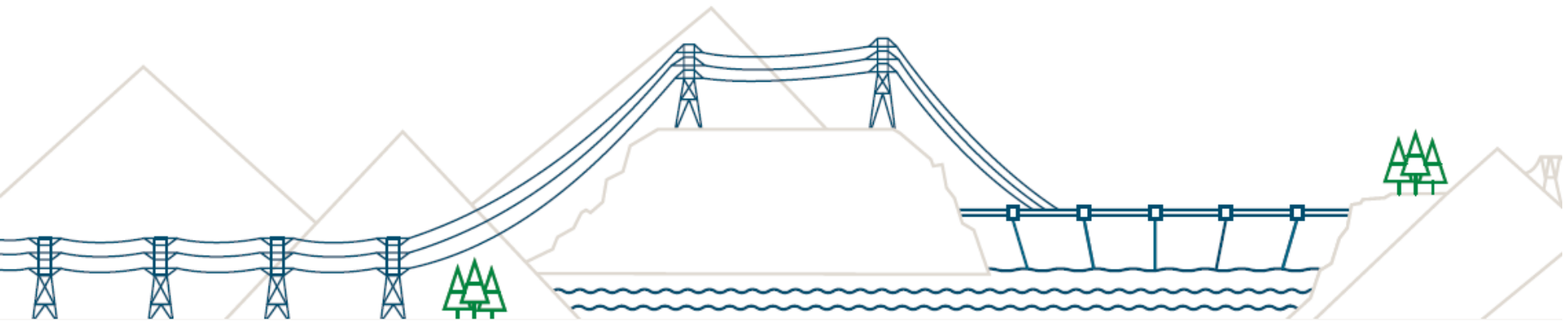


Site C Clean Energy Project

Regional Community Liaison Committee
Project Briefing

May 16, 2018



Construction Update



Construction Update

- Dam Site Area (Bob)
 - Left Bank Excavation, Cofferdams, Diversion Tunnels
 - Earthfill Dam
 - Right Bank RCC Buttress, Generating Station and Spillways
- Off Dam Site Area (Melissa)
 - Highway 29 realignment
 - Reservoir
 - Substation and transmission lines to Peace Canyon Dam

Dam Site Construction Activities

- Contractors will continue to mobilize equipment and material to site.
- Continuing construction and operations including main civil works, generating station and spillways (GSS) civil works, turbines and generators and substation.
- Water management activities such as drainage alteration, debris removal and water pumping.

Dam Site Construction Activities

- Excavation, including in-river excavation, will continue to progress on the north and south banks.
- Construction activities such as drilling, blasting, crushing, earth moving, pile driving, concrete production and road maintenance will continue, as required.
- Waste wood may be transported on site, chipped, mulched, spread as coarse woody debris or piled in the dam site and lower reservoir area

Dam Site Area – Right Bank

Construction Activity	Anticipated schedule
Excavation and material relocation on the north and south banks	July 2015 – spring 2023
Roller compacted-concrete buttress	Early 2017 – late 2020
Generating station and spillways	2018 – 2024
Turbines and generators	2017 – 2024
Substation	2018 – 2020



Excavation of Powerhouse February 2017

Right bank overview



236 m

Powerhouse, spillway buttress and approach channel excavation, south bank





Roller compacted concrete placement for powerhouse buttress







Date & Time: Sat Feb 24 16:18:58 MST 2018

Position: 10 N 629964 6228613

Altitude: 478m

Datum: WGS-84

Azimuth/Bearing: 316° N44W 5618mils (True)

Elevation Angle: +05.6°

Horizon Angle: +00.0°

Zoom: 1X





13:37 MAY/ 2/2017





Aggregate crushing facility







VT S

SJIII 3220

skyjack

SECTION 1A

3B

North bank starter cofferdams and laydown area









12:36 MAY/ 8/2018











North bank excavation

Highway 29 realignment

Cache Creek route options

- Consultation with Indigenous Communities and Property Owners – January to July 2018
- Third route option has been added
- Decision on route re-alignment at Cache Creek/Bear Flat – August 2018
- Construct detour at Cache Creek – Summer/fall 2020
- BC Hydro is exploring options for advancing construction for western portion
3.6 km of the Cache Creek/Bear Flat segment not impacted by the route alignment options

Highway 29 realignment options at Cache Creek



Map Notes:
 1. Source: NAD83
 2. Projection: UTM Zone 18N
 3. Data: BC Hydro
 4. Imagery based on 2014 Aerial Ortho Map, Dec. 2014
 5. Proposed reservoir area with 50m minimum normal elevation from Digital Elevation Model (DEM) generated from LIDAR data acquired July/August, 2015

- 2017 Alignment Centerline
- - - Potential Alignment within EIS Corridor (Option 1)
- - - Potential North Alignment (Option 2)
- - - Potential Alignment (Option 3)
- Approximate Area for Highway Assessment
- EIS Corridor/Right-of-Way
- Proposed Reservoir
- Existing Highway 29

DRAFT - FOR DISCUSSION PURPOSES ONLY

1:23,000⁰ 1,500 m

BC Hydro

**Cache Creek / Bear Flats
Highway 29 Realignment Options**

Date	February 22, 2015	DWG NO.	1015-C14-10239	R 1
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Highway 29 realignment Cache Creek west



Highway 29 realignment

Geotechnical investigations: 2018

Activity	Location	Timing
<p>Geotechnical investigations:</p> <ul style="list-style-type: none">• Site reconnaissance, ground survey and geotechnical investigations including drilling boreholes and excavating test pits to obtain information for detailed design and potential borrow sources	Cache Creek	May – August 2018
	Halfway River	January 10, 2018 – April 2018
	Farrell Creek East	August – October 2018
	Farrell Creek	August – October 2018
	Dry Creek	May – July 2018
	Lynx Creek	End of April – August 2018

Highway 29 realignment overview



Transmission line construction

Anticipated construction schedule

Construction Activity	Anticipated schedule
Access road upgrades	July 2017 – January 2018
Access road construction on right-of-way (RoW), including construction on Septimus Road	June 2017 – September 2019
Transmission RoW clearing (east)	Completed
Site C substation construction	March 2018 – December 2020
Transmission RoW clearing (west) remaining	Winter 2018/2019
500kV Transmission line construction	October 2018 – October 2023
Peace Canyon 500kV substation expansion	March 2018 – December 2019
Removal/reconfiguration of 138kV lines	October 2020 – October 2021

Southbank Substation



Control building foundation

Reservoir clearing

Schedule

Construction activity	Anticipated start
Eastern reservoir	November 2018
Dam site / Lower reservoir	Waste wood removal is ongoing
Lower reservoir & Moberly drainage	November 2018 (ongoing)
Cache Creek to Halfway River	November 2018
Halfway River to Hudson's Hope	Fall/winter 2020

Lower Reservoir clearing – Tea Island



Lower Reservoir clearing – Waste Wood burning



Before and After: Waste wood pile burning



Site C Regulatory Update

- The EAC stipulates that BC Hydro must undertake all construction activities in accordance with Schedule A (the Project Description) and Schedule B (the Conditions) of the Certificate
- Therefore, BC Hydro must request an amendment to the EAC should the design of the works described in the Project Description change
- Three instances where design changes are proposed:
 - Generating Station and Spillway
 - Highway 29 at Halfway River Bridge Design
 - Highway 29 realignment at Cache Creek

Community and social mitigation update



Community and social mitigation

- BC Hydro Peace Agricultural Compensation Fund
 - First Board Meeting on May 9, 2018
- Recreation Site Fund
 - Request for Recommendations for Committee members
- Completed/underway construction projects
 - Hwy 97 Improvements in Taylor
 - Peace Island Park RV Spaces
 - Daycare at Margaret “Ma” Murray Community School
 - Housing Project

Highway 97 Improvements - Taylor

Lighting Improvements



Dynamic Message Boards



Lighting Improvements



Webcam



Peace Island Park Serviced RV Spaces



Margaret 'Ma' Murray Community School (September 2017)



Picture courtesy of School District 60

Housing Project - Rendering



Rendering courtesy of BC Housing

Jobs and Businesses update



Construction contracts awarded

Procurement approach designed to achieve value for money to ratepayers

- North and south bank clearing
- North and south bank site preparation
- Moberly River basin reservoir clearing
- Temporary Peace River construction bridge
- Moberly River construction bridge
- Public road upgrades in vicinity of dam site
- Worker accommodation lodge
- Main civil works
- Turbines and generators
- Transmission line towers
- Peace Canyon substation upgrade
- Site C substation
- GSS civil works
- GSS powerhouse bridge cranes

Status of construction contracts

Procurement approach designed to achieve value for money to ratepayers

Procurements underway:

- Transmission Construction
- GSS Hydro-Mechanical Equipment Supply

Future procurements:

- GSS Balance of Plant
- Highway 29 realignments
- Supporting works



Site C jobs snapshot

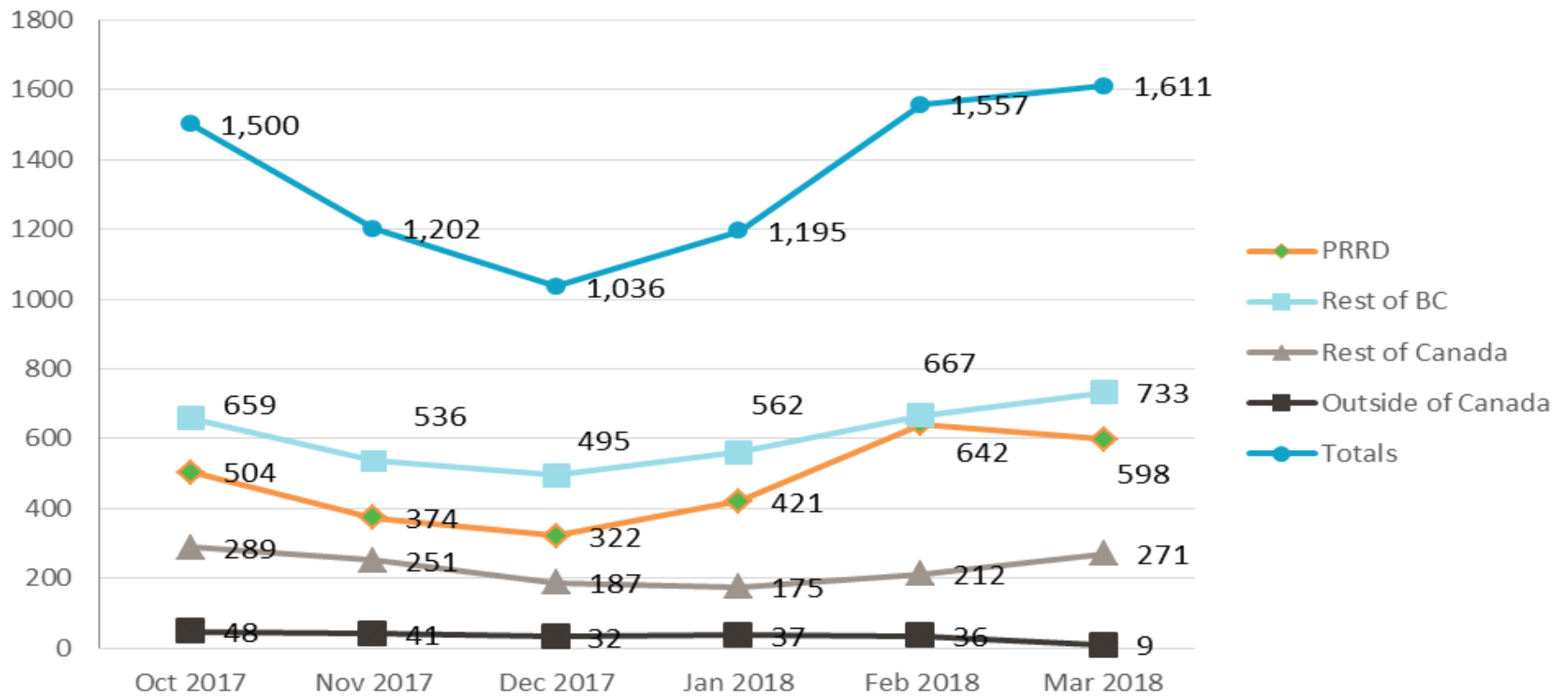
Site C Employment Statistics – March 2018

	# of Total Workers	# of PRRD Workers
Construction and Non-Construction Contractors ¹ <i>Excludes work performed outside of B.C. (e.g. manufacturing)</i>	1,611	PRHP: 241 ATCO: 57 Other: 300 Total: 598
Engineers and Project Team ² <i>(engineering, consulting and project staff)</i>	513	
Total Workforce	2,124	

1. Includes work performed on Site C dam site, transmission corridor, reservoir clearing area, public roadwork, worker accommodation and services.
2. Project Team includes consultants, BC Hydro Construction Management and other offsite Site C project staff. An estimate is provided where possible if primary residency is not given.

Site C jobs snapshot

October 2017 - March 2018
Site C Construction and Non-Construction Contractors
By Primary Residency



2018 Q1 Regional Business Participation

Companies engaged by BC Hydro and Site C contractors to provide goods & services in relation to Site C construction between January-March 2018

Community	Number of Businesses	Community	Number of Businesses
Baldonnel	1	Montney	1
Cecil Lake	1	Pouce Coupe	1
Charlie Lake	14	PRRD	1
Chetwynd	18	Prince George	27
Dawson Creek	24	Rose Prairie	1
Fort Nelson	1	Taylor	8
Fort St. John	269	Tumbler Ridge	2
Hudson's Hope	4	Wonowon	1
Moberly Lake	2		
Total			334

2018 Q1 Regional Business Participation

Companies engaged by BC Hydro and Site C contractors to provide goods & services in relation to Site C construction between January-March 2018

PRRD businesses provide a range of services:

- Equipment rentals and sales
- Vehicle rentals
- Office supplies
- Accommodation and hospitality
- Safety and first aid services
- General contracting
- Trucking



BC Hydro

Power smart