

**Carter, Paul**

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**From:** RosanneWilliams@lowerchurchillproject.ca  
**Sent:** Friday, March 29, 2019 11:15 AM  
**To:** Carter, Paul  
**Cc:** TanyaPower@lowerchurchillproject.ca; StevePellerin@lowerchurchillproject.ca  
**Subject:** Power Supply PPT  
**Attachments:** LCP Transmission Link OC\_March 29\_Final.pdf

Hi Paul,

The Power Supply deck is attached. Please let me know if you have any questions.

Thanks,

Rosanne

**Rosanne Williams**  
Strategy & 3rd Party Coordination Manager  
PROJECT DELIVERY TEAM  
Lower Churchill Project  
t. 709 737-4923 c. 709 691-3257 f. 709 737-1985  
e. [RosanneWilliams@lowerchurchillproject.ca](mailto:RosanneWilliams@lowerchurchillproject.ca)  
w. [muskratfalls.nalcorenergy.com](http://muskratfalls.nalcorenergy.com)



# LCP Transmission Link Project

*Project Update*

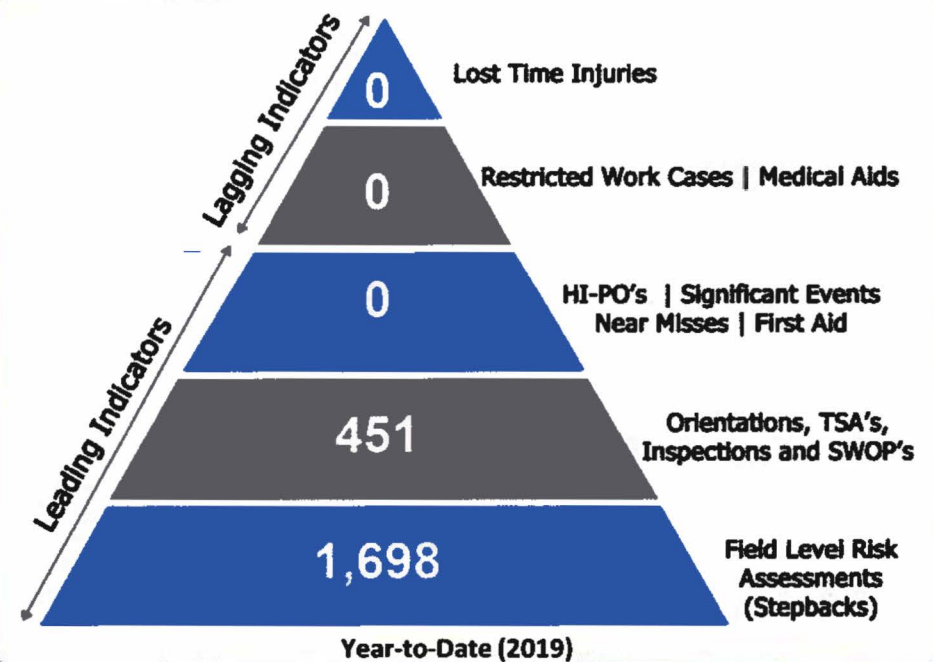
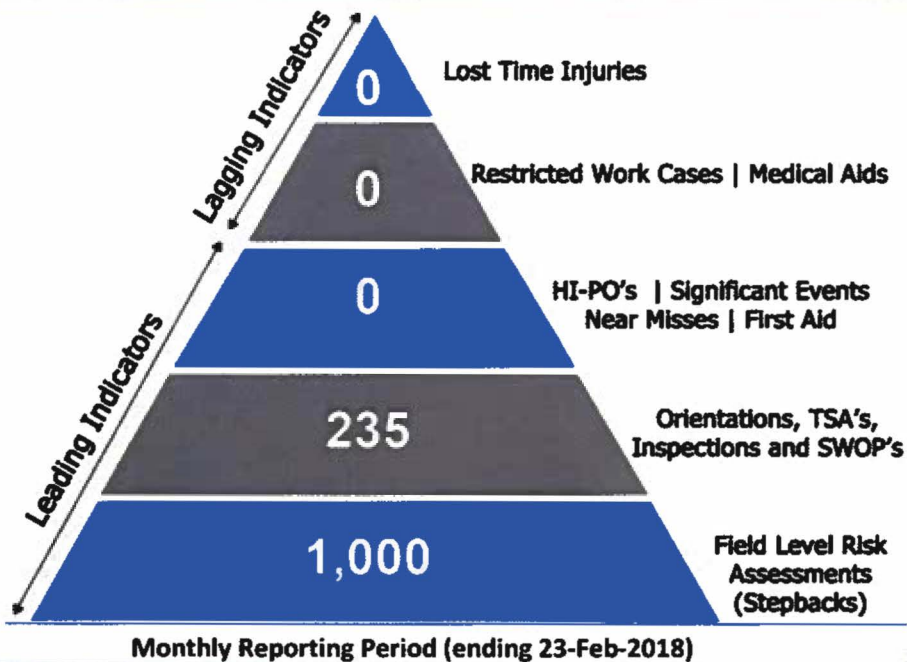
*March 29, 2019*

Boundless Energy



## HVdc: C3 Health and Safety Leading/Lagging Indicators

Reporting Period: JAN 27<sup>th</sup> 2018 – FEB 23<sup>rd</sup> 2019



### HIGHLIGHTS

- Finalized Lock Out/Tag Out and Work Authorization Procedures with GE Power Soldiers Pond.
- Installation of Pole 2 Cabinets Muskrat Falls site.
- Nalcor Corporate review of Extended Lock Out/Tag Out for GE Power
- Fire Plan developed and implemented for Muskrat Falls Converter Building
- 0 Recordable Incidents during the reporting period.

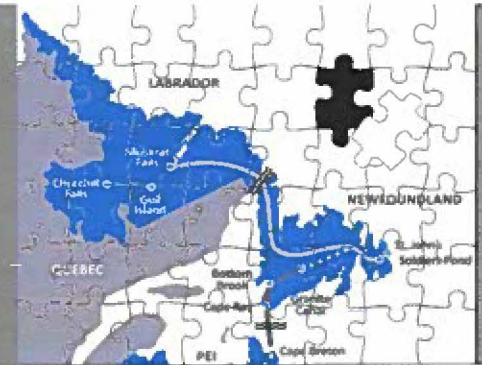
### FOCUS AREAS

- SafetyNet Field Focus on Lock Out/Tag Out and Work Permit process.
- Develop MOCK Emergency Operations Plan to test GE Power Incident Command process including LCP EOC and Nalcor Corporate EOC.
- Cabinet Install Pole 2 Soldiers Pond.
- Hydrogen ERP for GE Power operations
- Plan regular field audits (FAS) for ongoing site activities

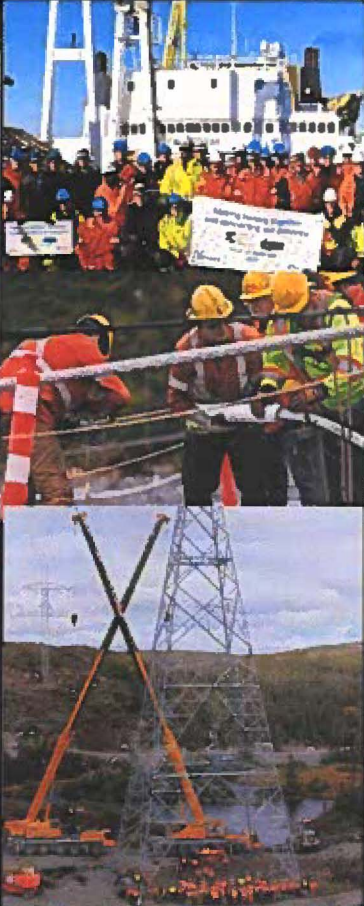


# LCP Transmission Link Project

*Overall Progress, by Asset*



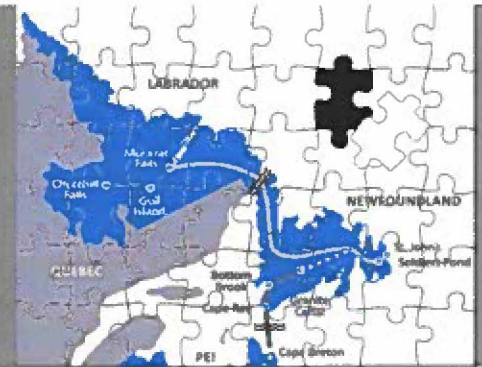
# PROGRESS SNAPSHOT – FEBRUARY 2019

			Construction Progress	AFE4 Budget	AFE4 Budget Compliant
	<b>Strait of Belle Isle (SOBI)</b> <i>COMPLETE</i>	✓	100%	\$320	✓
	<b>Labrador Transmission Asset (LTA)</b> <i>COMPLETE</i>	✓	99.96%	\$903	✓
	<b>Labrador-Island Transmission Link (LITL)</b> <b>Overhead Transmission Line</b> <i>COMPLETE</i>  <b>HVdc Specialties</b> <ul style="list-style-type: none"> <li>• Daily Winter Power Transfer ongoing</li> <li>• Commissioning and energization activities ongoing</li> </ul>	✓	99.9%	\$3,713	✓

**Overall cost & schedule compliant**

# LCP Transmission Link Project

*Current Activities*





## WINTER POWER TRANSFER STATUS

- After investigation into the sensitivity feature of the LIL protection setting, the precautionary low fixed limit (45MW) has been lifted and now tracks Holyrood to maximize imports
- The combination of LIL and Holyrood equals the "maximum unit loading" limit of 170MW
- The current approach is to minimize Holyrood output when possible, in order to maximize imports over LIL
- In the past 30 days, power transfer over LIL has ranged from 45-120MW (from CF)



## POWER TRANSFER POST WINTER 2019

- LIL planned to be taken out of service this spring to install P&C monopole software version 17c
- Installation and dynamic commissioning will take approximately 4 weeks
  - Installation window is between April-June
- Discussions into continuing power transfer through the summer is ongoing

# HVDC CONVERTER STATIONS

## GE Grid

- Pole 1 Construction
  - “A” punchlist items 100% complete
  - Close-out of “B” punchlist items is ongoing
    - 177 remaining at SOP (90% complete)
    - 162 remaining at MF (92% complete)
- Pole 2 Construction
  - Pole 2 cabinet installation ongoing at SOP and MF
    - SOP and MF Pole 2 are 90% mechanically complete

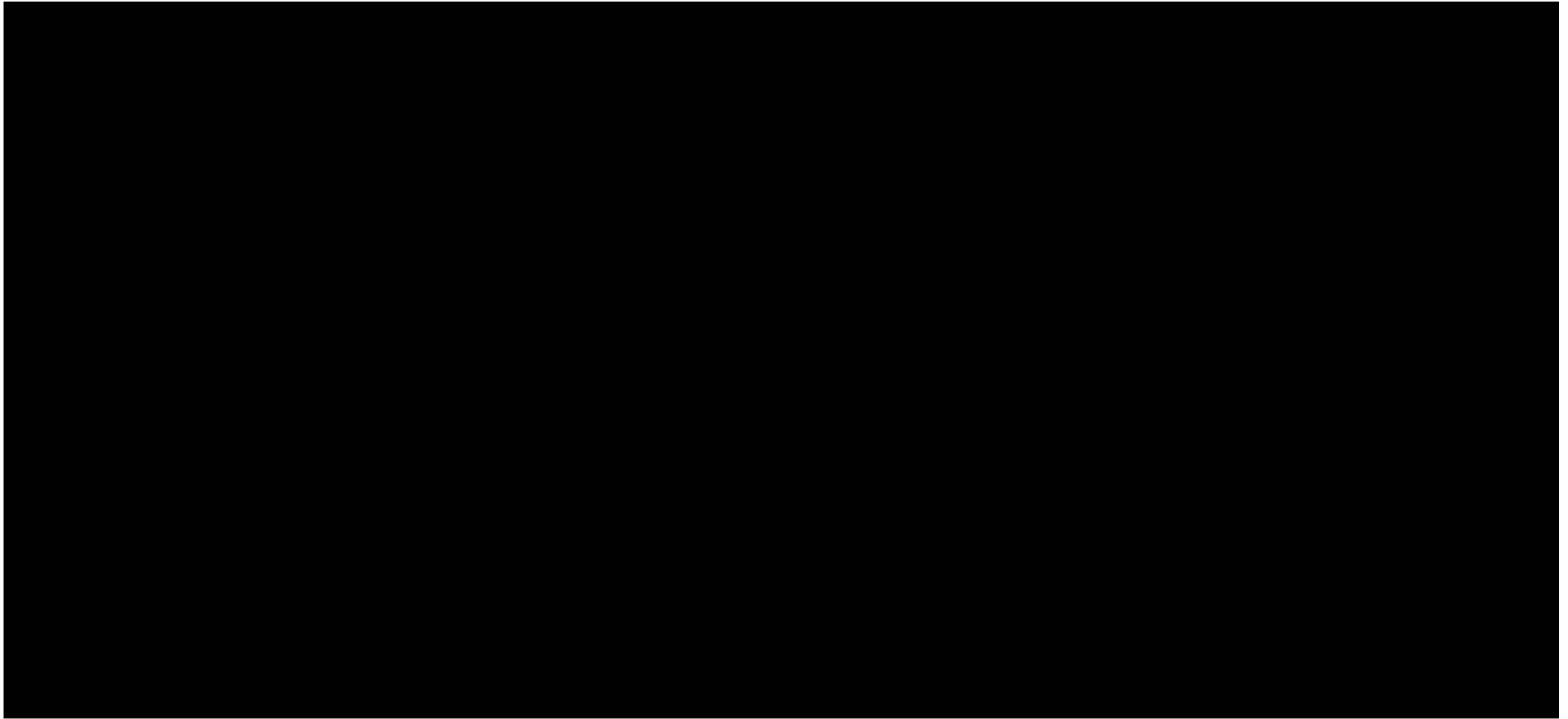
# P&C SOFTWARE

## GE Grid

- Independent Third Parties (ITP) hired to monitor software progress and functionality
  - Systematic assessing software development progress
  - Amplitude assessing conformance to HVdc functional requirements
- Systematic audit of GE was March 11-14
- Amplitude audit of GE is scheduled for April 10
- Both Systematic and Amplitude will jointly report on a monthly basis after the April 10 audit

# P&C SOFTWARE

## GE Grid





# SYNCHRONOUS CONDENSERS

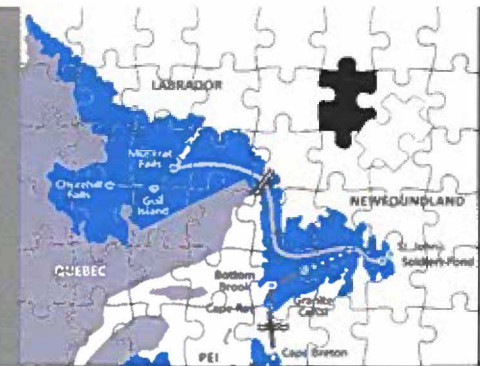


## GE Power

- **Lube Oil Contamination**
  - Unit 3
    - Hot oil full system flush complete
    - Heat exchanger flush complete
    - Heat exchanger installation this week
  - Unit 1
    - Bearings and housings re-installed
    - Collector end cap is installed
    - Flywheel cap installation and system flush this week
  - Unit 2
    - Bearings and housings back on site
    - Re-Installation to start next week
- **Rotor Lift**
  - Units 1 & 3 rotor lift tests completed successfully
- **Schedule**
  - All 3 units scheduled to be commissioned in Q3 2019 (July-Aug-Sept)

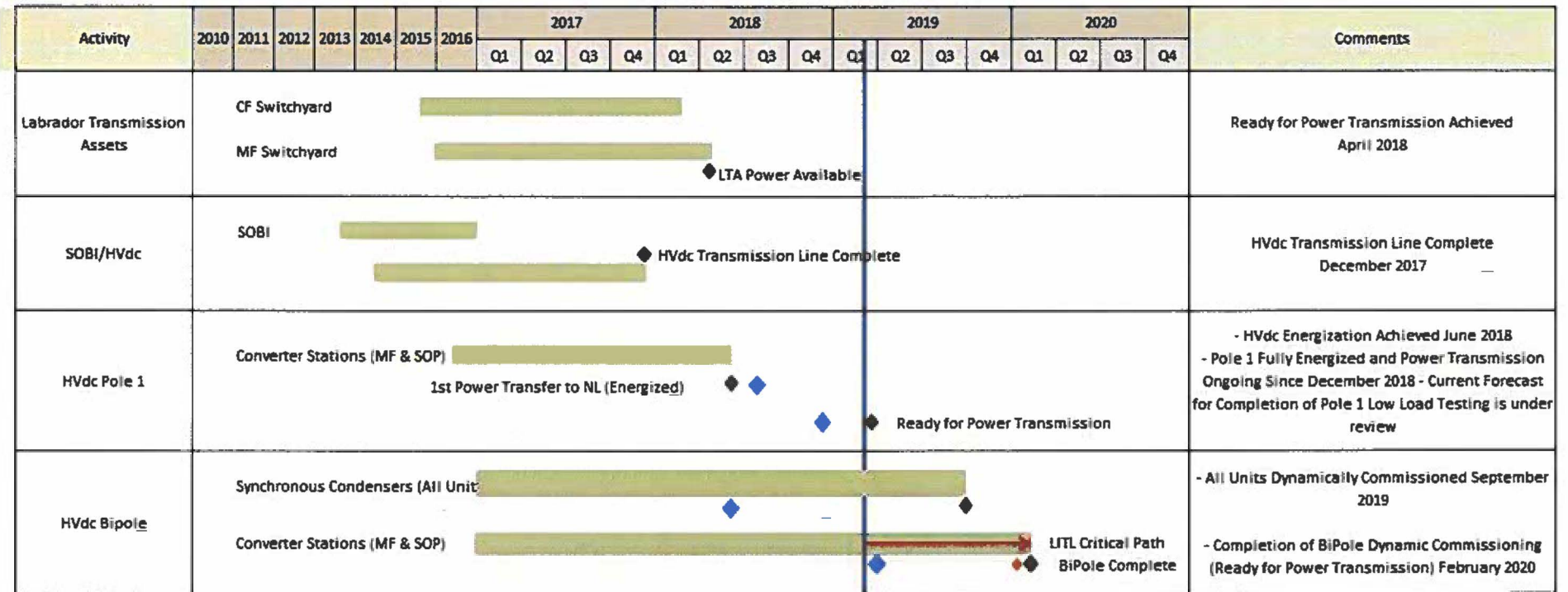
# LCP Transmission Link Project

*Schedule & Cost Risk*



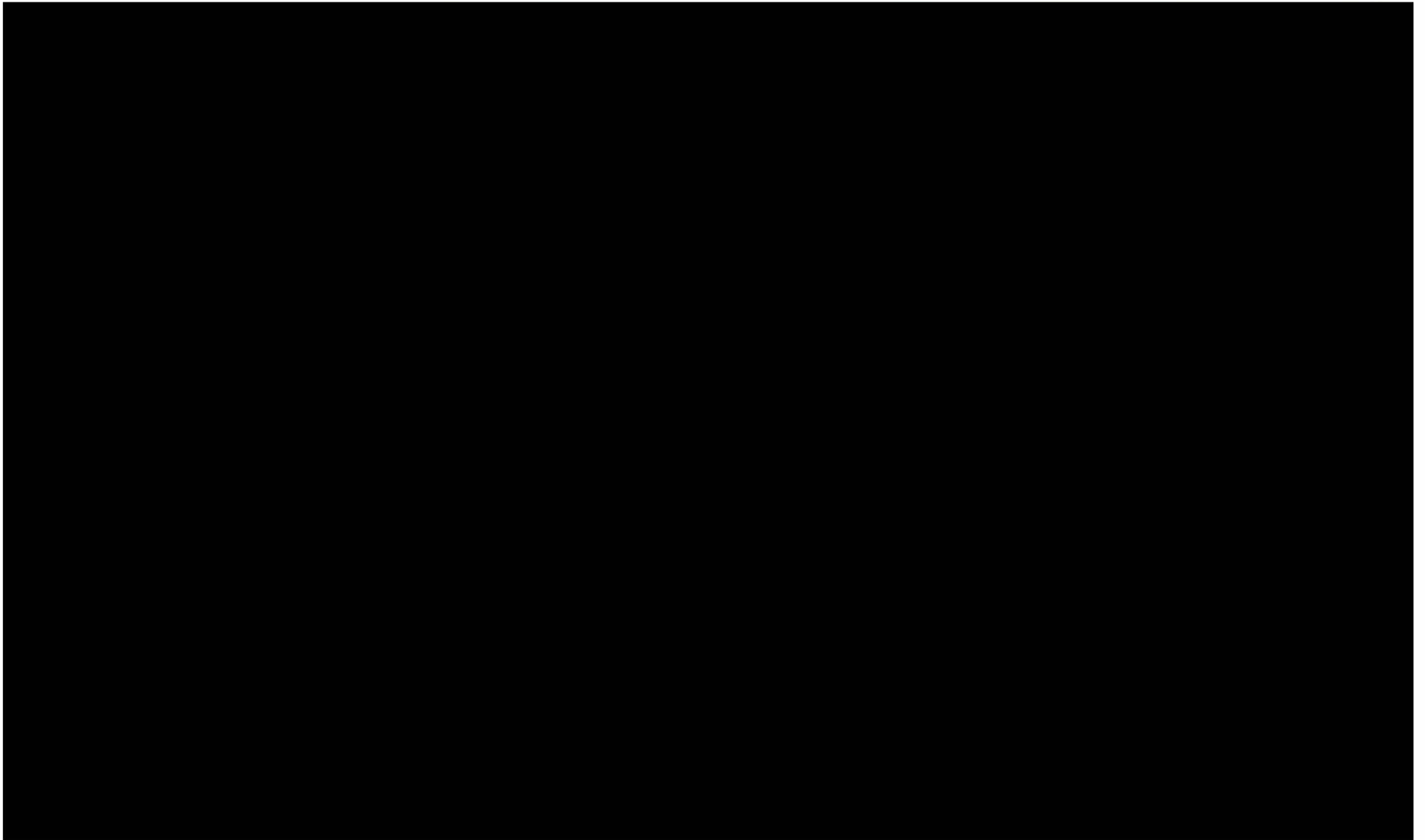
# LITL SCHEDULE

## Power Supply Summary Schedule Current Forecast (February 2019)



Legend: ◆ Current Forecast (February 2019)  
 ◆ Planned Dates (June 2017 AFE Rev 4)  
 ◆ Low Load Testing

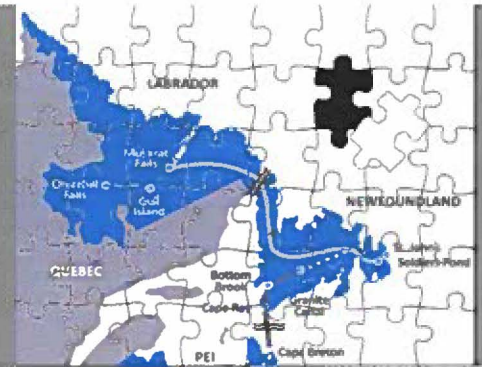
## COST RISK – LTA & LITL





# LCP Transmission Link Project

*Remaining Work*



## REMAINING WORK

Activity	Timing
Pole 1 daily operations ongoing	Ongoing
Handover-Turnover of AC Switchyards complete	Q2 2019
Synchronous Condensers complete	Q3 2019
Bi-Pole software FAT complete	Q3 2019
Bi-Pole commissioning (Low Load Testing) complete	Q4 2019

Sharing our ideas in an open and supportive manner to achieve excellence.

## Teamwork

## Open Communication

Fostering an environment where information moves freely in a timely manner.

## Honesty and Trust

Being sincere in everything we say and do.

Relentless commitment to protecting ourselves, our colleagues, and our community.

## Safety

## Respect and Dignity

Appreciating the individuality of others by our words and actions.

## Leadership

Empowering individuals to help, guide and inspire others.

Holding ourselves responsible for our actions and performance.

## Accountability