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March 20, 2020

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

RE: Project No. 1598990
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Fiscal 2020 to Fiscal 2021 Revenue Requirements Application

BC Hydro writes to provide its responses to the following undertakings resulting from the Oral Hearing of February 24 to March 4, 2020:

Exhibit B-58	Responses to Undertaking Nos. 44, 54 and 62 (Public Version)
Exhibit B-58-1	Responses to Undertaking Nos. 44 and 54 (Confidential Version)

BC Hydro also writes to provide supplemental responses to the following undertakings resulting from clarification requests from the Association of Major Power Customers (**AMPC**).[1]

Exhibit B-50-1	Supplemental Response to Undertaking No. 37
Exhibit B-51-2	Supplemental Response to Undertaking No. 39
Exhibit B-53-1	Supplemental Response to Undertaking No. 35
Exhibit B-57-2	Supplemental Response to Undertaking No. 58

[1] As discussed further in Transcript Volume 15, page 2903, line 26 to page 2905, line 5.

For further information, please contact Chris Sandve at 604-974-4641 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

(for) Fred James
Chief Regulatory Officer

cs/rh

Enclosure

BC Hydro Fiscal 2020 to Fiscal 2021 Revenue Requirements Application

BC HYDRO UNDERTAKING NO. 44

HEARING DATE: February 28, 2020

REQUESTOR: MOVEUP, Mr. J. Quail

TRANSCRIPT REFERENCE: Volume 12, Page 2299, lines 8 to 22

TRANSCRIPT EXCERPT:

> MR. QUAIL: Q I have only one question. It's probably not a question for this panel, I'm not sure perhaps for panel 2, but it is a matter that has arisen since the time of their testimony. My question is, does BC Hydro have contingency plans to maintain operations in the event of large-scale employee absences due to illness or quarantine related to the Corona virus?
>
> THE CHAIRPERSON: That's a good question.
>
> MR. QUAIL: Q And I can appreciate it may be an every panel question, but if it is really for a previous panel, I'm thinking panel 2, would be happy to take an undertaking which might at least summarize what the strategy is going to be, so that the Commission is satisfied.
>
> MS. DASCHUK: A Absolutely. It coincidentally came up at our board meetings which took place over this week, and the board is also interested in our response to the Covid virus. So yes, I'd be happy to do an undertaking to explain what our plans are.
>
> MR. QUAIL: Q Good, thank you very much. That is all I have got.

QUESTION:

Please explain BC Hydro's response plans related to the coronavirus (COVID-19), including any contingency plans in the event of large-scale work absences.

RESPONSE:

Attachment 1 to this undertaking provides BC Hydro's pandemic response plan. Appendix A to that attachment provides a Manager Guide and Appendix B to that attachment provides a Communications Plan. Appendix B is being filed confidentially with the BCUC as it contains personal and internal employee information that is meant for BC Hydro internal use only.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

March 2020

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1.0 PURPOSE

This document is an Annex to **BC Hydro's Emergency Response Plan**, which provides a framework and defines the structure for BC Hydro in responding to and recovering from major events or emergencies that impact or have impacted safety, or BC Hydro's services, operations, assets, reputation, or the environment.

BC Hydro's Emergency Response Plan does not describe tactical actions to be taken for specific emergencies. Such actions are detailed in local emergency response/action plans, operating orders, business continuity plans and/or technology disaster recovery plans. Annexes are also used to support response, including strategies, tactics and logistics. An Annex (in this case, the **BC Hydro Pandemic Response Plan Annex**) is a standalone document that offers additional information than that which is contained in the main document (in this case, **BC Hydro's Emergency Response Plan)**.

The purpose of the **BC Hydro Pandemic Response Plan Annex** is to guide BC Hydro's response to a potential pandemic, including tactics and logistics. This document is a guide to be used by designated members of the Emergency Coordination Centre (ECC) and is designed to address a disruption that causes a high level of absenteeism, for example by a strain of pandemic Influenza or COVID-19. The ECC is responsible for coordinating efforts and resources of the company in the event of a major disruption to BC Hydro staff and/or operations.

For purposes of this document, this event includes a series of pandemic alert status changes that result in reduced staffing levels at BC Hydro, and may lead to reduced service levels to customers. This will not be isolated to BC Hydro, but wider spread, potentially national and international impacting our customers, third-party vendors and supply chain.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

2.0 STRATEGIC CONTEXT

BC Hydro's emergency response and restoration priorities are listed below. Judgment is applied when prioritizing the goals.

- Provide for the safety and health of BC Hydro employees
- Provide for the safety and health of the public
- Protect and restore BC Hydro infrastructure and facilities
- Support restoration of critical infrastructure
- Protect the environment
- Reduce economic and social impacts to BC Hydro, its employees and its customers

In making decisions, we will always be guided by these six emergency response priorities.

In the case of a pandemic where staffing levels may be significantly reduced, BC Hydro has a three-part strategy:

1. **Slow the spread of the virus and flatten the curve of infections over time and geography** through meeting and travel restrictions, restricting access to certain functions and facilities, effective sick leave management, extensive work from home arrangements, separating crews into pods, and enhanced cleaning, always guided by the advice of Provincial Health Authorities.

2. **Re-deploy resources to respond** to the crisis, and to respond as employees are off work due to illness or quarantine. This means we will defer non-essential work. Essential work is defined as follows:

    - Deliver our critical services – keep the lights on for our customers and keep the public safe
    - Safely advance Site C diversion on schedule
    - Maintain physical and cyber security

3. **Communicate proactively with our employees** to ensure alignment on decision-making and reduce anxiety and stress.

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3.0 EMERGENCY RESPONSE

The following summarizes excerpts from BC Hydro's Emergency Response Plan. This plan provides BC Hydro's strategies and methodologies to respond to any situation having the potential to impact or impacting BC Hydro.

3.1 EMERGENCY MANAGEMENT SYSTEM AND RESPONSE STRUCTURE

BC Hydro utilizes the Incident Command System[1] (ICS) and British Columbia's Emergency Management System[2] (BCEMS) to manage emergency situations. Incident command is established at site and requires reporting to the Security Command Centre or Duty Coordinator for notifications to be sent to key stakeholders. In cases of high severity incidents, the Duty Coordinator facilitates response which may include the assessment on the level of emergency centre activation required.

A Duty Coordinator and Emergency Manager are available to respond to any emergency that may require support or coordination. They are responsible for notifying the Executive Team and Senior Management, and form part of the ECC Initial Response Staff following a disaster. For larger events, the Duty Coordinator may support activation of the ECC as outlined in **Section 3.3** below.

Depending on the level and scope of the incident, BC Hydro may use Incident Command Posts, local Emergency Operations Centres (EOC) and/or Regional Emergency Operations Centres (REOC). Alternatively the ECC can be activated and operate in a scaled down/virtual version to manage a local or regional emergency through incident command without activating an EOC or REOC. The response structure is scalable and flexible to accommodate the changing response needs of all emergency situations. BC Hydro will activate the ECC for incidents that impact more than one region, involve multiple business units or sites, and for those incidents which are of a severe nature.

At all times, employees across the organization have dedicated emergency event roles. As emergency centre(s) are activated, these roles continue to function with support of the response structure. ***Figure 1*** provides an overview of the BC Hydro emergency response structure.

[1] The Incident Command System (ICS) is a standardized on-site management system designed to enable effective, efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. The ICS is used to manage an incident or a non-emergency event.

[2] British Columbia Emergency Management System (BCEMS) is recognized as a standard system for emergency response, and currently mandated for use within the Government of B.C. and recommended to local authorities.

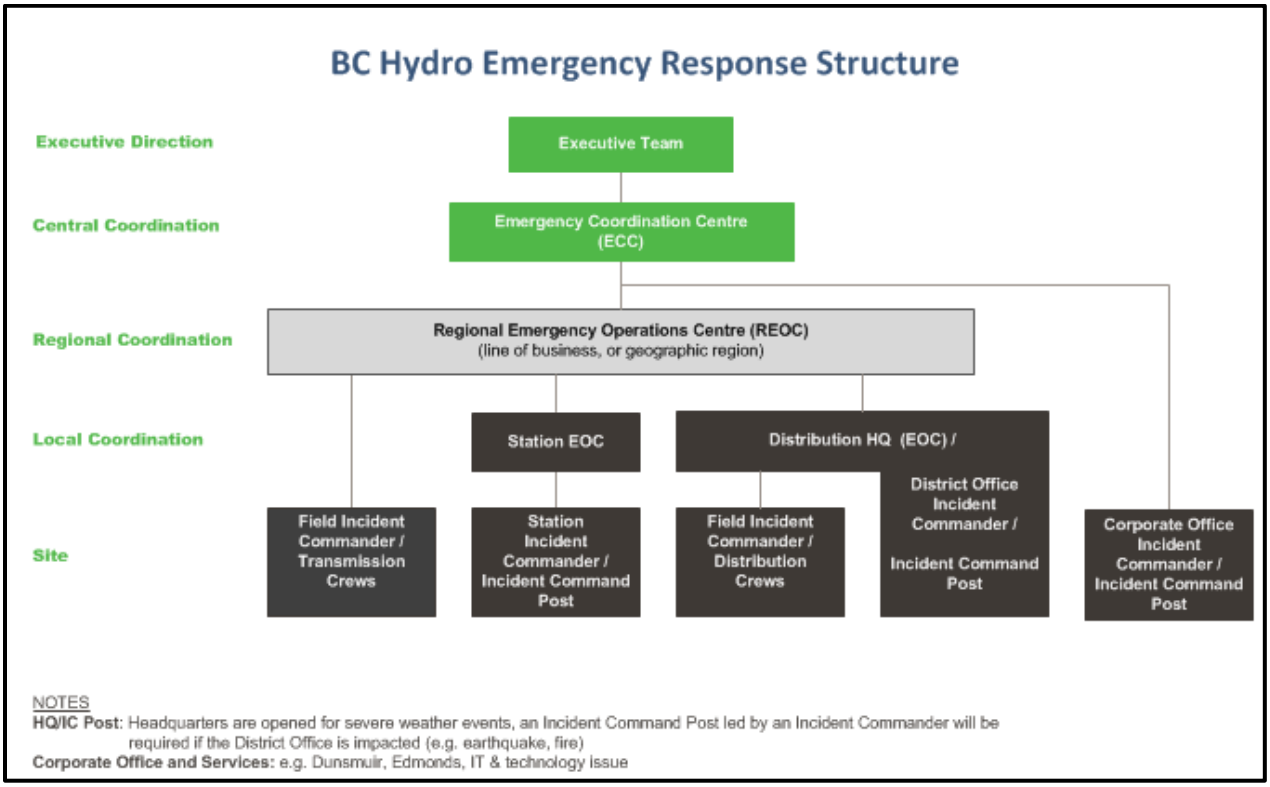

Figure 1: BC Hydro's emergency response structure

3.2 EMERGENCY COORDINATION CENTRE ROLE, REPORTING AND ORGANIZATION

The Emergency Coordination Centre (ECC) role is to:

- Manage a coordinated BC Hydro response to actual or imminent emergencies
- Provide strategic oversight and direction on BC Hydro's response
- Coordinate resource assignment and other logistical needs
- Communicate, report and liaise, including to the President and Executive Team
- Coordinate the recovery

The ECC has full responsibility to make decisions related to managing the emergency situation.

The ECC reports to the Executive Team (or delegates) when activated. The ECC organization chart (***Figure 3*** below) outlines common internal reporting lines during ECC activations.

BC Hydro coordinates response and recovery with four broad categories of external organizations (***Figure 2*** shows how BC Hydro liaises with these organizations during an emergency situation):

1. **Government and key agencies** such as Emergency Management BC, the Ministry of Energy, Mines & Petroleum Resources, Comptroller of Water Rights, local municipalities and regional districts
2. **Service providers** to BC Hydro
3. **First Nations**
4. **Key stakeholders** such as Key Account customers, and critical infrastructure owners (e.g. FortisBC, TELUS, Bell)

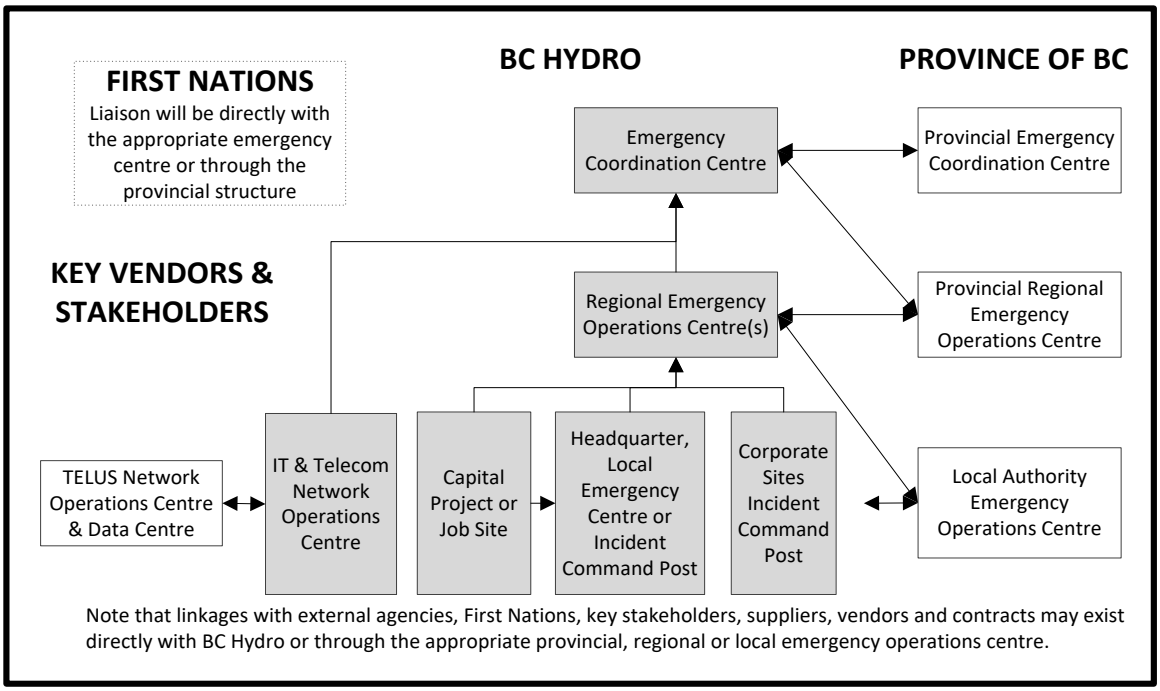

Figure 2: Liaison with provincial, First Nations, external agencies, and key vendors and suppliers

At all times, the BC Hydro Emergency Management team maintains situational awareness communications with Emergency Management BC (EMBC). During ECC activations Emergency Management will act as ECC Emergency Manager and will liaise (or coordinate liaison) with local EOC, PREOC, or PECC, as needed. During a major emergency or disaster, the liaison role will be assigned to subject matter experts across BC Hydro, depending on the type and severity of the event. The liaison role does not include response coordination authority for BC Hydro and when assigned, will report to the BC Hydro ECC (or REOC).

LIAISON WITH UNIONS

Notification of incidents and the BC Hydro response to IBEW and MoveUp will occur depending on the severity and type of incident, and impacts to Union members. Ongoing liaison will be event specific and determined at the time. The emergency centre director approves liaison and messaging.

EMERGENCY COORDINATION CENTRE ORGANIZATION

Figure 3 below shows the full ECC organization structure and its linkages to regional emergency operations centres within BC Hydro. The ECC organization is scaled up or down depending on the type and duration of event.

3.3 ACTIVATING THE EMERGENCY COORDINATION CENTRE

An initial ECC coordination call may be convened by Emergency Management or the Duty Coordinator in response to:

1. Request by a Director, General Manager, Vice President, or delegate
2. Escalated reports to the Duty Coordinator requesting support for an imminent high severity risk or an occurring high severity incident

Upon notification by the business unit and/or operational management lead(s) most impacted by the emergency, these individuals will be contacted and/or consulted on:

- The need to activate the ECC
- Potential role assignments
- ECC activation level, including virtual or physical reporting

During discussions, the “go/no go” decision will be made on ECC activation and initial role assignments, including that of ECC Director.

Some considerations of when to activate the ECC include, but are not limited to the following:

- Significant system outage with potential for safety or reputational risk
- More than one line of business impacted
- Requirement for cross business group coordination
- Significant logistic or resource requirements
- Significant information management requirements

- Current or imminent:
  - High severity security or safety impacts
  - Significant economic, societal and/or environmental impacts
  - Significant financial implications
  - Limitations on staff availability
  - Damage to one or more major BC Hydro facilities or assets
  - Need to relocate critical business functions
  - Provincial declaration of a state of emergency

There are three (3) levels of ECC activation:

- **Level 1 - Oversight and monitoring** – often virtual
- **Level 2 - Partial Activation** – often virtual with a few roles occupied in the ECC
- **Level 3 - Full Activation** – all key roles occupied in the ECC where possible

Virtual participation is planned for in all cases and depends on the status of technologies and communication tools as well as the circumstances and availability of staff and facilities. The ECC Director and Manager determine the degree of virtual participation, regardless of the level of activation.

Upon activation the ECC Director, with support from the ECC Manager will:

- Determine initial ECC staffing level
- Initiate/confirm ECC staff and roles
- Obtain and confirm information on the situation
- Set initial priorities, objectives and key activities
- Set ECC deliverables and schedule of activities for next 24 hours
- Initiate/continue ECC reporting and documentation

ROLE OF THE DUTY COORDINATOR WHEN ECC IS ACTIVATED

When the ECC is activated, the Duty Coordinator plays a supportive role and remains "on-duty" to support other emergencies or situations across the company, reporting to the ECC Director and Manager to ensure effective communications to the Executive Team. The ECC Director through consultation with the Duty Coordinator provides the overall company status as a single point of contact. The on call Duty Coordinator may have an ECC assigned role, and will look to other Duty Coordinators to cover as necessary.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

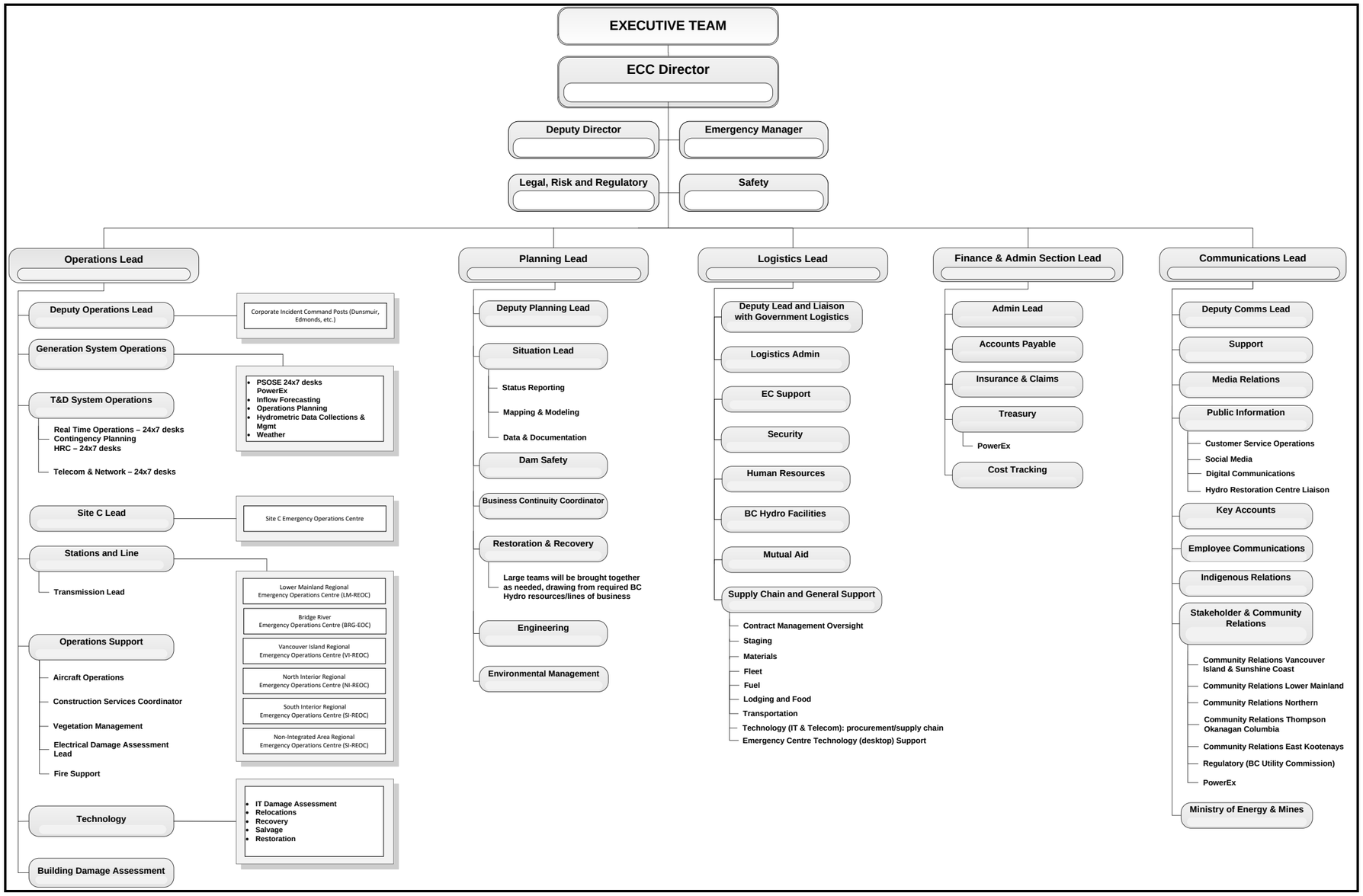

Figure 3: BC Hydro Emergency Coordination Centre (ECC) Organization Chart

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

4.0 PANDEMIC RESPONSE PLAN

This section describes BC Hydro's strategies to respond to an infectious outbreak or pandemic, such as Influenza or COVID-19.

4.1 STRATEGIES & PLANNING PRIORITIES

This subsection describes what is important to BC Hydro and our essential work during a pandemic.

In the case of a pandemic where staffing levels may be significantly reduced, one part of BC Hydro's three-part strategy is to **re-deploy resources to respond** to the crisis, and to respond if employees are off work due to illness or quarantine (for the full strategy, see **Section 2.0**).

This means we will defer non-essential work. Essential work is defined as:

- Deliver our critical services – keep the lights on for our customers and keep the public safe
- Safely advance Site C diversion on schedule – nature of this work is time-sensitive with the added complexity of a large workforce at site, many residing in camp
- Maintain physical and cyber security

CRITICAL SERVICES

Based on the phase of pandemic (see further information in Sections 4.2 and 4.3), several areas which have been identified as critical services will:

1. Segregate themselves from high occupancy areas as much as is practicable;
2. Implement hygiene control for shift workers sharing office spaces and equipment;
3. Establish redundant functions via regional separation or localized separation (if able); and, implement other such controls to decrease risks of exposure.

SUPPORTING FUNCTIONS

Individual roles within the some business units/departments have been identified that are required to support the critical activities referred to above.

Executives will be responsible for ensuring that depth of coverage exists for these roles in case of illness or inability to maintain attendance at traditional office spaces.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

OUR EMPLOYEES

BC Hydro will provide frequent updates to our employees, providing them with the most up-to-date information from the company, public health and government agencies. In a pandemic situation, we recognize that employees will be stressed and anxious and we want to do what we can to support them through this challenging time. In addition to our Employee and Family Assistance Program (EFAP), which provides confidential counselling and work/life support 24 hours a day, seven days a week, we have also implemented proactive check-ins by managers and asked employees to look out for one another as well.

OUR FACILITIES

BC Hydro will implement increased cleaning throughout the workplace and at our critical facilities and/or work locations accommodating our critical services. We will restrict areas or facilities as necessary based on level of risk in order to reduce employee, contractor, visitor and public access.

OUR CUSTOMERS

We will provide updates to our customers as appropriate pertaining to their electricity service and access to BC Hydro.

4.2 PHASES OF PANDEMIC AND ASSUMPTIONS

PHASES OF PANDEMIC

The following outlines the phases of pandemic as defined by BC Hydro. As of March 20, 2020, BC Hydro is in the RESPONSE – HIGH RISK or PANDEMIC OUTBREAK phase.

Note that at any given time, sites or locations could be in different phases, depending on the criteria present.

PHASE	CRITERIA/INDICATORS
PREPAREDNESS – LOW RISK	• global, national or provincial alerts are in place warning of a potential outbreak; • incidents of exposure and illness in humans are increasing; infections within B.C. have or are likely to occur in the near future; • no therapy or prophylaxis exists currently, or is not readily available; and/or • impacts due to potential illness (mortality or morbidity) could pose a risk to BC Hydro critical functions.

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Annex outlining response to a potential pandemic such as Influenza or COVID-19

PHASE	CRITERIA/INDICATORS
RESPONSE – MODERATE RISK	• global, national or provincial alerts are in place warning of a potential outbreak; • incidents of exposure and illness in humans are increasing; infections within B.C. have occurred and protocols in place to limit, identify or contain exposure may not be adequate to stop future infections; • quarantine protocols are in place specifying isolation of potentially infected people; quarantine status may include more than 1 week of isolation; • no therapy or prophylaxis exists currently, or is not readily available; and/or • impacts due to potential illness (mortality or morbidity) would pose a risk to BC Hydro critical functions.
RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK	• global, national or provincial alerts are in place warning of an outbreak; • incidents of exposure and illness in humans are increasing; infections within BC Hydro's Site C facilities (in particular the Site C residences) have or are likely to occur in the near future; • quarantine protocols are in place specifying isolation of infected and potentially infected people; quarantine status may include more than 1 week of isolation; • staff-to-staff infection poses a significant and real risk of community-based infections, or is actively occurring; • staff movement within and across the facilities are being restricted (time of day, locations, or by or between groups); • no therapy or prophylaxis exists currently, or is not readily available; and/ or • impacts due to potential illness (mortality or morbidity) would pose a risk to BC Hydro critical functions.

ASSUMPTIONS

This plan assumes the following for the pandemic situation:

- The pandemic will be caused by a new subtype of influenza.
- An overall pandemic wave will last from six to eight weeks with multiple waves occurring. The second wave could hit three to nine months after the first wave.

- Employee absenteeism caused by illness, caring for family members or fear could gradually increase and is expected to peak at 50% for a sustained period at the height of a pandemic wave.
- Business Unit staffing strategies will be based on 25% and 50% employee absenteeism rates.
- Customers, business partners and external providers may be more impacted by the pandemic than BC Hydro, particularly if their services are not considered essential and they choose to, or are forced to suspend their operations.
- BC Hydro applications/infrastructure will remain available during a pandemic.
- Employees working remotely will be set up with proper equipment and VPN access.

4.3 PLANNING & RESPONSE

This subsection outlines what BC Hydro will do during preparation, response, and recovery phases. It provides guidance to ensure the ongoing viability of critical services, as well as support for the health and safety of staff (including both employees and contractors). BC Hydro's Emergency Management team will take initial lead and engage management as outlined below.

BC HYDRO TRIAGE TEAM

A team will be gathered to monitor the situation and potential risk. The Triage Team will consist of representation from the following teams, facilitated by Emergency Management:

- Emergency Management
- Human Resources – Health and Recovery Services, Employee Relations
- Safety
- Communications
- Facilities Management

HUMAN RESOURCES POLICIES AND PROCESSES

The following policies and procedures will be applied and adjusted as required. Any policy decision requires approval from the Chief Human Resources Officer and/or the Executive Team. See also, the March 16, 2020 "Management Guidelines re Working From Home and Social Distancing", which are included as Appendix A at the end of this document.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

POLICY/ PROCEDURE	REQUIREMENT OR NOTES FOR DECISIONS
Telework Guidelines (M&P)	May be required if employee does not have symptoms but needs to self-isolate and the nature of their work allows them to telework. Also applicable if BC Hydro is directed by health authorities to have employees telework to minimize the spread.
Telework Guidelines (MoveUp)	May be required if employee does not have symptoms but needs to self-isolate and the nature of their work allows them to telework. Telework guidelines for MoveUP – MOU 79 for exceptional circumstances such as a pandemic: will apply if BC Hydro is directed by health authorities to have employees' telework to minimize the spread. Will depend on whether the employee's job can be done remotely, as well as IT requirements (VPN, laptop availability, etc.)
Sick Leave	Applicable if an employee is sick. Whether related to infectious disease (e.g. COVID-19) or not, the employee is to stay home and code the time as sick leave. The sick leave policy outlines the application of the sick leave benefit which is intended to provide temporary income replacement to eligible employees during periods of short-term disability. Sick leave provisions under the Collective Agreements: applicable, no change.
Employee & Family Assistance Program	Provides support to employees who require it through what can be a very stressful/fearful time.
Return to Work	Applicable, no change. If employees are off work for a long time due to infectious disease (e.g. COVID-19), illness, or quarantine process, BC Hydro has Recovery Coaches available to support the return to work process, if required. Assumption is that the likelihood of using this service in this situation may be low (i.e. likely can return to regular job, do not need an accommodation or return to work plan). May get direction from health authority on supporting employee.

EXTERNAL INFORMATION

BC Hydro will monitor the following websites. Our planning and response will follow guidance and direction from federal and provincial authorities:

- World Health Organization WHO: www.who.int
- Canada Public Health: www.canada.ca/en/public-health
- BC Centre for Disease Control: www.bccdc.ca
- HealthLinkBC: www.healthlinkbc.ca

4.3.1 PREPAREDNESS – LOW RISK

The main objective of this phase is to monitor the situation and obtain guidelines from Health Authority, or other federal or provincial agencies, and to provide employees and customers with up-to-date information as appropriate.

Key activities in this phase are:

- Monitor external information; and
- Review Pandemic Response Plan and confirm Triage Team, and other key stakeholders, as required.

The Triage Team will be activated. It is expected that the Emergency Coordination Centre will be activated when the threshold from **PREPAREDNESS - LOW RISK** transitions to (or may transition to) **RESPONSE – MODERATE RISK.**

All or some of the tasks listed below may be executed during this phase. The prioritization of tasks identified below is provided to guide actions taking place, but may need to be adjusted to best address existing conditions.

ACTIONS FOR PANDEMIC PHASE – PREPAREDNESS – LOW RISK
Communication • Distribute employee messaging aligning with guidance and direction from Health Authorities and/or B.C. Ministry of Health that includes personal hygiene and what to do if feeling ill. **Travel** • Monitor travel advice from HealthLinkBC and advisories from the Government of Canada **People** • Any staff/contractor feeling ill must report to manager and/or go home or self-isolate, and contact the health authority or 811 immediately. **Cleaning and Hygiene – BC Hydro Offices (Properties and Material Management)** • Regular cleaning regimens in place. **Continuity Plans** • Confirm company principles and guidelines for Pandemic Response Plan with leadership and Executive Team. • Confirm continuity plan coordinators, for review and updates.
END OF PREPAREDNESS – LOW RISK

4.3.2 RESPONSE – MODERATE RISK

The objectives of this phase are to reduce the spread of contamination across BC Hydro, to prepare our critical and supporting business units to deliver our three principles, and to provide employees and customers with up-to-date information as appropriate.

Key activities in this phase are:

- review and update company Human Resource policies and procedures to support response;
- initiate increased cleaning and disinfecting regimens at key locations;
- segregate critical staff and restrict access to key locations or areas; and
- update critical continuity plans.
- determine/ensure staffing levels

The Emergency Coordination Centre will be activated during this phase.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

All or some of the tasks listed below may be executed during this phase. The prioritization of tasks identified below is provided to guide actions taking place, but may need to be adjusted to best address existing conditions.

ACTIONS FOR PANDEMIC PHASE – RESPONSE – MODERATE RISK

Communication

- Distribute employee messaging on a regular interval aligning with guidance and direction from Health Authorities and/or B.C. Ministry of Health that includes personal hygiene and what to do if feeling ill.
- Notification to Human Resource Business Partners (including Powerex and Powertech) to prepare for any questions or support.
- Communications to Managers and Leaders may be required outlining action to take and how to support employees.
- Communications to Key Vendors / Contractors, working in BC Hydro offices reminding them of personal hygiene, and what to do if feeling ill (expectations to reduce risk of contamination or virus spread).

Training, Meetings & Travel

- No business travel to areas at risk as directed by federal or provincial authorities, or BC Hydro
- Non-essential business travel will be cancelled. Future business travel, within B.C., will be reviewed on a case by case basis, and only if all other meeting methods (Skype, teleconference, etc.) have been exhausted.
- Cross-regional travel will be cancelled unless there is critical, operational need to do so.
- If any personal travel to at risk areas (travel advice from HealthLinkBC and advisories with Government of Canada) will occur, notify your manager and upon return, monitor your health. If you do feel ill when you return, obtain health clearance prior to returning to work. BC Hydro will follow directives from health authorities regarding travel restrictions/quarantine/self-isolation and directions regarding employee compensation for these scenarios.
- Large gatherings will be cancelled including town halls, training, and team or department meetings. Employees with questions or requesting approval will submit inquiry to kirsten@bchydro.com. Items will be centrally tracked by Employee Communications.

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Annex outlining response to a potential pandemic such as Influenza or COVID-19

ACTIONS FOR PANDEMIC PHASE – RESPONSE – MODERATE RISK

People

- Any staff /contractor feeling ill must report to manager and/or go home or self-isolate, and contact the health authority or 811 immediately.
    - When leaving a BC Hydro office, requirement to take precautions by washing hands, and
    - leaving the work site with minimal contact with others.
    - Segregation of critical staff identified in Section 4.1.
- Workers in common areas that have the potential to be exposed to a greater degree, such as kitchen, cafeteria, and security reminded of good hygiene practices and wearing appropriate PPE for tasks (e.g. gloves).
- ET members identify two delegates, and are geographically segregated (i.e. are deployed to differing locations).

Cleaning and Hygiene – BC Hydro Offices (Properties and Material Management)

- Use of approved disinfectant products with good cleaning practices will occur regularly and as needed.
- Cleaning staff follow standard PPE procedures according to product and procedure.
- Installation of additional disinfectant stations at key locations in BC Hydro offices (outside doors, meeting rooms).
- Increase cleaning regimen, for high-touch surfaces, at offices with more than 100 employees.
- Make available additional disposable disinfectant wipes for employees and office locations – including ordering protocols through our Stores.

Camp Environments

Additional protective measures will be required at camp environments including Site C, Bridge River, and Mica, and may include:

- For current protocols in place at Site C see March 19 news release.
- Enhanced cleaning of public areas (especially dining area, construction offices and worker accommodation) and protection for housekeeping staff
- Encouraged self-protection (hand sanitation stations, disinfectant wipes)
- Health Clinic: provision of health awareness s information, assessment and screening of symptomatic workers, quarantine protocol where applicable
- Request of pandemic management plans from contractors
- Site-specific communications

ACTIONS FOR PANDEMIC PHASE – RESPONSE – MODERATE RISK

Offices, Locations & IT Telework Capacity

- Restrict access at FVO Control Room, Edmonds 9 (GSO), Horne Payne 2 – occupants/critical staff only. Close shared common areas such as facility fitness centre.
- Restrict public access to Dunsmuir and Edmonds lobbies.
  Confirm capacities to support telework, including VPN, Citrix, Skype, and conference bridges. Pre-arrange support from vendors, as required.
- Stop Visitor Centre tours. Communications to support.

Supply Chain/Procurement

- Establish a Supply Chain Working Group (cross-functional) to proactively identify risks to BC Hydro's security of supply and options for mitigation actions. Act as the central point of contact to receive and review information on potential supply chain impacts and coordinate potential mitigation efforts.
- For hourly wage vendors at our offices, review vendors' policy on sick leave to help ensure anyone with symptoms does not work at a BC Hydro location.
- See **Appendix 5.1** for information on communicating with key vendors on expectations when working at BC Hydro facility.

Continuity Plans

- Review and update critical and supporting continuity plans accordingly.

END OF RESPONSE – MODERATE RISK

4.3.3 RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK

The objectives of this phase are to reduce the spread of contamination across BC Hydro, to operate and deliver our critical services, to provide employees and customers with up-to-date information as appropriate.

Key activities in this phase are:

- close facilities that do not support critical services; and,
- reduce or eliminate non-essential work

The Emergency Coordination Centre will be activated, at a minimum Level 2 during this phase.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

All or some of the tasks listed below may be executed during this phase. The prioritization of tasks identified below is provided to guide actions taking place, but may need to be adjusted to best address existing conditions.

ACTIONS FOR PANDEMIC PHASE – RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK

Communication

- Increased frequency of employee communications as it makes sense. Messages need to align with Health Authorities and/or B.C. Ministry of Health. Targeted messages may be required for facilities, business units or teams.
- Additional communications to Managers and Leaders may be required, outlining how to support employees.
- Additional communications to Key Vendors working in BC Hydro offices.
- Communication to critical and non-critical staff may be considered. This will involve different messaging strategies (e.g. those required to work and those not).
- Communications to public and customers on BC Hydro's focus on keeping the light on. Adjustment to any customer service practices such as face-to-face billing.

Training, Meetings & Travel

- All business travel stops, unless for critical operations such as trouble response, and only upon ET approval.
- All training stops, unless for critical operations. No travelling for training, all training must be local.
- For any out-of-province personal travel, employees asked to follow guidelines and travel advice from HealthLinkBC and Government of Canada. Employees must notify manager and upon return, monitor their health. If they feel ill upon return, they must obtain health clearance prior to returning to work. Follow any self-quarantine guidelines issued by provincial or federal health authorities.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

ACTIONS FOR PANDEMIC PHASE – RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK

People

- Monitor for changes in provincial direction (e.g. some communities may be impacted/closed, public events closed, etc.). May need to adjust messaging to recommend employees monitor community news as well.
- Any staff/contractor feeling ill must report to manager and/or go home or self-isolate, and contact the health authority or 811 immediately.
    - When leaving BC Hydro office, requirement to take precautions by washing hands and leaving the work site with minimal contact with others.
    - For critical staff, BC Hydro may provide the direction to avoid public transit, if possible.
    - Segregation of critical staff at other locations (see business unit continuity plans more info).
- ET members identify two delegates, and segregate, as much as possible.

BC Hydro Offices & Projects

- Restrict access at buildings, as per continuity plans. Close all fitness centres, cafeterias, lunch rooms, and other common areas.
- Restrict deliveries and close facilities, where it makes sense (non-critical operations).
- Follow plans for facility lockdown, as required.
- Suspend non-critical projects.
- Restrict public access at all facilities. Communications to support.

Cleaning and Hygiene – BC Hydro Offices (Properties and Material Management)

- Use of approved, hospital-grade disinfectant products with good cleaning practices will occur regularly and as needed.
- Cleaning staff to follow standard PPE procedures according to product and procedure.

ACTIONS FOR PANDEMIC PHASE – RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK
Camp Environments Additional protective measures will be required at camp environments including Site C, Bridge River, and Mica, and may include: • Enhanced cleaning of public areas (especially dining area, construction offices and worker accommodation) and protection for housekeeping staff • Encouraged self-protection (hand sanitation stations, disinfectant wipes) • Health Clinic: provision of health awareness s information, assessment and screening of symptomatic workers, quarantine protocol where applicable • Request of pandemic management plans from contractors • Site-specific communications • Site access screening plan • Activate continuity plan – keep the lights on – reduce operations and associated staff, where possible **Office Locations & IT Telework Capacity** • Monitor IT networks for telework activity. Engage with supporting vendors, as required. Update user guidelines, as required. Adjust thresholds/system to meet business needs. **Supply Chain/Procurement** • Supply Chain to prioritize equipment purchase and dissemination. • Review of standards or other quality assurance produces to determine if alternate equipment can be used. Adapt accordingly.
END OF RESPONSE – HIGH RISK OR PANDEMIC OUTBREAK

4.3.4 RECOVERY

As the situation improves, business units will return to normal business operations. Communications will be distributed to staff broadly and within business units.

Each business unit will continue to report on staff attendance, return to work status, and will be apprised of when or under what conditions travel restrictions have or will be lifted.

Restriction of access to spaces within or across facilities will be removed.

Personal hygiene protocols will remain in effect, though disinfection of common spaces may occur at a reduced frequency.

4.4 EXPOSURE SCENARIOS

At any point in the various pandemic phases, workers could be exposed to the infectious agent. BC Hydro will be aligning our response, actions and procedures to those of the BC COVID-19 Symptom Self-Assessment Tool (https://covid19.thrive.health/).

Each situation will have actions as defined in the table below. Additional measures such as work procedures, crew complement, or change in work location will be dealt with on a case-by-case basis.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
1	**Call 9-1-1 or go directly to your nearest emergency department** The employee is experiencing significantly serious symptoms requiring medical attention.	Call 9-1-1 and/or seek immediate medical attention Notify manager with updates as appropriate.	Call the Security Command Centre to provide details for confidential tracking completed by Human Resources. Ensure the employee has the support they need. Review the situation and confirm the next steps, including any work arrangements and time coding.	Human Resources will conduct an assessment of next steps required and work with Communications, Facilities Management, and other departments as required to support this situation.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
2	**Call 8-1-1 to speak to HealthLink BC** A nurse at HealthLink BC will need to speak to the employee about the symptoms in more detail.	Call 8-1-1 to verify medical need and/ or obtain medical advice. Additional medical follow up may be required. Follow the advice received, and notify manager when appropriate. Monitor changing symptoms and ensure appropriate follow up is received.	Call the Security Command Center to provide details for confidential tracking completed by Human Resources. Ensure the employee has the support they need. Review the situation and confirm next steps including any work arrangements and time coding. Support employee through an appropriate work plan, modified duties, or remote working.	Human Resources will conduct an assessment of next steps required and work with Communications, Facilities Management, and other departments as required to support this situation.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
3	**Please self-isolate and call 8-1-1 to speak with HealthLink BC.** Employee is showing symptoms of COVID-19 and has had direct contact (or provided care) with a confirmed positive case of COVID-19. OR Employee is showing symptoms of COVID-19 and has travelled outside of Canada in the last 14 days.	If at work, return home, otherwise remain at home. Call 8-1-1 to verify medical need and/ or obtain medical advice. Additional medical follow up may be required. Self-isolate for 14 days after last exposure event (last time contacting infected individual or since returning to Canada). Update manager through the period of isolation. Work with manager on the appropriate coding of time.	Call the Security Command Center to provide details for confidential tracking completed by Human Resources. Ensure the employee has the support they need. Review the situation and confirm next steps including any work arrangements and time coding. IF employee travelled on or before March 12, 2020: A work plan, modified duties, or remote working support will be validated and communicated to employee. Employee will be paid. IF employee travelled after March 12, 2020: Time should be coded as sick leave while the employee is ill. Once symptoms subside, the employee will have to use time banks such as AV, flex days, OT, or unpaid leave.	Human Resources will conduct an assessment of next steps required and work with Communications, Facilities Management, and other departments as required to support this situation.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
4	**Please stay at home. You do not need testing for COVID-19.** Employee is experiencing symptoms of COVID-19, without travel history or direct contact with a confirmed positive COVID-19 case.	Stay at home for 14 days and monitor for changing symptoms. Update manager through the period of isolation and provide appropriate updates on illness. Work with manager on the appropriate coding of time and work assignments.	Email human.resources@bchydro.com to provide details for confidential tracking completed by Human Resources. Ensure the employee has the support they need. Determine if the employee can work from home, with the support of Human Resources. Stay in regular contact with the employee. Make any required modified work arrangements.	No actions required.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
5	**Please self-isolate. You do not need to test for COVID-19.** Employee is experiencing no illness symptoms and has returned from travel outside of Canada.	Self-isolate for 14 days after returning to Canada. Update manager through the period of isolation. Work with manager on the appropriate coding of time or work assignments.	Review the situation and confirm next steps, including any work arrangements and time coding. Ensure the employee has the support they need. IF employee travelled on or before March 12, 2020: A work plan, modified duties, or remote working support will be validated and communicated to employee. Employee will be paid. IF employee travelled after March 12, 2020: The employee will have to use time banks such as AV, flex days, OT, or unpaid leave.	No actions required.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

Scenario	BC COVID-19 Symptom Self-Assessment Tool Results	Action to be Taken by Employee	Actions to be Taken by Manager/ HR	Actions to be Taken by Other Departments
6	**Since you don't have any COVID-19 symptoms, you don't need to be tested for COVID-19.** Employee is not showing symptoms of COVID-19 and has had direct contact (or provided care) with a confirmed positive case of COVID-19.	Return to work as normal. Employee will monitor for the development of any symptoms related to COVID-19. Take the BC COVID-19 Symptoms Self-Assessment Tool again if situation changes (symptoms, exposure, travel, etc.)	No actions required.	No actions required.

4.5. BUSINESS UNIT RESPONSE

Critical and supporting business units will have continuity plans in place that provide details on how their team(s) will respond during the Response Phase(s). Business units should refer to these plans for procedures specific to their units.

BC Hydro Pandemic Response Plan

Annex outlining response to a potential pandemic such as Influenza or COVID-19

5.0 APPENDICES

This section contains supporting information and templates.

A. MANAGERS' GUIDELINES MARCH 16, 2020

B. COMMUNICATIONS STRATEGY

BC Hydro
Power smart

As a public sector employer, BC Hydro must address the implications of COVID-19 specific to our workforce and the essential service nature of our operations. We have an important obligation to continue to serve electricity to the people of British Columbia through this pandemic event. The situation is new and evolving daily so we will revise these guidelines as needed. If you have feedback on ways to improve these guidelines, please send to Kirsten@bchydro.com.

Our obligation to our community

Our focus that we share with government and other employers in the province is to:

- contain the spread of the COVID-19 virus in communities and to support the direction of public health officials.
- maintain the delivery of public services to the extent possible throughout the pandemic response and recovery period with an expected duration of weeks or months.

BC Hydro provides an essential service in BC. Within our company, there are roles that directly provide critical functions and those that provide critical support functions. Many of these roles must be on site to fulfill that obligation. This is relatively unique compared to other companies. Essential work is defined as follows:

- **Deliver our critical services** – keep the lights on for our customers and keep the public safe
- **Advance Site C on schedule**
- **Maintain physical and cyber security**

We must operate our business with increased attention to implementing measures to support social distancing. To do so, we recognize that some work must be done on our premises and some can be done remotely.

Enhancing Social Distancing

Employees performing critical work that must be done on site, need to continue to come to work. We also need to free up space so that there are fewer employees in close proximity to each other while they carry out their work. We need the employees who can perform their work at home to begin doing so. We will then begin creating space among those who are at work. These actions will help keep all of us safe.

Work At Home and Social Distancing Principles for Managers to use

Managers should identify, categorize and direct their staff based on the following:

BC Hydro
Power smart

Category 1:
Employees who currently have the capability to work from home, critical or not.

These employees have the option to work from home effective immediately.
Employees who work at home are expected to:

- work their regular hours and be available during this time for phone calls, meetings, and online collaboration
- be available to be called back into the workplace
- be available to be redeployed to support critical services or other work
- keep in regular contact with their manager
- be as efficient and effective as possible.

Category 2:
Employees who cannot or do not have the capability to work from home. There are four sub-categories:

A. Field workers

a. Ensure these employees continue to report to work if we can ensure reasonable social distancing and adhere to the following:
   i. explore options to enact sufficient social distancing so that regular work can continue i.e., shift alterations, dispatch from home, smaller crews
   ii. Avoid regional offices and facilities and stay in the field as much as possible.
   iii. If there is not enough field work, send them home with pay to create space and avoid social gathering, and await redeployment

B. Office workers who need to be physically on-site to perform critical work.

a. Ensure these employees continue to report to work and adhere to the following:
   1. Report to only one work location and do not move between these or other work locations as much as possible;
   2. Create space among each other and work stations especially in high density work locations;
   3. Limit in-person contact, in-person meetings, and movement between floors or areas.

C. Office workers who could work at home but are not yet technology-enabled.

a. Send these employees home and work as quickly as possible to secure technology to enable these employees to work from home.

b. Start identifying the technology requirements for your employees to work remotely. Further guidance will be provided on how to make these technology requests. Do not send TSR requests.
c. Ensure these employees:
    - are available to be called back into the workplace
    - are available to be redeployed to support critical services or other work
    - keep in regular contact with their manager

D. Office workers whose jobs are non-critical but cannot be technology-enabled to work from home.

a. Ask these workers if they are comfortable continuing to perform work on-site and adhere to the following:
    - Report to only one work location and do not move between these or other work locations as much as possible;
    - Create space among each other and work stations especially in high density work locations;
    - Limit in-person contact, in-person meetings, and movement between floors or areas.
b. If the employee is not comfortable working on-site, send these employees home. Ensure these employees:
    - are available to be called back into the workplace
    - are available to be redeployed to support critical services or other work
    - keep in regular contact with their manager

Instructions for Managers:

In making the above decisions, managers should:

- Consider staffing levels to ensure critical work continues
- Evaluate local conditions and types of workers
- Ensure you are adhering to the principles outlined in this document so that we are consistent across the organization
- Keep in touch with your senior manager where situations are unclear or exceptions need to be made
- Be prepared to pull healthy employees back to workplace to redeploy.
- Ensure segregation and social distancing principles applied.
- Assign someone in your team to track employee status i.e., which employees are on AV, working at home, waiting for technology etc.
- Ensure employees are working safely
- Check in with your employees regularly; at least once per week

- Ensure that if you or any member of you team falls ill, that you assign a delegate, if required.

Other Important Information

All employees will continue to be paid, with the exception of those employees who travelled outside of Canada against the direction of the Provincial Health Officer on March 12, 2020. These employees will be on unpaid leave during the period of self-isolation upon their return, or they can use time banks such as AV or flex days during the 14 days of self-isolation. As indicated earlier, some exceptions may be approved.

An employee whose role requires them to be on site, but who has a specific health issue that puts them more at risk during the pandemic should discuss with their manager and be asked to work from home.

Employees who are directed by their health provider to self-isolate or quarantine may also work from home where possible.

Employees who are required to provide care for a dependent while in isolation, should notify their manager.

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BC Hydro Fiscal 2020 to Fiscal 2021 Revenue Requirements Application

BC HYDRO UNDERTAKING NO. 54

HEARING DATE: March 2, 2020

REQUESTOR: BCUC Mr. Miller

TRANSCRIPT REFERENCE: Volume 13, Page 2521, line 8 to Page 2530, line 16

TRANSCRIPT EXCERPT:

QUESTION:

1. Explain why the cumulative net gains of $4.4 million referenced in BC Hydro's response to BCUC IR 3.299.3 differs from the total net proceeds of $13.5 million provided in the Confidential Attachment to BC Hydro's response to BCUC IR 3.299.7.

2. Are the properties that are deemed surplus (i.e., not required for operational purposes), currently included in BC Hydro's rate base?

3. Are any properties that are deemed to be surplus considered fully depreciated? Is that depreciation included in the Test Period revenue requirement and recovered in the current Test Period rates? If yes, provide the deprecation amount for these properties in each year of the Test Period.

4. Provide the annual property taxes paid for all properties included in the schedule provided in the Confidential Attachment to BC Hydro's response to BCUC IR 3.299.7?

5. Assuming that the forecast net gain of $10 million in each year of the Test Period as a result of real property sales is not approved and that the BCUC directs a forecast of zero dollars per year instead, what would be the resulting impacts to rates in fiscal 2020 and fiscal 2021?

RESPONSE:

Question 1:

The cumulative net gains of $4.4 million referenced in BC Hydro's response to BCUC IR 2.299.3 are the sum of net gains for properties sold (i.e., sales completed) as at the end of March 31, 2019, reduced by costs incurred at that date, for the preparation of other properties for sale, where those properties are still in the process of being sold (i.e., sales not yet completed). An example of such a

cost is for environmental remediation that needs to occur before a property can be considered ready for sale.

Net proceeds are the equivalent of net gains, but are for each individual property sale, and therefore are not reduced by the preparation costs of other properties yet to be sold. Accordingly, the total net proceeds for completed sales to the end of September 30, 2019 of $13.5 million provided in the confidential attachment to BC Hydro's response to BCUC IR 3.299.7 does not include $4.6 million in costs incurred to the end of March 2019 related to the future property sales listed in that attachment.

The table below provides reconciliation from the March 31, 2019 cumulative net gains of $4.4 million to the September 30, 2019 total net proceeds of $13.5 million.

	$ millions	IR Reference #
Cumulative Net Gains to March 31, 2019 (Fiscal 2019)	**4.4**	**BCUC IR 3.299.3**
ADD: Net Proceeds from completed property sales (April 2019 to September 2019)	4.5	BCUC Conf IR 3.299.7
ADD: Sales costs incurred for property sales not yet completed as at March 2019 (future sales)	4.6	
Total Net Proceeds from completed property sales to September 30, 2019	**13.5**	**BCUC Conf IR 3.299.7**

BC Hydro notes that there have been no losses on surplus property sales.

Question 2:

The net book value of surplus properties available for sale is included in rate base as currently defined in section 1 of Direction No. 8. As noted in BC Hydro's response to Undertaking No. 42, BC Hydro's net income is currently prescribed by section 3 of Direction No. 8 to be a specific dollar amount of $712 million per fiscal year in each of fiscal 2020 and fiscal 2021 and is therefore not dependent on a specific rate base amount. Amounts included or excluded from rate base therefore have no practical effect during the Test Period.

Question 3:

Surplus properties are primarily comprised of land parcels with no buildings on site. BC Hydro follows International Financial Reporting Standards (IFRS), which stipulates that land is not depreciated. However, there are a few parcels of land in the surplus properties program on which there are currently buildings and/or equipment assets. These buildings and equipment assets have been fully depreciated or are nearing full depreciation. Depreciation related to these assets is included in the current Test Period revenue requirement.

Specifically, there are only two surplus properties that have building/equipment that is incurring depreciation in the test period. Depreciation of $30,000 has been included in each year of the test period for these assets.

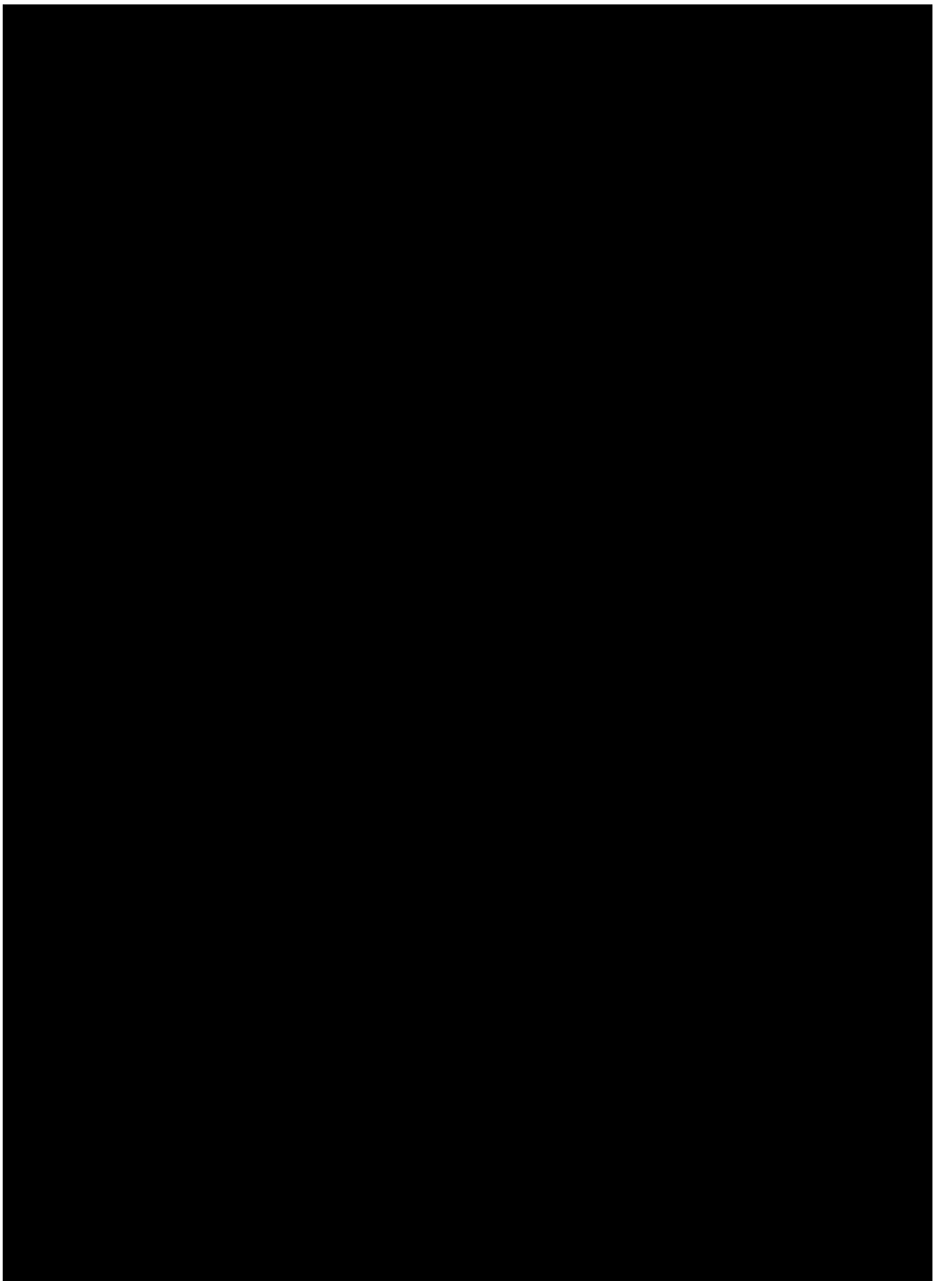
Question 4:

Of the 31 surplus properties in the table provided in the Confidential Attachment to BC Hydro's response to BCUC IR 3.299.7, 29 remain unsold and have a total annual property tax assessment of approximately $900,000 in calendar year 2019.

This table includes several properties that are not assessed separately, as they are part of larger land parcels that are used for operational purposes and are not considered surplus properties. The tax assessment value does not include estimates for these properties.

The table below lists the calendar 2019 property taxes paid for all surplus properties that have not been sold as of January 31, 2020. This table has been filed confidentially with the BCUC as the release of the list of surplus properties could negatively impact BC Hydro's commercial position prior to making these properties available for sale, which would be harmful to ratepayers.

For further clarification, property taxes and on-going maintenance costs related to surplus properties are expensed and recognized in the year in which they occur. These costs are not included as part of the sales costs associated with the surplus sales program and therefore do not impact the regulatory account. Neither the property taxes nor other ongoing maintenance costs, nor the sales costs (e.g., remediation costs), are included in the asking price of a property, which is based on the property's independently appraised value.



Note 1: The total property tax in this table does not include estimates for properties that are not assessed separately, as they are they are part of larger land parcels that are used for operational purposes and are not considered surplus properties.

BC Hydro Fiscal 2020 to Fiscal 2021 Revenue Requirements Application

Question 5:

The table below provides the estimated rate impact in the Test Period, assuming that BC Hydro included zero dollars instead of the $10 million forecast net gains from real property sales in each of fiscal 2020 and fiscal 2021.

For the purpose of forecasting the estimated rate impact below, BC Hydro assumes that the requested rate increase for fiscal 2020 remains the same, and therefore the entire two-year impact of forecasting zero net gains from real property sales (i.e., lower net gains of $10 million per year) is reflected in rates in fiscal 2021.

% Rate Impact	F2020	F2021
Forecast rates, Undertaking 54 (F20-F21 forecast net gains from real property sales = $0)	6.85	(0.64)
Forecast rates, Evidentiary Update, as corrected by Exhibit B-11-2	6.85	(1.01)
Rate Impact	-	**0.37**

The table above shows that the estimated impact of this scenario is 0.37 per cent higher rates in fiscal 2021 than would otherwise be the case. More specifically, instead of the rate decrease of 1.01 per cent in fiscal 2021 proposed by BC Hydro, the rate decrease would be 0.64 per cent (1.01 per cent less 0.37 per cent).

BC HYDRO UNDERTAKING NO. 62

HEARING DATE: March 3, 2020

REQUESTOR: BCOAPO, Ms. L. Worth

TRANSCRIPT REFERENCE: Volume 14, Page 2709, line 22 to Page 2739, line 13

QUESTION:

a. Confirm if fiscal 2019 actuals for low income DSM programs are already on the record. If not, update the table provided in BC Hydro's response to BCOAPO IR 1.79.1 with fiscal 2019 actuals.

b. What is the number of billing samples used to evaluate the effectiveness of the Energy Savings Kit program?

c. What is the sample size for the low income evaluation survey?

d. What is the response rate for the Energy Savings Kits customer satisfaction survey?

e. Provide the number of Energy Savings Kits distributed from fiscal 2011 (beginning of the program) to fiscal 2015 (end of the evaluation period).

f. What percentage of Energy Savings Kits survey respondents successfully installed an Energy Savings Kit?

g. What languages is the Energy Savings Kits customer satisfaction survey provided in?

h. Are alternative language surveys provided initially or does the customer who receives a survey need to contact BC Hydro to request a survey in another language?

i. Does BC Hydro collect contact or biling information from Energy Savings Kit program participants at community events?

j. How many Energy Savings Kits were distributed at pre-qualified events and how many kits is BC Hydro is planning to distribute at pre-qualified events during the Test Period?

k. What determines the sample group of customer accounts used for the Energy Savings Kits recipient bill analysis?

l. What are the specific characteristics of the control group correlated to Energy Savings Kits recipients?

m. Provide the actual number of customers who received an Energy Savings Kit and engaged with the Energy Conservation Assistance Program in fiscal 2019.

n. Provide the bill savings per household from full participation in the Energy Savings Kits program.

o. Provide the average annual household bill savings for participants in the Energy Savings Kits program.

p. Provide the average annual KWh savings for participants in the Energy Savings Kit program.

RESPONSE:

Part A

The table below updates the information in BC Hydro's response to BCOAPO IR 1.79.1 to include actuals for fiscal 2019.

	Total Costs ($ Million)		New Incremental Energy Savings (GWh/yr)	
	Plan	Actual	Plan	Actual (Note 1)
F2017	2.5	2.9	2.5	4.5
F2018	2.6	3.5	2.5	5.7
F2019	2.7	3.6	2.5	7.4

Note 1: A contributing factor to actual savings being much higher than the plan amount, while actual spend against budget is not as high, is a result of findings from the Codes and Standards General Service Lighting Evaluation. This evaluation found that compliance with the regulation was lower than expected in the early years, leading to a lower baseline from which to calculate lighting savings within the Low Income program. This led to an increase in savings relative to what was planned, without a corresponding increase in costs.

Part B

The analysis of Energy Savings Kit (ESK) energy savings carried out for the evaluation did not rely on sampling.

For this analysis, all participation records were obtained from the Low Income program tracking database, for a total of 71,187 records between fiscal 2011 and fiscal 2016.

Some records had to be excluded from the analysis for a variety of reasons, such as:

- **Approximately 700 ESK records could not be associated with an account in the billing system due to, for example, data entry errors and test records;**
- **7,379 participants did not have individual BC Hydro accounts but were associated with a building-level master account ID in the BC Hydro billing system;**
- **884 participants closed their accounts in the fiscal year of program participation;**
- **Approximately 40 per cent of program participants did not have three years of consecutive consumption data available in the billing system, which was required for the analysis; and**
- **1,342 participants were identified as having participated in one or more of the Refrigerator Buy Back, Appliance Rebate, or Residential Behaviour programs. To avoid double counting of savings and to estimate savings purely attributable to the ESK, homes with a record of having participated in other energy conservation programs were excluded from the estimation of average savings per participant.**

In total, 38,327 participants were included in the estimation of average savings per participant. The average savings per participant were applied to all 70,475 valid participant records to estimate total savings from the ESK offer. This is a valid approach since all relevant parameters were controlled for in the regression analysis. For further information, please refer to Part L of this response.

Part C

The sample size of the low income evaluation survey was 1004. The low income evaluation surveys were included in the kits distributed to participants. The results of these print surveys were collected on an ongoing basis between March 2014 and November 2015.

Filling out the survey was optional. Respondents mailed in the completed surveys to BC Hydro and the responses were manually entered into a database over time. A total of 460 apartment and 544 house survey responses were collected and used for the evaluation.

Part D

The survey response rate was not reported in the evaluation report but can be estimated. Program participation averaged approximately 9,600 kits per year from

fiscal 2014 to fiscal 2016. The survey responses cover a period of 21 months, during which approximately 16,860 kits would have been distributed, yielding an approximate response rate of 6 per cent.

The survey methodology for ESKs changed in January 2018. Currently, customers receiving a kit are emailed a survey 30 days after their kit has shipped. The email reminds them to install the kit items and invites them to fill out a survey. A review of responses received shows that between January 2018 and December 31, 2019 27,378 kits were distributed and 3,597 surveys have been completed, yielding a response rate of 13 per cent.

Survey research for the low income program was conducted to understand the program market, assess the participant experience, and gather basic data on installation rate of measures in the kit. The evaluation of net energy savings achieved by the program did not rely on survey data. The survey response rates are adequate for the intended purposes, since they yield sample sizes that ensure low sampling error.

Part E

ESK participation by fiscal year for the period covered by the evaluation (fiscal 2011 to fiscal 2016) is provided in the table below.

Fiscal Year	Participation
F2011	20,305
F2012	13,180
F2013	8,086
F2014	8,921
F2015	9,493
F2016	10,490
Total	70,475

Part F

Installation rates of ESK products were reported in various tables in the evaluation report and based on survey responses received between March 2014 and November 2015. The tables are reproduced below.

In fiscal 2015 and fiscal 2016, the ESKs were customizable. Depending on whether a participant lived in an apartment or a house, they could request a different number of items per kit component. For example, participants living in apartments

could receive up to three light bulb while those living in a house could receive up to four.

Reported installation rates were similar between apartments and houses, with a few exceptions. The following two tables summarize the average installation rate per product for ESK participants living in houses and in apartments. A third table lists installation rates for draft-proofing measures that were included in both apartment and house kits.

Average Installation Rates Among ESK House Participants: March 2014 to November 2015

Product	1 (%)	2 (%)	3 (%)	4 (%)	None (%)	Don't Know (%)
CFL light bulbs	1	7	16	75	1	1
Window insulator film	10	11	11	23	41	4
Bathroom tap aerator	46	37	N/A	N/A	11	3
Water-saving showerhead	50	36	N/A	N/A	12	2
Kitchen tap aerator	78	N/A	N/A	N/A	17	4
LED night light	96	N/A	N/A	N/A	3	1
Refrigerator thermometer	92	N/A	N/A	N/A	7	2
Foam pipe wrap	9	25	50	2	11	3

Average Installation Rates Among ESK Apartment Participants: March 2014 to November 2015

Product	1	2	3	None	Don't Know
CFL light bulbs	9	11	77	4	1
Window insulator film	15	34	N/A	45	6
Bathroom tap aerator	69	13	N/A	16	2
Water-saving showerhead	62	14	N/A	23	2
Kitchen tap aerator	79	N/A	N/A	18	3
LED night light	95	N/A	N/A	5	1
Refrigerator thermometer	93	N/A	N/A	7	2

Average Installation Rates for ESK Draft-proofing Products: March 2014 to November 2015

Product	None	Some	All	Don't Know
Foam weather strip	23	37	38	4
V-Seal weather strip	24	39	33	5
Outlet sealers	10	33	56	1
Light switch sealers	13	34	53	1

Draft-proofing products such as foam and v-seal weather strips were included in both apartment and house kits. Electrical outlet and light switch sealers were only included in the house kits. For draft-proofing products, the survey asked respondents to indicate whether they installed none, some or all of the products.

Part G

The ESK participant surveys were distributed in English and were not translated into any other languages.

Part H

The ESK participant surveys were not available in any language other than English.

Part I

BC Hydro's Outreach Team distributes kits at pre-qualified community events. To receive a kit, the customer provides the following information:

- **First Name;**
- **Last Name;**
- **Phone;**
- **Email address;**
- **Dwelling type;**
- **Rent or own;**
- **Mailing address; and**

- **Whether they consent to be contacted about the program or other conservation-related programs by BC Hydro (opt-in).**

Individuals do not need to provide their BC Hydro account number or declare their income to receive an ESK.

Part J

Targets for ESK distribution at pre-qualified events over the Test Period are as follows:

- **Fiscal 2020: 2,200; and**
- **Fiscal 2021: 2,750.**

In fiscal 2020 (to the end of February 2020), 1,520 ESKs were distributed through pre-qualified events. This includes ESKs distributed at pre-qualified community events by BC Hydro's Outreach team as well as ESKs distributed directly by community partners. Please note that if the kits are distributed by community partners, individual contact information is not collected.

The targets originally included distribution to Indigenous communities in the integrated service areas. However, Indigenous communities are now receiving a customized kit along with salary support for installers, and we have now planned to track the distribution of these kits separately. To date, while there have been no completed installations reported in Integrated indigenous communities, three communities have signed agreements to install kits in a total of 143 homes. Installations are in progress.

Part K

As indicated in the response to Part B, the methodology for energy savings analysis did not rely on sampling of participants.

Part L

To ensure that the comparison group used in the analysis of ESK energy savings matched the important characteristics of the participant group, the evaluation used a variation in adoption (VIA) approach, meaning that the comparison group was comprised of future program participants that had not yet participated in the program in the fiscal year being analyzed.

The comparison group was roughly equivalent to the treatment group on a range of observable factors that were thought to influence the outcome of program

participation, including income level and electricity consumption prior to participation. Any remaining observable differences between the treatment and comparison groups were controlled for in the modelling process by including variables in the statistical model to account for the differences in:

- **Region;**
- **Owner / renter status;**
- **Space heating type;**
- **Water heating type;**
- **Weather;**
- **Number of household occupants; and**
- **Building age.**

VIA is a well-known and appropriate method of designing a comparison group that is similar to program participants. Later participants used in the comparison group are known to be low income because they were deemed eligible for the program.

Part M

The table below updates BC Hydro's response to BCSEA IR 1.44.1 to provide the actual number of participants in the ESK Program and the Energy Conservation Assistance Program (ECAP) in fiscal 2019.

	Plan	Actual
Energy Savings Kits	16,000	17,277
Energy Conservation Savings Program	3,040	3,842
Total	19,040	21,119

Part N

Modelling estimates show that a fully installed ESK in an electrically space heated and electric hot water heated single family home could save up to $131 per year.

Electricity bill savings would be lower in homes that do not have electric space and water heating or if not all measures in the kit are needed and installed.

These figures are based on BC Hydro's Residential Inclining Block Step 2 electricity rate of 0.1417/kWh in Rate Schedules 1101 and 1121.

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Part O

Average bill savings for installing an ESK are estimated based on the evaluation findings that average household energy savings range from 262 kWh to 316 kWh per year. Applying the current Step 2 rate of 0.1417 $/kWh, average bill savings are estimated at $37.12 to $44.78 per year. This is an average estimate across all household types, and includes both electrically heated, and non-electrically heated homes.

Part P

Average annual kWh savings per household for ESK participants are provided in the table below, by fiscal year.

Fiscal Year	Participation	Evaluated Unit Savings (kWh/yr)
F2011	20,305	262
F2012	13,180	263
F2013	8,086	309
F2014	8,921	316
F2015	9,493	277
F2016	10,490	284
Total	70,475	-