



**ORDER NUMBER**  
**G-195-22**

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Hemlock Utility Services Ltd.  
Investigation into the Safety and Reliability of Hemlock Utility Services

**BEFORE:**

C. M. Brewer, Panel Chair  
A. K. Fung, QC, Commissioner  
E. B. Lockhart, Commissioner

on July 18, 2022

**ORDER**

**WHEREAS:**

- A. On December 14, 2020, Hemlock Utility Services Ltd. (Hemlock) filed with the British Columbia Utilities Commission (BCUC) an application to revise Section 19 (Liability of the Company re: Service) of its Electric Tariff Terms and Conditions. Hemlock proposed to include further liability provisions with respect to its supply of electricity to customers (Application);
- B. By Order G-153-21 dated May 21, 2021, the BCUC approved, among other things, Hemlock's Application to include further liability provisions with respect to its supply of electricity to its customers;
- C. In the accompanying Reasons for Decision to Order G-153-21, the BCUC identified a number of operational concerns including, but not limited to, issues related to the safety and reliability of the Hemlock system. The panel recommended that the BCUC initiate a separate proceeding to conduct a fulsome review of the safety and reliability of Hemlock's electrical distribution system (Hemlock System);
- D. By Order G-201-21 dated June 30, 2021, the BCUC ordered a hearing to review the safety and reliability of Hemlock's electrical distribution system and system assets and customer service-related issues and established a regulatory timetable for the investigation (Proceeding), which included public notice, letters of comment, BCUC scoping questions, intervener registration and Hemlock's responses to letters of comment, with further process to be determined;
- E. On July 30, 2021, Hemlock provided its written response to the BCUC scoping questions;
- F. On August 4, 2021, the Residential Consumer Intervener Association (RCIA) registered as the sole intervener in the Proceeding;

- G. On August 10, 2021, by Order G-239-21, the BCUC amended the regulatory timetable to include, among other things, BCUC and intervener information requests (IRs) and directed Hemlock to provide public notice of the order to its utility customers as an enclosure to their next billing statements;
- H. On August 24, 2021, the BCUC issued IR No. 1 to Hemlock, and on September 2, 2021, RCIA submitted IR No. 1 to Hemlock;
- I. By Order G-276-21 dated September 21, 2021, the BCUC further amended the regulatory timetable to provide Hemlock with additional time to respond to IR No. 1 and extended the deadline to provide letters of comment;
- J. On October 1, 2021, Hemlock provided its response to RCIA IR No. 1 and BCUC IR No. 1, and on October 15, 2021, Hemlock provided supplemental responses to BCUC IR No. 1;
- K. On December 7, 2021, by Order G-361-21, the BCUC further amended the regulatory timetable and established a virtual workshop to receive submissions from Hemlock and RCIA;
- L. During the virtual workshop, Hemlock provided its plan to address the maintenance issues, unplanned outages and potential future growth over the next 10 years (Future Growth Plan);
- M. By January 27, 2022, the BCUC had received 17 letters of comment from Hemlock ratepayers. The BCUC also received two submissions from interested parties;
- N. On February 7, 2022, Hemlock submitted that it would not be filing a Final Argument;
- O. By Order G-31-22 dated February 14, 2022, the BCUC granted an extension request made by RCIA to file their final argument, and amended the regulatory timetable, to include one round of Panel IRs and the filing of Final and Reply Arguments;
- P. On February 24, 2022, Hemlock filed its response to Panel IRs;
- Q. On March 2, 2022, Hemlock again submitted that it would not be filing a Final Argument.
- R. By letter dated March 4, 2022, the BCUC encouraged Hemlock to file its Final Argument should Hemlock wish to have an opportunity to file a reply to argument filed by RCIA.
- S. Hemlock and RCIA filed their respective Final Arguments on by March 4, 2022. Hemlock filed its Reply Argument on March 21, 2022;
- T. By letter dated March 24, 2022, the BCUC requested a status update on Hemlock's engagement with a third-party engineering company (Status Update) to undertake an engineering assessment of Hemlock's distribution system and system assets (Engineering Assessment);
- U. On March 29, 2022, Hemlock filed the Status Update and provided a redacted copy of an agreement with Site Power Engineering Consultants (Site Power Agreement), which outlined the scope of work and estimated costs to complete the Engineering Assessment;
- V. By letter dated April 4, 2022, the BCUC invited RCIA to file a written submission on the Site Power Agreement. RCIA filed its response on April 7, 2022; and
- W. The BCUC has considered the evidence and submissions filed in this proceeding and makes the following determinations.

**NOW THEREFORE** pursuant to sections 23, 24, 42 and 43 of the *Utilities Commission Act*, and for the reasons attached as Appendix A to this Order, the BCUC orders as follows:

1. Within 5 days of this Order, Hemlock must provide notice of this Order with reasons in a clearly visible location on the homepage of its website;
2. Within 30 days of this Order, Hemlock is directed to file its most recent arc flash assessment and coordination study (Arc Flash Assessment) to identify and manage equipment hazards and identify protective trip curves. If an Arc Flash Assessment has not been completed, or was last completed over 5 years from the date of this Order, Hemlock is directed to perform and file an Arc Flash Assessment with the BCUC within one (1) year of this Order.
3. Within 60 days of this Order, Hemlock is to file with the BCUC, a report setting out a schedule of future meetings with the British Columbia Hydro and Power Authority (BC Hydro) relating to supply reliability (Supply Reliability Meetings). Within 60 days following each of the Supply Reliability Meetings, Hemlock is to file with the BCUC a summary of the outcomes of that Supply Reliability Meeting;
4. Within six (6) months of this Order, Hemlock is directed to file with the BCUC:
  - (i) A 10-year forecast of customers, for each year of the forecast period, based on current and projected approvals; and
  - (ii) A 10-year energy and peak capacity forecast, for each year of the forecast period.
5. Within six (6) months of this Order, Hemlock is directed to file with the BCUC, a report with the timing for future discussions and agreements with BC Hydro on capacity growth.
6. Within six (6) months of this Order, and every six (6) months thereafter, Hemlock is to file with the BCUC, a report detailing the status of activities set out in the Future Growth Plan, including activities that have been completed, reasons for delay, if any, and general progress in the implementation of the Future Growth Plan.
7. Within six (6) months of this Order, Hemlock is directed to file with the BCUC, a report detailing the improvements in documentation of safety-related system procedures and system topology.
8. Within eighteen (18) months of this Order, Hemlock is directed to file with the BCUC the following:
  - (i) Single-line diagram(s) detailing the distribution system's current topology;
  - (ii) An updated map detailing the current geographic location of the distribution system assets;
  - (iii) Maintenance procedures for any non-standard or legacy equipment;
  - (iv) Operational procedures to reflect lock-out/tag-out, equipment manufacturer recommendations and maintenance schedules; and
  - (v) Written confirmation that all equipment is properly tagged and identifiable from the single-line diagram(s);
9. In its annual report to the BCUC, Hemlock is directed include the following information from the previous fiscal year:
  - (i) Details of any investments and improvements that Hemlock has made to increase supply and improve reliability;
  - (ii) Reliability metric targets (System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI)) for the next five years on a prospective basis and continue to submit actual reliability metrics;

- (iii) All maintenance activities completed or underway;
  - (iv) Any incidents that occurred that did, or could, affect the material condition and reliability of the Hemlock System;
  - (v) The number of outstanding requests for connection;
  - (vi) The number of requests for connection received;
  - (vii) The number of connections completed, including the length of time it took to connect.
  - (viii) A safety compliance report, which includes the following:
    - a. All safety incidents (including near misses), involving staff, contractors or the public as a result of interaction with the Hemlock System;
    - b. All hazardous conditions that have been identified and require remediation with the Hemlock System;
    - c. Any corrective actions that have been taken in response to a safety-incident or an identified hazardous condition;
    - d. Any compliance reporting with respect to safety-related inspections or audits that are conducted following safety-related incidents;
    - e. Any employee safety training and certification; and
    - f. Confirmation that any electrical contractors retained by Hemlock are properly qualified.
10. Within 30 days of completion, but no later than (1) year from the date of this Order, Hemlock is to file with the BCUC, the Engineering Assessment, including a detailed report on any further activities recommended in the Engineering Assessment and the expected timeframes for such further activity.
11. Within 30 days of completion of the Engineering Assessment, Hemlock is to file with the BCUC, a remedial action plan addressing any as-found deficiencies that pose an immediate risk to safety or reliability. Hemlock is to file, every 90 days thereafter until all identified deficiencies have been remediated, a progress report on on-going maintenance and repairs.
12. Within six (6) months of filing the Engineering Assessment, Hemlock is to file with the BCUC, a report detailing Hemlock's routine and preventative maintenance programs, including a description of the steps taken to implement the program, and those steps to be undertaken in the next fiscal year.
13. As part of its next Revenue Requirements Application, Hemlock is directed to report on the variance between Hemlock's load forecast and actual load growth.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 18<sup>th</sup> day of July 2022.

BY ORDER

*Original signed by:*

C. M. Brewer  
Commissioner

Attachment

Hemlock Utility Services Ltd.  
Investigation into the Safety and Reliability of Hemlock Utility Services

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**REASONS FOR DECISION**

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## Executive Summary

On June 30, 2021, the British Columbia Utilities Commission (BCUC) initiated an Investigation into the Safety and Reliability of Hemlock Utility Services Ltd. (Hemlock) (Inquiry). The BCUC issued initial scoping questions and requested submissions from Hemlock on the following topics:

- i. The safety and reliability of the Hemlock System;
- ii. Hemlock's system maintenance plan;
- iii. Hemlock's emergency response and disaster management plan; and
- iv. Customer services related issues.

The review process included written and oral submissions.

Following the review of Hemlock's responses to BCUC and intervener IR No. 1, the Panel was satisfied that Hemlock had implemented processes and procedures to address customer-service related concerns raised by Hemlock's ratepayers in the 2020 Tariff Application, so focussed the Inquiry on issues related to the safety and reliability of the Hemlock System. The Panel finds four distinct areas of concern: Reliability, Asset Condition, Safety and Load Forecast which are addressed in this decision. This briefly summarises how the Panel addresses these matters which are detailed in the Order and table at the conclusion of the Reasons for Decision.

1. Reliability – The majority of Hemlock's outages are related to British Columbia Hydro and Power Authority's single radial line serving the utility. Hemlock is taking steps to improve its communications with BC Hydro. The Panel directs Hemlock to report on its meetings with BC Hydro relating to supply reliability (Supply Reliability Meetings) and to file with the BCUC a summary of the outcomes of these Supply Reliability Meetings. The remaining outages are a result of either planned or unplanned outages on the Hemlock System, attributed to poor asset condition, or system maintenance and shutdowns necessary for the addition of new customer connections. Hemlock is also directed to file engineering assessment reports highlighting Hemlock's routine and preventative maintenance programs, including the system's current status and plan for the following year.
2. Asset Condition – Several of Hemlock's system assets have exceeded their estimated service life, and these assets will likely require significant capital investment for repair or replacement to maintain and improve reliability. In the Panel's view, the lack of a structured and proactive maintenance plan has contributed to the poor condition of Hemlock's system assets, delays in system upgrades, and poor system reliability. The Panel directs Hemlock to submit engineering assessment reports of its asset condition to the BCUC, and annually file a report that includes all completed and scheduled maintenance activities and any incidents that occurred in the previous fiscal year that may affect the material condition and reliability of Hemlock's distribution assets.
3. Safety – Hemlock relies entirely on external contractors for compliance with safety standards which may pose a risk to Hemlock's ability to maintain these safety standards. Therefore, pursuant to sections 23 and 24 of the UCA, the Panel directs Hemlock to file, as part of its annual reporting requirements with the BCUC, a safety compliance report.
4. Load Forecast – The Panel finds that Hemlock's planning process for system growth lacks transparency. Hemlock does not have a long-term plan, which may impair its ability to meet incremental growth in an orderly fashion. The Panel also finds that Hemlock's lack of relationship with BC Hydro not only impairs its ability to provide reliable service to its over 200 customers, but also raised questions regarding Hemlock's ability to meet the system's anticipated growth. Hemlock is therefore directed to file a forecast of the number of customers and energy and peak capacity requirements for each of the next ten years including a timeline of discussions with BC Hydro regarding load forecast and actual growth.

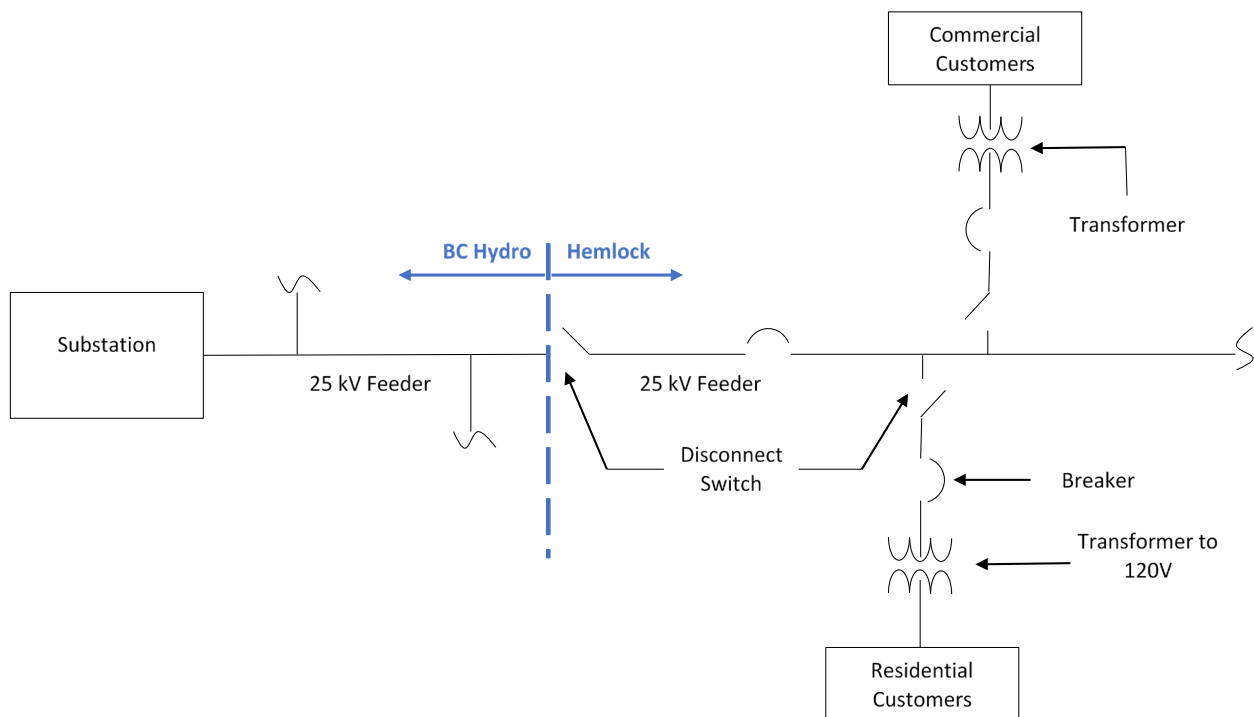
The Panel also considered Hemlock’s proposed plan to address its current maintenance issues and potential growth over the next 10 years. While it is encouraging that Hemlock has taken steps to address its current maintenance issues and potential future growth, the Panel directs Hemlock to provide regular reporting detailing the status of activities set out in Hemlock’s plan.

Finally, the Panel recognizes the level of engagement from all parties involved in the Inquiry, and notes that there will continue to be opportunities to intervene and submit letters of comment in future BCUC proceedings regarding Hemlock. In addition, customers may avail themselves of the opportunity to file complaints with the BCUC regarding any inadequacies in service that Hemlock is unable to address directly.

## 1.0 Introduction and Background

Hemlock Utility Services Ltd. (Hemlock) is a small public utility<sup>1</sup> located in the Hemlock Valley that owns and operates a power distribution system which supplies electricity to Hemlock’s commercial operations and approximately 250 residential customers at the Sasquatch Mountain Resort (Hemlock System). The day-to-day operations of Hemlock are managed by its shareholder, the Berezan Hospitality Group, which purchased the utility in 2006. The Hemlock System is interconnected to the British Columbia Hydro and Power Authority (BC Hydro) electrical system by a single 25 kV radial line.<sup>2</sup> (Refer to Figure 1)

**Figure 1 – BCUC Staff Diagram of BC Hydro and Hemlock’s Electrical System Single 25 kV Radial Line**



\* BCUC Staff prepared diagram to demonstrate utility ownership boundary of distribution assets.  
Diagram does not represent actual topology of the BC Hydro or Hemlock distribution systems.

On December 14, 2020, Hemlock filed with the British Columbia Utilities Commission (BCUC) an application to revise Section 19 (Liability of the Company re: Service) of its Electric Tariff Terms and Conditions (2020 Tariff Application). In the 2020 Tariff Application, Hemlock sought approval to include additional liability provisions with respect to its supply of electricity to customers.

During the BCUC’s review of the 2020 Tariff Application, a number of Hemlock customers filed letters of comment expressing concerns with respect to matters involving the safety and reliability of Hemlock’s operations.

<sup>1</sup> A public utility is defined in section 1(1) of the *UCA*, in part as “A person, or the person’s lease, trustee, receiver or liquidator, who owns or operates in British Columbia, equipment or facilities for the (a) production, generation, storage, transmission, sale, delivery or provision of electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public or corporation for compensation”

<sup>2</sup> Workshop Transcript Volume 1, p. 4



However, given the limited scope and purpose of the 2020 Tariff Application, the panel recommended that the BCUC initiate a separate proceeding to investigate the operational concerns identified through the initial review of the 2020 Tariff Application.

By Order G-153-21 and the accompanying Reasons for Decision, the BCUC approved the 2020 Tariff Application.

In a 2020 commercial development application submitted to the Provincial Government, Berezan Resort (Sasquatch) Ltd. (Berezan) applied to construct overnight accommodations at the Sasquatch Mountain Resort “to allow for rentals to give greater access and vacation capability to the ski resort” (2020 Berezan Resort Application).<sup>3</sup>

## 1.1 Regulatory Process

On June 30, 2021, the BCUC issued Order G-201-21, initiating an Investigation into the Safety and Reliability of the Hemlock System (Inquiry) pursuant to section 82 of the *Utilities Commission Act* (UCA) and directed Hemlock to provide written submissions on BCUC scoping questions related to the following:

- i. The safety and reliability of the Hemlock System;
- ii. Hemlock’s system maintenance plan;
- iii. Hemlock’s emergency response and disaster management plan; and
- iv. Customer-service related issues.

Hemlock provided its written response to the scoping questions on July 30, 2021.<sup>4</sup>

On August 10, 2021, the BCUC established a regulatory timetable<sup>5</sup>, which included intervener registration, public written submissions and one round of BCUC and intervener Information Requests (IR). The Residential Consumer Intervener Association (RCIA) was the sole intervener in the proceeding. By January 26, 2022, the BCUC had received 15 letters of comment and two submissions from interested parties.

Following the review of Hemlock’s responses to BCUC and intervener IR No. 1, the Panel was satisfied that Hemlock had implemented processes and procedures to address customer-service related concerns raised by Hemlock’s ratepayers in the 2020 Tariff Application, so focussed the Inquiry on issues related to the safety and reliability of the Hemlock System.

On January 13, 2022, the BCUC held a virtual workshop to further discuss safety and reliability issues and concerns (Workshop), and to allow Hemlock an opportunity to provide an overview of its existing and anticipated safety and reliability plans. During the Workshop, Hemlock indicated that it had started engaging with engineering companies to complete a full engineering assessment of the Hemlock System.<sup>6</sup>

On March 4, 2022, Hemlock filed its Final Argument and on March 9, 2022, RCIA filed its Final Argument. Hemlock filed its Reply Argument on March 21, 2022.

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<sup>3</sup> 2020 Berezan Resort (Sasquatch) Ltd. Alpine Skiing - Residential Application, Section 3.3, p. 4. Retrieved from <https://comment.nrs.gov.bc.ca/api/public/document/5f3c3e2bb074740022103556/download>.

<sup>4</sup> Exhibit B-1

<sup>5</sup> BCUC Order G-239-21

<sup>6</sup> Workshop Transcript Volume No. 1, p. 22

On March 24, 2022, the Panel re-opened the evidentiary record and requested that Hemlock provide a written status update with respect to Hemlock's progress on engaging an engineering company.<sup>7</sup>

By letter dated March 29, 2022, Hemlock filed a status update, stating it had signed an agreement with Site Power Engineering Consultants (Site Power and Site Power Agreement), which outlines the scope of work and estimated cost to complete an engineering assessment of the Hemlock System (Engineering Assessment), and provided the BCUC with a redacted copy of the Site Power Agreement.<sup>8</sup>

On April 4, 2022, the BCUC invited RCIA to file written submissions on the Site Power Agreement, which were filed with the BCUC on April 7, 2022.<sup>9</sup>

## 2.0 Legislative Framework

The BCUC conducted this Inquiry pursuant to section 82 of the UCA which states:<sup>10</sup>

- 1) The commission
  - a) may, on its own motion, and
  - b) must, on the request of the Lieutenant Governor in Council, inquire into, hear and determine a matter that under this Act it may inquire into, hear or determine on application or complaint.
- 2) For the purpose of subsection (1), the commission has the same powers as are vested in it by this Act in respect of an application or complaint.

### *BC Electrical Safety Regulation*

As a public utility, Hemlock is exempt from the application of the Electrical Safety Regulation of the *Safety Standards Act*<sup>11</sup> with respect to the generation, transmission and distribution of electrical energy. Consequently, there is no regulatory oversight of safety matters pertaining to the Hemlock System aside from the BCUC's general supervisory powers over public utilities under Part 3 of the UCA.

## 3.0 Letters of Comment

In addition to the evidence provided by Hemlock and RCIA, letters of comment from Hemlock's customers were filed throughout the proceeding. The BCUC received 15 letters of comment; nine of which were filed prior to the Workshop, and with the remaining six letters of comment filed subsequently, addressing matters arising from the Workshop. The BCUC also received two written submissions from interested parties.

In general, the letters of comment expressed concerns from Hemlock's customers with respect to its ability to provide reliable electricity service. More specifically, the letters of comments, as summarized below, highlighted four main areas of concern with respect to: Interruption of Service; Provision of Service & Load Forecast; Rate Increases; and Hemlock's Engagement with BC Hydro.

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<sup>7</sup> Exhibit A-12

<sup>8</sup> Exhibit B-7; Exhibit B-7-2

<sup>9</sup> Exhibit C1-4

<sup>10</sup> *Utilities Commission Act*, s 82

<sup>11</sup> *Safety Standards Act* [SBC 2003], c.39, Electrical Safety Regulation, BC Reg 100/2004 at section 3  
[https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/12\\_100\\_2004](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/12_100_2004)

### *Interruption of Service*

Customers noted the lengthy repair times in response to frequent power outages.<sup>12</sup> Customers acknowledged that the majority of outages are related to outages on BC Hydro’s radial line but raised concerns that the frequency of outages may increase when more customers are added to the Hemlock System.<sup>13</sup> Customers further stated that Hemlock does not appear to be making progress to reduce the frequency of outages caused by BC Hydro as Hemlock has not had an open means of communication with BC Hydro.<sup>14</sup>

### *Provision of Service & Load Forecast*

Customers also raised concerns regarding the provision of service and anticipated growth of the Hemlock System over the next few years. Specifically, comments were received regarding Hemlock’s plan to grow its customer base by 25 connections over the next five years.<sup>15</sup> Several customers pointed to the lengthy wait times for new connections to the Hemlock System<sup>16</sup> and noted the 18 new single-family dwellings currently awaiting connection.<sup>17</sup> Customers further expressed concerns regarding the ability of the Hemlock System’s current capacity to accommodate the anticipated future growth.

Further, customers referenced the 2020 Berezan Resort Application<sup>18</sup> wherein Berezan seeks to increase commercial overnight accommodations at the resort, and expressed scepticism about Berezan’s assertion in that application that Hemlock has “no issue with capacity” with respect to electrical utility requirements.<sup>19</sup>

In general, customers expressed concern that Berezan is prioritizing growth for commercial operations over growth for residential customers. This is emphasized in letters of comment identifying that Hemlock’s commercial operations have the benefit of backup generators whereas residential customers do not.<sup>20</sup>

### *Rate Increases*

Hemlock’s customers expressed concern over potential rate increases, especially given Hemlock’s frequent and lengthy power outages.<sup>21</sup> Long-term Hemlock residents noted concerns that the continued increase in commercial development in the Hemlock Valley may result in higher utility rates for customers<sup>22</sup> and reduced levels of service for residents.<sup>23</sup>

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<sup>12</sup> Exhibit E-2, Letter of Comment, p. 1.; Exhibit E-3, Letter of Comment, p. 1

<sup>13</sup> Exhibit E-1-1, Letter of Comment, p.p. 1 – 2

<sup>14</sup> Exhibit E-5-1, Letter of Comment, p. 1

<sup>15</sup> Exhibit B-5, Workshop Presentation, p. 4.; Exhibit E-12, Letter of Comment, p. 2

<sup>16</sup> Exhibit E-7, Letter of Comment, p.1; Exhibit E-8, Letter of Comment, p.1; Exhibit D-2-1, Letter of Comment, p. 1; Exhibit E-4, Letter of Comment, p. 1; Exhibit E-11, p. 1

<sup>17</sup> Exhibit E-12, Letter of Comment, p. 1; Exhibit E-11, Letter of Comment, p. 1; Exhibit E-1-1, Letter of Comment, p. 1-2

<sup>18</sup> Exhibit E-1-1, Letter of Comment, p.p. 1-2; Exhibit D-2-1, Letter of Comment, p. 1

<sup>19</sup> 2020 Berezan Resort (Sasquatch) Ltd. Alpine Skiing - Residential Application, Section 3.3, p. 4. Retrieved from <https://comment.nrs.gov.bc.ca/api/public/document/5f3c3e2bb074740022103556/download>

<sup>20</sup> Exhibit E-5-1, Letter of Comment, p. 1; Exhibit E-6, Letter of Comment, p. 1; Exhibit E-8, Letter of Comment, p. 1; Exhibit E-9, Letter of Comment, p. 2; Exhibit E-12, Letter of Comment, p. 2

<sup>21</sup> Exhibit E-3, Letter of Comment, p. 1.; Exhibit E-4, Letter of Comment, p. 1

<sup>22</sup> Exhibit E-4, Letter of Comment, p. 1

<sup>23</sup> Exhibit E-6, Letter of Comment, p. 1

## Engagement with BC Hydro

Following the Workshop, some customers expressed concern over Hemlock's lack of engagement with BC Hydro, noting there has been a clear lack of communication between Hemlock and BC Hydro.<sup>24</sup>

### 4.0 Key Issues Identified

The Panel notes that the evidence provided by Hemlock and RCIA during the proceeding, as supported by some letters of comment filed by Hemlock's customers, identified four distinct areas of concern relating to the Hemlock System, which are as follows:

- Reliability;
- Asset Condition;
- Safety; and
- Load Forecast.

During the course of this proceeding, Hemlock provided its proposed plan to address the above matters.<sup>25</sup> We review the particulars of Hemlock's proposed plan in sections 4.1 to 4.5 below. The Panel also makes findings on the adequacy of Hemlock's proposals and identifies areas where further measures are required.

#### 4.1 Reliability

The Hemlock System is supplied by a single 25kV radial line<sup>26</sup>, as illustrated in Figure 1, connected to BC Hydro's distribution system. The reliability of the Hemlock System is directly dependent on the condition of this radial line and BC Hydro's level of service.<sup>27</sup> Approximately 65.4 percent of Hemlock's outages are directly attributable to outages on BC Hydro's distribution system affecting the radial line.<sup>28</sup> The remaining outages are a result of either planned or unplanned outages on the Hemlock System, attributed to poor asset condition, or system maintenance and shutdowns necessary for the addition of new customer connections.<sup>29</sup>

Hemlock provides the following System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI) outage metrics for all planned and unplanned outages from 2018 to 2021, respectively.<sup>30</sup> By way of context, SAIDI and SAIFI metrics are commonly used as system reliability indices by electric power utilities and provide the average outage duration for each customer served over a given period of time and the average number of interruptions that a customer would experience over a given period of time, respectively.<sup>31</sup> CAIDI is generally accepted as the ratio between SAIDI and SAIFI and is representative of the average outage duration experienced by any given customer over the time interval measured. It can also be viewed as average restoration time after an outage.<sup>32</sup>

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<sup>24</sup> Exhibit E-1-1, Letter of Comment, p.p. 2-3; Exhibit E-4-1, Letter of Comment, p. 1; Exhibit E-12, Letter of Comment, p. 2; Exhibit E-1-1, Letter of Comment, p.1

<sup>25</sup> Exhibit B-5, p.p. 6-7

<sup>26</sup> Hemlock's radial distribution system is supplied by BC Hydro's 25 kV distribution feeder.

<sup>27</sup> Workshop Transcript Vol. 1, p. 13

<sup>28</sup> Exhibit B-3, BCUC IR 13.2, p 19., Exhibit B-5, p.2

<sup>29</sup> Ibid.

<sup>30</sup> Exhibit B-4, p. 1

<sup>31</sup> RCIA Final Argument p. 13

<sup>32</sup> Canadian Electricity Association. (2021), 2020 Distribution System Performance, Annual Report

**Table 1 – SAIDI, SAIFI and CAIDI Metrics for all Hemlock Outages<sup>33</sup>**

All Outages	Fiscal Year			
	F2021	F2020	F2019	F2018
Yearly System Average Interruption Duration Index (SAIDI):	66.09	126.11	229.79	129.41
Yearly Customer Average Interruption Duration index (CAIDI)	5.07	8.31	8.84	8.63
Yearly System Average Interruption Frequency Index (SAIFI):	13.04	15.18	26.00	14.99
Hemlock Utility SAIDI:	49.39	16.24	72.78	30.33
Hemlock Utility CAIDI	5.29	4.19	7.23	15.20
Hemlock Utility SAIFI:	9.33	3.88	10.06	2.00

**Table 2 – SAIDI, SAIFI and CAIDI Metrics for all Hemlock Unplanned Outages<sup>34</sup>**

Unplanned Outages	Fiscal Year			
	F2021	F2020	F2019	F2018
Yearly System Average Interruption Duration Index (SAIDI):	30.00	114.75	211.50	128.91
Yearly Customer Average Interruption Duration index (CAIDI)	6.16	9.42	9.99	9.21
Yearly System Average Interruption Frequency Index (SAIFI):	4.87	12.19	21.17	14.00
Hemlock Utility SAIDI:	23.81	5.14	54.48	29.83
Hemlock Utility CAIDI	8.01	5.42	10.40	29.83
Hemlock Utility SAIFI:	2.97	0.95	5.24	1.00

Hemlock states that prior to this proceeding, it did not have a peer-to-peer utility relationship with BC Hydro and was instead serviced as a typical high-voltage single customer.<sup>35</sup> Hemlock indicates that it has begun the process of improving its relationship with BC Hydro and as of January 7, 2022, it has a designated BC Hydro account representative. While still in the early stages of relationship development, Hemlock states it is optimistic that building this relationship with a dedicated BC Hydro resource will help BC Hydro understand the impact of outages to Hemlock and its customers.<sup>36</sup>

Hemlock states that service reliability has been negatively impacted by required system maintenance and outages necessary for new customer connections. The number of customers affected and the length of outage duration have been directly impacted by Hemlock's limited ability to isolate sections of its distribution system.<sup>37</sup> Hemlock indicates that it intends to invest in fault detection systems to facilitate faster response to outages, and switchgear to better isolate sections of its distribution system.<sup>38</sup> These investments are expected to improve reliability.<sup>39</sup> Hemlock has also been informed of BC Hydro's plans to reinforce the area's reliability through the addition of a connection to the Kent Substation, which will provide redundancy to the existing Mission Substation feeder.<sup>40</sup>

<sup>33</sup> Exhibit B-4, Table 1.1, p. 1

<sup>34</sup> Ibid., Table 1.2, p. 1

<sup>35</sup> Exhibit B-3, BCUC IR 13.4-13.6, p. 19

<sup>36</sup> Exhibit B-5, p. 3

<sup>37</sup> Exhibit B-3, BUCU IR 1.4, pp. 2-3, 11.1, p. 15

<sup>38</sup> Exhibit B-5, p. 4

<sup>39</sup> Ibid.

<sup>40</sup> Exhibit B-7, p. 2

Hemlock submits that it is in the early stages of exploring alternative energy resources, such as wind and solar, to provide back-up power and diversify its energy supply, but acknowledges any feasibility studies will require external funding and will take “years, not months”.<sup>41</sup>

### *Maintenance*

Hemlock indicates that it does not have extensive above-ground infrastructure compared to other utilities<sup>42</sup>, and vegetation management for above-ground infrastructure is managed by an external contractor (Davey Tree Service).<sup>43</sup> Hemlock submits that it relies on the expertise of Davey Tree Service to manage vegetation clearance limits.<sup>44</sup> Hemlock submits that its current snow and ice removal strategy involves heavy equipment such as excavators and wheel loaders.<sup>45</sup>

Hemlock hires external Electrical Field Safety Representatives through its primary contractor, Platinum Electric, to undertake routine inspection and maintenance of Hemlock's System.<sup>46</sup>

Presently, Hemlock states that it is in the early stages of developing a formal system maintenance plan which includes:

- i) implementation of work orders to better track maintenance information on completed jobs;
- ii) increasing inventory of required parts; and
- iii) maintaining minimum inventory levels of those required parts.<sup>47</sup>

In accordance with the scope of work set out in the Site Power Agreement, Hemlock intends to further develop the maintenance plan for its electrical infrastructure assets.<sup>48</sup>

### *Positions of Parties*

RCIA submits that Hemlock establishing a working relationship with BC Hydro is a prudent step towards improving SAIDI and SAIFI metrics and is sufficient at this time given the recency of that relationship.<sup>49</sup> Similarly, given Hemlock's current customer base and limited capacity to support alternate generation sources or supply paths beyond that provided by BC Hydro, RCIA submits that establishing a relationship with BC Hydro is an appropriate low-cost approach that sufficiently mitigates reliability risks at this time.<sup>50</sup>

RCIA further asserts that “relying on BC Hydro to improve Hemlock's reliability over the next three years and waiting to start isolation projects no earlier than five years into the future is not prudent utility practice, especially in light of the growth plans of the resort which will result in regular significant duration community-wide outages without electrical isolations in place to isolate system growth areas.”<sup>51</sup> RCIA encourages Hemlock

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<sup>41</sup> Workshop Transcript Vol. 1, pp. 13-14

<sup>42</sup> *Ibid.*, p. 30

<sup>43</sup> Exhibit B-3, p. 12

<sup>44</sup> Workshop Transcript Vol. 1, pp. 30-31

<sup>45</sup> Exhibit B-1, p. 5

<sup>46</sup> *Ibid.*, p. 1

<sup>47</sup> *Ibid.*, pp. 3-4

<sup>48</sup> Exhibit B-7-2, p. 2

<sup>49</sup> RCIA Final Argument, p. 8

<sup>50</sup> *Ibid.*

<sup>51</sup> *Ibid.*, p. 11

to review its system topology to identify key isolation points that would eliminate community-wide planned outages and thereby materially improve Hemlock's SAIDI and SAIFI metrics.

However, RCIA expresses concern with regards to Hemlock's plan to potentially explore renewable energy resources<sup>52</sup> and argues that these resources will not be justifiable on a reliability and cost-effectiveness basis within a regulated utility context but may be considered feasible within a resort development context.<sup>53</sup>

Consequently, RCIA recommends that the BCUC direct Hemlock to evaluate both the reliability benefits and economics of alternative generation resources when considering generation feasibility, and to define what capital additions are justifiable rate-base additions versus resort driven development additions.<sup>54</sup>

RCIA submits that Hemlock's current vegetation management strategy is adequate due to the small number of assets exposed to vegetation management risk, the lack of any history of vegetation management related outages<sup>55</sup>, and the inconsequential nature of Hemlock to the overall BC Hydro system.<sup>56</sup> Additionally, RCIA submits that any additional time or funds spent on improving Hemlock's vegetation management practices would be a misallocation of resources from a ratepayer perspective.<sup>57</sup>

RCIA accepts that Hemlock's current plan and practice of snow and ice removal is adequate due to the inherent resilient nature of Hemlock's electrical system to inclement weather conditions<sup>58</sup> and the low frequency of snowfall related issues.<sup>59</sup>

### *Letters of Comment*

A number of Hemlock customers expressed concerns with respect to the lengthy repair times in response to frequent power outages,<sup>60</sup> and further note that the continued increase in commercial development is likely to result in higher utility rates for residential customers<sup>61</sup> and reduced level of service for residents.<sup>62</sup> It was also suggested that because Berezan owns both Hemlock and the Sasquatch Mountain Resort, a potential conflict of interest may exist whereby the owner/developer could avoid capital improvement and maintenance costs of the utility and instead subject these costs to Hemlock's customers.<sup>63</sup>

### *Panel Determination*

The Panel finds two issues underlying outages on Hemlock's System, these being outages on the single 25kV radial line and Hemlock's ad-hoc manner of managing its aging assets. There have been notable improvements in Hemlock's metrics since 2018. However, the number of outages has left current residential customers uncertain as to the reliability of the Hemlock System.

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<sup>52</sup> Workshop Transcript, p. 13

<sup>53</sup> RCIA Final Argument, p. 8

<sup>54</sup> Ibid., pp. 8-9

<sup>55</sup> Workshop Transcript, p. 34; RCIA Final Argument, p. 12

<sup>56</sup> RCIA Final Argument, p. 12

<sup>57</sup> Ibid.

<sup>58</sup> Exhibit B-3, BCUC IR 1.3, p. 2; Workshop Transcript, pp. 32-33

<sup>59</sup> RCIA Final Argument, p. 12

<sup>60</sup> Exhibit E-2, Letter of Comment, p. 1; Exhibit E-3, Letter of Comment, p. 1

<sup>61</sup> Exhibit E-4, Letter of Comment, p. 1.

<sup>62</sup> Exhibit E-6, Letters of Comment, p. 1

<sup>63</sup> Exhibit E-13, Letter of Comment, p. 2

Hemlock has indicated that it has contracted vegetation management to Davey Tree Service, but it is unclear what direction this contractor is given or how its service is evaluated. RCIA submits that Hemlock's current vegetation management strategy is generally proportional to its risk. The Panel finds this to be the case based on Hemlock's evidence of the low number of outages attributable to Hemlock's vegetation management as compared to outages caused by trees down on BC Hydro's line.

Given that the majority of outages are related to the single 25kV radial line, the Panel finds it concerning that Hemlock had no real relationship with BC Hydro prior to the commencement of this proceeding, despite serving more than 200 customers. The Panel therefore considers Hemlock's recent efforts to establish a relationship with BC Hydro as a positive step. By the same token, the Panel is encouraged by the improvements in Hemlock's 2021 reliability metrics over those for the previous four years with respect to outage frequency and duration. The Panel notes Hemlock's statement that it is exploring the feasibility of alternative energy sources to address potential outages. While this may be a positive initiative, it is unclear what exactly Hemlock has done to date or where it is in that exploration process. The Panel acknowledges RCIA's concern over the potential costs associated with alternative energy, and while we are in favour of Hemlock exploring potential redundancy in its electricity supply, improving the reliability of its existing electricity supply must take priority. Insofar as better communication with BC Hydro is likely to improve reliability, we consider this to be of utmost importance and we expect that a more responsive, utility-to-utility relationship between Hemlock and BC Hydro will in turn improve the overall quality of service that Hemlock provides to its customers.

**Therefore, within 60 days of this Order, Hemlock to file with the BCUC a report setting out a schedule of future meetings with BC Hydro relating to supply reliability (Supply Reliability Meetings). Within 60 days following each of the Supply Reliability Meetings, Hemlock is to file with the BCUC a summary of the outcomes of that Supply Reliability Meeting.**

**Hemlock is directed to include in its annual report to the BCUC:**

- (i) Details of any investments and improvements that Hemlock has made to increase supply and improve reliability from the previous fiscal year; and**
- (ii) Reliability metric targets (SAIDI, SAIFI and CAIDI) for the next five years on a prospective basis and continue to submit actual reliability metrics from the previous fiscal year.**

## **4.2 Condition of Hemlock System Assets**

Hemlock estimates that many of its distribution system assets are between 35 and 40 years old.<sup>64</sup> Hemlock asserts that the age and condition of these assets have created an impediment to Hemlock providing safe and reliable service to its customers. In addition, given the age of these assets, Hemlock states that maintaining an adequate supply of spare parts in its inventory, and sourcing any additional spare parts for the assets, has proven to be difficult, exacerbated by supply constraints arising from the COVID-19 pandemic.<sup>65</sup> Hemlock further submits that as it develops its maintenance plans, formal documentation, including records of the age of system components, will be created.<sup>66</sup>

Table 3 below provides a high-level overview of Hemlock's electrical system and the expected service life for each major component<sup>67</sup>:

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<sup>64</sup> Exhibit B-3-2, Supplemental Response to BCUC IR 1.9

<sup>65</sup> Exhibit B-3, p. 3

<sup>66</sup> Exhibit B-3-2, BCUC IR 1.1, p. 1

<sup>67</sup> Based on Exhibit B-3, Response to BCUC IR 1.1



**Table 3 – Overview of Hemlock’s Electrical System and Estimated Expected Service Life of Major Components**

Components	Estimated Expected Component Service Life (years)
High Voltage Elbows	30
600 A 15/25 kV Class Load Break Junction Bar	60
Transformers	30
Poles	30
Pole Components – Gang Operated Air Brake	30
Pole Components – Insulators	50
Concrete Service Boxes/Junction Vaults	50
Service Conductor	30
Secondary Conductors	30
Service Connections	30

Additionally, Hemlock states it does not have a formal preventative maintenance program to assesses and track equipment condition and inform maintenance activities required to prevent unplanned outages. Instead, Hemlock performs system maintenance on a reactive basis, replacing assets as the need arises.<sup>68</sup> Currently, there is limited insight into the material condition of the Hemlock System and Hemlock has engaged Site Power to provide a comprehensive evaluation of its equipment as part of the Engineering Assessment.<sup>69</sup> Hemlock submits that it will be developing proactive maintenance plans based on the results of the Engineering Assessment and expects these plans to take effect in the fall of 2022.<sup>70</sup>

Currently, Hemlock retains Platinum Electric as the primary contractor to service the Hemlock System and to provide maintenance recommendations where necessary.<sup>71</sup> Hemlock states that planned inspections of its electrical systems occur on an annual basis through visual inspection. Further, Hemlock submits that infrared imaging is used to conduct inspections of its underground electrical systems.<sup>72</sup>

The Site Power Agreement outlines the services that Hemlock has contracted with Site Power to complete the Engineering Assessment. Among other deliverables, those services include the following:

- Assessing existing utility equipment and capacity;
- Producing existing system map and single line diagram;
- Providing recommendations for current infrastructure including fault detection & isolation;
- Determining the maximum additional energy that can be supplied under the existing BC Hydro energy purchase agreement;
- Developing a staged high-voltage master plan for growth and development;

<sup>68</sup> Exhibit B-3, BCUC IR 1.8, p. 4

<sup>69</sup> Exhibit B-7; Exhibit B-7-2

<sup>70</sup> Exhibit B-3, BCUC IR 6.1, p. 8

<sup>71</sup> Exhibit B-1, p. 4

<sup>72</sup> Ibid.

- Projecting future energy demand and BC Hydro costs;
- Developing a high-level maintenance plan for electrical infrastructure assets; and
- Providing a Master Plan to BC Hydro and conducting initial discussions on planned future capacity.<sup>73</sup>

### *Positions of Parties*

RCIA submits that Hemlock provided insufficient evidence during the Workshop for RCIA to be able to opine on Hemlock's maintenance plan, beyond the observation that the utility engages in little structured planning.<sup>74</sup>

However, RCIA states that Hemlock's informal approach to maintenance is not inadequate given the small size of the utility and the reliance on the observations of Hemlock staff and Platinum Electric to provide feedback on assets requiring attention. As a result, RCIA does not recommend the BCUC direct any changes to Hemlock's current maintenance practices, as in its view, the lack of formalization is not the primary cause of Hemlock's poor reliability metrics.<sup>75</sup>

### *Panel Determination*

As identified in Table 3 above, the Panel notes that a number of Hemlock's system assets have exceeded their estimated service lives, with the likely result that those assets will require major capital investment for repair or replacement in order to maintain and improve system reliability. The Panel does not agree with RCIA that Hemlock's small size justifies an ad-hoc approach to managing its operations and maintenance. While the Panel recognizes that the small size of the utility does present certain challenges, without any on-going assessment of its system assets or structured maintenance planning, Hemlock is likely to miss opportunities to take preventative action. The lack of a structured and proactive maintenance plan has, in our view, contributed to the poor state of Hemlock's assets, delays in system upgrades, and overall poor system reliability.

The Panel acknowledges, however, that since this proceeding began, Hemlock has taken steps to undertake a more thorough assessment of the condition of its system by the engaging Site Power to assist in developing a formal and proactive system maintenance plan. The Panel considers this to be a good start, but it is clear that more is needed to address the problems that have been identified in this proceeding, specifically, Hemlock's issues with (i) reliability, (ii) asset condition, (iii) safety, and (iv) load forecast.

**In light of the above, within 30 days of completion, but no later than (1) year from the date of this Order, Hemlock is to file with the BCUC, the Engineering Assessment, including a detailed report on any further activities recommended in the Engineering Assessment and the expected timeframes for such further activity.**

**Within 30 days of completion of the Engineering Assessment, Hemlock is to file with the BCUC, a remedial action plan addressing any as-found deficiencies that pose an immediate risk to safety or reliability. Hemlock is to file, every 90 days thereafter until all identified deficiencies have been remediated, a progress report on on-going maintenance and repairs.**

**Within six (6) months of filing the Engineering Assessment, Hemlock is to file with the BCUC, a report detailing Hemlock's routine and preventative maintenance programs, including a description of the steps taken to implement the program, and those steps to be undertaken in the next fiscal year (Hemlock Maintenance Plan).**

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<sup>73</sup> Exhibit B-7-2, pp. 1-2

<sup>74</sup> RCIA Final Argument, p. 13.

<sup>75</sup> Ibid.

Hemlock is directed to include in its annual report to the BCUC:

- (i) all maintenance activities completed or underway, and
- (ii) any incidents that occurred in the previous fiscal year that did, or could, affect the material condition and reliability of the Hemlock System.

Within eighteen (18) months of this Order, Hemlock is directed to file with the BCUC the following:

- (i) Single-line diagram(s) detailing the distribution system's current topology;
- (ii) An updated map detailing the current geographic location of the distribution system assets;
- (iii) Maintenance procedures for any non-standard or legacy equipment;
- (iv) Operational procedures to reflect lock-out/tag-out, equipment manufacturer recommendations and maintenance schedules; and
- (v) Written confirmation that all equipment is properly tagged and identifiable from the single line-diagram(s).

### 4.3 Safety

As noted in Section 2.0 above, pursuant to Section 3 of the Electrical Safety Regulation, as a public utility, Hemlock is exempt from safety regulation with respect to the generation, transmission and distribution of electrical energy under the *Safety Standards Act*.<sup>76</sup> As a result, there is no regulatory oversight over general safety matters pertaining to Hemlock's System aside from the BCUC's general supervisory power over public utilities under Part 3 of the UCA.

Platinum Electric is hired on a contract basis to perform work on the Hemlock System and employs several operators to perform connection and re-connection requests. Hemlock has few formal documented policies and relies heavily on its contractors' knowledge of the distribution system to perform maintenance activities and ensure safety standards are met.<sup>77</sup>

#### *Positions of Parties*

With respect to Hemlock's safety program, RCIA considers Hemlock's understanding of comprehensive safety programs to be immature.<sup>78</sup> However, notwithstanding the limitations of Hemlock's safety program when compared to larger utilities, RCIA submits that Hemlock's practice is normal and acceptable for a utility of Hemlock's size.<sup>79</sup>

RCIA further notes that Hemlock's sole electrical contractor arrangement with Platinum Electric mitigates safety related issues in a simple and cost-effective manner because Hemlock does not need to "maintain deep electrical expertise, but rather defers to an electrical contractor whose primary expertise is the safe performance of electrical work."<sup>80</sup>

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<sup>76</sup> *Safety Standards Act* [SBC 2003], c.39, Electrical Safety Regulation, BC Reg 100/2004 at section 3  
[https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/12\\_100\\_2004](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/12_100_2004)

<sup>77</sup> Exhibit B-3, pp. 11 - 12

<sup>78</sup> RCIA Final Argument, p. 14

<sup>79</sup> Ibid.

<sup>80</sup> Ibid.

Consequently, RCIA submits that Hemlock's safety program is acceptable and similarly accepts that Hemlock meets the requirements for maintaining staff, contractor, and public safety.<sup>81</sup> As Hemlock expands beyond a sole electrical contractor arrangement, RCIA states that Hemlock will require a more comprehensive safety program in place to avoid issues such as "multiparty coordination, poor system familiarity, staff turnover, standardized practice across all parties, etc."<sup>82</sup>

### *Panel Determination*

While the Panel accepts that the safety program of a utility of Hemlock's size may not be as detailed or rigorous as that of a larger utility, it must at least set and maintain certain minimum safety standards. Hemlock is currently totally reliant on external expertise. It is unclear to this Panel whether Hemlock understands its own responsibilities in relation to the safety of its system and that of its staff, contractors and the wider public. This lack of clarity together with the lack of documented standards and procedures could lead to serious deficiencies in Hemlock's short and long-term system management capability. There may be insufficient institutional knowledge within Hemlock to facilitate identification of hazardous conditions with equipment, timely maintenance or an appropriate response to an outage event when Hemlock's contractor is not available or no longer under contract to Hemlock. This is concerning to the Panel, particularly as the Hemlock System is expected to expand to accommodate future customer and load growth. The Panel sees a need for a more disciplined approach to Hemlock's safety management and therefore orders the following:

**Within six (6) months of this Order, Hemlock is directed to file with the BCUC, a report detailing the improvements in documentation of safety-related system procedures and system topology.**

**Pursuant to Sections 23 and 24 of the UCA, Hemlock is directed to include in its annual report, a safety compliance report, which includes the following information from the previous fiscal year:**

- (i) All safety incidents (including near misses) involving staff, contractors or the public as a result of interaction with the Hemlock System;**
- (ii) All hazardous conditions that have been identified and require remediation of the Hemlock System;**
- (iii) Any corrective actions that have been taken in response to a safety-incident or an identified hazard condition;**
- (iv) Any compliance reporting with respect to safety-related inspections or audits that are conducted following safety-related incidents;**
- (v) Any employee safety training and certification; and**
- (vi) Confirmation that any electrical contractors retained by Hemlock are properly qualified.**

**Within 30 days of this Order, Hemlock is directed to file its most recent arc flash assessment and coordination study (Arc Flash Assessment) to identify and manage equipment hazards and identify protective trip curves. If an Arc Flash Assessment has not been completed or was last completed over 5 years from the date of this Order, Hemlock is directed to perform and file an Arc Flash Assessment with the BCUC within one (1) year of this Order.**

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<sup>81</sup> Ibid.

<sup>82</sup> Ibid, p. 15.

#### 4.4 Load Forecast

Hemlock states it is expecting significant load growth and provided a forecast of customer growth over the next 10 years.<sup>83</sup> Over the shorter term, Hemlock's anticipated growth over the next five years includes 25 new residential units and a 100-room staff accommodation building.<sup>84</sup> Hemlock's anticipated medium-term (six to ten year) growth forecast includes:

- 25 new residential units;
- four to five new hotels and condos;
- A new lodge, retail space, restaurant and office space; and
- 900 underground parking stalls.<sup>85</sup>

Hemlock identifies that system upgrades and capital expenditure will likely be required to service the incremental load.<sup>86</sup>

Further, in order to facilitate Hemlock's future expansion, the scope of work in the Site Power Agreement includes assistance in load forecasting, an assessment of Hemlock's current and projected infrastructure needs and a review the maximum amount of energy that can be supplied under Hemlock's existing BC Hydro energy purchase agreement.<sup>87</sup>

#### *Positions of Parties*

RCIA submits that it does not believe it is acceptable for Hemlock not to provide a forecast of annual energy demand and peak capacity compared against current annual energy supply and peak capacity constraints.<sup>88</sup>

RCIA recommends that the BCUC direct Hemlock to provide at least a 10-year forecast of energy and peak capacity growth compared to current energy and peak system capacity. In light of the anticipated filing of Hemlock's Engineering Assessment, RCIA accepts that this issue is being addressed by Hemlock with Site Power and did not provide any further comments.<sup>89</sup>

With respect to Hemlock's infrastructure plans to meet anticipated load growth, RCIA submits that Hemlock's strategy of identifying and replacing problematic assets based on the personal experience of Hemlock personnel and Platinum Electric is not inappropriate.<sup>90</sup> RCIA notes, however, that these informal asset assessment practices will become inadequate over time as Hemlock grows and the personal experience of its staff and external contractors is consequently diluted.<sup>91</sup>

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<sup>83</sup> Exhibit B-5, p. 4

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Exhibit B-7-2, p. 2

<sup>88</sup> RCIA Final Argument, pp. 9-10

<sup>89</sup> Exhibit C1-4, p. 3.

<sup>90</sup> RCIA Final Argument, p. 10

<sup>91</sup> Ibid.

### *Letters of Comment*

While Hemlock customers acknowledge that the majority of outages are attributed to BC Hydro, they remain concerned that the frequency of outages is likely to increase as more customers are added to the Hemlock System.<sup>92</sup> They also express concern regarding the system's ability to manage the anticipated growth.<sup>93</sup> Letters of comments from Hemlock's ratepayers also expressed concern that since both the resort and the utility share the same owner, Hemlock could prioritize growth for commercial customers over that of residential customers. This is further reiterated in letters of comment identifying that Hemlock's commercial operations have the benefit of backup generators whereas residential customers do not have access to the same.<sup>94</sup>

### *Panel Determination*

Hemlock's shareholder is also the owner of Sasquatch Mountain Resort, which is one of Hemlock's largest customers. The Panel acknowledges the concerns raised by both RCIA and in letters of comment regarding the potential for conflicts of interest and preference being given to investments in the resort, but there is no evidence before this Panel that show any existing conflict of interest. Should parties have evidence of a conflict of interest, it would be best to raise this concern in the rate application hearing where Hemlock seeks to recover its costs.

The Panel notes the letters of comment asserting that prospective customers have been waitlisted for up to two years and that a number of prospective customers who would like to receive electrical service from Hemlock are unable to even get on a waitlist.<sup>95</sup> Although Hemlock states that it is expecting significant load growth, the Panel is concerned that the lack of a long-term plan raises doubts as to Hemlock's ability to meet incremental growth in an orderly and planned fashion, raising questions regarding the likelihood that Hemlock can meet its stated future growth expectations. Additionally, the Panel is concerned with respect to Hemlock's ability to provide service to its customers, as this required of all public utilities under sections 28 to 30 of the UCA. The Panel agrees with RCIA that Hemlock must have an annual forecast of future customer and load growth that considers the addition of both commercial and residential customers. Such a forecast may help alleviate the concerns of existing ratepayers, as well as customers waiting to be connected to the Hemlock System by addressing matters such as system capacity and planned outages.

**Therefore, within six (6) months of this Order, Hemlock is directed to file with the BCUC:**

- (i) A 10-year forecast of customers, for each year of the forecast period, based on current and projected approvals; and**
- (ii) A 10-year energy and peak capacity forecast, for each year of the forecast period.**

**In its annual report to the BCUC, Hemlock is directed include the following information:**

- (i) The number of outstanding requests for connection from the previous fiscal year;**
- (ii) The number of requests for connection received in the previous fiscal year; and**
- (iii) The number of connections completed in the previous fiscal year, including the length of time it took to connect.**

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<sup>92</sup> Exhibit E-1-1, Letter of Comment, p.p. 1 - 2

<sup>93</sup> Exhibit E-7, Letter of Comment, p. 1; Exhibit E-8, Letter of Comment, p. 1; Exhibit D-2-1, Letter of Comment, p. 1; Exhibit E-4, Letter of Comment, p. 1

<sup>94</sup> Exhibit E-5-1, Letter of Comment, p. 1; Exhibit E-6, Letter of Comment, p. 1; Exhibit E-8, Letter of Comment, p. 1; Exhibit E-9, Letter of Comment, p. 2; Exhibit E-12, Letter of Comment, p. 2

<sup>95</sup> Exhibit E-11, Letter of Comment, p. 1

**As part of its next Revenue Requirements Application, Hemlock is directed to report on the variance between Hemlock’s load forecast and actual load growth.**

#### 4.5 Hemlock’s Future Growth Plan

During the Workshop, Hemlock confirmed that it plans to spend \$1.75M to address its current maintenance issues and potential future growth over the next 10 years and will give priority to projects that will reduce the number of unplanned outages (Future Growth Plan).<sup>96</sup> Hemlock retained its Electrical Field Safety Representative to support the development of the Future Growth Plan, which was presented to the BCUC during the Workshop. The Future Growth Plan consists of:

- (i) an assessment of Hemlock’s current infrastructure;
- (ii) identification of required equipment upgrades and replacements where required;
- (iii) installation of more underground cable fault indicators, as required; and
- (iv) upgrades to or replacement of underground neutral conductors.

Hemlock also submits an emergency response plan will be developed in conjunction with Site Power.<sup>97</sup>

#### *Positions of Parties*

Although RCIA does not recommend the BCUC direct any changes to Hemlock’s current maintenance practices,<sup>98</sup> it expresses concern that Hemlock may not have considered the impact of the Future Growth Plan on Hemlock’s ratepayers.<sup>99</sup>

For clarity, RCIA submits that it is not suggesting the BCUC impose additional activities related to maintenance planning upon Hemlock, but rather RCIA “wants to see evidence in future filings that Hemlock considers ratepayer impacts in their decision making. To this end, RCIA recommends that Hemlock’s consideration of ratepayer impacts be monitored in future filings.”<sup>100</sup>

In response to Hemlock’s Engineering Assessment, RCIA noted that the Site Power Agreement includes that “Hemlock Valley Utility Electrical Bills will be reviewed”. However, RCIA submits that this is not the same as determining ratepayer impacts.<sup>101</sup> Accordingly, RCIA categorized this issue as “Out of Scope” in its assessment of the Site Power Agreement and reiterates that Hemlock should consider ratepayer impacts in its decision making in future filings.<sup>102</sup>

As for Hemlock’s lack of a formal emergency response plan, RCIA accepts that this will be addressed by Hemlock and Site Power in due course. However, RCIA notes that the Site Power Agreement stipulates that the development of an emergency response plan will be “taken on as budget capacity permits.”<sup>103</sup> As a result, RCIA recommends that the BCUC direct Hemlock to provide progress updates in subsequent proceedings to ensure that an emergency response plan is developed.<sup>104</sup>

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<sup>96</sup> Exhibit B-5, Hemlock Workshop Presentation, p. 6.

<sup>97</sup> Exhibit B-5, p. 9; Exhibit B-7-2, p. 2

<sup>98</sup> RCIA Final Argument, p. 13

<sup>99</sup> Ibid.

<sup>100</sup> Ibid.

<sup>101</sup> Exhibit C1-4, p. 4

<sup>102</sup> Ibid.

<sup>103</sup> Exhibit B-7-2, p. 2

<sup>104</sup> Exhibit C1-4, p. 4

RCIA expresses concern that Hemlock is unaware whether the single feeder providing electricity is sufficient for the resort's growth plans<sup>105</sup>, or when the distribution line capacity limits will be reached.<sup>106</sup> With respect to resort development, RCIA also notes "the resort and Hemlock have the same owner who may be taking short term losses on Hemlock to promote resort growth" and requests the BCUC to "define what fraction of capital additions are justifiable rate-base additions versus resort driven development additions."<sup>107</sup>

### *Panel Determination*

The Panel is encouraged that Hemlock has taken steps to initiate the Future Growth Plan to address its current maintenance issues and potential future growth. However, we are concerned that the proposed amount of \$1.75M over 10 years will fall far short of the amount required to effectively deal with the many issues in question. As discussed in sections 4.1 and 4.2 of this decision, given the poor reliability metrics and the number of Hemlock System components that are at the end of or have exceeded their expected service life, the need for greater investment in this utility to maintain safe and reliable service to its existing customers, let alone to meet its Future Growth Plan, is evident.

**Within six (6) months of the date of this Order, and every six (6) months thereafter, Hemlock is to file with the BCUC, a report detailing the status of activities set out in the Future Growth Plan, including activities that have been completed, reasons for delays, if any, and general progress in the implementation of the Future Growth Plan.**

**Within six (6) months of this Order, Hemlock is directed to file with the BCUC, a report with the timing for future discussions and agreements with BC Hydro on capacity growth.**

The Panel appreciates RCIA's concern that the cost of system maintenance after a period of neglect could result in a steep rise in rates. This is also reflected in a number of letters of comment from Hemlock ratepayers. As discussed earlier, the risk of steep rate increases driven by the need for system maintenance and upgrades could be avoided by a systematic and orderly approach to Hemlock's required ongoing maintenance and capital investments. However, we note that since costs prudently incurred by the utility are generally recoverable from ratepayers, rates would still have escalated, though perhaps on a more gradual trajectory. Hemlock is expected to make timely decisions regarding expenditures necessary to ensure the provision of safe and reliable service to all customers. Delays in making necessary expenditures are not acceptable if the delay results in increased capital costs or negative impacts on system reliability. As a public utility, Hemlock is responsible for regularly addressing these matters in its operations and planning so that any required rate adjustments can be made accordingly, subject to the BCUC's review and approval. Regular maintenance, including necessary capital improvements, should be included in Hemlock's revenue requirement each time a rate application is made. This ensures that current rates accurately represent the real cost of service while avoiding intergenerational inequity issues.

The Panel notes that Hemlock's failure to make regular investments in system maintenance and upgrades has had the effect of keeping the rates paid by its ratepayers artificially low, so when required capital investments to the distribution system are made, the rates required to recover these capital investments may increase by a greater extent than if investments were made gradually over a longer period of time, thus resulting in undesirable rate volatility. While the utility can, among other things, utilize rate smoothing mechanisms to reduce rate volatility, these mechanisms must still account for the principle of cost causation that allows the utility to recover prudently incurred costs from its ratepayers.

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<sup>105</sup> Workshop Transcript, p. 60

<sup>106</sup> RCIA Final Argument, p. 10

<sup>107</sup> Ibid. p. 9



Of course, the Panel notes that if a cost is not prudently incurred, a future panel may determine that those costs cannot be recovered, in which case the shareholder alone must bear the cost. Matters such as prudence, cost recovery and any cost recovery mechanisms to be implemented will be subject to BCUC review and approval in the context of Hemlock’s future rate applications. Any interested parties, including Hemlock’s customers, are welcome to participate by intervening or filing a letter of comment in any future BCUC proceeding. In addition, customers may avail themselves of the opportunity to file complaints with the BCUC regarding any inadequacies in service that Hemlock is unable to address directly.

## 5.0 Panel Determinations

No.	Directive	Due Date	Section / Page No.
1.	Within 60 days of this Order, Hemlock is to file with the BCUC, a report setting out a schedule of future meetings with BC Hydro relating to supply reliability (Supply Reliability Meetings). Within 60 days following each of the Supply Reliability Meetings, Hemlock is to file with the BCUC a summary of the outcomes of that Supply Reliability Meeting.	60 days from date of this Order  AND  60 days after discussion with BC Hydro	Reliability / p. 9
2.	As part of its annual report, Hemlock is directed to file with the BCUC, details of any investments and improvements that Hemlock has made to increase supply and improve reliability during the previous fiscal period.	Included in Annual Report	Reliability / p. 9
3.	As part of its annual report, Hemlock is directed to file with the BCUC, reliability metric targets (System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI)) for the next five years on a prospective basis and continue to submit actual reliability metrics for the previous fiscal year.	Included in Annual Report	Reliability / p. 9
4.	Engineering Assessment  Within 30 days of completion, but no later than (1) year from the date of this Order, Hemlock is to file with the BCUC, the Engineering Assessment, including a detailed report on any further activities recommended in the Engineering Assessment and the expected timeframes for such further activity.	Within 30 days of the Engineering Assessment’s completion	Condition of Hemlock System Assets /p. 11
5.	Within 30 days of completion of the Engineering Assessment, Hemlock is to file with the BCUC, a remedial action plan addressing any as-found deficiencies that pose an immediate risk to safety or reliability. Hemlock is further directed to file, every 90 days thereafter until all identified deficiencies have been remediated, a progress report on on-going maintenance and repairs.	Within 30 days of the Engineering Assessment’s completion  AND  Every 90 days thereafter	Condition of Hemlock System Assets /p. 11

No.	Directive	Due Date	Section / Page No.
6.	Within six (6) months of filing the Engineering Assessment, Hemlock is to file with the BCUC, a report detailing Hemlock's routine and preventative maintenance programs, including a description of the steps taken to implement the program, and those steps to be undertaken in the next fiscal year.	Within 6 months from the filing of the Engineering Assessment	Condition of Hemlock System Assets /p. 11
7.	As part of its annual report, Hemlock is directed to file with the BCUC:  <ul style="list-style-type: none"> <li>(i) All maintenance activities completed or underway, and</li> <li>(ii) Any incidents that occurred in the previous fiscal year that did, or could, affect the material condition and reliability of the Hemlock System.</li> </ul>	Included in Annual Report	Condition of Hemlock System Assets /p. 12
8.	Within eighteen (18) months of this Order, Hemlock is directed to file with the BCUC the following:  <ul style="list-style-type: none"> <li>(i) Single-line diagram(s) detailing the distribution system's current topology;</li> <li>(ii) An updated map detailing the current geographic location of the distribution system assets;</li> <li>(iii) Maintenance procedures for any non-standard or legacy equipment;</li> <li>(iv) Operational procedures to reflect lock-out/tag-out, equipment manufacturer recommendations and maintenance schedules; and</li> <li>(v) Written confirmation that all equipment is properly tagged and identifiable from the single-line diagram(s).</li> </ul>	18 months from the date of this Order	Condition of Hemlock System Assets /p. 12
9.	Within six (6) months of this Order, Hemlock is directed to file with the BCUC, a report detailing the improvements in documentation of safety-related system procedures and system topology.	6 months from the date of this Order	Safety /p. 13

No.	Directive	Due Date	Section / Page No.
10.	<p>As part of its annual report, Hemlock is directed to file with the BCUC, a safety compliance report which includes the following from the previous fiscal year:</p> <ul style="list-style-type: none"> <li>(i) All safety incidents (including near misses) involving staff, contractors or the public as a result of interaction with the Hemlock system;</li> <li>(ii) All hazardous conditions that have been identified and require remediation of the Hemlock System;</li> <li>(iii) Any corrective actions that have been taken in response to a safety-incident or an identified hazard condition;</li> <li>(iv) Any compliance reporting with respect to safety-related inspections or audits that are conducted following safety-related incidents;</li> <li>(v) Any employee safety training and certification; and</li> <li>(vi) Confirmation that any electrical contractors retained by Hemlock are properly qualified.</li> </ul>	Included in Annual Report	Safety /p. 13
11.	<p>Within 30 days of this Order, Hemlock is directed to file its most recent arc flash assessment and coordination study (Arc Flash Assessment) to identify and manage equipment hazards and identify protective trip curves. If an Arc Flash Assessment has not been completed or was last completed over 5 years from the date of this Order, Hemlock is directed to perform and file an Arc Flash Assessment with the BCUC within one (1) year of this Order</p>	Within 30 days or 1 year from the date of this Order	Safety /p. 13
12.	<p>Within six (6) months of this Order, Hemlock is directed to file with the BCUC:</p> <ul style="list-style-type: none"> <li>(i) A 10-year forecast of customers, for each year of the forecast period, based on current and projected approvals; and</li> <li>(ii) A 10-year energy and peak capacity forecast, for each year of the forecast period.</li> </ul>	6 months from the date of this Order	Load Forecast /p. 15
13.	<p>In its annual report to the BCUC, Hemlock is directed include the following information:</p> <ul style="list-style-type: none"> <li>(i) The number of outstanding requests for connection from the previous fiscal year;</li> <li>(ii) The number of requests for connection received in the previous fiscal year; and</li> <li>(iii) The number of connections completed in the previous fiscal year, including the length of time it took to connect.</li> </ul>	Included in Annual Report	Load Forecast / p. 16

No.	Directive	Due Date	Section / Page No.
14.	As part of its next Revenue Requirements Application, Hemlock is directed to report on the variance between Hemlock's load forecast and actual load growth.	Included in Next Revenue Requirements Application	Load Forecast /p. 16
15.	Within six (6) months of issuance of this Order, and every six (6) months thereafter, Hemlock is to file with the BCUC, a report detailing the status of activities set out in the Future Growth Plan, including activities that have been completed, reasons for delays, if any, and general progress in the implementation of the Future Growth Plan.	6 months from the date of this Order  AND  Every 6 months thereafter	Hemlock's Future Growth Plan / p. 17
16.	Within six (6) months of issuance of this Order, Hemlock is directed to file with the BCUC, a report with the timing for future discussions and agreements with BC Hydro on capacity growth	6 months from the date of this Order	Hemlock's Future Growth Plan / p. 17