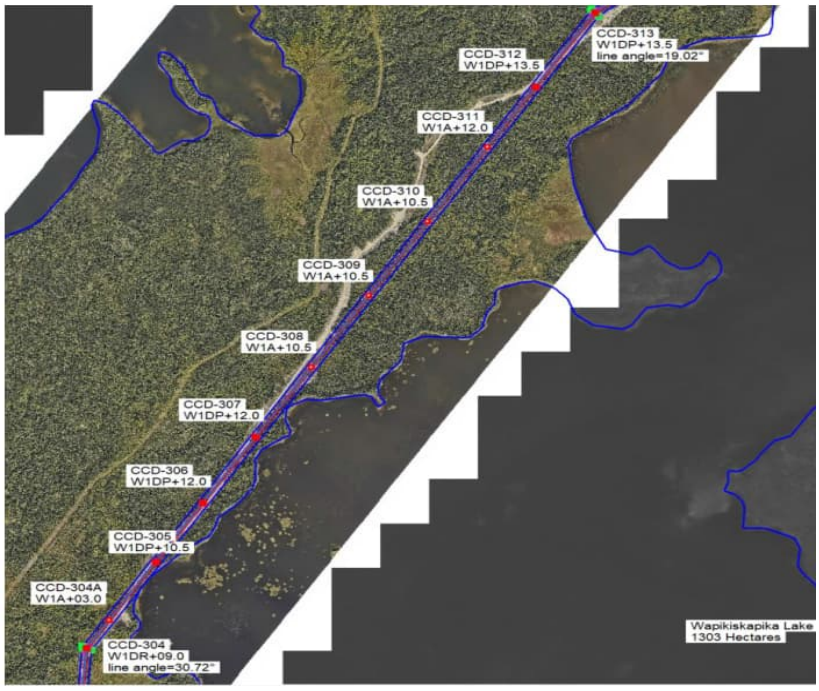



308
W1BR+12.0
line angle=13.83°
INSTALL BIRD DIVERTERS
307
W1A+12.0
306
W1A+07.5
305
W1A+15.0
INSTALL BIRD DIVERTERS
304
W1DR+09.0
line angle=31.70°
303
Proposed Centerline Change
302
W1A+04.5
301
W1DP+12.0
line angle=-21.68°


313
W1BR+09.0
line angle=9.62°
312
W1A+12.0
311
W1A+12.0
310
W1A+10.5
309
W1B
Proposed Centerline Change
ROADWAY
308
W1BR+12.0
line angle=13.83°
INSTALL BIRD DIVERTERS


W1A+12.0


317
W1DL+09.0
line angle=-29.53°
316
W1A+04.5
315
W1A+06.0
314
W1A+07.5
313
W1BR+09.0
line angle=9.62°
312
W1A+12.0


CCD-313
W1DP+13.5
line angle=19.02°
CCD-312
W1DP+13.5
CCD-311
W1A+12.0
CCD-310
W1A+10.5
CCD-309
W1A+10.5
CCD-308
W1A+10.5
CCD-307
W1DP+12.0
CCD-306
W1DP+12.0
CCD-305
W1DP+10.5
CCD-304A
W1A+03.0
CCD-304
W1DR+09.0
line angle=30.72°
Wapikiskapika Lake
1303 Hectares

## Cost Estimate Comparison Route Change

| | |
|---|---|
| Register ID | ID-54 |
| RFI Number | RFI-0248; CCR-030 |
| Segment | JI |

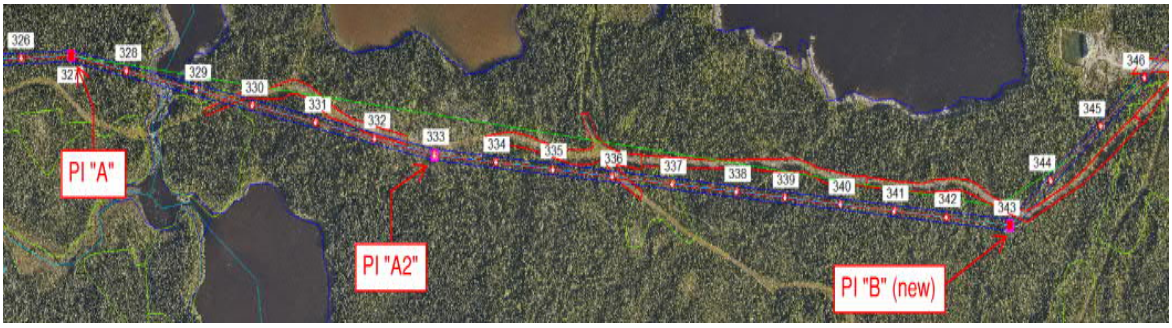
### Previous Alignment Proposed by Valard

| Description | | Unit | Qty | Material/ Equipment | Construction | Unit Cost | Total |
|---|---|---|---|---|---|---|---|
| Row Clearing:<br>*Including, but not limited to, on and off the RoW. Includes survey and flagging. Includes, but not limited to tree cutting,* | | | | | | | |
| C.1 | Clearing RoW | km | 2.81 | | | | |
| Foundations and anchors for wood pole structures:<br>*Including, but not limited to, survey and staking and all Materials, accessories and activities prior to installation of poles, testing. Excludes pole setting.* | | | 0.0 | | | | |
| *F.1* | *Foundation Overburden - Direct embed drill in soil 44kV* | Str. | 0.00 | | | | |
| Foundations and anchors for Lattice Steel structures:<br>Including, but not limited to, survey and staking and all Materials, accessories and activities prior to installation of towers. Excludes tower setting. | | | 0.0 | | | | |
| Wood pole structures:<br>Including, but not limited to, all *steel items (framing), guy-wires, guy-wire insulators, guy-guards, pole bearing plates (if needed), bonding, down-lead and all accessories (excluding identification plates). Includes factory and field tests and inspections.* | | | | | | | |
| *H.1* | *44-SP-TANG* | Str. | 0.00 | | | | |
| *H.2* | *44-SP-LANG* | Str. | 0.0 | | | | |
| *H.3* | *44-SP-MANG* | Str. | 0.0 | | | | |
| *H.4* | *44-SP-HADE* | Str. | 0.00 | | | | |
| *H.5* | *44-HF-ACAD* | Str. | 0.00 | | | | |
| Grounding of structures and Line Counterpoise:<br>Including, but not limited to, all grounding, Ground Enhancement Material and counterpoise items. Includes factory and field | | | | | | | |
| *J.1* | *Counterpoise* | km | 2.81 | | | | |
| *J.2* | *2-pole structure* | Str. | 0.00 | | | | |
| *J.3* | *3-pole structure* | Str. | 0.0 | | | | |
| *J.4* | *1-pole structure* | Str | 0.00 | | | | |
| Conventional Shield-wire Fittings and Accessories<br>Including, but not limited to, assemblies, grounding and dampers. Includes damper study.Includes factory and field tests and inspections. Design/Type tests to be quoted as separate line items in below list. | | | | | | | |
| Conductor and Neutral:<br>Including, but not limited to, conductor and neutral. Includes factory and field tests and inspections. Design/Type tests to be quoted as separate line items in below list. | | | 0.0 | | | | |
| N.1c | Conductor Stringing 44kV - 477 ACSR Hawk | cct-km | 2.81 | | | | |
| Conventional Shield-wire:<br>Including, but not limited to, shield-wire. Includes factory and field tests and inspections. Design/Type tests to be quoted as separate line items in below list. | | | 0.0 | | | | |
| P.1a | OPGW Stringing 115kV - 96 fibre | km | 0.0 | | | | |
| P.1b | OPGW Stringing 44kV - 96 fibre | km | 2.81 | | | | |
| P.2 | ADSS Stringing 25kV - 96 fibre | km | 0.0 | | | | |
| Final Completion:<br>Receipt of Final Completion Certificate | | Lumpsum | 0.00 | | | | |
| GRAND TOTAL | | | | | | | |

### New Alignment Proposed by Valard

| Description | | Unit | Qty | Material/ Equipment | Construction | Unit Cost | Total |
|---|---|---|---|---|---|---|---|
| Row Clearing:<br>*Including, but not limited to, on and off the RoW. Includes survey and flagging. Includes, but not limited to tree cutting, brush clearing, danger tree cutting, management and disposal of cut trees. Includes cleared till handover of line to Owner. Do not include Camps, laydown areas which should be included in the Group summary. Royalty or stumpage fees should not be included.* | | | | | | | |
| C.1 | Clearing RoW | km | 2.96 | | | | |
| Foundations and anchors for wood pole structures:<br>*Including, but not limited to, survey and staking and all Materials, accessories and activities prior to installation of poles, testing. Excludes pole setting.* | | | 0.0 | | | | |
| *F.1* | *Foundation Overburden - Direct embed drill in soil 44kV* | Str. | 1.00 | | | | |
| Foundations and anchors for Lattice Steel structures:<br>Including, but not limited to, survey and staking and all Materials, accessories and activities prior to installation of towers. Excludes tower setting. | | | 0.0 | | | | |
| *H.1* | *44-SP-TANG* | Str. | 0.00 | | | | |
| *H.2* | *44-SP-LANG* | Str. | 0.0 | | | | |
| *H.3* | *44-SP-MANG* | Str. | 1.0 | | | | |
| *H.4* | *44-SP-HADE* | Str. | 0.00 | | | | |
| *H.5* | *44-HF-ACAD* | Str. | 0.00 | | | | |
| *J.1* | *Counterpoise* | km | 2.96 | | | | |
| *J.2* | *2-pole structure* | Str. | 0.00 | | | | |
| *J.3* | *3-pole structure* | Str. | 0.0 | | | | |
| *J.4* | *1-pole structure* | Str | 1.00 | | | | |
| Conductor and Neutral:<br>Including, but not limited to, conductor and neutral. Includes factory and field tests and inspections. Design/Type tests to be quoted as separate line items in below list. | | | 0.0 | | | | |
| N.1c | Conductor Stringing 44kV - 477 ACSR Hawk | cct-km | 2.96 | | | | |
| Conventional Shield-wire:<br>Including, but not limited to, shield-wire. Includes factory and field tests and inspections. Design/Type tests to be quoted as separate line items in below list. | | | 0.0 | | | | |
| P.1a | OPGW Stringing 115kV - 96 fibre | km | 0.0 | | | | |
| P.1b | OPGW Stringing 44kV - 96 fibre | km | 2.96 | | | | |
| P.2 | ADSS Stringing 25kV - 96 fibre | km | 0.0 | | | | |
| Final Completion:<br>Receipt of Final Completion Certificate | | Lumpsum | 0.00 | | | | |
| GRAND TOTAL | | | | | | | |


PI "A"
PI "C"
PI "B"


326
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
PI "A"
PI "A2"
PI "B" (new)

# Cost Estimate Comparison-Route Change

| | |
|---|---|
| Regisger ID | 59 |
| RFI Number | RFI-0283 0261 |
| Segment | JK |

Previous Alignment Provided By Valard

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) | Ahead Span (m) | Line Angle (dJK) | Structure Type |
|---|---|---|---|---|---|---|---|
| 42 | 14322.213 | 705678.381 | 5891575.224 | 258.347 | 370.939 | 42.3097 | W1D |
| 43 | 14693.151 | 705712.121 | 5891944.625 | 259.758 | 392.094 | | W1A |
| 44 | 15085.246 | 705747.785 | 5892335.094 | 262.289 | 377.358 | | W1A |
| 45 | 15462.603 | 705782.109 | 5892710.888 | 262.766 | 375.663 | | W1A |
| 46 | 15838.266 | 705816.279 | 5893084.993 | 261.986 | 360.069 | | W1A |
| 47 | 16198.335 | 705849.03 | 5893443.569 | 260.415 | 392.107 | -6.5926 | W1B |
| 48 | 16590.441 | 705839.629 | 5893835.563 | 263.842 | 387.524 | 11.381 | W1B |
| 49 | 16977.965 | 705906.97 | 5894217.191 | 265.96 | 386.566 | | W1A |
| 50 | 17364.531 | 705974.144 | 5894597.876 | 263.691 | 358.537 | | W1A |
| 51 | 17723.068 | 706036.447 | 5894950.958 | 267.937 | 385.726 | -14.426 | W1B |
| 52 | 18108.794 | 706006.728 | 5895335.537 | 259.592 | 402.981 | | W1A |
| 53 | 18511.776 | 705975.679 | 5895737.321 | 250.515 | 400.687 | 41.9828 | W1D |
| 54 | 18912.462 | 706219.956 | 5896054.935 | 249.663 | 267.536 | -29.1604 | W1C |
| 55 | 19179.999 | 706259.055 | 5896319.599 | 248.987 | 319.228 | -49.5051 | W1E |
| 56 | 19499.227 | 706049.196 | 5896560.152 | 256.874 | 349.305 | 50.0202 | W1E |
| 88 | 30916.708 | 712644.326 | 5904310.052 | 258.82 | 374.555 | 27.1798 | W1C |
| 89 | 31291.264 | 712989.193 | 5904456.198 | 263.638 | 384.764 | | W1A |
| 90 | 31676.028 | 713343.459 | 5904606.328 | 265.882 | 426.368 | | W1A |
| 91 | 32102.396 | 713736.031 | 5904772.692 | 268.108 | 369.067 | | W1A |
| 92 | 32471.463 | 714075.844 | 5904916.697 | 269.825 | 368.843 | | W1A |
| 93 | 32840.305 | 714415.451 | 5905060.614 | 263.621 | 283.589 | -25.2996 | W1C |
| 94 | 33123.894 | 714604.229 | 5905272.239 | 263.602 | 165.909 | | W1A |
| 95 | 33289.803 | 714714.671 | 5905396.047 | 263.579 | 323.657 | -27.3186 | W1D |
| 96 | 33613.46 | 714795.247 | 5905709.513 | 266.402 | 387.201 | | W1A |
| 97 | 34000.661 | 714891.643 | 5906084.524 | 266.015 | 429.23 | | W1A |
| 98 | 34429.891 | 714998.502 | 5906500.239 | 268.686 | 382.472 | | W1A |
| 99 | 34812.363 | 715093.721 | 5906870.669 | 269.886 | 413.416 | | W1A |
| 100 | 35225.779 | 715196.643 | 5907271.069 | 261.702 | 314.96 | | W1A |
| 101 | 35540.739 | 715275.054 | 5907576.112 | 257.635 | 353.329 | 53.1305 | W1E |
| 224 | 81603.095 | 755896.699 | 5922730.69 | 217.494 | 430.832 | | W1A |
| 225 | 82033.928 | 756155.521 | 5923075.113 | 215.526 | 408.742 | | W1A |
| 226 | 82442.67 | 756401.073 | 5923401.877 | 216.073 | 425.596 | | W1A |
| 227 | 82868.265 | 756656.749 | 5923742.114 | 209.497 | 440.108 | | W1A |
| 228 | 83308.374 | 756921.144 | 5924093.954 | 215.094 | 363.732 | | W1A |
| 229 | 83672.106 | 757139.656 | 5924384.735 | 220.025 | 321.151 | -34.4073 | W1D |
| 230 | 83993.257 | 757153.755 | 5924705.576 | 221.749 | 367.115 | | W1A |
| 231 | 84360.372 | 757169.873 | 5925072.337 | 222.108 | 343.008 | | W1A |
| 232 | 84703.38 | 757184.932 | 5925415.015 | 225.428 | | | W1D |

Coste Estimate-Previous Alignment

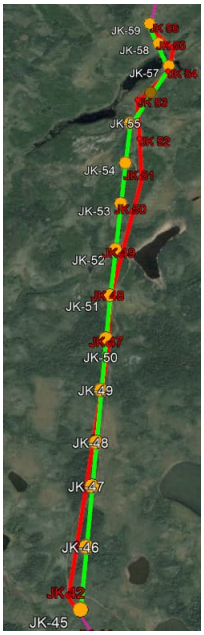
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | | per km | 13.60 | |
| Access | | | per Str | | |
| Foundation (W1A) | Normal Instalation | | per Str | 24 | |
| Foundation (W1B) | Normal Instalation | | per Str | 3 | |
| Foundation (W1C) | Normal Instalation | | per Str | 3 | |
| Foundation (W1D) | Normal Instalation | | per Str | 5 | |
| Foundation (W1E) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 24 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 5 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 3 | |
| Grounding | | | km | 13.60 | |
| Dampers | | | per Str | 38 | |
| OPGW Accessories | | | per Str | 38 | |
| OPGW Installation & Testing | | | per km | 13.6 | |
| Conductor Installation | | | per km | 13.6 | |
| Structure Accessories | | | per Str | 38 | |

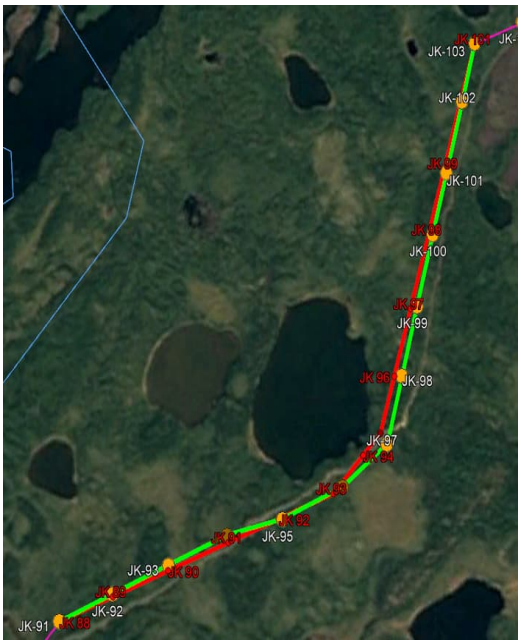
| Re-alignment Provided by Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (dJK) | Structure Description |
| CJK-045 | 14273.919 | 705763.729 | 5891463.098 | 258.89 | 422.454 | 38.8292 | W1D |
| CJK-046 | 14696.373 | 705777.172 | 5891885.338 | 259.343 | 431.817 | | W1A |
| CJK-047 | 15128.19 | 705790.914 | 5892316.936 | 263.071 | 325.138 | | W1A |
| CJK-048 | 15453.328 | 705801.261 | 5892641.909 | 262.977 | 405.918 | | W1A |
| CJK-049 | 15859.246 | 705814.178 | 5893047.622 | 262.034 | 420.338 | | W1A |
| CJK-050 | 16279.584 | 705827.554 | 5893467.747 | 260.976 | 367.812 | | W1A |
| CJK-051 | 16647.396 | 705839.259 | 5893835.373 | 263.836 | 409.16 | 1.1121 | W1A |
| CJK-052 | 17056.556 | 705860.214 | 5894243.996 | 266.486 | 427.475 | | W1A |
| CJK-053 | 17484.031 | 705882.107 | 5894670.91 | 264.098 | 395.015 | | W1A |
| CJK-054 | 17879.046 | 705902.337 | 5895065.406 | 260.175 | 404.843 | | W1A |
| CJK-055 | 18283.889 | 705923.071 | 5895469.718 | 256.129 | 360.759 | 23.119 | W1D |
| CJK-056 | 18644.648 | 706081.527 | 5895793.815 | 256.049 | 328.654 | | W1A |
| CJK-057 | 18973.302 | 706225.881 | 5896089.069 | 250.118 | 266.785 | -46.6608 | W1E |
| CJK-058 | 19240.087 | 706131.988 | 5896338.786 | 251.041 | 236.665 | | W1A |
| CJK-059 | 19476.379 | 706048.828 | 5896559.96 | 256.903 | 316.976 | 29.5248 | W1C |
| CJK-091 | 30893.861 | 712643.968 | 5904309.853 | 258.832 | 375.063 | 25.4068 | W1D |
| CJK-092 | 31268.924 | 712984.609 | 5904466.811 | 263.645 | 397.074 | | W1A |
| CJK-093 | 31665.998 | 713345.241 | 5904632.981 | 266.534 | 415.106 | | W1A |
| CJK-094 | 32081.104 | 713722.25 | 5904806.697 | 268.275 | 376.015 | 9.3338 | W1B |
| CJK-095 | 32457.119 | 714084.755 | 5904906.583 | 269.802 | 432.346 | -10.4134 | W1B |
| CJK-096 | 32889.465 | 714473.944 | 5905094.879 | 263.476 | 372.29 | -14.4352 | W1B |
| CJK-097 | 33261.755 | 714758.071 | 5905335.443 | 263.6 | 385.424 | -36.7614 | W1D |
| CJK-098 | 33647.179 | 714844.674 | 5905711.012 | 267.406 | 394.973 | | W1A |
| CJK-099 | 34042.152 | 714933.421 | 5906095.885 | 267.813 | 411.34 | | W1A |
| CJK-100 | 34453.491 | 715025.847 | 5906496.706 | 269.346 | 355.308 | | W1A |
| CJK-101 | 34808.799 | 715105.682 | 5906842.929 | 270.502 | 412.09 | | W1A |
| CJK-102 | 35220.889 | 715198.276 | 5907244.482 | 261.945 | 340.126 | | W1A |
| CJK-103 | 35561.015 | 715274.7 | 5907575.91 | 257.644 | 343.329 | 54.5614 | W1E |
| CJK-233 | 80811.514 | 755408.716 | 5922081.534 | 212.015 | 411.352 | -10.2992 | W1B |
| CJK-234 | 81222.866 | 755652.228 | 5922413.064 | 213.68 | 408.244 | | W1A |
| CJK-235 | 81631.11 | 755893.901 | 5922742.089 | 218.17 | 423.919 | | W1A |
| CJK-236 | 82055.029 | 756144.853 | 5923083.747 | 214.912 | 425.39 | | W1A |
| CJK-237 | 82480.419 | 756396.676 | 5923426.591 | 215.367 | 424.239 | | W1A |
| CJK-238 | 82904.658 | 756647.817 | 5923768.507 | 209.192 | 403.599 | | W1A |
| CJK-239 | 83308.257 | 756886.74 | 5924093.788 | 214.841 | 374.068 | | W1A |
| CJK-240 | 83682.325 | 757108.181 | 5924395.269 | 219.856 | 380.498 | -32.011 | W1D |
| CJK-241 | 84062.823 | 757136.622 | 5924774.703 | 222.469 | 376.349 | | W1A |
| CJK-242 | 84439.172 | 757164.754 | 5925149.999 | 225.432 | 265.211 | 0.0689 | W1A |
| CJK-243 | 84704.383 | 757184.896 | 5925414.444 | | 44.248 | -1.8243 | W1D |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 14.47 | [redacted] |
| Access | | | per Str | | |
| Foundation (W1A) | Normal Instalation | | per Str | 26 | |
| Foundation (W1B) | Normal Instalation | | per Str | 4 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | 6 | |
| Foundation (W1E) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 26 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 4 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 6 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 2 | |
| Grounding | | | per km | 14.5 | |
| Dampers | | | per Str | 39 | |
| OPGW Accessories | | | per Str | 39 | |
| OPGW Installation & Testing | | | per km | 14.5 | |
| Conductor Installation | | | per km | 14.5 | |
| Structure Accessories | | | per Str | 39 | |
| * | | | | Difference | |

## 3. Cost Comparison

[redacted]


JK-59
JK-58
JK-57
JK-55
JK-54
JK-53
JK-52
JK-51
JK-50
JK-49
JK-48
JK-47
JK-46
JK-42
JK-45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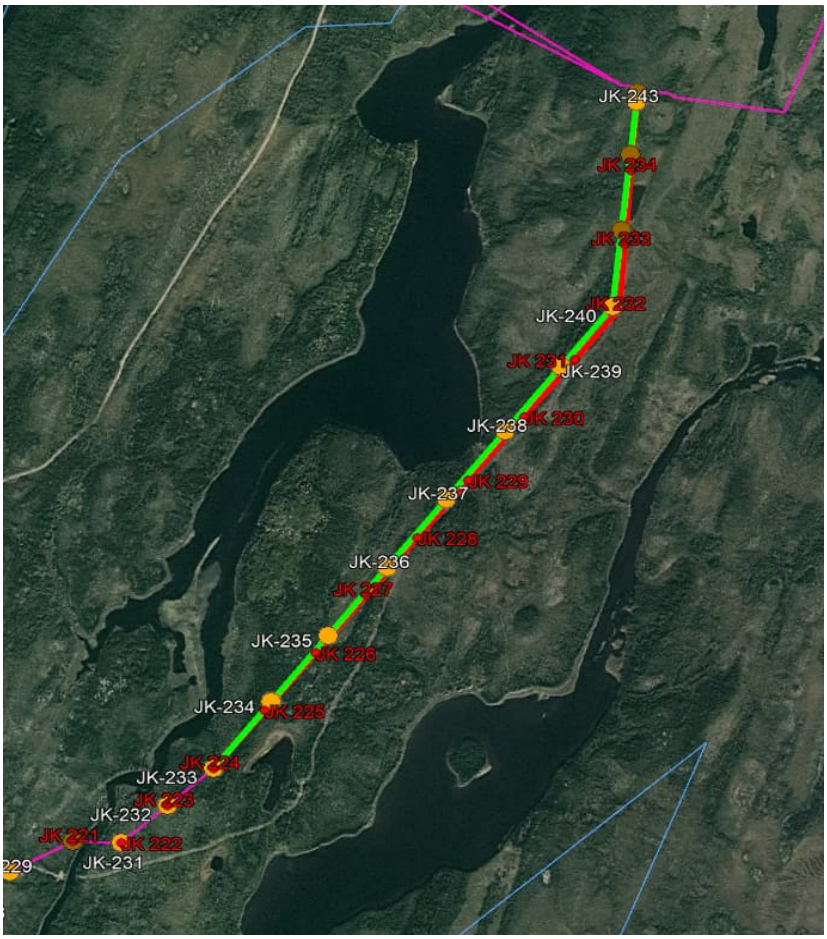
JK-102
JK-101
JK-100
JK-99
JK-98
JK-97
JK-95
JK-93
JK-92
JK-91


JK-243
JK 234
JK 233
JK-240
JK 232
JK-239
JK-238
JK 230
JK 229
JK-237
JK 228
JK-236
JK 227
JK-235
JK 226
JK-234
JK 225
JK 224
JK-233
JK 223
JK-232
JK 221
JK 222
JK-231

## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 60 |
| RFI Number | HATCH-VAL-RFI-0257 |
| Segment | RT |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 108 | 37965.53 | 439729.241 | 5800235.198 | 372.15 | 419.439 | | W1A |
| 109 | 38384.968 | 439458.718 | 5800555.74 | 352.822 | 295.86 | | W1A |
| 110 | 38680.828 | 439267.9 | 5800781.84 | 369.818 | 297.639 | | W1A |
| 111 | 38978.467 | 439075.934 | 5801009.3 | 357.152 | 352.43 | 36.4785 | W1D |
| 112 | 39330.897 | 439053.287 | 5801361.001 | 353.573 | 365.512 | | W1A |
| 113 | 39696.409 | 439029.8 | 5801725.758 | 366.478 | 267.023 | | W1A |
| 114 | 39963.432 | 439012.641 | 5801992.229 | 372.6 | 385.1 | | W1A |
| 115 | 40348.532 | 438987.895 | 5802376.533 | 368.151 | 392.083 | | W1A |
| 116 | 40740.615 | 438962.7 | 5802767.806 | 376.109 | 344.622 | 1.5706 | W1A |
| 117 | 41085.238 | 438949.99 | 5803112.194 | 380.534 | 354.589 | | W1A |
| 118 | 41439.826 | 438936.911 | 5803466.541 | 379.709 | 424.033 | | W1A |
| 119 | 41863.859 | 438921.272 | 5803890.286 | 381.76 | 274.689 | | W1A |

**Coste Estimate-Previous Alignment**

| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 4.2 | [redacted] |
| Access | | | per Str | | |
| Foundation (W1A) | | | per Str | | |
| Foundation (W1B) | | | per Str | | |
| Foundation (W1C) | | | per Str | | |
| Foundation (W1D) | | | per Str | | |
| Foundation (W1E) | | | per Str | | |
| Foundation Heli (W1A) | Heli Installation | | per Str | 11 | |
| Foundation Heli (W1B) | Heli Installation | | per Str | | |
| Foundation Heli (W1C) | Heli Installation | | per Str | | |
| Foundation Heli (W1D) | Heli Installation | | per Str | 1 | |
| Foundation Heli (W1E) | Heli Installation | | per Str | | |
| Str. Assembly (W1A) | | | per Str | | |
| Str. Assembly (W1B) | | | per Str | | |
| Str. Assembly (W1C) | | | per Str | | |
| Str. Assembly (W1D) | | | per Str | | |
| Str. Assembly (W1E) | | | per Str | | |
| Str. Assembly Heli (W1A) | Heli Installation | | per Str | 11 | |
| Str. Assembly Heli (W1B) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1C) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1D) | Heli Installation | | per Str | 1 | |
| Str. Assembly Heli (W1E) | Heli Installation | | per Str | | |
| Grounding | | | per Str | 12 | |
| Dampers | | | per Str | 12 | |
| OPGW Accessories | | | per Str | 12 | |
| OPGW Installation & Testing | | | per km | 4.2 | |
| Conductor Installation | | | per km | 4.2 | |
| Structure Accessories | | | per Str | 12 | |
| | | | Total | | |

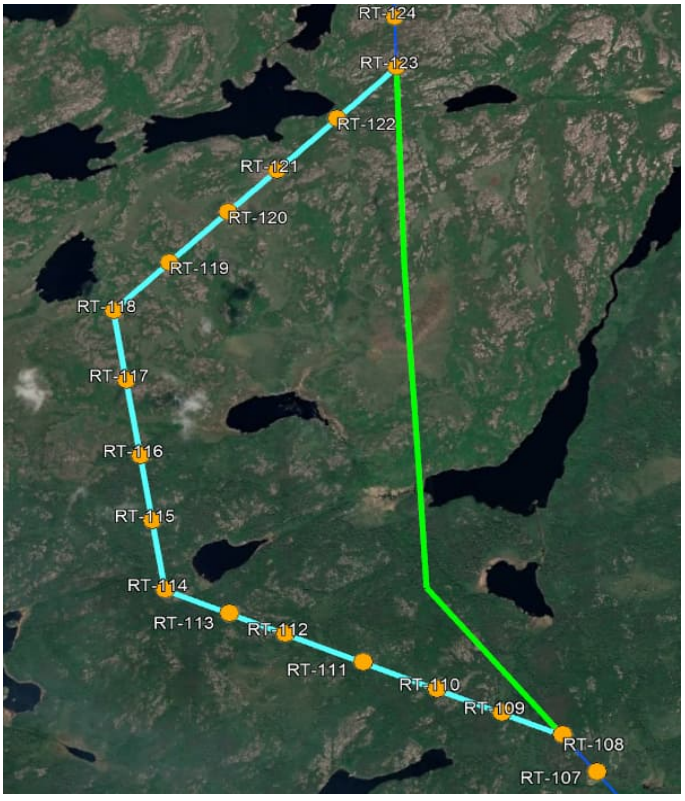
**Final Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| 108 | 37954.583 | 439733.23 | 5800232.131 | 372.382 | 315.658 | -27.8548 | W1C |
| 109 | 38269.89 | 439439.996 | 5800348.982 | 363.904 | 336.838 | | W1A |
| 110 | 38606.728 | 439127.646 | 5800475.068 | 374.741 | 384.328 | | W1A |
| 111 | 38991.056 | 438771.259 | 5800618.929 | 373.475 | 407.496 | | W1A |
| 112 | 39398.552 | 438393.388 | 5800771.463 | 377.355 | 294.378 | | W1A |
| 113 | 39692.93 | 438120.412 | 5800881.655 | 376.133 | 340.495 | | W1A |
| 114 | 40033.425 | 437804.67 | 5801009.109 | 366.067 | 375.717 | 57.5073 | W1E |
| 115 | 40409.142 | 437736.135 | 5801378.522 | 377.646 | 355.458 | | W1A |
| 116 | 40764.6 | 437671.294 | 5801728.016 | 373.356 | 416.345 | | W1A |
| 117 | 41180.945 | 437595.347 | 5802137.376 | 378.265 | 388.89 | | W1A |
| 118 | 41569.835 | 437524.408 | 5802519.741 | 373.86 | 377.247 | 56.3496 | W1E |
| 119 | 41947.082 | 437795.04 | 5802782.559 | 374.758 | 401.291 | | W1A |
| 120 | 42348.373 | 438082.921 | 5803062.129 | 373.466 | 335.23 | | W1A |
| 121 | 42683.603 | 438323.411 | 5803295.675 | 379.462 | 416.651 | | W1A |
| 122 | 43100.254 | 438622.311 | 5803585.945 | 367.055 | 416.785 | | W1A |
| 123 | 43517.039 | 438921.308 | 5803876.308 | 381.221 | 288.721 | -47.9529 | W1E |

Re-Alignment Vs Previous Alignment Provided By Valard

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| Item | Tower Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 5.9 | [redacted] |
| Access | | | per Str | | |
| Foundation (W1A) | | | per Str | | |
| Foundation (W1B) | | | per Str | | |
| Foundation (W1C) | | | per Str | | |
| Foundation (W1D) | | | per Str | | |
| Foundation (W1E) | | | per Str | | |
| Foundation Heli (W1A) | Heli Installation | | per Str | 12 | |
| Foundation Heli (W1B) | Heli Installation | | per Str | | |
| Foundation Heli (W1C) | Heli Installation | | per Str | 1 | |
| Foundation Heli (W1D) | Heli Installation | | per Str | | |
| Foundation Heli (W1E) | Heli Installation | | per Str | 3 | |
| Str. Assembly (W1A) | | | per Str | | |
| Str. Assembly (W1B) | | | per Str | | |
| Str. Assembly (W1C) | | | per Str | | |
| Str. Assembly (W1D) | | | per Str | | |
| Str. Assembly (W1E) | | | per Str | | |
| Str. Assembly Heli (W1A) | Heli Installation | | per Str | 12 | |
| Str. Assembly Heli (W1B) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1C) | Heli Installation | | per Str | 1 | |
| Str. Assembly Heli (W1D) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1E) | Heli Installation | | per Str | 3 | |
| Grounding | | | per Str | 16 | |
| Dampers | | | per Str | 16 | |
| OPGW Accessories | | | per Str | 16 | |
| OPGW Installation & Testing | | | per km | 5.9 | |
| Conductor Installation | | | per km | 5.9 | |
| Structure Accessories | | | per Str | 16 | |
| | | | | Total | |
| | | | | Cost Difference | |

[redacted]



## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 61 |
| RFI Number | HATCH-VAL-RFI-0257 |
| Segment | RT |

**Previous Alignment Provided By Valard**

| Total | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 81 | 27768.252 | 437473.739 | 5791026.166 | 363.458 | 429.167 | | W1A |
| 82 | 28197.419 | 437589.057 | 5791439.549 | 379.907 | 382.272 | | W1A |
| 83 | 28579.691 | 437691.775 | 5791807.762 | 366.671 | 379.999 | | W1A |
| 84 | 28959.69 | 437793.881 | 5792173.787 | 373.263 | 421.405 | | W1A |
| 85 | 29381.095 | 437907.114 | 5792579.694 | 365.914 | 381.479 | | W1A |
| 86 | 29762.574 | 438009.618 | 5792947.143 | 370.405 | 332.251 | -15.0822 | W1C |
| 87 | 30094.824 | 438012.546 | 5793279.381 | 366.192 | 400.698 | | W1A |
| 88 | 30495.522 | 438016.077 | 5793680.063 | 360.062 | 309.477 | | W1A |
| 89 | 30804.999 | 438018.804 | 5793989.528 | 368.253 | 395.076 | | W1A |
| 90 | 31200.075 | 438022.285 | 5794384.589 | 358.348 | 297.459 | | W1A |
| 91 | 31497.534 | 438024.906 | 5794682.036 | 368.685 | 432.457 | 19.7471 | W1C |

**Coste Estimate-Previous Alignment**

| Item | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 4.2 | [redacted] |
| Access | | | per Str | | |
| Foundation Heli (W1A) | Heli Installation | | per Str | 9 | |
| Foundation Heli (W1B) | Heli Installation | | per Str | | |
| Foundation Heli (W1C) | Heli Installation | | per Str | 2 | |
| Foundation Heli (W1D) | Heli Installation | | per Str | | |
| Foundation Heli (W1E) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1A) | Heli Installation | | per Str | 9 | |
| Str. Assembly Heli (W1B) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1C) | Heli Installation | | per Str | 2 | |
| Str. Assembly Heli (W1D) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1E) | Heli Installation | | per Str | | |
| Grounding | | | per Str | 11 | |
| Dampers | | | per Str | 11 | |
| OPGW Accessories | | | per Str | 11 | |
| OPGW Installation & Testing | | | per km | 4.2 | |
| Conductor Installation | | | per km | 4.2 | |
| Structure Accessories | | | per Str | 11 | |
| | | | Total | | |

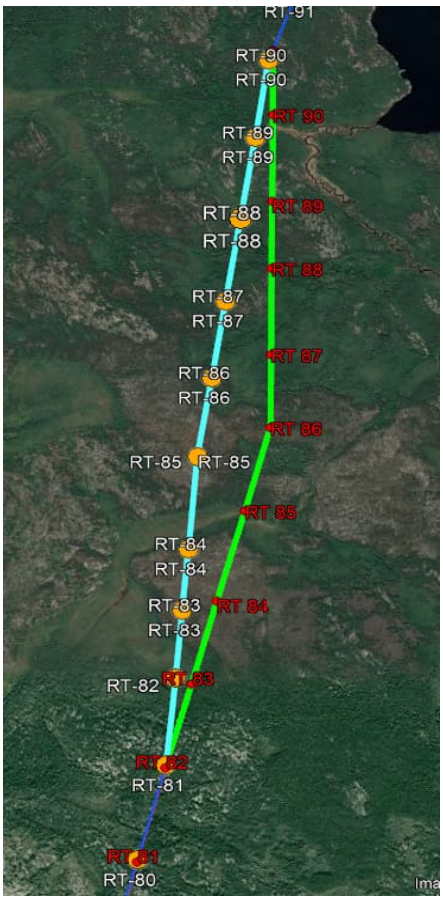
**Final Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| 80 | | 437473.739 | 5791026.166 | 363.458 | 429.167 | | W1A |
| 81 | 28220.56 | 437589.407 | 5791442.598 | 379.888 | 385.07 | -10.376 | W1B |
| 82 | 28605.63 | 437624.381 | 5791826.077 | 366.115 | 302.97 | | W1A |
| 83 | 28908.601 | 437651.898 | 5792127.795 | 370.792 | 274.673 | | W1A |
| 84 | 29183.274 | 437676.845 | 5792401.333 | 367.941 | 417.463 | | W1A |
| 85 | 29600.737 | 437714.761 | 5792817.071 | 374.602 | 360.485 | 3.9223 | W1B |
| 86 | 29961.222 | 437771.982 | 5793172.985 | 371.565 | 354.108 | | W1A |
| 87 | 30315.33 | 437828.19 | 5793522.604 | 368.475 | 384.713 | | W1A |
| 88 | 30700.043 | 437889.257 | 5793902.439 | 362.374 | 379.631 | | W1A |
| 89 | 31079.674 | 437949.516 | 5794277.257 | 360.859 | 362.142 | | W1A |
| 90 | 31441.816 | 438007 | 5794634.808 | 371.465 | 340.494 | 11.1151 | W1B |

**Coste Estimate-Re-Alignment**

| Item | Tower Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 4.0 | [redacted] |
| Access | | | per Str | | |
| Foundation Heli (W1A) | Heli Installation | | per Str | 8 | |
| Foundation Heli (W1B) | Heli Installation | | per Str | 3 | |
| Foundation Heli (W1C) | Heli Installation | | per Str | | |
| Foundation Heli (W1D) | Heli Installation | | per Str | | |
| Foundation Heli (W1E) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1A) | Heli Installation | | per Str | 8 | |
| Str. Assembly Heli (W1B) | Heli Installation | | per Str | 3 | |
| Str. Assembly Heli (W1C) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1D) | Heli Installation | | per Str | | |
| Str. Assembly Heli (W1E) | Heli Installation | | per Str | | |
| Grounding | | | per Str | 11 | |
| Dampers | | | per Str | 11 | |
| OPGW Accessories | | | per Str | 11 | |
| OPGW Installation & Testing | | | per km | 4.0 | |
| Conductor Installation | | | per km | 4.0 | |
| Structure Accessories | | | per Str | 11 | |
| | | | | Total | |
| Cost ifference | | | | Cost Difference | |

[redacted]


RT-91
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RT 85
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RT-83
RT 84
RT-83
RT-82
RT 83
RT 82
RT-81
RT 81
RT-80

## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 9 |
| RFI Number | RFI-0294 |
| Segment | EG |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 84 | 32455.977 | 562392.182 | 5948296.042 | 265.818 | 413.457 | | W1A |
| 85 | 32869.434 | 561979.005 | 5948311.256 | 262.464 | 409.432 | | W1A |
| 86 | 33278.866 | 561569.85 | 5948326.321 | 261.149 | 330.782 | | W1A |
| 87 | 33609.648 | 561239.292 | 5948338.493 | 259.484 | 350.709 | 17.6992 | W1C |
| 88 | 33960.357 | 560909.333 | 5948457.337 | 258.845 | 439.043 | | W1A |
| 89 | 34399.4 | 560496.267 | 5948606.115 | 257.653 | 439.715 | | W1A |
| 90 | 34839.116 | 560082.567 | 5948755.121 | 257.413 | 374.39 | | W1A |
| 91 | 35213.506 | 559730.328 | 5948881.99 | 258.769 | 388.33 | | W1A |
| 92 | 35601.837 | 559364.974 | 5949013.583 | 268.929 | 411.478 | | W1A |
| 93 | 36013.315 | 558977.841 | 5949153.02 | 257.357 | 421.036 | | W1A |
| 94 | 36434.351 | 558581.717 | 5949295.696 | 256.433 | 411.674 | 12.4772 | W1B |
| 95 | 36846.025 | 558233.688 | 5949515.585 | 258.307 | 422.753 | | W1A |
| 96 | 37268.777 | 557876.293 | 5949741.392 | 259.191 | 408.01 | | W1A |
| 97 | 37676.787 | 557531.361 | 5949959.324 | 256.189 | 416.669 | | W1A |
| 98 | 38093.457 | 557179.109 | 5950181.881 | 253.748 | 416.033 | | W1A |
| 99 | 38509.49 | 556827.394 | 5950404.099 | 255.155 | 411.79 | | W1A |
| 100 | 38921.28 | 556479.268 | 5950624.05 | 253.951 | 356.664 | | W1A |
| 101 | 39277.944 | 556177.744 | 5950814.556 | 251.036 | 419.911 | | W1A |
| 102 | 39697.855 | 555822.751 | 5951038.845 | 254.099 | 406.75 | | W1A |
| 103 | 40104.605 | 555478.885 | 5951256.104 | 256.347 | 350.966 | | W1D |
| 104 | 40455.571 | 555182.178 | 5951443.567 | 259.647 | 346.907 | -24.5374 | W1C |
| 105 | 40802.477 | 554838.438 | 5951490.334 | 260.879 | 426.806 | | W1A |
| 106 | 41229.284 | 554415.528 | 5951547.873 | 264.921 | 429.069 | | W1A |
| 107 | 41658.353 | 553990.377 | 5951605.717 | 264.769 | 385.91 | | W1A |
| 108 | 42044.263 | 553607.989 | 5951657.743 | 268.138 | 392.098 | | W1A |
| 109 | 42436.361 | 553219.47 | 5951710.603 | 265.173 | 389.223 | | W1A |
| 110 | 42825.584 | 552833.801 | 5951763.075 | 259.378 | 394.872 | | W1A |
| 111 | 43220.456 | 552442.533 | 5951816.309 | 258.053 | 412.329 | | W1A |
| 112 | 43632.785 | 552033.968 | 5951871.896 | 256.205 | 427.599 | | W1A |
| 113 | 44060.385 | 551610.272 | 5951929.542 | 255.932 | 371.936 | | W1A |
| 114 | 44432.321 | 551241.731 | 5951979.683 | 256.422 | 352.666 | | W1A |
| 115 | 44784.987 | 550892.285 | 5952027.227 | 262.592 | 319.543 | -19.637 | W1C |
| 116 | 45104.53 | 550579.597 | 5951961.395 | 262.668 | 420.527 | | W1A |
| 117 | 45525.057 | 550168.091 | 5951874.758 | 269.19 | 400.106 | | W1A |
| 118 | 45925.163 | 549776.568 | 5951792.328 | 267.87 | 409.356 | | W1A |
| 119 | 46334.52 | 549375.993 | 5951707.992 | 270.005 | 381.409 | | W1A |
| 120 | 46715.929 | 549002.766 | 5951629.414 | 264.787 | 390.193 | | W1A |
| 121 | 47106.122 | 548620.944 | 5951549.026 | 263.524 | 347.381 | | W1A |
| 122 | 47453.503 | 548281.015 | 5951477.458 | 264.119 | 423.715 | | W1A |
| 123 | 47877.218 | 547866.39 | 5951390.164 | 266.801 | 325.988 | | W1A |
| 124 | 48203.205 | 547547.395 | 5951323.004 | 268.162 | 240.04 | | W1A |
| 125 | 48443.246 | 547312.504 | 5951273.551 | 252.134 | 353.094 | 22.2381 | W1D |
| 126 | 48796.34 | 546965.154 | 5951336.981 | 259.669 | 353.647 | | W1A |
| 127 | 49149.986 | 546617.261 | 5951400.511 | 257.55 | 361.656 | | W1A |
| 128 | 49511.643 | 546261.488 | 5951465.479 | 256.608 | 293.866 | | W1A |
| 129 | 49805.509 | 545972.402 | 5951518.27 | 259.329 | 338.338 | 74.9576 | W1E |
| 130 | 50143.847 | 545944.717 | 5951855.473 | 256.206 | 356.432 | | W1A |
| 131 | 50500.279 | 545915.552 | 5952210.71 | 258.296 | 411.875 | | W1A |
| 132 | 50912.154 | 545881.849 | 5952621.204 | 257.152 | 423.91 | | W1A |
| 133 | 51336.065 | 545847.163 | 5953043.693 | 259.012 | 388.083 | | W1A |
| 134 | 51724.148 | 545815.407 | 5953430.475 | 260.159 | 402.472 | | W1A |
| 135 | 52126.62 | 545782.474 | 5953831.597 | 262.445 | 381.474 | | W1A |
| 136 | 52508.094 | 545751.26 | 5954211.792 | 263.464 | 391.138 | | W1A |
| 137 | 52899.231 | 545719.255 | 5954601.618 | 259.934 | 425.229 | | W1A |
| 138 | 53324.46 | 545684.46 | 5955025.42 | 257.776 | 425.59 | | W1A |
| 139 | 53750.05 | 545649.635 | 5955449.583 | 259.612 | 398.787 | | W1A |
| 140 | 54148.837 | 545617.004 | 5955847.034 | 263.914 | 370.687 | | W1A |
| 141 | 54519.524 | 545586.672 | 5956216.477 | 267.095 | 372.158 | | W1A |
| 142 | 54891.682 | 545556.22 | 5956587.387 | 264.349 | 310.536 | | W1A |
| 143 | 55202.218 | 545530.81 | 5956896.882 | 261.666 | 300.093 | -33.4491 | W1D |

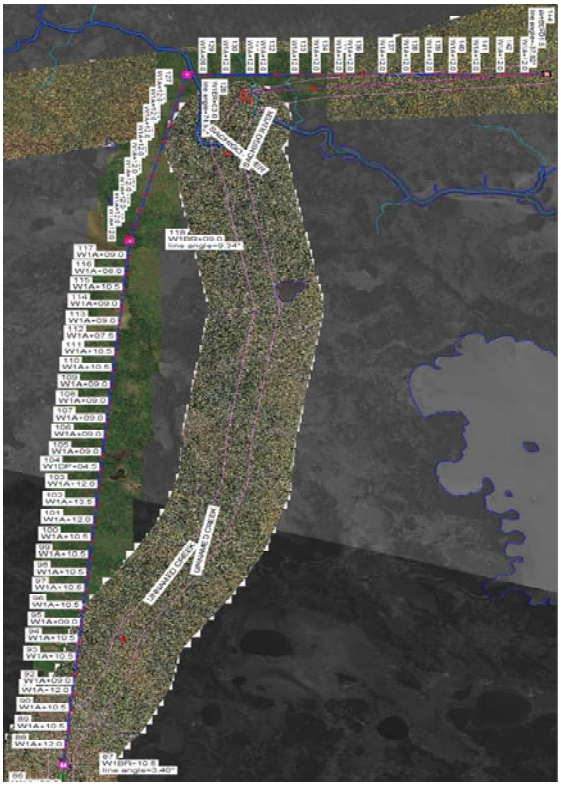
| Coste Estimate-Previous Alignment | | | | | |
|---|---|---|---|---|---|
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 23.0 | [redacted] |
| Access | | | per Str | 60 | |
| Foundation (W1A) | Normal Instalation | | per Str | 52 | |
| Foundation (W1B) | Normal Instalation | | per Str | 1 | |
| Foundation (W1C) | Normal Instalation | | per Str | 3 | |
| Foundation (W1D) | Normal Instalation | | per Str | 3 | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 52 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 3 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | |
| Grounding | | | km | 23.0 | |
| Dampers | | | per Str | 60 | |
| OPGW Accessories | | | per Str | 60 | |
| OPGW Installation & Testing | | | per km | 23.0 | |
| Conductor Installation | | | per km | 23.0 | |
| Structure Accessories | | | per Str | 60 | |
| | | | | Total= | |

| Re-alignment Provided by Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| 84 | 32493.875 | 562383.862 | 5948296.348 | 265.833 | 410.187 | | W1A |
| 85 | 32904.062 | 561973.953 | 5948311.442 | 262.393 | 404.377 | | W1A |
| 86 | 33308.439 | 561569.85 | 5948326.321 | 261.149 | 412.089 | 3.3963 | W1B |
| 87 | 33720.528 | 561159.662 | 5948365.855 | 259.483 | 416.945 | | W1A |
| 88 | 34137.473 | 560744.64 | 5948405.854 | 258.703 | 418.949 | | W1A |
| 89 | 34556.422 | 560327.623 | 5948446.046 | 259.018 | 419.608 | | W1A |
| 90 | 34976.03 | 559909.95 | 5948486.3 | 257.932 | 420.954 | | W1A |
| 91 | 35396.984 | 559490.938 | 5948526.684 | 261.367 | 377.281 | | W1A |
| 92 | 35774.265 | 559115.397 | 5948562.878 | 256.306 | 408.498 | | W1A |
| 93 | 36182.763 | 558708.783 | 5948602.067 | 254.413 | 381.482 | | W1A |
| 94 | 36564.245 | 558329.061 | 5948638.665 | 255.791 | 418.434 | | W1A |
| 95 | 36982.679 | 557912.557 | 5948678.807 | 254.295 | 387.312 | | W1A |
| 96 | 37369.991 | 557527.031 | 5948715.963 | 257.797 | 369.126 | | W1A |
| 97 | 37739.117 | 557159.608 | 5948751.375 | 257.798 | 402.94 | | W1A |
| 98 | 38142.057 | 556758.526 | 5948790.031 | 255.573 | 406.344 | | W1A |
| 99 | 38548.401 | 556354.056 | 5948829.013 | 256.221 | 405.371 | | W1A |
| 100 | 38953.772 | 555950.555 | 5948867.902 | 257.73 | 413.845 | | W1A |
| 101 | 39367.617 | 555538.619 | 5948907.604 | 257.855 | 398.27 | | W1A |
| 102 | 39765.887 | 555142.186 | 5948945.812 | 259.723 | 399.106 | | W1A |
| 103 | 40164.993 | 554744.92 | 5948984.1 | 267.823 | 373.015 | | W1D |
| 104 | 40538.008 | 554373.626 | 5949019.884 | 265.018 | 411.621 | | W1A |
| 105 | 40949.629 | 553963.903 | 5949059.373 | 260.204 | 376.02 | | W1A |
| 106 | 41325.649 | 553589.618 | 5949095.446 | 262.535 | 393.821 | | W1A |
| 107 | 41719.47 | 553197.613 | 5949133.227 | 263.392 | 380.47 | | W1A |
| 108 | 42099.94 | 552818.898 | 5949169.727 | 264.935 | 403.226 | | W1A |
| 109 | 42503.166 | 552417.532 | 5949208.41 | 267.715 | 373.654 | | W1A |
| 110 | 42876.82 | 552045.601 | 5949244.257 | 267.576 | 353.24 | | W1A |
| 111 | 43230.06 | 551693.991 | 5949278.144 | 274.993 | 352.857 | | W1A |
| 112 | 43582.917 | 551342.761 | 5949311.995 | 267.741 | 401.438 | | W1A |
| 113 | 43984.355 | 550943.175 | 5949350.507 | 267.658 | 395.464 | | W1A |
| 114 | 44379.819 | 550549.535 | 5949388.446 | 268.041 | 372.866 | | W1A |
| 115 | 44752.685 | 550178.388 | 5949424.216 | 269.626 | 364.703 | | W1A |
| 116 | 45117.388 | 549815.368 | 5949459.204 | 267.484 | 413.06 | | W1A |
| 117 | 45530.448 | 549404.213 | 5949498.83 | 276.388 | 357.101 | 9.337 | W1B |
| 118 | 45887.549 | 549059.026 | 5949590.304 | 272.231 | 376.21 | | W1A |
| 119 | 46263.759 | 548695.368 | 5949686.673 | 263.552 | 381.607 | | W1A |
| 120 | 46645.366 | 548326.494 | 5949784.424 | 261.47 | 409.028 | | W1A |
| 121 | 47054.394 | 547931.113 | 5949889.199 | 261.85 | 422.738 | | W1A |
| 122 | 47477.132 | 547522.479 | 5949997.487 | 260.168 | 422.738 | | W1A |
| 123 | 47899.87 | 547113.846 | 5950105.774 | 260.514 | 427.309 | | W1A |
| 124 | 48327.179 | 546700.794 | 5950215.232 | 259.853 | 425.023 | | W1A |
| 125 | 48752.202 | 546289.952 | 5950324.104 | 259.671 | 427.077 | | W1A |
| 126 | 49179.279 | 545877.124 | 5950433.503 | 254.164 | 332.974 | | W1A |
| 127 | 49512.252 | 545555.26 | 5950518.796 | 252.323 | 346.776 | 74.9349 | W1E |
| 128 | 49859.029 | 545553.91 | 5950865.57 | 265.057 | 409.328 | | W1A |
| 129 | 50268.357 | 545552.317 | 5951274.895 | 264.979 | 424.398 | | W1A |
| 130 | 50692.755 | 545550.665 | 5951699.29 | 259.612 | 396.105 | | W1A |
| 131 | 51088.86 | 545549.124 | 5952095.392 | 256.822 | 389.631 | | W1A |
| 132 | 51478.491 | 545547.607 | 5952485.02 | 254.475 | 393.111 | | W1A |
| 133 | 51871.602 | 545546.077 | 5952878.128 | 256.538 | 394.529 | | W1A |
| 134 | 52266.131 | 545544.542 | 5953272.654 | 258.599 | 350.07 | | W1A |
| 135 | 52616.201 | 545543.179 | 5953622.721 | 262.263 | 419.52 | | W1A |
| 136 | 53035.721 | 545541.546 | 5954042.238 | 262.28 | 420.802 | | W1A |
| 137 | 53456.523 | 545539.909 | 5954463.037 | 260.385 | 412.709 | | W1A |
| 138 | 53869.232 | 545538.302 | 5954875.743 | 259.547 | 417.792 | | W1A |
| 139 | 54287.024 | 545536.676 | 5955293.532 | 260.592 | 415.407 | | W1A |
| 140 | 54702.431 | 545535.06 | 5955708.935 | 263.974 | 416.197 | | W1A |
| 141 | 55118.628 | 545533.44 | 5956125.129 | 267.93 | 421.592 | | W1A |
| 142 | 55540.22 | 545531.799 | 5956546.718 | 264.832 | 350.016 | | W1A |
| 143 | 55890.235 | 545530.437 | 5956896.731 | 261.67 | 300.095 | -37.9197 | W1D |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 23.7 | [redacted] |
| Access | | | per Str | 60 | |
| Foundation (W1A) | Normal Instalation | | per Str | 55 | |
| Foundation (W1B) | Normal Instalation | | per Str | 2 | |
| Foundation (W1C) | Normal Instalation | | per Str | | |
| Foundation (W1D) | Normal Instalation | | per Str | 2 | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 55 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | |
| Grounding | | | per km | 23.7 | |
| Dampers | | | per Str | 60 | |
| OPGW Accessories | | | per Str | 60 | |
| OPGW Installation & Testing | | | per km | 23.7 | |
| Conductor Installation | | | per km | 23.7 | |
| Structure Accessories | | | per Str | 60 | |
| | | | | Total= | |
| | | | | **Difference** | |

### 3. Cost Comparison

[redacted]



## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 80 |
| RFI Number | HATCH-VAL-RFI-0306_CCR-037 |
| Segment | VY |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| 111 | 40046.836 | 515831.715 | 5836479.902 | 331.07 | 956 | | W1A |
| 112 | 40387.35 | 515772.853 | 5836815.289 | 332.959 | | -20.505 | W1C |
| 113 | 40761.625 | 515583.122 | 5837137.911 | 332.262 | | | W1A |
| 114 | 41169.039 | 515376.593 | 5837489.097 | 326.506 | | | W1A |
| 115 | 41587.881 | 515164.271 | 5837850.134 | 328.366 | | | W1A |
| 196 | 70878.517 | 512819.688 | 5864120.515 | 295.833 | | -5.5901 | W1B |
| 197 | 71197.166 | 513033.393 | 5864356.877 | 291.902 | | | W1A |
| 198 | 71537.234 | 513261.463 | 5864609.129 | 295.718 | | | W1A |
| 199 | 71834.462 | 513460.801 | 5864829.602 | 292.514 | | -50.2828 | W1E |

RFP Alignment

**Coste Estimate-Previous Alignment**

| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 1.0 | [redacted] |
| Access | | | per Str | 9 | |
| Foundation (W1A) | Normal Instalation | | per Str | 6 | |
| Foundation (W1B) | Normal Instalation | | per Str | 1 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 6 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | |
| Grounding | | | per Str | 9 | |
| Dampers | | | per Str | 9 | |
| OPGW Accessories | | | per Str | 9 | |
| OPGW Installation & Testing | | | per km | 1.0 | |
| Conductor Installation | | | per km | 1.0 | |
| Structure Accessories | | | per Str | 9 | |
| Total | | | | Total= | |

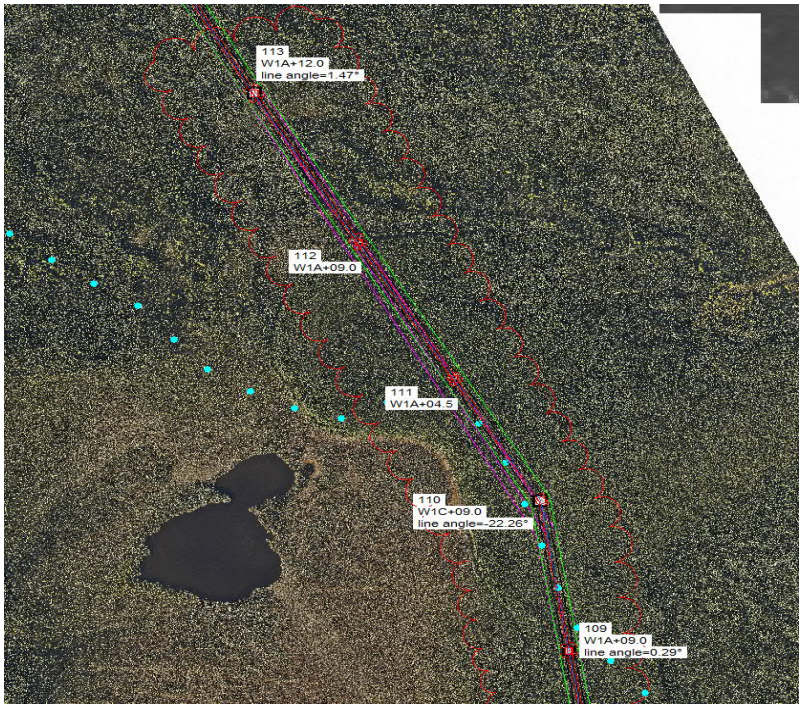
**Previous Alignment Provided By Valard**

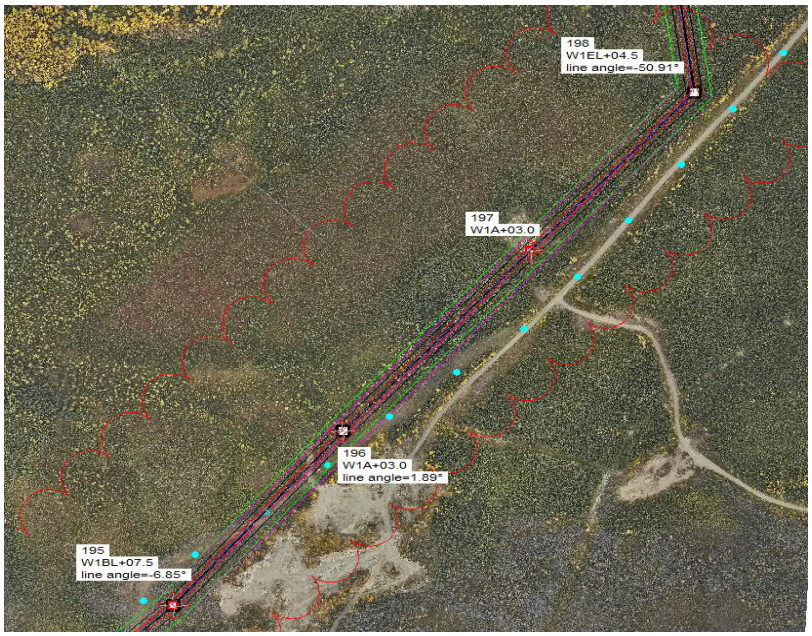
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
|---|---|---|---|---|---|---|---|
| 109 | 39673.634 | 515819.146 | 5836548.814 | 331.363 | 956 | 0.2885 | W1A |
| 110 | 40019.409 | 515762.445 | 5836890.195 | 332.741 | | -22.2608 | W1C |
| 111 | 40346.363 | 515588.186 | 5837167.174 | 331.238 | | | W1A |
| 112 | 40713.875 | 515393.833 | 5837479.092 | 326.998 | | | W1A |
| 113 | 41112.609 | 515182.969 | 5837817.508 | 328.603 | | 1.4673 | W1A |
| 195 | 70441.03 | 512819.235 | 5864120.455 | 295.77 | | -6.8487 | W1B |
| 196 | 70759.756 | 513027.748 | 5864361.512 | 292.054 | | 1.8879 | W1A |
| 197 | 71099.846 | 513258.589 | 5864611.258 | 295.894 | | | W1A |
| 198 | 71397.091 | 513460.349 | 5864829.541 | 292.519 | | -50.9121 | W1E |

Re-Alignment Vs Previous Alignment Provided By Valard

**Coste Estimate-Re-Alignment**

| Item | Tower Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | per km | 1.0 | [redacted] |
| Access | | | per Str | 9 | |
| Foundation (W1A) | Normal Instalation | | per Str | 6 | |
| Foundation (W1B) | Normal Instalation | | per Str | 1 | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | | |
| Foundation (W1E) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 6 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | 1 | |
| Grounding | | | per Str | 9 | |
| Dampers | | | per Str | 9 | |
| OPGW Accessories | | | per Str | 9 | |
| OPGW Installation & Testing | | | per km | 1.0 | |
| Conductor Installation | | | per km | 1.0 | |
| Structure Accessories | | | per Str | 9 | |
| Total | | | | Total= | |
| Cost Difference | | | | | |


113
W1A+12.0
line angle=1.47°
112
W1A+09.0
111
W1A+04.5
110
W1C+09.0
line angle=-22.26°
109
W1A+09.0
line angle=0.29°


198
W1EL+04.5
line angle=-50.91°
197
W1A+03.0
196
W1A+03.0
line angle=1.89°
195
W1BL+07.5
line angle=-6.85°

# Line Segment S1 - Route Change

| | Structures | Old | New | Material/ Equipment | Construction | Total | Old Total | New Total |
|---|---|---|---|---|---|---|---|---|
| Custom Tan/Riser | 25-1P-RISER POLE | 2 | 2 | | | | | |
| Custom Tan/Riser | 25-1P-TAN-3-50/Risor Pole | 0 | 2 | | | | | |
| | 25-1P-TAN-3-60 | 9 | 8 | | | | | |
| | 25-1P-ANG-1-50 | 1 | 0 | | | | | |
| | 25-1P-COR | 1 | 0 | | | | | |
| | 25-1P-DE-1-60 | 2 | 3 | | | | | |
| | Str Total | 15 | 15 | | | | | |

| FDN/Anchors | New (1 additional Structures) | Material/ Equipment | ConstructionC12:E12K13D12:E12 | Total | New Total |
|---|---|---|---|---|---|
| Foundation Overburden - Direct embed drill in soil 25kV | 0 | | | | |
| Anchor OVB - Screw Anchor 14" (See Note) | 3 | | | | |
| *Anchors added (1 additional per riser, 1 addtional for corner to DE change* | | | | | |

| | Underground install (Length correction) | Old (meters) | New (meters) | Material/ Equipment | Construction | Total | Old Total | New Total |
|---|---|---|---|---|---|---|---|---|
| | *25kV Direct Bury cable ( 3 x 750kcmil Al 25kV cables)* | 300 | 270.2 | $ 155.25 | | | | |
| | | | | | | | | |

| | Stringing Overhead (Length Correction) | Old (km) | New (km) | Material/ Equipment | Construction | Total | Old Total | New Total |
|---|---|---|---|---|---|---|---|---|
| | *25kV stringing* | *1.30* | 1.258 | $ 6,590.63 | | | | |
| | Neutral 25kV | *1.30* | 1.258 | $ 1,575.18 | | | | |
| | *ADSS Stringing 25kV - 96 fibre* | *1.30* | 1.258 | $ 7,602.43 | | | | |

| | Grounding Correction | Old (km) | New (km) | Material/ Equipment | Construction | Total | Old Total | New Total |
|---|---|---|---|---|---|---|---|---|
| | *Grounding - 1-pole structure* | 15 | 15 | $ - | | | | |

| Other Items | Unit | Unit Rate | Total |
|---|---|---|---|
| *Engineering ( Underground)* | 70 | | |
| *Engineering Time Structure and realign* | 30 | | |

**Poplar Hill (Underground)**

| Description | | | | Material/ Equipment | Construction | Total M&C | Unit Total | Estimated Total |
|---|---|---|---|---|---|---|---|---|
| 1 | | Increase in Trench Depth (Additional Bedding Sand Required) | m | | | | | |
| 2 | | Addition of Conduit (1 x 2" HDPE, 5x 6" DB2 Conduit, Elbows, and Misc.) | m | | | | | |
| 2a | | 1 x 2" HDPE, | m | | | | | |
| 2b | | 1 x 2" PVC, Conduit, Elbows, and Misc. | m | | | | | |
| 2c | | 5x 6" DB2 Conduit, Elbows, and Misc. | m | | | | | |
| 3 | | 750MCM Aluminum to 350MCM Copper Conductor Change | m | | | | | |
| 4 | | Addition Spare Conductor (1x350MCM) | m | | | | | |
| | | Total Estimated Price Increase Per Meter (Underground) | | | | | | |

# Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 98 |
| RFI Number | RFI-0371, CCO-028 |
| Segment | G1 |

**Previous Alignment Provided By Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| G1-001 | | - | - | - | 1000 | | 25-1P-DE-1-50 |
| G1-002 | | - | - | - | | | 25-1P-ANG-1-50 |
| G1-003 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-004 | | - | - | - | | | 25-1P-ANG-1-50 |
| G1-005 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-006 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-007 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-008 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-009 | | - | - | - | | | 25-1P-ANG-1-50 |
| G1-010 | | - | - | - | | | 25-1P-ANG-1-50 |
| G1-011 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-012 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-013 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-014 | | - | - | - | | | 25-1P-TAN-3-50 |
| G1-015 | | - | - | - | | | 25-1P-ANG-1-50 |

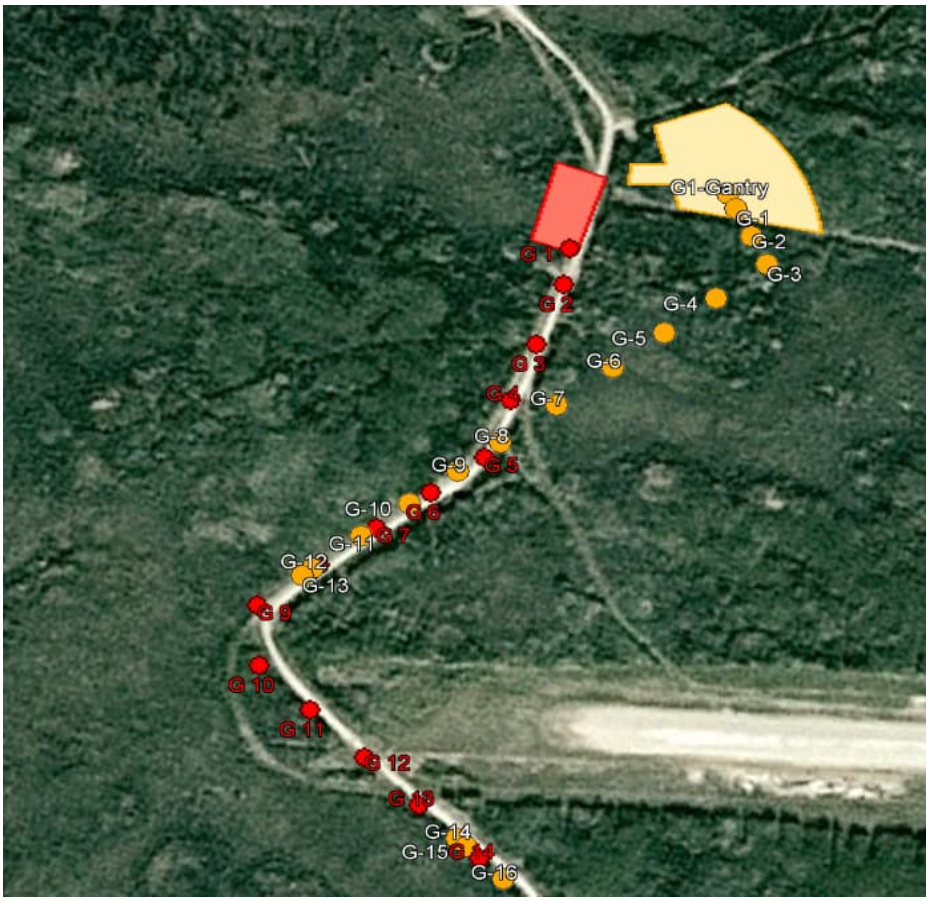
**Coste Estimate-Previous Alignment**

| Total | Installation Type | Average Price | Unit | Quantity | Cost |
|---|---|---|---|---|---|
| RoW Clearing | | [redacted] | km | 1 | [redacted] |
| Access | | | per str. | 15 | |
| 25-1P-TAN | | | per str. | 9 | |
| 25-1P-ANG | | | per str. | 5 | |
| 25-1P-COR | | | per str. | | |
| 25-1P-DE | | | per str. | 1 | |
| 25-1P-DE- Zero degree | | | per str. | | |
| 25-1P-DE- Riser Pole | | | per str. | | |
| Grounding-1-pole structure | | | per str. | 15 | |
| Accessories-Conductor&neutral accessories - Vibration Damper | | | km | 1 | |
| OPGW and ADSS Fittings and Accessories: | | | km | 1 | |
| Conductor Stringing | | | km | 1 | |
| Neural Stringing | | | km | 1 | |
| OPGW Stringing | | | km | 1 | |
| ADSS Stringing | | | km | 1 | |
| Structure and line identification and Danger plates | | | per str. | Total= | |
| | | | | Total | [redacted] |

**Re-alignment Provided by Valard**

| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Type |
|---|---|---|---|---|---|---|---|
| G1-001 | 20 | 552392.343 | 5972369.305 | 265.694 | 38.81 | | DL3-120.1-0500 Tangent (Flat) |
| G1-002 | 58.81 | 552410.496 | 5972335 | 265.012 | 38.93 | | DL3-112-0500 DDE |
| G1-003 | 97.74 | 552428.706 | 5972300.589 | 264.849 | 72.22 | 81.73 | DL3-110.3-0500 / DL3-124-0500 Heavy angle DE |
| G1-004 | 169.96 | 552370.4 | 5972257.976 | 263.74 | 73.49 | | DL3-106-0500 Tangent |
| G1-005 | 243.44 | 552311.071 | 5972214.615 | 263.097 | 73.14 | | DL3-106-0500 Tangent |
| G1-006 | 316.58 | 552252.023 | 5972171.46 | 262.768 | 79.68 | | DL3-106-0500 Tangent |
| G1-007 | 396.26 | 552187.694 | 5972124.445 | 262.766 | 79.67 | | DL3-106-0500 Tangent |
| G1-008 | 475.93 | 552123.371 | 5972077.434 | 263.303 | 60.81 | | DL3-106-0500 Tangent |
| G1-009 | 536.75 | 552074.272 | 5972041.55 | 265.961 | 68.43 | | DL3-106-0500 Tangent |
| G1-010 | 605.18 | 552019.024 | 5972001.172 | 263.611 | 68.56 | | DL3-106-0500 Tangent |
| G1-011 | 673.74 | 551963.672 | 5971960.718 | 263.251 | 68.62 | | DL3-106-0500 Tangent |
| G1-012 | 742.35 | 551908.275 | 5971920.231 | 263.129 | 15.03 | | DL3-106-0500 Tangent |
| G1-013 | 757.38 | 551896.136 | 5971911.36 | 263.104 | 100 | | DL3-110.3-0500 Deadend riser |
| G1-014 | 857.39 | 552076.974 | 5971587.324 | 259.804 | 14.98 | | DL3-110.3-0500 Deadend riser |
| G1-015 | 872.37 | 552087.975 | 5971577.149 | 259.765 | 58.47 | | DL3-106-0500 Tangent |
| G1-016 | 930.84 | 552130.897 | 5971537.45 | 259.705 | 58.8 | | DL3-106-0500 Tangent |
| G1-017 | 989.64 | 552174.065 | 5971497.524 | 259.793 | 71.01 | -34.29 | DL3-108.2-0500 Medium angle |
| G1-018 | 1060.65 | 552244.301 | 5971487.059 | 261.901 | 75.22 | 25.72 | DL3-108.2-0500 Medium angle |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| Total | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | | km | 1.1 | |
| Access | | | per str. | 18.0 | |
| 44-SP-TANG | | | per str. | | |
| 44-SP-LANG | | | per str. | | |
| 44-SP-MANG | | | per str. | | |
| 44-SP-HADE | | | per str. | | |
| 44-HF-ACAD | | | per str. | | |
| 25-1P-TAN | | | per str. | 12.0 | |
| 25-1P-ANG | | | per str. | | |
| 25-1P-COR | | | per str. | 2.0 | |
| 25-1P-DE | | | per str. | 1.0 | |
| 25-1P-DDE- Zero degree | | | per str. | 1.0 | |
| 25-1P-DE- Riser Pole | | | per str. | 2 | |
| Grounding-1-pole structure | | | per str. | 18.0 | |
| Accessories-Conductor&neutral accessories - Vibration Damper | | | km | 1.1 | |
| OPGW and ADSS Fittings and Accessories: | | | km | 1.1 | |
| Conductor Stringing | | | km | 1.1 | |
| Neural Stringing | | | km | 1.1 | |
| OPGW Stringing | | | km | - | |
| ADSS Stringing | | | km | 1.1 | |
| Structure and line identification and Danger plates | | | per str. | 18 | |
| | | | | Total | |



## Cost Estimate Comparison-Route Change

| | |
|---|---|
| Register ID | 99 |
| RFI Number | RFI-335 |
| Segment | EG |

| Previous Alignment Provided By Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Z Elevation (m) Centerline | Ahead Span (m) | Line Angle (deg) | Structure Type |
| 225 | 85657.582 | 551809.765 | 5973130.988 | 262.507 | 814 | 37.5186 | W1D |
| 226 | 86016.685 | 551975.474 | 5972812.404 | 263.817 | | | W1A |
| 227 | 86267.655 | 552091.284 | 5972589.753 | 265.791 | | -5.5894 | W1B |
| 228 | 86471.309 | 552202.411 | 5972419.09 | 264.031 | | | W1D |

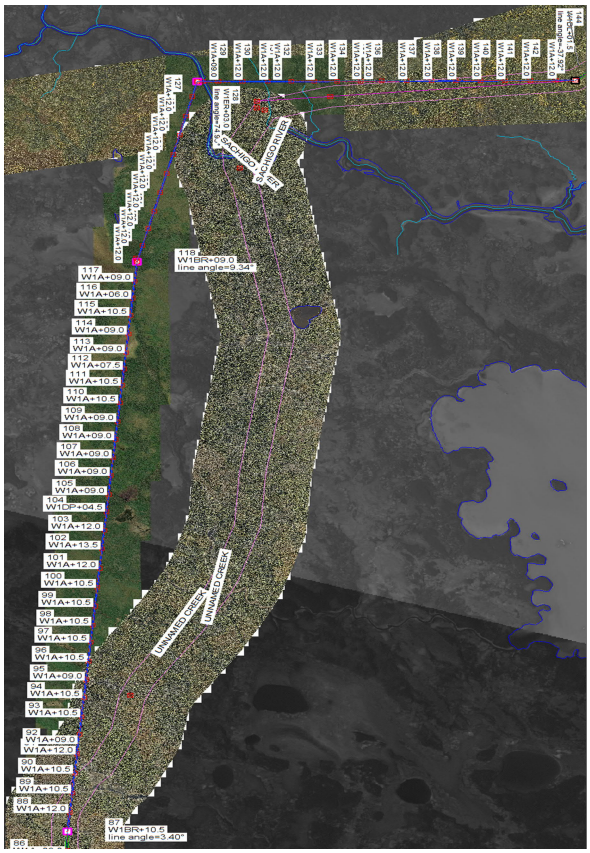
| Coste Estimate-Previous Alignment | | | | | |
|---|---|---|---|---|---|
| Item | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 0.814 | [redacted] |
| Access | | | per Str | 4 | |
| Foundation (W1A) | Normal Instalation | | per Str | 1 | |
| Foundation (W1B) | Normal Instalation | | per Str | 1 | |
| Foundation (W1C) | Normal Instalation | | per Str | | |
| Foundation (W1D) | Normal Instalation | | per Str | 2 | |
| Foundation (W1E) | Normal Instalation | | per Str | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | | |
| Grounding | | | km | 0.814 | |
| Dampers | | | per Str | 4 | |
| OPGW Accessories | | | per Str | 4 | |
| OPGW Installation & Testing | | | per km | 0.814 | |
| Conductor Installation | | | per km | 0.814 | |
| Structure Accessories | | | per Str | 4 | |
| | | | | Total= | |

| Re-alignment Provided by Valard | | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Number | Station (m) | X Easting (m) | Y Northing (m) | Centerline Z Elevation (m) | Ahead Span (m) | Line Angle (deg) | Structure Description |
| 217 | 82995.783 | 551809.406 | 5973130.825 | 262.494 | 833 | 25.8934 | W1C |
| 218 | 83226.801 | 551955.123 | 5972951.559 | 262.598 | | | W1A |
| 219 | 83525.995 | 552143.841 | 5972719.39 | 266.053 | | | W1A |
| 220 | 83813.157 | 552324.97 | 5972496.558 | 266.234 | | 11.2118 | W1D |

| Coste Estimate-Re-Alignment | | | | | |
|---|---|---|---|---|---|
| Item | Installation Type | Average Price | Unit | Quantity | Cost |
| RoW Clearing | | [redacted] | per km | 0.833 | [redacted] |
| Access | | | per Str | 4 | |
| Foundation (W1A) | Normal Instalation | | per Str | 2 | |
| Foundation (W1B) | Normal Instalation | | per Str | | |
| Foundation (W1C) | Normal Instalation | | per Str | 1 | |
| Foundation (W1D) | Normal Instalation | | per Str | 1 | |
| Foundation (W1E) | Normal Instalation | | per Str | | |
| Str. Assembly (W1A) | Normal Instalation | | per Str | 2 | |
| Str. Assembly (W1B) | Normal Instalation | | per Str | | |
| Str. Assembly (W1C) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1D) | Normal Instalation | | per Str | 1 | |
| Str. Assembly (W1E) | Normal Instalation | | per Str | | |
| Grounding | | | per km | 0.833 | |
| Dampers | | | per Str | 4 | |
| OPGW Accessories | | | per Str | 4 | |
| OPGW Installation & Testing | | | per km | 0.833 | |
| Conductor Installation | | | per km | 0.833 | |
| Structure Accessories | | | per Str | 4 | |
| | | | | Total | |
| | | | | Difference | |

## 3. Cost Comparison

[redacted]



**The remainder of this attachment (i.e. pages 50 to 84) has been filed confidentially in accordance with the Practice Direction on Confidential Filings.**

**BOARD STAFF - 13**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 17 / Table 5
Exhibit A / Tab 3 / Schedule 1 / page 20

**Preamble:** As at May 31, 2022, WPLP had executed or was in the process of executing EPC change orders in the amount of $24.7 million, leaving a contingency allowance of $93.5 million.

A contingency amount of $48,075,777 was removed from the 2022 rate base and deferred and tracked in the Deferred Contingency Deferral Account (DCDA). WPLP has proposed an additional contingency amount be removed from the 2023 rate base and deferred and tracked in the DCDA for a total amount of $65,375,502.

The settlement agreement stated that future transmission rate applications, for years in which additional transmission line segments and stations will be placed into service, will include detailed information on variance and the use of contingency amounts for such line segments and stations being placed into service, relative to both the values presented in the respective application and the values that were presented in Leave to Construct (LTC) proceeding.

**Question(s):**

a) Please provide how much of the contingency amount of $48,075,777 is included in the $24.7 million of change orders in Table 5. Please explain if and by how much this will impact the DCDA for the amount removed from the 2022 rate base.

b) Please confirm the expected amount of the $93.5 million contingency remaining after the 2022 and 2023 amounts have been removed from the rate base. Please explain if this is considered adequate and if so why, to cover all remaining contingencies until the transmission system is in-service.

c) Please provide the contingency amount for each of the 10 line sections and 5 stations that are expected to come into service in 2023 including detailed information on variance and the use of contingency amounts relative to both the values presented in this application and the values that were presented in the LTC proceeding.

---

**Response:**

a) WPLP is forecasting to use $1.39 million of the $48,075,777 million contingency amount for purposes of the change orders referred to in Table 5. This forecast does not take into consideration the risks still under negotiation between WPLP and Valard. Utilizing $1.39

million of the contingency amount will have an estimated impact of $0.11 million on the DCDA based on the actual cost of capital (ROE and Interest) and depreciation.

Please refer to OEB Staff IR 8 for additional information.

b) Contingency is determined based on the risks known at a specific point in time. As of July 1, 2022, WPLP calculated a required contingency for the remainder of the Project of $93.5 million. As noted in Exhibit H-1-1, WPLP has estimated $65.4 million dollars of the contingency relates to 2022 and 2023. This estimate includes the $48.1 million approved in the 2022 rate application and the $17.3 million requested for 2023, as shown in the table in part (c), below. Assuming all other things remain equal, the expected portion of the $93.5 million contingency remaining after the 2022 and 2023 amounts have been removed from the rate base is $28.1 million. Based on information available as of October 6, 2022, and assuming all other things remain equal, the $28.1 million in contingency should be adequate until the remaining sections of the transmission system are in-service. WPLP will revisit the QRA and contingency once assets are in for 2022 and 2023 and evaluate based on the project risks known at that time.

   Please refer to OEB Staff IR 8 for additional information, where WPLP provides the current QRA analysis and notes risks that are still under negotiation with Valard and have not been included in the contingency calculation.

c) The following table provides the contingency amounts for each of the 10 line sections and 5 stations that are expected to come into service in 2023 including the contingency values presented in LTC proceeding.

| Asset Designation | Description | Contingency | Contingency Utilization | Remaining Contingency | LTC Contingency[1] |
|---|---|---|---|---|---|
| Line WJK | 115 kV - Kingfisher Lake TS to Wawakapewin TS | [redacted] | | | 9,113 |
| Line WK1 (25kV) | 25 kV - Wawakapewin TS to HORCI Wawakapewin | | | | 226 |
| Line DE | 115 kV - North Caribou Lake TS to Muskrat Dam TS | | | | 8,998 |
| Line E1 (25kV) | 25 kV - Muskrat Dam TS to HORCI Muskrat Ram | | | | 272 |
| Line EF | 115 kV - Muskrat Dam TS to Bearskin Lake TS | | | | 7,288 |
| Line F1 (25kV) | 25 kV - Bearskin Lake TS to HORCI Bearskin Lake | | | | 23 |

[1] As noted in EB-2018-0190, Exhibit C-8-1, a general contingency of 20% was used. WPLP did not calculate a contingency for each line and station component. In order to provide a value for comparison WPLP applied 20% to the forecasted respective line segment and substation value included in the financial model used to calculate the LTC values.

[2] Negative contingency utilization is reflective of project savings.

| | | | |
|---|---|---|---|
| Line JI | 44 kV - Kingfisher TS to Wunnumin TS | [redacted] | 3,611 |
| Line I1 (25kV) | 25 kV - Wunnumin TS to HORCI Wunnumin | | 45 |
| Line KL | 44 kV - Wawakapewin TS to Kasabonika TS | | 2,855 |
| Line L1 (25kV) | 25 kV - Kasabonika TS to HORCI Kasabonika | | 91 |
| Station E | Muskrat Dam TS | | 2,509 |
| Station F | Bearskin Lake TS | | 1,691 |
| Station K | Wawakapewin TS | | 2,505 |
| Station I | Wunnumin Lake TS | | 1,006 |
| Station L | Kasabonika Lake TS | | 1,014 |
| | | | **41,248** |

**BOARD STAFF - 14**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 17

**Preamble:** WPLP shows a total Contingency plus Change Order costs of $118.2 million stating that as identified risks to the project materialize into change orders, or the likelihood and/or magnitude of impacts decrease through the Quantitative Risk Assessment process, contingency is reduced.

**Question(s):**

a) Based on the above statement, please confirm the contingency cost is to be reduced by $24.7 million and the total contingency cost is now calculated as $68.8 million ($93.5 million- $24.7 million). If not, please explain why not.

---

**Response:**

a) The available contingency is $118.211 million. The $24.7 million is the forecasted contingency utilization. Assuming the full $24.7 million is utilized the remaining contingency would be $93.5 million.

The $68.8 million calculation referred to in the question is not the appropriate remaining contingency balance. The calculation above incorrectly assumes available contingency is $93.5 million, and by reducing the contingency by $24.7 million, the balance would be double counting the utilized contingency ($118.2 million less $24.7 million = $93.5 million less $24.7 million = $68.8 million).

**BOARD STAFF - 15**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 8 / Table 3
Exhibit B / Tab 1 / Schedule 5 / pages 13-16

**Preamble:** Non-EPC capital costs for the "Engineering, Design, Project/Construction Management & Procurement" category are approximately $6.3 million lower when compared with the equivalent estimate in the 2022 rate application.

Non-EPC capital costs for the "Land Rights" category are approximately $1.4 million lower when compared with the equivalent estimate in the 2022 rate application. WPLP attributes the lower costs in this category to delays in incurring certain land costs due to changes in the construction schedule.

**Question(s):**

a) Please explain why the non-EPC costs for the "Engineering, Design, Project/Construction Management & Procurement" category are lower. If there are multiple drivers involved, please provide a breakdown attributing the cost reduction with the appropriate driver.

b) Please elaborate further on the reduced non-EPC cost estimate for the "Land Rights" category.

c) Which specific "lands" is the reduction attributable to?

d) Please explain how "delays in incurring certain land costs" is resulting in reduced land rights costs for the full project.

e) When does WPLP expect to incur the delayed land costs?

---

**Response:**

a) There were multiple drivers for the cost savings identified in Engineering, Design, Project/Construction Management & Procurement. The significant drivers were: (1) Internal labour savings due to delays in hiring in 2021, which provided cost savings of $1.28 million, (2) Owner's Engineer/Independent Engineer savings due to WPLP's cost management measures, which provided savings of $3.35 million, (3) Travel savings due to restrictions to travel, reduced meetings and events, which resulted in savings of $1.59 million.

b) WPLP experienced savings within the Land Rights category because the costs for certain land rights were not incurred until construction commenced.

c) The reduction is attributable to lands required for and impacted by the Remote Connection Lines and which are within the area of land covered by Treaties 3, 5 and 9, which Treaties were made between the Crown and Anishinabe and Anishinninuwug signatories in 1873 (Treaty 3), 1875 with adhesions in 1889 (Treaty 5) and in 1905-6 with adhesions in 1929-30 (Treaty 9).

d) During the construction period these costs are capitalized as they support construction activity, as a result any savings would result in reduced land right costs for the full project. See response (b), above**.**

e) WPLP does not expect to incur the land costs in respect of the period of the delay. Please refer to response (b), above.

**BOARD STAFF - 16**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 8 / Table 3
Exhibit B / Tab 1 / Schedule 5 / pages 18-22

**Preamble:** Capital costs related to the capitalized interest category are approximately $14.1 million higher when compared with the equivalent estimate in the initial rate application. WPLP states that the increase in costs are primarily due to changes in construction schedule leading to assets going in-service at a later date and thereby causing more interest to be capitalized. WPLP also notes that rising interest rates are also causing costs to increase.

Capital costs related to the "Other Infrastructure" category are approximately $27.3 million lower when compared with the equivalent estimate in the initial rate application. The reduction in costs is mainly attributable to a delay in the construction of WPLP's main operating centre, backup operating centre and two service centres. WPLP states that these specific facilities will be constructed and put into service outside of the Project construction period.

**Question(s):**

a) What portion of the $14.1 million increase in capitalized interest costs is attributable to construction schedule changes and what portion is attributable to interest rate increases?

b) WPLP states that the reduction in costs for the "Other infrastructure" category are mainly attributable to a delay in the construction of WPLP's main operating centre, backup operating centre and two service centres. When does WPLP expect to have these facilities in service? What would be the cost impact of the delayed construction of these facilities?

---

**Response:**

a) Of the $14.1 million increase in capitalized interest costs, $9.92 million is attributable to construction schedule changes and $4.18 million is attributable to rising interest rates.

b) Please refer to response to OEB Staff 9 (c) regarding the main operating centre and the backup operating centre. The need for the two service centres are currently being evaluated and, for budgeting purposes, WPLP has planned to construct and place these facilities in service in 2025 and 2026. WPLP will continue to evaluate the construction of the services center once the IMER Agreement is executed.[1] WPLP believes the cost impact would be minimal or result in an overall saving in the cost of construction. WPLP expects that

[1] See Exhibit B-1-4, p. 13.

initiating construction of these facilities during the pandemic would have added costs related to procurement and managing COVID-19 restrictions and supply chain issues.

The immediate cost impact, with respect to the 2023 test year, is that delaying the construction of these facilities reduces WPLP's rate base and revenue requirement.

**BOARD STAFF - 17**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 23 / Appendix A / Table A-1

**Preamble:** The above reference outlines WPLP's forecast of its general overhead costs. The references notes that "Overhead costs are comprised of costs such as internal labour (including departmental costs and overheads), services provided by third party consultants and professionals of a general nature, costs related to continued Indigenous engagement and participation in the project, general administrative costs and stakeholder engagement costs".

**Question(s):**

a) Please provide additional details with regards to the overhead costs outlined in Table A-1. When responding please provide a more detailed breakdown of the different categories listed.

b) For each of the subcategories, please provide a description of work associated and an explanation as to why it has been categorized as "general" costs, as opposed to capital or operating costs.

---

**Response:**

a) and b) The table below provides additional details with regards to the overhead costs, along with a more detailed breakdown of the different categories of overhead costs, the description of work associated with these categories and an explanation as to why the overhead costs have been categorized as "general".

| **Overhead Costs for 2019-2024 ($000s)** | | | |
|---|---|---|---|
| **Labour and Departmental Costs** | | | |
| | Labour and Affiliate Services | 34,275 | These costs are associated with labour and affiliate services for Executives, Finance, Environment, Health & Safety, Engineering, Human Resources, IT and Communications. As these functions work on Capital Project and Operations, the costs for these functions are categorized as general. |
| | Equipment and Supplies | 772 | Travel, training and equipment costs related to the departments listed above. Given departments work on both Capital Project and Operations, costs are categorized as general. |
| | Software | 215 | |
| | Meetings | 1,252 | |
| | Training | 418 | |

| | | | |
|---|---|---|---|
| | Travel | 6,004 | |
| | Rents | 8,488 | Land costs for the project which include both Capital and Operating segments and are therefore categorized as general to allow for appropriate allocation when assets come into service. |
| | Other | 398 | |
| | | **51,822** | |
| **Environmental Services** | | **5,332** | General environmental supports through contracted services related to permit updates, GIS services and provisional amounts for EA updates/amendments. Services are used by both operating teams and construction team. |
| **Other Consultants (Allocate)** | | | |
| | Legal | 1,485 | Legal supports related to general corporate matters of WPLP. Legal supports specifically related to Capital matters are excluded from this category. |
| | Advisory Services | 4,779 | Advisory services related to financial modeling (capital and operating activities), Indigenous lands, section 28(2) permits, Indigenous work plans. In years 2019-2021, Advisory Services also included specific archeological work and Surveying costs that based on the allocation methodology is all allocated to Capital in those years given no transmission assets were in service. In addition, in years 2022-2024 Advisory Services include more monitoring-based programs required under the EA in areas of Project impact. |
| | Audit Fees | 318 | Corporate audit fees |
| | IT Support Services | 289 | Includes general IT support services for WPLP construction, operational and general employees. |
| | Other | 455 | General provisions for third party contracted services including Health & Safety equipment inspections, recruitment supports, accounting software consultants, translation services etc. |
| | | **7,326** | |
| **Indigenous Engagement & Communications** | | | Indigenous Engagement services and activities, including related meetings and travel expenses, to ensure appropriate communication of capital project activities and operating activities/outages to mitigate potential access issues and community impacts. Affiliate services include affiliate labour |
| | Affiliate Services | 5,671 | |
| | Contracted Services | 8,740 | |
| | Meetings | 1,942 | |
| | Travel | 780 | |

| | | | |
|---|---|---|---|
| | Other | 1,047 | costs and contracted service costs include community and tribal council supports. Engagement activities include updates on all aspects of WPLP including both operations and construction, therefore is classified as general. |
| | | **18,180** | |
| **Stakeholder Engagement** | | | Stakeholder Engagement services and activities, including related meetings and travel expenses, to ensure both capital project and operations activities are appropriately communicated with WPLP's stakeholders. |
| | Affiliate Services | 74 | |
| | Contracted Services | 38 | |
| | Meetings | 0 | |
| | Travel | 112 | |
| | Other | 313 | |
| | | **537** | |
| **Indigenous Participation and Training** | | | Indigenous Participation and Training services and activities, including related meetings and travel expenses, for developing and implementing training and business readiness programs to ensure there is local capacity for both the construction and operation of the transmission system. |
| | Affiliate Services | 8,684 | |
| | Contracted Services | 6,898 | |
| | Meetings | 1,450 | |
| | Travel | 1,706 | |
| | Other | 1,034 | |
| | | **19,771** | |
| **Administrative Costs** | | | |
| | Affiliate Services | 6,759 | Overall general administrative costs for office space and materials. Given the office space and materials are shared for both construction and operation efforts, the costs are classified as general overhead. |
| | Office Supplies | 1,014 | |
| | Rent | 852 | |
| | Utilities | 108 | |
| | Other | 105 | |
| | | **8,838** | |
| **Total** | | **111,806** | |

**BOARD STAFF - 18**

**Reference:** Exhibit C / Tab 6 / Schedule 1
Exhibit B / Tab 1 / Schedule 5 / page 26

**Preamble:** In reference 1, WPLP stated that costs included in the carrying amount of property, plant and equipment include expenditures that are directly attributable to the acquisition or construction of the asset. In reference 2, as part of Table A-4, Indigenous Engagement and Communications costs and Indigenous Participation and Training costs have been capitalized.

**Question(s):**

a) Please explain how are the expenditures described in reference 2 directly attributable to the construction of the assets?

---

**Response:**

a) The costs incurred or to be incurred by WPLP in respect of Indigenous Engagement and Communication, as well as for Indigenous Participation and Training, are necessary and important for effective project execution and construction of the project assets.

In terms of Indigenous Engagement and Communication, as explained in WPLP's leave to construct application,[1] WPLP has a legal obligation to undertake consultation activities pursuant to a 2016 Memorandum of Understanding in which the Ministry of Energy delegated certain procedural aspects of the duty to consult to WPLP (the "Consultation MOU"). WPLP developed and has been implementing an Aboriginal Engagement Plan to fulfill its obligations under the Consultation MOU. A significant amount of the Indigenous Engagement and Communication that WPLP has undertaken is in relation to this Aboriginal Engagement Plan and the Consultation MOU and is therefore required for construction of the project assets.

In addition, as the project is being constructed on the Homelands of many First Nations, effective and ongoing engagement and communications with these First Nations has been and continues to be necessary and has assisted Valard in being able to progress with construction within those Homelands.

The activities for which these costs are incurred help ensure that (i) the impacted First Nations have meaningful opportunities to help WPLP and Valard identify potential impacts and mitigation measures at different stages of the project, (ii) First Nations are aware of all construction activities on their Homelands, and (iii) that construction activities can progress

[1] See Exhibit I, Tab 3, Schedule 1, EB-2018-0190, filed October 5, 2018.

in accordance with construction plans. WPLP's commitment to comprehensive and effective Indigenous engagement, including through the responsibilities for engagement that it has assigned to its EPC Contractor (Valard) under the EPC Contract, is an investment that helps to minimize project risks. Where WPLP has required routing changes due to construction or environmental considerations, effective Indigenous engagement and communications have enabled such concerns to be effectively identified and appropriate solutions to be developed with the support of impacted communities.

The fact that WPLP is majority-owned by the Participating First Nations does not mean that engagement efforts are not required. The above efforts in regards to Indigenous Engagement and Communication have been essential to the development and construction of the project.

Indigenous Participation and Training are necessary for and directly attributable to construction of the project assets. In particular, these activities ensure the EPC Contractor (Valard) has access to sufficient qualified local employees (Participating First Nation members) and local Participating First Nation subcontractors. The availability of local personnel and subcontractor resources for the EPC Contractor (Valard) reduces the overall cost of the Project, while ensuring capacity building within the local First Nation communities. Please see HONI IR 1(a) for further information on WPLP's capacity building efforts for both personnel and subcontractors. Enhancing the availability of local personnel and subcontractors is also expected to provide resources and savings to WPLP over the long-term. Without WPLP's investments in Indigenous Participation and Training, the EPC Contractor would have had to perform the corresponding functions and activities (training and sourcing of qualified subcontractors) as part of its responsibilities under the EPC Contract, which would have resulted in an overall increase in cost to ratepayers and a potential increase in the overall risk of the project.

**BOARD STAFF - 19**

**Reference:** Exhibit B / Tab 1 / Schedule 5 / page 26

**Preamble:** WPLP indicates the allocation of forecasted overhead costs result from applying the allocation and capitalization factors from Table A-3 to the overhead costs in Table A-1. The results are summarized in Table A-4. OEB staff modified a version of Table A-4 including the percentages of overheads capitalized vs expensed (OM&A) that are calculated by OEB staff.

**Table A-4 (modified) Allocation of Forecasted Overhead Costs**

| | | A | B | C | D | E |
|---|---|---|---|---|---|---|
| **Category** | **Item** | **Forecasted Overhead Costs 2019-2024 ($000's)** | | | | |
| | | **Capital** | **%** | **OM&A** | **%** | **Total** |
| **Overhead** | Labour and Departmental Costs | $33,503 | 64.7% | $18,319 | 35.3% | **$51,822** |
| | Environmental Services | $4,598 | 86.2% | $735 | 13.8% | **$5,332** |
| | Other Consultants (Allocate) | $5,717 | 78.0% | $1,609 | 22.0% | **$7,326** |
| | Indigenous Engagement & Communications | $11,738 | 64.6% | $6,442 | 35.4% | **$18,180** |
| | Stakeholder Engagement | $426 | 79.3% | $111 | 20.7% | **$537** |
| | Indigenous Participation and Training | $14,134 | 71.5% | $5,637 | 28.5% | **$19,771** |
| | Administrative Costs | $6,224 | 70.4% | $2,614 | 29.6% | **$8,838** |
| | **Total** | **$76,339** | | **$35,468** | | **$111,806** |

**Question(s):**

a) The percentages calculated by OEB staff in the Table above do not reconcile with those presented in Table A-3 included in the filed evidence. Please explain why the percentages presented in the Table above are different from those in Table A-3.

---

**Response:**

a) OEB staff's modified allocation of forecasted Overhead costs, above, assumes a straight-line approach to overhead cost spend and is not an accurate representation of how costs are

incurred. The allocation of overhead costs is dependent on when costs are incurred and the varying allocation percentage applied to the corresponding period. Given Table A-1 above presents costs from 2019-2024, the timing of expenses in the different categories will cause variances in percentages presented above. As stated in Exhibit B-1-5, p. 23, "WPLP calculated the costs identified in Table A-1 on a quarterly basis from Q1 2019 to Q4 2024, and the resulting costs for each quarter are multiplied by allocation factors that are determined based on the relative percentage of assets in-service in each month".

**BOARD STAFF - 20**

**Reference:** Exhibit C / Tab 2 / Schedule 1 / pages 2 to 4 / Table 1

**Preamble:** Table 1 outlines 2023 transmission system in-service additions by asset. Line WJK has a cost of $0.68 million per km, Line DE has a cost of $0.74 million per km and Line KL (115 kV - Wawakapewin TS to Kasabonika TS) appears to have a cost of $0.57 million per km estimated based on the values in Tables 1 and 3.

**Question(s):**

a) Please comment on why Line WJK (115 kV- Kingfisher Lake TS to Wawakapewin TS) and Line DE (115 kV- North Caribou Lake TS to Muskrat Dam TS) appear to have a higher cost per km relative to the other lines.

b) Please comment on why Station E (Muskrat Dam TS) and Station L (Kasabonika Lake TS) have a higher cost than the other stations in Table 1.

---

**Response:**

a) Unit costs vary based on a combination of voltage level, accessibility and remoteness (e.g. distance from camps, roads, communities). Table 1 in Exhibit C-2-1 incorrectly lists certain 44 kV line segments (i.e. JI and KL) as operating at 115 kV. The table below compares the unit costs of the line segments listed in the preamble with other line segments of the same voltage class.

| Asset Designation | Description | 2023 In-Service Additions | Voltage (kV) | Line Length (km) | Cost/km ($000's) | Unit Cost Notes |
|---|---|---|---|---|---|---|
| Line WEF | 115 kV - Muskrat Dam TS to Bearskin Lake TS | 41,833 | 115 | 63.7 | 657 | Better access and shorter distance from camps compared to WJK and WDE |
| Line WJK | 115 kV - Kingfisher Lake TS to Wawakapewin TS | 57,939 | 115 | 84.7 | 684 | Unit costs for longer 115 kV segments with more difficult access are comparable |
| Line WDE | 115 kV - North Caribou Lake TS to Muskrat Dam TS | 73,553 | 115 | 99.5 | 739 | |
| Line WKL | 44 kV - Wawakapewin TS to Kasabonika TS | 22,150 | 44 | 39 | 568 | Unit costs are comparable |
| Line WJI | 44 kV - Kingfisher TS to Wunnumin TS | 33,632 | 44 | 54.6 | 616 | |

b) The individual station amounts in Table 1 in Exhibit C-2-1 were incorrectly entered in the table. Table below reproduces Table 1 in Exhibit C-2-1 with the corrected values and updated descriptions.[1]

With reference to the table below, Stations E and K have the higher costs, rather than Stations E and L.[2] The higher costs of Stations E and K are a result of the increased functionality provided at these stations, combining switching station and transformer station functionality. Both stations provide a combination of switching and protection for incoming and outgoing transmission lines (115 kV ring buses), variable reactive power support (2 variable reactors at Station E and one at Station K), and transformation to lower voltage levels (including transformation to both 44 kV and 25 kV at Station K). In contrast, Stations F, I and L provide transformer station functionality only at the end of various branches of the transmission system. There is therefore no requirement for High Voltage ring buses, which results in a comparatively smaller footprint and fewer assets as compared to Substations E and K. Regarding the cost difference of Station F over Station I and L, this is driven by Station F having a fixed reactor and being at 115kV, relative to Stations I and L being 44kV without reactors.

| **Asset Designation** | **Description** | **2023 In-Service Additions ($000's)** |
|---|---|---|
| | | |
| Line WJK | 115 kV - Kingfisher Lake TS to Wawakapewin TS | 57,939 |
| Line WK1 (25kV) | 25 kV - Wawakapewin TS to HORCI Wawakapewin | 1,976 |
| Line WDE | 115 kV - North Caribou Lake TS to Muskrat Dam TS | 73,553 |
| Line E1 (25kV) | 25 kV - Muskrat Dam TS to HORCI Muskrat Ram | 7,289 |
| Line WEF | 115 kV - Muskrat Dam TS to Bearskin Lake TS | 41,833 |
| Line F1 (25kV) | 25 kV - Bearskin Lake TS to HORCI Bearskin Lake | 371 |
| Line WJI | 44 kV - Kingfisher TS to Wunnumin TS | 33,632 |
| Line I1 (25kV) | 25 kV - Wunnumin TS to HORCI Wunnumin | 1,246 |
| Line WKL | 44 kV - Wawakapewin TS to Kasabonika TS | 22,150 |
| Line L1 (25kV) | 25 kV - Kasabonika TS to HORCI Kasabonika | 2,219 |
| ***Subtotal RCL Lines*** | | ***242,209*** |
| | | |
| Station E | Muskrat Dam TS | 28,097 |
| Station F | Bearskin Lake TS | 19,696 |
| Station K | Wawakapewin TS | 25,760 |

[1] The updated table also corrects the voltage class for 44 kV line segments discussed in part (a) above and adds the 'W' prefix for 44 kV and 115 kV line segments for consistency with operating designations.

[2] WPLP notes that the sub-totals and totals for 2023 in-service additions were correct in the application and are not affected by the updated individual station amounts below.

| **Asset Designation** | **Description** | **2023 In-Service Additions ($000's)** |
|---|---|---|
| Station I | Wunnumin Lake TS | 16,920 |
| Station L | Kasabonika Lake TS | 16,557 |
| ***Subtotal RCL Stations*** | | ***107,031*** |
| | | |
| **Total Transmission System In-Service Additions** | | **349,240** |

**BOARD STAFF - 21**

**Reference:** Exhibit C / Tab 2 / Schedule 1 / Tables 5 to 9

**Preamble:** WPLP states that the cost impacts of the 2021 forest fires are not yet known as WPLP and Valard continue to negotiate the proposed Change Orders.

**Question(s):**

a) Please confirm if the cost impacts of the 2021 forest fires have been finalized. If so, please update Tables 5 to 9 accordingly.

b) If not, please advise as to when WPLP expects the 2021 forest fire costs to be finalized.

---

**Response:**

a) The cost impacts of the 2021 forest fires have not been finalized.

b) WPLP has been working with Valard to finalize the 2021 forest fire costs. The parties disagree on the amount that Valard should be entitled to as it relates to cost and schedule relief under the EPC Contract. WPLP hopes to have the cost and schedule impact finalized in 2023 but the impacts could potentially not be finalized until after 2023.

**BOARD STAFF - 22**

**Reference:** Exhibit C / Tab 2 / Schedule 1 / page 14 / Table A-2

**Preamble:** WPLP provides for each of the lines segments and stations placed in service in 2023 the proportional allocation of general capital costs, change orders and additions to fixed asset accounts in Table A-2.

WPLP, in its initial rate application1, provided for each of the line segments and stations to be placed in service in 2022 the proportional allocation of general capital costs, change orders and additions to fixed asset accounts in Table A-2.

**Question(s):**

a) Please provide the contingency amounts for each of the lines segments and stations placed in service in 2023.

b) Please update the additions to fixed asset accounts in Table A-2 to include the contingency amounts.

c) Please explain any material variances between the updated additions to fixed asset accounts for each line segment and station in question b) to be placed into service in 2023 and the additions to fixed asset account in the initial April 2021 rate application. (Exclude line segments KL and L1 and station L)

---

**Response:**

a) Please refer to the table produced in response to part (b) below. Note that the Contingency column does not account for planned or executed Change Orders.

b) Please see updated table below with Contingency added to fixed asset accounts.

| Asset Designation | EPC Base Amount | % of EPC Costs | Proportional Allocation of General Capital Costs | Change Orders | Contingency | Additions to Fixed Asset Accounts |
|---|---|---|---|---|---|---|
| | A | B = A / 1,419,979 | C = B * 225,078 | D | E | F = A + C + D + E |
| Line WJK | 50,176 | 3.53% | 8,014 | -251 | | |
| Line WK1 (25kV) | 1,704 | 0.12% | 272 | 0 | | |
| Line DE | 55,646 | 3.92% | 8,888 | 9,019 | | |
| Line E1 (25kV) | 5,497 | 0.39% | 878 | 915 | | |
| Line EF | 36,037 | 2.54% | 5,756 | 41 | | |
| Line F1 (25kV) | 320 | 0.02% | 51 | 0 | | |
| Line JI (44kV) | 28,584 | 2.01% | 4,565 | 482 | | |
| Line I1 (25kV) | 1,065 | 0.07% | 170 | 11 | | |
| Line KL (44kV) | 18,822 | 1.33% | 3,006 | 323 | | |
| Line L1 (25kV) | 1,914 | 0.13% | 306 | 0 | | |
| Station E | 24,118 | 1.70% | 3,852 | 126 | | |
| Station F | 16,667 | 1.17% | 2,662 | 368 | | |
| Station K | 22,120 | 1.56% | 3,533 | 107 | | |
| Station I | 14,467 | 1.02% | 2,311 | 143 | | |
| Station L | 14,142 | 1.00% | 2,259 | 157 | | |
| **Total** | **291,278** | **20.51%** | **46,521** | **11,440** | | |

c) The table below shows the variances between the initial April 2021 rate application and the updated fixed asset accounts provided in Table above.

| Asset Designation | Additions to Fixed Asset Accounts | Additions to Fixed Asset Accounts | Variance | Ref |
|---|---|---|---|---|
| | F (from above) | 2022 Initial Rate Application | | |
| Line WJK | [redacted] | 62,033 | [redacted] | (A) |
| Line WK1 (25kV) | | 2,107 | | |
| Line DE | | 68,795 | | (B) |
| Line E1 (25kV) | | 6,796 | | (C) |
| Line EF | | 44,552 | | (D) |
| Line F1 (25kV) | | 395 | | |
| Line JI (44kV) | | 35,339 | | |
| Line I1 (25kV) | | 1,317 | | |
| Line KL (44kV) | | Not Available | | |
| Line L1 (25kV) | | Not Available | | |
| Station E | | 29,817 | [redacted] | |
| Station F | | 20,605 | | |
| Station K | | 27,347 | | |
| Station I | | 17,885 | | |
| Station L | | Not Available | | |

(A) Cost reduction is driven by routing change order (-$0.3 million) and Non-EPC cost savings (-$0.8 million).

[redacted]

(C) Cost increase is driven by routing change order ($0.9 million), as further discussed in OEB Staff IR 3(e) and OEB Staff 12(c). Cost is then offset by Non-EPC cost savings ($0.08 million).

(D) Cost decrease is a result of cost savings in Non-EPC costs reducing the proportionate allocation of general costs to the line segment.

**BOARD STAFF - 23**

**Reference:** WPLP_C-3-1_2023 FA Cont_Depr Sch_20220706.xlsb

**Question(s):**

a) Please explain the nature of the disposal amount captured in cell F47 tab 2022 Combined of the reference.

---

**Response:**

a) WPLP did not update the amount referenced when updating the evidence for the May 30, 2022 schedule. In a Live Excel, WPLP provides an updated schedule with the appropriate amount. The amount in question should be the total additions to rate base in the year. As assets are added to rate base, they are removed from the CWIP balance. The change does not impact rate base or revenue requirement calculations in the current rate application.

**BOARD STAFF - 24**

**Reference:** Exhibit E / Tab 1 / Schedule 1 / pages 3-4

**Preamble:** The above reference outlines WPLP's approach to load forecasting

**Question(s):**

a) Please comment on the extent to which data and information from Independent Power Authorities (IPAs) has been used to develop WPLP's load forecasts.

---

**Response:**

a) Information from IPA's is generally not available at a level that would support the development of monthly peak demand forecasts. As a result, WPLP relied on information previously obtained by the IESO/OPA, updated and adjusted to the extent possible using data provided by HORCI for similar-sized communities.

**BOARD STAFF - 25**

**Reference:** Exhibit F / Tab 2 / Schedule 1 / pages 1-2

**Preamble:** The 2023 test year is the second year in which WPLP has transmission assets coming into service, and therefore it is the second year in which WPLP is seeking to recover OM&A expenses through its transmission revenue requirement.

WPLP has no historical rate years and provides variance analysis only in respect of the changes in OM&A expenses from the 2022 bridge year to the 2023 test year.

The 2022 total OM&A expense shown in Table 2 of F-2-1 are used as the starting point for 2023 OM&A cost driver analysis in WPLP's application for approval of a 2023 test year revenue requirement.

**Question(s):**

a) Please file a complete five-year OM&A forecast by replicating Table 2 for the years 2024 to 2026, if possible. If not possible, please explain what information is outstanding that prevents WPLP from providing a five-year OM&A forecast now.

---

**Response:**

**a)** The table below provides a complete five-year OM&A forecast.

Given that (i) WPLP is still negotiating with the preferred contractor in its RFP process for a service provider to provide Inspection, Maintenance and Emergency Response services[1], and (ii) energization dates may change as construction progresses, the 2024-2026 OM&A forecast is subject to change.

[1] See Exhibit B-1-4, p. 13.

| | Cost Driver Description | 2022 OM&A | 2023 OM&A Cost Driver ($000's) | | | | 2024 OM&A Cost Driver ($000's) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Operations | Maintenance | Administration | Total | Operations | Maintenance | Administration | Total |
| | | | | | | | | | | |
| **Direct Operating** | Direct O&M Labour | 0 | 159 | 159 | 0 | 317 | 162 | 162 | 0 | 323 |
| | Controlling Authority (3rd Party) | 306 | 3,120 | 0 | 0 | 3,120 | 5,356 | 0 | 0 | 5,356 |
| | Substation and Line Routine Maintenance | 532 | 1,463 | 0 | 0 | 1,463 | 3,598 | 0 | 0 | 3,598 |
| | Emergency Response | 1558 | 0 | 1,976 | 0 | 1,976 | 0 | 3,284 | 0 | 3,284 |
| | Forestry | 10 | 0 | 506 | 0 | 506 | 0 | 767 | 0 | 767 |
| | Other (Material, Fleet, Insurance) | 596 | 429 | 249 | 308 | 987 | 485 | 342 | 431 | 1,257 |
| | *Sub-Total* | *3,002* | *5,171* | *2,890* | *308* | *8,369* | *9,601* | *4,554* | *431* | *14,586* |
| | | | | | | | | | | |
| **Overhead Costs Allocated to OM&A** | Labour and Departmental Costs | 3218 | 363 | 0 | 5,963 | 6,326 | 577 | 0 | 9,351 | 9,927 |
| | Environmental Services | 146 | 0 | 0 | 247 | 247 | 0 | 0 | 404 | 404 |
| | Other Consultants (Allocate) | 358 | 0 | 0 | 630 | 630 | 0 | 0 | 613 | 613 |
| | Indigenous Engagement & Communications | 1300 | 0 | 0 | 2,275 | 2,275 | 0 | 0 | 3,462 | 3,462 |
| | Stakeholder Engagement | 29 | 0 | 0 | 54 | 54 | 0 | 0 | 41 | 41 |
| | Indigenous Participation and Training | 921 | 0 | 0 | 2,142 | 2,142 | 0 | 0 | 2,850 | 2,850 |
| | Administrative Costs | 467 | 0 | 0 | 878 | 878 | 0 | 0 | 1,434 | 1,434 |
| | *Sub-Total* | *6,439* | *363* | *0* | *12,188* | *12,551* | *577* | *0* | *18,154* | *18,731* |
| | | | | | | | | | | |
| **Total** | | **9,441** | **5,533** | **2,890** | **12,496** | **20,920** | **10,178** | **4,554** | **18,585** | **33,317** |

| | Cost Driver Description | 2025 OM&A Cost Driver ($000's) | | | | 2026 OM&A Cost Driver ($000's) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Operations | Maintenance | Administration | Total | Operations | Maintenance | Administration | Total |
| | | | | | | | | | |
| **Direct Operating** | Direct O&M Labour | 165 | 165 | 0 | 330 | 168 | 168 | 0 | 337 |
| | Controlling Authority (3rd Party) | 5,346 | 0 | 0 | 5,346 | 5,445 | 0 | 0 | 5,445 |
| | Substation and Line Routine Maintenance | 5,343 | 0 | 0 | 5,343 | 7,226 | 0 | 0 | 7,226 |
| | Emergency Response | 0 | 3,613 | 0 | 3,613 | 0 | 3,703 | 0 | 3,703 |
| | Forestry | 0 | 1,120 | 0 | 1,120 | 0 | 2,545 | 0 | 2,545 |
| | Other (Material, Fleet, Insurance) | 487 | 348 | 439 | 1,275 | 489 | 355 | 447 | 1,291 |
| | *Sub-Total* | *11,341* | *5,247* | *439* | *17,027* | *13,328* | *6,771* | *447* | *20,546* |
| | | | | | | | | | |
| **Overhead Costs Allocated to OM&A** | Labour and Departmental Costs | 684 | 0 | 8,326 | 9,010 | 697 | 0 | 8,486 | 9,183 |
| | Environmental Services | 0 | 0 | 479 | 479 | 0 | 0 | 489 | 489 |
| | Other Consultants (Allocate) | 0 | 0 | 633 | 633 | 0 | 0 | 646 | 646 |
| | Indigenous Engagement & Communications | 0 | 0 | 4,104 | 4,104 | 0 | 0 | 4,186 | 4,186 |
| | Stakeholder Engagement | 0 | 0 | 48 | 48 | 0 | 0 | 49 | 49 |
| | Indigenous Participation and Training | 0 | 0 | 3,378 | 3,378 | 0 | 0 | 3,445 | 3,445 |
| | Administrative Costs | 0 | 0 | 1,700 | 1,700 | 0 | 0 | 1,734 | 1,734 |
| | *Sub-Total* | *684* | *0* | *18,668* | *19,351* | *697* | *0* | *19,034* | *19,732* |
| | | | | | | | | | |
| **Total** | | **12,025** | **5,247** | **19,106** | **36,378** | **14,026** | **6,771** | **19,481** | **40,277** |

**BOARD STAFF - 26**

**Reference:** Exhibit F / Tab 2 / Schedule 1 / pages 2-5

**Preamble:** WPLP provides a summary of its 2023 OM&A forecast in Table 2 of Exhibit F-2-1. As the construction phase of WPLP's Transmission Project progresses and assets come into service during the 2022-2024 period, a progressively larger portion of these overhead costs transition from being directly attributable to capital development and construction activity to being attributable to the ongoing operation and maintenance of in-service assets. WPLP developed a methodology to allocate these costs between capital and OM&A, which is described in detail in Appendix 'A' of Exhibit B-1-5. Applying the allocation methodology to WPLP's 2023 forecasted overhead costs results in the following total indirect operating expenses of approximately $12.5 million, which is broken down into five categories of expenses:

- Approximately $6.3 million for labour costs, including related overheads
- Approximately $0.9 million for environmental and other consultants
- Approximately $2.3 million for Indigenous engagement and communications and stakeholder engagement
- Approximately $2.1 million for Indigenous participation and training
- Approximately $0.9 million for general administrative costs

**Question(s):**

a) For each of the five categories of expenses for indirect operating costs, please provide a detailed breakdown of the items and costs.

b) For each of the five categories of expenses for indirect operating costs please explain how WPLP determined that the costs allocated by its methodology are reasonable.

---

**Response:**

a) A detailed breakdown of the items and costs for each of the five categories of expenses for indirect operating costs is provided in the below table.

| **Category of Expense** | **$ (000's)** |
|---|---|
| **Labour and Departmental Costs** | |

| | |
|---|---|
| Labour | 3,111 |
| Affiliate Services | 842 |
| Equipment and Supplies | 86 |
| Travel | 908 |
| Rents | 1,062 |
| Other | 317 |
| | **6,326** |
| **Environmental & Other Consultants** | |
| Environmental Advisors | 501 |
| Legal | 189 |
| Audit Fees | 108 |
| Other | 79 |
| | **877** |
| **Indigenous Engagement & Communications and Stakeholder Engagement** | |
| Affiliate Services | 662 |
| Contracted Services | 1,077 |
| Meetings | 304 |
| Travel | 87 |
| Other | 199 |
| | **2,329**[1] |
| **Indigenous Participation and Training** | |
| Affiliate Services | 850 |
| Contracted Services | 930 |
| Meetings | 166 |
| Travel | 92 |
| Other | 104 |
| | **2,142** |
| **Administrative Costs** | |
| Affiliate Services | 625 |
| Office Supplies | 128 |
| Rent | 78 |
| Utilities | 28 |
| Other | 19 |
| | **878** |
| **Total** | **12,551** |

[1] Line item groups Indigenous Engagement ($2.275 million) with Stakeholder Engagement ($0.054 million) displayed separately in Appendix A of Exhibit B-1-5. Response in OEB Staff 4(a) only include Indigenous engagement costs for 2023.

b) WPLP's employee compensation framework, purchasing policies and affiliate services agreements are discussed in detail in Exhibit F-3-1. All of these elements ensure that WPLP receives the appropriate value for its total expenditures, both capital and OM&A, and that the associated costs are reasonable.

WPLP's indirect operating costs are a function of applying a cost allocation methodology to its total overhead costs, as described in the preamble. The cost allocation methodology is consistent for each of the five categories of expenses, which is based on the average value of assets in service each month. The overall overhead costs are evaluated annually to ensure reasonableness based on historical information and future expected work scope. From WPLP's perspective, the methodology is a fair representation of the time and effort spent on operational activities and construction. The methodology is consistent with WPLP's practice in prior years and has been subject to audit in accordance with Accounting Standards for Private Enterprises since the completion of Pikangikum distribution system.

In addition, WPLP obtained a benchmarking study from Clearspring Energy Advisors on OM&A spending (including indirect operating costs) which identified the OM&A costs to be reasonable. The Clearspring Benchmarking study is included as Appendix A of Exhibit F-1-1 in the 2023 rate application filing.

**BOARD STAFF - 27**

**Reference:** Exhibit F / Tab 1 / Schedule 1 / Appendix A / pages 1-4

**Preamble:** The Application states that WPLP's annual OM&A unit cost is 24.5% higher than the sample median in 2023 and ranging from 18.7% to 32.4% above the sample median during the 2024-2026 period. The Application states that, in Clearspring's view, the OM&A unit cost results appear reasonable given the operating challenges of WPLP.

**Question(s):**

a) Please provide detailed calculations of OM&A ($2016) per km of transmission line for WPLP's 2023 Projected Value and the sample median, including each transmitter in the comparison group, for the Table on page 2 of the reference.

b) Please provide detailed calculations of OM&A ($2016) per transmission station for WPLP's 2023 Projected Value and the sample median, including each transmitter in the comparison group, for the Table on page 3 of the reference.

c) Please provide detailed calculations of OM&A ($2016) per Output Quantity Index for WPLP's 2023 Projected Value and the sample median, including each transmitter in the comparison group, for the Table on page 4 of the reference.

d) Please provide a revised version of the Table on page 4 of the above noted reference using only Hydro One and Five Nations Energy to calculate the sample median. Please provide the supporting calculations.

e) Please confirm the percentage above the sample median for both transmission lines and stations at which the OM&A unit expenses for WPLP would be considered unreasonable. Please provide the rationale.

---

**Response:**

a) Detailed calculations are provided as a live Excel on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

b) See part (a) above.

c) See part (a) above.

d) The table below shows the OM&A per Output Quantity Index benchmarking results for WPLP with only Hydro One Networks and Five Nations Energy included in the sample. The supporting calculations can be found in a live Excel spreadsheet that is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

| | OM&A ($2016) per Output Quantity Index | Ratio of WPLP to Sample Median |
|---|---|---|
| **Sample Median** | **200.4** | |
| WPLP 2023 Projected | 242.2 | 1.21 |
| WPLP 2024 Projected | 257.6 | 1.29 |
| WPLP 2025 Projected | 230.9 | 1.15 |
| WPLP 2026 Projected | 252.0 | 1.26 |

e) This cannot be confirmed as Clearspring does not consider the results to be unreasonable. There is not a definitive cut-off for reasonableness. The benchmarking results using the unit cost benchmarking approach are not able to account and adjust for several business conditions. Given the challenges faced by WPLP, the unit cost results appear reasonable.

An example might be helpful to illustrate this. Mr. Fenrick of Clearspring led the last several 3rd Generation Incentive Regulation ("3GIR") benchmarking annual updates for the OEB over a decade ago. These updates calculated benchmarking results used to determine the stretch factors for electricity distributors. In these updates a unit cost benchmarking approach (quite similar to the one employed in Clearspring's study for WPLP) was used and results using the econometric approach were calculated.

In the last 3GIR benchmarking update report dated November 27, 2012, Northern Ontario Wires OM&A expenses per the Output Quantity Index was 1.398 for 2009 to 2011. However, this is compared to all Ontario distributors and does not account for the business condition challenges of Northern Ontario Wires. The econometric results for Northern Ontario Wires, however, which does adjust for business condition challenges revealed a benchmarking score of 0.741 for those same years (more than 25% below cost). This ranked the utility as the second lowest cost performer in the Ontario sample of 75 utilities despite its relatively high unit cost result.[1]

[1] The report can be found here: 2013_Benchmarking_Stretch_Factor_Report_20121128.pdf (oeb.ca).

Given the above example and WPLP serving a challenging service territory, similar to Northern Ontario Wires, we would anticipate a considerable improvement in the benchmarking score for WPLP if the econometric approach was undertaken. It is unknown if the results would match the improvement seen by Northern Ontario Wires, however, even if WPLP only experienced half of the impact of changing to the econometric methodology, WPLP's benchmark score would be below 1.0.

**BOARD STAFF - 28**

**Reference:** Exhibit F / Tab 1 / Schedule 1 / Appendix A / pages 4-5
Exhibit F / Tab 2 / Schedule 1 / page 3 / Table 2

**Preamble:** At the first reference, the Clearspring Report states that the territory covered by WPLP's transmission system is more challenging than the typical territory covered by a Canadian transmitter included in the sample group in the OM&A benchmarking study. The Application states the following seven business condition challenges WPLP faces that the OM&A benchmarking did not adjust for: high input prices to serve remote areas, high forestation levels, remoteness, extreme weather conditions, the lack of both economics of scale and economies of scope, the transmission line spanning a large territory, and the age of WPLP's asset.

**Question(s):**

a) Please estimate the annual cost for each of the seven business condition challenges WPLP faces.

b) Please advise if the activities related to the costs associated with Indigenous engagement and communication and Indigenous participation and training in the second reference have been a factor in contributing to higher OM&A costs for WPLP relative to other transmitters in the sample group. If so, please provide the impact of these activities for WPLP and each of the utilities in the comparator group.

---

**Response:**

a) From a benchmarking perspective, the annual costs of the business conditions cannot be estimated without conducting an econometric model and estimating the parameter values of each of the business conditions. This would require a substantial amount of work and time and was not within the scope of the current benchmarking study. Please refer to OEB Staff - 27 (e) for further information regarding the possible magnitudes and impacts of adjusting for business condition challenges.

b) This requested information is not available from the benchmark study.

**BOARD STAFF - 29**

**Reference:** Exhibit F / Tab 3 / Schedule 1 / Appendix A / page 9

**Preamble:** The Application states that the Korn Ferry Hay job evaluation method is a form of factor comparison based on the notion that jobs can be measured on the basis of their relative contribution to the overall objectives of the organization. The Application notes that Korn Ferry uses the following four factors in the analysis: Know-How, Problem Solving, Accountability, and Working Conditions.

**Question(s):**

a) Please describe how the four factors are applied in the Korn Ferry Hay method. Please provide an example.

---

**Response:**

a) This response is being filed on a confidential basis. A request for confidential treatment is being filed concurrently with the filing of interrogatory responses.

[redacted]

**BOARD STAFF - 30**

**Reference:** Exhibit H / Tab 2 / Schedule 1 / page 2

**Preamble:** WPLP states it has recorded COVID construction costs of $17,399,682 incurred during 2020 and $42,096,982 incurred during 2021.

**Question(s):**

a) Please provide additional details including a more detailed componentization of COVID-19-related costs.

b) Please comment on the prudence of these costs and what steps WPLP had taken to mitigate them.

---

**Response:**

a) Please see the additional detail on COVID-19 costs by the main EPC drivers provided in OEB Staff IR 31(a).

b) The onset of the pandemic introduced wide-ranging impacts, both under WPLP's EPC Contract with Valard and in relation to non-EPC activities supporting the Project. All costs have been prudently incurred, reasonably mitigated and rigorously reviewed, as follows.

Impacts under the EPC Contract are governed by the terms of that contract, which appropriately allocates risk and provides rigorous procedures to be followed in circumstances such as the pandemic. In addition, WPLP has been and continues to be assisted by its Owner's Engineer in managing those processes. In the leave to construct proceeding for the Project, the OEB found the competitive tendering of the EPC contract and the retention of a third-party Owner's Engineer to assist with project management processes was a reasonable way to manage the risks associated with the Project and the costs thereof.[1]

As described in Exhibit H-2-2, upon the pandemic being declared and in the months that have followed Valard and WPLP have taken a number of steps in the field and in accordance with the terms of the EPC Contract to appropriately manage and modify work plans to protect the health of workers and the communities impacted by the Project, as well as to mitigate impacts of COVID-19 on Project schedule and costs. This has included the development and implementation of a COVID Management Plan, as well as First Nation community-specific COVID Management Plans, which were developed by Valard with input from WPLP and the impacted communities. These measures enabled construction activities to continue subject to reasonable cost mitigation. In addition, WPLP holds weekly meetings

[1] OEB, Leave to Construct Decision and Order (Revised), EB-2018-0190, April 29, 2019, p. 12.

to discuss COVID-19 impacts as well as numerous commercial meetings to discuss COVID-19 schedule and cost impacts.

It is also important to recognize that, under the EPC Contract, in order for Valard to be compensated for claimed COVID-19 costs, they are required to submit invoices along with supporting information. WPLP and the Owner's Engineer thoroughly review all supporting information (invoices, timesheet, etc.) to ensure costs have been incurred in accordance with approved Change Orders and that all supporting information has been provided. WPLP works with Valard to ensure no costs are duplicated and that all costs are recorded and tracked appropriately. To the extent a cost is not supported or there is any concern regarding Valard's contractual entitlement to recover costs, no payment is made until WPLP's concerns are adequately addressed.

Regarding incremental costs incurred as a result of the pandemic outside of the EPC Contract, as described in Exhibit H-2-2, these generally relate to additional efforts that have been required by WPLP's Owner's Engineer, the Independent Engineer, as well as professional services providers in relation to reviewing and assessing EPC Contractor Change Requests. Given the purpose for these additional services, these amounts have been prudently incurred. Moreover, they represent an immaterial part of the overall incremental COVID-19 costs.

Further to the activities undertaken with Valard, WPLP worked with Nishnawbe Aski Nation to allow WPLP to work with First Nations regarding COVID-19. WPLP undertook significant engagement and communications with First Nations to allow the project to move forward while health and safety planning took place to address the heightened concern for health and safety in the communities due to COVID-19. In the early stages of COVID-19, WPLP held weekly meetings to provide project updates. As time progressed, the frequency of these COVID-19 meetings changed to bi-weekly, and then monthly.

For further discussion regarding the prudency of WPLP's COVID-19 related costs and its efforts to mitigate them, please see Exhibit H-2-2.

**BOARD STAFF - 31**

**Reference:** Exhibit H / Tab 2 / Schedule 2 / page 3
EB-2021-0134 Exhibit H / Tab 2 / Schedule 2 / page 13 / footnote 5

**Preamble:** Regarding the disposition of the COVID Construction Costs Deferral Account (CCCDA), WPLP stated that Valard identified three main categories of impacts affecting its ability to execute the project at the cost and in accordance with the schedule agreed to in the EPC contract: (a) compliance with COVID-19 health and safety measures and the corresponding impact on productivity; (b) flight and travel restrictions; and (c) construction activities, specifically work camps, substations and lines.

**Question(s):**

a) Please provide the amount and details for 2020 and 2021 separately for each of the three main categories that Valard identified as impacting ability to execute the project at the cost and in accordance with the schedule agreed to in the EPC contract.

b) In the second reference above, in the 2022 rates proceeding, WPLP states that "at the present time, WPLP expects that incremental COVID-19 costs will generally be limited to costs incurred in 2020 and 2021." Please confirm that this no longer is WPLP's expectation, and if so, the reason for this.

c) Please confirm that WPLP does not anticipate any COVID-19-related costs in the CCCDA in 2023.

d) Given the enduring and long-term nature of the pandemic since it first affected WPLP's operations in 2020, how does WPLP differentiate between COVID-19-related costs that are subject to recognition in the account versus those that should be considered part of an asset's gross cost (similar to other unanticipated costs, such as inflationary pressures or other economic impacts)?

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**Response:**

a) The table below provides the amounts of COVID-19 costs by the main categories identified by Valard and is reconciled to the incremental COVID-19 costs for which WPLP is seeking approval to record in the CCCDA in the current rate application.

| **COVID-19 Cost Categories** | **2020** | **2021** |
|---|---|---|
| Productivity and COVID-19 Health and Safety Measures | 5,458 | 17,141 |
| Flight and Travel Restrictions | - | 7,200 |
| Construction Activities | 11,669 | 17,364 |
| Non-EPC costs | 273 | 227 |
| | **17,400** | **41,931** |
| Carrying Charges | - | 166 |
| | **17,400** | **42,097** |

b) WPLP confirms this is no longer WPLP's expectation. WPLP does expect COVID-19 costs will impact the project in 2022 and potentially future years. WPLP's assumption in the EB-2021-0134 proceeding was based on the best information available. In 2022, to date, COVID-19 has had a significant impact on the project. Valard and its subcontractors have experienced 588 cases of COVID-19 since January 1, 2022. Moreover, WPLP and Valard continue to discuss Valard's entitlement to COVID-19 schedule related costs, and in the event Valard is entitled to COVID-19 schedule related cost relief, WPLP will record those costs at that time.

c) WPLP cannot confirm there will not be COVID-19-related costs in the CCCDA in 2023. COVID-19 is unpredictable and may require expenditures in future years. To the extent required by COVID-19, WPLP will ensure the appropriate steps are taken to protect the workers, the public, and the First Nations that are in close proximity to the Project Sites, as well as to ensure the First Nations expectations and COVID-19 protocols are adhered to. As a result, WPLP may need to incur costs in 2023 to ensure the safe execution of the project. Moreover, as noted in response to (b), above, WPLP and Valard continue to discuss Valard's entitlement to COVID-19 schedule related costs, and in the event Valard is entitled to COVID-19 schedule related cost relief, WPLP will record those costs at that time.

d) COVID-19 costs are subject to approval via the Change Order process under the EPC Contract. WPLP reviews all costs categorized as COVID-19 to ensure only COVID-19 costs are captured. As noted in response to OEB Staff IR 30 (b), WPLP has a well-defined process to evaluate COVID-19 Change Orders and ensure COVID-19 costs are differentiated from costs that should be considered part of an asset's gross cost.

**BOARD STAFF - 32**

**Reference:** Exhibit H / Tab 2 / Schedule 2 / pages 4-5

**Preamble:** WPLP states that the COVID-19 health and safety measures result in general reductions to worker productivity. WPLP and Valard have not been able to agree on a loss productivity factor for the period after March 31, 2021 and, as such, this aspect continues to be a subject of negotiation.

WPLP and Valard have secured a third-party consultant to determine the Base Rate of a flight so that they could accurately assess the impact of COVID-19 on flight and travel costs. WPLP expects the third-party to be engaged by the beginning of May 2022, and to be in a position to issue their report by August 2022.

Valard has sought schedule relief for delays as a result of COVID-19 as at December 31, 2021. Valard has not provided any cost estimate for the COVID-19 schedule delays. Any schedule or cost relief sought by Valard as it relates to impacts on construction will be pursuant to the EPC contract and subject to negotiations between WPLP and Valard.

**Question(s):**

a) Please confirm if the loss productivity factor for the period after March 31, 2021 have been negotiated between Valard and WPLP and the impact on the total balance for the year 2021.

b) Please advise of the results of the third-party report on the base rate of a flight and its impact, if any, on the COVID-19 costs with Valard. If available, please provide a copy of this report.

c) Please advise whether WPLP and Valard have concluded that the impact of COVID-19 on the commercial air transportation industry and flight costs has subsided. If so, what effective date does that conclusion pertain to? Please explain in detail.

d) Please confirm that the forecasted costs include an estimate of the potential cost relief that Valard is expecting for delays as a result of COVID-19 as at December 31, 2021. If not, what is the estimated cost relief that WPLP expects Valard to seek as at December 31, 2021.

e) Please provide an estimate of any compensation Valard may seek in relation to COVID-19 as a result of impacts to schedule or incremental costs as a result of COVID-19 impacts in 2022. As well, please provide a forecast of any additional costs expected to be recorded in 2022 (year to date actuals if applicable and remaining 2022 forecast separately).

f) WPLP indicated that Valard has not provided any cost estimate for the COVID-19 schedule delays. Please explain the basis and approach for WPLP to estimate the $90.3 million forecasted incremental EPC contract project costs attributable to COVID-19.

**Response:**

a) The loss productivity factor for the period after March 31, 2021 has not been finalized between Valard and WPLP.

b) The report is currently in progress and the results have not been finalized. WPLP's best estimate of the impact on flight costs up to June 30, 2022, has been included in WPLP's forecast.

c) WPLP and Valard have not concluded that the impact of COVID-19 on the commercial air transportation industry and flight costs has subsided.

d) The forecasted costs do not include an estimate of the potential cost relief that Valard is expecting for delays as a result of COVID-19 as at December 31, 2021. Valard has not provided sufficient information to allow WPLP to provide an estimate of the cost relief.

e) WPLP is not in a position to provide the requested estimate because to date it has not received a substantiated estimate from Valard on expected compensation related to COVID-19 impacts to schedule or incremental costs as a result of COVID-19 in 2022. In July 2022 Valard updated it's COVID Management Plan to remove a number of COVID-19 specific health and safety procedures. As a result, WPLP anticipates the COVID-19 direct costs for 2022 to be reduced provided that COVID-19 impacts remain minimal. At this time, WPLP has not received updated costing. WPLP is therefore not in a position to estimate the costs for 2022 for the remainder of the year. The best estimate of COVID-19 costs for 2022 is $15.3 million, which consists of the costs estimated to June 30, 2022 for productivity and COVID-19 health and safety measures.

f) WPLP worked with Valard to estimate the $90.3 million in COVID-19 costs. The estimate includes all non-schedule related COVID-19 costs. While Valard has not provided a substantiated estimate on COVID-19 schedule related costs, Valard did provide information on direct (Variable, testing, quarantine, and vaccination costs) COVID-19 costs, production activity to determine the productivity loss (using a 6% productivity loss factor) as well as an estimate on flight costs. The estimate included the actual costs incurred and invoiced under the COVID-19 Change Orders as well as a provision for non-schedule related cost up to June 30, 2022 that have yet not been invoiced.

**BOARD STAFF - 33**

**Reference:** Exhibit H / Tab 2 / Schedule 2 / page 6

**Preamble:** WPLP is forecasting incremental EPC contract project costs attributable to COVID-19 of $90.3 million and non-EPC incremental project costs attributable to COVID-19 of $0.6 million.

**Question(s):**

a) Please confirm if WPLP is requesting that the non-EPC incremental project costs attributable to COVID-19 be treated in the same manner as EPC costs. If it is not to be treated in the same manner, please clarify how it is to be treated.

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**Response:**

a) For third party (Owner Engineer, Legal, Independent Engineer and other Consulting) non-EPC incremental costs related to COVID-19, WPLP confirms that it is requesting these costs be treated in the same manner as EPC incremental costs related to COVID-19. In addition, WPLP confirms that it is requesting that any COVID-19 specific health and safety costs incurred by WPLP (i.e. masks) be treated in the same manner as EPC incremental COVID-19 costs. For all other COVID-19 incremental non-EPC costs WPLP is not requesting that the costs be treated in the same manner. WPLP records these costs as capital or operating costs. The tracking of other incremental non-EPC Costs would be cost prohibitive.

**BOARD STAFF - 34**

**Reference:** Exhibit H / Tab 2 / Schedule 2 / page 10 / Table 2
Exhibit H / Tab 2 / Schedule 2 / page 11 / Table 3

**Preamble:** Table 2 provides the owner equity, ratepayer impact and impact on the independent Trust under the assumption there is no federal funding.

Table 3 provides the owner equity, ratepayer impact and impact on the independent Trust under the assumption there is federal funding.

**Question(s):**

a) Please provide detailed calculations for the COVID-19 proceeds, and for each component of the Revenue Requirement Impact in Table 2 including incremental rate base, incremental return and collection of remaining deferral account plus carrying charges for each of the 3 options. Please include any assumptions about interest rates and time period.

b) Please provide detailed calculations for the COVID-19 proceeds, and for each component of the Revenue Requirement Impact in Table 3 including loss of Trust funds as a result of incremental contribution to WPLP, earnings on incremental Trust balance, incremental rate base, incremental return and collection of remaining deferral account plus carrying charges for each of the 3 options. Please include any assumptions about interest rates and time period including assumptions for the calculation of incremental Trust earnings.

c) Please confirm that Tables 2 and 3 are based on $90.9 million COVID-Costs forecast as at the end of 2021. If this is not the case, please update Tables 2 and 3 based on $90.9 million in COVID-Costs as at the end of 2021.

d) Please confirm that, in WPLP's view, holding all else equal (and ignoring factors such as incentives or access to credit), any amount of dollars from the Federal Funding Framework that is redirected away from the Contributions in Aid of Capital portion and towards the Trust portion represents a net benefit to ratepayers. If not, please explain.

e) Please discuss WPLP's analysis of net ratepayer benefits from its proposed treatment of COVID-19-related costs, when considering the asset lifetime costs attributable to ratepayers (including the impacts of cost of capital over the life of the underlying assets).

f) In the event that the OEB does not, in part or in full, accept WPLP's proposed treatment of COVID-19-related costs for the 2021 year, does WPLP have access to incremental credit facilities, should that financing become necessary?

**Response:**

a) The answer has been structured to detail each of the figures requested separately.

Calculation of COVID-19 Proceeds:

| | COVID-19 Costs | COVID-19 Cost Recovery (4 year amortization) | COVID-19 Carrying Charge Recovery | Total |
|---|---|---|---|---|
| Capitalized | | | | |
| COVID-19 Proceeds - 2022 Rate Application | $17.40 | $10.15 | $0.09 | **$10.24** |
| Expensed/Expensed with Savings | | | | |
| COVID-19 Proceeds - 2022 Rate Application | $17.40 | $10.15 | $0.09 | **$10.24** |
| COVID-19 Proceeds - 2023 Rate Application | $42.10 | $18.42 | $0.19 | **$18.61** |
| COVID-19 Proceeds - 2024 Rate Application | $18.78 | $3.52 | $0.04 | **$3.56** |
| | | **$32.09** | **$0.32** | **$32.41** |

Capitalized: Approved 2020 COVID-19 expenditures of $17.4 million / 48 payments x expected 28 payments received during construction = $10.15 million plus $0.09 in carrying charges collected based on a prescribed interest rate of 0.57%.

Expensed/ Expensed with Savings: Approved 2020 COVID-19 expenditures of $17.4 million / 48 payments x expected 28 payments received during construction = $10.15 million plus $0.09 in carrying charges collected based on a prescribed interest rate of 0.57%. In addition, would receive the 2021 COVID-19 Expenditures of $42.1 million /48 payments x expected 21 payments during construction plus $0.19 million in carrying charges collected based on a prescribed interest rate of 0.57%. Finally, we include the forecasted 2023 expenditures of $18.8 million /48 payments x 9 expected payments plus $0.04 in carrying charges based on a prescribed interest rate of 0.57%.

Incremental Rate Base Calculation: Calculated based on the change in rate base value between financing model prior to COVID-19 and rate base values under separate scenarios.

| | Capitalized | Expensed | Expensed ($20M Savings) | |
|---|---|---|---|---|
| Rate Base before Capital Contribution (Table 3 of H-2-2) | $1,957.79 | $1,884.85 | $1,864.82 | |
| Less Depreciation (Table 3 of H-2-2) | ($45.05) | ($44.29) | ($44.71) | |
| Less Pikangikum (Table 1 of H-2-2) | ($62.82) | ($62.82) | ($62.82) | |
| **Rate Base before Capital Contribution** | **$1,849.92** | **$1,777.74** | **$1,757.28** | |
| Less: Base Case Prior to COVID-19 | ($1,785.48) | ($1,785.48) | ($1,785.48) | *Based on financial model pre-COVID-19.* |
| Incremental Rate Base | **$64.44** | **($7.74)** | **($28.20)** | |

Incremental Return Calculation: Simplified calculation of average rate base x model WACC (4.35%) x 40 years.

| | | Capitalized | Expensed | Expensed ($20M Savings) |
|---|---|---|---|---|
| Incremental Rate Base (from above) | A | $64.44 | ($7.74) | ($28.20) |
| Average Rate Base | B=A/2 | $32.22 | -$3.87 | -$14.10 |
| WACC (Table 1 in G-2-1) | C | 4.35% | 4.35% | 4.35% |
| Estimated average Life | D | 40 years | 40 years | 40 years |
| **Incremental Return** | **E=BxCxD** | **$56.06** | **-$6.73** | **-$24.53** |

Collection of Remaining Deferral Account plus carrying charge Calculation:

| | Capitalized | Expensed | Expensed ($20M Savings) |
|---|---|---|---|
| COVID-19 Approved in 2022 Rate Application | $17.40 | $17.40 | $17.40 |
| Future COVID-19 Costs | $0.00 | $73.50 | $73.50 |
| Total Costs to Recover from Deferral Account | **$17.40** | **$90.90** | **$90.90** |
| COVID-19 Cost Proceeds from Construction Period (Table above) | $10.15 | $32.09 | $32.09 |
| **Remaining COVID-19 Deferral Balance to be Collected** | **$7.25** | **$58.81** | **$58.81** |
| Remaining COVID-19 Carry Charges to be Collected (Carrying charges assumed at prescribed rate of 0.57%) | $0.16 | $1.28 | $1.26 |
| Collection of remaining deferral account plus carrying charges | **$7.41** | **$60.09** | **$60.07** |

b) Similar to above, the answer has been structured to detail each of the figures requested separately.

COVID-19 Proceeds Calculation: COVID-19 proceed calculations are consistent with the detail provided in question (a) above.

Loss of Trust Fund Calculation:

| | Capitalized | Expensed | Expensed ($20M Savings) | |
|---|---|---|---|---|
| Capital contribution (Table 3 of H-2-2) | $912.74 | $758.69 | $688.23 | |
| Less Base model prior to COVID-19 | ($839.32) | ($839.32) | ($839.32) | *Based on financial model pre-COVID-19.* |
| **Loss (Increase) of Trust funds as a result of increased contribution to WPLP** | **$73.42** | **($80.63)** | **($151.09)** | |

Earnings on incremental Trust balance Calculation:

| | Capitalized | Expensed | Expensed ($20M Savings) |
|---|---|---|---|
| Funds Remaining in Trust (Table 3 of H-2-2) | $637.26 | $791.31 | $861.77 |
| Less: Funds Remaining in Trust (Capitalized Balance) | ($637.26) | ($637.26) | ($637.26) |
| **Incremental Trust Balance between Models** | **$0.00** | **$154.05** | **$224.51** |
| Assumed Interest Rate 4% Compounded | 4% | 4% | 4% |
| Compound Period in years | 10 years | 10 years | 10 years |
| **Earnings on Incremental Trust Balance (Fair Value of Inputs above)** | **$0.00** | **$73.98** | **$107.82** |

Incremental Rate Base Calculation:

| | Capitalized | Expensed | Expensed ($20M Savings) |
|---|---|---|---|
| Rate base after CIAC (per Schedule1.1 (d) = Owner Equity / 40%) | | | |
| (Table 3 in H-2-2) | $1,000.00 | $1,081.87 | $1,131.87 |
| Less Rate Base in Capitalized Scenario | ($1,000.00) | ($1,000.00) | ($1,000.00) |
| Incremental Rate Base between Capitalized and Expenses Scenario | $0.00 | $81.87 | $131.87 |

Incremental Return Calculation:

| | | Capitalized | Expensed | Expensed ($20M Savings) |
|---|---|---|---|---|
| Incremental Rate Base (from above) | A | $0.00 | $81.87 | $131.87 |
| Average Rate Base | B=A/2 | $0.00 | $40.93 | $65.93 |
| WACC (Table 1 in G-2-1) | C | 4.35% | 4.35% | 4.35% |
| Estimated average Life | D | 40 years | 40 years | 40 years |
| **Incremental Return** | **E=BxCxD** | **$0.00** | **$71.23** | **$114.73** |

Collection of Remaining Deferral Account plus carrying charges: Consistent with detail provide above in question (a).

c) Confirmed.

d) WPLP confirms, that, in WPLP's view, holding all else equal (and ignoring factors such as incentives or access to credit), any amount of dollars from the Federal Funding Framework that is redirected away from the Contributions in Aid of Capital portion and towards the Trust portion represents a net benefit to ratepayers.

e) WPLP's analysis assumed a 40-year average asset life when determining the rate payer impact as a result of the proposed COVID-19 treatment. The analysis did not include any sustaining capital (after the construction period) as the impact on the ratepayer would be the same under all scenarios.

f) Based on WPLP's current forecast, WPLP would have access to incremental credit facilities, should that financing become necessary. However, available funding is limited to the approved credit facilities and given the Project is just over 50% complete, we are in a rising interest rate environment and there remains outstanding issues between Valard and WPLP (Fire, Access and COVID-19) retaining surplus funding to fund other costs would be prudent.

**BOARD STAFF - 35**

**Reference:** Exhibit H / Tab 2 / Schedule 2 / page 12
Exhibit I / Tab 4 / Schedule 1 / pages 5-6

**Preamble:** The Federal Funding Framework establishes a sliding scale such that, as WPLP's costs increase, the CIAC amount increases at a rate that reduces WPLP's deemed equity position in the project. Based on the Federal Funding Framework, WPLP's equity cannot rise above $400 million when costs are above $1.87 billion. WPLP anticipates that the distribution of federal funds will occur in 2024.

WPLP states that to the extent that its equity contribution is limited to less than 40% in a future year, this will be addressed in its revenue requirement application for the relevant test year. WPLP expects that its application for a 2024 test year revenue requirement (filed in 2023) will incorporate the impact of federal funding on a forecast basis.

**Question(s):**

a) Please confirm that if WPLP's equity contribution is forecast to be limited to less than 40% in any future proceeding by the Federal Funding Framework that it will, for the purposes of rate-setting, apply its actual capital structure and not the OEB-deemed capital structure of 40% equity. If this is not the case, please explain.

b) Based on its current projection of total project costs, does WPLP anticipate filing for 2024 rates based on its actual debt-to-equity capital structure?

c) Under what conditions or scenarios would WPLP seek rates in a future proceeding that deviate from the OEB's deemed 40% equity capital structure?

---

**Response:**

a) Confirmed. WPLP would adjust its capital structure to actual for rate-setting purposes.

b) WPLP anticipates filing its 2024 rate application with an adjusted capital structure to actual based on the Federal Funding Framework.

c) Once the Federal Funding Framework has been implemented and WPLP receives the federal contribution in aid of construction, WPLP intends to follow the OEB deemed 40% equity capital structure.

**BOARD STAFF - 36**

**Reference:** Exhibit I / Tab 4 / Schedule 1 / page 2 / Table 1
Exhibit I / Tab 4 / Schedule 1 / page 4 / Table 4

**Preamble:** Item B in Table 1 indicates a monthly increase related to Network RTSR in 2023 on residential bills of $0.04 and item C in Table 1 indicates a monthly increase related to RRRP rate in 2023 on residential bills of $0.15. The total monthly bill increase in Table 1 for residential customers is $0.20 whereas items B and C total $0.19.

Item E In Table 4 indicates a monthly bill increase due to RRRP adjusted for HST and OER in 2023 on general service bills of $0.42 based on WPLP's calculations for items C and D.

**Question(s):**

a) Please provide detailed calculations for items B, C, D and E In Table 4 for residential customers. Please adjust the bill increase in Table 1 for residential customers, if required.

b) Please confirm if the uplift calculation of 2,192 kWh in Table 4 for general service customers is correct. Please provide detailed calculations for items B, C, D and E in Table 4 for general service bills including revised uplift consumption if necessary. Please adjust the bill increase in Table 1 for general service customers, if required.

---

**Response:**

a) Item B: The detailed calculation of the $0.0002/kWh increase in the RRRP rate is provided in Table 3 of I-4-1

Item C: 750 kWh (typical residential consumption) * 1.076 (HONI R1 loss factor) = 807 kWh (loss-adjusted kWh)

Item D: $0.0002/kWh (RRRP increase from Item B) * 807 kWh (loss-adjusted kWh from Item C) = $0.1614

Item E: $0.1614 (RRRP impact, pre-HST and OER) * [1 + 0.13 (add HST) - 0.17 (remove OER)] = $0.1549

Table 1 in I-4-1 listed charges at 2 decimal places. The charges at 4 decimal places are shown in the table below, which accounts for the difference between $0.19 (the sum of the two amounts individually rounded to two decimal places) vs. $0.20 (amounts added without rounding and displayed at two decimal places).

| Item | Description | Amount | |
|---|---|---|---|
| | | **Residential** | **General Service** |
| A | Typical monthly bill | $134.6900 | $424.6700 |
| B | Increase related to Network RTSR | $0.0418 | $0.0894 |
| C | Increase related to RRRP rate | $0.1549 | $0.4209 |
| D = B + C | Total bill increase | $0.1968 | $0.5102 |
| E = D / A | Bill impact (%) | 0.15% | 0.12% |

b) The uplift calculation is 2,000 kWh * 1.096 (HONI GSe loss factor) = 2,192 kWh

Item B: The detailed calculation of the $0.0002/kWh increase in the RRRP rate is provided in Table 3 of I-4-1

Item C: 2000 kWh (typical residential consumption) * 1.096 (HONI GSe loss factor) = 2192 kWh (loss-adjusted kWh)

Item D: $0.0002/kWh (RRRP increase from Item B) * 2192 kWh (loss-adjusted kWh from Item C) = $0.4384

Item E: $0.4384 (RRRP impact, pre-HST and OER) * [1 + 0.13 (add HST) - 0.17 (remove OER)] = $0.4209

The calculations of the General Service bill impacts to 4 decimal places are provided in the table in response to part (a) above.