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July 29, 2021

B.C. Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC V6Z 2N3

RE: Investigation into the Safety and Reliability of Hemlock Utility Services

Hemlock has provided the below Response to the BC Utility Commission Investigation into the Safety and Reliability of its service.

2.1 Safety and Reliability

In the 2020 Application, Hemlock provided a summary of its unplanned and planned outage metrics for its service area over the last five years.¹ With respect to the safety and reliability of Hemlock's utility operations, the BCUC requests Hemlock provide written responses to the following:

- 1. Exclusive of the concerns identified in the 2020 Application, please provide a detailed report clearly outlining all challenges identified by Hemlock with respect to its day-to-day utility operations. In the response, please categorize these challenges in terms of their potential impacts on the day-to-day operation of the utility.*

Hemlock has identified the following challenges in the day to day operations of the utility:

Aging infrastructure:

Upgrading system is an ongoing project, prioritizing upgrades based on immediate needs vs. cost of upgrades and availability of parts. Delays in upgrades have occurred due to unplanned breakdown of existing infrastructure. External factors affecting unplanned outages and impacting daily operations include weather, extreme hot or cold temperatures, new builds, upgrades to existing properties.

Parts Inventory and Supply:

Maintaining an adequate supply of parts has caused challenges based on aging infrastructure, availability of specialized parts, and accessibility based on remote location.

¹ Hemlock Utility Services Ltd., Application to Change the Terms and Conditions of Electric Tariff BCUC No. 1, Exhibit B-4, BCUC IR 2.1, pp. 3–4.

Skilled Labour:

As we see an increase in new builds, higher volume of occupied units throughout the year, and overall increase service demands, we have also identified a need for additional support through contracted trades. Our challenge lies with coordinating and scheduling ticketed trades/contractors, and working with their availability vs. our timeline.

- 2. Please indicate whether Hemlock has discussed with BC Hydro the reasons for the frequency of BC Hydro-related outages noted in the outage metrics provided in the 2020 Application. In the response, please discuss if Hemlock is aware of BC Hydro's current maintenance scheduling on the resort's radial line and indicate whether Hemlock considers BC Hydro's current maintenance scheduling on the resort's radial line to be adequate.*

Hemlock is not aware of the current maintenance schedule of BC Hydro, but is currently working on learning more about their maintenance schedule. Based on visual presence, there may be some room for BC Hydro to improve the frequency of its vegetation management (which is a frequent culprit of power outages). A few years prior, BC Hydro had completed some vegetation management, which appeared to have reduced the outages that were occurring. However, since then, there has been minimal maintenance done.

- 3. Please describe Hemlock's ability to isolate sections of the distribution system when maintenance or repair is required and the resulting effect on customer reliability.*

During maintenance HVUS is capable of isolating sections of distribution being serviced. This is done through underground vaults and parking the incoming feeds upstream and downstream of the fault allowing HVUS to limit the number of affected customers during routine maintenance.

- 4. Please discuss the process for re-energizing Hemlock's electrical system following an outage, including an explanation of who is responsible for assessing whether the line can be safely re-energized.*

Once repairs are complete work teams assemble to confirm all works are complete and lock outs may be removed by the Electricians that put them in place. Only the Electrician representing Platinum Electric can give the order to re-energize.

- 5. Please explain whether Hemlock has discussed its anticipated peak load forecast with BC Hydro and the outcomes of any such discussions. If these discussions have not occurred, please explain why not.*

Hemlock has not communicated future demands to BC Hydro as of yet. The discussion will be occurring by end of year. The demands on the system are increasing with each new build, and with the pending development of the Resort, discussions will be initiated this year as Hemlock determines its peak load demands.

2.2 System Maintenance Plan

In the 2020 Application, Hemlock confirmed that an annual preventative maintenance plan (Maintenance Plan) is currently being developed to track all system assets and that in-depth maintenance of Hemlock's commercial electrical assets was conducted in 2019.² In response to BCUC Staff Questions in Hemlock's 2019 Annual Report, Hemlock stated it was developing a maintenance tracking system to predict and plan for equipment replacement.

- 6. Please provide Hemlock's Maintenance Plan or if not complete, please provide an update on the development of Hemlock's Maintenance Plan. Please also provide an update on the maintenance tracking system and a summary of findings, as applicable.*

As of February 2021, HVUS has been working towards a documented maintenance plan. This plan is currently in the early stages of development, starting with creating a database aimed at streamlining and centralizing information.

Documented maintenance plan currently includes the implementation of HVUS work orders (WO) to better track maintenance information on completed projects and jobs. Objective is to issue work orders towards individual electrical areas such as electrical vaults. WOs will include Vault number/ location/ work completed/ work required (which will trigger another WO). WO will provide the ability to track what has been done and what needs to be done. In return WO will lend themselves to showing excessive problem areas requiring extra preventative maintenance (PM) measures required or a need for reengineering of the design.

Currently vault PM measures are awaiting parts to move forward. As the PM program advances, information will be transferred to a spread sheet and centrally located for ease of tracking as well as updates. The tracking system design and goal allows to quickly identify areas that require extra PM and/or a redesign in order to provide better system reliability.

Preliminary findings indicate the vault electrical elbows are beyond their service life. We have implemented immediate replacement of these end of service elbows, however availability of parts has caused some delays. The maintenance plan includes increasing on hand inventory of required repair parts, with inventory being monitored regularly and minimum levels maintained.

² Ibid., Exhibit B-4, BCUC IR 3.1, pp. 7–8.

The maintenance plan will also include annual and biannual inspections based upon contractors' recommendations.

7. *Please provide submissions on whether Hemlock intends to implement any changes, operational or infrastructural, to its utility services in the near-term (i.e. 1–2 years) or mid-term (i.e. 3–5 years). In the response, please provide the schedule of works, indicate any potential issues or conditions that may affect these changes and provide the anticipated impact to Hemlock's customers, including, but not limited to, potential outages, estimated costs and proposed cost recovery associated with these changes.*

As of February 2021, there have been changes operationally & in the near-term plan to implement updated and more detailed paperwork for tracking ease/data collection. HVUS hired a second operator to assist with facilitating the demands of the full utility system. As the system ages it is becoming more time consuming, and additional time is being spent on repairs rather than preventative maintenance. As the maintenance plan progresses, additional resources will be allocated to preventative maintenance. The successful execution of the maintenance plan is heavily reliant on labor, the second operator will contribute to achieving the goals of the maintenance plan.

Factors affecting repairs and maintenance include availability of skilled labor, weather and impending snow, however the largest issue is the availability on parts which HVUS has already identified and will be resolving with the increase inventory on hand. As the maintenance plan tracking system is developed, we can anticipate the need for additional operational or infrastructure changes, however the primary focus will be on immediate repairs as availability of parts increases.

In the Mid-term – Hemlock is working on minimizing the length of unplanned outages which requires the implementation of fault detection in critical junction vaults. This will help decrease response time and assist in identifying fault location. There is no specific outline for this project at this time, therefore details on estimated costs, or recovery have yet to be determined.

8. *Please provide submissions on who is responsible for undertaking routine inspections and maintenance on Hemlock's electrical systems, including their relevant qualifications and how frequently these inspections occur.*

Currently only Electricians from Platinum Electric are permitted to do inspections on the electrical grid. Hemlock has Platinum is on retainer to provide both inspections and maintenance recommendations. Platinum retains the FSR designation for the electrical utility. Planned inspections occur annually through visual inspections of the system. Infrared Imaging is the main tool used on the under-ground grid.

9. *With respect to Hemlock's utility operations, please provide a list of all safety incidents, if any, over the last five years and whether these incidents were reported and investigated by a regulatory body. In your response, please include a summary of all reported incidents and any relevant correspondence related to these incidents, if applicable.*

Incident: March 4, 2018 – Case, 1 electrician was shocked while working during a power outage. This incident was reported and an investigation was conducted by Technical Safety BC. The recommendations from Technical Safety BC led to new procedures:

- Any work performed on High Voltage equipment shall be done by a qualified FSR 'A' electrician or lineman
- A tailgate meeting shall be performed with all workers present, prior to work being done, and lead by a qualified person
- Any work performed on High Voltage equipment shall be done de-energized
- All equipment shall be locked-out and grounded-out upstream and downstream of the worksite before it is considered safe to work on
- No vaults or transformers should be opened up while energized, unless:
 - Recent grounding, maintenance and inspection has been done on the equipment.
 - Proper PPE is used for shock and arc-flash prevention.
 - There are no known faults on the system.
- Proper PPE for shock and arc-flash shall be used when de-energizing equipment, testing for potential, and installing grounds
- High Voltage equipment shall be regularly maintained and inspected
- GOAB switch #1 or #2 can be used for isolating the incoming three phase power, but there is always potential of back-feed, so locking-out, testing, and grounding should always be done before working on the High Voltage system.

10. *Please discuss Hemlock's current vegetation management and snow/ice removal plan. Please provide a summary of Hemlock's annual vegetation management and snow/ice removal activities and discuss whether Hemlock considers its current plan as adequate and/or identify areas that require further modification.*

The current vegetation management plan consists of a successful mulching program using sub-contractors. This is used for the above ground power. Around transformers pull boxes and Vaults, HVUS utilize hand tools such as pruners brush saws and chainsaws. Snow and ice are removed from vaults and transformers around the village using heavy equipment such as Excavators and wheel loaders. This plan is sufficient however it can be costly as our snow loads are some of the highest in the world with an average snowpack of 4+Meters

The vegetation management plan includes:

- Clearing larger areas along the power lines every 5 years.
- Clear the trees that are more pressing near and directly to the power lines on a regular basis, or as needed. This will be contract to a Qualified high voltage arborist.

11. Please confirm, or explain otherwise, whether Hemlock has any utility infrastructure located within Indigenous reserve lands. If applicable, please discuss if Hemlock has a working relationship with an Indigenous Nation(s) and whether they are affiliated with Hemlock's day-to-day utility operations.

Not Applicable

2.3 Emergency Response and Disaster Management Plan

In the 2020 Application, Hemlock submitted that it does not currently have a disaster management plan and will work towards creating a plan with its residential and commercial customers. However, Hemlock confirmed that it does maintain an emergency response plan for its water systems and that it added new generators to its water and sewer systems over the last five years.³

12. Please provide an update regarding the disaster management plan for Hemlock's electrical utility operations and any developments arising from Hemlock's consultation with its customers.

The emergency preparedness plan is being updated for both SMR and Hemlock Valley Utilities. Currently there are no further details to add. Hemlock welcomes any recommendations the BC Utility commission has in regards to the electrical utility plan.

13. In February 2020, [emergency repairs](#)⁴ were conducted on the only road to Sasquatch Mountain Resort due to a landslide. Please confirm if Hemlock prepares and executes an emergency response plan in the event of a similar weather-related incident or natural disaster limiting access to the resort. Additionally, please discuss any lessons learned from the recent washout incident and whether Hemlock has implemented any adjustments, if any, to its current emergency response plan.

The following is a summary of the valuable lessons learned:

- Access to the resort becomes very limited when the only road washes out.
- Only Helicopters will be able to evacuate, however this will be weather dependant.
- Using local government resources and having a list of key contacts with outside agencies is essential to speedy response.
- Quick access to medication, food and fuel is essential to the safety and comfort of those affected.
- Training the team in emergency response is crucial and will be outlined in the emergency response plan.

³ Ibid., Exhibit B-4, BCUC IR 3.3, p. 8.

⁴ Boynton, Sean. "Washed-out road to Sasquatch Mountain Resort to reopen Friday morning: ministry." *Global News*, February 6, 2020, <https://globalnews.ca/news/6519060/hemlock-road-reopening>. Accessed 15 June, 2021.

- Communication and importance of sharing the emergency response plan with the community.
- Ensuring there is enough fuel supply for generators.
- Inventory maintenance for parts required during an emergency for repairs to systems.

2.4 Customer Service-Related Issues

In response to the delays concerning the receipt of invoices to customers, Hemlock stated it has implemented a new accounting system to address these billing issues. The new proposed system contemplates invoice date clarification, reconsideration of payment terms, and the inclusion of meter read details on its invoices.⁵ However, given Hemlock's current staffing challenges, Hemlock states it would require the services of a third-party to accommodate the proposed changes. Consequently, Hemlock requests that all associated costs be recovered through future rate applications to the BCUC.

Further, Hemlock submitted that it is amenable to modify the billing and payment provisions of its Electric Tariff, where applicable, to align with the billing and payment terms established under BC Hydro's respective tariff.

- 14. Please indicate whether Hemlock is amenable to filing with the BCUC an updated tariff application regarding the proposed accounting system changes and updates to Hemlock's billing and payment terms and conditions as part of the current proceeding.*

Hemlock is not amenable to update the terms and conditions as part of these proceedings. Hemlock does not wish to delay the proceedings regarding the safety and reliability. Hemlock thus request the BCUC provide a reasonable timeline for Hemlock to submit the updated tariff after these proceedings are completed.

- 15. Please provide a high-level cost estimate of employing a third-party firm to accommodate the accounting changes as proposed by Hemlock.*

Hemlock has not had adequate time to source quotes for these types of accounting changes, however, Hemlock has made efforts to improve the time of invoicing as well as information on invoices.

- Hemlock has since employed a utilities administrative assistant and a maintenance assistant to conduct the meter reads. This will allow meter reads to occur in a timely and consistent manner regardless of any emergent utility repairs. This has been successfully implemented for a few months.
- Once meters reads are taken, information is sent to the utilities administrative assistant for processing. Invoices are created in preparation of receiving meter read with a goal to have all invoices prepared and sent within 3 days of receiving the meter reads.

⁵ Hemlock Utility Services Ltd., Application to Change the Terms and Conditions of Electric Tariff BCUC No. 1, Exhibit B-4, BCUC IR 4.1, p. 11.

- Additional information appearing on invoices is date of previous meter read and date of current meter read.

Hemlock will continue to work with software solution companies to improve the invoicing system.

16. Please discuss Hemlock's cybersecurity measures, including how the utility protects the confidential information of its customers.

Hemlock uses a third-party IT company for all our IT support and cybersecurity. Data is stored on local servers. All data is stored behind enterprise grade firewall and antivirus solutions. Offsite backups are kept within Berezan Organization and data is never stored on any third-party system. Access to the data is limited to authorized employees, access must be approved by a senior manager and can only be granted by the IT company.