



ORDER NUMBER
G-302-23

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

and

Kelowna OWS Utility Inc.
Complaint filed by Strata EPS 7397

BEFORE:

B. A. Magnan, Panel Chair
W. M. Everett, KC, Commissioner

on November 7, 2023

ORDER

WHEREAS:

- A. On May 5, 2023, the British Columbia Utilities Commission (BCUC) appointed a panel to review the reliability and safety of the thermal energy services provided by Kelowna OWS Utility Inc. (Kelowna OWS) following a complaint filed on behalf of Strata EPS 7397 (Strata) on December 28, 2022 (Complaint);
- B. Kelowna OWS provides thermal energy services, including space heating and domestic hot water, to the residents of the One Water Street Development in Kelowna, British Columbia. These residents are represented by the Strata;
- C. In the Complaint, the Strata submits that the thermal energy services provided by Kelowna OWS are unreliable and unsafe, in part due to the repeated failure of the heat pump components of Kelowna OWS' thermal energy system;
- D. On February 8, 2023, the BCUC issued BCUC Staff Questions No. 1 to Kelowna OWS. On March 16, 2023, Kelowna OWS provided its responses to BCUC Staff Questions No. 1;
- E. By Orders G-176-23 and G-222-23, dated July 7, 2023, and August 18, 2023, respectively, the BCUC established and amended a regulatory timetable, which included two rounds of information requests (IRs) to Kelowna OWS and to the Strata, and an opportunity for both parties to reply to IR responses; and
- F. The BCUC has considered the Complaint and the evidence and submissions filed to date in this proceeding and finds that the following determinations are warranted.

NOW THEREFORE for the reasons set out in Appendix B to this order and pursuant to the *Utilities Commission Act*, the BCUC orders as follows:

- 1. By no later than 30 days of this Order, Kelowna OWS is directed to provide to the BCUC for its prior review and approval, information and terms of engagement for a proposed form of agreement for the retainer of a qualified and independent third-party engineer (Third-Party Engineer Retainer Agreement) including terms of engagement necessary to investigate and provide a report in respect of the root cause(s) of the unreliable

and inadequate operation of the thermal energy space heating service provided to the Strata by Kelowna OWS' thermal energy system (Third-Party Engineer Report). The Third-Party Engineer Report must include, but is not limited to, the Areas of Focus identified in the Reasons for Decision attached as Appendix B to this Order.

2. By no later than 90 days of the BCUC's approval of the Third-Party Engineer Retainer Agreement, Kelowna OWS is directed to file its Third-Party Engineer Report with the BCUC and provide a copy to the Strata.
3. An amended regulatory timetable is established as outlined in Appendix A to this Order.

DATED at the City of Vancouver, in the Province of British Columbia, this 7th day of November 2023.

BY ORDER

Original signed by:

B. A. Magnan
Commissioner

Attachment

Kelowna OWS Utility Inc.
Complaint filed by Strata EPS 7397

REGULATORY TIMETABLE

Action	Date (2023)
Kelowna OWS submits the proposed form of Third-Party Engineer Retainer Agreement information and terms of engagement for BCUC review and approval	Thursday, December 7

Kelowna OWS Utility Inc.
Complaint filed by Strata EPS 7397

REASONS FOR DECISION

1.0 Introduction

1.1 Background

The One Water Street Development (One Water Street) in Kelowna consists of two residential towers. The East Tower was completed in September 2021 and the West Tower was completed in September 2022. One Water Street was developed by Kerkhoff Construction and North American Development Group (collectively, the Developer).¹ The residents of One Water Street are represented by the Strata Council of EPS 7397 (the Strata).²

Kelowna OWS Utility Inc. (Kelowna OWS) provides thermal energy services, including space heating and domestic hot water, to the Strata. On July 28, 2021, by Order G-146-21A, Kelowna OWS was registered as a Stream A Thermal Energy System (TES). In accordance with the BCUC's Thermal Energy Systems Regulatory Framework Guidelines (TES Guidelines), Kelowna OWS is exempt from sections 44.1, 45, and 59-61 of the *Utilities Commission Act* (UCA).

Kelowna OWS relies on air-source heat pumps to provide space heating and relies on natural gas boilers to provide domestic hot water heating. The space heating system consists of a series of Daikin-brand variable flow air-source heat pumps.³

On December 28, 2022, the Strata filed a complaint with the British Columbia Utilities Commission (BCUC), which alleges that the thermal energy services provided by Kelowna OWS are unreliable and unsafe, in part due to the repeated failure of the heat pump components of Kelowna OWS' thermal energy system (Complaint).⁴ The Strata alleges that beginning in December 2021, multiple heat pumps began to fail, resulting in the interruption of space heating service to multiple One Water Street residents for extended periods of time.⁵

On December 29, 2022, BCUC Staff initiated its complaint process to review the Complaint, which included issuing a request that Kelowna OWS respond to the Complaint. Following a review of the correspondence from Kelowna OWS and the Strata, BCUC Staff issued Staff Questions No. 1 to Kelowna OWS on February 8, 2023. On March 16, 2023, Kelowna OWS provided its responses to BCUC Staff Questions No. 1.

On May 5, 2023, the BCUC appointed a Panel to review the Complaint.

In addition to concerns with the space heating system, the Complaint also alleges that One Water Street residents have to date not been receiving sufficient domestic hot water. Kelowna OWS acknowledges that it has received complaints from One Water Street residents regarding the supply of domestic hot water.⁶ Kelowna

¹ Exhibit A2-1, p. 1.

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid., p. 3.

⁶ Exhibit B-1, BCUC IR 6.2.

OWS states that it has replaced components of the domestic hot water system in an attempt to address the issue.⁷ Since filing the Complaint, the Strata has noted that some of its concerns with the domestic hot water supply have been resolved, though some problems still persist.⁸ In its most recent submission to the BCUC, the Strata states that its “greatest concern is with the space heating system.”⁹ This order and its accompanying reasons focus on Kelowna OWS’ space heating system.

1.2 Complaint Process for Stream A TES

The Complaint process for Stream A TES is described in section 2.3.3 of the TES Guidelines. With respect to receiving complaints regarding service, the TES Guidelines state the following:

Service:

- **Safety:** The operation of the TES has caused, or has the potential to cause, harm or injury to persons, or material damage that impairs the value, condition or function of property.
- **Reliability:** The TES is performing, or has a high probability of performing, in an unreliable manner such that service is not dependable or consistent.

Upon receiving a complaint about a TES Provider’s rates or service, the Commission will review the complaint and the evidence submitted by the complainant in support of the complaint. If the Commission accepts the complaint, the Commission will provide the TES Provider an opportunity to resolve the complaint or respond with their own evidence. The Commission may ask the TES Provider to provide specific information and will consider all of the evidence in assessing the complaint.

If warranted, the Commission will initiate a more fulsome regulatory review, and may escalate the complaint to an adjudication process. Escalated review or adjudication may result in the Commission exercising its authority under the UCA, including, but not limited to, lifting the exemptions provided at registration, setting rates or ordering the Stream A TES Provider to improve service.

Additionally, section 83 of the UCA set out below, confers broad discretion on the BCUC in respect of review of Complaints:

If a complaint is made to the commission, the commission has powers to determine whether a hearing or inquiry is to be had, and generally whether any action on its part is or is not to be taken.

2.0 Timeline of Events Leading to the Complaint

December 2021 – March 2022

⁷ Exhibit B-2, BCUC IR 14.1 & 14.2.

⁸ Exhibit C1-3, BCUC IR 5.2 & 5.2.1.

⁹ Exhibit C1-4, p. 3.

The Complaint provides that beginning in December 2021, shortly after the East Tower was occupied, heat pumps in the building began to fail. The Strata states that service technicians were not able to diagnose the cause of the failures. As a result, the following floors of the East Tower experienced loss of space heating for extended periods:¹⁰

Building Floor Number	Date heat lost	Length of outage (weeks)
Floor 3	December 24, 2021	2
Floor 13	March 2022	Unsure of dates
Floor 16	December 26, 2021	11
Floor 20	December 27, 2021	4
	March 2022	Unsure of dates
Floor 23	December 27, 2021	4
	March 2022	Unsure of dates
Floor 32	December 27, 2021	4
Floor 33	January 27, 2022	Less than 1
	February 21, 2022	3

On February 28, 2022, the Strata wrote a letter to Kelowna OWS regarding its concerns with the space heating services. On March 2, 2022, Kelowna OWS responded to the Strata's letter.¹¹ Kelowna OWS' response states that it is similarly concerned with the performance of the heat pumps, and that the fundamental issue with the heat pumps has to date not been resolved.¹² Kelowna OWS states that the heat pump manufacturer (Daikin), the heat pump sales representative (Olympic), and the mechanical contractor who initially installed the heat pumps (William Kelly and Sons, or WK) are working to resolve the issue.¹³

On March 22, 2022, Daikin provided a report following its investigations into the heat pumps in the East Tower (March 2022 Daikin Report)¹⁴. The March 2022 Daikin Report, which was shared with the Strata, provided for some corrective actions to address installations of heat pump units.¹⁵

May – December 2022

On May 20, 2022, the Strata met with the Developer and Kelowna OWS. The Strata states that it was told that the West Tower heat pumps were being rewired per the manufacturer's recommendations and that the East Tower heat pumps should now be working properly.¹⁶

On November 29, 2022, several heat pumps began to fail, resulting in the loss of space heating to several floors in both the East and West Towers. The Strata states that some floors which lost space heating at this time had also experienced loss of heating services during the previous winter, such as Floors 20 and 32.¹⁷ The Strata states that this repeated failure of the heat pumps indicates that repairs undertaken following the previous winter were not sufficient. Residents of the Strata who experienced loss of space heating had access to supplementary

¹⁰ Exhibit A2-1, p. 3.

¹¹ Exhibit A2-1, Attachment 2.

¹² Ibid.

¹³ Ibid.

¹⁴ Exhibit A2-1, Attachment 3.

¹⁵ Exhibit A2-1, Attachment 3, p. 4 of 11.

¹⁶ Exhibit A2-1, p. 4 of 60.

¹⁷ Ibid.

heating equipment; however, despite the supplementary heating equipment, some suites could not maintain inside temperatures of more than 12 degrees Celsius.¹⁸

2.1 Kelowna OWS response to the Complaint (January 2023)

Following a request from BCUC Staff, on January 10, 2023, Kelowna OWS filed a letter with the BCUC responding to the Strata's complaint. In its response, Kelowna OWS acknowledges that certain suites in the One Water Street towers have experienced heating issues, with some units reporting insufficient space heating. However, Kelowna OWS states that any suite owner who expressed concern regarding the internal temperature of their suite was provided with supplementary heating units.¹⁹ Kelowna OWS does not maintain any information regarding the internal temperature of individual suites, nor does it monitor the heat settings of any individual suites.

Kelowna OWS has been working with the Developer to pursue warranty claims with Daikin, the manufacturer of the heat pumps. Kelowna OWS also notes that the engineer of record (Integral Group) and Olympic have been analyzing the system and supporting potential solutions. Kelowna OWS estimates that as of January 1, 2023, a total of 65 suites were not receiving space heating and that each of these suites were supplied with supplementary heating.²⁰ Despite working with the Developer, Olympic, Daikin, and Integral Group to ensure that the space heating system is fully restored, Kelowna OWS states that the root cause of the equipment failure has yet to be determined.²¹

Kelowna OWS notes that, as of January 2023, it has ordered replacement components for the affected heat pumps. It anticipates installing these replacement components as they arrive, within weeks of ordering them.²²

Kelowna OWS states that Daikin provided another report regarding the failed heat pumps based on its technical review of the site in Q1 2023 (February 2023 Daikin Report).²³ Kelowna OWS states that it is "actively implementing corrective actions noted in the [February 2023 Daikin Report]".²⁴

3.0 BCUC Review of Complaint

On May 5, 2023, a Panel was appointed to review the Complaint.²⁵ Prior to establishing a regulatory timetable for the review of the Complaint, the BCUC requested Kelowna OWS file a copy of the February 2023 Daikin Report.²⁶ The BCUC received a copy of the February 2023 Daikin Report as part of the evidentiary record in this Complaint on July 7, 2023.²⁷

¹⁸ Ibid., p. 42 of 60.

¹⁹ Ibid., p. 31 of 60.

²⁰ Ibid., p. 32 of 60.

²¹ Ibid.

²² Ibid.

²³ Exhibit A2-2, BCUC IR 3.3.

²⁴ Ibid.

²⁵ Exhibit A-1.

²⁶ Exhibit A-2.

²⁷ Exhibit A2-3.

3.1 Information Request No. 1

On July 7, 2023, the BCUC issued Information Request No. 1 (IR No. 1) to Kelowna OWS and to the Strata. Responses to IR No. 1 were provided by the Strata on July 19, 2023, and by Kelowna OWS on July 28, 2023.

In its responses, the Strata notes that it is aware of several corrective actions undertaken during the summer of 2023 to address the ongoing reliability issues of the Kelowna OWS TES. Specifically, the Strata states that individual thermostats were re-programmed, fan coil filters were replaced, and a heat pump compressor serving Level 30 of the East Tower was removed and replaced for the purposes of destructive testing.²⁸ However, the Strata states that several corrective actions identified in the February 2023 Daikin Report as “Required”, “Highly Recommended” and “Recommended” have not been implemented.²⁹

In response to IR No. 1, Kelowna OWS states that all corrective actions identified in the February 2023 Daikin Report have been completed “in all of the suites which provided access to the Daikin technicians.”³⁰ However, Kelowna OWS notes that the effectiveness of the corrective actions will not be able to be properly assessed until the upcoming winter heating season.³¹ Further, Kelowna OWS states that the root cause of the failures is not known and continues to be under investigation.³²

3.2 Information Request No. 2

On August 18, 2023, the BCUC issued IR No. 2 to Kelowna OWS and to the Strata. Responses to IR No. 2 were provided by Kelowna OWS on September 6, 2023, and by the Strata on September 9, 2023.

The Strata states that it has been informed by Kelowna OWS that enclosures will be installed on the rooftop condenser units to provide protection from the wind. Kelowna OWS has also indicated to the Strata that it will be installing a new “early detection management system” to “allow service technicians to service or replace some units before actual breakdown.”³³

In response to IR No. 2, Kelowna OWS provides specific details regarding which corrective actions identified in the February 2023 Daikin Report have been completed.³⁴ Some corrective actions have not been completed. Kelowna OWS states that it does not know when it will complete the following two corrective actions:

1. Replace pipe between the multi module joint/kit and the condensing units with correct size or as per [Daikin Design Requirements]
2. Install inverted traps on the suction gas and high/low gas lines

The February 2023 Daikin Report states that these two corrective actions are required.³⁵ Kelowna OWS states that it has not completed these corrective actions, and that it will complete them “when the system is down.”³⁶

²⁸ Exhibit C1-2, BCUC IR 2.1.

²⁹ Ibid., BCUC IR 2.1.1.

³⁰ Exhibit B-1, BCUC IR 2.2.

³¹ Ibid., BCUC IR 2.2.2.

³² Ibid., BCUC IR 3.2.

³³ Exhibit C1-3, BCUC IR 4.1.

³⁴ Exhibit B-2, BCUC IR 10.1.

³⁵ Exhibit A2-3, p. 6.

³⁶ Exhibit B-2, BCUC IR 10.1.

Further in response to IR No. 2, Kelowna OWS provides an update regarding the ongoing investigative actions being undertaken by Daikin. Kelowna OWS states:³⁷

Daikin is investigating to find the root cause of the failures. Kelowna OWS expects to receive updates from Daikin when relevant information becomes available. Kelowna OWS will continue to monitor Daikin's progress; however, Kelowna OWS is not able to continuously monitor Daikin's inhouse investigative efforts nor are we privy to the specifics of Daikin's investigative steps or methods. The equipment is complicated and proprietary, thus identifying the root cause can only be done by Daikin.

Panel Determination

For the reasons set out below, the **Panel finds that the current state of Kelowna OWS' thermal energy system, and Kelowna OWS' ability to provide space heating service to the Strata, to be unreliable and inadequate.**

As such, the Panel directs Kelowna OWS to retain an independent third-party engineer (Third-Party Engineer) to investigate the root cause of the unreliable and inadequate space heating service provided by Kelowna OWS' thermal energy system to the Strata. The Panel directs Kelowna OWS to submit the terms of engagement for the Third-Party Engineer to the BCUC for its prior review and approval.

The Panel directs Kelowna OWS to file the independent Third-Party Engineer's report investigating the root cause of the space heating service provided by Kelowna OWS' thermal energy system to the Strata (Third-Party Engineer Report).

The residents of One Water Street have experienced interruptions and outages to heating of their Strata units since December 2021. The residents of One Water Street are now entering their third winter in which they may be without a reliable or adequate heat source. Despite the nearly two years which have passed since the onset of these concerns, Kelowna OWS has not been able to correct the heating issue or identify the root cause of the TES equipment failures – either through its own efforts, or through the efforts of the other parties involved, such as Daikin. The Panel notes that Kelowna OWS has submitted it is “not able to continuously monitor Daikin's in-house investigative efforts nor [is Kelowna OWS] privy to the specifics of Daikin's investigative steps or methods.”³⁸ Although some corrective actions have been taken, there is no assurance that Kelowna OWS will be able to provide adequate and reliable heating to the Strata units during the upcoming 2023/2024 winter season. Further, two corrective actions identified by Daikin as ‘required’ in the February 2023 Daikin Report have yet to be implemented. Other corrective actions identified by Daikin as ‘recommended’ in the February 2023 Daikin Report have similarly yet to be implemented.

Based on the evidence submitted in this proceeding, the Panel finds the current state of the heating system for One Water Street to be unreliable and inadequate and considers the current progress towards remedying the unreliable and inadequate provision of space heating to be unacceptable. Therefore, the Panel determines there is a need for an independent engineering investigation of Kelowna OWS' space heating system. The purpose of the independent engineering investigation, and resulting Third-Party Engineer Report, is to:

- Identify the root cause(s) of the Kelowna OWS TES equipment failures leading to the unreliable and inadequate provision of space heating; and
- Identify corrective actions that are required to address the root cause of the equipment failures.

³⁷ Ibid., BCUC IR 13.3.

³⁸ Exhibit B-2, BCUC IR 13.3.

At a minimum, the Areas of Focus of the Third-Party Engineer Report must include the following:

- Evaluation of the current state of Kelowna OWS' space heating system and identification of the root cause(s) of any equipment failures;
- Assessment of the criticality and priority of each corrective action identified in the February 2023 Daikin Report;³⁹
- Identification of any additional corrective action(s) not included in the February 2023 Daikin Report, if any, including the criticality and priority of each;
- Development of a schedule and budgetary costs to implement the critical corrective action(s); and
- Confirmation that the design capacity of the Kelowna OWS TES is sufficient to serve the peak demand of One Water Street.

The Third-Party Engineer Report must be completed by an independent and qualified engineer.

Accordingly, the Panel directs Kelowna OWS to submit to the BCUC for its prior review and approval the identity and qualifications of the third-party engineering consultant Kelowna OWS plans to retain. Kelowna OWS must submit details of the consultant's relevant experience, expertise, and independence from Kelowna OWS in accordance with the regulatory timetable outlined in Appendix A. This submission from Kelowna OWS must also include the terms of its engagement with the Third Party Engineer, including the agreed upon scope of the Third-Party Engineer Report.

³⁹ Exhibit A2-3, pp. 6-7.