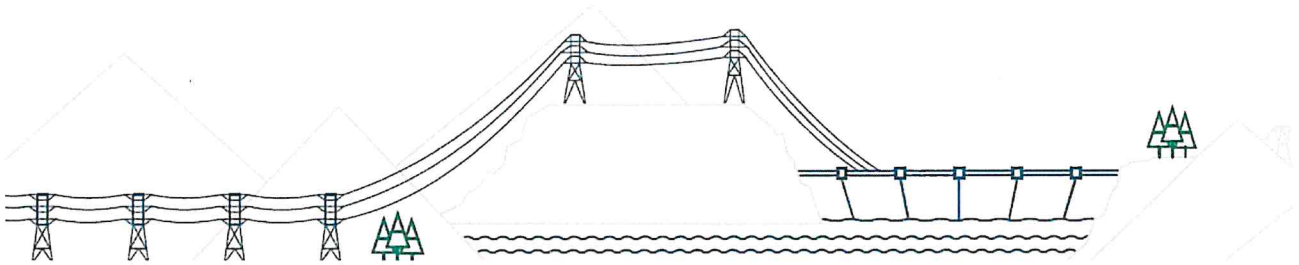


West Kelowna Transmission Project

Rachelle Trent, Project Manager
Sabrina Locicero, Stakeholder Engagement

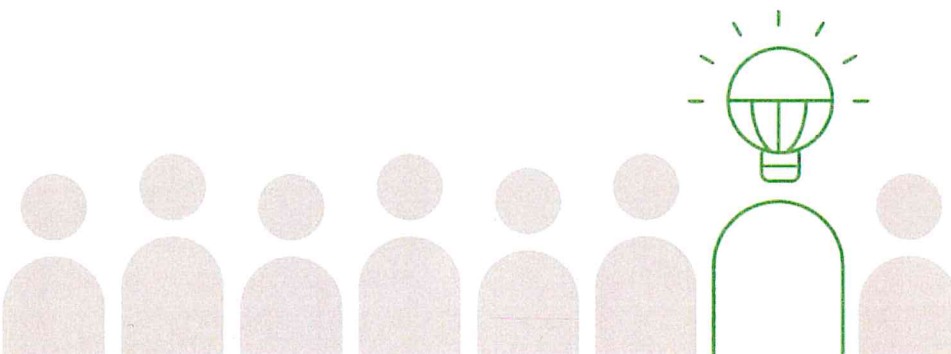


November 2019

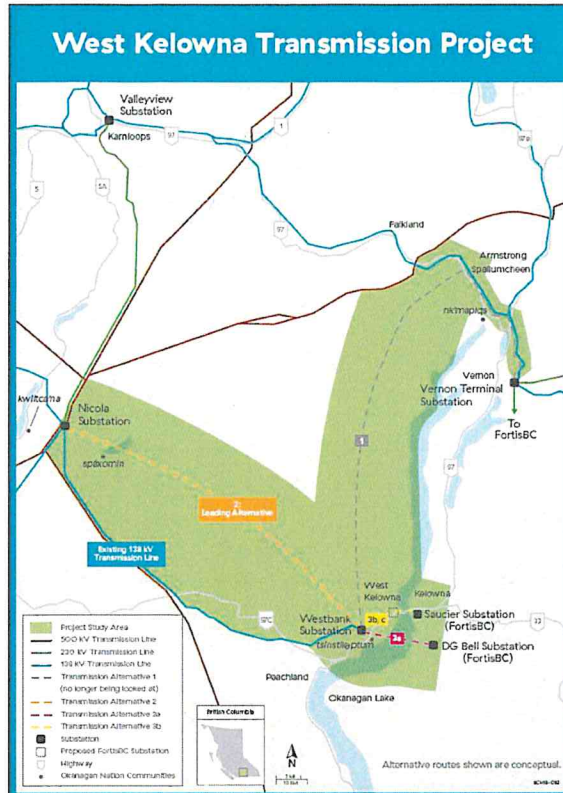


Agenda

- Project status
- Existing line
- Update: Resiliency alternative
- Structured Decision Making
- Next steps



West Kelowna Transmission Project



3 Timeline | WKTP

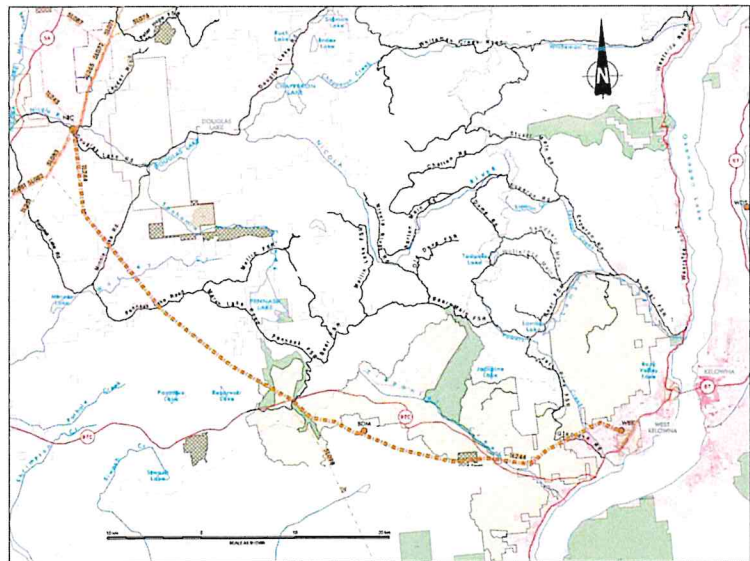
Timeline:

- In February 2015, the project was announced to construct a new, secondary transmission line.
- Spring 2015 to fall 2016, we studied three alternatives.
- Fall 2016, Alternative 2: Westbank Substation to Nicola Substation was identified as the leading alternative for further study.
- **Spring to fall 2019, work on new Resiliency Alternative completed.**
- Confirm preferred alternative in 2020 at the earliest.



The Existing Line

- The Westbank Substation is supplied by a single radial 138 kV transmission line from Nicola Substation Westbank Substation constructed in 1967.
- Second largest communities in the BC Hydro system supplied by a radial transmission line.
- Serves 22,000 customers in West Kelowna and Peachland.
- 80km in length, 369 structures, 30m wide right-of-way



4 The Existing Line | WKTP



Existing Line Performance

Performance

In the past 20 years:

- 4 unplanned outages
- 16 total outage hours
- 4 average hours per outage
- 9 hour maximum outage duration

2019 Maintenance

- Enhanced access maintenance
- Vegetation removal around poles
- Fire retardant application to wood poles

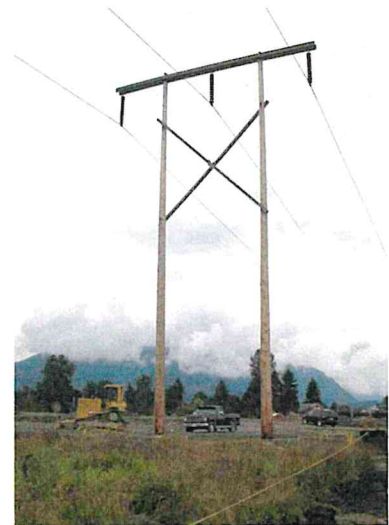


Resiliency Alternative

- This alternative looks to improve the resiliency of the existing transmission line to minimize the risk of outages resulting from forest fires and geotechnical events.

Studies completed summer 2019

- Wildfire and geotechnical assessments.
- Environmental overview assessment and archaeological assessment.
- Consultation with First Nations, governments and stakeholders.

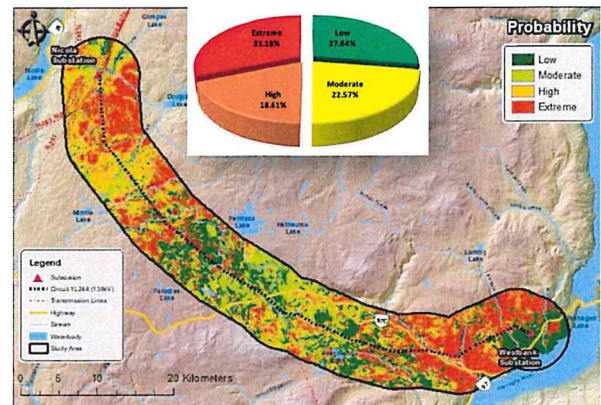


Above: Example of an H-frame structure.

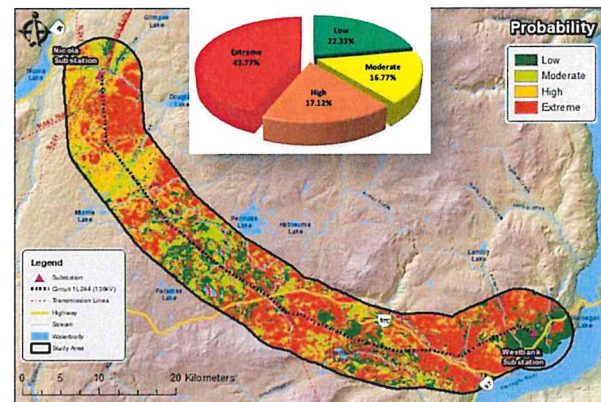
Resiliency

Wildfire Risk Assessment

- Considered ignition potential, fire behaviour and suppression capability for a 5km buffer on both sides of existing line over the next 30 to 40 years.
- Two climate scenarios considered:
 1. All weather station data from 1970 to 2018
 2. Data from only 2000 to 2018:
 - Provincially, 2000 to 2018 wildfire seasons have been more severe resulting in higher severity wildfires and a larger burned area.
- 50% of the line is in high and extreme risk areas for Scenario 1 increasing to 61% for Scenario 2.
- 28% of the line is in low risk areas for Scenario 1, 22% for Scenario 2.



Overall wildfire risk analysis results for Climate Scenario 1 (above) and 2 (below)

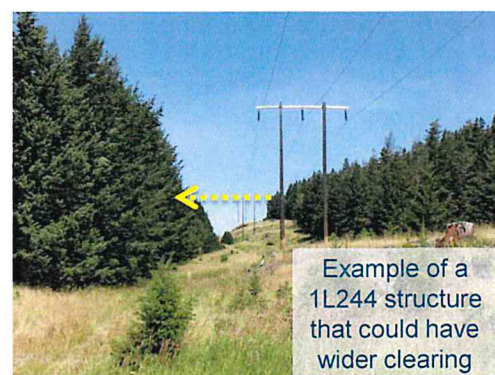
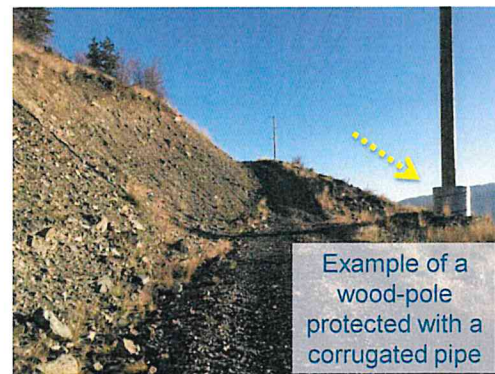


Resiliency

Wildfire and Geotechnical Design Mitigation Options

Considerations include:

- Base protection for wood-poles
- Materials selection: steel or fiberglass poles
- Right-of-way design
- Access improvements
- Grounding
- Drainage control, protective berms, sour protection and foundation design
- Enhanced design parameters for extreme ice and wind



Structured Decision Making

- Our work on the new secondary line alternatives and the Resiliency Alternative informs our decision-making

- Key aspects will include:

- First Nations relationships
- Environmental risks
- Reliability
- Safety
- Socio-economic impacts
- Stakeholders
- Cost

- The project timeline and in-service date will be updated once a preferred alternative is confirmed.

Objectives	Measure & Definition	2. Noctis 100km overhead North wood site	3a. FBC - DO Bell 11km Transmission Line Underground and Submarine Cable	3b. FBC - Saucier north new FBC Substation 14km Transmission Line Underground and Submarine Cable	3c. Same as 3b without new Port Substation 14km Transmission Line Underground and Submarine Cable	Resiliency Alternative
Keep FERC Low	Fast Present Value					
Maximize Reliability	Higher, Moderate, Lower Risk Impact					
Maximize Safety Risks	Higher, Moderate, Lower Risk Impact					
Maximize Environmental Risks	Higher, Moderate, Lower Risk Impact					
Minimize Socio-Economic Impacts	Higher, Moderate, Lower Risk Impact					
Maintain and Enhance First Nations Relationships	Comments from letters received by BC Hydro					
Maintain or Enhance Reputation with Stakeholders	Not Supported, Moderate, Supported					

9 Identifying a Preferred Alternative | WKTP



Next Steps

- Complete the assessment of the Resiliency Alternative by end of 2019.
- Complete the detailed review of the costs for the new line (redundancy) alternatives by end of 2019.
- Anticipate a decision on next steps by early 2020.



10 Next Steps | WKTP



