



# STAFF REPORT TO COMMITTEE

**DATE OF REPORT** October 21, 2024  
**MEETING TYPE & DATE** Committee of the Whole of October 30, 2024  
**FROM:** Facilities and Transit Division  
Community Services Department  
**SUBJECT:** Level 2 Electric Vehicle (EV) Charging Stations – Management and Usage Fees at CVRD Owned Facilities  
**FILE:** 8330-20

## **PURPOSE/INTRODUCTION**

The purpose of this report is to present an update on the cost recovery of the Level 2 Electric Vehicle (EV) charging stations at CVRD owned recreation facilities, propose an increase to the existing fee and seek direction on future service and capital replacement.

## **RECOMMENDED RESOLUTION**

That it be recommended to the Board:

- 1) That the usage fee for the CVRD's publicly accessible Level 2 Electric Vehicle (EV) charging stations located at the four CVRD recreation facilities, be increased from \$1.00 per hour to \$2.00 per hour effective January 1, 2025.
- 2) That the CVRD continues to provide publicly accessible Level 2 EV charging stations at its four recreation facilities, replacing the current stations when needed and subject to available funding, as outlined in Option 1 of the staff report to the Committee of the Whole on October 30, 2024.

## **BACKGROUND**

The CVRD owns four publicly accessible level 2 EV charging stations which are operated and funded through each recreation facility, respectively: Cowichan Community Centre, Kerry Park Recreation Centre, Shawnigan Lake Community Centre, and Cowichan Lake Sports Arena.

When management of the stations and establishment of a usage fee was presented in a staff report and considered by the Community Services Committee on September 3, 2020 (Attachment A), the outcome was the establishment of a usage fee of \$1.00/hour, which became effective January 1, 2021. At the same time, the Committee discussed whether to continue providing EV charging stations at the CVRD's recreation facilities when the stations come due for replacement, but no direction was provided at that time. The assumption being that over time, opportunities for at-home charging, increased range of EVs and more EV charging stations at private or commercial locations would potentially decrease the need for public EV charging facilities.

Staff are now seeking direction as to whether they should be planning to continue this service, and if so, to consider planning for eventual capital replacement or major repairs.

## ANALYSIS

To support the adoption and transition to electric vehicles, the CVRD's EV charging stations at the facilities were initially free to use. Their initial capital cost was also wholly funded through grants in 2012/2013. However, in 2019 these initial stations were replaced at a one-time supplier-provided 50% discounted cost to each facility. Since then, station replacement costs have increased significantly and the amount of available grant funding for replacement units is unknown at this time. Each facility also pays for the electricity costs, annual network licensing fee, annual warranty, and ad hoc repairs if not covered by warranty such as damage from vandalism, which can be significant as noted below at SLCC.

The revenue generated from the usage fees collected at each station is allocated to the respective facility. Charging time is restricted to a 3-hour stay, but on some occasions, users have stayed beyond the 3-hour limit, sometimes even leaving their car to charge overnight. Signage is posted at each station advising of the time limit and the fee.

The below table provides a summary of the cost recovery amounts since the usage fee was adopted.

**Table 1.0 – Summary of EV Charging Station Cost Recovery for 4 years (2021 – 2024 <sup>1</sup>)**

	<b>Cowichan Community Centre (CCC)</b>	<b>Kerry Park Recreation Centre (KPRC)</b>	<b>Shawnigan Lake Community Centre (SLCC)</b>	<b>Cowichan Lake Sports Arena (CLSA)</b>	<b>Combined Average of Four Sites</b>
<b>Revenue 2021-2024</b>					
<b>Net Revenue <sup>2</sup> (Four Years)</b>	\$7,240	\$4,809	\$4,730	\$2,770	\$4,887
<b>Average net revenue per year</b>	\$1,810	\$1,202	\$1,182	\$692	\$1,221
<b>Direct Expenses 2021 – 2024 (projected 12 months for 2024)</b>					
<b>Electricity Cost <sup>3</sup></b>	\$4,153	\$1,419	\$2,578	\$1,041	\$2,297
<b>Warranty Cost</b>	\$3,579	\$3,579	\$2,371 <sup>4</sup>	\$3,579	\$3,277
<b>Network License Fee</b>	\$2,302	\$2,302	\$2,302	\$2,302	\$2,302
<b>Total Direct Expenses</b>	\$10,034	\$7,300	\$7,251	\$6,922	\$7,876
<b>Average Direct Expenses per Year</b>	\$2,508	\$1,825	\$1,812	\$1,730	\$1,968

Net Costs					
<b>Net Cost Over 4 years</b>	(\$2,794)	(\$2,491)	(\$2,521)	(\$4,152)	(\$2,989)
<b>Net Cost/Year</b>	(\$698)	(\$623)	(\$630)	(\$1,038)	(\$747)
<i>Excluding variable expenses</i>			<i>Excluding a \$3,073 repair cost in 2024</i>		

<sup>1</sup> 2024 based on partial year data, projected to 12 months.

<sup>2</sup> ChargePoint collection fee is 10% of revenue, so the revenue is shown as net of this fee. CCC traditionally reports the most usage and revenue and CLSA the least. In 2024, SLCC usage has increased significantly due to primarily one user charging for long periods of time.

<sup>3</sup> Electricity costs are estimated based on an average of BC Hydro rates (\$/kWh) for each facility, and vary between sites. CLSA and KPRC are "Large General Service", which has a lower energy consumption fee per kWh than SLCC and CCC. Level 2 charger at CCC is on its own meter (formerly included the Level 3 EV charging station). Demand charges are not factored into the electricity costs noted above as they are primarily attributed to the facility usage at peak times, and so it is not expected that the EV station affects the demand charges applied to the facility.

<sup>4</sup> SLCC warranty cost is less than the other recreation centres due to purchasing a 5-year warranty when the unit was initially purchased.

Current best practices consider usage fees as a means to manage demand and fund/provide continuity to the service. When the usage fee was initially implemented, it was based on a model of partial cost recovery similar to many of the other services provided at CVRD facilities. As noted in Attachment A, partial cost recovery at that time originally expected that the fee would cover a portion of the capital replacement and most costs, but the data indicates that the revenue collected was insufficient to cover the capital cost and any major repair cost.

Below is a table summarizing the types of costs that can be potentially included when considering cost recovery and setting fees. An expectation for full cost recovery would necessitate a substantially higher user fee than an expectation of minimal cost recovery. In Table 2.0, capital replacement cost has only been included in the estimation of 'full cost recovery'.

Note the above table only includes fixed costs and not variable costs for repair (vandalism) and administration. Those costs are included in table 2.0 below.

**Table 2.0: Levels of Cost Recovery**

<b>Full</b>	<b>Capital replacement</b> , electricity, network licensing fee, warranty, maintenance/repairs and 10% administration allocation.
<b>Partial</b>	Electricity, network licensing fee, warranty, maintenance/repairs and 10% administration allocation (same as above except capital replacement).
<b>Minimal</b>	Only network licensing fee and electricity.

Cost recovery varies between stations as they share similar fixed costs but experience different usage. In the interest of consistency and equity from the customer's perspective, when the fee

was implemented in 2021, the same usage fee was applied for all stations at a rate of \$1.00/hour. While this approach will prevent some facilities from achieving their full or partial costs entirely, this method is still preferred over the alternative scenario where each facility establishes its own usage fee.

Given the high estimated capital replacement cost of the stations, to achieve full cost recovery at some stations would necessitate a rate that is cost prohibitive for drivers, likely to result in complaints, and little or no usage.

The below section summarizes the estimated costs and options for usage fees based on current and projected data.

Additionally, direction is requested in regards to whether the recreation facilities should continue offering this service if/when the existing stations need to be replaced or a major repair is required.

**Option 1:** That the CVRD continues to provide publicly accessible Level 2 EV charging stations at its four recreation facilities; replacing the current stations when needed and subject to available funding.

**Option 2:** That the CVRD discontinues providing publicly accessible Level 2 EV charging stations at its recreation facilities when the stations require replacement or require a major repair.

#### **FINANCIAL CONSIDERATIONS**

The following table summarizes estimated total fixed and variable costs of operating the stations and their usage to provide a corresponding usage fee that would achieve varying levels of costs recovery (Table 3.0).

**Table 3.0 – Estimated Annual Costs and Usage**

	CCC	KPRC	SLCC	CLSA	Total Stations Combined
<b>Estimated Station Replacement Capital Cost <sup>1</sup></b>	\$17,719	\$17,719	\$17,719	\$17,719	\$70,876
<b>Estimated Annual Capital Amortization and Operating Costs</b>					
<b>Annual Capital Amortization (5-year service life)</b>	\$3,544	\$3,544	\$3,544	\$3,544	\$14,176
<b>Annual Operating Costs <sup>2</sup></b>	\$2,246	\$2,132	\$2,252	\$2,129	\$8,759
<b>Electricity Costs <sup>3</sup></b>	\$1,513	\$376	\$1,572	\$340	\$3,801
<b>Total Annual Costs</b>	\$7,303	\$6,062	\$7,368	\$6,013	\$26,746

2024 Usage Data <sup>4</sup>					
<b>Energy (kWh)</b>	14,310	5,630	14,704	4,789	39,433
<b>Hours of Charging Time</b>	2,834	1,353	2,952	912	8,051

<sup>1</sup> Quoted at \$11,000– 13,000 USD September, 2024. Report uses \$12,000 USD with a 38% exchange + PST. Assumes no promotional discounts or grant funding.

<sup>2</sup> Includes network licensing fee (fixed); warranty (fixed); estimated maintenance/repair at \$500/unit (variable) and administration (variable); all including 9% inflation rate reflecting 3 years of 3% increases.

<sup>3</sup> The BC Hydro rate for electricity varies between facilities, and vehicle models vary in the speed at which they can accept charging (i.e. some vehicles charge more quickly than others) which both affect electricity consumption and costs. The report has estimated a 9% hydro rate increase from current rates.

<sup>4</sup> Based on data from January – September, 2024 and projected to the remainder of year, except SLCC which was vandalized in July 2024 and currently remains out of service pending repair. SLCC data projected from July 2024 for a full year to maintain a 'base case' scenario and excludes \$3,073 cost for replacement head (at one time 50% discount) due to vandalism in 2024.

**Table 4.0 – Estimated Usage Fees at Varying Levels of Cost Recovery**

Rates are calculated by dividing the total estimated annual cost by the hours of charging time (figures captured in table 3), plus 10% for the collection fee equals the rates shown below.

	CCC	KPRC	SLCC	CLSA	Average
<b>Full cost recovery (\$/hour)</b> <i>assuming \$17,719 per station capital replacement cost</i>	\$2.83	\$4.93	\$2.75	\$7.25	\$3.65
<b>Full cost recovery (\$/hour)</b> <i>assuming \$8,860 per station capital replacement cost (50% discount for possible grant)</i>	\$2.15	\$3.48	\$2.09	\$5.12	\$2.69
<b>Partial cost recovery (\$/hour)</b> <i>(with no capital cost recovery)</i>	\$1.46	\$2.05	\$1.42	\$2.98	\$1.72
<b>Minimal cost recovery (\$/hour)</b> <i>(only network fee &amp; hydro cost)</i>	\$0.85	\$0.84	\$0.83	\$1.20	\$0.88

The estimated capital replacement cost of \$17,719 has increased significantly from the cost of replacement in 2019 (\$8,124 less 50% discount), and assumes no potential grants or discounts that could improve the affordability of replacing stations when/if required. The current units are five years old and it is assumed that they are nearing their end of serviceable life, and potential replacement will need to be planned soon.

The tables above indicate that the stations are not recovering all direct expenses. To achieve partial cost recovery, which includes all estimated operating costs but excludes capital

replacement, the fee could range between \$1.42/hour – \$2.98/hour. As noted above, to include capital replacement in the usage fee cost recovery model, increases the required fee per hour substantially.

The fees charged by other local governments in our region and at the Regional District of Nanaimo (RDN) are summarized below. The list is not exhaustive and there are some private entities that supply charging for free to customers or residents; and there are some entities that charge \$2.00/hour. There does not appear to be a rate locally exceeding \$2.00/hour.

- **City of Duncan:**
  - **\$2.00/hour** (was raised from \$1.00 on January 1, 2024)
- **Town of Ladysmith:**
  - \$1.00/hour for first 2 hours, **then \$2.00/hour** thereafter
  - Coronation Mall (free for first 30 minutes, then **\$2.00/hour** thereafter)
- **Municipality of North Cowichan:**
  - Cowichan Visitor Centre (free)
  - Chemainus Visitor Centre (\$1.00/hour)
  - Crofton Museum (free)
- **Town of Lake Cowichan:**
  - Kaatza Station Museum (free)
- **Regional District of Nanaimo:**
  - \$1.00/hour for the first two hours, **\$2.00/hour thereafter**

According to the website ChargeHub, BC Hydro Level 3 (faster charging) stations have been installed in Lake Cowichan near the municipal hall and are proposed at the local Co-op Gas stations at Lake Cowichan and Ladysmith. These are BC Hydro-managed stations and usage fees are set by consumption (not time-based). BC Hydro is interested in partnering with various site hosts to expand their EV charging network; however, emphasis is primarily for Level 3 stations.

Based on the above financial information and a comparison of local fee structures, an increase to the current CVRD fee from \$1.00/hour to \$2.00/hour is proposed. The proposed fee of \$2.00/hour improves the cost recovery of the stations, and is consistent with generally accepted fees for Level 2 EV Charging at public facilities.

#### **COMMUNICATION CONSIDERATIONS**

Staff will provide notification of the fee change through various channels (social media, website, station notifications).

#### **STRATEGIC/BUSINESS PLAN CONSIDERATIONS**

N/A

Referred to (upon completion):

- ☐ Community Services *(Cowichan Community Centre, Cowichan Lake Recreation, South Cowichan Recreation, Arts & Culture, Facilities & Transit)*
- ☐ Corporate Services *(Finance, Human Resources, Information Technology, Legislative Services)*
- ☐ Operations *(Utilities, Parks & Trails, Recycling & Waste Management)*
- ☐ Land Use Services *(Community Planning, Strategic Initiatives, Development Services, Building Inspection & Bylaw Enforcement)*
- ☐ Strategic Services *(Communications & Engagement, Economic Development, Emergency Management, Environmental Services)*

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**ATTACHMENTS:**

Attachment A – Staff Report to Community Services Committee dated September 9, 2020