

British Columbia Utilities Commission
An Inquiry into the Regulation of Safety
ORDER NUMBER G-241-20

SUBMISSION BY D. FLINTOFF - THURSDAY, NOVEMBER 12TH, 2020

1. Introduction

In Order G-241-20, the BCUC seeks input on the following key topics in relation to the Inquiry:

1. What is the BCUC's jurisdiction with respect to the regulation of safety and what aspects of public utilities' activities does it apply to?

(a) Does the BCUC have the authority under the UCA to set standards, rules or regulations with respect to safety?

2. Are there currently any legislative gaps in the oversight of public utilities with respect to safety?

3. Are there any areas of legislative overlap or duplication in the oversight of public utilities with respect to safety?

4. Would a workshop in support of the Inquiry be beneficial?

(a) If so, what would an appropriate scope for a workshop include?

1.1. Safety of Whom?

As safety is everyone's responsibility, a question to be asked is "Who are we trying to protect and what are we trying to protect them from?"

We are trying to protect the general public, end-users, and utility service workers from harm. Also, we need to consider the protection of farm animals and the public from leakage currents from the electric utility systems.

Harm may occur from direct contact with the energy service, leakage current from the energy service, or a disruption event originating from the energy service.

It is in everyone's interest to provide a safe energy service in BC.

1.1.1. Jurisdiction – Regulation of Safety

The UCA is quite broad when it comes to its jurisdiction.

The following sections of the UCA apply:

- Section 1 - Definitions (public utility and service.)
- Section 8 – Technical (use of consultants)
- Section 23 – General Supervision (ability to make orders about safety)
- Section 24 - Examinations & Inquiries (inquiries into utility compliance with the UCA, regulations or any other law, and any other matter within the BCUC’s jurisdiction)
- Section 25 – Improved Service (ability to correct service delivery)
- Section 26 - Standards (met set standards for service delivery)
- Section 37 – Supervisors & Inspectors (may appoint a supervisor or inspector to supervise or inspect, continuously or otherwise, the system, works, plant, equipment or service of a public utility)
- Section 38 – Provide Service (maintenance of property and equipment to provide a safe service to the public)
- Section 42 – Obey Orders (utilities must obey all lawful orders of the Commission)
- Section 43 – Provide Information (utilities must respond to the Commission’s requests for information)

1.1.2. Aspects of Public Utilities’ Activities

The UCA governs the following safety aspects of utilities’ activities such as standards, construction, operation, and maintenance.

The Commission may set standards that may include, but not be limited to, equipment, appliances, and safety devices.

In respect to construction, operation and maintenance, the Commission may appoint a supervisor or inspector to supervise or inspect, continuously or otherwise, the system, works, plant, equipment or service of a public utility.

The Commission could order maintenance of property and equipment. This may extend to environmental issues.

1.2. Level 3 EV Charging Infrastructure

In Order G-241-20, the Commission stated: “Given the provisions under the UCA, the BCUC made no determination as to whether an EV charging station is or is not distribution equipment, although the BCUC recommended that it continue to retain jurisdiction relating to safety in accordance with sections 25 and 38 of the UCA”. As the station belongs to a public utility and the consumer’s metering point is the actual charging station connected to the EV, a dilemma arises as to who has responsibility for safety.

Electrical distribution systems usually comprise those parts of an electric power system between the sub-transmission system (less than 69kV) and the consumers' service switches or meter bases. It includes distribution substations; primary distribution feeders; distribution transformers; secondary circuits, including the services to the consumer; and appropriate protection and control devices. However, the grounding system and earth are common elements that could carry return current back to its source, decisions or cooperation on safety matters relating to grounding may also have determined in this Inquiry.

In the case of the Phase 2 EV Inquiry dealing with Level 3 EV charging infrastructure, one would expect some compromise solution would be reached when a public utility provides the Level 3 EV charging infrastructure. Technical Safety BC is quite capable of setting the standards, permitting and inspections for DCFC stations, while the BCUC retains overall authority for safety for public utilities.

BCUC’s jurisdiction for the non-public utility charging infrastructure will end at the consumer’s service switch or meter base. However, as the grounding is interconnected to the grid, a compromise on this may have to be reviewed and determined by the Commission.

1.3. Summary

While Order G-241-20 draws our attention to Phases 1 and 2 of the Inquiry into the Regulation of Electric Vehicle Charging Service (EV Inquiry) and the Indigenous Utilities Regulation Inquiry (IUR Inquiry), clause L in the Order G-241-20 leaves the scope open-ended.

L. Given the provisions relating to safety contained in the UCA, and that further clarity concerning the role of the BCUC in the regulation of safety is required, the BCUC considers that the establishment of an inquiry to review the BCUC's jurisdiction as it relates to safety (Inquiry) and a regulatory timetable are warranted.

2. The Oversight of Public Utilities - Legislative Gaps

2.1. Phase 1 EV Inquiry

As the BCUC has pointed out, In the Phase 1 EV Inquiry, Technical Safety BC stated, in part, that it considers EV charging stations to fall outside of a public utility's generation, transmission and distribution system. The BCUC noted that "distribution equipment" is a defined term in the UCA. Therefore, the BCUC recommended that sections 25 and 38 of the UCA, with respect to safety only, not be included in the Part 3 exemption for EV charging service providers that are not already a public utility under the UCA, until the jurisdiction of the BCUC for safety is clarified.

2.2. Phase 2 EV Inquiry

In Phase 2 EV Inquiry, the BCUC stated that it is satisfied that safety supervision of EV charging infrastructure, as currently provided by Technical Safety BC, is adequate such that duplication of that safety regulation by the BCUC is unwarranted and would be counterproductive. The BCUC noted that it has the jurisdiction under the UCA to intervene to provide the necessary safety oversight if and when needed, and in the event the service of a public utility is unsafe, the BCUC could order the public utility to provide safe service. Given the provisions under the UCA, the BCUC did not determine as to whether an EV charging station is or is not distribution equipment, although the BCUC recommended that it continue to retain jurisdiction relating to safety per sections 25 and 38 of the UCA.

The EV Inquiry highlighted the need to define the limit of what is meant by distribution equipment and whether the BCUC jurisdiction ends at the utility electrical meter or not.

2.3. Extreme Temporary Overvoltages

In the past, extreme temporary overvoltages (ETOVs) have damaged appliances and smoke detectors/alarms in houses, so there is precedence for looking beyond the meter in those instances.

2.4. Stray Voltage

With electricity, the use of earth as a conductor extends BCUC's reach beyond the meter. As the matter of stray voltage¹ involves the flow of current (amperes) through the earth, it creates precedence for looking beyond the meter as the problem may have its roots in utility leakage current returning through the ground and impacting the public or farms. In the Commission letter No. L-58-08, it states: "The Commission accepts that there may be issues that come under the jurisdiction of the BC Safety Authority (now Technical Safety BC) and BC Hydro may wish to identify and comment on those issues and to forward those issues to the BC Authority for their comment." This could be a gap and/or overlap in jurisdiction.

2.5. Environmental Issues

Substation fires involving older transformers containing PCBs may involve Environment Canada. The environmental impact of the Chilliwack Atchelitz substation transformer fire was investigated by Environment Canada for possible pollution issues.

2.6. Geothermal Resources

A legislative gap that may exist is 'geothermal resources' since it is defined as the natural heat of the earth and all substances that derive an added value from it, including steam, water and water vapour heated by the natural heat of the earth and all substances dissolved in the steam, water or water vapour obtained from a well, but does not include water that has a temperature less than 80°C at the point where it reaches the surface, or hydrocarbons. This gap may include all geo-exchange and some low-temperature geothermal (temperatures of up to 149°C) that are less than 80°C. Only resources hotter than 80°C when produced at surface through a well are governed by the Geothermal Resources Act. The remainder should be covered by the UCA under the definition of a public utility which covers the 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 a corporation for compensation. Another term used for geo-exchange systems is ambient temperature district energy systems.

¹ <https://www.ordersdecisions.bcuc.com/bcuc/orders/en/item/118157/index.do>

Who regulates safety for the geo-exchange and some low-temperature geothermal systems that are less than 80°C and being implemented by certain municipalities as these systems are also supported by natural gas-fired boilers?

2.7. Smart Meters

The smart meters were approved by the Commission, and the smart meter fires were investigated by others including Technical Safety BC. The smart meters belong to BC Hydro; were approved by the Commission, but safety inspections appear to have been performed by others. The BCUC requested the Technical Safety BC report on smart meter fires by way of a freedom of information request.

2.8. Summary

Most of the safety investigations were conducted by the public utilities or their consultants; the consultants' reports were reviewed by BCUC staff, and corrective action was taken by the Commission. While this has been the past practice in BC, this Inquiry may recommend certain changes that may contribute to the public safety of our ageing infrastructure as well as the effective coordination of all regulatory bodies under a single responsibility.

3. The Oversight of Public Utilities - Legislative Overlap or Duplication

There is a risk of some legislative overlap in the oversight of public utilities. However, sections 42 and 43 of the UCA provide BCUC extensive oversight privileges of public utilities that usually exceed those of other regulatory bodies. In the past, BCUC had established informal working relationships with these other regulatory bodies. However, the purpose of this inquiry may formalize some jurisdictional issues that were previously accomplished informally.

4.1. Safety Standards Act, Electrical Safety Regulation (ESR)

In its application to public utilities, the ESR does not apply to a public utility as defined in the Utilities Commission Act in the exercise of its function as a utility with respect to the generation, transmission and distribution of electrical energy. However, the ESR does apply to the electrical equipment owned or in the possession or control of a public utility if the electrical equipment is not used directly in the generation, transmission and distribution of electrical energy. Although the scope is defined, there still are overlap issues in generation and distribution such as elevators, building HVAC, etc.

4.2. Safety Standards Act, Gas Safety Regulation (GSR)

In its application to public utilities, the GSR is not specific in its scope and leaves it open for multiple overlap issues. The GSR, while generally normally referring to "gas utility" as a gas company that owns or operates a gas installation for conveying gas from a city gate or bulk storage facility to the outlet of an individual user's meter set, overlaps the jurisdiction of the Commission as the UCA defines "petroleum industry" as carrying on within British Columbia of any of the following industries or businesses the distillation, refining or blending of petroleum; the manufacture, refining, preparation or blending of products obtained from petroleum; the storage of petroleum or petroleum products; the wholesale or retail distribution or sale of petroleum products; the retail distribution of liquefied or compressed natural gas; and "petroleum products" as gasoline, naphtha, benzene, kerosene, lubricating oils, stove oil, fuel oil, furnace oil, paraffin, aviation fuels, butane, propane and other liquefied petroleum gas and

all derivatives of petroleum and all products obtained from petroleum, whether or not blended with or added to other things. Hence, the potential for significant overlap exists.

4. An Appropriate Scope for a Workshop

Yes, a workshop would be helpful. However, “straw man” submissions from the other regulatory bodies including BCUC should be made available to the interveners and others before holding the workshop. The “straw man” submissions by other regulatory bodies could provide an outline of their perceived jurisdiction and highlight overlaps and gaps in the jurisdiction that are problematic to these bodies and need to be addressed in this Inquiry.

If impacted, the other BC regulatory bodies that should provide submissions are:

- Technical Safety BC and other municipal inspection authorities,
- WorksafeBC,
- Environment Canada,
- BC Oil and Gas Commission,
- Engineers and Geoscientists BC (if applicable),
- BC Government, Energy and Mines Electricity and Alternative Energy Division,
- BC Government, Building and Safety Standards Branch, and
- NEB

Some consideration should be given to other jurisdictions where the distribution lines are crossing in/out of BC from the Yukon and Alberta.

4.3. Summary

Considering the broad scope of safety, to resolve all the gaps and overlaps in a single inquiry may not be possible. To permit the immediate concerns to be addressed, should the scope be restricted to only Phases 1 and 2 of the Inquiry into the Regulation of Electric Vehicle Charging Service (EV Inquiry) and the Indigenous Utilities Regulation Inquiry (IUR Inquiry) with a further process to follow?