

LV Power Stability Community Meeting

July 26, 2021, 6 pm-8 pm, LVCC

Facilitator: Area D Director, Aimee Watson

Guest Presenters: Blair Weston, Fortis; Mary Anne Coules, BC Hydro; William Lin, Regional Distribution Planner for BC Hydro

Host: Lardeau Valley LINKS Society

Attendance: 17 in person; 5 online through KIN's local Jitsi server

Introduction: The power stability report intended to come up with recommendations/solutions to address power instability in the area. With the support of RDCK and CBT, an engineering firm was hired and a community committee (Bob Gazzard, Bob Waters, and Don Scarlett) was established. This meeting is intended to present what the report said, hear from utilities guest speakers from BC Hydro and Fortis, and most important, seek guidance from the community on the report's recommendations. Key question to the community being where we go from here?

Power instability has increased over the years, presenting more than inconvenience in the way of business impacts and safety concerns for residents such as medical, communications, and supply of heat and water for some residents. The report presents a grand picture of what we can do and how much it will cost.

Report Summary:

Public Engagement: 26 surveys submitted from 340 households, businesses, and community organizations. Of households, 52% have backup power source; 72% generators, 28% solar/battery backup. Power outage stats presented, showing high rate of outages. Stats do not reflect impacts of long term outages, some as long as 88+ hours.

BC Hydro, Fortis, RDCK, Ministry of Energy and Mines, Columbia River Treaty committee, BC Premier all received report.

Overview of Our Power Grid:

BC Hydro: Fortis services from their Kaslo substation to Milford Lake area, where it interconnects with BC Hydro. From there, BC Hydro runs radial power lines 34 km along Hwy 31 to Meadow Creek/Marblehead, with a single branch towards Johnsons Landing. There is a total of 88 km of radial distribution line (all lines combined) and no redundant pass.

Fortis: Power feeds into Kaslo substation in a single transmission line from Coffee Creek. There is a 2-way feed to Coffee Creek (from Balfour, and aerially from Creston). Unfortunately, while there are 2 lines, both are heavily impacted at the same time by winds on Kootenay Lake, so many times a good storm will affect both lines.

What is/can be done?:

BC Hydro: Have spent over 3.8 million on this line in past 10 years to improve pole line accessibility (moving closer to highway). Have installed reclosers, which segment the line to reduce outages from branches touching lines (now only 3% of outages) and to help line crew locate line section in need of repair. All this results in a faster restoration time.

50% of outages are caused by trees falling on lines. BC hydro has moved this line to a 4-year vegetation management cycle (last completed 2021, next scheduled 2024). Typically, BC Hydro uses a 5-year cycle. This has cost per cycle of 127K and has resulted in 50% decrease in interruptions from this cause.

Fortis: Experiencing green trees falling on lines in Kootenay region, have mapped areas of root rot and are working with land owners to log on uphill side of lines (vs getting right-of-way on private property). This is being done on North and East shore of lake at cost of 200K/year for next 5 years. Have also installed reclosers and other equipment to cause less voltage spikes and to show where faults are. Spending a lot of money for the amount of customers in order to rate-base services. With climate change and big storms, Fortis is doing “what we can”

Utility Improvements explored in study:

- Reduce vegetation near power lines (underway, see above)
- Renew service agreement between BC Hydro and Fortis for local employee. BC Hydro/Fortis “evaluating” this option, but require 3 full time employees to service area which they are having difficulty justifying. Increased requirement from 1 FTE to 3 due to safety to service remote lines. Fortis: small crew would still be unable to fix a transmission line down, and so would not necessarily lessen the duration of outages. Don Scarlett comments that there is a safety concern beyond duration of outages that would be addressed by a local crew. Many times there are lines on the road itself which prevent road clearing which blocks exists in and out of communities
- Secondary grid connection: Unfeasible as line along highway would be redundant and line through mountain pass too expensive/challenging.
- Underground/Underwater line: Typically costs 7-10 x that of overhead lines to install, and outages would be longer and difficult to repair. Seen by utility companies as last resort if no other option is available. Not seen as feasible in our area. Specs for utilities much different/higher than for communication lines, but Don Scarlett offers that there is local experience in putting lines underground/water if that is helpful.

Local Solutions Suggested by Local committee of Bob Waters, Bob Gazzard, and Don Scarlett (presented by Don Scarlett):

- Each community can develop lists of people who may need help in outages. Community can make outages more tolerable by helping each other and keeping communications going during outages.
- Possibility of sharing equipment, group owned equipment. Bulk purchase of surge protectors, LED lights, generators, transfer switch installation, etc.
- Community centers – critical in long outages to provide warm shelter and address medical needs such as charging oxygen machines. RDCK currently funding survey with LINKS to discover status of halls as emergency centers.
- Electrical utilities could subsidize people who need to purchase backup power (eg. interest free loan)
- Door-to-door survey of household needs and power vulnerabilities. Look at essentials of water, lights, warmth, communication.

- Do not see concept of a microgrid or local power generation as feasible due to requirements during peak demand and complications/safety concerns over control of direction of power flow if power still coming from South through utilities lines. Also geographically complicated with widely spaced houses.

Community Discussion and Q&A:

- Suggested putting power lines on downhill side of highway. William Lin of BC Hydro committed to investigate this further.
- Can BC Hydro staff at Duncan Dam help with outages? Area closest line technicians are in Nakusp, crews also come from Vernon and Cranbrook to service area.
- Power generation at Duncan? – BC Hydro conducted a power feasibility study 15 years ago and live trial 10 years ago; Columbia Power looked at in last 5 years. The challenge is distributing power away from dams, as lines are currently running power in, not out. Expensive/unfeasible to switch. Also may not address power stability, as dam only would generate power 4-5 months/year (not in storm season when outages are highest). Premier John Horgan has recently engaged on this issue and Director Watson continues to pursue it. BC Hydro offers to share all studies they have on this topic. The case for power production on Duncan Dam is difficult because it falls outside of the Columbia River Treaty obligations and provincial power needs on a big scale are fully serviced by Site C dam.
- Could a larger generator be stationed at Duncan Dam to service the area household needs? Similar issue of power going through lines in different direction. Safety concern, who manages switch?
- Renewable Kootenays is looking at increasing electrification, but grid instability caused by climate change means this could increase our vulnerabilities. Alternately, gas/diesel generators may be cheapest and easiest option now, but may be taxed in future and also contribute to fossil fuel dependence and greenhouse emissions. Fortis points out electrification is a province mandate, not a utilities mandate. Fortis has looked at battery storage places – still 10x cost of generators.
- Can wildfires be caused by trees on lines? Yes, but minimized by closing reclosers. Should utilities still consider cost to province of wildfires in assessing cost-effectiveness of buried vs overhead lines? Point taken. Vast majority of wildfires caused by humans and lightning, not by utilities.
- Could Fortis/BC Hydro have a rate-rider or other subsidy program to help cover costs for generator or fuel or other alternative? BC Hydro had not considered this, but can be contacted further.

Steps Forward Brainstorm

-The report and attachments have a lot of options for DIY backup (see link below)

-Determine who needs support (business and residential)– door-to-door to regionally quantify need. Determine methods and costs to fill these gaps. Then utilities, CBT, RDCK, Ministry of Energy and Mines could look at a program that would support filling in the grid gaps.

- Need to look at alternatives other than fossil fuel generators, which have climate impacts and safety concerns re handling fuel and causing fires. Eg. Tesla Power wall. Paul Faulkner, Senior Energy Specialist

at RDCK puts forward that there are lots of affordable options for generator alternatives such as battery banks, solar back ups, and even recycled batteries.

- Look into if there is a residential based version of Co-Gen equipment (FINK in Prince George) – waste wood used as power production, can also heat houses.

- Kelvin Saldern at CBT says they would be interested in exploring how community halls can serve as emergency centers.

- Mary Anne Coules of BC Hydro says they have a funding program opening in February for safety and community centers functioning as emergency centers.

- Closing from Director Watson and LINKS - This is something that affects everyone, and receipt of feedback from the community and work on this project is ongoing.

Our next steps:

- Explore options for funding of a door to door survey to assess detailed household and business gaps in back up power, this would then inform how/what a program to support the region would look like.
- Director Watson to work with CBT and LINKS to fund assessment and implementation of needs to ensure community halls are equipped with all they need in an outage to service the communities.

Meeting adjourned 8:07 pm

Maryanne Coules from BC Hydro can be reached directly – Maryanne.coules@bchydro.com

Full report and attachments:

https://www.rdck.ca/assets/Government/Documents/2021-04-15-BRD_Agenda-Ir.pdf?fbclid=IwAR2-MTTdZBUxkYQMEImjcx11g7BM9PjWesQLfLRXncaT8ho87dUeTPp8VM