SUBMISSION OF YUKON ENERGY CORPORATION
RE: YUKON UTILITIES BOARD REVIEW

IN THE MATTER OF
AN ELECTRICITY PURCHASE AGREEMENT
BETWEEN
YUKON ENERGY CORPORATION AND
TLINGET HOMELAND ENERGY LIMITED PARTNERSHIP

January 2022

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1.0 INTRODUCTION

Yukon Energy Corporation ("Yukon Energy" or "YEC") has recently concluded an Electricity Purchase Agreement ("EPA" or the "Agreement") with Tlingit Homeland Energy Limited Partnership through its General Partner Tlingit Homeland Energy Limited ("THELP") for the sale to YEC of energy and capacity from THELP's proposed Atlin Hydro Expansion Project (the "Project").

THELP is owned by the Taku River Tlingit First Nation ("TRTFN").

On May 18, 2021, the Minister of Justice (the "Minister") provided direction to the Yukon Utilities Board ("YUB" or "the Board"), pursuant to subsection 18(1) of the Public Utilities Act (the "Act") to carry out a public review of the Agreement and provide a report within 180 days of when the Agreement is finalized and filed with the Board by YEC.

The Project expands TRTFN's existing 2.1 MW hydro facility that has operated since 2009 to displace BC Hydro diesel generation otherwise needed to supply the Atlin community. It can provide the Yukon Integrated System ("YIS") at Jakes Corner with 8 MW of winter dependable capacity and 36 GWh/year of long-term average renewable hydro energy if operated throughout the year. The Project will be dedicated to supplying the YIS during the term of the EPA.

The term of the Agreement will extend 40 years from the final commercial operation date ("COD") for all Project facilities, and full production is planned to be available before the end of October 2024. The Agreement also provides that YEC can renew or replace the Agreement to continue to receive electricity until the end of the Project's useful life.

THELP is proceeding to secure approvals and permits for the Project, and YEC and THELP are collaborating on securing the necessary government funding.

Yukon Energy's submission (the "Submission") addresses the following matters:

- Overview of the Project;
- Overview of the EPA; and
- Aspects of the Agreement relating to the Minister's Terms of Reference, including:
    - Need for the Agreement, including assessments regarding (a) capability of existing and currently committed and expected generation and transmission facilities, and (b) consideration of alternative options;
    - Agreement effects on customer rates and reliability of service;
    - Risks Associated with the Agreement; and
    - Prudence of entering into the Agreement.

2.0 OVERVIEW OF THE PROJECT

Yukon Energy's 2020 10-Year Renewable Electricity Plan identified the Project as a near-term priority renewable energy project to reduce the dependable capacity shortfall on the YIS that is currently being addressed with rented diesel generation units. Key attributes noted for the Project included:[1]

- Its ability to supply both dependable capacity and firm winter energy (reflecting its hydro storage); and
- Its significantly shorter project development timeline when compared to other greenfield hydro options (reflecting its expansion of TRTFN's existing Atlin hydro project and the feasibility work already completed for the expansion project).

In 2009 the TRTFN, through an affiliate of THELP, developed a 2.1 MW hydroelectric power station at Atlin, BC,[2] on Pine Creek with hydro storage at Surprise Lake (the "Existing Plant"). The Existing Plant has an existing electricity purchase agreement with BC Hydro to supply BC Hydro load at Atlin until 2033. THELP expects that a further EPA will be negotiated with BC Hydro for supply after 2033.

2.1 PROJECT FACILITIES

The Project is an 8.7 MW hydroelectric facility that expands, but is separate from, the Existing Plant, although it uses the same Surprise Lake storage (expanded with the new THELP Plant) and Pine Creek water flows. The Project's new hydro-electric plant will include following key elements:[3]

- An upgrade to the existing Surprise Lake Control Structure;
- Facilities to control inflows from Pine Creek into a power canal that utilizes a redeveloped abandoned placer mining ditch to convey water to the Upper Powerhouse;
- A new 6.0 MW Upper Powerhouse that includes two new hydro generation units, and related facilities adjacent to the existing 2.1 MW hydro facility. (The Existing Facility is not connected to the Project, and receives its water from the remaining Pine Creek flows);
- A 2.7 MW Lower Powerhouse generation unit and other related facilities that utilizes water flowing from both the Upper Powerhouse and the Existing Plant; and
- A 92 km 69 kV new transmission line from a new substation at the new hydro facilities to a new interconnection substation at Jakes Corner, YK with interconnection to the YIS at the existing

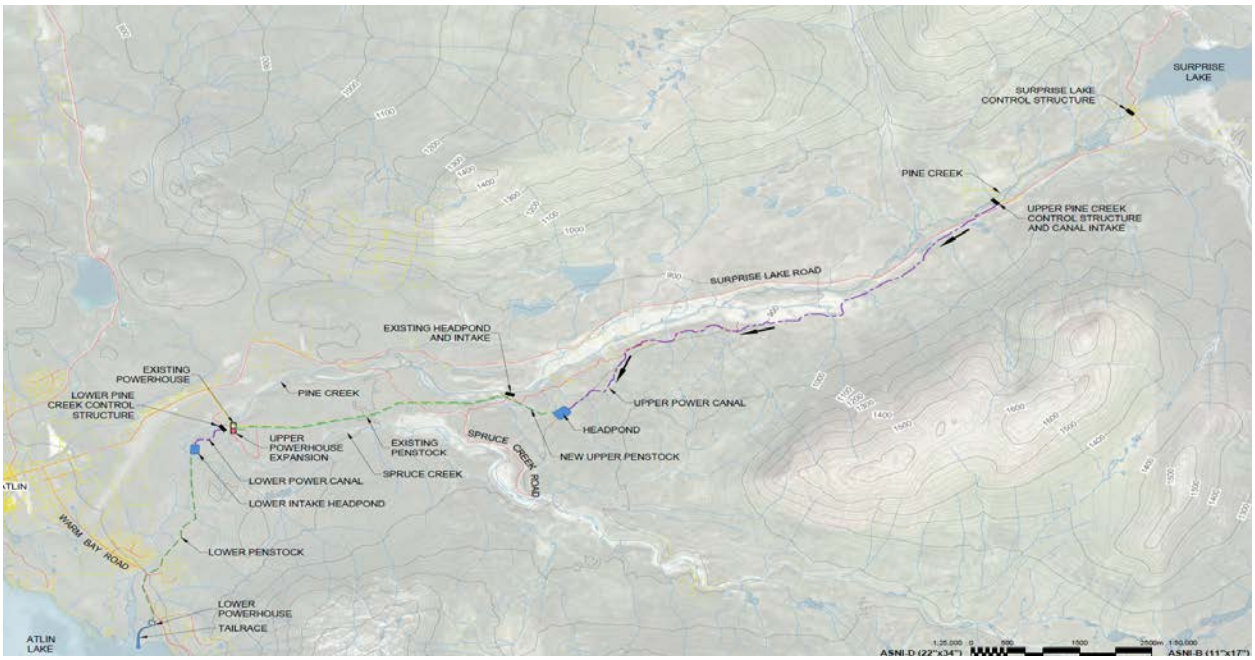
[1] Yukon Energy, 10-Year Renewable Electricity Plan Technical Report, December 2020, page 53.
[2] Atlin is in northern BC, about 54 km south of the Yukon border and approximately 175 km south-east of Whitehorse. The only road access is from Jakes Corner in the Yukon.
[3] See Appendix B of this Submission, Section 1 for a more detailed summary of the Project components as provided in Exhibit B-1 of the EPA.

34.5 kV ATCO Electric Yukon ["AEY"] facilities ["AEY System"] for transmission to YEC's S-150 substation in Whitehorse.[4]

The Project will also include upgrades to the YIS to accommodate the Project's capacity and energy deliveries (primarily involving AEY System transmission upgrades).

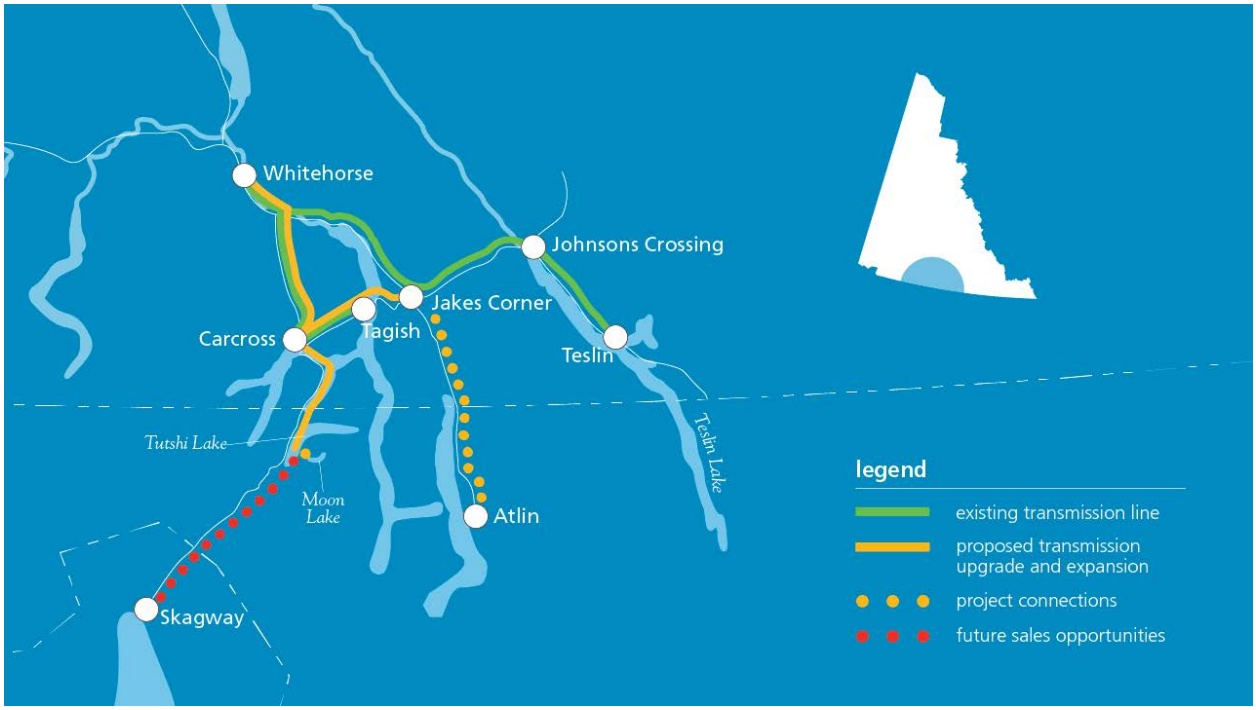
Figure 2-1 shows the Project hydro generation facilities at Atlin. Figure 2-2 shows the Project transmission connection from Atlin to Jakes Corner and the YIS.

Figure 2-1: Project Hydro Generation Components



[4] In future the Interconnection Substation could potentially be connected directly to a new 69 kV YIS facility if new transmission through Carcross to a Moon Lake pumped storage hydro facility is developed as proposed in the Yukon Energy 10-Year Renewable Electricity Plan. See Figure 2-2.

Figure 2-2: Project Transmission Connection to YIS[5]



2.2 PROJECT CAPABILITIES

The Project's planned capability for electricity delivery to the YIS at Jakes Corner includes 8.0 MW of dependable capacity for the Peak Winter Period ("PWP") from December 16 until the end of February, and long-term average ("LTA") energy of 36.2 GWh/year if operated throughout the year.[6]

Expected LTA energy deliveries during each PWP, based on the Project's Surprise Lake storage and its 35 water years of record, are expected to enable a full 8.0 MW of capacity to be delivered to YEC at Jakes Corner for 94% of the PWP days, i.e., for 70.5 of the 75 or 76 days in the PWP, which is more than enough days to cover the 20 or less days of the PWP period when minus 30ºC or lower temperature has been recorded at Whitehorse.[7]

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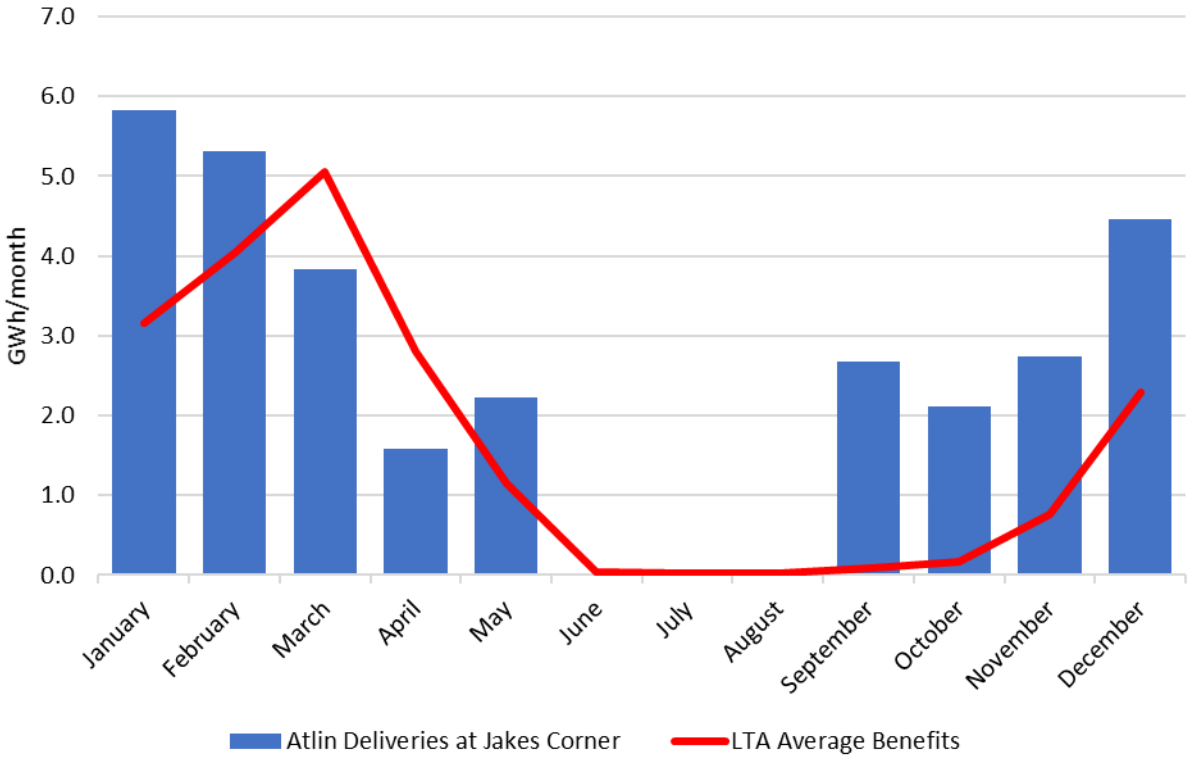
[5] Yukon Energy, 10-Year Renewable Electricity Plan Technical Report, December 2020, Figure 18: Southern Lakes Transmission System. Yellow dotted line shows THELP Project 69 kV Atlin-Jakes Corner transmission. Green line shows AEY 34.5 kV existing transmission linking Jakes Corner to YEC S-150 in Whitehorse. Yellow lines show proposed 138 kV new transmission from Whitehorse to proposed Moon Lake Pumped Storage hydro project (BC) and potentially to Skagway (AK) for summer energy shore-side sales to cruise ships; a potential 69 kV extension of this new transmission from Carcross to Jakes Corner is also shown.

[6] Capabilities for deliveries at Jakes Corner are after estimated losses for transmission and other Project activities. See Appendix B of this Submission, Section 1.1 for more details on Project energy and capacity capabilities, and the basis for these estimates.

[7] YEC's winter peak non-industrial load forecast assumes -38ºC, with approximately 8 MW load added by an average daily temperature drop below -30ºC. The forecast LTA deliveries from the Project during a PWP as stated apply regardless as to whether the Surprise Lake reservoir is full in the prior October provided that the load for the Existing Plant to supply the BC Hydro Atlin community load is 6.93 GW.h/yr or less as per the load forecast for 2032. See Section 1.1 of Appendix B of this Submission for more details and sensitivity assessments.

As reviewed in Section 3 below, the EPA focuses on energy delivery for the Winter Period (defined as January-May and September-December inclusive). Expected Winter Period deliveries to YEC per calendar year are 30.8 GWh LTA energy and 25.2 GWh firm energy during the lowest water year. Figure 2-3 below shows LTA Winter Project deliveries by month at Jakes Corner, and the resulting LTA YIS thermal displacement benefits of 19.6 GWh/year at forecast 2024 YIS load after considering other existing or expected renewable sources.[8]

Figure 2-3: Project LTA Winter Deliveries & LTA YIS Thermal Displacement Benefits 2024 Forecast YIS Load and Other Renewable Sources

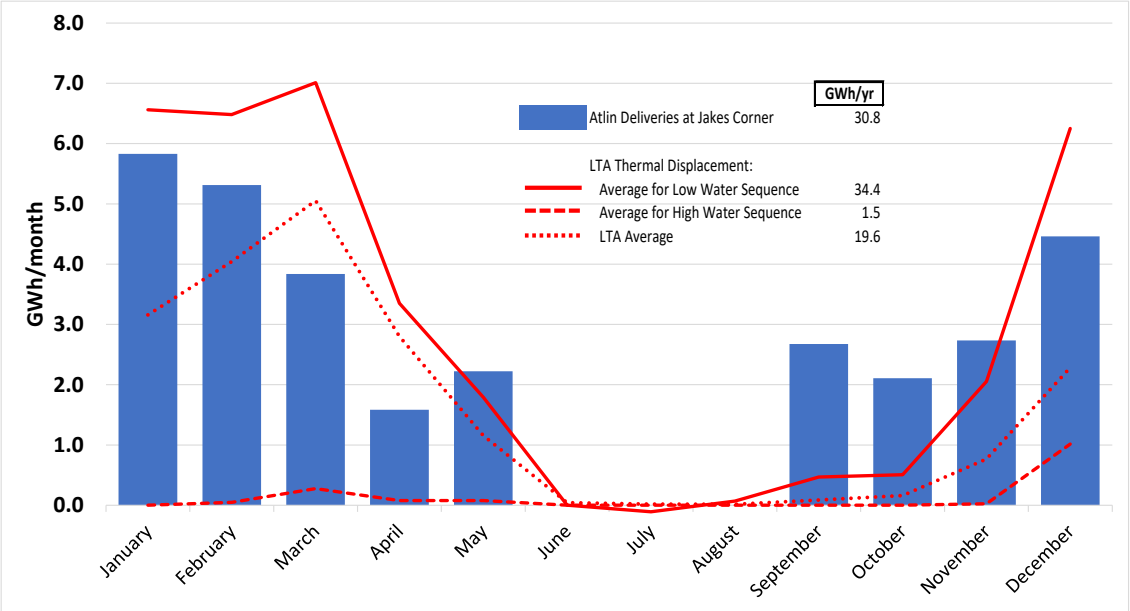


Forecast LTA thermal displacement benefits on the YIS resulting from the Project are based on the average of forecast thermal displacement under varying YIS water conditions over 38 water years. Figure 2-4 highlights the wide variance in foreast thermal displacement using 2024 forecasts over the 38 water years - ranging from 1.5 GWh/yr average for the 2013-2018 high water sequence to 34.4 GWh/yr average for the 1994-1999 low water sequence.

The LTA thermal displacement benefits over all water years are relevant for assessing renewable project sources such as the Project with energy supplies that are generally provided as available rather than being dispatched only when required to displace YIS thermal generation.

[8] See Appendix A, Table A3-1 for details on forecast 2024 YIS load and renewable source assumptions.

Figure 2-4: Project YIS Thermal Displacement Benefits at Varying YIS Water Conditions 2024 Forecast YIS Load and Other Renewable Sources



2.3 THELP AND YEC ACTIVITIES TO DATE

Yukon Energy's 10-Year Renewable Electricity Plan assumed government grant funding to support the development of renewable sources that would not otherwise be selected as the lowest cost resources. YEC and THELP are accordingly collaborating on securing government grant funding necessary for the Project to proceed.

Project capital costs have been estimated to date at approximately $206 million. Grant funding of approximately $150 million is being sought from the governments of the Yukon Territory, British Columbia and Canada to support the economics of the Project. Such funding would allow Yukon Energy to purchase energy and capacity from the Project at prices comparable with the lowest cost thermal alternatives, and deliver a reasonable return to THELP.

THELP proceeded in 2020 with the necessary environmental reviews, including submissions to:

- The British Columbia assessment authorities for construction and operation of the Project, including relevant transmission facilities located in British Columbia. This submission is currently in the technical review phase.
- The Yukon Environmental and Socio-economic Assessment Board (YESAB) for construction and operation of a 42 km, 3-strand, 69 kV transmission line from Jakes Corner to the British Columbia border. The YESAB Teslin Designated Office issued its Evaluation Report on September 10, 2021,

recommending that this project proceed subject to four recommended terms and conditions.[9] A Decision Document has not yet been issued by the Yukon Government.

THELP has hired SNC Lavalin to provide Owner's Engineering services for THELP's Plant, and is undertaking contractor selection as required for Project equipment procurement, installation and construction.

THELP is responsible for all AEY and YEC system upgrade costs needed to connect the Project to the YIS. Final scoping for these upgrades (with planning level cost estimates) is to be included in the Buyer-AEY System Interconnection Study Report that is currently being concluded as part of the Interconnection Agreement between THELP, YEC and AEY.

[9] The recommended terms and conditions include: restricting line construction in one area from May 1 to June 15 (to provide for successful goat kidding in the area); monitoring and reporting on possible bird collisions for five years of line operation during spring and fall migrations; heritage resource impact assessments prior to ground disturbing activities in areas of elevated potential for heritage resources; work with specified parties to ensure that the safety of the landing and launching areas for paragliders and hang-gliders are adequate for continued use.

3.0 OVERVIEW OF THE ELECTRICITY PURCHASE AGREEMENT

The EPA has been entered into between THELP and Yukon Energy effective January 14, 2022. A copy of the EPA is provided as Attachment A of this Submission.

The EPA was negotiated over a period of approximately 18 months. The Parties used as a starting template for the negotiation an amalgam of the YEC Standing Offer Program (SOP) EPA and the BC Hydro Independent Power Producer (IPP) Large Project EPA, and certain other commercial principles and basic terms relevant to the Parties. The additional terms related to the delivery of dependable capacity went beyond the IPP template document.

The following provides an overview of key EPA terms. A more detailed review of these same terms is provided in Appendix B of this Submission.

The EPA also includes a range of other terms and conditions as required for implementing an electricity purchase agreement, including provisions for termination and step-in rights, dispute resolution, force majeure, assignment, and right of first offer. These other terms and conditions are not addressed below.

3.1 THELP'S PLANT AND YEC-AEY SYSTEM UPGRADES (SCHEDULE B OF EPA)

THELP's hydro generation and related transmission components, as described in Schedule B of the EPA and summarized in Section 2.1 of this Submission, are defined in the EPA as "Seller's Plant". These include new hydro facilities located at Atlin, BC, at Surprise Lake and on Pine Creek which runs between Surprise Lake and Atlin Lake, as well as a new transmission connection to the YIS at Jakes Corner.

The Project will also include upgrades as required to connect the THELP's Plant to the YIS (defined in the EPA as "Buyer-AEY System" and "Buyer-AEY System Upgrades"). Final scoping for these upgrades (with planning level cost estimates) is to be included in the Buyer-AEY System Interconnection Study Report that is currently being concluded as part of the Interconnection Agreement between THELP, YEC and AEY.

Section 2.1 of this Submission summarized the capability of the Project to delivery energy and dependable capacity to YEC at Jakes Corner (the point of interconnection ["POI"]).[10] Section 1.1 of Appendix B of this Submission provides more detailed description of these capabilities, and the basis for these estimates.

3.2 CONDITIONS PRECEDENT AND TERM (ARTICLE 2 OF EPA)

The EPA has no legal force until the various Conditions Precedent provisions in Section 2.1(d) are completed to the mutual satisfaction of YEC and THELP, with the last deadline for such condition

[10] Point at which Seller's Plant Interconnects with the Buyer-AEY System at Jakes Corner, as identified in the Single Line Diagram in Exhibit B-1 of Schedule B of the EPA.

completion being prior to approximately mid-August 2022.[11] Key Condition Precedents are summarized in Section 2 of Appendix B of this Submission and include ones related to completion of other related agreements, Project Funding Plan, environmental authorizations, TRTFN approval, and any required Yukon government approvals .

The Term of the EPA is 40 years.[12] The EPA provides for discussions on a renewal or replacement of the EPA to begin on the 30th anniversary, with the objective to finalize a renewal or replacement of this EPA before the 35th anniversary (see Section 2.3 of EPA).

3.3 CONSTRUCTION AND OPERATION (ARTICLES 3, 4 AND 5 OF EPA)

Article 3 of the EPA sets out terms regarding construction and operation responsibilities, including Buyer-AEY System Upgrades. Overall, THELP is responsible for all costs to construct the Project, including all Buyer-AEY System Upgrade Costs.

Article 4 of the EPA, which addresses terms regarding commercial operation dates (COD's) for the Project, is elaborated on in Section 3.1.1 of Appendix B of this Submission. The EPA targets full commercial operation of the Project by the end of October 2024, including provisions for:

- **Dependable Plant Capacity Tests at THELP's COD** – overall Phase One and Phase Two Dependable Plant Capacity delivered to YEC at the POI, as confirmed by these tests, cannot be less than 8.0 MW and not more than 8.5 MW.
- **THELP's Target CODs** – target for Phase One (Upper Powerhouse plus all other components except Lower Powerhouse) by October 1, 2024 and both phases by October 31, 2024.
- **YEC's Target COD** – target of June 1, 2024 for YEC to complete all Buyer-AEY System Upgrades (expect AEY Upgrades to be completed in Q1 2024). YEC is responsible under the EPA for Buyer-AEY System Upgrades,[13] and will exercise commercially reasonable efforts to achieve YEC's COD prior to YEC's Target COD. YEC will have no liability for delays in completion of Buyer-AEY System Upgrades.
- **Notice for First PWP -** If THELP is unable to confirm to YEC on or before June 1, 2024 the availability of Dependable Plant Capacity for the first PWP, Section 4.3 of the EPA provides that YEC may proceed to rent diesel generating units for this first PWP and no Dependable Capacity

[11] Section 2.1(d)(v) of the EPA provides 215 days from January 14, 2022 date on page 1 of the EPA to YEC's receipt of approvals by any Government Authority. All other Condition Precedents are to be completed by no later than June 14, 2022.
[12] As provided for in Section 2.2, and subject to Section 2.1, the Term of the EPA commences on January 14, 2022 and continues until July 31 of the Year in which the 40th anniversary of the later of Phase One Seller's COD and Phase 2 Seller's COD occurs.
[13] YEC is the party dealing with AEY as regards all interconnection matters involving the AEY and YEC transmission systems.

Payment will be payable by YEC to THELP for the first PWP for Dependable Plant Capacity that was already provided by such rented diesels.[14]

Article 5 of the EPA sets out terms regarding operation of THELP's Project facilities and outages, including:[15]

- **Outage provisions** – planned outages limited to Summer Period (June 1 to August 31).
- **Annual Operating Plan (Schedule C of EPA) -** THELP's Annual Operating Plan to be provided by June 30 of each operating year, and related requirements of forecast Surprise Lake reservoir level, previous year delivery of electricity from Existing Plant, schedule for any Planned Outages and any planned operations and maintenance activities.
- **Annual Dependable Plant Capacity Test** – this test is required in December of each Year to confirm Dependable Plant Capacity Committed ("DPCC") for EPA dependable capacity payments for each PWP. Absent results to the contrary during the December period or a Force Majeure event, the Dependable Plant Capacity Test for a PWP is deemed to show zero DPCC.
- **Operating Rules for Seller's Plant (Schedule D of EPA)** - require THELP and YEC to coordinate and schedule the delivery of Delivered Energy and Dependable Plant Capacity, subject to provisions affecting operations after each August until the start of the following June that are focused on maximizing hydro storage and its use at YEC's direction for dependable capacity during the PWP while recognizing constraints on changes to winter flows in the 7.8 km power canal due to ice conditions and/or water availability.

3.4 COMMERCIAL TERMS (ARTICLES 6, 7 AND 8 OF EPA)

3.4.1 Key Principles

The EPA commercial terms reflect the following key principles relevant to YEC as purchaser:

1. **Payment for Energy and Dependable Capacity:** these deliverables are billed separately in separate transactions. This recognizes that the value of each 'commodity' and the methodology for calculating price/value are different.

[14] YEC currently relies on rented diesels during the winter period to address N-1 dependable capacity requirement shortfalls on the YIS. In order to proceed with such rentals, YEC typically needs to know by June what diesel rental requirements exist for the subsequent winter. Absent notification by June of a such a requirement, YEC would not be able to have in place during the subsequent winter the needed dependable capacity to address an N-1 event during an extended cold weather period of two weeks. Section 6.2 of the EPA requires as follows throughout the Term: "If Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake, Seller will provide, as soon as practicable, Notice to Buyer to permit Buyer when feasible to make alternative arrangements."

[15] Section 3.1.2 of Appendix B of this Submission provides further summary details on these components.

2. **Payment for Winter Energy that displaces forecast thermal generation:** YEC will only pay for winter energy based on its displacement of YEC's forecast thermal fuel generation costs at long-term average renewable sources for the YIS and the Project.

3. **Delivery of all Winter Energy available:** while YEC will only pay for winter energy that displaces LTA forecast thermal generation, YEC will take delivery each winter season (Sep-May) of all available energy that the Project is able to generate.

4. **Thermal Benchmark Pricing:** the 2024 benchmark prices paid under the EPA are $0.19/kWh for energy that displaces thermal generation (based on blended thermal generation LNG and diesel fuel costs) and $200/kW per year for the levelized cost of capacity (capital and non-fuel O&M) of permanent new greenfield thermal generation assets. Benchmark prices after 2024 are assumed to escalate at 50% of CPI for energy and 100% of CPI for dependable capacity.

5. **Payment for Capacity:** rather than paying for actual dependable capacity provided by the Project, YEC will pay for Dependable Plant Capacity Committed over each Peak Winter Period, based on the outcome of a capacity test completed each December at the beginning of each winter period. A mechanism is included for YEC to recoup any shortfalls in actual dependable capacity delivered each winter period through deductions from the additional revenue opportunities/upside opportunities for THELP (see item 7 below).

6. **Reliance of forecasts & forecast risk:** the calculation of LTA thermal displacement is based on a forecast of future YEC grid load, and two specific time periods are considered – the period during which grid-connected mines are assumed to require supply from the Yukon grid (2024-2034) and the subsequent period when these grid-connected mines are assumed to be closed (2035 onwards). Both Parties are exposed to forecast risk – if actual grid load is higher than forecast (e.g., grid-connected mines remain longer in operation than forecast) then YEC benefits from the opportunity to procure Atlin energy at a prices lower than would otherwise have been determined. Conversely, if actual grid load is lower that forecast (e.g., grid connected mines close earlier than expected), then payments by YEC to THELP will be higher than would otherwise have been the case.

7. **Sharing the benefit of upside opportunities:** the EPA allows THELP to share benefits with YEC under certain scenarios:

    a) If grid loads are higher than forecast in 2035 and subsequent years, THELP can get paid approximately two-thirds of YEC's added thermal displacement cost saving based on the last approved YUB blended fuel price.

    b) If in the future a carbon charge is approved by YUB for recovery through customer rates, THELP can get paid up to 50% of YEC's added cost saving from thermal displacement.

    c) If YEC requests delivery of energy during the summer months (June-August) YEC pays a 'discounted' price equal to 50% of the last approved YUB blended fuel price.

3.4.2 Summary of EPA Commercial Terms

Section 4 of Appendix B of this Submission summarizes key commercial terms for each of the following EPA articles:

- Article 6 on purchase and sale obligations, which includes provisions for the following:
    - **Notice to adjust DPCC** – this notice is required if THELP becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed (DPCC) for the following PWP due to factors other than water availability to Surprise Lake.
    - **Delivered Energy** – THELP is to sell and deliver to YEC all electrical energy generated by THELP's Plant, and YEC to accept delivery of, purchase and pay for same. Summer Delivered Energy (from June 1 to August 31) will be provided only upon YEC's written request on 48 hours' notice.
    - **Buyer-AEY System Constraint** - YEC will have no liability for a Buyer-AEY System Constraint, except for a Non-Permitted System Constraint as set out in Section 6.5 of the EPA, i.e., a continuous Buyer-AEY System Constraint which exceeds 30 minutes in duration and which is not caused by (a) Buyer-AEY Planned Outage, or (b) THELP, THELP's Plant, or anything on THELP's side of the POI. If a Non-Permitted System Constraint occurs (and no exemption specified in Section 6.5 applies), YEC will pay THELP (for each such impacted month) for the Monthly Constraint Energy calculated for the relevant month under Schedule F of the EPA.
- Article 7 on exclusivity, which includes provisions for the following:
    - **Exclusivity re: THELP's Plant** - THELP will not commit, sell, deliver or use any electrical energy generated by THELP's Plant (or any related Environmental Attributes) to any Person or for any purpose except for sale to YEC under the EPA.
    - **Modifications to Existing Plant** - restricts modifications to the Existing Plant (which otherwise might divert available water from THELP's Plant), except such actions which comply with stated provisions (these provisions include not having a material adverse effect on THELP's ability to deliver during each PWP specified Delivered Energy levels, and Existing Plant supply requirements limited to Atlin for an electricity load of an Atlin Community Customer (defined in the EPA to exclude an industrial customer with peak demand exceeding 1 MW).
    - **Enhancements of Existing Plant Using THELP's Plant** - provisions for YEC to review and consider for approval new arrangements affecting enhancement of the Existing Plant using the THELP's Plant under certain conditions that would provide enhanced capability to supply YEC as well as for Atlin Community Customer loads.

- Article 8 on prices and payment terms, which includes an overview of the pricing provisions (and the basis for these provisions) for winter and summer energy deliveries and Dependable Plant Capacity Committed (DPCC) provided during the PWP (Table 3-1 below provides a summary of EPA energy and capacity pricing):

    - **Winter Delivered Energy** – the basis for 2024-2034 and 2035 to end of Term Delivered Energy firm and non-firm prices paid by YEC to THELP.

      Also, provisions for added payments related to winter delivered energy (subject to any reductions under Section 8.3 of the EPA) for the following possibilities where YEC and THELP will share added thermal cost saving benefits:

        - Additional Payments starting in 2035 if there is Added Load on the YIS, i.e., load in excess of that assumed [with no industrial load] to determine the 2035 energy price.

        - Carbon Charge Saving Payment if YUB approves a carbon charge in future to be included in customer rates

    - **Summer Delivered Energy** – if requested by YEC, these deliveries will be paid for at 50% of the then current YUB approved blended fuel thermal price for YEC generation on the YIS (i.e., the "YUB Price"), subject to any reductions under Section 8.3 of the EPA.

    - **Dependable Plant Capacity during the PWP** – provides for YEC to pay THELP the Dependable Capacity Payment for each PWP, based on the Dependable Plant Capacity Committed (DPCC) for the PWP. Section 8.3 of the EPA describes the Dependable Capacity Excess Payment (DCEP) Account whereby YEC can recover payments that exceeded the DPCC that THELP has delivered.

        - **Dependable Capacity Payment (DCP)**: the DCP is the payment by YEC to THELP, based only on Dependable Plant Capacity Committed (DPCC) as provided for in annual test in December, and a Dependable Capacity Price of $200/KW per year[16] (2024$) as escalated at CPI after 2024.

        - **Dependable Capacity Excess Payment (DCEP) Account as per Section 8.3 of EPA**: the DCEP is the mechanism for recovery by YEC of excess DCP. This recovery is provided through a reduction of future contingent (i.e., dependent on a possible, but not forecast, event) energy-related payments that would

[16] The price is within the range for estimates of YEC levelized cost of capacity (i.e., fixed capital and O&M costs, excluding fuel costs) for a 12.5 MW new diesel generation facility of $175 per kW (2019$) if located at Takhini without any property taxes, and $199.8 per kW (2019$) if located in Whitehorse with related property tax costs (see response to Undertaking #7 in BESS proceeding). The 2019 LCOC costs escalated at 2% per year for inflation to 2024 equal $193 and $220.6 per KW respectively. The EPA CPI escalation uses December 2023 as the base month, with the initial escalation occurring for December 2024 (in order to ensure that adjusted prices are available for January 2025).

otherwise have been provided by YEC to THELP. Where relevant, payments otherwise due from YEC to THELP are retained by YEC (calculated at the end of the calendar year) as follows:

1. Up to 50% of any Summer Delivered Energy Payment will be applied until the DCEP Account is zero; and
2. Up to 100% of any Additional Payment (these payments can potentially occur starting in 2035) and Carbon Charge Saving Payment (dependent on carbon tax becoming applicable) will be applied until the DCEP Account is zero.

Table 3-1: Summary EPA Energy and Capacity Pricing

Pricing	2024-2034	2035 & Beyond
Energy Delivered		
Blended Thermal Reference Price	$0.19/kWh in 2024 plus 1/2 CPI after	$0.19/kWh in 2024 plus 1/2 CPI after
Firm Winter Energy Price (Jan-May,Sept-Dec) (first 25.2 GWh delivered in winter)	$0.132/kWh in 2024 plus 1/2 CPI after	$0.107/kWh in 2024 plus 1/2 CPI after
Non-Firm Winter Energy Price (all energy after first 25.2 GWh delivered)	$0.072/kWh in 2024 plus 1/2 CPI after	$0.027/kWh in 2024 plus 1/2 CPI after
Additional Payment on Winter Energy (if YIS generation load>388 GWh forecast)		(11.7% of Added Load x YUB Price)/30,800 MWh
Carbon Charge Saving Payment (if YUB approves carbon charge in rates)	up to 50% of carbon tax cost per kWh of estimated thermal displacement	
Summer Energy Price (June-August) (only upon YEC request)	50% of last approved YUB blend fuel price	
Dependable Plant Capacity Committed		
LCOC Reference Price	$200/kW-yr in Dec. 2023 plus CPI after	
Excess Payment recovery (sec. 8.3 of EPA)	up to 100% of Additional Payment/ Carbon Charge Saving Payment and up to 50% of Summer Delivered Energy Payment	

Note: See Appendix B, Section 4.1.3 for additional details.

4.0 ASPECTS OF THE AGREEMENT FOR BOARD REVIEW

The Minister's Terms of Reference state that the general purpose of this review of the EPA "is to obtain the YUB's report and recommendations on the potential benefits, costs, risks and customer impacts that influence whether the Agreement should proceed as proposed by YEC".

This review focuses on the EPA terms and conditions whereby YEC will purchase energy and dependable capacity as supplied by the Project owned and developed by THELP – and in this regard it differs from prior YUB reviews under Part 3 of the Act. Unlike those reviews, the only utility assets being developed by YEC/AEY pursuant to the EPA are YIS system upgrades that are to be fully funded by the Project at no cost risk to the utilities.

Aspects of the EPA to be reviewed by the Board, as outlined in section 3 of the Terms of Reference, are addressed below under the following headings:

1. The public need for the Agreement under various reasonable electric load forecasts, including related assessments regarding (a) capability of existing and currently committed and expected generation and transmission facilities and the effect of the Agreement on this capability, and (b) consideration of alternative options;[17]

2. The effect of the Agreement on customer rates and reliability of service provided to customers;

3. Risks associated with the Agreement, including potential impacts on YEC, rates for customers, and reliability of service provided to customers; and

4. The prudence of entering into the Agreement at this time.

4.1 PUBLIC NEED FOR THE AGREEMENT

The public need for the EPA under reasonable electric load forecasts is examined in the context of the Project's expected capabilities to supply YIS electric load to displace thermal generation. This approach allows YEC to secure through the EPA the Project's energy and dependable capacity benefits while the Project is owned and developed by THELP.

Yukon Energy is the electric utility with primary responsibility for planning and development of new generation and transmission facilities for the YIS. Need for the Project on the YIS at this time is examined in the context of the following Project capabilities:

- The capability of the Project during the initial 40-year EPA operating term to displace thermal generation capacity and energy otherwise expected to be required on the YIS to supply forecast electric load. This assessment includes examination of the capability of existing and currently

[17] Subsection 4.1 of this Submission addresses items "a", "c" and "e" of section 3 of the Minister's Terms of Reference.

committed and expected generation and transmission facilities and the effect of the Project on this capability); and

- The Project capability relative to other available renewable project alternatives.

The analysis below references certain sources that were reviewed by the Board in YEC's recent Part 3 application regarding the Battery Energy Storage System (BESS) project and YEC's 2021 General Rate Application (2021 GRA). These sources include:

- YEC's 2020 10-Year Renewable Electricity Plan (including its YIS electric load forecasts and identified existing, committed and expected resource options);
- Goals outlined in Yukon government's draft "Our Clean Future: A Yukon strategy for climate change, energy and a green economy";[18] and
- Relevant Order-in-Council (OIC) directions to the YUB affecting costs to be included in YEC's rates as approved by the Board.[19]

As reviewed during Yukon Energy's BESS Part 3 application, YEC's 10-Year Renewable Electricity Plan includes updated firm generation load forecasts for 2020 to 2030 (and beyond) as well as updates of potential new renewable generation for this period. The updated firm load forecasts include the expected impact of several electrification policies and actions being introduced by the Yukon government in support of its emission reduction targets.

Forecast committed and planned new generation projects include: Whitehorse Hydro uprates at WH2 and WH4, the BESS, renewable energy purchases from Independent Power Producers (IPP) through the Standing Offer Program (SOP), solar energy from the Micro-Generation program, the Southern Lakes and Mayo Lake enhanced storage projects, replacement of diesel generators as they retire, and DSM programs.

The BESS Part 3 Application also highlighted the three major new projects YEC is proposing in the 10-Year Renewable Electricity Plan: electricity purchases from the Project, construction of a pumped storage facility at Moon Lake, and upgrading and expansion of the Southern Lakes Transmission Network to facilitate the Moon Lake project and other potential improvements.

[18] Yukon government's draft "Our Clean Future: A Yukon strategy for climate change, energy and a green economy" mandates that by 2030 a long term average of 93% of electricity generated on the YIS must be produced from renewable sources (an aspirational target of 97% by 2030 is also specified), and includes specific actions to electrify the territory's transportation and heating sectors. This climate change strategy further increases non-industrial peak demand beyond the 2030 planning period and the need for additional renewable resources.

[19] In particular, OIC 1995/90 (Rate Policy Directive as updated by OIC 2021/16) which includes forecasting renewable generation available to contribute to meeting forecast customer requirements (when setting rates of YEC) based on long-term average annual renewable source availability.

4.1.1 Capability of Existing, Committed and Expected Generation and Transmission Facilities and Effect of Project on this Capability

As reviewed below, during the initial 40-year EPA operating term[20] the Project is expected to provide YEC with 8.0 MW of renewable dependable capacity during the PWP as well as LTA annual Winter Period energy of 30.8 GWh to displace between 15.0 and 19.6 GWh/year of LTA thermal generation otherwise expected to be required on the YIS to supply forecast electric load. (The Project, if required, can also provide LTA annual Summer Period (June 1st to August 31st) energy of up to 5.45 GWh/year – this capability is not examined further in this section.)

Existing capabilities and requirements of the YIS are reviewed briefly below, followed by: (a) a review of forecast dependable capacity loads and resources; and (b) a review of forecast energy loads and resources.

Existing YIS Capabilities and Requirements

The existing capabilities and requirements of the YIS include three key features:

- **Isolated Grid:** unlike other hydro based systems in southern Canada, Yukon is isolated and therefore must self-supply its own capacity and energy, including securing reserve capacity to meet grid loads during winter peak periods. The YIS has no access to any external North American power grid to secure extra power when it is needed, or to sell surplus renewable generation when it occurs.

- **Winter vs Summer Shifts:** seasonal generation constraints also present additional challenges to the YIS.[21] Electricity demand on the YIS is highly variable with a seasonal mismatch between the timing of maximum available electricity production from renewable generation (which peaks in the summer months) and maximum customer demand (which peaks during winter months). The result is existing surplus renewable generation during summer (which cannot be used or sold to other jurisdictions), a shortfall of renewable generation to meet peak winter loads, and the reliance on thermal generation to supply peak load requirements during winter.

- **Dependable Capacity Planning Criterion – N-1 Capacity Shortfall and Need for Permanent Solutions:** Yukon Energy's generation capacity planning criterion for the YIS is based on the single contingency (N-1) dependable capacity criterion, under which the YIS is required to have enough dependable capacity to supply the forecast non-industrial peak winter demand (i.e., excluding major industrial demand) under the largest single contingency. The YIS's

[20] Starting winter 2024/25, until July 31, 2064.

[21] Seasonal water storage is typically needed for hydro facilities to be fully utilized in winter. In Yukon, controlled seasonal storage exists at Aishihik and to a much lesser extent at Mayo, but is largely unavailable at Whitehorse. As a result, there is an increasing need to rely on thermal generation to meet baseload energy loads in winter and early spring when grid loads are highest and hydro water flows are constrained. There are also winter flow constraints due to icing issues [Whitehorse Rapids GS winter flows are restricted at max 170 cms which provides about 27 MW out of 40 MW installed capacity; Mayo GS winter flows are restricted at max 15 cms which provides about 6.5 MW out of 15 MW installed capacity].

current largest single contingency corresponds to the loss of the 37 MW Aishihik Generation Station, either through an outage of the generating station itself or an outage of the L171 transmission line that interconnects the Aishihik Generating Station to the Takhini Substation and the Whitehorse Substation.

The N-1 capacity shortfall based on existing YEC/AEY resources and non-industrial YIS load after DSM and the WH2 uprate is forecast for 2021/22 at 26.4 MW requiring 15 diesel rental units (plus two spares needed to support these units). Without new resources, this shortfall and the requirement for diesel rentals is forecast to increase significantly in subsequent years due to peak load growth and the retirement of existing resources.[22,23] Aside from added costs, a reliance on rented diesel units can create risks as to continuing availability, acceptable performance and the ability to connect the required rental units. Inability to supply the non-industrial peak winter demand, which occurs during a period of the coldest winter temperatures, presents an obvious and acute risk to human health and safety and public and private infrastructure.

Dependable Capacity Loads and Resources

The updated 10-Year Renewable Electricity Plan shows a growing YIS non-industrial peak load between 2021 and 2030, with a continuing need to address a growing capacity shortfall on the YIS absent reliance on rented diesel units as shown in Table 4-1 and Figure 4-1. This forecast capacity shortfall was reviewed during the BESS Part 3 Application proceeding and the Board agreed the capacity shortfall must be addressed. Specifically, the YUB BESS Report, page 11[24] noted the following:

> The Board agrees with YEC's and Mr. Maissan's submissions that new load growth is anticipated due to: new industrial mine loads at the Minto, Alexco and Victoria Gold mines; an increase in residential housing in Yukon and an associated increase in demand for electric heat; and government electrification policy initiatives resulting in, for example, a projected increase in zero-emission vehicles.
>
> In the circumstances detailed by YEC in its Application, supporting documents, and testimony, the Board finds sufficient evidence on the record to reasonably accept that load will continue to grow and that a large capacity shortfall gap will exist until YEC connects additional supply options. One of these options is the BESS Project, and removing it from the supply mix would keep the system at a capacity shortfall.

[22] As reviewed in 10-Year Renewable Electricity Plan, YEC anticipates the retirement of the sole remaining Mirrlees diesel engine in Faro (FD1) and two diesel engines from the Dawson Diesel Plant (DD2 and DD5) in 2023 which would reduce dependable capacity by 5.2 MW.
https://yukonenergy.ca/media/site_documents/YEN20093rpt_Technical_web2_compressed.pdf page 32.
[23] For example, without new resources beyond DSM and WH#2 uprate the N-1 shortfall would grow to 61.2 MW by winter 2030/31 which would require 35 rental 1.8 MW diesel units (see Table 3-1). In additional to the challenges finding this number of rental diesels, YEC would also face location and connection issues to safely connect diesel rental units to YIS.
[24] Page 11. Available at:
https://yukonutilitiesboard.yk.ca/pdf/YEC_Battery_Energy_Storage_System_(BESS)_Project/YUB_report_re_YEC_BESS_Project.Jun_30__2021.pdf [accessed on December 16, 2021].

> Currently and into the future, unless a permanent thermal option is pursued, YEC will need to continue relying on rented diesel units to address the capacity shortfall……. The Board is persuaded that only relying on rented diesel generators would be challenging and would not be a reliable way of closing the capacity shortfall gap.

Table 4-1 and Figure 4-1 show 2021-2030 forecast non-industrial peak load and the forecast dependable capacity excluding mobile rented diesel units. New renewable supply options with the capability to provide dependable capacity currently committed, planned or expected include:

- DSM measures expected to reduce peak demand by 2.2 MW in 2021/22 increasing to 7.0 MW by 2030/31;[25]
- Whitehorse GS Unit #2 uprate expected to add 0.6 MW dependable capacity starting in 2021/22;
- BESS Project expected to provide 7.2 MW dependable capacity support starting at the earliest in 2022 to be available if feasible for 2022/23 winter;
- Diesel replacements in Whitehorse, Faro and Dawson expected to provide 12.5 MW dependable capacity starting in 2023/24 at the earliest; and
- The EPA with 8.0 MW dependable capacity being provided to YEC starting in 2024/25.[26]

The 10-Year Renewable Electricity Plan as summarized in Figure 4-1 and Table 4-1 also includes the potential Moon Lake Pump Storage Phase 1 with 35 MW winter capacity starting in 2028/29.

Figure 4-1 and Table 4-1 indicate a forecast YIS N-1 capacity shortfall for winter 2024/25 without the Project of 17.2 MW related to non-industrial YIS load.[27] Without the Project, this capacity shortfall increases to 27.6 MW by 2027/28 (requiring 16 of 1.8 MW diesel rental units, plus any spares needed to support these units), and then to 41.5 MW by 2030/31 (requiring 24 rented diesel units).[28]

[25] In order to simplify illustration in this analysis, DSM was added as a new supply option instead of showing as a reduction in peak demand.
[26] During the BESS hearing the estimate dependable capacity from Atlin Hydro Expansion Project was at 8.5 MW which is now adjusted to 8.0 MW based on updated information provided by THELP and the EPA provisions.
[27] The forecast is after forecast DSM, the WH2 uprate, diesel replacements and BESS.
[28] YEC also uses Loss of Load Expectation (LOLE) as system capacity planning criteria where the system is planned not to exceed a LOLE of 2 hours/year. The LOLE criterion includes industrial loads as part of the assessment. At the forecast industrial load, however, the LOLE criterion was satisfied in forecast years so long as the single contingency, N-1, criterion was met.

Figure 4-1: Non-Industrial Peak & Dependable Capacity under N-1 Capacity Planning Criterion: 2021/22-2041/42 Winter

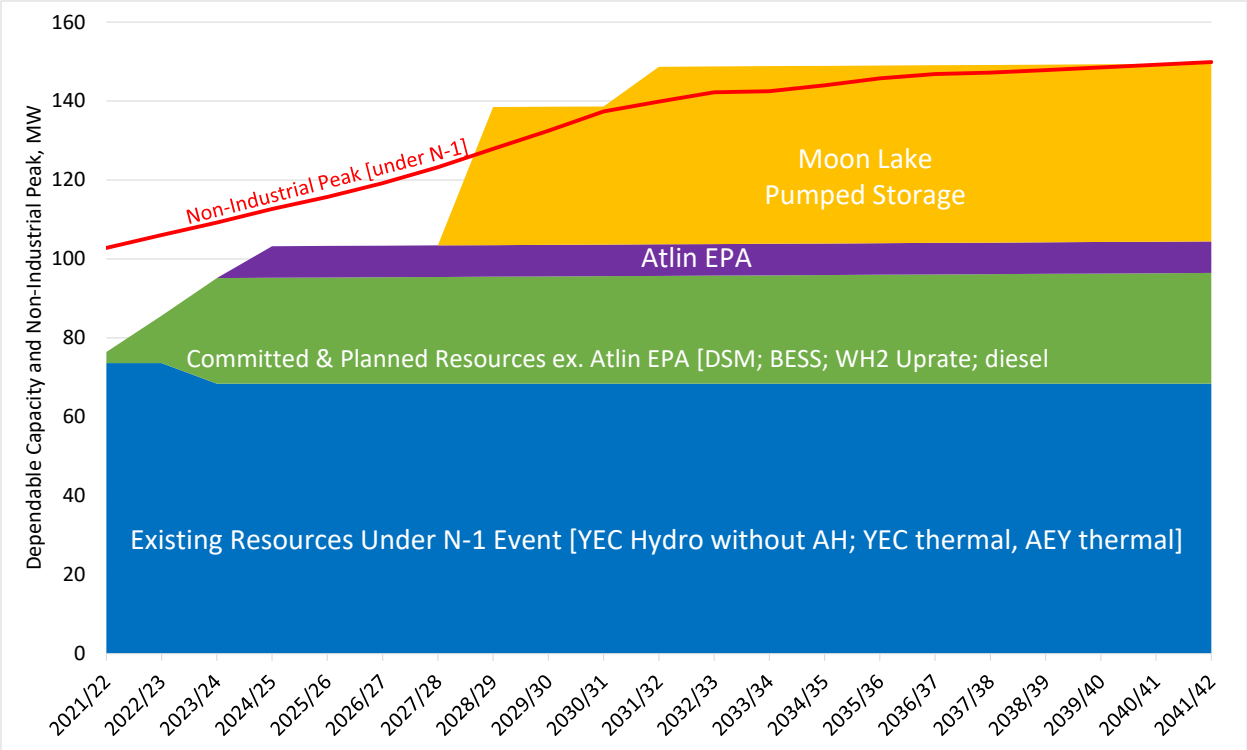


Table 4-1: Forecast Non-Industrial Peak and Dependable Capacity under N-1 Capacity Planning Criterion: 2021/22-2030/31 Winter (kW)

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Non-industrial Peak	**104,102**	**107,372**	**110,546**	**113,952**	**117,030**	**120,515**	**124,517**	**129,214**	**133,769**	**138,676**
Non-industrial Peak	*103,284*	*106,277*	*109,078*	*111,985*	*114,393*	*116,982*	*119,783*	*122,870*	*125,268*	*127,285*
EV Peak	*818*	*1,096*	*1,468*	*1,968*	*2,637*	*3,533*	*4,734*	*6,344*	*8,501*	*11,391*
Existing Resource Dependable Capacity	**112,100**	**112,100**	**106,900**	**106,900**	**106,900**	**106,900**	**106,900**	**106,900**	**106,900**	**106,900**
YEC Hydro	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*	*70,500*
YEC Thermal	*36,050*	*36,050*	*30,850*	*30,850*	*30,850*	*30,850*	*30,850*	*30,850*	*30,850*	*30,850*
AEY Thermal	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*	*5,550*
N-1 Event [Loss of AH GS or L171]	**-37,195**	**-37,194**	**-37,193**	**-37,192**	**-37,191**	**-37,190**	**-37,189**	**-37,188**	**-37,187**	**-37,186**
Loss of AH GS	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*	*-37,000*
Loss of AEY Haines Junction diesel	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*	*-1,500*
Haines Junction peak	*1,305*	*1,306*	*1,307*	*1,308*	*1,309*	*1,310*	*1,311*	*1,312*	*1,313*	*1,314*
Capacity Shortfall/Surplus under N-1	**-29,197**	**-32,466**	**-40,839**	**-44,244**	**-47,321**	**-50,805**	**-54,806**	**-59,502**	**-64,056**	**-68,962**
Committed and Planned Supply Options	**2,843**	**12,247**	**26,952**	**35,018**	**35,085**	**35,152**	**35,221**	**70,289**	**70,359**	**70,429**
Diesel Replacements	*0*	*0*	*12,500*	*12,500*	*12,500*	*12,500*	*12,500*	*12,500*	*12,500*	*12,500*
Whitehorse #2 Uprate	*638*	*638*	*638*	*638*	*638*	*638*	*638*	*638*	*638*	*638*
BESS	*0*	*7,200*	*7,200*	*7,200*	*7,200*	*7,200*	*7,200*	*7,200*	*7,200*	*7,200*
Atlin Hydro EPA	*0*	*0*	*0*	*8,000*	*8,000*	*8,000*	*8,000*	*8,000*	*8,000*	*8,000*
DSM	*2,205*	*4,409*	*6,614*	*6,680*	*6,747*	*6,814*	*6,883*	*6,951*	*7,021*	*7,091*
Moon Lake Pump Storage Phase 1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*35,000*	*35,000*	*35,000*
Capacity Shortfall/Surplus under N-1	**-26,355**	**-20,219**	**-13,887**	**-9,226**	**-12,236**	**-15,652**	**-19,585**	**10,787**	**6,303**	**1,467**
Capacity Shortfall/Surplus under N-1 w/o Atlin/ Moon Lake	**-26,355**	**-20,219**	**-13,887**	**-17,226**	**-20,236**	**-23,652**	**-27,585**	**-32,213**	**-36,697**	**-41,533**

In summary, the Project is expected to continue over its initial 40-year EPA operating term to provide 8.0 MW dependable capacity that displaces a need for rented or permanent diesels even with the addition of the potential Moon Lake Pump Storage Phase One and Phase Two. In considering new dependable capacity resources for the YIS in this long-term context it is important to re-iterate that the requirement is based on non-industrial load forecasts. Unlike energy resources, where loss of mine loads can quickly create surplus resource conditions, the forecast non-industrial load peak winter load requirement continues to grow during the next 10 to 20 years regardless of actual mine loads.

Energy Loads and Resources

Despite ongoing efforts to increase renewable energy generation,[29] thermal energy generation is still forecast as being required to meet current and growing firm generation requirements on the YIS at LTA, and to meet the Renewable Portfolio Standard of 93% average as articulated in Our Clean Energy Future and as expected to be passed into law in the expected Clean Energy Act.

For long-term planning and ratepayer cost estimates Yukon Energy relies on long-term average (LTA) hydro generation based on available water records (rather than forecasts of actual hydro generation in a specific year resulting from actual water conditions). The following are noted regarding YIS energy forecasts without the Project:

- As previously reviewed, electricity demand on the YIS is highly variable with seasonal mismatch between the timing of maximum available electricity production from renewable generation (which peaks in the summer months) and maximum customer demand (which peaks during a cold period during winter months).[30] The result is surplus renewable energy generation during summer (which cannot be used or sold to other jurisdictions) and reliance on thermal generation to supply peak load requirements during winter.

- Separate from the above noted seasonal supply constraints, electricity systems predominantly based on hydro generation resources such as the Yukon grid are vulnerable to drought (low water) conditions. In these circumstances, hydro generation on the isolated YIS must be supplemented by thermal energy generation. Drought-related requirements are included in the forecast LTA thermal energy generation.

- The resulting LTA forecast annual thermal energy requirement is sensitive to the level of industrial loads on the YIS – these industrial loads are currently forecast to continue (at some

[29] Examples since YEC's 2006 Resource Plan include: YIS grid extensions, Mayo B hydro expansion, Aishihik Third Turbine, hydro unit uprates, hydro storage expansions, and recent SOP IPP initiatives.
[30] Seasonal water storage is typically needed for hydro facilities to be fully utilized in winter. In Yukon, seasonal storage exists at Aishihik and to a much lesser extent at Mayo, but is largely unavailable at Whitehorse. As grid load increases, there is an increasing need to rely on natural gas and/or diesel thermal generation to meet base load energy requirements in winter and early spring when the peak is high and/or hydro water flows are constrained.

level) on the YIS until the early 2030s and to not be connected as of 2035. Non-industrial YIS energy load is forecast to grow until about 2030 and then to flatten or decline slightly.[31]

- The committed and planned renewable energy projects excluding the Project, are: increased hydro generation from Whitehorse Hydro uprates at WH2 and WH4 as well as the Southern Lakes and Mayo Lake enhanced storage projects, renewable energy purchases from IPPs through the SOP and solar energy from the Micro-Generation program. These committed and planned resources will reduce forecast thermal energy generation requirements.[32] However, thermal energy generation continues to be required to meet forecast firm generation requirements on the YIS.

The Project's capability to displace LTA thermal energy generation is enhanced by its hydro storage which enables the 8.0 MW of dependable capacity during the PWP. The Operating Rules required for the Project (see Section 2.3.2 of this Submission) in effect require reasonably steady state operation at full capacity to the extent practicable during the PWP when LTA thermal energy generation is forecast to be required.[33]

The forecast LTA thermal energy generation for the YIS has been calculated with and without the Project's expected LTA Winter Period energy deliveries[34] of 30.8 GWh/ year in order to estimate the following LTA thermal displacement benefits from the Project (see Appendix A, Table A3-1):

- 2024 Load Forecast – LTA thermal displacement of 19.6 GWh/year (63.5% of Project deliveries); and

- 2035 Load Forecast - LTA thermal displacement of 15.0 GWh/year (48.7% of Project deliveries).

The following key assumptions and analysis have been used in this regard:

- The load forecast from the 10-Year Renewable Electricity Plan for 2024 with mines forecast to be connected and for 2035 non-industrial load (when no mines are currently forecast to be connected);

[31] See for example 10-Year Renewable Electricity Plan Technical Report, Figure C-1 for Base Case without Skagway; Figure B-1 for Base Case with Skagway.
[32] The thermal generation displacement from IPPs can be constrained due to seasonality of IPP generation options, especially solar projects and run-of-river hydro projects, which will have materially lower winter generation output.
[33] It is not practicable to "load follow" on a daily (let alone hourly) basis during winter with the Project, given the delays and administrative challenges in frequently changing flows for the 7.8 km power canal as well as the risks related to destabilizing ice conditions in the power canal.
[34] See Section 2.1.3 of this Submission. The LTA energy generation estimate for the Project deliveries to YEC was prepared by SNC Lavalin, retained by THELP, based on available historical water records (1963-1993; 2015-2019) as reviewed in Appendix A, Table A1. The Project LTA energy generation in Appendix A, Tables A1 and A3-1 for winter deliveries to YEC at Jakes Corner reflects the average Atlin Project hydro generation during the Winter Period (Jan. 1 to May 31, Sept. 1 to Dec. 31) for all water records, while the low water year winter generation deliveries reflect the lowest hydro generation in water year 1978. The transmission losses between the Atlin generation location and delivery point at Jakes Corner is estimated to be at around 2.7%. Additional losses are added that reflect losses in YIS system which is assumed at 6.2% based on losses approved for ATCO Electric Yukon in its most recent GRA (assumes AEY System Upgrades will result in continuation of past average losses despite the material increases in energy being transmitted on this system).

- Full development of other renewable generation sources (e.g., WH2/WH4 uprates and approximately 40 GWh/year of SOP IPP generation) is assumed to be in operation by 2024 and continuing throughout the EPA Term (it is noted that delayed or lower development of these renewables would increase LTA thermal displacement provided by the Project for any given load forecast); and

- LTA thermal displacement benefits estimated for 2024 are assumed to apply for the years from 2024 through 2034, and the LTA thermal displacement benefits estimated for 2035 was used thereafter during the EPA Term to reflect relatively stable non-industrial electric annual energy loads expected post 2034.

In summary, based on the available load forecasts and assumed development of other new renewables by 2024, the Project is expected over its 40-year EPA operating Term to displace between 15.0 and 19.6 GWh/year of LTA thermal energy generation otherwise expected to be required on the YIS to supply forecast electric load.

As shown above, this estimated LTA thermal energy displacement benefit is sensitive to changes in YIS load forecasts and in the quantum of other new renewable energy resources actually developed and connected to the YIS. The Project's hydro storage and related dependable capacity capability, however, result in an enhanced capability relative to other potential near-term additional new renewable resource options to displace LTA thermal energy generation for any given load and new renewable energy scenario.[35]

4.1.2 Consideration of Alternative Options

As reviewed in the BESS Part 3 application and the 10-Year Renewable Electricity Plan, Yukon Energy is placing a high priority at this time on new renewable projects that can address the YIS dependable capacity requirements without reliance on new thermal generation or rented mobile diesel units.

The 10-Year Renewable Electricity Plan examined a wide range of near-term resource supply options[36] to address forecast renewable energy and capacity shortfalls.

The BESS Part 3 application highlighted the fact that many of these options do not provide dependable capacity, e.g., the expected IPP purchases under the Standing Offer Program are intermittent rather than dispatchable renewables, and enhanced hydro storage projects displace thermal energy generation with no added dependable capacity.

[35] LTA thermal displacement benefits are estimated for 2024 and 2035 in Table A3-1 to include both overall Project LTA hydro delivery as presented above and Project low water year delivery (to show forecast LTA thermal displacement based only the firm hydro generation that can be delivered by the Project during low water conditions). These estimates have been used to develop the firm and non-firm energy prices for 2024 and 2035 as shown in Table A3-2.
[36] See Section 5.1 of 10-Year Renewable Electricity Plan, December 2020.
https://yukonenergy.ca/media/site_documents/YEN20093rpt_Technical_web2_compressed.pdf

The BESS and the Project each can reduce the need for rented diesels – however, the Moon Lake pumped storage project, when developed in combination with BESS and the Project (as well as other developments assumed in Table 3-1), is the only identified resource option aside from default new thermal generation that has the capability to remove the forecast N-1 dependable capacity shortfall and reliance on rented diesels.

The 10-Year Renewable Electricity Plan reported on the Knight Piesold Ltd. review update of potential 'small' hydroelectric project options in Yukon and northern British Columbia. This study resulted in a refined and updated list of five small hydroelectric projects of interest – Atlin and four others, with capacities ranging from 8 MW to 13 MW and with four of the five having storage capabilities. The Project was selected for inclusion in the recommended 10 Year Renewable Electricity Plan portfolio for the following reasons:

- Its ability to supply both dependable capacity and firm winter energy (reflecting its hydro storage); and
- Its significantly shorter project development timeline when compared to other greenfield hydro options (reflecting its expansion of TRTFN's existing Atlin hydro and the feasibility work already then completed by THELP for the expansion project).

In summary, the Project is the only near-term resource option other than the BESS (which is currently being developed) to provide material added renewable dependable capacity benefits – highlighting the extent to which there are no current renewable resource alternatives to the EPA that merit consideration at this time.

The only other alternative identified to date for meeting the capacity shortfall without rented diesels would be to develop additional permanent thermal (diesel) capability beyond the planned replacements of retired units. As reviewed in the BESS proceeding, the development of new permanent diesel plants is not supported by stakeholders and is also not in line with goals outlined in Yukon government's draft "Our Clean Future: A Yukon strategy for climate change, energy and a green economy." As reviewed in Section 4.2 below, EPA impacts on customer rates are designed to mirror or improve upon the impacts to be expected with a permanent thermal generation option.

4.2 AGREEMENT EFFECT ON CUSTOMER RATES AND RELIABILITY OF SERVICE

The EPA is expected to maintain, and likely to enhance, current service reliability. Hydro resource generation that expands on existing operations with appropriate storage and a good water year record (as is the case for the EPA) is viewed as a reliable renewable service option for the YIS.

The effect on customer rates of energy and capacity purchases under the EPA is constrained by the agreed price and payment terms (see Section 2.4.3 of this Submission) and the actual dependable capacity and delivered energy provided by THELP.[37]

EPA impacts on YEC costs for dependable capacity and delivered energy are designed to mirror or improve upon the cost impacts on YEC and customer rates forecast for a permanent thermal generation option:

- **Dependable Capacity Payment (DCP):** the DCP payment to THELP by YEC in the EPA is based only on the Dependable Plant Capacity Committed (DPCC) as confirmed by an annual December test as provided for in Section 5.5 of the EPA, and a Dependable Capacity Price of $200/kW per year (2024$) as escalated at CPI after 2024.

  This price and cost to YEC reflects the levelized capacity and non-fuel O&M costs to YEC as estimated for equivalent permanent new diesel generation capacity.[38]

- **Winter Delivered Energy (January-May, September-December)** – the EPA price for all Delivered Energy and Monthly Constraint Energy provided during the Winter Period that YEC is required to purchase is based on the expected thermal blended fuel (90% LNG, 10% diesel) cost of $0.19/kWh in 2024[39] (escalated at 50% of CPI each year thereafter), and forecasts of YEC LTA thermal energy volumes that will be avoided by delivery of Project energy.[40] This EPA energy price in effect mirrors what would be estimated today for the assumed incremental blended thermal fuel generation that YEC would require without the EPA.

  The extent to which the EPA energy price equals thermal fuel costs displaced throughout the EPA Term will depend on approved fuel prices in rates (including any related change in LNG/diesel mix) as well as actual YIS loads and other connected renewable energy sources. With respect to the variability of loads, the following factors are worth noting:

  - EPA net benefits to YEC and customer rates relative to thermal energy generation increase if actual YIS loads are higher than the forecast used to determine the EPA energy prices (and vice versa if actual loads are lower than this forecast).

  - YIS loads historically have been very sensitive to industrial mine customer requirements. EPA net benefits to YEC and customer rates will increase to the extent that industrial

[37] The only utility assets being developed by YEC/AEY pursuant to the EPA are YIS system upgrades that are to be fully funded by THELP at no cost risk to the utilities and therefore with no impact on customer rates.
[38] The price is within the range for estimates of YEC levelized cost of capital (i.e., fixed capital and O&M costs, excluding fuel costs) for a 12.5 MW new diesel generation facility of $175 per kW (2019$) if located at Takhini without any property taxes, and $199.8 per kW (2019$) if located in Whitehorse with related property tax costs (see response to Undertaking #7 in BESS proceeding). The 2019 LCOC costs escalated at 2% per year for inflation to 2024 equal $193 and $220.6 per KW respectively.
[39] The expected YEC blended fuel price for 2024 assumes 90% LNG at 2024 forecast YEC cost of $0.1846/kWh, and 10% diesel at 2024 forecast YEC cost of $0.3024/kWh.
[40] See Sections 2.1.3 and 3.1.1 of this Submission for LTA winter deliveries and estimated LTA thermal displacements.

mine loads exist on the YIS in 2035 or any subsequent years during the EPA 40-year operating Term.

Customer rates will also be reduced with the EPA (compared with thermal energy generation) if a carbon tax cost is approved by the YUB in future for inclusion in the blended fuel costs to be recovered from ratepayers.

- **Summer Delivered Energy (June-August)** - summer energy deliveries, if requested by YEC, will be paid based on a Summer Delivered Energy Payment as provided in the EPA. This payment is equal to Summer Delivered Energy times 50% of the then current YUB approved blended fuel thermal price for YEC generation on the YIS. Such deliveries are not expected to occur due to forecast surplus YIS renewable energy in summer – but if this surplus renewable summer energy was no longer available and Project summer energy deliveries were required, the impact on customer rates will be less than for the thermal energy generation alternative.

The EPA effect on customer rates is materially lower than equivalent SOP IPP renewable supplies. Total annual cost at 2024$ prices for EPA deliveries to YEC for LTA energy and dependable capacity equals $5.3 million/year until the end of 2034, and $4.5 million/year thereafter.[41]

- In contrast, SOP IPP deliveries for renewable projects with the same annual LTA energy delivery capability (36.2 GWh/year including summer period energy) and the same 2024$ YEC blended fuel cost of $0.19/kWh would cost YEC $6.88 million/yr. for energy only.

- Additional costs would also be needed with SOP IPP options in order to provide the equivalent 8.0 MW of dependable capacity from another new source. The least costly new source would likely be new thermal generation with an LCOC (2024$) of at least $200/kW-year or $1.6 million/year for 8.0 MW.

There is some uncertainty with respect to what, if any impact the EPA may have on YECs balance sheet (i.e., rate base). Based on preliminary assessments of the Agreement, YEC has concluded that this transaction does not contain a capital lease and therefore there is no balance sheet or rate base impact. This conclusion, however, is not final. The ultimate impact can only be known when the Project is complete and YECs auditors (the Auditor General of Canada) have reviewed the transaction.

[41] The $5.3 million/year (2024$) until the end of 2034 assumes 8.0 MW dependable capacity ($1.6 million/year) plus 30.8 GWh/year winter delivered energy ($3.7 million/year per Appendix A, Table A3-2). The Project is capable of providing 5.4 GWh/year during summer, but no summer deliveries are assumed to be required from the Project given the forecast surplus of summer renewable energy. If 5.4 GWh of summer energy was required from the Project, and YEC's approved blended fuel cost (2024$) was $0.19/kWh, the added cost would be $0.5 million/year (price at 50% of the approved blended fuel cost).

4.3 RISKS ASSOCIATED WITH THE AGREEMENT

Risks associated with the EPA are reviewed below, including potential impacts on YEC, rates for customers, and reliability of service provided to customers.

Conditions Precedent

The EPA conditions precedent (see Section 2.1 of this Submission) highlight initial risks associated with the EPA. However, these risks have minimal potential impact on YEC or on rates for customers. If the EPA is unable to proceed due to failure to complete its Conditions Precedent YEC will know this outcome well before the end of 2022, with ample time to proceed with rented diesel options as required for 2024/25 and subsequent years to ensure reliability of service to customers while other permanent renewable options are reviewed and developed.

The EPA also provides for any YEC costs for studies and other works to be fully funded by the Project (i.e., by THELP and not by the utilities) with advance payments as required – the only costs not funded by THELP relate to YEC's EPA negotiation costs and costs related to this Submission to the YUB.

Construction and Commissioning

Once the EPA Conditions Precedent are completed, YEC costs and customer rates are not affected by THELP's cost and funding risks related to construction and commissioning of the Project.

YEC and AEY system upgrades required by the EPA are also to be fully funded by the Project at no cost to the utilities or customer rates.

YEC incurs no payment obligations under the EPA until THELP energy deliveries commence after THELP's successful completion of the earlier of Phase One THELP's COD or Phase Two THELP's COD.

In order to address YEC and customer service risks related to dependable capacity required for the first winter PWP of Project operation, Section 4.3 of the EPA provides that YEC may proceed to rent diesel generating units for this PWP if THELP is unable to confirm to YEC on or before June 1, 2024 the availability of Dependable Plant Capacity for the first PWP, and no Dependable Capacity Payment will be payable by YEC to THELP for the first PWP for Dependable Plant Capacity that was already provided by such rented diesels.[42]

[42] YEC currently relies on rented diesels during the winter period to address N-1 dependable capacity requirement shortfalls on the YIS. In order to proceed with such rentals, YEC typically needs to know by June what diesel rental requirements exist for the subsequent winter. Absent notification by June of a such a requirement, YEC would not be able to have in place during the subsequent winter the needed dependable capacity to address an N-1 event during an extended cold weather period of two weeks. Section 6.2 of the EPA requires as follows throughout the Term: "If Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake, Seller will provide, as soon as practicable, Notice to Buyer to permit Buyer when feasible to make alternative arrangements."

Operations

During ongoing operation of the Project, the following are noted regarding risks associated with the EPA:

1. **Delivered Electricity**

   Risks are reviewed below with regard to deliveries during the Winter Period, when YEC is required to purchase all energy delivered.

   Any risks regarding deliveries when requested during the Summer Period would only relate to foregoing a benefit that YEC would have gained, i.e., ample supply options would exist with available thermal energy generation in the unlikely event that surplus renewable summer energy from YEC hydro and IPP SOP generation was not available or adequate.

   a. **Risks related to the actual EPA volumes delivered being different than the LTA energy deliveries assumed for the purpose of establishing EPA prices**.

      Overall, this risk is not likely to have a material impact on YEC costs, customer rates or reliability of service provided to customers:

      - Failure to receive expected EPA deliveries will be addressed by YEC relying upon other supply sources, including thermal energy generation to the extent required. The assessments done to establish EPA prices relied on analysis of thermal energy generation that YEC would otherwise have been able to utilize to supply forecast loads on the YIS.

      - Given the basis for setting EPA energy prices, YEC only pays for actual EPA deliveries (or Monthly Constraint Energy), and costs for any thermal energy generation required to replace failed EPA deliveries are expected to be similar to EPA prices that would otherwise have been paid by YEC.

      - The EPA prices are sensitive to firm energy versus non-firm energy deliveries over the year – a factor which will tend to reduce cost impacts for YEC from variances in actual versus LTA costs related to EPA energy deliveries.

      - Customer rates are based on LTA thermal and renewable source energy forecast to be required by YEC to meet YIS loads. Variances between actual and LTA EPA deliveries will therefore not affect customer rates.

      - Shortages in LTA Project energy deliveries relative to the LTA forecasts in this Submission could prevent YEC from meeting the 93% Renewable Portfolio Standard in the expected new Clean Energy Act. The YEC financial/ratepayer impact of such a shortfall is unknown at this time, e.g., it could potentially result in fines.

   b. **Risks related to YIS loads, other renewable energy resources or fuel costs for thermal energy generation being different than assumed for setting EPA energy prices.**

Although it is likely that actual loads, other renewable resources and fuel costs will vary from assumptions used for setting EPA energy prices – these risks only affect net YEC costs for the EPA relative to thermal energy generation, and remain reasonable in the context of YIS resource planning:

- Fuel prices for the EPA are reasonably consistent with prices mandated for SOP IPP renewable energy supplies on the YIS, i.e., based on fuel prices at the outset of the EPA with annual escalation at 50% of CPI.
- EPA prices assume a high level of SOP IPP resource development by 2024. Delays or reductions in this development would result in enhanced net EPA benefits for YEC costs and customer rates.
- Industrial loads on the YIS can affect material variances from forecasts used to set EPA prices. Higher-than-expected industrial loads will likely enhance net benefits for YEC costs and customer rates related to the EPA, and the reverse impact is to be expected with lower-than-expected industrial loads. However, over most of the EPA Term (i.e., from 2035 through to July 31, 2064) the EPA prices assume no industrial load – thereby minimizing risks to YEC and to customer rates. If industrial loads occur during this period, Additional Payment provisions for Added Load starting in 2035 also ensure net benefits for YEC and for customer rates.[43]
- Customer rates will also likely be reduced with the EPA compared with thermal energy generation if a carbon tax cost is approved by the YUB in future for inclusion in the blended fuel costs to be recovered from ratepayers (see Section 2.4.3 of this Submission).

2. **Monthly Constraint Energy**

Although YEC will bear the cost for Monthly Constraint Energy (i.e., Delivered Energy that THELP could not deliver due to a Non-Permitted System Constraint caused by YEC or AEY) this risk is controlled by YEC and AEY and is considered to be minimal in terms of impacts on YEC costs or customer rates. YEC will seek to recover from AEY, through the Implementation Agreement, any such costs due to a Non-Permitted System Constraint on the AEY System.

3. **Dependable Capacity**

Risks related to dependable capacity are that actual dependable capacity provided during a PWP will be less than YEC has paid for through Dependable Capacity Payments or is relying upon when planning for a PWP.

[43] The Additional Payment provisions use the latest approved YUB Price and ensure that the Additional Payment is at less than 100% of this YUB Price (see Section 2.4.3 of this Submission).

The Project is expected to be highly reliable (i.e., only 2% unplanned downtime is applicable), given long-term evidence on water availability, the available Surprise Lake Storage, and the mature hydro generation technology being used. However, risks still remain, e.g., winter conditions along with climate change may lead to ice condition instability or other issues in any given year that reduce actual dependable capacity delivered during a PWP from what was confirmed in the December Dependable Plant Capacity Test used to set Dependable Capacity Payments for the PWP.

a. **Risks related to Dependable Capacity Payments** – the EPA provides for a Dependable Capacity Excess Payment Account to track and provide for recovery of Dependable Capacity Excess Payments (see Section 2.4.3 of this Submission).

   The risk is that, in order to provide financial security required by THELP for the Project, any such recoveries are dependent upon potential, but not forecast, events during the Term of the EPA regarding Carbon Charge Saving Payments, Additional Payments (starting 2035), or Summer Delivered Energy Payments.

   - The EPA provides for 100% recovery of Dependable Capacity Excess Payments before THELP receives any Additional Payments or Carbon Charge Saving Payments.

   - As noted earlier, any material industrial YIS loads in 2035 or subsequent years during the EPA Term would likely result in Additional Payments being made and therefore the opportunity for YEC recovery of outstanding Dependable Capacity Excess Payments.

b. **Risks related to dependable capacity service reliability** – the risk that dependable capacity is not provided as planned during a PWP varies materially depending on when the issue is identified as well as its magnitude and duration:

   - Available evidence from 35 water years and the SNC Lavalin analysis (see Section 2.1.3 of this Submission) confirms that water availability is not an expected risk affecting Project ability to provide dependable capacity as required during the PWP. Further, Operating Rules set out in the EPA also require THELP to provide YEC with weekly updates during the PWP on water availability related energy delivery capability through the balance of the PWP.

   - During a PWP it is possible that issues with the ice cover of the power canal or other brief disruptions affecting THELP's Plant may result in short term disruptions to the delivery of dependable capacity. Such disruptions are not expected to occur on any frequent basis, and would be unlikely to affect overall YIS service reliability unless they are concurrent with an N-1 event during a cold weather period.

- To address notification of other constraints on THELP's Plant capability regarding dependable capacity, Section 6.2 of the EPA requires as follows throughout the Term: "If Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake, Seller will provide, as soon as practicable, Notice to Buyer to permit Buyer when feasible to make alternative arrangements."

    - If such Notice is provided with sufficient time (i.e., by June prior to a PWP) YEC would expect to be able to secure rental diesel capacity as required to ensure reliable service for the coming PWP – and the EPA provisions would ensure that this capacity would be excluded from any dependable capacity payments for that PWP.

    - Otherwise, if YEC is unable to secure rental diesel capacity replacement due to lack of time or other inability to secure rentals, the YIS would likely have a N-1 dependable capacity shortfall for the affected PWP. This same risk relates to all of YEC's facilities and is not expected to be a material risk unless there is in fact an N-1 event during a cold weather period during the affected PWP.

4.4 PRUDENCE OF THE AGREEMENT

The above review of public need, effects on rates and reliability of service, and risks related to the EPA and the Project confirm that it is prudent to enter into the Agreement as proposed at this time.

APPENDIX A:
SUPPORTING FIGURES AND TABLES

Table A1: Atlin Hydro Expansion Project – Delivered Energy at Jakes Corner POI By Month and Water Year (GWh)

FORECAST ATLIN BC HYDRO LOAD (2032) : 6.93 GWH - LOAD BANK : 20 KW
UPPER AND LOWER PLANTS - ENERGY GENERATION including TRANSMSSION LOSSES to JAKES CORNER (GWh)
INCLUDING PLANT CONSUMPTION : 0.5% + UNPLANNED OUTAGES : 2%

Water Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL YEAR	Winter: Jan-May & Sep-Dec (calendar)
1963	5.83	5.27	4.04	1.33	3.22	1.30	4.76	1.12	2.24	2.18	2.71	4.47	38.46	31.28
1964	5.83	5.45	3.99	1.92	1.05	3.08	4.88	3.55	1.55	1.05	2.60	4.43	39.41	27.89
1965	5.83	5.27	3.99	0.96	1.39	0.93	0.84	1.17	1.20	0.89	2.60	4.43	29.49	26.55
1966	5.83	5.27	3.64	0.49	0.70	1.07	0.77	1.01	2.11	1.63	2.68	4.45	29.65	26.81
1967	5.83	5.27	3.94	0.69	2.15	1.13	2.99	1.59	1.40	1.94	2.64	4.45	34.01	28.30
1968	5.83	5.45	3.96	0.84	1.75	0.69	0.88	0.96	5.63	3.58	2.90	4.49	36.95	34.43
1969	5.83	5.27	3.96	2.48	2.50	0.91	2.41	5.30	5.61	2.12	2.82	4.48	43.71	35.08
1970	5.83	5.27	3.99	2.26	2.03	0.85	0.74	0.76	2.91	3.85	2.75	4.48	35.71	33.37
1971	5.83	5.27	3.96	1.47	1.39	1.10	0.58	1.37	1.99	0.99	2.63	4.46	31.03	27.98
1972	5.83	5.45	3.73	0.49	2.06	1.09	2.55	4.07	2.94	1.57	2.68	4.46	36.91	29.20
1973	5.83	5.26	3.96	0.78	1.64	0.91	0.79	0.99	2.26	0.65	2.60	4.43	30.12	27.43
1974	5.83	5.27	3.76	0.52	1.63	0.89	2.87	5.63	2.29	2.44	2.75	4.44	38.32	28.94
1975	5.83	5.27	3.97	1.04	1.71	0.99	3.67	4.18	4.00	1.43	2.67	4.45	39.21	30.37
1976	5.83	5.46	3.98	1.20	1.89	1.14	5.18	5.43	3.69	1.98	2.79	4.46	43.04	31.28
1977	5.83	5.27	3.99	2.57	2.39	1.23	5.49	3.86	2.95	1.51	2.66	4.44	42.20	31.62
1978	5.83	5.26	3.94	0.63	0.94	0.75	0.59	0.65	0.72	0.71	2.68	4.44	27.15	25.17
1979	5.83	5.27	0.61	0.52	2.39	1.07	5.55	2.04	1.97	2.16	2.66	4.42	34.49	25.83
1980	5.83	5.46	4.02	1.35	2.21	0.84	0.81	0.72	2.51	5.39	3.04	4.50	36.67	34.30
1981	5.83	5.27	4.03	3.19	3.53	1.56	4.98	3.00	5.42	3.66	2.92	4.45	47.84	38.29
1982	5.83	5.27	4.04	3.21	1.62	1.15	0.67	1.96	1.51	1.00	2.74	4.47	33.45	29.68
1983	5.83	5.27	3.95	1.13	1.69	0.70	0.80	0.78	1.16	3.09	2.60	4.44	31.44	29.17
1984	5.83	5.45	3.87	0.54	1.57	0.88	0.70	0.86	3.99	2.32	2.71	4.44	33.17	30.73
1985	5.83	5.27	3.98	1.21	1.50	0.92	0.87	1.33	1.10	1.02	2.56	4.47	30.06	26.94
1986	5.83	5.26	3.74	0.49	0.52	0.90	0.85	0.67	1.62	5.19	2.79	4.49	32.36	29.93
1987	5.83	5.27	3.98	2.81	1.46	0.99	1.27	2.36	2.31	1.14	2.67	4.44	34.53	29.91
1988	5.83	5.45	3.97	1.05	2.54	0.96	3.55	2.89	1.56	1.42	2.69	4.46	36.38	28.98
1989	5.83	5.27	3.95	1.55	3.82	0.77	0.70	1.89	0.91	1.28	2.71	4.47	33.15	29.78
1990	5.83	5.27	3.97	1.68	3.11	0.97	3.89	0.73	0.56	0.64	2.62	4.43	33.69	28.11
1991	5.83	5.27	3.84	0.55	2.14	0.86	0.73	0.74	4.95	3.45	2.85	4.51	35.72	33.39
1992	5.83	5.45	4.18	3.31	1.87	3.50	3.62	1.57	1.76	1.03	2.67	4.46	39.24	30.55
1993	5.83	5.27	3.99	1.99	3.74	2.18	4.42	1.36	2.06	4.48	2.73	4.46	42.50	34.54
2015	*5.83*	*5.27*	*4.02*	*1.85*	*3.22*	*0.61*	*0.62*	*0.92*	*3.83*	*3.05*	*3.34*	*4.53*	*37.09*	34.94
2016	*5.83*	*5.46*	*3.92*	*4.12*	*3.67*	*0.63*	*0.67*	*1.76*	*5.35*	*1.93*	*2.74*	*4.39*	*40.46*	37.41
2017	*5.83*	*5.25*	*3.24*	*2.27*	*3.42*	*0.84*	*3.40*	*4.65*	*2.69*	*1.58*	*2.64*	*4.48*	*40.30*	31.41
2018	*5.83*	*5.26*	*3.94*	*1.31*	*3.95*	*0.79*	*0.90*	*2.68*	*2.37*	*1.41*	*2.81*	*4.50*	*35.75*	31.38
2019	*5.83*	*5.27*	*4.03*	*3.26*	*3.62*	*0.66*	*0.73*	*2.26*	*5.15*					
Av. GWh	**5.83**	**5.31**	**3.84**	**1.58**	**2.22**	**1.11**	**2.21**	**2.13**	**2.67**	**2.11**	**2.73**	**4.46**	**36.22**	**30.76**

Source: THELP as provided by SNC Lavalin, August 2021.
Assumes 8.73 MW at Turbines, 8.30 MW after all losses at Atlin plant, 8.0 MW delivered at Jakes Corner at full capacity, and 7.83 MW delivered at Jakes Corner after 2.0% provision for unplanned outages.
Daily generation estimates based on daily inflow reconstitution performed by Morrison Hershfield (1963-1993) using the Gladys River and measured discharge at site (2015-2019), and provision for monthly energy load at Atlin supplied by the Existing Plant hydro generation (with assumed new 20kW load bank) assuming forecast 2032 load (6.93 GWh/year) at end of existing energy purchase agreement with BC Hydro.

Table A2: Atlin Hydro Expansion Project – Dependable Plant Capacity at Jakes Corner POI By Peak Winter Period and Water Year (MW)

8.00 MW (average with plant consumption *but without unplanned outages*)
7.84 MW (average including plant consumption and unplanned outages)

	Atlin Energy Deliveries - Peak Winter Period (GWh)					Dependable Plant Capacity Delivered at POI Jakes Corner		
						Dec 16 to end of Feb		
Water Year	*Nb days Dec 16 to end of Feb*	Dec-Feb GWh[2]	Assumed before Dec 16, GWh[1]	Dec 16 to end of Feb GWh	*Dec 16 to end of Feb - Average (MW)*	Days at 8.00 MW Delivered	Days at 65% capacity	Total days
	α	A	B	C=A-B	β	E	F	G=E+F
1963								
1964	*76*	15.76	*1.46*	14.30	7.84	*71.7*	*4.3*	76.0
1965	*75*	15.53	*1.42*	14.11	7.84	*70.7*	*4.3*	75.0
1966	*75*	15.53	*1.42*	14.11	7.84	*70.7*	*4.3*	75.0
1967	*75*	15.55	*1.44*	14.11	7.84	*70.7*	*4.3*	75.0
1968	*76*	15.74	*1.44*	14.30	7.84	*71.7*	*4.3*	76.0
1969	*75*	15.59	*1.48*	14.11	7.84	*70.7*	*4.3*	75.0
1970	*75*	15.58	*1.47*	14.11	7.84	*70.7*	*4.3*	75.0
1971	*75*	15.58	*1.47*	14.11	7.84	*70.7*	*4.3*	75.0
1972	*76*	15.74	*1.45*	14.29	7.83	*71.6*	*4.4*	76.0
1973	*75*	15.55	*1.45*	14.11	7.84	*70.7*	*4.3*	75.0
1974	*75*	15.53	*1.42*	14.11	7.84	*70.7*	*4.3*	75.0
1975	*75*	15.54	*1.43*	14.11	7.84	*70.7*	*4.3*	75.0
1976	*76*	15.74	*1.44*	14.30	7.84	*71.7*	*4.3*	76.0
1977	*75*	15.55	*1.45*	14.11	7.84	*70.7*	*4.3*	75.0
1978	*75*	15.53	*1.43*	14.10	7.83	*70.6*	*4.4*	75.0
1979	*75*	15.54	*1.43*	14.11	7.84	*70.7*	*4.3*	75.0
1980	*76*	15.71	*1.42*	14.30	7.84	*71.7*	*4.3*	76.0
1981	*75*	15.59	*1.49*	14.11	7.84	*70.7*	*4.3*	75.0
1982	*75*	15.55	*1.44*	14.11	7.84	*70.7*	*4.3*	75.0
1983	*75*	15.56	*1.46*	14.11	7.84	*70.7*	*4.3*	75.0
1984	*76*	15.73	*1.43*	14.29	7.84	*71.6*	*4.4*	76.0
1985	*75*	15.54	*1.43*	14.11	7.84	*70.7*	*4.3*	75.0
1986	*75*	15.56	*1.46*	14.10	7.83	*70.6*	*4.4*	75.0
1987	*75*	15.59	*1.48*	14.11	7.84	*70.7*	*4.3*	75.0
1988	*76*	15.73	*1.43*	14.29	7.84	*71.6*	*4.4*	76.0
1989	*75*	15.56	*1.45*	14.11	7.84	*70.7*	*4.3*	75.0
1990	*75*	15.57	*1.46*	14.11	7.84	*70.7*	*4.3*	75.0
1991	*75*	15.53	*1.42*	14.11	7.84	*70.7*	*4.3*	75.0
1992	*76*	15.79	*1.50*	14.30	7.84	*71.7*	*4.3*	76.0
1993	*75*	15.55	*1.45*	14.11	7.84	*70.7*	*4.3*	75.0
2015	*75*	15.55	*1.45*	14.10	7.84	*70.7*	*4.3*	75.0
2016	*76*	15.81	*1.52*	14.30	7.84	*71.7*	*4.3*	76.0
2017	*75*	15.47	*1.38*	14.09	7.83	*70.5*	*4.5*	75.0
2018	*75*	15.57	*1.47*	14.10	7.83	*70.6*	*4.4*	75.0
2019	*75*	15.60	*1.49*	14.11	7.84	*70.7*	*4.3*	75.0
Min GWh		15.47	1.38	14.09		Min	70.51	4.27
Av. GWh		15.60	1.45	14.15		AV	70.94	4.32

1. Operation rules from December 16th to the end of February --> Full capacity (as long as water is available)
2. 2015 water year row assumes Dec. 1993 GWh (this equals average for December water years).

Source: THELP as provided by SNC Lavalin, August 2021 – See Table A1 for Delivered Energy by month and water year.

Table A3-1: Atlin Hydro Expansion Project – LTA Thermal Displacement Benefits for Winter Energy Deliveries

		2024 Load Forecast		2035 Load Forecast	
		Atlin energy at 30.8 GW.h	Atlin energy at 25.2 GW.h - Low water year	Atlin energy at 30.8 GW.h	Atlin energy at 25.2 GW.h - Low water year
		GW.h	GW.h	GW.h	GW.h
		A	B	C	D
Forecast 12-month Annual Grid Load (GWh Generation)					
Non-Industrial Load		453.3	453.3	483.1	483.1
Industrial Load		74.6	74.6	0.0	0.0
Total Load		**527.9**	**527.9**	**483.1**	**483.1**
Estimated Incremental Hydro from WH2/WH4 Uprates		10.2	10.2	10.2	10.2
Assumed IPPs+incremental microgen		39.9	39.9	39.9	39.9
Total Net Load before Atlin		**477.7**	**477.7**	**432.9**	**432.9**
Atlin Generation during winter delivered to Jakes Corner	1	**30.8**	**25.2**	**30.8**	**25.2**
Atlin Deliveries for LTA Impacts (Non-Summer GWh after 6.2% YIS losses)	2	28.9	23.6	28.9	23.6
LTA Thermal With Atlin (GWh)	3	15.8	17.9	4.6	5.4
LTA Thermal Without Atlin(GWh)	4	35.3	35.3	19.6	19.6
Atlin LTA Thermal Displacement benefits (GWh)	5=4-3	***19.563***	***17.450***	***15.003***	***14.210***
LTA Thermal Displacement % of Atlin Generation for LTA Impacts	6=5/2	67.8%	73.9%	52.0%	60.2%
LTA Thermal Displacement % of Atlin Generation delivered to Jakes Corner	***7=5/1***	***63.483%***	***69.222%***	***48.687%***	***56.370%***
LTA Thermal Benefits (2024$million)					
Assumed Blended Fuel Cost (2024$/kWh)	8	0.190	0.190	0.190	0.190
Non-Summer rate revenue: 2024 blended thermal price forecast	9=8x5	$3.717	$3.316	$2.851	$2.700
EPA Price for non-summer energy delivered (2024$/kWh)	*10=9/2*	***$0.121***	***$0.132***	***$0.093***	***$0.107***

Notes:

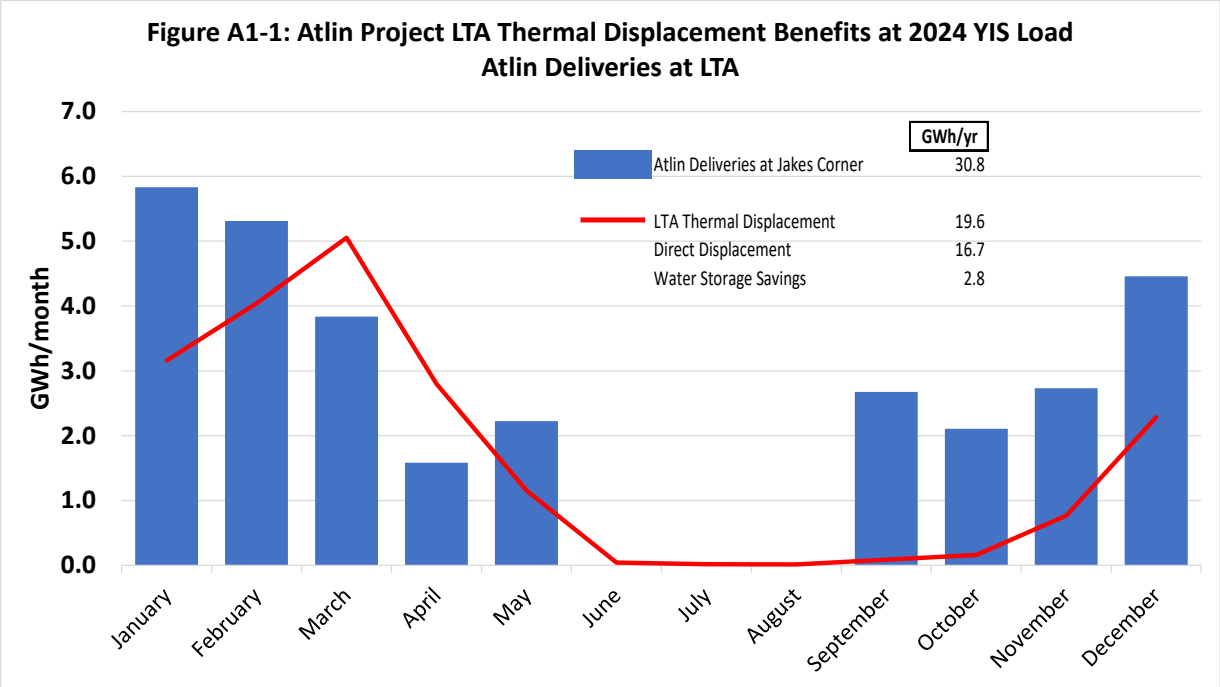
1. The load forecast is based on 10-year Renewable Electricity Plan load forecast. Estimates includes incremental microgen [2.1 GW.h] and wind IPP.
2. Base Case Atlin energy as provided by THELP/SNC in August 2021 for LTA winter energy deliveries to YEC at Jakes Corner (after transmission losses).
3. Base Case with Low Water uses Atlin winter energy deliveries to YEC at Jakes Corner for Atlin low water year [water year 1978].
4. LTA thermal impacts of Atlin deliveries estimated after 6.2% losses on YIS are deducted (AEY System losses after upgrades).
5. LTA thermal estimated based on YECSIM runs [38 water years] with SLESP and MLESP at 0.5m; Whitehorse GS winter max flows at 170 cms; Mayo GS winter outflows: Aug to Oct max at 24 cms, Nov at max 19 cms, Dec 1 to Dec 20 15 cms, Dec 20 onward ramp up by 1.75 cms per week to max generation.

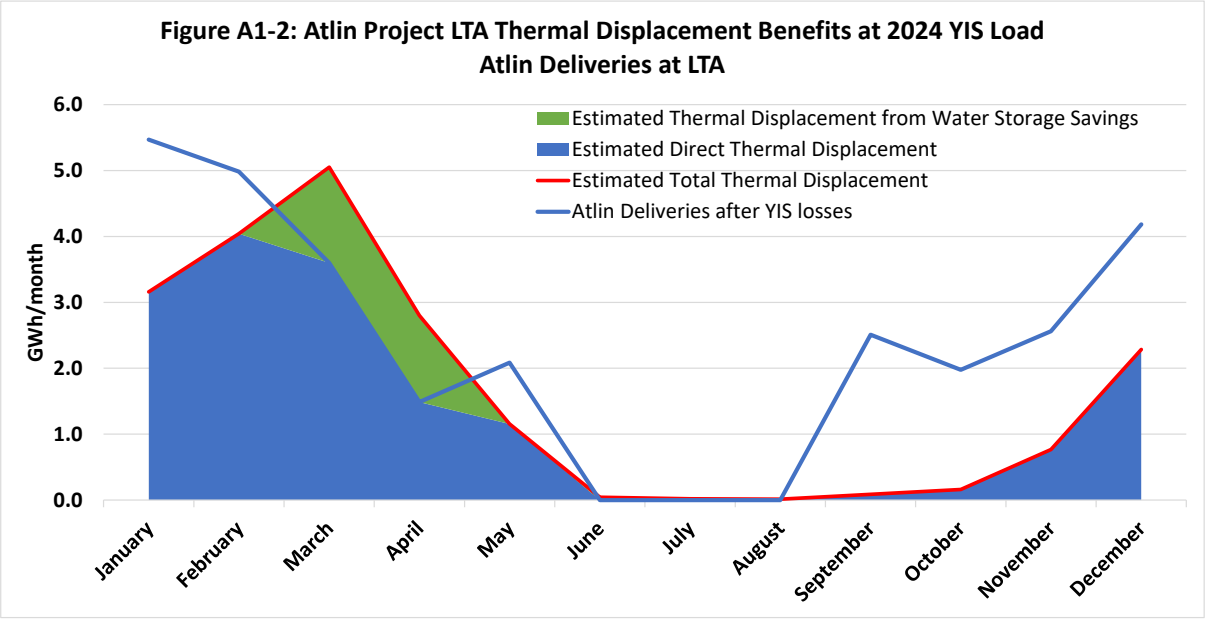
Table A3-2: Atlin Hydro Expansion Project – Firm and Non-Firm Rates (2024$/kWh) for Winter Energy Deliveries

		2024 Load Case	2035 Load Case
		A	B
Atlin Winter Deliveries at Jakes Corner (GWh)			
Long-term average	1	30.8	30.8
Low water year	2	25.2	25.2
Variance	3=1-2	***5.6***	***5.6***
Atlin LTA Thermal Displacement benefits (GWh)			
Long-term average	4	19.6	15.0
Low water year	5	17.5	14.2
Variance	6=4-5	***2.1***	***0.8***
Non-Summer rate revenue: 2024 blended thermal price forecast - LTA (2024$million)			
Long-term average	7	$3.717	$2.851
Low water year	8	$3.316	$2.700
Variance	9=7-8	***$0.401***	***$0.151***
Firm and Non-Firm Rate Estimates (2024$/kW.h)			
Firm	10=8/2	$0.132	$0.107
Non-firm	11=9/3	$0.072	$0.027

See Table A3-1 re: LTA thermal displacement and related LTA thermal benefits.

Figure A1: Atlin Project LTA Thermal Displacement Benefits at 2024 YIS Load Atlin Deliveries at LTA

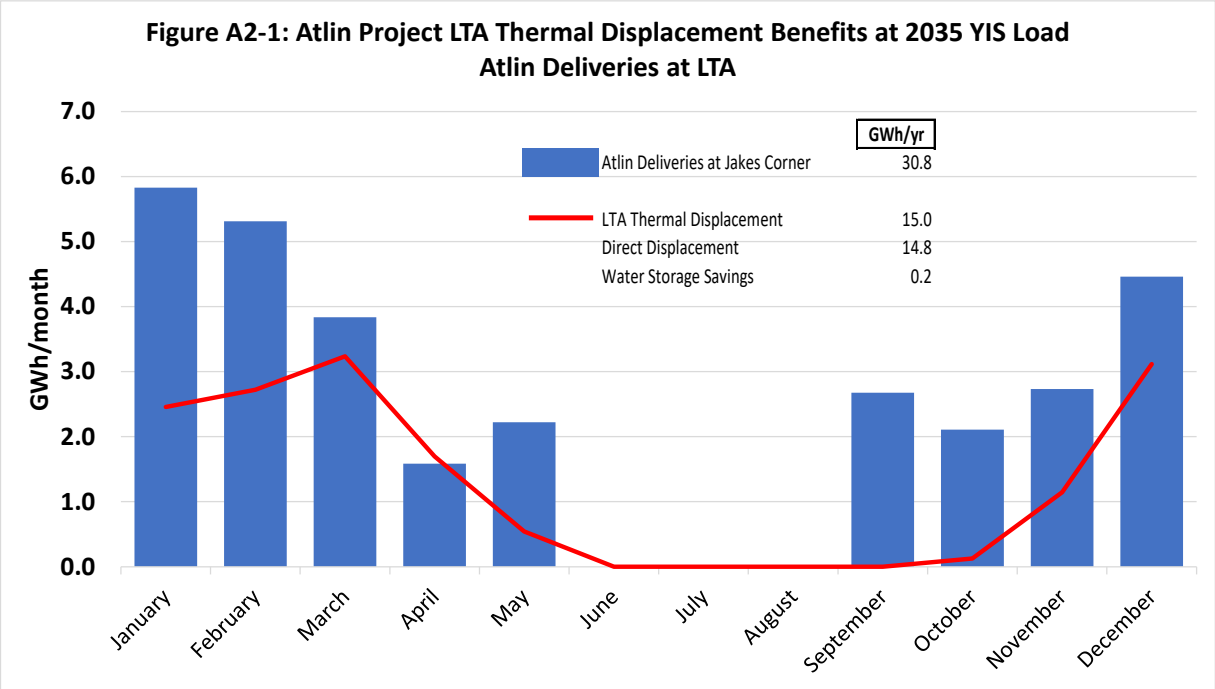


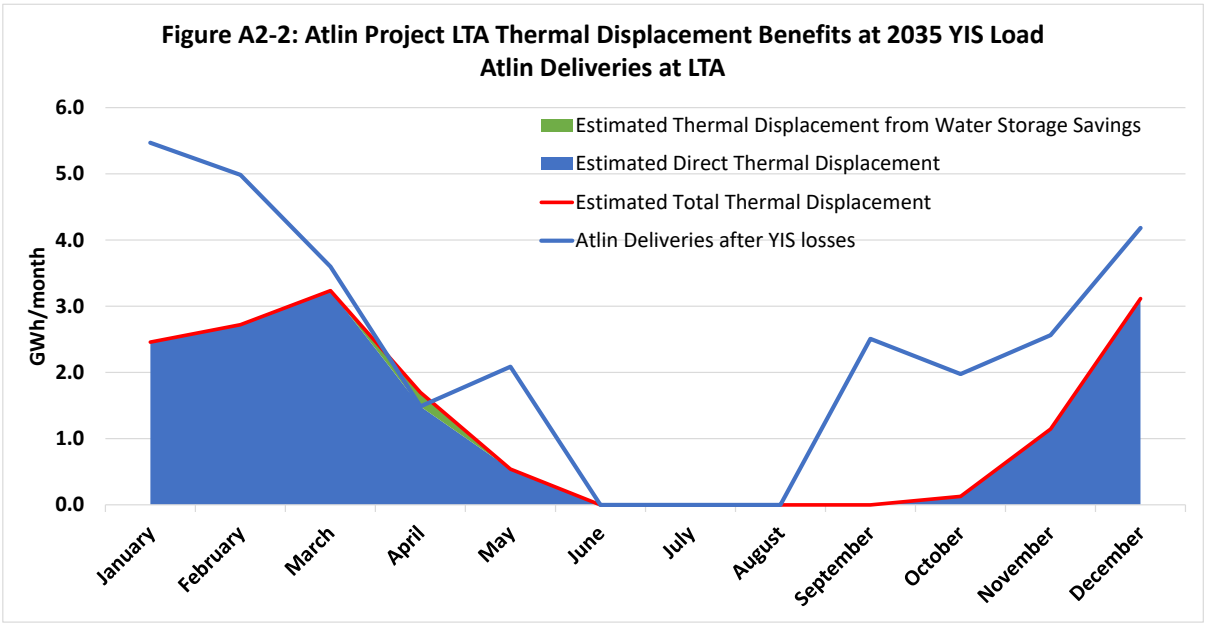


in GWh	January	February	March	April	May	June	July	August	September	October	November	December	Total
Atlin Deliveries at Jakes Corner	5.8	5.3	3.8	1.6	2.2	0.0	0.0	0.0	2.7	2.1	2.7	4.5	30.8
LTA Thermal Displacement	3.2	4.0	5.1	2.8	1.2	0.0	0.0	0.0	0.1	0.2	0.8	2.3	19.6

Note: See Tables A1 and A3-1 for assumptions re: LTA Project Deliveries and LTA thermal displacements.

Figure A2: Atlin Project LTA Thermal Displacement Benefits at 2035 YIS Load
Atlin Deliveries at LTA





in GWh	January	February	March	April	May	June	July	August	September	October	November	December	Total
Atlin Deliveries at Jakes Corner	5.8	5.3	3.8	1.6	2.2	0.0	0.0	0.0	2.7	2.1	2.7	4.5	30.8
LTA Thermal Displacement	2.5	2.7	3.2	1.7	0.5	0.0	0.0	0.0	0.0	0.1	1.1	3.1	15.0

Note: See Tables A1 and A3-1 for assumptions re: LTA Project Deliveries and LTA thermal displacements.

Table A4-1: Dependable Capacity Excess Payment Account – Sample Calculation

Assumptions for Year N that occurs after 2034, with PWP ending in February of Year N

1	Dependable Plant Capacity Committed (DPCC)		
1.1	Actual Dependable Capacity Payment (total for PWP)	$1,989,360	
1.2	Dependable Capacity Price (for full PWP)	$248.67	$/KW
1.3=1.1/1.2	Dependable Plant Capacity Committed (DPCC)	8,000	KW
2	Days in PWP	75	days
3	Delivered Energy during PWP		
3.1	When 100% of DPCC to be provided under Operating Rules (OR)	11,800,000	KWh
3.2	Other time periods during PWP	1,081,600	KWh
4	Monthly Constraint Energy during PWP		
4.1	When 100% of DPCC to be provided under Operating Rules (OR)	12,000	KWh
4.2	Other time periods during PWP	10,000	KWh
5	PWP Hours when less than 100% DPCC Required Under Operating Rules (OR)		
5.1	Per Section 3(b)(i) or 3(b)(iii) of OR for ice formation (max 168 hours)	96	hours
5.2	Per Section 3(b)(ii) of OR when Buyer selected lower operation	48	hours
5.3=5.1+5.2	Total PWP Hours when less than 100% DPCC Required under OR	144	hours
6	Dependable Capacity Provided for Year N		
6.1=3.1+4.1	Delivered Energy & Monthly Constraint Energy when 100% DPCC Required	11,812,000	KWh
6.2=2*24	Total Hours in PWP	1,800	Hours
6.3=6.2-5.3	PWP Hours when 100% DPCC assumed for Dependable Capacity Provided	1,656	Hours
6.4=6.1/6.3	Dpendable Capacity Provided	7,132.85	KW
7	Capacity Shortfall for Year N		
7.1=1.3-6.4	DPCC less Dependable Capacity Provided	867.15	KW
7.2=0.5*1.3	Cap for Capacity Shortfall (cannot exceed 50% of DPCC)	4,000.00	KW
7.3=MIN(7.1,7.2)	Capacity Shortfall for Year N	867.15	KW
8=7.3/1.3*1.1	**Dependable Capacity Excess Payment for Year N**	**$215,634**	
9	**Dependable Capacity Excess Payment Account**		
9.1	Balance at end of Year N-1	($200,000)	
9.2=9.1-8	Balance at end of Year N	($415,634)	

Notes:

- Delivered Energy and Monthly Constraint Energy only included in row 6.3 for PWP when 100% of DPCC to be provided under Operating Rules.
- Hours required for ice formation before December 16 (before PWP), or that occur during PWP when 100% DPCC required per Operating Rules, excluded from row 5.1.
- Row 5.2 hours when Seller not required to provide 100% output during days that the Buyer requested less than 100% output under Operating Rules to accommodate inadequate water availability (Surprise Lake reservoir was not full at end of prior October).

Table A4-2: Energy Payments Adjusted for Dependable Capacity Excess Payment (DCEP) Account

Assumptions for Year N that occurs after 2034, with PWP ending in February of Year N

1	Dependable Capacity Excess Payment Account before any Energy Payments		
1.1	As at Summer in Year N (previous Year balance)	($200,000)	
1.2	As at end of Year N	($415,634)	
2	**Calculation of Summer Delivered Energy Payment for July in Year N**		
2.1	YUB Price in Year N (assumes Carbon Charge of $0.10/KWh)	$0.30	$/KWh
2.2	Summer Delivered Energy in Year N (assumed only in July)	200,000	KWh
2.3=2.1*0.5*2.2	Summer Delivered Energy Payment before DDCEP	$30,000	
2.4=MIN(50%*2.3,-1.1)	Reduction of Dependable Capacity Excess Payment Account (up to full Account)	$15,000	
2.5=2.3-2.4	**Summer Delivered Energy Payment after DCEP**	**$15,000**	
3	**Calculation of Additional Payment at end of Winter Period in Year N**		
3.1	Added Load (Buyer generation load above 388 GWh) in Winter Period of Year N	20,000	MWh
3.2=0.117*3.1*2.1/30800	Additional Payment Price	0.0227922	$/KWh
3.3	Delivered Energy in Year N Winter Period	30,200,000	KWh
3.4=3.3*3.2	Additional Payment before DCEP	$688,324	
3.5=1.2+2.4	Dependable Capacity Excess Payment Account Balance before Payment	$400,634	
3.6=MIN(3.4,-3.5)	Reduction of Dependable Capacity Excess Payment Account (up to full Account)	$400,634	
3.7=3.5+3.6	Dependable Capacity Excess Payment Account after Payment	$0.00	
3.8=3.4-3.6	**Additional Payment to Seller after DCEP**	**$287,690**	
4	**Calculation of Carbon Charge Saving Payment at end of Winter Period in Year N**		
4.1	Carbon Charge in Year N	$0.10	$/KWh
4.2=0.19*(1.01)^11	EPA energy price in Year N (assume 11 years inflation, CPI averages 2%/year)	$0.212	$/KWh
4.3=2.1-4.2	YUB Price less EPA Energy Price in Year N	$0.088	$/KWh
4.4=MIN(0.5*4.1,4.3)	Carbon Charge Saving per KWh for Year N	$0.050	$/KWh
4.5=0.488*3.3*4.4	Carbon Charge Saving Payment for Year N before DCEP	$736,880	
4.6=3.7	Dependable Capacity Excess Payment Account Balance before Payment	$0	
4.7=MIN(4.5,-4.6)	Reduction of Dependable Capacity Excess Payment Account (up to full Account)	$0	
4.8=4.6+4.7	Dependable Capacity Excess Payment Account after Payment	$0	
4.9=4.5-4.7	**Carbon Charge Saving Payment to Seller after DCEP**	**$736,880**	

APPENDIX B:
SUMMARY OF EPA TERMS AND CONDITIONS

APPENDIX B – SUMMARY OF KEY EPA TERMS AND CONDITIONS

The EPA between THELP as "Seller" and Yukon Energy as "Buyer" (together, the "Parties") was entered into effective January 14, 2022 in respect of the sale of electricity from the Atlin Hydro Project (defined as "Seller's Plant"). A copy of the EPA is provided as Attachment A of this Submission.

The following summary retains definitions as used in the EPA – see Section 3 of this Submission for a summary review which avoids, where practicable, the use of these definitions.

1.0 SELLER'S PLANT AND BUYER-AEY SYSTEM UPGRADES

Seller's Plant as described in Schedule B of the EPA will have new hydro facilities located at Atlin, BC,[1] on Pine Creek which runs between Surprise Lake and Atlin Lake, as well as a new transmission connection to the YIS at Jakes Corner.

In 2009, the TRTFN, through an affiliate of THELP, developed a 2.1 MW hydroelectric power station on Pine Creek (the "Existing Plant") with an existing electricity purchase agreement with BC Hydro for sale of energy to supply BC Hydro load at Atlin until 2033 (before which time THELP expects that a new EPA will be negotiated with BC Hydro).

Seller's Plant will be separate from the Existing Plant at Atlin, subject to use of the same Surprise Lake storage (expanded with Seller's Plant) and Pine Creek water flows. Seller's Plant as described in Schedule B of the EPA includes (Exhibit B-1 of EPA provides Seller's Single Line Diagram):

- An upgrade to the existing Surprise Lake Control Structure (increase storage within the existing water licence levels, from the existing 1.1 m storage to 2.0 m storage);
- A new control structure in Pine Creek approximately 2.5 km downstream of the Surprise Lake Control Structure at the existing canal inlet, to control inflows from Pine Creek into a power canal (the "Power Canal"), the approximately 7.8 km redeveloped abandoned placer mining ditch that conveys water to the penstock intake for the new Upper Powerhouse;
- The related penstock connecting to an approximate 6.0 MW new Upper Powerhouse with two new units and related facilities adjacent to the existing 2.1 MW hydro facility;
- A new one-unit Lower Powerhouse with approximately 2.7 MW and other related facilities; and
- A 92 km 69 kV new transmission line from a new substation at the new hydro facilities at Atlin, BC to the new Seller's Plant interconnection substation (the "Interconnection Substation") at

[1] Atlin is in northern BC, about 54 km south of the Yukon border and approximately 175 km south-east of Whitehorse. The only road access is from Jakes Corner in the Yukon.

Jakes Corner, YK (with interconnection to the YIS (the "Buyer-AEY System") at the existing 34.5 kV ATCO Electric Yukon ["AEY"] facilities ["AEY System"]).[2]

1.1 PROJECT ENERGY AND CAPACITY DELIVERY CAPABILITIES

Seller provides Buyer, at the at the point of interconnection ["POI"][3]) for Seller's Plant with the Buyer-AEY System, the following:

- Delivered Energy (kWh); and
- Dependable Plant Capacity (KW).

Delivered Energy provided to Yukon Energy under EPA

Long-term average (LTA) Project capability to provide delivered energy to Yukon Energy at Jakes Corner has been estimated by month based on water availability to the proposed Seller's Plant over 35 water years of record (see Appendix A, Table A1).

- **Annual:** LTA annual energy delivery capability is 36.2 GWh/year, with calendar year results varying from 27.2 GWh (1978) to 47.8 GWh (1981).
- **Winter Period (defined in EPA as from January 1 to May 31, September 1 to December 31):** LTA Winter Period energy delivery capability is 30.8 GWh/year, with calendar year results varying from 25.2 GWh (1978) to 38.3 GWh (1981). The EPA provides for all available Delivered Energy throughout the Winter Period to be provided to YEC.
- **Summer Period (June 1 to August 31):** LTA Summer Period energy delivery capability is 5.45 GWh/year, with calendar year results varying from 1.99 GWh (1978) to 11.76 GWh (1976). The EPA provides for the Project hydro plant to be shutdown during the Summer Period from June 1 to August 31[4]; during this period YEC can request energy deliveries on a 48-hour notice, subject to the Seller Planned Outage time periods.

Dependable Plant Capacity provided to Yukon Energy under EPA

Project capability to provide Dependable Plant Capacity to Yukon Energy at Jakes Corner has been estimated for the Peak Winter Period ("PWP") from December 16 to the end of February based on estimated water availability to Seller's Plant over 35 water years (see Appendix A, Table A2) and assumed Seller's Plant operation each day (for ice condition stability) at either 100% or 65% of full capacity.

[2] In future the Interconnection Substation could potentially be connected directly to a new 69 kV Buyer-AEY System if YEC develops new transmission through Carcross to a proposed Moon Lake pumped storage hydro facility.
[3] Point at which Seller's Plant Interconnects with the Buyer-AEY System at Jakes Corner, as identified in the Single Line Diagram in Exhibit B-1 of Schedule B of the EPA.
[4] The Project has ability to provide LTA 5.45 GWh of summer energy deliveries to the POI. No Summer Delivered Energy is planned at this time because YEC's substantial forecast energy surpluses during the Summer Period result in no LTA thermal displacement benefits being currently forecast from the Project for energy deliveries during this period. The EPA provisions facilitate water storage at Surprise Lake for Winter Period priority use, while retaining YEC ability to require summer deliveries if required.

- Based on the assumptions adopted for the above LTA delivered energy estimates, expected LTA energy deliveries during each PWP over the 35 water years would equal at least 14 GWh and be sufficient to enable a full 8.0 MW of capacity to be delivered to YEC at Jakes Corner for 94% of the PWP days, i.e., for 70.5 of the 75 or 76 days in the PWP, which is more than enough days to cover all of the PWP period when minus 30ºC or lower temperature has been recorded at Whitehorse during the PWP period. The following information on PWP cold temperature related impacts and frequency is noted:
    - YEC's winter peak non-industrial load forecast for assessing N-1 dependable capacity requirements assumes -38ºC, with approximately 8 MW load being added by the average daily temperature drop below -30ºC.
    - Based on records since 1991, the number of days during the PWP with Whitehorse average daily temperatures below -30ºC is less than 20 days (and typically less than 10 days); none of these days is after mid-February.
        - Days per year at less than 8 except 2008 (17 days), 2009 (10 days) and 2020 (9 days)
            - The 2008 case had 5 days in last half December, balance last half January/ first half February.
            - 2009 was in early January, 2020 was also in January.
        - Longest continuous cold events all less than 11 days with only a few more than 7 days (2009 at 10 days, 2008 and 2020 at 9 days, 1991 at 8 days - - -in 2007, there were 12 days below -30 C within a 14-day period).
- Table A2 confirms that the above outcome is expected even when the Surprise Lake reservoir is not full in the prior October (based on the one relevant historic water year), so long as the Existing Plant load requirement is at 6.93 GWh/year or less (load forecast for 2032).[5]
- To assess sensitivity of dependable capacity to possible higher Existing Plant loads, the following have been confirmed:
    - If Surprise Lake is full in the prior October, the ability to provide 14 GWh of delivered energy to YEC at Jakes Corner (and the dependable capacity at 8.0MW provided for 94% of the PWP days) is retained regardless of possible Existing Plant load level increases examined (up to 9 GWh per year total load).
    - If Surprise Lake is not full in the prior October, it has been confirmed that so long as the Existing Plant load does not exceed 9 GWh/year, water availability is adequate for LTA

[5] The forecast LTA deliveries from the Project assume that the load for the Existing Plant to supply the BC Hydro Atlin community load is 6.93 GW.h/yr. based on load forecast for 2032.

delivered energy to YEC during the PWP to be at least 12 GWh, which is sufficient to enable a full 8.0 MW of capacity to be delivered at POI for at least 37 full days (with balance of PWP days at 65% of 8.0 MW), i.e., confirmed ability to accommodate at full capacity at least one two-week cold temperature period plus at least 23 additional days if needed.

The Project will also include upgrades to the YIS, primarily AEY System transmission upgrades, as required to accommodate the Project's capacity and energy deliveries.

2.0 CONDITIONS PRECEDENT AND TERM

The EPA has no legal force until the various Conditions Precedent provisions in Section 2.1(d) are completed to the mutual satisfaction of YEC and THELP, with the last deadline for such condition completion being prior to approximately mid-August 2022.[6] Key Condition Precedent timeline provisions are summarized below.

The Term of the EPA is 40 years after the final commercial operation date (COD) for the Project (see Section 2.2).[7] The EPA provides for discussions on a renewal or replacement of the EPA to begin on the 30th anniversary, with the objective to finalize a renewal or replacement of this EPA before the 35th anniversary (see Section 2.3).

Key Condition Precedent timeline provisions of the EPA related to determining costs, grant funding, environmental approvals and other government approvals are summarized below:

- **Interconnection Agreement:** Section 2.1(d)(i) of the EPA Conditions Precedent specifies that, on or before January 31, 2022, the three parties (Seller, Buyer and AEY) will have entered into the Interconnection Agreement. Section 2.1(d)(ii) of the EPA Conditions Precedent specifies that, on or before February 15, 2022, these same parties will have agreed on the budgeted costs for the AEY System Upgrades.
- **Funding Plan:** Section 2.1(d)(iii) of the EPA Conditions Precedent specifies that:

    1. On or before May 31, 2022, Seller will have provided Buyer a detailed funding plan (the "Funding Plan") setting out Seller's sources of grant funding together with independent third party estimates of Seller's costs to develop Seller's Plant and Buyer-AEY System Upgrade Costs; and

    2. On or before June 14, 2022, Buyer will have given Seller notice (based on the Funding Plan) that Buyer is satisfied, acting reasonably, as to the financial viability of Seller's Plant.

[6] Section 2.1(d)(v) of the EPA provides 215 days from January 14, 2022 date on page 1 of the EPA to YEC's receipt of approvals by any Government Authority. All other Condition Precedents are to be completed by no later than June 14, 2022.
[7] As provided for in Section 2.2, and subject to Section 2.1, the Term of the EPA commences on January 14, 2022 and continues until July 31 of the Year in which the 40th anniversary of the later of Phase One Seller's COD and Phase 2 Seller's COD occurs.

- **Environmental Authorizations:** Section 2.1(d)(iv) of the EPA Conditions Precedent specifies that, on or before May 31, 2022, Seller will have received satisfactory terms and conditions for the Clean Energy Development Plan authorizations for Seller's Plant located in British Columbia and for the YESAA Decision Documents for Seller's Plant located in Yukon.

- **TRTFN Approval:** Section 2.1(d)(vi) of the EPA Conditions Precedent specifies that, on or before May 31, 2022, Seller will have obtained approval of the EPA by the TRTFN by way of Clan Directive or a Joint Clan Meeting Mandate.

- **Yukon Government Approval:** Section 2.1(d)(v) of the EPA Conditions Precedent specifies that, on or before 215 days after January 14, 2022, Buyer will have received such approvals of this EPA as may be required by Buyer to perform Buyer's obligations under this EPA by any Governmental Authority or under any Laws.[8]

3.0 CONSTRUCTION AND OPERATION

3.1 CONSTRUCTION AND COMMERCIAL OPERATION DATES

Article 3 of the EPA sets out terms regarding construction and operation responsibilities, including Buyer-AEY System Upgrades. Overall, Seller is responsible for all costs to construct the Project, including all Buyer-AEY System Upgrade Costs. Article 4 of the EPA, which addresses terms regarding commercial operation dates (COD's) for the Project, is elaborated on below.

The EPA targets full commercial operation of the Project by the end of October 2024. Key related commercial operation target date provisions are as follows (the EPA defines Phase One of the Project as all of Seller's Plant other than the Lower Powerhouse, and Phase Two as all of Seller's Plant other than the Upper Powerhouse):

- **Dependable Capacity Tests:** Section 4.4(c) of the EPA sets out requirements (at each Seller's COD) to successfully complete a Dependable Plant Capacity Test to confirm Dependable Plant Capacity (i.e., kW provided by Seller to Buyer at the POI that is not less than 5.5 MW for Phase One with only the Upper Powerhouse, not less than 2.5 MW for Phase Two with only the Lower Powerhouse, and not less than 8.0 MW with both the Upper Powerhouse and the Lower Powerhouse. It is also specified that Dependable Plant Capacity cannot in any event exceed 8.5 MW.

- **Seller's Target CODs:** Phase One Seller's Target COD (i.e., target date for commercial operation) is October 1, 2024, and Phase Two Seller's Target COD is October 31, 2024. Section 4.1 of the EPA prevents acceleration of Phase One Seller's COD or Phase Two Seller's COD by more than 90 days except with Buyer's prior written consent. Section 4.2 of the EPA

[8] The 215 days reflects Yukon Government's direction for a YUB public hearing review and report to the Minister on the EPA within six months after its receipt of the EPA from YEC. A period of approximately one month after completion of the YUB report is allowed for YEC receipt of any required Yukon Government approvals or authorizations.

provides for postponement of Phase One Seller's Target COD if the estimated date for completing Buyer-AEY System Upgrades required to achieve Buyer's COD is later than 90 days prior to the earlier of Phase One Seller's Target COD and Phase Two Seller's Target COD.

- **Buyer's Target CODs:** Buyer's Target COD to complete Buyer-AEY System Upgrades is June 1, 2024, including a Buyer Meter in the immediate vicinity of the POI. It is expected that the Interconnection Agreement will specify target completion of AEY System Upgrades to occur before the end of Q1 2024. Buyer (i.e., YEC) is responsible under the EPA for Buyer-AEY System Upgrades,[9] and will exercise commercially reasonable efforts to achieve Buyer's COD prior to Buyer's Target COD. Buyer will have no liability for delays in completion of Buyer-AEY System Upgrades.

If Seller is unable to confirm to Buyer on or before June 1, 2024 the availability of Dependable Plant Capacity for the first Peak Winter Period (the "PWP", from December 16 to end of subsequent February), Section 4.3 of the EPA provides that Buyer may proceed to rent diesel generating units for this PWP and no Dependable Capacity Payment will be payable by Buyer to Seller for the first PWP for Dependable Plant Capacity that was already provided by such rented diesels.[10]

3.1.1 Operation of Seller's Plant

Article 5 of the EPA sets out terms regarding operation of Seller's Plant and outages.

Outages: Section 5.2 of the EPA sets out terms regarding notice and other requirements for Seller's and Buyer's outages. The Parties will not schedule a Seller Planned Outage or a Buyer-AEY Planned Outage, except during the Summer Period (i.e., the period from June 1 to the end of August each Year when Seller's Plant is to be shutdown except for Delivered Energy provided in response to a request from Buyer). The Parties will use commercially reasonable efforts to minimize Maintenance Outages in the PWP.

Annual Operating Plan: Section 5.3 requires Seller to provide to Buyer by June 30 of each Year its Annual Operating Plan substantially in the form of Schedule C attached to the EPA which includes:

- Confirmation if the Surprise Lake reservoir level is expected to be at full storage level before the end of the coming October;

- Delivery of electricity (MWh) from the Existing Plant or its successor during the previous 12-month period; and

[9] YEC is the party dealing with AEY as regards all interconnection matters involving the AEY and YEC transmission systems.

[10] YEC currently relies on rented diesels during the winter period to address N-1 dependable capacity requirement shortfalls on the YIS. In order to proceed with such rentals, YEC typically needs to know by June what diesel rental requirements exist for the subsequent winter. Absent notification by June of a such a requirement, YEC would not be able to have in place during the subsequent winter the needed dependable capacity to address an N-1 event during an extended cold weather period of two weeks. Section 6.2 of the EPA requires as follows throughout the Term: "If Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake, Seller will provide, as soon as practicable, Notice to Buyer to permit Buyer when feasible to make alternative arrangements."

- The schedule of any Planned Outages of Seller's Plant as well as of operation and maintenance activities planned for Seller's Plant during the 12 months commencing the following September.

Annual Dependable Capacity Test: Section 5.5 of the EPA provides for an annual Dependable Plant Capacity Test during December of each Year of the Term after the earlier of Phase One Seller's COD or Phase Two Seller's COD to confirm the Dependable Plant Capacity Committed ("DPCC")[11] for EPA pricing for the entire PWP that commences in the December in which the Dependable Plant Capacity Test is completed. Absent results to the contrary during the December period, the Dependable Plant Capacity Test for a PWP is deemed to show zero DPCC. Section 5.5(c) provides for a situation where a Force Majeure prevents Seller from completing a Dependable Plant Capacity Test during December.

Operating Rules (OR): Section 5.4 of the EPA requires Seller and Buyer to coordinate and schedule the delivery of Delivered Energy and Dependable Plant Capacity (each defined at the POI for delivery by Seller to Buyer) under the OR as set out in Schedule D attached to the EPA. The OR include provisions for the following operations after each August until the start of the following June, focused on maximizing hydro storage and its use at YEC's direction for dependable capacity during the PWP while recognizing constraints on changes to winter flows in the 7.8 km power canal:

1. Seller will operate after August, and prior to the start of a PWP in a December of each Year, to enable filling of Surprise Lake reservoir before the end of October when feasible, and to establish appropriate ice cover to enable Seller's Plant operation during the PWP within the range of 65% to 100% of DPCC.

2. Seller will give Buyer notice at the start of the PWP, and on each Monday of the PWP, as to the level of Surprise Lake and the expected maximum MWh of Delivered Energy capability at the POI to Buyer during the balance of the PWP.

3. Buyer requires when feasible 100% of DPCC throughout the PWP.

4. Seller will operate Seller's Plant at a steady level of 100% DPCC throughout the PWP, subject to maximum MWh Delivered Energy capability during the PWP (related to Surprise Lake Reservoir status prior to the PWP) and Peak Winter Period Operating Constraints related to ice cover conditions.

5. During the PWP, Seller will operate its plant at 100% of DPCC subject to Peak Winter Period Operating Constraints that include:

    a. If appropriate ice cover has to be established during the PWP, Seller will operate Seller's Plant at a steady level of 100% of DPCC during the period required for establishing ice

[11] The DPCC is the Dependable Plant Capacity in KW to be provided by Seller to Buyer at the POI at Jakes Corner up to a maximum of 8,500 KW that is confirmed at the later of Phase One Seller's COD or Phase Two Seller's COD, unless reduced for a PWP as provided for in a Dependable Plant Capacity Test under Section 5.5 or Notice under Section 6.2 (if Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake).

cover, unless otherwise agreed to by the Parties acting reasonably based on experience that confirms the need to constrain the operation (as per tests set out in Schedule D).

b. If Seller gives Buyer Notice that operation at 100% of DPCC is not feasible throughout the PWP due to inadequate MWh Delivered Energy capability, the selected operating capacity for any set period of at least 3 days during a PWP will be within the range of 65% to 100% of the DPCC, as directed by Buyer with at least 24 hours Notice by Buyer to Seller, unless otherwise agreed by the Parties acting reasonably as to the minimum time period or the steady operating level.

c. Seller will notify Buyer if ice cover conditions require modification of its plant operations from the above Peak Winter Operating Constraints.

6. During the balance of the Winter Period from March 1st to June 1st during each Year Buyer will accept all Delivered Energy provided by Seller but the Parties, when feasible, will coordinate the schedule of that Delivered Energy.

4.0 COMMERCIAL TERMS

4.1 PURCHASE AND SALE OBLIGATIONS

Article 6 of the EPA sets out terms regarding purchase and sale obligations, including the following:

1. **Notice to Adjust Dependable Plant Capacity Committed** (**DPCC):** Section 6.2 requires Seller, if it becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed (DPCC) for the following PWP due to factors other than water availability to Surprise Lake, to provide notice to Buyer as soon as practicable to permit Buyer when feasible to make alternative arrangements. If such notice is provided, the DPCC for the next PWP will be adjusted accordingly, subject to the annual Dependable Plant Capacity Test under Section 5.5.

2. **Delivered Energy:** Section 6.3 requires Seller to sell and deliver to Buyer all electrical energy generated by Seller's Plant, and for Buyer to accept delivery of, purchase and pay for same under this EPA. Section 6.4 specifies the conditions for Seller to deliver and sell energy to Buyer during the Summer Period, i.e., Summer Delivered Energy (from June 1 to August 31) will be provided upon Buyer's written request on 48 hours' notice (subject to the Seller Planned Outage time periods).[12]

3. **Buyer-AEY System Constraints:** Section 6.5 addresses Buyer-AEY System Constraints that prevent or reduce deliveries of Delivered Energy or reduce generation of Seller's Plant, specifying

[12] No Summer Delivered Energy is planned at this time because YEC's substantial forecast energy surpluses during the Summer Period result in no LTA thermal displacement benefits being currently forecast from the Project for energy deliveries during this period. The EPA provisions facilitate water storage at Surprise Lake for Winter Period priority use, while retaining YEC ability to require summer deliveries if required.

that Buyer will have no liability for a Buyer-AEY System Constraint except as set out in Section 6.5.

a. A Non-Permitted System Constraint will occur if, in any month after Buyer's COD, Seller is unable to deliver Delivered Energy that Seller is permitted to deliver under this EPA solely as a result of a continuous Buyer-AEY System Constraint which exceeds 30 minutes in duration and which is not caused by (a) Buyer-AEY Planned Outage, or (b) Seller, Seller's Plant, or anything on Seller's side of the POI.

b. If a Non-Permitted System Constraint occurs (and no exemption specified in Section 6.5 applies), Buyer will pay Seller (for each such impacted month) for the Monthly Constraint Energy calculated for the relevant month under Schedule F of the EPA.

4.1.1 Exclusivity

Article 7 of the EPA addresses terms regarding exclusivity, including the following:

1. **Exclusivity re: Seller's Plant:** Section 7.1 of the EPA specifies that Seller will not commit, sell, deliver or use any electrical energy generated by Seller's Plant (or any related Environmental Attributes) to any Person or for any purpose except for sale to Buyer under this EPA.

2. **Modifications to Existing Plant:** Section 7.2 of the EPA restricts modifications to the Existing Plant (which otherwise might divert available water from Seller's Plant), except such actions which:

    a. Will not have a material adverse effect on Seller's ability to deliver during each PWP:

        i. Not less than 14.0 GWh of Delivered Energy when Surprise Lake reservoir is full before the end of the prior October, and otherwise

        ii. Not less than 12 GWh of Delivered Energy when the electricity load under Section 7.2(b) [Atlin's Community Customer electricity load] is 9.0 GWh or less during a Year.

    b. Are required to supply capacity and energy to Atlin for an electricity load of an Atlin Community Customer (i.e., a residential or commercial electricity customer located in Atlin, excluding any customer engaged in manufacturing, processing, or mining whose peak demand for electricity exceeds 1 MW); or

    c. Are required to comply with a change in Law or a change in Permit or Regulatory Agency Authorizations conditions initiated by a Governmental Authority.

3. **Enhancements of Existing Plant Using Seller's Plant:** Section 7.3 of the EPA includes provisions for Buyer to review and consider for approval new arrangements affecting enhancement of the Existing Plant using the Seller's Plant if Seller's Plant includes an enlarged penstock for the Upper Powerhouse that would enable future connection of this penstock to both the Upper Powerhouse and an enhanced Existing Plant, with resulting increased Delivered Energy

available to Buyer during the Winter Period as well as increased energy for Atlin Community Customer loads.

4.1.2 Prices and Payment Terms

Article 8 of the EPA sets out terms regarding prices and payment for energy and dependable capacity provided by Seller to Buyer at the POI at Jakes Corner. An overview of the pricing provisions is provided below for winter and summer energy deliveries and Dependable Plant Capacity Committed (DPCC) provided during the PWP.

1. **Winter Delivered Energy (January-May, September-December)** – the price for all Delivered Energy and Monthly Constraint Energy provided during the Winter Period is based on the expected thermal blended fuel (90% LNG, 10% diesel) cost to YEC rounded to $0.19/kWh in 2024[13] (escalated at 50% of CPI each year thereafter), and model estimates of long-term average (LTA) thermal energy volumes that will be avoided by delivery of Atlin energy.[14] See Appendix A, Tables A3-1 and A3-2 for detailed calculations for the firm and non-firm winter energy prices (2024$/kWh delivered) payable per Section 8.2 of the EPA, and Figures A1 to A4 for estimated monthly energy deliveries and displaced thermal generation related to the winter delivered energy price determinations.[15]

   2024 and 2035 Winter Energy Prices: the winter energy price has been estimated for 2024 based on expected loads with mines connected, and escalated at 50% of CPI each subsequent year until 2035. The winter energy price has been adjusted down for 2035 (with escalation at 50% of CPI in subsequent years) based on forecast disconnection of all mine loads by 2035 (which implies lower LTA thermal displacement from Atlin EPA deliveries).

   Additional Payment Provisions Starting 2035: Section 8.4 of the EPA includes provision for an added year end payment (i.e., an Additional Payment) starting in 2035 to the extent that YEC has Added Load (i.e., actual YEC winter generation requirement above the 388 GWh forecast assumed for the 2035 energy price, subject to a maximum Added Load of 68 GWh).[16]

[13] The expected YEC blended fuel price for 2024 assumes 90% LNG at 2024 forecast YEC cost of $0.18/kWh, and 10% diesel at 2024 forecast YEC cost of $0.30/kWh, before any impact of carbon taxes.

[14] Thermal generation reductions vary depending on Yukon Integrated System (YIS) water conditions. The LTA estimates are derived based on simulation assessments for 38 different YIS water years, taking into account direct thermal displacements by Atlin energy and also indirect thermal displacements by Atlin energy through facilitating enhanced hydro storage on the YIS that enables increased winter hydro generation in some of the water years. Estimates are derived from YECSIM model LTA assessments without and with Atlin energy deliveries, based on forecast YIS firm generation load requirements in 2024 and 2035 and planned YIS capability without the Project (including expected water use licence conditions, YEC hydro plant uprates and other expected IPP generation purchases by YEC). See Appendix A, Table A3-1 for 2024 and 2035 LTA thermal estimates (and related assumptions) with and without the Project.

[15] Section 8.2 of the EPA provides for monthly payment of the Firm Winter Energy Price (for estimated low flow water year winter delivery levels) and the Non-Firm Winter Energy Price (balance of winter deliveries) for Delivered Energy and Monthly Constraint Energy during the Winter Period.

[16] This additional price applies only when YIS generation load during the Winter Period is higher than the 388,000 MWh level forecast adopted when determining the 2035 Winter energy prices. The forecast assumed an increase in EV electrical loads as well as the loss of all mine loads. The Added Load cap of 68,000 MWh reflects an expected grid generation load limit for estimating incremental LTA thermal displacement benefits from Project winter energy deliveries.

- This provision for an "added payment" is only likely to come into effect if, contrary to current forecasts, mine loads continue or resume on the YIS after 2034 (absent mine loads, a significant Added Load would require a material increase in non-industrial winter load compared to the current forecasts).

- This added payment price per KWh is tied to just under 70% of the then approved YUB Price to ensure it reflects the most recent approved blended fuel price (including any new carbon tax element).

- This added payment price is applied to the estimate of incremental LTA thermal generation displacement from Atlin deliveries that can be expected due to an Added Load over and above grid load assumed for the above EPA firm and non-firm winter energy prices (estimated at approximately 17% of Added Load).

- In the applicable years starting in 2035, if Added Load exists, the following additional price will be paid after year end on the total annual Atlin energy deliveries to YEC at Jakes Corner:[17]

    - Additional payment price per kWh = [(11.7% times the then current YUB approved blended fuel thermal price for YEC generation on the YIS multiplied by the Added Load)]/30,800 MWh.

- Additional Payments are subject to any reductions under Section 8.3 of the EPA (see below re: Dependable Capacity Excess Payment Account).

Carbon Charge Saving Payment: Section 8.5 of the EPA provides for a potential additional annual payment (i.e., Carbon Charge Saving Payment) related to winter Delivered Energy if the YUB approves a carbon charge in future to be included in customer rates. The Carbon Charge Saving per KWh of estimated thermal displacement[18] equals 50% of the carbon tax cost per KWh subject to a cap that ensures this tax sharing does not result in an adjusted energy price being paid to Seller that exceeds the then applicable YUB Price. Carbon Charge Saving Payments are subject to any reductions under Section 8.3 of the EPA (see below re: Dependable Capacity Excess Payment Account).

Applicable winter energy prices and payment provisions are summarized below:

a. Winter Energy Prices from 2024 to 2034

[17] The formula yields an added price paid per kWh of Delivered Energy (based on LTA Delivered Energy of 30.8 GWh/year that includes both firm and non-firm components). The 11.7% factor reflects (a) expected LTA incremental thermal generation displacement due to the Project at approximately 17% of Added Load during the Winter Period, multiplied by (b) approximately 69% of the then current YUB Price.

[18] Estimated thermal displacement is 63.5% of Delivered Energy during winters for 2024 to 2034 inclusive, and 48.7% of Delivered Energy during winters for subsequent years of the EPA term. See Appendix A, Table A3-1.

- First 25.2 GWh/year of Delivered Energy and Monthly Constraint Energy – Firm Winter Energy Price of $0.132/kWh for 2024, increased by 50% of CPI for each Year after 2024 until completion of 2034.
- All other GWh of Delivered Energy and Monthly Constraint Energy in calendar year - price of $0.072/kWh (2024$), escalated by 50% of CPI for each Year after 2024 until completion of 2034.
- If Carbon Charge included in YUB approved YEC rates, pay 50% of carbon tax per kWh times estimated thermal displacement during these winters (estimated at 63.5% of all winter deliveries in these years).

b. Winter Energy Prices for 2035 and balance of Term

- First 25.2 GWh/year of Delivered Energy and Monthly Constraint Energy – Firm Winter Energy Price of $0.107/kWh (2024$, escalated by 50% of CPI for each Year after 2024).
- All other GWh of Delivered Energy and Monthly Constraint Energy in calendar year - price of $0.027/kWh (2024$, escalated by 50% of CPI for each Year after 2024).
- If a Carbon Charge included in YUB approved YEC rates, at year end pay 50% of carbon tax per kWh times estimated thermal displacement during these winters (estimated at 48.7% of all winter deliveries in these years).
- If YEC winter generation requirement exceeds 388 GWh, at year end pay THELP the Additional Payment Price on the Added Load (to max of 68 GWh Added Load per year) – this additional payment price assumes related added thermal generation displacement at approximately 17% of the Added Load and payment for this added thermal displacement at approximately 69% of the YEC blended fuel price per kWh as last approved by YUB.

2. **Summer Delivered Energy (June-August)** - summer energy deliveries, if requested by YEC, will be paid a Summer Delivered Energy Payment as provided for in Section 8.6 of the EPA, equal to Summer Delivered Energy times 50% of the then current YUB approved blended fuel thermal price for YEC generation on the YIS (i.e., the "YUB Price"). Summer Delivered Energy Payments are subject to any reductions under Section 8.3 of the EPA (see below re: Dependable Capacity Excess Payment Account).

   Assessments indicate that Atlin energy deliveries during the Summer Period are not expected to yield any material added thermal generation displacement during a Year. YEC has substantial surplus renewable generation forecast in the summer period such that requests are not expected for summer energy deliveries from the Project.

3. **Dependable Plant Capacity during the Peak Winter Period (December 16 to end of February)** – Section 8.1 of the EPA provides for Buyer to pay Seller the Dependable Capacity Payment as reviewed below for each PWP, based on the Dependable Plant Capacity Committed (DPCC) for the PWP. Section 8.3 of the EPA provides for the Dependable Capacity Excess Payment Account whereby Buyer can recover payments that exceeded the DPCC that Seller has delivered. These two separate payments provisions related to dependable capacity are addressed separately below:

    a. **Dependable Capacity Payment (DCP):** the DCP is payment to Seller by Buyer, based only on Dependable Plant Capacity Committed (DPCC) as provided for in Section 5.5 of the EPA and a Dependable Capacity Price of $200/KW per year[19] (2024$) as escalated at CPI after 2024.

        i. Absent actual results to the contrary during the December period the annual Dependable Plant Capacity Test for a PWP is deemed to show zero Dependable Plant Capacity Committed, i.e., no DCP would be required.[20]

        ii. A Dependable Plant Capacity Test done during December of the PWP provides the average kW Dependable Plant Capacity at POI over a continuous 24-hour period, i.e., the KWh sum of all Delivered Energy over the 24 hours divided by 24. Seller can conduct multiple tests during December until it is satisfied with the results. The result of this test cannot exceed the Dependable Plant Capacity confirmed at COD per section 4.4 of the EPA (which also cannot exceed 8,500 kW).

        iii. The DCP is locked in for each PWP based on the Dependable Plant Capacity Test result and the capacity price applicable for that PWP. For example, if the test shows 8,000 kW of Dependable Plant Capacity, Buyer will pay Seller $200/kW times 8,000 kW plus applicable CPI escalation – this payment will be done over three months (for the three months in the PWP), based on the total days in each month as a share of total days for the PWP. the DCP will not be affected by actual Dependable Capacity Provided during each of these months.

    b. **Dependable Capacity Excess Payment (DCEP):** the DCEP is recovery by Buyer of excess DCP – this recovery is provided through reduction of future contingent (i.e.,

[19] The price is within the range for LCOC estimates of YEC levelized cost of capacity (i.e., fixed capital and O&M costs, excluding fuel costs) for a 12.5 MW new diesel generation facility of $175 per kW (2019$) if located at Takhini without any property taxes, and $199.8 per kW (2019$) if located in Whitehorse with related property tax costs (see response to Undertaking #7 in BESS proceeding). The 2019 LCOC costs escalated at 2% per year for inflation to 2024 equal $193 and $220.6 per KW respectively. The EPA CPI escalation uses December 2023 as the base month, with the initial escalation occurring for December 2024 (in order to ensure that adjusted prices are available for January 2025).

[20] Section 5.5(c) of EPA provides for dealing with a situation where Force Majeure prevents Seller from completing a Dependable Plant Capacity Test during December. In this situation, the Dependable Plant Capacity Committed as last confirmed for a prior Peak Winter Period, less any reduction in Dependable Plant Capacity Committed resulting from a Notice under Section 6.2 will continue to apply until a new Dependable Plant Capacity Test is concluded.

dependent on a possible, but not forecast, event) energy-related payments that would otherwise have been provided by Buyer to Seller.

The Dependable Capacity Excess Payment Account (see Section 8.3 of EPA) will record the amount of Dependable Plant Capacity Seller has provided during a PWP, as compared to the amount of DPCC Buyer has paid for. A negative balance in this account means that Buyer has paid for more DPCC than Seller has delivered; a positive balance in this account means that Buyer has paid for less DPCC than Seller has delivered.

The following calculations will be made at the specified times and used to adjust the Dependable Capacity Excess Payment Account (a sample calculation to show how this account is adjusted is provided in Schedule G of the EPA; a tabular summary [Tables A4-1 and A4-2] is provided in Appendix A of this Submission):

i. The Capacity Shortfall for a PWP (calculated annually at the end of the PWP) equals the DPCC that has been paid for[21] less the Dependable Capacity Provided[22] (each stated as average KW for the PWP), subject to a cap equal to 50% of the Actual Dependable Plant Capacity Committed.

ii. The Dependable Capacity Excess Payment for a PWP (calculated annually at the end of the PWP) equals the Actual Dependable Capacity Payment for the PWP times the share of Actual Dependable Plant Capacity Committed accounted for by the Capacity Shortfall.

iii. Buyer reduces the Dependable Capacity Excess Payment Account per Section 8.3 of the EPA as follows, i.e., these payments otherwise due from Buyer to Seller are retained by Buyer (calculated at the end of the calendar year):

    1. Up to 50% of any Summer Delivered Energy Payment will be applied until the account is zero; and

    2. Up to 100% of any Additional Payment (these payments can potentially occur starting in 2035) and Carbon Charge Saving Payment (dependent on carbon tax becoming applicable) will be applied until the account is zero.

[21] The Actual Dependable Plant Capacity Committed is the average kW that has been paid for, equal to total Dependable Capacity Payment for the PWP divided by the Dependable Capacity Price per kW for the PWP.

[22] Dependable Capacity Provided during a PWP is the average kW provided by Buyer to Seller at POI during the PWP. The calculation focuses on the hours during the PWP when 100% of Dependable Plant Capacity (as defined for the PWP) is to be provided to Buyer under the Operating Rules. The Dependable Capacity Provided equals (a) the Delivered Energy plus Monthly Constraint Energy during these hours, divided by (b) the total applicable PWP hours when 100% DPC is to be provided to Buyer (specifications are provided in the definition, including cap of 168 hours per PWP for allowed reduction of hours to deal with allowed ice formation requirements).

Section 8.7 of the EPA specifies that the above amounts payable (per Sections 8.1 to 8.6) are the full and complete payment and consideration by Buyer (this in effect includes payment for Delivered Energy, Monthly Constraint Energy, Dependable Capacity and for Environmental Attributes).

The balance of Article 8 addresses terms and conditions for statements, invoices and payments (including provision for taxes) as well as set off provisions.

ATTACHMENT A:
ELECTRICITY PURCHASE AGREEMENT

ELECTRICITY PURCHASE AGREEMENT

BETWEEN

TLINGIT HOMELAND ENERGY LIMITED PARTNERSHIP
BY ITS GENERAL PARTNER
TLINGIT HOMELAND ENERGY LIMITED

- and -

YUKON ENERGY CORPORATION

ATLIN HYDRO EXPANSION

Dated January 14, 2022

CAN: 34389507.23

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YUKON ENERGY CORPORATION

ELECTRICITY PURCHASE AGREEMENT

This Electricity Purchase Agreement ("**EPA**") is dated January 14, 2022

Between:

TLINGIT HOMELAND ENERGY LIMITED PARTNERSHIP, a British Columbia limited partnership by its general partner, **TLINGIT HOMELAND ENERGY LIMITED,** a British Columbia corporation ("**Seller**")

- and -

YUKON ENERGY CORPORATION, a Yukon Territory corporation ("**Buyer**")

Background:

A. This EPA is entered into by the Parties in respect of Seller's Plant.

The Parties agree:

ARTICLE 1
DEFINITIONS, INTERPRETATION, AND SCHEDULES

1.1 Definitions and Interpretation

The definitions and principles of interpretation that apply to this EPA are in Schedule "A".

1.2 Additional Schedules

The following additional Schedules are either attached to or will upon satisfaction of the applicable Condition Precedent be attached to and form a part of this EPA:

Schedule "B"	-	Seller's Plant Description
Schedule "C"	-	Annual Operating Plan
Schedule "D"	-	Operating Rules
Schedule "E"	-	COD Certificate
Schedule "F"	-	Monthly Constraint Energy
Schedule "G"	-	Sample Calculation of Dependable Capacity Excess Payment Account

ARTICLE 2
CONDITIONS PRECEDENT AND TERM

2.1 Conditions Precedent

(a) Except as provided in Section 2.1(e), this EPA has no legal force until the Conditions Precedent in Section 2.1(d) are satisfied under this EPA by the Parties responsible for satisfying such Conditions Precedent as set out in Section 2.1(d). All Conditions Precedent are for the benefit of both Parties and may only be waived by written agreement of both Parties.

(b) The Party responsible for satisfying a Condition Precedent will:

(i) use commercially reasonable efforts to satisfy the Conditions Precedent for which that Party is responsible on or before the applicable Condition Date;

(ii) provide the other Party with regular Notice on the Party's progress in satisfying the Condition Precedent;

(iii) provide the other Party with Notice of any circumstances which may result in a Condition Precedent for which that Party is responsible not being satisfied as required under this EPA;

(iv) provide the other Party with Notice upon satisfaction of a Condition Precedent for which a Party is responsible and provide such supporting evidence as may be reasonably required by the other Party to determine that a Condition Precedent has been satisfied.

(c) If the Conditions Precedent are not satisfied or waived on or before the applicable Condition Dates, or it becomes apparent to either Party that the Conditions Precedent will not, in the reasonable opinion of that Party, be satisfied by the applicable Condition Dates, the Conditions Precedent will be deemed to have failed and either Party may terminate this EPA by providing Notice to the other Party, in which case each Party will, provided the other Party is not in breach of this EPA, be deemed to have released the other Party effective as of the date of such Notice from any and all Claims and Losses whatsoever incurred by it and its Affiliates in relation to this EPA, except that:

(i) a Party may at any time prior to giving Notice to the other Party under Section 2.1(c) give Notice to the other Party that it intends to terminate this EPA under Section 2.1(c) and upon receipt of such Notice the Parties may consult with each other about a possible extension of a Condition Date for a Condition Precedent and the Parties may by written agreement agree to extend the Condition Date for any Condition Precedent, such extension to be on terms and conditions agreed to by the Parties;

(ii) Seller will remain liable for all costs for the Buyer-AEY System Interconnection Study Report incurred by Buyer to the date of a termination Notice; and

(iii) except as set out in Section 2.1(c)(ii), each Party will be responsible for its own costs incurred by it in connection with this EPA.

(d) The Conditions Precedent for the benefit of the Parties are:

(i) on or before January 31, 2022 the Parties and AEY will have entered into the Interconnection Agreement (including the Buyer-AEY System Interconnection Study Report (which will include the final scoping of the Buyer-AEY System Upgrades), the Buyer-AEY System Interconnection Standards, and the Joint Operating Procedure, all of which will be attached to the Interconnection Agreement as Schedules) to connect Seller's Plant to the Buyer-AEY System on terms and conditions satisfactory to each of the Parties, acting reasonably;

(ii) on or before February 15, 2022 the Parties will have agreed with AEY on the budgeted costs for the AEY System Upgrades after AEY will have sought and received bids for the labour costs component only (and not the material cost component) of the AEY System Upgrades through a competitive bidding process, which budgeted costs will include a break-down of the labour and material components of such budgeted costs;

(iii) on or before May 31, 2022 Seller will have submitted to Buyer a detailed, funding plan (the "**Funding Plan**"), which Funding Plan will set out in reasonable detail Seller's sources of grant funding from the governments of the Yukon Territory, British Columbia, and Canada and debt financing from third party lenders for Seller's Plant, together with independent third party estimates of the cost to design, engineer, procure, construct, and commission Seller's Plant and the Buyer-AEY System Upgrade Costs and based on the Funding Plan on or before June 14, 2022 Buyer will have given Seller Notice that Buyer is satisfied, acting reasonably, as to the financial viability of Seller's Plant;

(iv) on or before May 31, 2022 Seller will have sought and received the Clean Energy Development Plan authorizations for the Seller's Plant located in British Columbia and the YESAA Decision Documents for the Seller's Plant located in Yukon Territory, on terms and conditions satisfactory to each of the Parties, acting reasonably;

(v) on or before 215 days after the date set out on page 1 of this EPA Buyer will have sought and received such approvals of this EPA as may be required by

Buyer to perform Buyer's obligations under this EPA by any Governmental Authority or under any Laws, on terms and conditions satisfactory to the Parties, acting reasonably;

(vi) on or before May 31, 2022 Seller will have sought and obtained approval of this EPA by the Taku River Tlingit First Nation by way of Clan Directive or a Joint Clan Meeting Mandate, on terms and conditions satisfactory to the Parties, acting reasonably;

(vii) on or before February 28, 2022 Seller will have sought and obtained such consents as may be required from each of BC Hydro and The Canada Life Assurance Company of Canada to enter into this EPA, such consents to be on terms and conditions satisfactory to each of the Parties, acting reasonably;

(viii) on or before May 31, 2022 the Parties will have agreed, acting reasonably, upon an allocation of the Environmental Attributes under this EPA based upon the requirements of the funding contributed to Seller's Plant by the governments of the Yukon Territory, British Columbia, and Canada; and

(ix) on or before January 31, 2022 YEC will have entered into an implementation agreement with AEY for the implementation of this EPA on terms and conditions satisfactory to YEC, acting reasonably.

(e) Section 2.1(a) does not apply to this Article 2, Section 3.6, and Articles 14, 15, 16, 17, 18, 19, 20, 21, and 23 which will be in full force and effect from the Execution Date.

2.2 Term

Subject to Section 2.1, the Term commences on the Effective Date and continues until July 31st of the Year in which the 40th anniversary of the later of Phase One Seller's COD and Phase Two Seller's COD occurs.

2.3 Renewal/Replacement

Beginning on the 30th anniversary of Phase Two Seller's COD the Parties will begin discussions on a renewal or replacement of this EPA on terms and conditions to be agreed to by the Parties, with the objective to finalize a renewal or replacement of this EPA before the 35th anniversary of Phase One Seller's COD or Phase Two Seller's COD, whichever occurs last. Any renewal or replacement of this EPA will not be effective until the Parties have executed and delivered a legally binding agreement renewing or replacing this EPA.

ARTICLE 3
CONSTRUCTION AND OPERATION

3.1 Construction and Operation Costs, Liabilities, and Actions

Seller is responsible for the permitting, design, engineering, construction, Interconnection, commissioning, operation, and maintenance of Seller's Plant and will be responsible for all costs,

expenses, liabilities, and other obligations associated with such activities. Buyer is responsible for the permitting, design, engineering, construction, commissioning, operation, and maintenance of the Buyer-AEY System Upgrades and Seller is responsible for all Buyer-AEY System Upgrade Costs.

3.2 Standard of Construction and Operations

Except with Buyer's prior written consent, Seller will ensure that the design, engineering, construction, Interconnection, commissioning, operation, and maintenance of Seller's Plant, are and will be carried out during the Term:

(a) in compliance with Seller's Plant Standards; and

(b) by qualified and experienced individuals.

3.3 Seller's Plant Changes Requiring Consent

Seller will not, without Buyer's prior written consent, such consent not to be unreasonably withheld, make any amendments, modifications, or changes that would have a material adverse effect on Buyer with respect to Buyer-AEY System, to:

(a) Seller's Plant; or

(b) any other aspects of Seller's Plant or the information in the Buyer-AEY System Interconnection Study Report which would require changes by Buyer to Buyer-AEY System.

Seller acknowledges that Buyer may require, as a condition of its consent to any amendment, modification, or change described in this Section 3.3, that Seller agree in writing to reimburse Buyer for any reasonable incremental liability for any losses, costs, and damages incurred by Buyer with respect to Buyer-AEY System from any amendment, modification, or change described in this Section 3.3. Buyer may also require that Seller provide performance security to Buyer to ensure that Buyer has no financial exposure for such reimbursement obligation.

3.4 Seller's Plant Changes Without Consent

Notwithstanding Section 3.3, Seller may amend, modify, or make any change to Seller's Plant for amendments, modifications, or changes which:

(a) will not have a material adverse effect on Seller's ability to observe and perform its obligations under this EPA; or

(b) are required to comply with a change in Law or a change in Permit or Regulatory Agency Authorizations conditions (where such change in Permit or Regulatory Agency Authorizations conditions is initiated by a Governmental Authority) after the Effective Date,

provided that Seller will give Notice to Buyer of any amendments, modifications, or changes to Seller's Plant together with an explanation of the reason for such amendments, modifications, or

changes and why such amendments, modifications, or changes are permitted under this Section 3.4.

3.5 Development Progress Reports

Seller will deliver a Development Progress Report to Buyer on each January 1, April 1, July 1, and October 1 after the Effective Date until Phase Two Seller's COD. Buyer may request such additional information as Buyer may reasonably require from time to time for Seller's development of Seller's Plant under Sections 3.1 and 3.2.

3.6 Responsibility for Buyer-AEY System Upgrade Costs

Buyer-AEY System Interconnection Study Report will outline the scope of the Buyer-AEY System Upgrades. Seller is responsible for all Buyer-AEY System Upgrade Costs as follows:

(a) If the Parties have agreed upon the budgeted costs of the AEY System Upgrades under Section 2.1(d)(ii), Seller will:

(i) pay to Buyer in advance an amount equal to the budgeted costs of Buyer-AEY System Upgrade Costs (the "**Upgrade Costs Advance**"); and

(ii) unless otherwise agreed to by the Parties, be responsible directly for all Interconnection Substation Costs, including such costs resulting from Buyer's requirements as set in the Buyer-AEY System Interconnection Study Report.

(b) Buyer may draw upon the Upgrade Costs Advance from time to time in its Discretion to satisfy any Buyer-AEY System Upgrade Costs as and when incurred by Buyer.

(c) Notwithstanding the budgeted costs of Buyer-AEY System Upgrade Costs agreed to under Section 3.6(a) or the amount of any Upgrade Costs Advance provided by Seller, Seller will be responsible for and will pay Buyer the actual Buyer-AEY System Upgrade Costs relating to Buyer-AEY System Upgrades. Following the completion of Buyer-AEY System Upgrades and the payment in full by Seller of all Buyer-AEY System Upgrade Costs, Buyer will release to Seller any undrawn portion of the Upgrade Costs Advance.

(d) Seller understands that a portion of Buyer-AEY System that will be the subject of Buyer-AEY System Upgrades is owned by AEY and not Buyer and the AEY System Upgrades will occur on the portion of Buyer-AEY System owned and operated by AEY and in undertaking Buyer-AEY System Upgrades Buyer may subcontract all or a portion of the work required to complete Buyer-AEY System Upgrades to AEY.

3.7 Buyer-AEY System Upgrades

(a) Further to Section 3.1, Buyer is responsible for implementation of all Buyer-AEY System Upgrades;

(b) Buyer will perform, or cause to be performed, the work required for the Buyer-AEY System Upgrades in compliance with the Buyer-AEY System Interconnection Standards, the Joint Operating Procedure, all applicable Laws, and Good Industry Practice;

(c) Buyer is responsible for and will own, operate, and maintain all upgrades to Buyer's System required by the Buyer-AEY System Interconnection Study Report. Buyer will coordinate with AEY and Seller the construction of such upgrades to Buyer's System;

(d) Buyer will use commercially reasonable efforts to commence and diligently complete the upgrade work to Buyer's System under this EPA; and

(e) Buyer will have no liability for delays in completion of the Buyer-AEY System Upgrades.

3.8 Metering

(a) All Delivered Energy delivered by Seller to Buyer will be measured by a separate meter in the immediate vicinity of the POI that is owned, installed, inspected, and maintained by Buyer (the "**Meter**"). The Meter must be tested and sealed according to any Measurement Canada Standards;

(b) The Meter will be:

(i) capable of accurately measuring the quantity of Delivered Energy delivered by Seller's Plant and delivered to Buyer at the Meter independent of all other generation equipment or facilities;

(ii) capable of being remotely interrogated by Buyer; and

(iii) calibrated to measure the quantity of Delivered Energy on an every 5 minute basis;

(c) Seller may, at Seller's cost, request that Buyer install between the Meter and the POI a duplicate meter that will be owned, inspected, and maintained by Seller (the "**Seller's Meter**"). Seller's Meter must be tested and sealed according to any Measurement Canada Standards;

(d) All information collected or recorded by the Meter, and if installed, Seller's Meter, will be electronically transmitted directly to Buyer and Buyer will make such data available to Seller; and

(e) If the Meter or the Seller's Meter fails to register, or if it registered an error, the inaccurate Meter or Seller's Meter will be repaired or replaced as soon as practicable by the Party responsible.

If there is any Dispute regarding an error or accuracy of the Meter, either Buyer or Seller may give Notice to the other Party to the Dispute. The Parties will proceed diligently and in good

faith to try to estimate and agree upon any adjustments to amounts owed by one Party to the other Party as a result of such error or inaccuracy and failing agreement the Parties will resolve the Dispute under the *Electricity and Gas Inspection Act* (Canada) and any required adjustments will be made under Section 8.9(b).

3.9 Site Access

Seller will provide Buyer with any access to the Meter and the POI including any related equipment that Buyer may reasonably require to perform its obligations under this EPA.

ARTICLE 4
COMMERCIAL OPERATION DATE

4.1 Phase One Seller's COD and Phase Two Seller's COD

(a) Except with Buyer's prior written consent, Phase One Seller's COD may not occur earlier than 90 days prior to Phase One Seller's Target COD.

(b) Except with Buyer's prior written consent, Phase Two Seller's COD may not occur earlier than 90 days prior to Phase Two Seller's Target COD.

(c) Buyer will not be required to incur any incremental expense or other liability of any kind to enable Phase One Seller's COD to occur prior to Phase One Seller's Target COD or Phase Two Seller's COD to occur prior to Phase Two Seller's Target COD.

4.2 Change in Seller's Target COD

If the estimated date for completing Buyer-AEY System Upgrades required to achieve Buyer's COD is later than 90 days prior to the earlier of Phase One Seller's Target COD and Phase Two Seller's Target COD, Buyer will give Notice to Seller of such delay and, provided Seller is not responsible for any delay in completing Buyer-AEY System Upgrades (including a failure to pay amounts contemplated in Section 3.6), upon Seller's written request that the Phase One Seller's Target COD be postponed, Buyer will postpone the Phase One Seller's Target COD to the estimated date for completing Buyer-AEY System Upgrades plus up to 90 days.

4.3 Notice for First Peak Winter Period.

Seller acknowledges that Buyer must incur costs to rent diesel generating units to provide replacement capacity to serve Buyer's customers if Seller is unable to provide Dependable Plant Capacity Committed during a Peak Winter Period. On or before May 1, 2024 Seller will give Notice to Buyer confirming the forecast Dependable Plant Capacity that Seller will be able to commission and make available to Buyer for the first Peak Winter Period. Upon receiving such Notice Buyer will review the information provided by Seller and investigate the availability and pricing of Buyer renting diesel units sufficient to replace any Dependable Plant Capacity which Seller is unable to provide as set out in Seller's written notice or as Buyer has reasonable concern as to Seller's ability to provide for the first Peak Winter Period. The Parties will cooperate and communicate with each other relating to Buyer's proposed renting of diesel generating units and Buyer will, exercising commercially reasonable efforts, postpone the renting of such diesel

generating units as long as practically possible. If Seller is unable to confirm to Buyer in writing to the satisfaction of Buyer, acting reasonably, the availability of Dependable Plant Capacity for the first Peak Winter Period on or before June 1, 2024, or such later date as Buyer communicates to Seller to be acceptable, Buyer may proceed to rent such diesel generating units and no Dependable Capacity Payment will be payable by Buyer to Seller for the first Peak Winter Period for Dependable Plant Capacity that was already provided by such rented diesel generating units.

4.4 Requirements for Phase One Seller's and Phase Two Seller's COD

Subject to Section 4.4 and Article 18, Seller's Plant will have achieved Phase One Seller's COD or Phase Two Seller's COD, as the case may be, at the commencement of the hour immediately following the hour in which all of the following conditions have been satisfied:

(a) Seller has obtained all Permits and Regulatory Agency Authorizations required to operate Seller's Plant as required under this EPA and all such Permits and Regulatory Agency Authorizations are in full force and effect;

(b) Phase One of Seller's Plant or Phase Two of Seller's Plant, as the case may be, has been fully constructed under Seller's Plant Standards;

(c) for Phase One Seller's COD and Phase Two Seller's COD Seller's Plant has successfully completed a Dependable Plant Capacity Test that confirms the Dependable Plant Capacity for Seller's Plant, provided:

(i) Seller may conduct multiple Dependable Plant Capacity Tests until Seller is satisfied with the results of such tests;

(ii) the Dependable Plant Capacity for Phase One with the Upper Powerhouse and not the Lower Powerhouse is not less than 5.5 MW, and with both the Upper Powerhouse and the Lower Powerhouse is not less than 8.0 MW;

(iii) the Dependable Plant Capacity for Phase Two with both the Upper Powerhouse and the Lower Powerhouse is not less than 8.0 MW, and with the Lower Powerhouse and not the Upper Powerhouse is not less than 2.5 MW; and

(iv) the Dependable Plant Capacity cannot in any event exceed 8.5 MW, regardless of the results of the Dependable Plant Capacity Test;

(d) for Phase One Seller's COD and Phase Two Seller's COD Seller's Plant has successfully completed to the satisfaction of Buyer, acting reasonably, any additional performance tests as specified in Buyer-AEY System Interconnection Standards;

(e) Seller is not:

(i) Bankrupt or Insolvent;

(ii) in material default of any of its covenants, representations, or warranties under this EPA; or

(iii) in material default under any Permit or Regulatory Agency Authorizations, any tenure agreement for the site on which Seller's Plant is located, or the Interconnection Agreement; and

(f) Seller has delivered to Buyer:

(i) the COD Certificate for Phase One for Phase One Seller's COD and a COD Certificate for Phase Two for Phase Two Seller's COD, including the results of the Dependable Plant Capacity Tests that Seller is relying on;

(ii) data from the Meter sufficient to demonstrate compliance by Seller with Sections 4.4(c) and (d); and

(iii) payment of any amounts owing by Seller to Buyer under Section 3.6.

4.5 Buyer Right to Observe Seller's Phase One and Phase Two COD Testing

Seller will give not less than 10 days' Notice to Buyer of the commencement of any proposed testing under Section 4.4(c) and Buyer may attend and observe each test under Section 4.4(c). If Seller has given Notice to Buyer under this Section 4.5, Seller will not be required to give a Notice to Buyer of any further tests which are commenced within 72 hours of the prior test under Section 4.4(c). Seller will give a new Notice under this Section 4.5 for any test that commences more than 72 hours after the end of an unsuccessful test under Section 4.4(c).

4.6 Buyer's COD

Buyer will exercise commercially reasonable efforts to achieve Buyer's COD prior to Buyer's Target COD. Buyer will have no liability for delays in completion of Buyer-AEY System Upgrades.

ARTICLE 5
OPERATION OF SELLER'S PLANT AND OUTAGES

5.1 Owner and Operator

Seller will own Seller's Plant and will ensure that Seller's Plant is operated using qualified and experienced individuals.

5.2 Outages

(a) **Notice of Seller's Outage** - Seller will give Buyer Notice of any Outages of Seller's Plant, or changes in any such Outages, by delivering to Buyer an Outage Notice or revised Outage Notice:

(i) promptly in the case of a Forced Outage or Maintenance Outage;

(ii) not less than 60 days in advance of any Seller Planned Outage, or such shorter time period with Buyer's written consent, such consent not to be unreasonably withheld; and

(iii) promptly in the case of any changes to the duration, start time, or end time of any Outage.

(b) **Notice of Buyer's Outage** - Buyer will give Seller Notice of any Outages of Buyer-AEY System or changes in any such Outages, by delivering to Seller an Outage Notice or revised Outage Notice:

(i) promptly in the case of a Forced Outage or Maintenance Outage;

(ii) not less than 60 days in advance of any Buyer-AEY Planned Outage, or such shorter time period with Seller's written consent, such consent not to be unreasonably withheld; and

(iii) promptly in the case of any changes to the duration, start time, or end time of any Outage.

(c) **Coordination and Scheduling of Outages** - The Parties will:

(i) not schedule or conduct a Seller Planned Outage or a Buyer-AEY Planned Outage, except during the Summer Period;

(ii) use commercially reasonable efforts to coordinate and schedule all Seller Planned Outages, Buyer-AEY Planned Outages, or Maintenance Outages to maximize Dependable Plant Capacity and Delivered Energy; and

(iii) use commercially reasonable efforts to minimize Maintenance Outages in the Peak Winter Period.

5.3 Annual Operating Plan

On or before June 30 in each Year during the Term, Seller will provide to Buyer its Annual Operating Plan, including any required update to the then current Annual Operating Plan, for the 12-month period commencing on September 1 of the current Year until August 31 of the next Year. Seller will promptly provide Buyer with a revised Annual Operating Plan from time to time upon Seller becoming aware of any expected material change in the original Annual Operating Plan for that period. The Annual Operating Plan is provided for planning purposes and does not guarantee or limit the quantity or timing of Delivered Energy.

5.4 Operating Rules

The Parties will jointly coordinate and schedule the delivery of Delivered Energy and Dependable Plant Capacity under the Operating Rules.

5.5 Annual Dependable Plant Capacity Test

(a) During December of each Year during the Term after the earlier of Phase One Seller's COD or Phase Two Seller's COD Seller will complete a Dependable Plant Capacity Test to confirm the Dependable Plant Capacity Committed for the Peak Winter Period that commences in the December in which the Dependable

Plant Capacity Test is completed. Seller may conduct multiple Dependable Plant Capacity Tests during December until Seller is satisfied with the results of such tests. Seller will give Buyer not less than 24 hours prior Notice of the first Dependable Plant Capacity Test under this Section 5.5.

(b) Absent actual results to the contrary during the December period the annual Dependable Plant Capacity Test for a Peak Winter Period is deemed to show zero Dependable Plant Capacity Committed.

(c) Notwithstanding Section 5.5(b), if a Force Majeure prevents Seller from completing a Dependable Plant Capacity Test during December, Seller will conduct a Dependable Plant Capacity Test as soon as practicable after the Force Majeure is resolved, but before the end of the relevant Peak Winter Period, and the Dependable Plant Capacity Committed as last confirmed for a prior Peak Winter Period, less any reduction in Dependable Plant Capacity Committed resulting from a Notice under Section 6.2 will continue to apply until a new Dependable Plant Capacity Test is concluded.

(d) The Dependable Plant Capacity Committed confirmed to Seller's satisfaction and Notice of which is given to Buyer during a Peak Winter Period, will apply to the entire Peak Winter Period for which it was completed including any portion of this Peak Winter Period that occurs prior to the date of confirmation set out in Seller's Notice, excluding only any portion of this Peak Winter Period for which a Dependable Capacity Payment has been provided based on Dependable Plant Capacity Committed as last confirmed for a prior Peak Winter Period.

ARTICLE 6
PURCHASE AND SALE OBLIGATIONS

6.1 Dependable Plant Capacity Committed

From Buyer's COD for the remainder of the Term, Seller will make available to Buyer after the earlier of Phase One Seller's COD and Phase Two Seller's COD the Dependable Plant Capacity Committed and Buyer will accept delivery at the POI of, purchase, and pay for same under this EPA.

6.2 Provision of Notice to Adjust Dependable Plant Capacity Committed

If Seller becomes aware that it will not be able to provide 100% of the Dependable Plant Capacity Committed for the following Peak Winter Period due to factors other than water availability to Surprise Lake, Seller will provide, as soon as practicable, Notice to Buyer to permit Buyer when feasible to make alternative arrangements. If Notice is provided by Seller to Buyer, the Dependable Plant Capacity Committed for the next Peak Winter Period will be adjusted to the KW of Dependable Plant Capacity Committed, if any, that Seller specifies will apply to that Peak Winter Period., subject to the annual Dependable Plant Capacity Test under Section 5.5.

6.3 Delivered Energy after Buyer's COD

From Buyer's COD and for the remainder of the Term, Seller will sell and deliver to Buyer all Energy to Buyer through the sale and delivery of all Delivered Energy and Buyer will accept delivery of, purchase, and pay for same under this EPA.

6.4 Summer Delivered Energy

From the first Summer Period following the earlier of Phase One Seller's COD and Phase Two Seller's COD for the remainder of the Term Seller will sell and deliver Summer Delivered Energy to Buyer upon Buyer's written request on 48 hours' Notice and Buyer will accept delivery of, purchase, and pay for same.

6.5 Buyer-AEY System Constraints

Buyer will have no liability for a Buyer-AEY System Constraint and Buyer will not be in breach or default of its obligations under Sections 6.3 or 8.2 if Buyer is not able to accept delivery of Delivered Energy as a result of a permitted Buyer-AEY System Constraint, except as set out in this Section 6.5, if applicable. A non-permitted Buyer-AEY System Constraint (a "**Non-Permitted System Constraint**") will occur if, in any month after Buyer's COD, Seller is unable to deliver Delivered Energy that Seller is permitted to deliver under this EPA solely as a result of a continuous Buyer-AEY System Constraint which exceeds 30 minutes in duration and which is not caused by:

(a) Buyer-AEY Planned Outage; or

(b) Seller, Seller's Plant, or anything on Seller's side of the POI.

If a Non-Permitted System Constraint occurs then, notwithstanding that Buyer is excused under this Section 6.5 from its obligations under Section 6.3 and Article 8, Buyer will pay Seller, for each calendar month in which the Non-Permitted System Constraint has occurred for the Monthly Constraint Energy calculated for the relevant month under Schedule "F". Buyer will not be required to pay for any Monthly Constraint Energy under this Section 6.5:

(c) during any period specified as a Seller's Outage in any Outage Notice or a revised Outage Notice or during any other period where Seller's Plant would otherwise not have been operating;

(d) during any period when either Party is or would be excused, under Section 20.1, from its obligation to deliver or to accept delivery of Delivered Energy as a result of Force Majeure;

(e) during any other hour that Seller's Plant would otherwise not have been operating if there had been no Non-Permitted System Constraint; or

(f) when the Non-Permitted System Constraint is the result of the operation of the Seller's Plant in a manner inconsistent with Section 3.2.

Seller will maintain and complete Records of all Constraint Shortfall Energy avoided or, acting reasonably, could have been avoided during a Non-Permitted System Constraint by reducing or shutting down water deliveries to the Upper Powerhouse and will report such amounts to Buyer in writing and provide Buyer with all information required to calculate such amounts. Buyer will give Seller Notice of all Buyer-AEY System Constraints in each month which individually exceed 30 minutes in duration when it provides its monthly invoices under Section 8.8. If there is a Dispute between the Parties for the amount of any Monthly Constraints Energy Amount, the Dispute will be resolved under Article 18.

6.6 Custody, Control, Risk of, and Title

Custody, control, risk of, and title to, all Dependable Plant Capacity, Delivered Energy, and Summer Delivered Energy, will pass from Seller to Buyer at the POI. Seller will ensure that all Dependable Plant Capacity, Delivered Energy, and Summer Delivered Energy is free and clear of all liens, claims, charges, and encumbrances.

ARTICLE 7
EXCLUSIVITY

7.1 Exclusivity

Except as may otherwise be agreed to by the Parties with regard to Environmental Attributes to satisfy the Condition Precedent in Section 2.1(d)(viii), Seller will not at any time during the Term:

(a) commit, sell, or deliver any Energy (or related Environmental Attributes, if any) to any Person other than Buyer under this EPA; or

(b) use any Energy (or related Environmental Attributes, if any) for any purpose whatsoever except for sale to Buyer under this EPA.

7.2 Modifications to Existing Plant

Except with Buyer's prior written consent, such consent not to be unreasonably withheld, Seller will cause XLP, by its general partner, APL, to not amend, modify, or make any changes to the Existing Plant, except for those amendments, modifications, or changes which:

(a) will not have a material adverse effect on Seller's ability to deliver and Buyer's ability to receive during each Peak Winter Period not less than 14.0 GWh of Delivered Energy when the Surprise Lake reservoir is full before the end of the prior October, and otherwise not less than 12 GWh of Delivered Energy when the electricity load under Section 7.2(b) is 9.0 GWh or less during a Year;

(b) are required to supply capacity and energy to Atlin for Atlin's Community Customer electricity load; or

(c) are required to comply with a change in Law or a change in Permit or Regulatory Agency Authorizations conditions (where such change in Permit or Regulatory

Agency Authorizations conditions is initiated by a Governmental Authority) after the Effective Date.

Seller will give Notice to Buyer of any amendments, modifications, or changes to Existing Plant together with an explanation of the reason for such amendments, modifications, or changes and why such amendments, modifications, or changes are permitted under this Section 7.2.

7.3 Enhancement of Existing Plant Using Seller's Plant

If Seller's Plant includes an enlarged penstock for the Upper Powerhouse that would enable future connection of this penstock to both the Upper Powerhouse and an enhanced Existing Plant, Seller may present a written proposal to Buyer in the future to proceed with such connection and enhancement of the Existing Plant, which proposal will set out the resulting increased Delivered Energy available for Buyer during the Winter Period as well as the increased energy for Atlin Community Customer loads and all related terms and conditions for the new arrangements, which proposal Buyer will review and consider for approval, acting reasonably.

ARTICLE 8
PRICES AND PAYMENT TERMS

8.1 Dependable Capacity Payment

Subject to Section 4.3, for each month of each Peak Winter Period starting the earlier of Phase One Seller's COD or Phase Two Seller's COD, Buyer will pay to Seller the Dependable Capacity Payment.

8.2 Delivered Winter Energy Price

For each month of each Year after the earlier of Phase One Seller's COD or Phase Two Seller's COD, Buyer will pay to Seller, for the aggregate of the KWh of Delivered Energy and Monthly Constraint Energy, the following amounts:

(a) the Firm Winter Energy Price for the first 25.2 GWh of Delivered Energy and Monthly Constraint Energy during the Winter Period of the Year; and

(b) the Non-Firm Winter Energy Price for Delivered Energy and Monthly Constraint Energy in excess of 25.2 GWh during the Winter Period of the Year.

8.3 Dependable Capacity Excess Payment Account

The Dependable Capacity Excess Payment Account will record the amount of Dependable Plant Capacity Seller has provided during a Peak Winter Period, as compared to the amount of Dependable Plant Capacity Committed Buyer has paid for. A negative balance in this account means that Buyer has paid for more Dependable Plant Capacity Committed than Seller has delivered; a positive balance in this account means that Buyer has paid for less Dependable Plant Capacity Committed than Seller has delivered.

At the earlier of Phase One Seller's COD or Phase Two Seller's COD, the balance in the Dependable Capacity Excess Payment Account will be zero. This is a non-cash account, and the

balance only affects the payment terms of the Summer Delivered Energy, the Additional Payment, and the Carbon Charge Saving Payment as described in this Section 8.3. At the end of Term or an early termination, the Dependable Capacity Excess Payment Account balance will be deemed to be zero.

In each year, the following calculations will be made at the specified times and used to adjust the Dependable Capacity Excess Payment Account balance:

(a) The Dependable Capacity Excess Payment will be calculated annually at the end of each Peak Winter Period, and the result will be subtracted from the then existing balance in the Dependable Capacity Excess Payment Account to derive the new balance. The Dependable Capacity Excess Payment will be calculated as follows for the Peak Winter Period that commences in Year "N":

Dependable Capacity Excess $Payment_N$ = (Capacity $Shortfall_N$/Actual Dependable Plant Capacity $Committed_N$) * (Actual Dependable Capacity $Payment_N$)

Where

(i) "**Actual Dependable Capacity $Payment_N$**" is the total of Dependable Capacity Payments by Buyer to Seller for the Peak Winter Period that commences in Year "N";

(ii) "**Actual Dependable Plant Capacity $Committed_N$**" is the Actual Dependable Capacity $Payment_N$ divided by the Dependable Capacity $Price_N$; and

(iii) "**Capacity $Shortfall_N$**" is Actual Dependable Plant Capacity $Committed_N$ less Dependable Capacity Provided for the Peak Winter Period that commences in Year "N", subject to a cap equal to 50% of the Actual Dependable Plant Capacity $Committed_N$.

(b) At the time that any Summer Delivered Energy Payment is due, should the Dependable Capacity Excess Payment Account have a negative balance, up to 50% of this Summer Delivered Energy Payment will be applied until the balance in this account is zero. The remainder of the Summer Delivered Energy Payment will be paid under Section 8.6.

(c) At the time any Additional Payment and Carbon Charge Saving Payment or any of them are due, should the Dependable Capacity Excess Payment Account have a negative balance, up to 100% of this Additional Payment and Carbon Charge Saving Payment will be applied until the balance in this account balance is zero. The remainder of the Additional Payment and Carbon Charge Saving Payment will be paid under Sections 8.4 and 8.5.

(d) A sample calculation to show how the balance in the Dependable Capacity Excess Payment Account is adjusted is included in Schedule "G".

8.4 Additional Payment (2035 and subsequent Years)

Commencing in 2035, and subject to any reductions under Section 8.3, Buyer will pay to Seller an Additional Payment if Buyer has Added Load within 30 days after the end of the relevant Winter Period in each Year.

8.5 Carbon Charge Saving Payment

Commencing in Year 2024, and subject to any reductions under Section 8.3, Buyer will pay to Seller a Carbon Charge Saving Payment within 30 days after the end of the relevant Winter Period in each Year.

8.6 Summer Delivered Energy Payment

From the first Summer Period following the earlier of Phase One Seller's COD or Phase Two Seller's COD, and subject to any reductions under Section 8.3, Buyer will pay to Seller the Summer Delivered Energy Payment for Summer Delivered Energy provided in the relevant month.

8.7 No Further Payment

Amounts payable by Buyer under Sections 8.1 to 8.6 are the full and complete payment and consideration payable by Buyer under those Sections 8.1 to 8.6 and for Environmental Attributes.

8.8 Statement, Invoice, and Payment

(a) Buyer will, by the 5th day of each month after the earlier of Phase One Seller's COD and Phase Two Seller's COD, deliver to Seller a Notice of the Meter record for the preceding month and Buyer's estimate for any Monthly Constraint Energy for the preceding month.

(b) Seller will, by the 15th day of each month after the earlier of Phase One Seller's COD and Phase Two Seller's COD, deliver to Buyer an invoice indicating, among other things:

(i) the Dependable Capacity Payment;

(ii) the amount of Delivered Energy;

(iii) the amount of the Monthly Constraint Energy;

(iv) the amount of any Summer Delivered Energy;

(v) the amount of any Additional Payment;

(vi) the amount of any Carbon Charge Saving Payment; and

(vii) any Final Amounts owing by either Party to the other Party.

(c) For greater certainty an invoice will be delivered each month even if there is a

zero balance on the invoice. The invoice will set out in reasonable detail the manner by which the invoice and the amounts shown thereon were computed and be accompanied by sufficient data to enable Buyer, acting reasonably, to satisfy itself as to the accuracy of the invoice.

(d) Either Party may give Notice to the other Party of an error, omission, or disputed amount on a statement or invoice within 36 months after the statement or invoice was first issued together with reasonable detail to support its claim. After expiry of that 36 month period, except in the case of willful misstatement, fraud, or concealment, amounts on a previously issued statement or invoice will be considered accurate and amounts which were omitted will be considered to be nil, other than amounts disputed under this Section 8.8 within the 36 month period, which will be resolved under this EPA.

(e) If either Party gives Notice to the other Party of an error, omission, or disputed amount on an statement or invoice as described in Section 8.8(d), a Party may direct the other Party to promptly produce new statements or invoices for the relevant month(s). The new statements or invoices will show the undisputed amount and disputed amount each in a separate statement or invoice or will otherwise separate the amounts in a single statement or invoice in a manner acceptable to the Party received the statement or invoice, acting reasonably.

8.9 Payment

(a) Within 30 days after receipt of an invoice delivered under Section 8.8(b), and subject to Section 8.12, Buyer will pay to Seller or Seller will pay to Buyer the amount set out in the invoice, except to the extent a Party in good faith disputes all or part of the statement or invoice by Notice as described in Section 8.8(d).

(b) If a Party disputes any portion of a statement or invoice, the applicable Party must pay the undisputed net amount payable by it under the statement or invoice or, if applicable, the new statement or invoice of the undisputed amount.

(c) The Parties will endeavor to resolve any error, omission, or disputed amount on a statement or invoice within 30 days of the Notice under Section 8.8(d). If the Parties are unable to resolve the matter under this Section 8.9(b) the matter will resolved under Article 18.

(d) Any amount required to be paid under this EPA, but not paid by either Party when due, will accrue interest at an annual rate equal to the Prime Rate plus 2%, compounded monthly. Any disputed amount that is found to be payable will be deemed to have been due within 30 days after the date of receipt of the statement or invoice which included or should have included the disputed amount.

(e) On the expiry or early termination of this EPA a Party will pay to the other Party any amounts owing by that Party to the other Party under this EPA for the period before such expiry or early termination of this EPA.

8.10 Payment Calculations

(a) For the purpose of all payment calculations under this EPA:

(i) all payment calculations will be rounded to the nearest cent; and

(ii) Delivered Energy will be expressed in KWh rounded to two decimal places.

(b) For the purpose of all payment calculations under this EPA, where CPI is to apply, if Statistics Canada (or the then recognized statistical branch of the Canadian Government):

(i) computes, at any time after the Effective Date, the CPI on a basis different to that employed at the Effective Date, then the CPI will be converted using the appropriate formula recommended by Statistics Canada (or the then recognized statistical branch of the Canadian Government);

(ii) at any time ceases to publish or provide the CPI, then Section 2.7 of Schedule "A" will apply;

(iii) has not published the CPI for a relevant period at the time Seller is required to provide Buyer with an invoice, Seller will prepare the invoice based on the CPI in effect at the time the invoice is issued and when the CPI for the relevant period is published, Seller will recalculate the invoice amounts in the next succeeding invoice and will include a credit or debit, without interest, in the next succeeding invoice based on the results of the recalculation; or

(iv) recalculates the CPI within 36 months after an invoice affected by that CPI calculation has been issued, then Seller will recalculate the invoice amounts for the relevant period in the next succeeding invoice and will include a credit or debit, without interest, in the next succeeding invoice based on the results of the recalculation.

8.11 Taxes

All dollar amounts in this EPA do not include any value added, consumption, commodity, or similar taxes, including GST and any successor thereto, which, if applicable, will be added to each invoice and paid by Buyer.

8.12 Set-off

If Buyer and Seller each owe the other an amount under this EPA in the same month, then such amounts with respect to each Party will be aggregated and the Parties may discharge their obligations to pay through netting, in which case the Party, if any, owing the greater aggregate amount will pay to the other Party the difference between the amounts owed, provided that this Section 8.12 applies only to any purchase price for Delivered Energy and any Final Amount owing by either Party to the other Party, including any final amount owing with regard to Buyer-AEY System Upgrade Costs. Except as otherwise expressly provided herein, each Party reserves all rights, counterclaims and other remedies and defenses which such Party has, or may be entitled to, arising from or related to this EPA.

ARTICLE 9
ENVIRONMENTAL ATTRIBUTES

9.1 Environmental Attributes

Except as may otherwise be agreed to by the Parties to satisfy the Condition Precedent in Section 2.1(d)(viii), Seller hereby transfers, assigns, and sets over to Buyer all right, title, and interest in and to the Environmental Attributes. Seller will ensure that all Environmental Attributes transferred to Buyer under this EPA are free and clear of all liens, claims, charges, and encumbrances. Seller will use commercially reasonable efforts to:

(a) provide information reasonably requested by Buyer in relation to such Environmental Attributes, including as may be required to allow Buyer to verify or certify that such Environmental Attributes exist or have been created; and

(b) assist in having Seller's Plant certified, licensed, qualified, or approved under any rules, regulations, programs, or applicable Laws of any Governmental Authority or independent certification agency in respect of Environmental Attributes, provided that Buyer will pay Seller all costs reasonably incurred by Seller for the same.

Any failure by Seller to exercise such commercially reasonable efforts under this Section 9.1 is a "material default" for under this EPA, and Buyer may terminate this EPA under Section 14.1(g).

ARTICLE 10
EPA ADMINISTRATION, RECORDS, AND AUDITS

10.1 Records

Each of Buyer and Seller will prepare and maintain all Records, or duplicates of such Records, at Buyer's head office or local Yukon Territory office or Seller's head office, as applicable, or following the expiry of the Term or the earlier termination of this EPA, at such other location as may be agreed in writing between the Parties, for a period of not less than 7 Years from the date on which each such Record is created. The Audit Parties may take copies of such Records for an inspection or audit under Section 10.2.

10.2 Inspection and Audit Rights

For the sole purpose of verifying:

(a) compliance with this EPA;

(b) the accuracy of invoices, supporting information, and calculations delivered by a Party under this EPA;

(c) the qualification of Seller's Plant and the Delivered Energy for the Environmental Certification; or

(d) the liability of Seller for Buyer-AEY System Upgrades Costs,

Buyer or Seller, as applicable, will, on reasonable Notice from either Party desiring to conduct an audit, provide the Audit Parties with prompt access during normal business hours to the other Parties' Records solely relating to this EPA, including any Buyer Confidential Information or Seller Confidential Information. The Audit Parties will exercise any access and audit rights under this Section 10.2 in a manner that minimizes disruption to the operation of the Party subject to the audit. The audit rights contained in this Section 10.2 will be subject to the limitations under Section 8.8(d).

10.3 Seller Consents

Seller will promptly provide any consents required to enable any of the Audit Parties to make inquiries with any Governmental Authority or any Person administering the Environmental Certification concerning the:

(a) qualification of Seller's Plant and the Energy for Environmental Certification, the status of the Environmental Certification and copies of any audits, inspections or reports prepared in connection with the Environmental Certification; and

(b) compliance by Seller with Laws, Permits, and Regulatory Agency Authorizations applicable to Seller's Plant or Seller's Plant.

ARTICLE 11
FIRST NATIONS CLAIMS

11.1 Notification of First Nations Claims

Given the ownership and location of Seller's Plant, Seller and Buyer do not expect any First Nations Claims. However, if either Party receives or obtains evidence of a First Nations Claim, it will notify the other Party in writing as soon as practicable.

11.2 Obligation to Consult

If Buyer receives, obtains evidence, or becomes aware of a First Nations Claim, it may direct Seller, at Seller's cost, to:

(a) consult with the First Nations making the First Nations Claim, or, if requested by Buyer, assist Buyer in the consultation process;

(b) take any measures Seller deems necessary to address, prevent, mitigate, compensate, or otherwise accommodate any Potential Impacts, provided the measures are consented to in advance by Buyer and the First Nations making the First Nations Claim; and

(c) provide regular written reports to Buyer concerning Seller's compliance with this Section 11.2, as may be reasonably requested by Buyer.

11.3 Seller Termination for First Nations Claims

At any time prior to Buyer's COD, if a First Nation Claim is proven in Court and all rights of appeal have been exhausted then Seller may, in Seller's Discretion, terminate this EPA on Notice to Buyer. Such termination will be effective 30 days after the date of delivery of such Notice of termination unless otherwise agreed by the Parties. If Seller terminates this EPA under this Section 11.3, Seller will reimburse Buyer for costs or liabilities under Section 14.5 and on receipt of payment, Buyer will have no further Claims against Seller under this Article 11.

ARTICLE 12
INSURANCE/DAMAGE AND DESTRUCTION

12.1 Insurance

Seller will by the commencement of Seller's activities necessary to construct Seller's Plant, obtain, maintain, and pay for:

(a) policies of commercial general liability insurance with a per occurrence limit of liability not less than $5,000,000.00 applicable to Seller's Plant separate from all other projects and operations of Seller; and

(b) property insurance and construction insurance with limits of liability and deductibles consistent with those a prudent owner of a facility similar to Seller's Plant would maintain and those the Facility Lender requires. All commercial general liability policies must include Buyer, its directors, officers, employees, and agents as additional insureds and must contain a cross liability and severability of interest clause. All policies of insurance must be placed with insurers that have a minimum rating of A- (or equivalent) by A.M. Best Company and are licensed to transact business in the Province of British Columbia and the Yukon Territory and must be endorsed to provide to Buyer 30 days' Notice of cancellation, non-renewal, or any material amendment that results in a reduction in coverage. Seller will give Buyer a copy of the insurance certificate(s) for the insurance required to be maintained by Seller under this Section 12.1 not more

than 30 days after the effective date of coverage and immediately upon renewal thereafter. Seller will be responsible for the full amount of all deductibles under all insurance policies required to be maintained by Seller under this Section 12.1.

12.2 Damage or Destruction of Seller's Plant

If Seller's Plant is damaged or destroyed, in whole or in part, Seller will provide, as soon as practicable, Notice of such damage or destruction to Buyer and Seller will proceed to diligently and expeditiously and at its own cost to repair and restore Seller's Plant to at least the condition in which it was in immediately prior to the damage or destruction and resume deliveries of Delivered Energy as expeditiously as possible. Seller will within 30 days after the date of the damage or destruction provide Notice to Buyer setting out the date by which Seller, acting reasonably, can resume delivering Dependable Plant Capacity Committed and Delivered Energy to Buyer. Provided Seller complies this Section 12.2, the Term will be extended by the number of days from the date of the event of damage or destruction to the date on which Seller resumes delivering Dependable Plant Capacity Committed and Delivered Energy to Buyer.

ARTICLE 13
SUSPENSION

13.1 Buyer Suspension

If a Buyer Termination Event has occurred and is continuing, Buyer may, upon Notice to Seller, suspend performance under this EPA provided that in no event will any such suspension continue for longer than 90 days and further provided that such right will not affect Buyer's obligation to make any payment owing to Seller for performance by Seller of its obligations under this EPA prior to the date of suspension by Buyer.

13.2 Seller Suspension

If a Seller Termination Event has occurred and is continuing, Seller may, upon Notice to Buyer, suspend performance under this EPA, provided that such right will not affect Seller's obligation to pay any amount owing by Seller to Buyer in for performance of, or failure to perform, Seller's obligations under this EPA prior to the date of suspension by the Seller.

13.3 Resuming Deliveries

The non-defaulting Party's right to suspend performance under this Article 13 will cease when the defaulting Party has demonstrated to the satisfaction of the non-defaulting Party, acting reasonably, that the defaulting Party has cured the cause for the suspension.

ARTICLE 14
TERMINATION

14.1 Termination by Buyer

In addition to any other right to terminate this EPA expressly set out in this EPA and in addition to all other rights and remedies Buyer may have under this EPA or at Law or in equity for any of the following events, Buyer may terminate this EPA by Notice to Seller if:

(a) the earlier of Phase One Seller's COD or Phase Two Seller's COD fails to not occur within 730 days following Phase One Seller's Target COD or Phase Two Seller's Target COD unless such failure is from Buyer's COD not occurring through no fault of Seller or a Force Majeure, provided that Buyer may terminate this EPA under this Section 14.1(a) only if Buyer delivers a Notice prior to the earlier of Phase One Seller's COD or Phase Two Seller's COD and if Buyer's COD has occurred:

(b) at any time after Buyer's COD, Seller fails to deliver to Buyer at least 25% of either:

(i) the Dependable Plant Capacity Committed during two Consecutive Peak Winter Periods; or

(ii) 30.4 GWh of Delivered Energy per Year during the Winter Period for two consecutive Years,

other than where such failure is from a Buyer-AEY System Constraint for which Seller is entitled to receive payment under Section 6.5 or a Force Majeure; or

(c) Seller breaches Section 7.1 and such default has not been cured within 30 days after Buyer has given Notice of the default to Seller; or

(d) Seller is Bankrupt or Insolvent; or

(e) Seller ceases to be exempt from regulation as a "public utility" as defined in the *Public Utilities Act* or the *Utilities Commission Act* (British Columbia) for Seller's Plant and the sale of Delivered Energy to Buyer under this EPA, and the loss of such exemption could reasonably be expected to have an adverse effect on the benefit to Buyer of this EPA; or

(f) except where an amount has been disputed in the manner specified in Section 8.8(d), an amount due and payable by Seller to Buyer under this EPA remains unpaid for 30 days after its due date and such default has not been cured within 30 days after Buyer has given Notice of the default to Seller; or

(g) Seller is in material default of any of its covenants, representations, and warranties or other obligations under this EPA (other than as set out above), unless within 30 days after the date of Notice by Buyer to Seller of the default Seller has cured the default or, if the default cannot be cured within that 30 day period, Seller demonstrates to the reasonable satisfaction of Buyer that Seller is working diligently and expeditiously to cure the default and the default is cured within a further reasonable period of time. A "material default" includes any purported Assignment of this EPA without the consent of Buyer.

Any termination under this Section 14.1 will be effective immediately upon delivery of the Notice of termination to Seller.

14.2 Notice if Bankrupt or Insolvent

Each Party will give Notice to the other Party promptly if:

(a) The first Party is Bankrupt or Insolvent or there is a material risk that the first Party will become Bankrupt or Insolvent; or

(b) In the case of Seller only, if Seller has defaulted under any agreement with a Facility Lender, a Law, Permit, Regulatory Agency Authorization, or a land tenure agreement for Seller's Plant is terminated or expires, and as a result of such default, termination, or expiry there is a material risk that the Facility Lender will take action against Seller under its agreement with Seller.

14.3 Termination by Seller

In addition to any other right to terminate this EPA expressly set out in this EPA and in addition to all other rights and remedies Seller may have under this EPA or at Law or in equity for any of the following events, Seller may terminate this EPA by Notice to Buyer if:

(a) after Buyer's COD, Buyer has not accepted delivery of Delivered Energy at the POI for a period of 730 continuous days due to an event described in Section 6.5 and Seller is not entitled to receive any payment under Section 6.5 for that period, unless such failure to accept delivery is from a Force Majeure;

(b) Seller fails to achieve Phase One Seller's COD for a period of 730 days after Phase One Seller's Target COD or has been unable to deliver Delivered Energy to the POI for a period of 730 continuous days after Phase One Seller's COD, other than where there is a Buyer-AEY System Constraint for which Seller is entitled to receive payment under Section 6.5 or such failure is from a Force Majeure;

(c) Seller fails to achieve Phase Two Seller's COD for a period of 730 days after Phase Two Seller's Target COD or has been unable to deliver Delivered Energy to the POI for a period of 730 continuous days after Phase Two Seller's COD, other than where there is a Buyer-AEY System Constraint for which Seller is entitled to receive payment under Section 6.5 or such failure is from a Force Majeure;

(d) Buyer is Bankrupt or Insolvent;

(e) except where an amount has been disputed in the manner specified in Section 8.8(d), an amount due and payable by Buyer to Seller under this EPA remains unpaid for 30 days after its due date and such default has not been cured within 30 days after Seller has given Notice of the default to Buyer; or

(f) Buyer is in material default of any of its covenants, representations, and warranties or other obligations under this EPA (other than as set out above), unless within 30 days after the date of Notice by Seller to Buyer of the default Buyer has cured the default or, if the default cannot be cured within that 30 day period, Buyer demonstrates to the reasonable satisfaction of Seller that Buyer is

working diligently and expeditiously to cure the default and the default is cured within a further reasonable period of time.

Any termination under this Section 14.3 will be effective immediately upon delivery of the Notice of termination to Buyer.

14.4 Effect of Termination

Upon expiry of the Term or earlier termination of this EPA under its terms:

(a) the Parties may pursue and enforce any rights and remedies permitted by law or equity in respect of any prior breach or breaches of this EPA and may enforce any liabilities and obligations that have accrued under this EPA prior to the expiry of the Term or the date of termination or that are stated to arise on termination of this EPA, subject to any express restrictions on remedies and limitations or exclusions of liability set out in this EPA;

(b) the Parties will remain bound by Section 3.6 with respect to the satisfaction of residual obligations for the period prior to termination or that are specified to arise on, or continue following, termination prior to termination of this EPA; and

(c) Seller will remain bound by Sections 10.2 and 10.3 for a period of 36 months following expiry or termination of this EPA;

and, in all such cases, the Parties will remain bound by any other provisions necessary for the interpretation and enforcement of the foregoing provisions.

14.5 Seller Payment on Termination

If either Party terminates this EPA, Seller will, within 30 days after receipt of an invoice from Buyer, reimburse Buyer for:

(a) all Buyer-AEY System Upgrade Costs incurred by Buyer, or which Buyer has become contractually obligated to pay, prior to the termination of the EPA including Buyer-AEY System Upgrade Costs Seller would otherwise be responsible for under Section 3.6;

(b) any incremental liability for Buyer-AEY System Upgrade Costs which Buyer will incur as a result of the termination of this EPA; and

(c) any Buyer-AEY System Upgrade Costs which Seller is responsible for under any reimbursement agreement under Section 3.3.

14.6 Buyer Payment on Termination

If either Party terminates this EPA Buyer will pay any amount owing to Seller under this EPA within 30 Business Days after the date of delivery of an invoice by Seller to Buyer. Any amounts owing by Seller to Buyer under this EPA will be set off against any amount owing by Buyer to Seller under this EPA.

14.7 Buyer Step in Right

If a Buyer Termination Event occurs and the Buyer Termination Event has not been cured by Seller or a Facility Lender within any time period set out under this EPA for curing such default Buyer may, subject to the rights of a Facility Lender under the Facility Lender Consent Agreement, provide not less than 7 days' Notice to Seller that Buyer is exercising its rights under this Section 14.7 and step in and assume operation and management of Seller's Plant for such time as Seller is in default under this EPA and Seller will provide to Buyer such access to Seller's Plant and such reasonable assistance as Buyer may require to assume operation and management of Seller's Plant. Buyer may set off against any amounts owed by Buyer to Seller Buyer's reasonably incurred costs and expenses incurred in assuming such operation and management. Buyer may, at any time upon providing Notice to Seller, immediately discontinue Buyer's operation and maintenance of Seller's Plant.

14.8 Seller Release

Except in the event and to the extent of Buyer's negligence or misconduct, Seller will release and discharge the Buyer Indemnified Parties, of and from all Claims and Losses which Seller and Seller Indemnified Parties or any of them have or may have or suffer or incur, or may hereafter have or hereafter suffer or incur or may bring against any of the Buyer Indemnified Parties, or which any Person (including, without limitation, any Governmental Authority) may have suffered or incurred or may suffer or incur or bring against the Buyer Indemnified Parties, arising out of or in connection with Buyer's operation and management of Seller's Plant under Section 14.7.

ARTICLE 15
REPRESENTATIONS AND WARRANTIES

15.1 Seller's Representations

Seller represents and warrants to Buyer, and acknowledges that Buyer is relying on those representations and warranties in entering into this EPA, as follows:

(a) Seller is a limited partnership duly formed under the laws of British Columbia, the general partner of which is a validly existing corporation which is in good standing under the laws of British Columbia, is lawfully authorized to carry on business in British Columbia and the Yukon Territory, has been registered in the Yukon Territory, and has full corporate power, capacity, and authority to enter into and to perform its obligations under this EPA;

(b) the general partner of Seller has capacity to act as the general partner of Seller;

(c) the obligations of Seller in this EPA do not conflict with and is not a default under the constating documents of Seller or its general partner, or any agreement, Permit, Regulatory Agency Authorization, or Law by which Seller is bound;

(d) this EPA constitutes a valid and binding obligation of Seller enforceable against Seller under its terms; and

(e) this EPA has been duly authorized, executed, and delivered by Seller.

15.2 Buyer's Representations

Buyer represents and warrants to Seller, and acknowledges that Seller is relying on those representations and warranties in entering into this EPA, as follows:

(a) Buyer is a corporation formed under the laws of the Yukon Territory, is validly existing and is in good standing under the laws of the Yukon Territory, is lawfully authorized to carry on business in the Yukon Territory, and has full corporate power, capacity and authority to enter into and to perform its obligations under this EPA;

(b) the obligations of Buyer in this EPA do not conflict with and is not a default under the constating documents of Buyer, or any agreement, Permit, or Law by which Buyer is bound;

(c) this EPA constitutes a valid and binding obligation of Buyer enforceable against Buyer under its terms; and

(d) this EPA has been duly authorized, executed, and delivered by Buyer.

ARTICLE 16
INDEMNITIES

16.1 Seller Indemnity

Seller will indemnify, defend, and hold harmless the Buyer Indemnified Parties from and against all Claims and Loss suffered, incurred, made, or brought against any of the Buyer Indemnified Parties for:

(a) any default, breach, or inaccuracy of the warranties or representations of Seller under this Agreement;

(b) a breach or non-fulfillment of any term or covenant of Seller made, to be observed, or performed under this Agreement;

(c) personal injury, including death, to third Persons and for damage to property of third Persons, to the extent caused or contributed to by the wilful act or omission or negligence of Seller, any contractor, subcontractor, or supplier to Seller or any director, officer, employee, or agent of Seller or any other Person for whom Seller is responsible at Law where such wilful act, omission, or negligence is in connection with Seller's Plant;

(d) for or in connection with or arising from a First Nations Claim ; and

(e) Buyer's operation and management of Seller's Plant under Section 14.7, except in the event of and to the extent of Buyer's negligence or misconduct.

16.2 Buyer Indemnity

Buyer will indemnify, defend, and hold harmless the Seller Indemnified Parties from and against all Claims and Loss suffered, incurred, made, or brought against any of Seller Indemnified Parties for:

(a) any default, breach, or inaccuracy of the warranties or representations of Buyer under this Agreement;

(b) a breach or non-fulfillment of any term or covenant of Buyer made, to be observed, or performed under this Agreement; and

(c) personal injury, including death, to third Persons and for damage to property of third Persons, to the extent caused or contributed to by the wilful act or omission or negligence of Buyer, any contractor, subcontractor, or supplier to Buyer or any director, officer, employee, or agent of Buyer or any other Person for whom Buyer is responsible at Law while Buyer or any contractor, subcontractor, or supplier to Buyer or any director, officer, employee, or agent of Buyer or any other Person for whom Buyer is responsible at Law is at Seller's Plant.

16.3 Indemnification Conditions

The right of a Buyer's Indemnified Parties or Seller's Indemnified Parties ("**Indemnitee**") to be indemnified by the other Party ("**Indemnitor**") from and against Claims and Loss made or brought against the Indemnitee by a third Person under any indemnity contained in this EPA is subject to the condition that the Indemnitee:

(a) gives the Indemnitor prompt Notice of such Claim and Loss and gives the Indemnitor the right to select and instruct counsel;

(b) provides all reasonable cooperation and assistance at the sole cost of the Indemnitor paid in advance, including the provision of documents and witnesses within the control of the Indemnitee for the purpose of, and as solely related to, the defence or settlement of the Claim;

(c) does not compromise or settle the Claim or Loss without the prior written consent of the Indemnitor;

(d) if an Indemnitor disputes their obligation to provide indemnification, the completion of the Dispute Resolution Procedure.; and

(e) notwithstanding anything else in Article 16, an Indemnitor will not be required to make any payment to an Indemnitee for any Claim or Losses of any kind until the Claim or Losses has been finally determined by an arbitration award or by a court order and all rights of appeal in respect of such award or order have been exhausted or expired.

16.4 Indemnitor Obligations

If the Indemnitor exercises its rights under Section 16.3, the Indemnitor will:

(a) act reasonably in the conduct of such Claim and have regard to the principle that the reputation of the Indemnitee should not be unnecessarily injured; and

(b) indemnify the Indemnitee against the Losses incurred or suffered by the Indemnitor in taking action or providing assistance under Section 16.3.

16.5 Survival

The indemnifications under this Article 16 survive the expiry or termination of this EPA.

ARTICLE 17
LIABILITY LIMITATIONS

17.1 Consequential Damages

Neither Party will be liable to the other Party for any special, incidental, exemplary, punitive, or consequential damages with respect to, arising out of, relating to, or in any way connected with a Party's performance or non-performance under this EPA.

ARTICLE 18
DISPUTES

18.1 Dispute Resolution Procedure

Subject to Section 18.6, any dispute, controversy, or claim arising out of or relating to this EPA ("**Dispute**") will be exclusively and finally resolved under the dispute resolution procedure under this Article 18 (the "**Dispute Resolution Procedure**").

18.2 Commencement of the Dispute Resolution Procedure

The Parties will make reasonable efforts to first resolve any Dispute through good faith discussions. If a Dispute cannot be resolved by the Parties through good faith discussions, then either Party may initiate the Dispute Resolution Procedure by giving Notice of the Dispute to the other Party (the "**Notice of Dispute**"). The Notice of Dispute will contain a brief statement of the nature of the Dispute, set out the relief requested, and request that the Dispute Resolution Procedure be commenced.

18.3 Negotiations

Upon the submission of a Notice of Dispute under Section 18.2, each of the Parties will refer the Dispute to a designated senior management executive with the authority to negotiate a settlement of the Dispute for that Party (the "**Senior Management Executives**"). The Senior Management Executives of the Parties will attempt to resolve the Dispute within 30 days from the date on which the Notice of Dispute was issued, or such longer period as the Senior Management Executives may otherwise unanimously agree. If the Senior Management Executives

unanimously agree upon a resolution of the Dispute, such resolution will be memorialized in a written settlement agreement mutually acceptable to the Parties and will be binding on the Parties.

18.4 Mediation

If a Dispute is not resolved by the Senior Management Executives of each Party within the 30 day period set out in Section 18.3, a Party may give written notice to the other Party of a desire to commence mediation to attempt to resolve the Dispute. The following provisions apply to an mediation commenced under this Section 18.4

(a) the mediation must be held in Whitehorse, Yukon Territory;

(b) the language to be used in the mediation proceedings will be English;

(c) any mediation carried out hereunder will be kept private and confidential, and that the existence of the proceedings and any element of it (including all awards, the identity of the Parties and all witnesses and experts, all materials created for the purposes of the mediation, all testimony or other oral submissions, and all documents produced by a Party that were not already in the possession of the other Party) will be deemed to be Confidential Information and kept confidential, except:

(i) with the consent of the Parties

(ii) to the extent disclosure may be lawfully required in bona fide judicial proceedings relating to the mediation;

(iii) subject to Section 19.1(b)(i)(J), where disclosure is lawfully required by a legal duty;

(iv) where either Party wishes to brief its respective officers, directors, shareholders and unit holders, and in the case of Seller, as may be necessary to brief the Taku River Tlingit First Nation and its citizens on the mediation proceedings; and

(v) where such information is already in the public domain other than as a result of a breach of this clause. The Parties also agree not to use any information disclosed to them during the mediation for any purpose other than in connection with the mediation;

(d) the mediation process will be treated as without prejudice settlement negotiations and will be completed within 60 days of the Notice of Dispute;

(e) each Party will be responsible for its own costs under this Section 18.4; and

(f) if the Parties accept any recommendation made by the mediator or otherwise reach agreement as to the resolution of the Dispute, such agreement will be recorded in

writing and signed by the Parties whereupon it will become final and binding on the Parties, and the dispute resolution process will be deemed to be completed.

18.5 Arbitration

Subject to Section 18.6, if a Dispute is not resolved by Senior Management Executives within 30 days from receipt of a Notice of Dispute (or such longer period as the Senior Management Executives may otherwise agree in writing), the Dispute will, at the request of either Party by that Party providing Notice to the other Party, be resolved by binding arbitration under the Rules of Arbitration of the International Chamber of Commerce (the "**ICC Rules**"), except to the extent of conflicts between the ICC Rules and this EPA, in which event this EPA will govern. The following applies to an arbitration under this Section 18.5:

(a) the number of arbitrators will be one;

(b) the place, or legal seat, of the arbitration will be Whitehorse, Yukon Territory;

(c) the language to be used in the arbitral proceedings will be English;

(d) all awards issued by the arbitrator will be final, non-appealable and binding on the Parties. Any award may be filed in any court of competent jurisdiction and may be enforced by a Party as a final judgment in such court. The Parties expressly waive, to the maximum extent permitted by Law, any right of appeal of any award or reference of any matter to any court, other than as may be necessary to recognize or enforce an award;

(e) the arbitrator will be guided by the International Bar Association's Rules on the Taking of Evidence in International Commercial Arbitration;

(f) the Parties will request that the arbitrator render its final award within 6 months of the commencement of the arbitration, or as soon as practicable thereafter, provided that no award will be invalid if it is not rendered within the time period herein specified;

(g) any award for monetary damages will be made and payable in Canadian Dollars and may include interest from the date of any breach or violation of this EPA until paid in full at the rate determined by the arbitrator;

(h) any arbitration carried out under this EPA will be kept private and confidential, and that the existence of the proceedings and any element of it (including all awards, the identity of the Parties and all witnesses and experts, all materials created for the purposes of the arbitration, all testimony or other oral submissions, and all documents produced by a Party that were not already in the possession of the other Party) will be deemed to be Confidential Information and kept confidential, except:

(i) with the consent of the Parties;

(ii) to the extent disclosure may be lawfully required in bona fide judicial proceedings relating to the arbitration;

(iii) subject to Section 19.1(b)(i)(J), where disclosure is lawfully required by a legal duty;

(iv) where either Party wishes to brief its respective officers, directors, shareholders and unit holders, and in the case of Seller, as may be necessary to brief the Taku River Tlingit First Nation and its citizens on the arbitration proceedings; and

(v) where such information is already in the public domain other than as a result of a breach of this Article 18. The Parties also agree not to use any information disclosed to them during the arbitration for any purpose other than in connection with the arbitration;

(i) where a Dispute relates to the EPA, the Parties will agree to consolidate the matters in Dispute under such agreements in a single arbitration;

(j) during the resolution of a Dispute under this Article 18, the Parties will continue to perform their obligations under this EPA, provided that such performance will be without prejudice to the rights and remedies of the Parties and will not be read or construed as a waiver of a Party's right to claim for recovery of any loss, costs, expenses, or damages suffered as a result of the continued performance of this EPA; and

(k) each Party will be responsible for its own costs under this Section 18.5, subject to the award of an arbitrator.

18.6 Determination by Courts

If the Dispute involves a monetary claim by Party against the other Party for an amount less than $1,000,000 (as adjusted for CPI each Year as soon as CPI for the previous Year has been published) the Dispute will be determined in the courts of the Yukon Territory and each of the Parties will submit and attorn to the jurisdiction of the courts of the Yukon Territory for the resolution of all Disputes under this Section 18.6.

ARTICLE 19
CONFIDENTIALITY

19.1 Confidentiality

(a) **Confidentiality Obligations** - During the Term and for two years thereafter:

(i) Buyer will treat as confidential, and will not disclose to any third Person, Seller Confidential Information; and

(ii) Seller will treat as confidential, and will not disclose to any third Person, Buyer Confidential Information.

(b) **Disclosure of Confidential Information** - Notwithstanding Section 19.1(a):

(i) Seller may disclose Buyer Confidential Information and Buyer may disclose Seller Confidential information in the following circumstances:

(A) disclosures agreed to by the Parties, including joint public announcements, or expressly authorized under this EPA or otherwise set out in this EPA;

(B) disclosures to enable a Party to fulfill its obligations under the EPA;

(C) disclosure in any mediation, arbitration, or legal proceedings for the enforcement of the EPA, including as permitted under Sections 18.4(c)(iv) and 18.5(h)(iv);

(D) disclosure to the Party's respective directors, officers, employees, shareholders, unit holders, Facility Lenders, consultants and advisors, and purchasers of the Environmental Attributes, provided each of them is advised of the confidential nature of the information and agrees to respect such confidentiality;

(E) In the case of Seller, as may reasonably be required to brief the Taku River Tlingit First Nation and its citizens about any matter regarding this Agreement;

(F) disclosure required to be made by a Party by an order of a court, a regulatory agency or a tribunal or under any Law, regulatory requirements or any requirement of any stock exchange that is binding upon a Party, provided that (i) to the extent reasonably practicable, the Party intending to make such disclosure gives reasonable notice to the other Party before make the disclosure, and (ii) limits the disclosure to that required by the applicable order, Laws or regulatory or stock exchange requirement;

(G) disclosure to a third Person if such information was known by that third Person before disclosure by Buyer or Seller, as the case may be, provided the third Person did not know of the information as a result of a breach of the non-disclosure obligations in this EPA; or

(H) disclosure with the consent of Buyer, in the case of Buyer Confidential Information, or Seller, in the case of Seller Confidential Information.

Buyer may disclose Seller Confidential Information in the following circumstances:

(I) to any ministers, deputy ministers, servants, or employees of the Yukon Territory, British Columbia or Canadian federal government, provided each of them is advised of the confidential nature of the information and agrees to respect such confidentiality; or

(J) disclosure in any regulatory proceeding, whether related to this EPA or not, to the extent that Buyer considers disclosure is necessary or desirable to support its position in such proceeding.

ARTICLE 20
FORCE MAJEURE

20.1 Force Majeure

(a) If there is a Force Majeure affecting a Party's ability to perform an obligation under this EPA, and that Party wishes to declare a Force Majeure, that Party will give the other Party Notice of the Force Majeure. The Notice of Force Majeure must identify the nature of the Force Majeure, the date the Force Majeure commenced, the expected duration of the Force Majeure, and the particular obligations affected by the Force Majeure. If:

(i) a Notice of Force Majeure is provided under this Section 20.1;

(ii) the event in question is in fact an event of Force Majeure as defined in this EPA; and

(iii) the event of Force Majeure commenced on the commencement date in the Notice of Force Majeure, then the Force Majeure will be deemed to have been invoked as of the commencement date stated in the Notice.

(b) Neither Party will be in default of any obligation under this EPA if a Party is unable to perform that obligation due to an event or circumstance of Force Majeure, provided Notice is delivered under this Section 20.1 and the circumstances are, in fact, an event or circumstance of Force Majeure. This Article 20 applies to all provisions of this EPA whether specifically referred as being subject to Force Majeure or not.

(c) Subject to any limitations expressly set out in this EPA, the time for performance of such obligation will be extended by the number of days that Party is unable to perform such obligation as a result of the event or circumstance of Force Majeure. The Party invoking Force Majeure will make commercially reasonable efforts to promptly remove the Force Majeure and will promptly respond in writing to any written inquiry from the other Party regarding the efforts being undertaken to remove the Force Majeure and will give the other Party Notice of the end of the Force Majeure.

ARTICLE 21
ASSIGNMENT

21.1 Assignment

No Party will Assign this EPA, unless it obtains the prior written consent of the other Party, such consent will not be unreasonably withheld or delayed. If Seller intends to assign this EPA to a Facility Lender, Seller acknowledges that Buyer may require, as a condition of Buyer's consent to such Assignment, that Seller and Facility Lender enter into the Facility Lender Consent Agreement with Buyer on terms and conditions to be agreed to with the Facility Lender.

21.2 Assignment Conditions

Notwithstanding Section 21.1 and except as provided in the Facility Lender Consent Agreement, any Assignment by Seller must be: (i) in conjunction with a corresponding Assignment of Seller's Plant and the Interconnection Agreement; (ii) is subject to the assignee entering into and becoming bound by this EPA, assuming all the obligations and liabilities of Seller under this EPA arising both before and after the Assignment, and providing the representations and warranties substantially in the form set out in Section 15.1 effective as at the time of Assignment; and (iii) Seller not being in default under this EPA. Seller will remain unconditionally jointly and severally liable with the assignee for all obligations of Seller under this EPA unless Seller is released by Buyer from its obligations under this EPA.

ARTICLE 22
RIGHT OF FIRST OFFER

22.1 Conditions of Right of First Offer

If at any time during the Term Seller wishes to offer for sale Seller's Plant or the units and shares of Seller and its general partner (Seller's Plant or such units and shares are collectively for convenience, "**Seller's Plant**"), Seller will give Buyer Notice under this Section 22.1 and permit Buyer the right to make the first offer to Seller to purchase Seller's Plant. The Notice will include sufficient information concerning Seller and Seller's Plant to enable Buyer to assess its interest in purchasing Seller's Plant.

22.2 Right of First Offer

Upon receipt of a Notice, Buyer will have the exclusive right for 90 days thereafter to submit to Seller for its consideration the first offer (the "**Offer**") to purchase Seller's Plant. Such offer to purchase must comply with Section 22.3 and be submitted by Buyer in writing to Seller within such 90 day period to be considered by Seller. Seller agrees not to accept any other offer to purchase Seller's Plant prior to the expiry of the 90 day period granted to Buyer. If Buyer does not submit an Offer to Seller within the time limit, Buyer will have no further rights under this Section 22.2. If Buyer does submit an Offer to Seller within the time limited, Seller will be at liberty in its sole discretion to accept or reject the Offer or to enter into negotiations with Buyer in an effort to conclude a mutually acceptable agreement for the purchase and sale of Seller's Plant.

22.3 Nature of Offer

In order to constitute an Offer for the purposes of this Section 22.3, an offer to purchase submitted by Buyer under Section 22.2 will:

(a) be for the entire Seller's Plant;

(b) be valued on an all cash basis;

(c) contemplate closing within 90 days after acceptance of the Offer; and

(d) not contain other terms that would, when taken as a whole, be considered in light of the circumstances then prevailing in the market unreasonably onerous for Seller or Seller's unit holder and shareholder, as the case may be, and render the offer unacceptable to Seller or Seller's unit holder and shareholder, as the case may be, for reasons other than the price offered.

22.4 No Agreement with Buyer

If Buyer submits an Offer but the Parties fail to reach an agreement for the purchase and sale of Seller's Plant within 90 days after receipt by Buyer of the Notice, Seller may sell Seller's Plant to any other third Person on terms at least as favourable as those proposed by Buyer in the Offer, provided Seller will invite Buyer to participate in any subsequent process where Seller or its unit holder or shareholder, as the case may be, solicits offers for Seller's Plant. If Seller determines that it is unable to complete the sale of Seller's Plant to a third Person on terms at least as favourable than those proposed by Buyer in the Offer, and the conditions referred to in Section 22.1 continue to exist, Seller will repeat the process contemplated in this Article 22, mutatis mutandis in order to allow Buyer an opportunity to submit a new offer to purchase Seller's Plant. In such event, if the Buyer fails to submit a new offer to purchase Seller's Plant within 90 days after receipt of the additional Notice under Section 21.1, Buyer will have no further rights under this Article 22.

ARTICLE 23
GENERAL

23.1 Independence

The Parties are independent contractors, and nothing in this EPA or its performance creates a partnership, joint venture, or agency relationship between the Parties.

23.2 Enurement

This EPA enures to the benefit of the Parties, their successors and their permitted assigns.

23.3 Entire Agreement

This EPA contains the entire agreement between the Parties for the sale, supply, acceptance, and purchase of electricity from Seller's Plant and supersedes all previous communications, understandings and agreements between the Parties with respect to the subject matter hereof.

There are no representations, warranties, terms, conditions, undertakings, or collateral agreements express, implied, or statutory between the Parties other than as expressly set out in this EPA.

23.4 Amendment

This EPA may not be amended except by an agreement in writing signed by both Parties.

23.5 No Waiver

Other than in respect of the specific matter or circumstance for which a waiver is given, and except as otherwise specified in this EPA, no failure by a Party to enforce, or require a strict observance and performance of, any of the terms of this EPA will constitute a waiver of those terms or affect or impair those terms or the right of a Party at any time to enforce those terms or to take advantage of any remedy that Party may have in respect of any other matter or circumstance.

23.6 Notices

Any notice, consent, waiver, declaration, request for approval or other request, statement, or invoice (collectively, a "**Notice**") that either Party may be required or may desire to give to the other Party under this EPA must be written and addressed to the other Party at the address for that Party stated in Schedule "A" and:

(a) notices under Article 11, Article 14, and Article 20 must be delivered by hand or by a courier service during normal business hours on a Business Day and a Notice so delivered will be deemed to have been delivered on that Business Day;

(b) all Notices other than Notices described in Section 23.6(a) may be delivered by email or other comparable electronic means during normal business hours on a Business Day and a Notice so delivered will be deemed to have been delivered on that Business Day; and

(c) either Party may change its address for Notices under Section 3 of Schedule "A" to this EPA by notice to the other Party.

23.7 Commodity Contract/Forward Contract

This EPA constitutes an "eligible financial contract" under the *Bankruptcy and Insolvency Act* (Canada) and *Companies' Creditors Arrangement Act* (Canada).

23.8 Further Assurances

Each Party will, upon the reasonable request of the other Party, do, sign or cause to be done or signed all further acts, deeds, things, documents, and assurances required for the performance of this EPA including, in the case of Seller, completing any registration process required in respect of Environmental Attributes as requested by Buyer.

23.9 Severability

Any provision of this EPA which is illegal or unenforceable will be ineffective to the extent of the illegality or unenforceability without invalidating the remainder of this EPA.

23.10 Counterparts

This EPA may be executed in counterparts, each of which is deemed to be an original document and all of which are deemed one and the same document.

[Signature Page Follows]

Each Party by its duly authorized representative(s) has executed this EPA on the Execution Date.

TLINGIT HOMELAND ENERGY LIMITED PARTNERSHIP by its general partner, TLINGIT HOMELAND ENERGY LIMITED

Per: _____
[Name] Chairman of Board
[Title]

Per: _____
[Name] PETER KIRBY
[Title] President + CEO

JAN 17 2022

YUKON ENERGY CORPORATION

Per: _____
[Name] Lesley Cabott
[Title] Chair

Per: _____
[Name] Andrew Hall
[Title] CEO

JAN 17 2022

SCHEDULE "A"

DEFINITIONS AND INTERPRETATION

1. DEFINITIONS

References in a Schedule to a Section mean a Section of this EPA, and not a Schedule, unless otherwise stated. The following words and phrases used in this EPA, and Schedules unless otherwise stated, have the following meanings:

1.1 "**Actual Dependable Capacity Payments**" has the meaning in Section 8.3.

1.2 "**Actual Dependable Plant Capacity Committed**" has the meaning in Section 8.3.

1.3 "**Added Load**" means for 2035, or any subsequent Year during the Term, the MWh of the generation required by Buyer above 388,000 MWh to supply Buyer customer load during the Winter Period, subject to a maximum Added Load of 68,000 MWh; prior to 2035, or in any Year when generation required by Buyer to supply Buyer customer loads during the Winter Period is less than 388,000 MWh, the Added Load is zero.

1.4 "**Additional Payment**" means, for any Year with an Added Load, the Additional Payment Price x Delivered Energy in kWh during the Winter Period in that Year.

1.5 "**Additional Payment Price**" means, for any Year with an Added Load, the price per kWh equal to [11.7% of (YUB Price) x Added Load]/30,800 MWh.

1.6 "**AEY**" means ATCO Electric Yukon, an electric utility operating in the Yukon Territory.

1.7 "**AEY System Upgrades**" means the Buyer-AEY System Upgrades to be located on the portion of the Buyer-AEY System that is owned and operated by AEY.

1.8 "**Affiliate**" means, with respect to any Party or any third Person, any Person directly or indirectly Controlled by, Controlling, or under common Control with, such Party or the third Person.

1.9 "**Annual Operating Plan**" means a 12-month operating plan for Seller's Plant provided by Seller to Buyer as required in Section 5.3 that will be consistent with Good Industry Practice and will be substantially in the form attached as Schedule "C", subject to such modifications thereto as may be reasonably required by Buyer.

1.10 "**APL**" means Atlin Power Limited, the general partner of XLP.

1.11 "**Assign**" or "**Assignment**" means to assign or dispose of this EPA or any direct or indirect interest in this EPA, in whole or in part, for all or part of the Term and, without limiting the foregoing, each of the following is deemed to be an Assignment of this EPA by Seller any:

(a) sale or other disposition of all or a substantial part of Seller's ownership interest in Seller's Plant, or of all or any interest of Seller in this EPA or revenue derived from this EPA;

(b) mortgage, pledge, charge, or grant of a security interest in this EPA or all or any part of Seller's Plant or Seller's ownership interest therein; and

(c) change of Control, merger, amalgamation, or reorganization of Seller.

1.12 "**Atlin**" means the town of Atlin, British Columbia.

1.13 "**Atlin Community Customer**" means a residential or commercial electricity customer located in Atlin, and does not include any Industrial Customer.

1.14 "**Audit Parties**" means the applicable Party conducting an audit under this EPA and its Affiliates, representatives, consultants, advisors and any other third Person retained in respect of the applicable audit.

1.15 "**Bankrupt or Insolvent**" means, for a Person:

(a) the Person has started proceedings to be adjudicated a voluntary bankrupt or consented to the filing of a bankruptcy proceeding against it;

(b) the Person has filed a petition or similar proceeding seeking reorganization, arrangement or similar relief under any bankruptcy or insolvency law;

(c) a receiver, liquidator, trustee or assignee in bankruptcy has been appointed for the Person or the Person has consented to the appointment of a receiver, liquidator, trustee or assignee in bankruptcy;

(d) the Person has voluntarily suspended the transaction of its usual business; or

(e) a court of competent jurisdiction has issued an order declaring the Person bankrupt or insolvent.

1.16 "**BC Hydro**" means British Columbia Hydro and Power Authority.

1.17 "**Business Day**" means any calendar day which is not a Saturday, Sunday, or Yukon Territory or British Columbia statutory holiday, or Dahk Ka Day a Taku River Tlingit traditional holiday falling on July 28 of each Year.

1.18 "**Buyer**" means the Party so identified on page one of this EPA and its successors and permitted assigns.

1.19 "**Buyer-AEY Planned Outage**" means an outage that is scheduled 60 days in advance for purposes of inspections, maintenance, or repair of Buyer-AEY System, that has a predetermined duration and scope of work, and occurs only in the Summer Period.

1.20 **"Buyer-AEY System"** means the electrical generation, transmission and distribution facilities and equipment that are owned and operated by Buyer or AEY as the Yukon Integrated System in the Yukon Territory as may be modified, replaced, or expanded from time to time and that are Interconnected to Seller's Plant at the POI and which include for greater certainty Buyer-AEY System Upgrades.

1.21 "**Buyer-AEY System Constraint**" means any disconnection of Seller's Plant from Buyer-AEY System, or any outage, suspension, constraint, or curtailment in the operation of Buyer-AEY System preventing or limiting deliveries of Delivered Energy at the POI or within the Buyer-AEY System or any direction from Buyer to Seller to reduce generation of Seller's Plant as a result of any outage, suspension, constraint, or curtailment in the operation of the Buyer-AEY System.

1.22 "**Buyer-AEY System Interconnection Standards**" means those system interconnection standards to be attached to the Interconnection Agreement as a Schedule.

1.23 "**Buyer-AEY System Interconnection Study Report**" means the detailed Interconnection study to be attached to the Interconnection Agreement as a Schedule, and that is issued to Seller by Buyer under the Interconnection Agreement which, among other things:

(a) evaluates the impact of Seller's Plant on the reliability of Buyer-AEY System; and

(b) provides a planning-level estimate of the required Buyer-AEY System Upgrades and associated costs.

1.24 "**Buyer-AEY System Upgrades**" means additions, modifications, and upgrades to the Buyer-AEY System that are determined by the Buyer-AEY System Interconnection Study Report and required to facilitate the Interconnection and to allow the Buyer-AEY System to support the integration of the Energy produced by Seller's Plant under this EPA and Buyer-AEY System Interconnection Standards, the scope of which Buyer-AEY System Upgrades are agreed to by the Parties and AEY as part of the Condition Precedent in Section 2.1(d)(i), including the Meter, but excluding the Interconnection Substation.

1.25 "**Buyer-AEY System Upgrade Costs**" means all costs incurred for the design, engineering, procurement, construction, installation, and commissioning of the Buyer-AEY System Upgrades, including applicable studies reasonably required by Buyer, which in the case of the budgeted costs of the AEY System Upgrades will be agreed to by the Parties if the Condition Precedent in Section 2.1(b)(ii) has been satisfied, and which in all cases will exclude any Interconnection Substation Costs.

1.26 "**Buyer's COD**" means the date when Buyer-AEY System Upgrades have been completed and the Buyer-AEY System is capable of accepting Delivered Energy at the POI under this EPA and Buyer, acting reasonably, gives Notice of completion of same to Seller.

1.27 "**Buyer's System**" means the portion of the Buyer-AEY System owned and operated by Buyer.

1.28 "**Buyer Confidential Information**" means any and all technical, commercial, or other information disclosed by Buyer to Seller under this Agreement, including Buyer-AEY System Interconnection Standards, but excluding:

(a) this EPA; and

(b) information that is:

i. or becomes in the public domain, other than as a result of a breach of this EPA by Seller, or

ii. known to Seller before disclosure to it by Buyer, or becomes known to Seller, thereafter by way of disclosure to Seller by any other Person who is not under an obligation of confidentiality with respect thereto.

1.29 "**Buyer Indemnified Parties**" means Buyer and Buyers' Affiliates, directors, officers, employees, shareholders, agents, representatives, and each of their respective heirs, executors, administrators, successors, and permitted assigns.

1.30 "**Buyer's Target COD**" means the target date for achieving Buyer's COD, being the date specified in Schedule "B", as may be advanced under Buyer-AEY System Interconnection Report or extended under Section 4.2, if applicable.

1.31 "**Buyer Termination Event**" means an event under Section 14.1 which entitles Buyer to terminate this EPA.

1.32 **"Capacity Shortfall"** has the meaning in Section 8.3.

1.33 "**Carbon Charge**" means, for any Year, any carbon tax or like charge, converted if necessary to dollars per KWh, that is most recently approved by the YUB when approving rates to be charged by Buyer. In any Year when the YUB approves more than one Carbon Charge, an average Carbon Charge for the Year will be determined based on the applicable Delivered Energy related to each Carbon Charge.

1.34 "**Carbon Charge Saving**" means the amount per KWh in any Year that equals the lesser of:

(a) 50% of the Carbon Charge; and

(b) the YUB Price less ($0.19/KWh times Half Inflation Index), subject to not being less than zero.

1.35 "**Carbon Charge Saving Payment**" means a payment by Buyer to Seller for a Winter Period equal to the Carbon Charge Saving for the Winter Period in a Year times the following:

(a) for 2024 or any subsequent Year prior to 2035 during the Term, 63.5% of Delivered Energy in KWh during the Winter Period in that Year; and

(b) for 2035 or any subsequent Year during the Term, 48.7% of Delivered Energy in KWh during the Winter Period in that Year.

1.36 "**Claim**" means any demand, action, suit, proceeding, grievance, arbitration, assessment, reassessment, judgment, settlement, or compromise relating thereto.

1.37 "**COD**" means the relevant commercial operation date as determined under this EPA.

1.38 "**COD Certificate**" means a certificate substantially in the form attached as Schedule "E" for Phase One Seller's COD, signed by a senior officer of Seller.

1.39 "**Condition Dates**" means the date specified in Section 2.1 for a given Condition Precedent.

1.40 "**Conditions Precedent**" means those conditions precedent set out in Section 2.1(d).

1.41 "**Constraint Shortfall Energy**" has the meaning in Schedule "F".

1.42 "**Control**" of any Person means:

(a) for any corporation or other Person having voting shares or the equivalent, the ownership or power to vote, directly or indirectly, shares, units or the equivalent, representing 50% or more of the power to vote in the election of directors, managers, or Persons performing similar functions;

(b) ownership of 50% or more of the equity or beneficial interest in that Person; or

(c) the ability to direct the business and affairs of any Person by acting as a general partner, manager, or otherwise.

1.43 **"CPI"** means the Consumer Price Index for Canada, All Items (Not Seasonally Adjusted) as published by Statistics Canada in table 18-10-0004-01 or its equivalent substitute or replacement as agreed to by the Parties, acting reasonably. For clarity, the CPI index value for January, 2019 is 133.6.

1.44 **"Days in Peak Winter Period"** means 76 days in a leap year, otherwise 75 days.

1.45 "**Delivered Energy**" means in each month after Buyer's COD the amount of Energy delivered in KWh by Seller to Buyer at the POI in that month as recorded by the Meter or if a Party disputes the accuracy of the Meter the amount of Delivered Energy determined under Section 3.8.

1.46 "**Dependable Capacity Excess Payment**" has the meaning in Section 8.3.

1.47 "**Dependable Capacity Excess Payment Account**" has the meaning in Section 8.3.

1.48 "**Dependable Capacity Payment**" means the amount for a Peak Winter Period payable by Buyer to Seller for each of December, January and February for Dependable Plant Capacity Committed, which Dependable Capacity Payment for each of these months in the Peak Winter Period that commences in Year "N" is determined as follows:

Dependable Capacity Payment = Dependable Capacity $Price_N$ / Days in Peak Winter $Period_N$ * Dependable Plant Capacity $Committed_N$, * number of days in the month for which the payment is being made.

1.49 "**Dependable Capacity Price**" means the annual amount per KW for a Peak Winter Period payable by Buyer to Seller for Dependable Plant Capacity Committed, which Dependable Capacity Price for the Peak Winter Period that commences in Year "N" is determined as follows:

Dependable Capacity Price = \$200 * ($CPI_{Dec\ N}$ / $CPI_{Dec\ 2023}$).

Where "$CPI_{Dec\ N}$" is the CPI Index value for December in the Peak Winter Period that commences in Year N;

And $CPI_{Dec\ 2023}$ is the CPI Index value for the same index in December 2023.

1.50 "**Dependable Capacity Provided**" means, for a Peak Winter Period, the average KW provided to Buyer at the POI during the Peak Winter Period, determined as follows:

(a) the sum of all Delivered Energy and any Monthly Constraint Energy in KWh that occur during the Peak Winter Period at times when 100% of Dependable Plant Capacity Committed is to be provided by Seller under the Operating Rules, divided by:

(b) Days in Peak Winter Period times 24 hours per day less any hours during the Peak Winter Period that Seller's Plant operated at less than 100% of Dependable Plant Capacity Committed under the following conditions:

i. under Sections 3(b)(i) or 3(b)(iii) of the Operating Rules; up to a maximum of 168 hours during a Peak Winter Period; or

ii. under Section 3(b)(ii) of the Operating Rules during days that Buyer selected operation of Seller's Plant at less than 100% of Dependable Plant Capacity Committed.

1.51 "**Dependable Plant Capacity**" means the amount specified in KW, as measured at the POI, provided by Seller to Buyer when:

(a) Seller, following the Operating Rules, is required to provide Dependable Plant Capacity Committed to Buyer; or

(b) Seller conducted a Dependable Plant Capacity Test.

1.52 "**Dependable Plant Capacity Committed**" or "**DPCC**" means the Dependable Plant Capacity in KW up to a maximum of 8,500 KW that is confirmed at the later of Phase One Seller's COD or Phase Two Seller's COD, unless reduced for a Peak Winter Period as provided for in a Dependable Plant Capacity Test under Section 5.5 or Notice under Section 6.2.

1.53 "**Dependable Plant Capacity Test**" means the average KW Dependable Plant Capacity that Seller provides to Buyer as a test over one continuous 24 hour period, determined by the sum of all Energy delivered at the POI during the continuous 24 hour period divided by 24.

1.54 "**Development Progress Report**" means a written report describing Seller's progress of the financing, design, engineering, construction, Interconnection, and commissioning of Seller's Plant, that is in form and content acceptable to Buyer, acting reasonably.

1.55 "**Discretion**" (whether or not capitalized) means sole, absolute, and unfettered discretion unless this EPA expressly states otherwise.

1.56 "**Dispute**" has the meaning in Section 18.1.

1.57 "**Dispute Resolution**" has the meaning in Section 18.1.

1.58 "**Effective Date**" means the date on which all Conditions Precedent have been satisfied or waived under Section 2.1.

1.59 "**Execution Date**" means the date on which this EPA has been fully executed by each of the Parties, which date is set out on page one of this EPA.

1.60 "**Energy**" means all electrical energy expressed in KWh generated by Seller's Plant.

1.61 "**Environmental Attributes**" means the following as attributable to Delivered Energy under this EPA:

(a) all attributes directly associated with, or that may be derived from, the Delivered Energy delivered by Seller to Buyer under this EPA having decreased environmental impacts relative to certain other generation facilities or technologies including any existing or future credit, allowance, "green" tag, ticket, certificate or other "green" marketing attribute or proprietary or contractual right, whether or not tradeable;

(b) any credit, reduction right, offset, allowance, allocated pollution right, certificate or other unit of any kind whatsoever, whether or not tradeable and any other proprietary or contractual right, whether or not tradeable, resulting from, or otherwise related to the actual or assumed reduction, displacement or offset of emissions at any location other than Seller's Plant as a result of the generation, purchase, or sale of the Delivered Energy delivered by Seller to Buyer under this EPA;

(c) any credit, reduction right, off-set, allowance, allocated pollution right, certificate, or other unit of any kind whatsoever whether or not tradeable resulting from or otherwise related to the reduction, removal, or sequestration of emissions at or from Seller's Plant; and

(d) all revenues, entitlements, benefits, and other proceeds arising from or related to the foregoing, but for certainty not including:

i. benefits or proceeds from environmental incentive programs offered by Governmental Authorities that do not require a transfer of the attributes in Sections 1.61(a) to (c); and

ii. benefits or proceeds from social programs, including programs relating to northern or rural development, employment or skills training, or First Nations, that do not require a transfer of the attributes in Sections 1.61(a) to (c).

1.62 "**Environmental Certification**" means any certification Buyer requires Seller to obtain under Section 9.1.

1.63 "**EPA**" has the meaning on page one.

1.64 "**Existing EPA**" has the meaning in Section 1 of Schedule "B".

1.65 "**Existing Plant**" has the meaning in Section 1 of Schedule "B".

1.66 "**Facility Lender**" means any lender(s) providing any debt financing or debt hedging facilities for the design, engineering, construction, and/or operation of Seller's Plant and any successors or assigns thereto and any Person taking any mortgage, pledge, charge, or grant of a security interest in all or any part of Seller's Plant and/or this EPA.

1.67 "**Facility Lender Consent Agreement**" means a facility lender consent agreement to be entered into between the Parties and the Facility Lender.

1.68 "**Final Amount**" means an amount owing by either Party to the other Party under this EPA, including as a result of a breach of this EPA, where such amount is:

(a) undisputed by the Party owing such amount; or has been finally determined by an arbitration award under Section 18.1; or

(b) by a court order and all rights of appeal in respect of such award or order have been exhausted or have expired.

1.69 "**Firm Winter Energy Price**" means the price paid for the first 25.2 GWh in the aggregate of Delivered Energy and Monthly Constraint Energy during a Winter Period. For the period from the earlier of Phase One Seller's COD or Phase Two Seller's COD to December 31, 2034 the Firm Winter Energy Price is:

$0.132/KWh in Year 2024, and for each subsequent Year $0.132/KWh * Half Inflation Index.

For the period from January 2035 until the end of Term, the Firm Winter Energy Price for the relevant Year is:

in Year 2035 and for each subsequent Year $0.107/KWh* Half Inflation Index.

1.70 "**First Nations Claim**" means any claim in a Canadian Court of competent jurisdiction from or on behalf of First Nations where such claim alleges a breach of any First Nations' Treaty rights, rights under a Settlement Agreement (as that term is defined in the Yukon Umbrella Final Agreement), or rights under Section 35 of the *Constitution Act*, 1982, by:

(a) this EPA;

(b) Seller's Plant;

(c) the Interconnection or any works related to the Interconnection; or

(d) any Permit or Regulatory Agency Authorizations;

but specifically excluding Buyer-AEY System.

1.71 "**First Nations**" means any First Nations with traditional territory in British Columbia or any one of the 14 First Nations in the Yukon Territory.

1.72 "**Force Majeure**" means any event or circumstance not within the reasonable control of the Party, or any of its Affiliates, claiming Force Majeure, and to the extent not within that Party's or Affiliate's reasonable control, includes:

(a) acts of God, including wind, ice and other storms, lightning, floods, earthquakes, volcanic eruptions, and landslides;

(b) strikes, lockouts, and other industrial disturbances, provided that settlement of strikes, lockouts, and other labour disturbances will be wholly within the Discretion of the Party involved;

(c) epidemics, pandemics, war (whether or not declared), blockades, acts of public enemies, acts of sabotage, civil insurrection, riots, and civil disobedience; or

(d) explosions and fires;

but does not include:

(e) any refusal, failure, or delay of any Governmental Authority in granting any Permit or Regulatory Agency Authorization to Seller, whether or not on terms and conditions that permit Seller to perform its obligations under this EPA, except where such failure or delay is a result of an event described in Sections 1.72(a), (b), (c), or (d) above;

(f) economic hardship or lack of money, credit, or markets;

(g) an event or circumstance that is the result of a breach by the Party seeking to invoke Force Majeure of a Permit, Regulatory Agency Authorization, or Laws;

(h) a mechanical breakdown or control system hardware or software failure, unless the Party seeking to invoke Force Majeure can demonstrate by clear and convincing evidence that the breakdown or failure was caused by a latent defect in the design or manufacture of the equipment, hardware or software, which could not reasonably have been identified by normal inspection or testing of the equipment, hardware, or software;

(i) an event or circumstance caused by a breach of, or default under, this EPA or a willful or negligent act or omission by the Party seeking to invoke Force Majeure;

(j) any Buyer-AEY System Constraint unless such event is caused by an event or circumstance not within the reasonable control of Buyer; or

(k) any acts or omissions of:

i. any Affiliate, employee, director, officer, agent or other representative of the Party invoking Force Majeure;

ii. any vendor, supplier, contractor, subcontractor, consultant, or customer of or to the Party invoking Force Majeure; or

iii. any other Person for whom the Party invoking Force Majeure is responsible at law, unless the act or omission is caused by an event or circumstance that would constitute Force Majeure if the Person described above was a party to this EPA in place of a Party invoking Force Majeure.

1.73 "**Forced Outage**" means a partial or total interruption of the ability to deliver, or accept delivery of Energy that is not the result of a Buyer-AEY Planned Outage, Seller Planned Outage, Maintenance Outage, or a Force Majeure.

1.74 "**Funding Plan**" has the meaning in Section 2.1(d)(iii).

1.75 "**Good Industry Practice**" means, for:

(a) Buyer, any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition; provided such practices, methods and acts are not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in the Western Canada; and

(b) Seller, any of the practices, methods, and acts engaged in or approved by a significant portion of the electric generation industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition; provided such practices, methods and acts are not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in Western Canada.

1.76 "**Governmental Authority**" means any federal, provincial, local, territorial, or foreign government or any of their boards or agencies, or any regulatory authority other than Buyer and Seller and entities controlled by Buyer or Seller.

1.77 "**GST**" means the goods and services tax imposed under the *Excise Tax Act* (Canada) as that Act may be amended or replaced from time to time.

1.78 "**GW**" means a gigawatt.

1.79 "**GWh**" means a gigawatt hour.

1.80 "**Half Inflation Index**" means an inflator value for each Year calculated as follows using the CPI Index based in 2023:

$$= (CPI_{Dec,\ N} / CPI_{2023})-1) \times 0.5 +1$$

Where $CPI_{Dec,\ N}$ is the CPI Index value for December prior to the Year N in which the Half Inflation Index is to be calculated

And CPI_{2023} is the CPI Index value for the same index in December 2023.

1.81 "**ICC Rules**" has the meaning in Section 18.5.

1.82 "**Indemnitee**" has the meaning in Section 16.3.

1.83 "**Indemnitor**" has the meaning in Section 16.3.

1.84 "**Industrial Customer**" means a customer engaged in manufacturing, processing, or mining whose peak demand for electricity exceeds 1 MW.

1.85 "**Interconnection**" or "**Interconnect**" means the act of interconnecting Seller's Plant with the Buyer-AEY System at the POI, as identified on the Single Line Diagram.

1.86 "**Interconnection Agreement**" means the interconnection agreement to be entered into among Seller, Buyer, and AEY, including Buyer-AEY System Interconnection Study Report, Buyer-AEY System Interconnection Standards, and the Joint Operating Procedure attached as Schedules to the Interconnection Agreement.

1.87 "**Interconnection Substation**" means the electrical substation as described in Section 1(g) of Schedule "B", located in the immediate vicinity of the POI at Jakes Corner, Yukon Territory, to be designed, engineered, procured, constructed, installed, commissioned, and owned by Seller as part of Seller's Plant and which is identified in Buyer-AEY System Interconnection Study Report.

1.88 "**Interconnection Substation Costs**" means all costs incurred by Seller for the design, engineering, procurement, construction, installation, commissioning, and ownership of the Interconnection Substation, including:

(a) Electrical facilities at the Interconnection Substation requested by Buyer, acting reasonably, the cost of which will be borne by Seller; and

(b) Studies for the Interconnection Substation in addition to Buyer-AEY System Interconnection Study Report as may be requested by Buyer, acting reasonably, the cost of which will be borne by Seller,

an estimate of which Interconnection Substation Costs are set out in Buyer-AEY System Interconnection Study Report.

1.89 "**Joint Operating Procedure**" means the joint operating procedure that is to be attached to the Interconnection Agreement as a Schedule, and as may be modified by the parties to the Interconnection Agreement from time to time.

1.90 "**KW**" means a kilowatt.

1.91 "**KWh**" means a kilowatt-hour.

1.92 "**Laws**" means any and all statutes, laws (including common law), ordinances, rules, regulations, codes, orders, bylaws, policies, directions, standards, guidelines, protocols, including any lawful requirements of any Governmental Authority in effect from time to time.

1.93 "**Loss**" means any and all loss, liability, damage, cost or expense, including the costs and expenses of any Claim and all interest, punitive damages, fines and penalties and reasonable legal fees and expenses incurred in connection therewith.

1.94 "**Lower Powerhouse**" has the meaning in Section 1(f) of Schedule "B".

1.95 "**Maintenance Outage**" means a partial or total interruption of the ability to deliver or accept delivery of Delivered Energy that is not the result of a Buyer-AEY Planned Outage, Seller Planned Outage, Forced Outage, or Force Majeure that typically has a flexible start and end time and is of shorter duration than a Seller Planned Outage or Buyer Planned Outage.

1.96 "**Meter**" has the meaning in Section 3.8(a).

1.97 "**Monthly Constraint Energy**" has the meaning in Schedule "F".

1.98 "**MW**" means a megawatt.

1.99 "**MWh**" means a megawatt hour.

1.100 "**Non-Firm Winter Energy Price**" means the price paid for Delivered Energy and Monthly Constraint Energy that in the aggregate for a Winter Period is in excess of 25.2 GWh. For the period from the earlier of Phase One Seller's COD or Phase Two Seller's COD through December 31, 2034 the Non-Firm Winter Energy Price is:

> $0.072/KWh in Year 2024, and for each subsequent Year $0.072/KWh * Half Inflation Index.

For the period from January 1, 2035 until the end of Term the Non-Firm Winter Energy Price is:

> in Year 2035 and for each subsequent Year $0.027/KWh * Half Inflation Index.

1.101 "**Non-Permitted System Constraint**" has the meaning in Section 6.5.

1.102 "**Notice**" has the meaning in Section 23.6.

1.103 "**Notice of Dispute**" has the meaning in Section 18.2.

1.104 "**Offer**" has the meaning in Section 22.2.

1.105 "**Operating Rules**" has the meaning in Section 5.4 and Schedule "D".

1.106 "**Outage**" means a Forced Outage, Maintenance Outage, Buyer-AEY Planned Outage, or Seller Planned Outage.

1.107 "**Outage Notice**" means a Notice of any Outage or revised Notice of any Outage required to be delivered by Seller to Buyer or Buyer to Seller under this EPA that describes the timing, frequency, nature, and duration of the Outage and that is in a format that may be prescribed by Buyer from time to time.

1.108 "**Party**" means Buyer or Seller, and "**Parties**" means both Buyer and Seller.

1.109 "**Peak Winter Period**" or "**PWP**" means the period from the start of December 16 of one Year to the end of February of the following Year.

1.110 "**Peak Winter Period Operating Constraints**" has the meaning in Section 3(b) of Schedule "D".

1.111 "**Penstock**" has the meaning in Section 1(c) of Schedule "B".

1.112 "**Permits**" means permits, certificates, licences, approvals, and other authorizations issued by any Governmental Authorities or First Nations as may be required for the design, construction, ownership, operation, maintenance, and decommissioning of:

(a) Seller's Plant and the delivery of Dependable Plant Capacity Committed and Delivered Energy to the POI; and

(b) Buyer-AEY System Upgrades.

1.113 "**Person**" means an individual, body corporate, firm, partnership, joint venture, trust, legal representative or other legal entity.

1.114 "**Phase One**" means all of Seller's Plant, including without limitation, the Upper Pine Creek Powerhouse, the Pine Creek Substation, the Transmission Line, the Interconnection Substation, and all associated assets and infrastructure comprising Seller's Plant, but excluding the Lower Powerhouse.

1.115 "**Phase One Seller's COD**" means the date when Phase One has achieved COD under this EPA.

1.116 "**Phase One Seller's Target COD**" means the target date for achieving Phase One Seller's COD, being the date specified for such term in Schedule "B", as may be extended under Section 4.2, if applicable.

1.117 "**Phase Two**" means all of Seller's Plant, including without limitation, the Lower Powerhouse, the Interconnection Substation, the Pine Creek Substation, the Transmission Line, and all associated assets and infrastructure comprising Seller's Plant, but excluding the Upper Powerhouse.

1.118 "**Phase Two Seller's COD**" means the date when Phase Two has achieved COD under this EPA.

1.119 "**Phase Two Seller's Target COD**" means the target date for achieving Phase Two Seller's COD, being the date specified for such term in Schedule "B", as may be extended under Section 4.2, if applicable.

1.120 "**Pine Creek Substation**" has the meaning in Section 1(g) of Schedule "B".

1.121 "**POI**" means the point at which Seller's Plant Interconnects with the Buyer-AEY System, as identified on the Single Line Diagram.

1.122 "**Potential Impacts**" means any adverse or potentially adverse impact on the established or potential aboriginal rights (including title) of First Nations from:

(a) this EPA;

(b) the design, engineering, procurement, construction, operation, repair, maintenance, or decommissioning of Seller's Plant;

(c) the Interconnection of Seller's Plant to Buyer-AEY System, including the Interconnection Substation; or

(d) any activities directly related to Seller's Plant that enable Seller to comply with its obligations under this EPA that are carried out by Seller, any Affiliate, consultant, or contractor of Seller, or any other Person for whom Seller is responsible at Law.

1.123 "**Power Canal**" has the meaning in Section 1(c) of Schedule "B".

1.124 "**Prime Rate**" means the floating prime interest rate announced from time to time by the main branch of Bank of Montreal in Whitehorse, Yukon Territory, or any successor thereto, expressed as an annual rate, as the reference rate it will use to determine rates of interest payable on Canadian dollar commercial loans made in Canada.

1.125 "**Public Utilities Act**" means the *Public Utilities Act* (Yukon Territory) and any successor or replacement legislation.

1.126 "**Records**" means all records and logs required to properly administer this EPA, including:

(a) Energy generation records and operating logs;

(b) Meter readings;

(c) maintenance reports;

(d) invoice support records;

(e) documents concerning compliance with Project Standards, but excluding any such documents that are protected by solicitor-client privilege;

(f) records related to Buyer-AEY System Upgrade Costs;

(g) all information reasonably required to establish the amount of Energy Seller could have sold during a Buyer-AEY System Constraint including logs of all Outages of Seller's Plant and other reductions in Energy output (specifying the date, time, duration and reasons for each such outage and each reduction in Energy output); and

(h) information relating to the Environmental Certification, information relating to the existence, nature and quality of Environmental Attributes, information required for the purposes of any Environmental Attributes or energy certification or tracking system, and

any other information Buyer requires to enable it or any of its Affiliates to obtain and realize the benefit of the Environmental Attributes;

all consistent with Good Industry Practice.

1.127 **"Regulatory Agency Authorizations"** means the issuance of those Permits which are specified as required for Seller's Plant in the YESAB assessment report recommendation to proceed issued in respect of Seller's Plant.

1.128 **"Seller"** means the Party so identified on page one of this EPA, and its successors and permitted assigns.

1.129 **"Seller Confidential Information"** means any of Seller's confidential technical or financial information provided by Seller to Buyer in confidence with express written notice to Buyer of the confidential nature of the information, but excluding:

(a) this EPA; and

(b) information that is:

i. or becomes in the public domain, other than as a result of a breach of this EPA by Buyer; or

ii. known to Buyer before disclosure to it by Seller, or becomes known to Buyer thereafter by way of disclosure to Buyer by any other Person who is not under an obligation of confidentiality with respect thereto.

1.130 **"Seller Indemnified Parties"** means Seller and Seller's Affiliates, directors, officers, employees, shareholders, agents, representatives, and each of their respective heirs, executors, administrators, successors, and permitted assigns.

1.131 **"Seller's Meter"** has the meaning in Section 3.8(c).

1.132 **"Seller Planned Outage"** means an outage that is scheduled 60 days in advance for purposes of inspections, maintenance, or repair of Seller's Plant, that typically has a predetermined duration and scope of work, and occurs only in the Summer Period.

1.133 **"Seller's Plant"** means:

(a) Seller's plant described in Schedule "B"; and

(b) all replacement parts or equipment which are of the same or similar nature as the parts or equipment being replaced and which do not materially increase the amount of Energy available from Seller's Plant.

1.134 **"Seller's Plant Standards"** means:

(a) all applicable Laws;

(b) the terms and conditions of all Permits, Regulatory Agency Authorizations, including land tenure agreements, issued in connection with Seller's Plant;

(c) Good Industry Practice;

(d) Seller's Plant described in Schedule "B"; and

(e) the terms and conditions of this EPA.

1.135 "**Seller Termination Event**" means an event under Section 14.3 which entitles Seller to terminate this EPA.

1.136 "**Senior Management Executives**" has the meaning in Section 18.3.

1.137 "**Single Line Diagram**" means the simplified electrical representations of Seller's Plant, the POI, and Buyer-AEY System attached in Schedule "B".

1.138 "**Summer Delivered Energy**" means in a Year the Delivered Energy provided during the Summer Period in response to a request from Buyer for such Delivered Energy.

1.139 "**Summer Delivered Energy Payment**" means in a Year the Summer Delivered Energy for the Year times the Summer Energy Price for the Year.

1.140 "**Summer Energy Price**" means in the relevant Year 50% of the YUB Price in effect the Summer Period.

1.141 "**Summer Period**" means, in any Year, the period of June 1st through August 31st inclusive.

1.142 "**Term**" has the meaning in Section 2.2.

1.143 "**Transmission Line**" has the meaning in Section 1(g) of Schedule "B".

1.144 "**Upgrade Costs Advance**" has the meaning in Section 3.6(a)(i).

1.145 "**Upper Pine Creek Control Structure**" has the meaning in Section 1(b) of Schedule "B".

1.146 "**Upper Powerhouse**" has the meaning in Section 1(e) of Schedule "B**".**

1.147 **"Winter Period"** means, in any Year, the period from January through May plus the period from September through December inclusive, provided in the last Year of the Term the Winter Period will end on May 31 of such Year.

1.148 "**XLP**" has the meaning in Section 1 of Schedule "B".

1.149 "**Year**" means a calendar year during the Term and in the case of the first and last Year of the Term and in the event of an early termination of this EPA means a portion of a Year.

1.150 "**YESAA**" means the *Yukon Environmental and Socio-economic Assessment Act*, SC 2003, c 7.

1.151 "**YESAB**" means the Yukon Environmental and Socio-economic Assessment Board.

1.152 "**YUB**" means the Yukon Utilities Board and any successor thereto appointed from time to time under the *Public Utilities Act*.

1.153 "**YUB Price**" means in any Year the average blended fuel price, converted if necessary to dollars per KWh, including any Carbon Charge, for thermal generation by Buyer most recently approved by the YUB when approving rates to be charged by Buyer. In any Year when the YUB approves more than one YUB Price, an average YUB Price will be determined based on the applicable Delivered Energy related to each YUB Price. Should Buyer cease to have a fuel price per KWh for thermal generation approved by the YUB, then the most recent YUB Price will be increased each Year in accordance with 50% of the percentage increase in the CPI for that Year.

2. INTERPRETATION

2.1 **Headings** - The division of this EPA into Articles, Sections, and Schedules and the insertion of headings are for convenience of reference only and do not affect the interpretation of this EPA.

2.2 **Plurality and Gender** - Words in the singular include the plural and vice versa. Words importing gender include the masculine, feminine, and neuter genders.

2.3 **Governing Law** - This EPA is made under, and will be interpreted under, the Laws of the Yukon Territory.

2.4 **Industry Terms** - Technical or industry specific phrases or words not otherwise defined in this EPA have the well-known meaning given to those terms as of the date of this EPA in the industry or trade in which they are applied or used.

2.5 **Statutory References** - Reference to a statute means, unless otherwise stated, the statute and regulations, if any, under that statute, in force from time to time, and any statute or regulation passed and in force which has the effect of supplementing or superseding that statute or those regulations.

2.6 **Currency** - References to dollars or $ means Canadian dollars, unless otherwise stated.

2.7 **Reference Indices** - If any index, tariff or price quotation referred to in this EPA ceases to be published, or if the basis therefor is changed materially, there will be substituted an available replacement index, tariff or price quotation that most nearly, of those then publicly available, approximates the intent and purpose of the index, tariff or quotation that has so ceased or changed. This EPA will be amended as necessary to accommodate such replacement index, tariff or price quotation, all as determined by written agreement between the Parties, or failing agreement, by arbitration under Section 18.1.

2.8 **Conversions** - If a value used in a calculation in this EPA must be converted to another unit of measurement for purposes of consistency or to achieve a meaningful answer, the value will be converted to that different unit for purposes of the calculation.

2.9 Additional Interpretive Rules - For the purposes of this EPA, except as otherwise expressly stated:

(a) "this EPA" means this EPA as it may from time to time be supplemented or amended and in effect, and includes the Schedules attached to this EPA;

(b) the words "herein", "hereof", and "hereunder" and other words of similar import refer to this EPA as a whole and not to any particular section, Section or other subdivision;

(c) the word "including" or "includes" is not limiting whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto;

(d) the word "month" means a calendar month;

(e) any consent, approval, or waiver contemplated by this EPA must be written and signed by the Party against whom its enforcement is sought, and may be given, withheld, or conditioned in the Discretion of the Party of whom it is requested, unless otherwise expressly stated;

(f) all rights and remedies of either Party under this EPA are cumulative and not exclusive of any other remedies to which either Party may be lawfully entitled, and either Party may pursue any and all of its remedies concurrently, consecutively, and alternatively; and

(g) any notice required to be given, or other thing required to be done, under this EPA on or before a day that is not a Business Day, will be deemed to be given or done when required hereunder if given or done on or before the next following Business Day.

3. ADDRESSES FOR NOTICES

3.1 Notices to Buyer - All Notices addressed to Buyer will be delivered to the following addresses:

To: Yukon Energy Corporation
P.O. Box 5920
#2 Miles Canyon Road
Whitehorse, YT Y1A 6S7
Attention: Andrew Hall, President and C.E.O.
Email: Andrew.Hall@yec.yk.ca

with a copy to:

DLA Piper (Canada) LLP
2800 - 666 Burrard Street
Vancouver, BC V6C 2Z7
Attention: John Landry
Email: john.landry@dlapiper.com

3.2 **Notices to Seller** - All Notices addressed to Seller will be delivered to the following address:

To: Tlingit Homeland Energy Limited Partnership,
a British Columbia limited partnership by its general partner, Tlingit Homeland Energy Limited

P.O. Box 408
Atlin, BC
V0W 1A0
Attention: Peter Kirby
Email: corporatetlingitpeter@gmail.com

SCHEDULE "B"

SELLER'S PLANT DESCRIPTION

SELLER'S PLANT

1. **Seller's Plant Description:**

Seller's Plant will be located on Pine Creek at Atlin, B.C., where Xeitl Limited Partnership ("**XLP**"), by its general partner, APL, an independent power producer which is an Affiliate of Seller, owns and operates an existing 2.1 MW power plant (the "**Existing Plant**") with an electricity purchase agreement between BC Hydro and Taku Land Corporation dated November 21, 2006 (the "**Existing EPA**"), which Existing EPA was assigned to XLP whereby XLP has an obligation to provide BC Hydro up to 8.3 GWh/Year by 2033. Seller expects that XLP and BC Hydro will negotiate a new electricity purchase agreement to replace the Existing EPA which may change the annual energy delivery requirements under the Existing EPA. Seller's Plant will be separate from the Existing Plant, but will utilize the same Surprise Lake storage (expanded with Seller's Plant) and Pine Creek water flows.

Seller's Plant includes:

(a) **Surprise Lake Control Structure Upgrade** - An upgrade to increase Surprise Lake storage within the existing water licence levels, from the existing 1.1 m to 2.0 m storage (the "**Surprise Lake Control Structure**");

(b) **Upper Pine Creek Control Structure** - A new control structure on Pine Creek (the "**Upper Pine Creek Control Structure**"), approximately 2.5 km downstream of the Surprise Lake Control Structure at the existing canal inlet, to control inflows from Pine Creek into the Power Canal;

(c) **Power Canal** - A power canal (the "**Power Canal**") which is the approximately 7.8 km redeveloped abandoned placer mining ditch that conveys water from the Upper Pine Creek Control Structure to the penstock intake for the Upper Powerhouse;

(d) **Penstock** - The approximately 4.7 km length penstock (the "**Penstock**") connects the Power Canal to the Upper Powerhouse;

(e) **Upper Power Plant Expansion** – A new powerhouse (the "**Upper Powerhouse**") with installed generating capacity of approximately 6.0 MW with two new units adjacent to the Existing Plant with switchyard, expanded tailrace channel, new intake structure at the end of the Power Canal, and Penstock;

(f) **Lower Powerhouse Plant** – A new powerhouse (the "**Lower Powerhouse**") with installed generating capacity of approximately 2.7 MW in one unit on lower Pine Creek with new tailrace canal, excavated headpond with overflow spillway and closing dam, new 600 m power canal and approximately 3.3 km long penstock, and transmission line

linking the upper and lower power houses to a common substation adjacent to the Existing Plant; and

(g) **Transmission Line and Two Substations** – A 69 kV transmission line of approximately 92 km length (the "**Transmission Line**"), with 95% within the existing right of way of the Atlin Road, connecting the substation for Phase One and Phase Two at Pine Creek (the "**Pine Creek Substation**") with the Interconnection Substation. The Interconnection Substation will be constructed to facilitate deliveries of Energy and provide Dependable Plant Capacity Committed from Seller's Plant to the existing 34.5 kV Buyer-AEY System. Prior to completion of the Interconnection Substation, the Parties intend to examine modifications to the Interconnection Substation design to accommodate potential future deliveries of Energy and provision of Dependable Plant Capacity to a new 69 kV Buyer-AEY System, estimate costs required for such modifications, and determine if agreement can be reached between the Parties as to Buyer funding these costs in order that Seller can modify the Interconnection Substation as so required.

Please refer to Seller's Single Line Diagram in Exhibit B-1.

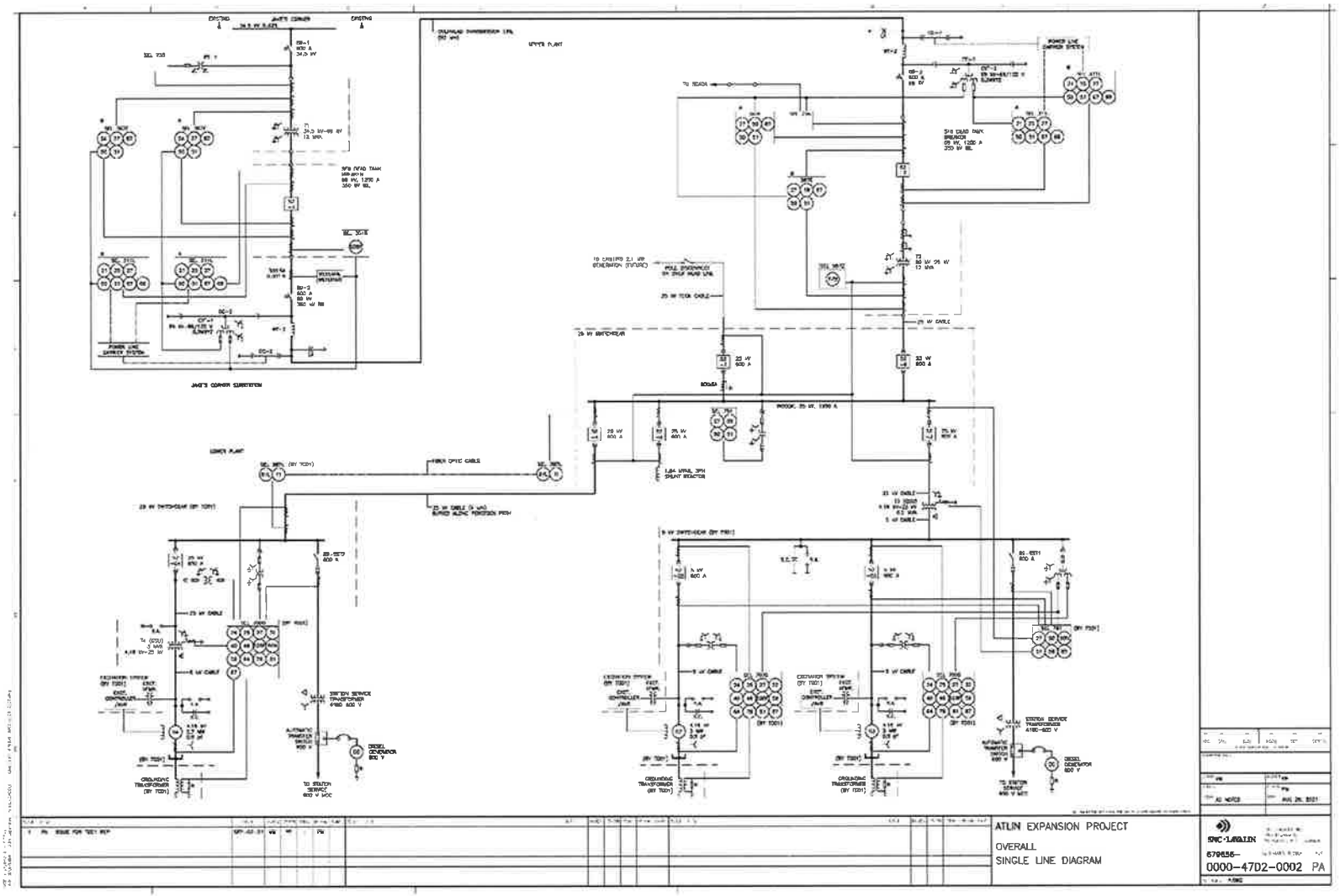
2. **Phase One Seller's Target COD and Phase Two Seller's Target COD:**

October 1, 2024 for Phase One Seller's Target COD and October 31, 2024 for Phase Two Seller's Target COD

3. **Buyer's Target COD:**

June 1, 2024.

EXHIBIT B-1
Seller's Single Line Diagram



SCHEDULE "C"

FORM OF ANNUAL OPERATING PLAN

DATE: _____, 20__.

TO: Yukon Energy Corporation ("Buyer")

RE: Electricity Purchase Agreement between Tlingit Homeland Energy Limited Partnership, a British Columbia limited partnership, by its general partner, **Tlingit Homeland Energy Limited,** a British Columbia corporation **("Seller")** and Buyer dated January 14, 2022 **(**the **"EPA")**

The following sets out the Annual Operating Plan of Seller for the 12 month period commencing on September, 20__ (the "**Applicable Period**"). Capitalized terms used and not defined in this Annual Operating Plan have the meanings in the EPA.

(a) The following is the schedule of the expected Surprise Lake reservoir level, deliveries of Delivered Energy at the POI, and expected Existing Plant delivery of electricity for Atlin Community Customer electricity load during the Applicable Period:

i. **Surprise Lake reservoir level**: confirm that the Surprise Lake reservoir is expected to be at full storage level before the end of October of the Applicable Period: _____. If this cannot be confirmed, explain the expected situation.

ii. **Delivery of electricity from the Existing Plant or its successor during the previous 12 month period**:_____MWh.

(b) The following is the schedule of any Planned Outages of Seller's Plant expected by Seller for the Applicable Period:

[to come]

(c) The following is the schedule of operations and maintenance activities planned for Seller's Plant expected by Seller for the Applicable Period:

[to come]

Dated effective as of the date set forth above.

TLINGIT HOMELAND ENERGY LIMITED PARTNERSHIP, a British Columbia limited partnership, by its general partner, **TLINGIT HOMELAND ENERGY LIMITED**, a British Columbia corporation

Per: _____
[Name]
[Title]

Per: _____
[Name]
[Title]

SCHEDULE "D"

OPERATING RULES

Seller will operate Seller's Plant after each August until the start of the following June, and the Parties will plan for Delivered Energy and Dependable Plant Capacity during each such period, under the following Operating Rules:

1. After August, and prior to the start of a Peak Winter Period in a December of each Year:

   (a) Seller will operate Seller's Plant to enable filling of the Surprise Lake reservoir before the end of October when this is feasible, and will give Buyer Notice prior to November as to the peak Surprise Lake reservoir status achieved in October and any resulting revisions to the Annual Operating Plan; and

   (b) Seller will give Buyer Notice, at the start of the Peak Winter Period, on the level of Surprise Lake and on the expected maximum MWh of Delivered Energy capability at the POI to Buyer during the Peak Winter Period, assuming that Buyer requires when feasible 100% of Dependable Plant Capacity Committed throughout the Peak Winter Period.

2. During formation of ice cover during each Peak Winter Period:

   (a) Seller will operate Seller's Plant as required to establish or re-establish ice cover when needed to enable Seller's Plant operation during the Peak Winter Period under the Operating Rules;

   (b) Seller will form the ice cover prior to the start of the Peak Winter Period when weather conditions permit; otherwise, Seller will operate Seller's Plant subject to Peak Winter Period Operating Constraints related to ice cover conditions; and

   (c) Seller will give Buyer Notice when the necessary ice cover has been established or re-established to enable operation of Seller's Plant during the Peak Winter Period within the range of 65% to 100% of Dependable Plant Capacity Committed.

3. During a Peak Winter Period from December 16 to the end of February:

   (a) Seller will operate Seller's Plant at a steady level of 100% Dependable Plant Capacity Committed throughout the Peak Winter Period, subject to maximum MWh Delivered Energy capability during the Peak Winter Period and Peak Winter Period Operating Constraints related to ice cover conditions. Seller will give Buyer Notice on Monday of each week as to the level of the Surprise Lake and the adjusted maximum MWh of Delivered Energy capability during the balance of the Peak Winter Period.

   (b) "**Peak Winter Period Operating Constraints**" mean the following constraints that Seller will follow when operating Seller's Plant during a Peak Winter Period:

      (i) If appropriate ice cover has to be established during the Peak Winter Period, Seller will operate Sellers' Plant at a steady level of 100% of Dependable Plant

Capacity Committed during the period required for establishing ice cover, unless otherwise agreed to by the Parties acting reasonably based on experience that indicates:

(A) ice cover needs to be established in order to provide Dependable Plant Capacity Committed during the Peak Winter Period, and

(B) a reasonable requirement exists to operate Seller's Plant at a steady level below 100% and not less than 65% of Dependable Plant Capacity Committed in order to establish the appropriate ice cover.

(ii) If Seller gives Buyer Notice that operation at 100% of Dependable Plant Capacity Committed is not feasible throughout the Peak Winter Period due to inadequate MWh Delivered Energy capability, the selected operating capacity for any set period of at least 3 days during a Peak Winter Period will be within the range of 65% to 100% of the Dependable Plant Capacity Committed, as directed by Buyer with at least 24 hours Notice by Buyer to Seller, unless otherwise agreed by the Parties acting reasonably as to the minimum time period or the steady operating level; and

(iii) Seller will give Buyer Notice if ice cover conditions require modification of Seller's Plant operations from the above Peak Winter Period Operating Constraints.

4. During the balance of the Winter Period from March 1st to June 1st during each Year, Buyer will accept all Delivered Energy provided by Seller, but the Parties, when feasible, will coordinate the schedule of that Delivered Energy.

SCHEDULE "E"

PHASE ONE SELLER'S COD CERTIFICATE

ATLIN HYDRO EXPANSION PROJECT

TO: Yukon Energy Corporation ("**Buyer**")

RE: Electricity Purchase Agreement ("**EPA**") made as of January 14, 2022 between Buyer and Tlingit Homeland Energy Limited Partnership, a British Columbia limited partnership by its general partner, Tlingit Homeland Energy Limited ("**Seller**") for the Atlin Hydro Expansion Project

I, **[*name of senior officer*]**, in my capacity as **[title of senior officer]** of Seller, and not in my personal capacity, certify, on behalf of Seller that:

1. **Defined Terms** - Words and phrases having initial capitalized letters in this COD Certificate have the meanings set out in the EPA.

2. **COD Requirements** - Seller has satisfied the requirements for Phase One Seller's COD as set out in Section 4.4 of the EPA. Attached to this Certificate is all evidence required to demonstrate to Buyer that Seller has satisfied all such requirements.

Dated this _____ day of _____, 20___.

_____
[name of senior officer]

_____
[title of senior officer]

[Attach to the Certificate in tabbed format all documents and evidence required under Section 4.4 of the EPA. Where documents have previously been provided to Buyer, so indicate and attach a copy of the letter transmitting such documents to Buyer.]

SCHEDULE "F"

MONTHLY CONSTRAINT ENERGY

In any calendar month in which there has occurred a Non-Permitted System Constraint then Buyer will determine the Monthly Constraint Energy,

where:

"**Monthly Constraint Energy** " (expressed in KWh) means, for each calendar month, the aggregate of the Constraint Shortfall Energy for each Non-Permitted System Constraint during the month; and

"**Constraint Shortfall Energy**" (expressed in KWh) means, for a Non-Permitted System Constraint during a month, the Delivered Energy that was not provided to Buyer during the Non-Permitted System Constraint solely due to the Non-Permitted System Constraint during the relevant month, which amount is determined as follows:

(a) The Delivered Energy expected to be provided during the Non-Permitted System Constraint based upon current information and Buyer requests for Delivered Energy immediately prior to the Non-Permitted System Constraint; less

(b) Any reductions in such expected Delivered Energy to reflect Seller actions taken or reasonably able to be taken, in response to the Non-Permitted System Constraint, to reduce or shut down water deliveries to the Upper Powerhouse.

SCHEDULE "G"

SAMPLE CALCULATION FOR DEPENDABLE CAPACITY EXCESS PAYMENT ACCOUNT

Assumptions for Year N. (assuming year N is after 2034)

- Dependable Plant Capacity Test 8000kW
- Dependable Plant Capacity Committed (DPCC): 8000kW
- Days in PWP: 75
- Delivered Energy in PWP when 100% DPCC required: 11,800,000 KWh
- Delivered Energy in PWP when 100% DPCC not required: 1,081,600 KWh
- Monthly Constraint Energy in PWP when 100% DPCC required: 12,000 KWh
- Monthly Constraint Energy in PWP when 100% DPCC not required: 10,000 KWh
- Hours for ice formation before December 16 at <100% DPCC 200 hours
- Hours per Operating Rules for ice formation during PWP at 100% DPCC: 250 hours
- Hours per Operating Rules for ice formation during PWP at 65% DPCC: 96 hours
- Force Majeure hours that occurred after the PWP started: 16 hours
- Ending balance in year N-1 of the Dependable Capacity Excess Payment Account: - $200,000
- Dependable Capacity Payment in year N: $1,989,360
- Dependable Capacity Price $248.67/KW
- Summer Delivered Energy in July of year N 200,000 KWh
- YUB Price in year N (includes Carbon Charge) $0.30 /kWh
- Buyer customer load above 388GWh in the Winter Period of Year N 20,000 MWh
- Delivered Energy during the Winter Period in Year N 30,200,000 KWh
- Notice has been provided to Buyer from Seller that Surprise Lake can only provide 73 days at 100% and two days at 65%. Buyer has provided proper Notice and chosen the two days that do not overlap with hours per Operating Rules during PWP for ice formation at 65% DPCC.
- Carbon Charge (reference YUB approval for rates) $0.10/kWh
- Half Inflation Factor (calculate based on actual CPI for Year 2024 and Year N) 1.116

Calculation of Dependable Capacity Provided at end of the PWP

A = Delivered Energy and Monthly Constraint Energy in kWh during PWP at times when 100% DPCC is to be provided under Operating Rules = 11,800,000+12,000 = 11,812,000 kWh

Delivered Energy and Monthly Constraint Energy during PWP when < 100% DPCC to be provided are not included.

B = 75 days*24 hrs less any hours during PWP when <100% DPCC operation per Operating Rules for ice formation (up to 168 hrs per PWP) and for time when Buyer selected this operation at less than 100% DPCC

= 75*24 – (96+2*24) =1,800 -144 = 1,656 hours

Dependable Capacity Provided = A/B = 11,812,000/ 1656 = 7,132.85 KW

Force Majeure Hours do not get deducted because they occurred after the start of the PWP and the Dependable Capacity Payment is being made. See Section 5.5
Hours required for ice formation before December 16 (before PWP), or that occur during PWP when 100% DPCC required per Operating Rules, are not excluded.
Only 96 of the 346 hours of ice formation during the PWP are excluded from the calculation. See Section 8.3 (in this case, the other hours occur when 100% DPCC required per Operating Rules).
Seller not required to provide 100% output during the two days that the Buyer requested less than 100% output.

Calculation of Dependable Capacity Excess Payment for Year N

Actual Dependable Plant Capacity Committed = Actual Dependable Capacity Payment$_N$ divided by the Dependable Capacity Price$_N$

= 204.75*8000/204.75

= 8000.

Note: Actual Dependable Capacity Committed will always equal the Dependable Plant Capacity Committed except for periods of Force Majeure as per Section 5.5 c)

Capacity Shortfall = Actual Dependable Plant Capacity Committed$_N$ less Dependable Capacity Provided

= 8000 – 7132.85 = 867.15

Dependable Capacity Excess Payment$_N$ = (Capacity Shortfall$_N$/Actual Dependable Plant Capacity Committed$_N$) * (Actual Dependable Capacity Payment$_N$

= 867.15/8000 * $1,989,360 = $215,364

New Dependable Capacity Excess Payment Account balance at the end of the PWP in Year N:
-200,000 -215,364 = -415,634

Calculation of Summer Delivered Energy Payment for July in year N.

The Summer Delivered Energy Payment for the energy delivered in July:
$0.30/kWh* 50% *200,000KWh
= $30,000
50% of this amount would be applied to reduce the Dependable Capacity Excess Payment Account balance
New Dependable Capacity Excess Payment Account balance =
$ -415,634 + $30,000*50% = $-400,634
The remaining 50% would be invoiced by Seller to Buyer for the Summer Delivered Energy as part of the invoice for July.

Calculation of Additional Payment at the end of the Winter Period in December of Year N:

The Additional Payment Price equals [11.7% of (YUB Price) x Added Load]/30,800 MWh.

= 11.7%* 0.30* 20,000MWh /30,800
= .0227922

Additional Payment equals Additional Payment Price times the Delivered Energy during the Winter Period

= 0.0227922 * 30,200,000
=$688,324

Up to 100% of this could be applied to reduce the Dependable Capacity Excess Payment Account However only $400,634 is required to bring the balance to zero.
The December invoice from Seller to Buyer for the Additional Payment would be
= $688,324 – 400,634 = 287,690
And the balance of the Dependable Capacity Excess Payment Account at the end of December in year N is zero.

Calculation of Carbon Charge Saving Payment

Carbon Charge Saving per KWh in any year equals the lesser of:
(a) 50% of the Carbon Charge; and
(b) the YUB Price less ($0.19/KWh times Half Inflation Index), subject to not being less than zero.

= lesser of { 50% * 0.1 , 0.3- 0.19* 1.116}
= lesser of {0.05, 0.08796}
= $0.05/kWh

Carbon Charge Savings Payment equals the Carbon Charge Saving times 48.8% of Delivered Energy in the Winter Period

= $0.05 x 48.8% x 30,200,000
=$736,880

Since the balance of the Dependable Capacity Excess Payment Account is already zero, the Buyer pays the Seller the full $736,880