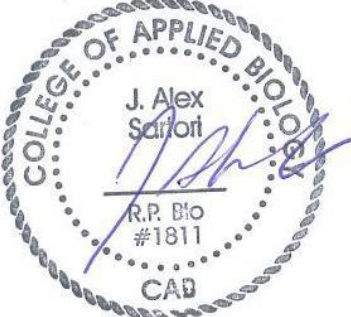
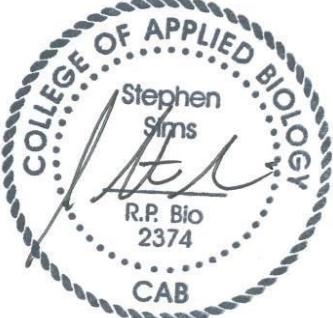


Upper Lillooet Hydro Project

Weekly Environmental Monitoring Report #40

Reporting Period: September 21 – September 27, 2014

Upper Lillooet River Hydroelectric Facility (Water File No. 2002561, Water licence No. C130613),
Boulder Creek Hydroelectric Facility (Water File No. 2003049, Water licence No. C129969) &
Transmission Line (TX Line)

Distribution List		Prepared By
Name	Organization	
Murray Manson	Fisheries and Oceans Canada	 J. Alex Sartori, RPBio <i>Independent Environmental Monitor (IEM)</i>  J. Stephen Sims, RPBio <i>Delegated IEM</i>
James Davies	MFLNRO – Water Allocation	
Danielle Cunningham	MFLNRO – Land and Resources	
Frank DeGagne	MFLNRO – Land and Resources	
Nathan Braun	BC Environmental Assessment Office	
George Steeves	True North Energy – Independent Engineer	
Jennifer McCash	True North Energy – Independent Engineer	
Thomas Hicks	Sartori Environmental Services	
Peter Ramsden	Innergex Renewable Energy Inc.	
Oliver Robson	Innergex Renewable Energy Inc.	
Greg Davis	Innergex Renewable Energy Inc.	
Julia Mancinelli	Innergex Renewable Energy Inc.	
Liz Scroggins	Innergex Renewable Energy Inc.	
Bas Brusche	Innergex Renewable Energy Inc.	
Matt Kennedy	Innergex Renewable Energy Inc.	
Renaud DeBatz	Innergex Renewable Energy Inc.	
Richard Blanchet	Innergex Renewable Energy Inc.	
Claude Denault	CRT-ebc Construction Inc.	
Jonathan Drapeau	CRT-ebc Construction Inc.	
Éric Ayotte	CRT-ebc Construction Inc.	
Jordan Gagne	CRT-ebc Construction Inc.	
Ian McKeachie	CRT-ebc Construction Inc.	
D'Arcy Soutar	Westpark Electric Ltd.	
Pontus Lindgren	Westpark Electric Ltd.	
Harriet VanWart	Lil'wat Nation	Date Prepared: October 23, 2014 Date Submitted: October 27, 2014

Owner Construction Permits and Approvals

Environmental Assessment Certificate No. E13-01 (Amendment 1, 2, 3 & 4)
Fisheries Act Subsection 35(2)(b) Authorization No. 09-HPAC-PA2-000303 (Amendment 1)
Letter of Advice for the Transmission Line No. 09-HPAC0-PA2-000303
Leave To Commence Construction (ULRHEF) File No. 2002561
Leave To Commence Construction (BDRHEF) File No. 2002453
Leave To Commence Construction (TX Line) File No. 2002561/2002453
Conditional Water Licence (ULRHEF C130613) File No. 2002561
Conditional Water Licence (BDRHEF C129969) File No. 2002453
Conditional Water Licence (BDRHEF C131153) File No. 2003601
Licence of Occupation (ULRHEF #232384) File No. 2409871
Licence of Occupation (BDRHEF #232386) File No. 2409998
Licence of Occupation (TX Line #2423386) File No. 2410654
Occupant Licence to Cut (ULRHEF Amendments 1, 2, 3, 4, 5) No. L49717
Occupant Licence to Cut (BDRHEF – KM 38 laydown) No. L49698
Occupant Licence to Cut (BDRHEF Amendments 1, 2, 3) No. L49816
Occupant Licence to Cut (TX Line Amendment 1, 2, 3, 4, 5) No. L49697
General Wildlife Measure Exemption Approval Letter (TX Line & BDRHEF) File No. 78700-35/06 UWR and 39585-20 WHA
Heritage Conservation Act – Alteration Permit (ULRHEF) File No. 11200-03/2014-0033
Road Use Permit No. 6123-13-02 (Lillooet River FSR); 5673-13-01 (Rutherford Creek FSR); 7977-13-01 (Lillooet South FSR);
8015-13-01 (Ryan River); 8188-13-01 (Pemberton Creek FSR); and 9717-13-01 (Miller Bench FSR)
Junction Permit (ULRHEF & BDRHEF) File No. 11250-32/6123 (Amendment 1)
Aeronautical Obstruction Approval (Tx Line - Lillooet River Crossing) File No. 2013-004
Aeronautical Obstruction Approval (Tx Line - Ryan River) File No. 2013-005
Aeronautical Obstruction Approval (Tx Line - North Miller) File No. 2013-006
Aeronautical Obstruction Approval (Tx Line - South Miller) File No. 2013-007
Aeronautical Obstruction Approval (Tx Line - Pemberton Creek) File No. 2013-008
Aeronautical Obstruction Approval (Tx Line - Lillooet River near Pemberton) File No. 2013-009
Aeronautical Obstruction Approval (Tx Line - Lillooet River near Meager Creek) File No. 2013-010
Navigable Water Protection Act (ULRHEF) File No. 8200-2009-500434-001
Navigable Water Protection Act (BDRHEF) File No. 8200-2012-501-032-001
Navigable Water Protection Act (Tx Line – North Creek) File No. 8200-2013-500103-001
Navigable Water Protection Act (Tx Line – Lillooet River) File No. 8200-2013-500101-001
Navigable Water Protection Act (Tx Line – Lillooet River) File No. 8200-2013-500102-01
Navigable Water Protection Act (Tx Line – Ryan River) File No. 8200-2013-500104-001
Navigable Water Protection Act (Tx Line – South Miller River) File No. 8200-2013-500100-001
Navigable Water Protection Act (Tx Line – Boulder Creek) File No. 8200-2013-500099-001
Navigable Water Protection Act – Extension Approval (ULRHEF, BDRHEF, Tx Line)
Navigable Water Protection Act (Bridge – Ryan River) File No. 8200-2013-500381
Navigable Water Protection Act (Bridge – Upper Lillooet Side Channel; Extension Approval) File No. 8200-2013-500383
Section 57 Authorization (ULRHEF) File No. 16660-20/REC202717
SLRD Temporary Use Permit No. 34 – Boulder Creek HEF
SLRD Temporary Use Permit No. 35 – Upper Lillooet River HEF
Works Permit for Construction within FSR Right-of-Way No. 6123-14-01
Section 52(1)(b) FRPA Authorization for Ryan River Wet Crossing File No. FOR-19400-01/2014

Contractor Construction Permits and Approvals

Magazine Licence File No. UL76018
Section 8 Approval – Short Term Use of Water File (Lillooet River and Tributaries) No. A2006123 (Amendment 1)
Waste Discharge under the Code of Practice for the Concrete and Concrete Products Industry under the Environmental Management Act (Authorization No. 107204) Tracking No. 326969
Wildlife Act Permits – Pacific Tailed Frog Salvage Permit # SU14-95304 & SU13-90538, Fish Salvage Permit # SU14-95329
Section 52 of the Fisheries (General) Regulations – Fish Salvage Licence # XR 139 2014
BC Safety Authority – Temporary Construction Electrical Service Permit EL-140698-2014
Municipal Wastewater Regulation - Authorization # 107032
Water Supply System Construction Permits – VCH-14-613 for Main Camp
Water Supply System Permit to Operate Issued July 30th, 2014 for Main Camp
Section 6(3) and Schedule 3 Wildfire Regulations Fire Exemption for Ryan River Bridge File No. 14350-07
SLRD Building Inspection Report dated August 13, 2014 - Construction Camp Building Permit No. 10830
Lillooet River FSR Temporary Road Closures Approval File No. 11250-32/6123 (Amendment 1, 2)
Lillooet South FSR Temporary Road Closures Approval File No. 11250-32/7977

ACRONYMS:

AMBNS	Active Migratory Bird Nesting Survey	IEM	Independent Environmental Monitor
ASMP	Archaeological Sites Management Plan	INX	Innergex Renewable Energy Inc.
ARD/ML	Acid Rock Drainage and Metal Leaching	ISW	Instream Works
BCEAO	British Columbia Environmental Assessment Office	ITM	Environmental Issue Tracking Matrix
BCWQG	British Columbia Water Quality Guidelines	JEM	JEM Energy Ltd. (Delegate Independent Engineer)
BDRHEF	Boulder Creek Hydroelectric Facility	LTC	Leave to Construct
BG	Background	MFLNRO	Ministry of Forests, Lands and Natural Resource Operations
BKL	BKL Consultants Ltd.	MOE	Ministry of Environment
CE	CRT-ebc Construction Inc.	NCD	Non Classified Drainage
DFO	Fisheries and Oceans Canada	OLTC	Occupational License to Cut
DS	Downstream	PAG	Potentially Acid Generating
Ecofish	Ecofish Research Ltd.	RoW	Right of Way
Ecologic	Ecologic Consulting	RVMA	Riparian Vegetation Management Area
EDI	Environmental Dynamics Inc.	SES	Sartori Environmental Services
EIR	Environmental Incident Report	TX Line	Transmission Line
ESC	Erosion and Sediment Control	ULRHEF	Upper Lillooet River Hydroelectric Facility
FAM	Field Advice Memorandum	UWR	Ungulate Winter Range
FSR	Forest Service Road	VC	Valued Component
GWR	Mountain Goat Winter Range	WQ	Water Quality
Hedberg	Hedberg and Associates Ltd.	WEL	Westpark Electric Ltd.
IE	Independent Engineer (True North Energy)	WEMR	Weekly Environmental Monitoring Report

1.0 Summary of Site Inspections for Reporting Period

The table presented below summarizes the IEM team site presence, weather and monitoring locations by component:

Date	IEM Team Personnel (on-site)	Weather Conditions	Key Monitoring Locations
Sunday, September 21	MF, KM, TJ	Sunny	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors continued • Dewatering of the Obermeyer weir excavation thru sediment filter bag <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m • Forest fire continued burning ~1.5km from work site outside of the project footprint <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Continued access road construction (including blasting, and excavating slopes at ~4.2km) • Rock hammer working on crane pad shear wall above top level of crane pad • Installation of the foundations for gate posts to be installed at ~3.0km to restrict motorized vehicle access within UWR (u-2-002 UL 12) <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued rebar installation and formwork <p>TX-Line</p> <ul style="list-style-type: none"> • Segment 3 <ul style="list-style-type: none"> ➢ Ground works (including blasting) at structure 47 • Segment 6 <ul style="list-style-type: none"> ➢ Ground works - pole liner installation at structure 152
Monday, September 22	KM, TJ, MF, DA	Cloudy with scattered showers	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors continued • Dewatering of the Obermeyer weir excavation thru sediment filter bag <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m • Forest fire continued burning ~1.5km from work site outside of the project footprint <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Concrete pour of powerhouse foundations <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Access road construction focused on excavating slopes at ~4.2km • Rock hammer working on crane pad shear wall above top level of crane pad

Date	IEM Team Personnel (on-site)	Weather Conditions	Key Monitoring Locations
			<p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued rebar installation and formwork <p>TX-Line</p> <ul style="list-style-type: none"> • Segment 3 <ul style="list-style-type: none"> ➢ Ground works (including blasting) between structures 44-47 • Segment 6 <ul style="list-style-type: none"> ➢ Ground works (including blasting) at structure 151 • Segment 8 <ul style="list-style-type: none"> ➢ Temporary bridge installation at Black's Creek resumed • Segment 9 <ul style="list-style-type: none"> ➢ Hand falling and helipad works between structures 202-206 ➢ Road upgrades began along Salmon main • Segment 14 <ul style="list-style-type: none"> ➢ Road works continued in the vicinity of structure 348 and towards Pemberton Creek along road 341.1
<p style="text-align: center;">Tuesday, September 23</p>	<p style="text-align: center;">KM, TJ, MF, VD, TH</p>	<p style="text-align: center;">Rain</p>	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors continued • Dewatering of the Obermeyer weir excavation thru sediment filter bag • Installation of lined infiltration pit used to collect concrete and grout wash water <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Access road construction focused on drilling/blasting and excavation at ~4.2km • Rock hammer working on crane pad shear wall above top level of crane pad <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued rebar installation and formwork <p>TX-Line</p> <ul style="list-style-type: none"> • Segment 2 & 3 <ul style="list-style-type: none"> ➢ Stringing from structures 23 to 40 • Segment 4 <ul style="list-style-type: none"> ➢ Ground works at structure 52 • Segment 6 <ul style="list-style-type: none"> ➢ Feller buncher clearing within Grizzly Bear Wildlife Habitat Area and creation of the Vegetated Screen at ~7.5km of the South Lillooet River FSR. ➢ Ground works at structure 151 • Segment 8 <ul style="list-style-type: none"> ➢ Installation of temporary bridge over Black Creek

Date	IEM Team Personnel (on-site)	Weather Conditions	Key Monitoring Locations
			<ul style="list-style-type: none"> • Segment 9 <ul style="list-style-type: none"> ➢ RoW clearing and helipad works from structures 202 to 206 • Segment 14 <ul style="list-style-type: none"> ➢ Road works continued in the area of structure 349 and branch road 341.1 near Pemberton Creek
<p align="center">Wednesday, September 24</p>	<p align="center">AA, AS, TJ, VD, TH, MF</p>	<p align="center">Rain</p>	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors continued • Dewatering of the Obermeyer weir excavation thru sediment filter bag • Installation of lined infiltration pit to be used to collect concrete and grout wash water <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds. <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Access road construction focused on drilling/blasting and excavation at ~4.2km • Rock hammer working on crane pad shear wall above top level of crane pad <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued rebar installation and formwork <p>TX-Line</p> <ul style="list-style-type: none"> • Segment 2 & 3 <ul style="list-style-type: none"> ➢ Stringing from structures 23 to 35 • Segment 4 – 6 <ul style="list-style-type: none"> ➢ Ground works at structures 52, 139, & 151 • Segment 8 <ul style="list-style-type: none"> ➢ Installation of temporary bridge over Black Creek completed • Segment 9 <ul style="list-style-type: none"> ➢ Road upgrades along the Salmon Main • Segment 14 <ul style="list-style-type: none"> ➢ Road works continued in the area of structure 349 ➢ Pemberton Creek RVMA clearing (structure 339 area)
<p align="center">Thursday, September 25</p>	<p align="center">AS, BA, AA, VD, TH</p>	<p align="center">Rain</p>	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors continued • Dewatering of the Obermeyer weir excavation thru sediment filter bag <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Access road construction focused on drilling/blasting and excavation at

Date	IEM Team Personnel (on-site)	Weather Conditions	Key Monitoring Locations
			<p>~4.2km</p> <ul style="list-style-type: none"> • Drilling/blasting and excavation near crane pad location <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued rebar installation and formwork <p>TX-Line</p> <ul style="list-style-type: none"> • Segment 2 & 3 <ul style="list-style-type: none"> ➢ Stringing from structures 23 to 35 • Segment 4 – 6 <ul style="list-style-type: none"> ➢ Clearing within the Lillooet River Crossing RVMA on the north bank and island ➢ Hand digging at structures 73 & 151 • Segment 7 <ul style="list-style-type: none"> ➢ Access track works between structures 161 and 167 • Segment 8 <ul style="list-style-type: none"> ➢ Access road upgrades beyond the Black Creek RVMA • Segment 9 <ul style="list-style-type: none"> ➢ Road upgrades along the Salmon Main and Zorro road • Segment 14 <ul style="list-style-type: none"> ➢ Road works continued near of structure 349
Friday, September 26	AS, BA, TJ, DA, TH	Cloudy with scattered showers	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> • Grouting of Obermeyer weir rebar-rock anchors began • Dewatering of the Obermeyer weir excavation thru sediment filter bag <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> • Continued bulk excavation below elevation 666m <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and stabilization of the tunnel • Seepage from tunnel pumped from sump at portal entrance into settling ponds, pump and oil/water separator maintenance • Restoration planting of the temporary haul road and auditory berm completed <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> • Continued dewatering of excavation to settling ponds • Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> • Continued access road construction (including blasting) • Continued excavation on top level of crane pad <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> • Drilling, blasting and tunnel stabilization • Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> • Concrete pour of powerhouse foundations <p>Tx-Line</p> <ul style="list-style-type: none"> • Segment 2 & 3 <ul style="list-style-type: none"> ○ Stringing from structures 23 to 35 • Segment 4 – 6 <ul style="list-style-type: none"> ○ Clearing within the Lillooet River Crossing RVMA on the south bank and island ○ Hand digging at structures 84 & 143 • Segment 7 <ul style="list-style-type: none"> ○ Access track works between structures 161 and 167 • Segment 9

Date	IEM Team Personnel (on-site)	Weather Conditions	Key Monitoring Locations
			<ul style="list-style-type: none"> ○ Road upgrades along the Salmon Main and Zorro road ● Segment 14 <ul style="list-style-type: none"> ○ Road works (drilling and blasting) continued near structure 349
Saturday, September 27	AS, BA, TJ, DA, VD,	Sunny	<p>ULRHEF Intake Diversion Channel – South Side</p> <ul style="list-style-type: none"> ● Grouting of Obermeyer weir rebar-rock anchors began ● Dewatering of the Obermeyer weir excavation thru sediment filter bag <p>ULRHEF Intake Open Cut – North Side</p> <ul style="list-style-type: none"> ● Continued bulk excavation below elevation 666m <p>ULRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> ● Drilling, blasting and stabilization of the tunnel ● Seepage from tunnel pumped from sump at portal entrance into settling ponds, pump and oil/water separator maintenance ● Restoration planting of the temporary haul road and auditory berm completed <p>ULRHEF Powerhouse</p> <ul style="list-style-type: none"> ● Continued dewatering of excavation to settling ponds ● Continued rebar installation and formwork <p>BDRHEF Intake Access Road & Crane Pad</p> <ul style="list-style-type: none"> ● Continued access road construction (including blasting) ● Continued excavation on top level of crane pad <p>BDRHEF Downstream Tunnel Portal</p> <ul style="list-style-type: none"> ● Drilling, blasting and tunnel stabilization ● Seepage from tunnel pumped from sump at portal entrance into settling ponds <p>BDRHEF Powerhouse</p> <ul style="list-style-type: none"> ● Continued rebar installation and formwork <p>Tx-Line</p> <ul style="list-style-type: none"> ● Segment 2 & 3 <ul style="list-style-type: none"> ➢ Dressing and preparing poles for helicopter stringing to commence Sunday from structures 44 – 119 ● Segment 4 – 6 <ul style="list-style-type: none"> ➢ Clearing within the Lillooet River Crossing RVMA on the south bank and island ➢ Hand digging at structures 84, 119, & 144 ● Segment 7 <ul style="list-style-type: none"> ➢ Access track works between structures 161 and 167 ● Segment 14 <ul style="list-style-type: none"> ➢ Road works (drilling and blasting) near structure 349

IEM Team Personnel: TH – Tom Hicks; MF – Matt Fuller; KM – Kathy Mai; AS – Anne Sutherland; BA – Blake Aleksich; VD – Vanessa Dan; AA – Anthony Andrews; DA – Danita Abraham; TJ – Tammie Jenkins

2.0 Administrative Summary

Key communications and meetings the IEM team had with the licensees, contractors and/or environmental authorities:

Date	Communication Type	Participants	Issues Discussed	ITM ID No.
September 21	<i>email</i>	INX, CE, SES, BC Forest Service	CE notified the IEM and Owner that the BC Wildfire Management Branch was called to report a wildfire. The fire was observed by crews at the ULRHEF intake but was outside of the project area and deemed low risk to construction activities. The wildfire was extinguished on September 23, 2014.	-
September 22 – 24	<i>email</i>	INX, CE, SES	The IEM and Licensee provided comment on the BDR intake rock consolidation work plan.	-
September 22 – 25	<i>Email, phone calls</i>	INX, CE, SES, Ecofish	ULRHEF penstock clearing plan – The IEM and Licensee reviewed the revised work plan and proposed mitigation measures for project VCs prior to providing approval to commence clearing. A pre-work meeting will be held early next week prior to the start of clearing works.	-
	<i>Email, phone calls</i>	INX, CE, SES, MFLNRO	Reviewed the requirement to register for additional waste discharge authorizations for truck mounted mobile concrete batch plants. MFLNRO confirmed via email that no additional authorizations were required for mobile batch plants operating onsite.	-
September 23	<i>Site meeting</i>	SES, CE	Two inline CO ₂ injection static mixers were installed at the ULRHEF intake diversion channel to treat elevated pH water during grouting of the Obermeyer Weir anchor bolts.	-
September 24	<i>Pre-work meeting</i>	WEL, Mumleqs, SES	RVMA clearing prescriptions for Segment 6 -16. A pre-work meeting was held to review the work plan, concentrating on the 3 standard types of clearing prescription which were assigned based on the sensitivity of the habitat and VCs present.	-
	<i>Site meeting</i>	CE, SES	The IEM met with CE's Environmental Coordinator to discuss the need to improve site ESC measures to prevent erosion during future rain events. ESC recommendations and key areas of concern were discussed.	-
September 24 - 25	<i>email</i>	INX, CE, SES	Submission, review, and approval of the CE borehole drilling investigation work plan.	-
September 25	<i>email</i>	INX, CE, SES	The IEM and Licensee reviewed and commented on the first revision of the BDRHEF Diversion Tunnel Excavation work plan.	-
September 26	<i>email</i>	INX, CE, SES	INX submitted a letter to CE requesting that they submit the outstanding QP assessment of the clearing areas and impacted boundaries for both the BDRHEF intake access road and crane pad no later than October 17. The submission of the QP assessment report was required by the IE as Item #4 in the July 26, 2014 IE issued Stop Work Order.	ULR#17

3.0 Current Work Restrictions and Timing Windows

The table presented below outlines work restrictions applicable during the reporting period for each active Project component location:

Component	Location	Wildlife/Archeology Concern	Construction/Timing Restrictions & Mitigations
Tx-Line	Segments 1 –11, & 14	Within 150m of wetlands or 100m of Coastal Tailed-Frog Streams	IEM presence is required when clearing within 150m of wetlands or 100m of Coastal Tailed-Frog Streams, to ensure clearing area is minimized.
		Riparian Vegetation Management Areas (RVMA)	IEM monitoring is required during clearing within RVMA's.
		Old Growth Management Areas (OGMA's)	IEM monitoring is required when clearing within legally designated OGMA's, to ensure clearing area is minimized.
		Ungulate Winter Range (UWR)	IEM monitoring is required when clearing within identified deer and moose UWR, to ensure clearing area is minimized.
		Suitable Class 1 & 2 Grizzly Bear forage habitat	IEM monitoring is required when clearing within identified Class 1 & 2 Grizzly Bear forage habitat, to ensure clearing area is minimized.
ULRHEF powerhouse, and Intake diversion channel	Within 50m of identified archeologically significant area	Archaeologically significant site EdRu-3	The ASMP recommends that an archaeological technician from the Lil'wat Nation be present to monitor initial ground-disturbance activities within 50 m of the EdRu-3 site boundaries.
	Within 30m of the Upper Lillooet River	Riparian area and fish bearing streams	IEM presence is required when working within 30m of the Upper Lillooet River. Instream acoustic pressure monitoring required when blasting within 30m of the Upper Lillooet River.
Lillooet River FSR; ULRHEF intake access; FSR realignment at Truckwash Creek	Access roads above the lower limit of the 200m buffer Truckwash Creek Migration Corridor to the ULRHEF intake; including FSR realignment at Truckwash Creek	Mountain Goat UWR	If a goat is observed within 500m of construction operations, construction must cease for at least 48 hours. The IEM must record and submit all goat observations to FLNR within 48 hours.
BDRHEF intake	Portion of intake access road and crane pad within UWR	Mountain Goat UWR	IEM monitoring is required when clearing within UWR to ensure that clearing areas are minimized. If a goat is observed within 500m of construction operations, construction must cease for at least 48 hours. The IEM must record and submit all goat observations to MFLNRO within 48 hours.

4.0 Upper Lillooet River HEF – Monitoring Results

4.1 Intake (North & South Sides) and Access Roads

Construction Activities:

- Drilling and blasting activities continued for bulk excavation of the ULRHEF upstream tunnel portal below elevation 666m throughout this reporting period on the north side (Photo 1 & 2) of the Lillooet River.
- Grouting of the rebar-rock anchors for the Obermeyer Weir continued throughout the reporting period. CE used a combination of two CO₂ injection/static mixer pH treatment systems, dewatering bags and pumping/trucking water to an infiltration/wash pit (Photo 3) as means to ensure that water directed to the Lillooet River remained within BCWQG.

Environmental Summary:

- On September 21 and 22, seepage water during grouting of the rebar/rock anchors within the Obermeyer weir excavation was managed in two separate cells. In the first cell, seepage water (not in contact with grouting) was conveyed directly back to the river via a dewatering bag. The seepage water in contact with grouting works were isolated and treated with a CO₂ diffuser in one half of the 2nd cell before mixing with neutral pH seepage water in the other half of the 2nd cell. The treated and diluted water was then directed through a dewatering bag placed on the lower section of the diversion channel (Photo 4). The IEM was onsite full-time to monitor turbidity and pH during the grouting works. When pH levels within the 2nd cell began to approach pH 9 the pumps were shut-off until the pH dropped below 8.5. The grouting activities were successfully managed in this way and no environmental incidents of elevated pH discharge to the Lillooet River were recorded.
- On September 23, the IEM and CE Environmental Coordinator met onsite to review water quality management during the Obermeyer weir rebar/rock anchor grouting works due to concerns with increased seepage volumes observed in the excavation, and to review the setup of two CO₂ injection/static mixer pH adjustment systems. The CO₂ injection/static mixer systems were installed (Photo 5) to replace the less efficient CO₂ diffuser system as recommended during the previous reporting period. As an additional treatment option the IEM recommended pumping to a water tank and trucking water to a geotextile lined infiltration pit for disposal in the event that the CO₂ injection/static mixer systems pH were not able to treat water to below pH 9. Construction of a lined infiltration pit was completed on September 24, and when pH levels within the second cell began to approach pH 9, water was pumped to a water tank and trucked to the infiltration pit for disposal. The grouting activities were successfully managed in this way from September 24 to 27 and no environmental incidents of elevated pH discharge to the Lillooet River were recorded.
- The IEM continues to monitor construction activities within 30m of the Lillooet River during day and night shifts.

- No environmental issues were observed on the north side of the Lillooet River during bulk excavation works.
- Dust control along the ULRHEF intake access roads and Lillooet River FSR continued as necessary.
- Hydro-seed was applied (and re-applied in some areas) to slopes on the north side of the ULRHEF intake as a temporary ESC protection measure (Photo 1).

Photos:



Photo 1 – Overview of the north side of the ULRHEF intake. Hydro-seed was applied to slopes as a temporary ESC measure (September 27, 2014).



Photo 2 – ULRHEF north side tunnel portal excavation below elevation 666m (September 26, 2014).



Photo 3 – Hauling water to infiltration pit during grouting works within the Obermeyer weir footprint (September 22, 2014).



Photo 4 – ULRHEF intake diversion channel, dewatering bag for seepage control during grouting works (September 23, 2014).



Photo 5 – Water management during grout work in isolated section of Obermeyer weir excavation. The blue pipe is the CO₂ injection/static mixer used for pH adjustment. Water as tested and confirmed to be below pH 9 prior to reaching the pump (September 24, 2104).

4.2 Downstream Tunnel Portal

Construction Activities:

- Drilling, blasting, mucking and stabilization (anchoring and shotcrete application) continued within the tunnel (Photo). Seepage water from the tunnel portal was conveyed effectively to the settling ponds for treatment and storage.

Environmental Summary:

- The temporary PAG stockpiles located near the ULRHEF lower tunnel portal remained covered with an impermeable tarp to prevent rain water infiltration according to the ARD/ML Monitoring and Control Plan (Photo 7). This material will be temporarily stored in its current location until a final storage plan is presented for review and approval.
- The settling ponds (**Error! Reference source not found.**) installed adjacent to Truckwash Creek were used to treat the seepage and process water emanating from the tunnel. No surface discharge from the sediment ponds was observed this week; therefore no WQ measurements were taken by the IEM.
- Blast rock was hauled to the lower spoil area and managed according to the ULRHEF ARD/ML Monitoring and Control Plan.
- A gravity fed water extraction system was used for drilling activities according to the conditions of the Short Term Water Use Approval (No.A2006123).

Photos:



Photo 6 – ULRHEF downstream tunnel portal (September 16, 2014).



Photo 7 – Temporary PAG stockpiles located near the ULRHEF downstream tunnel portal remained covered with impermeable plastic tarps (September 26, 2014).



Photo 8 – The second ULRHEF settling pond, no discharge observed (September 26, 2014).

4.3 Powerhouse & Access Road

Construction Activities:

- Rebar installation and form works for the powerhouse foundation continued throughout the reporting period.
- A portion of the concrete powerhouse foundation was poured on September 22 (Photo 9).
- Two pumps (6" and 10") previously installed in the sump draining seepage waters in the powerhouse excavation continued to convey water to the existing settling ponds. No flowing surface water was observed within the excavation and pump capacity appears to be adequate to maintain isolation from active work areas.

Environmental Summary:

- Turbidity was visually monitored during periodic visits to the ULRHEF powerhouse by the IEM. Water entering the Lillooet River from the discharge (through vegetation) of the settling ponds remained within water quality guidelines during each inspection and concrete poured for the mud slabs and powerhouse foundation did not come in contact with the seepage water during this reporting period, as no leak in the form work were observed (Photo 10). Future opportunistic WQ sampling will be conducted at the discretion of the IEM.

Photos:



Photo 9 – Concrete pour for ULRHEF powerhouse foundation (September 22, 2014).



Photo 2 – Settling ponds at ULRHEF powerhouse, dewatering from excavation remains isolated from concrete works (September 27, 2104).

4.4 Water Quality Results

The following table presents the results of the routine water quality sampling program for the ULRHEF. The IEM is undertaking a weekly monitoring program according to the conditions outlined in the Surface Water Quality Protection Plan. The regular monitoring sites have been selected to quantify WQ conditions within the Lillooet River upstream and downstream of active construction areas. The IEM acknowledges the natural variability of instream WQ conditions in the Lillooet River due to seasonal melt fluctuations and large tributary inputs. In the event that an exceedance of *in-situ* water quality (turbidity or pH) is deemed to be caused by project-related activities, the IEM will highlight the exceedance, discuss the cause, and outline measures undertaken by the Contractor to correct the issue. When an exceedance cannot be attributed to project related activities, the exceedance will be marked by an asterisk (*).

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Cond (µS)	Temp (°C)
Routine Water Quality						
September 25, 2014	11:35	ULR Background – ULRHEF Intake	8.2	59.4	26	Na
	11:45	ULR #0.5 – Downstream of ULRHEF intake at Keyhole Bridge (new site)	8.1	54.2	27	Na
	12:15	ULR #1 – Upstream of ULRHEF Powerhouse	7.4	63.7	28	Na
	12:30	ULR #2 – Downstream of ULRHEF Powerhouse between 40.5k and 41k	7.3	69.1*	31	Na
	13:20	ULR #3 – Lillooet River FSR KM 38 Laydown – D/S of Boulder confluence	6.9	47.0	26	Na
	14:00	ULR #4 – Lillooet River FSR 24km – D/S of all works and Meager confluence	7.4	65.5	34	Na

4.5 Recommendations

IEM recommendations for the ULRHEF are as follows:

- Following a site tour on September 24 the IEM met with CE Environmental Coordinator and discussed the need to improve onsite ESC measures, including ditch improvements and maintenance, cut slope protection, and spoil area protection. On September 25, CE began the implementation of some of the recommendations including ditch maintenance and application of hydro-seed to the slopes at the ULRHEF intake (north side). The IEM recommends that ESC measures be inspected regularly and prior to forecast rain events to ensure they are functioning as intended.
- Settling ponds at the downstream portal should be continually monitored to ensure appropriate treatment of seepage from tunnelling activities is occurring. With rain forecast for the upcoming reporting period, increased water volumes in the form of increased infiltration rates within the tunnel excavation may result in discharge from the ponds. The pH treatment measures currently being used for the grouting works at the ULRHEF intake diversion channel could be used for the downstream portal dewatering in the event that the treatment ponds begin to overflow and require treatment.

4.6 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur at the ULRHEF in the upcoming reporting period(s):

- Grouting of the Obermeyer weir structure anchors within the ULRHEF intake diversion channel is to continue in the next reporting period.
- Bulk excavation at the north side ULRHEF intake open cut below elevation 666m will continue and will required excavation and drilling and blasting in close proximity to the Lillooet River.

5.0 Boulder Creek Hydroelectric Facility – Monitoring Results

5.1 Intake Access Road & Crane Pad

Construction Activities:

- Sequences of drilling, small controlled blasts, and blast rock excavation proceeded on the top bench of the crane pad throughout the reporting period (Photo 11). Care was taken to prevent material from escaping down the slope adjacent to the excavation.
- Intake access road construction at ~4.2km, included bulk excavation (Photo 12); material spoiling; slope contouring; drilling and blasting; and road fill/grading.

Environmental Summary:

- Construction activities occurred along the BDRHEF intake access road and crane pad with the IEM onsite for construction activities within 30m of Boulder Creek. No environmental issues were observed.

Photos:



Photo 11 – BDRHEF crane pad excavation at upper pad (September 26, 2014).



Photo 12 – BDRHEF Intake access road construction at ~4.2km (September 27, 2014).

5.2 Downstream Tunnel Portal and Powerhouse

Construction Activities:

- Rebar installation and formworks (Photo) at the powerhouse continued throughout the reporting period.
- Concrete works – Powerhouse foundation pour occurred on September 26, 2014.
- Drilling, blasting, mucking and stabilization (anchoring and shotcrete application) continued within the tunnel.

Environmental Summary:

- The concrete poured for the powerhouse foundation was completed in the dry and fully isolated from seepage water. No environmental issues were observed.
- The gravity fed water diversion system was used in tunneling and shotcrete process works in accordance with Short Term Water Use Approval (No.A2006123). No WQ or environmental concerns were noted within Boulder Creek.
- Seepage flowing out of the tunnel continues to be collected at the portal tunnel entrance in a sump and this water is then pumped from the sump to the oil/water separator, pH adjustment holding tank, and settlement ponds for treatment. No discharge from the treatment ponds occurred during this reporting period; therefore, the IEM did not collect WQ results. The first pond is now completely full of sediment and the second pond is at full capacity (Photo 14). The maintenance of these ponds is pending the results of confirmatory samples taken to determine whether the sediment (mostly rock fines from the tunnel drilling activities) should be treated as PAG or non-PAG, as discussed with the Environmental Manager.
- Water from the Boulder Creek water withdrawal site authorized in the Short Term Water Use Approval (No.A2006123) was used effectively for dust suppression above KM 37.5 of the Lillooet River FSR and on active construction site access roads.

Photos:



Photo 13 – BDRHEF downstream tunnel portal and powerhouse rebar/formworks (September 27, 2014).



Photo 14 – BDRHEF powerhouse settling pond, no discharge observed; however pond #1 is now full of sediment and requires maintenance. (September 27, 2014).

5.3 Water Quality Results

The following table presents the results of the routine water quality sampling program for the BDRHEF. The IEM is undertaking a weekly monitoring program according to the conditions outlined in the Surface Water Quality Protection Plan. The regular monitoring sites have been selected to quantify WQ conditions within the Lillooet River upstream and downstream of active construction areas. The IEM acknowledges the natural

variability of instream WQ conditions in Boulder Creek due to seasonal fluctuations in snowmelt. In the event that an exceedance of *in-situ* water quality (turbidity or pH) is deemed to be caused by project-related activities, the IEM will highlight the exceedance, discuss the cause, and outline measures undertaken by the Contractor to correct the issue. When an exceedance cannot be attributed to project related activities, the exceedance will be marked by an asterisk (*).

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Cond (µS)	Temp (°C)
Routine Water Quality						
NA	NA	BDR Background – Upstream of BDRHEF intake *not currently accessible*	-	-	-	-
NA	NA	BDR #1 – Downstream of BDRHEF intake *not currently accessible*	-	-	-	-
September 25, 2014	13:00	BDR #2 – Upstream of BDRHEF Powerhouse	7.6	56.3	22	Na
September 25, 2014	13:10	BDR #3 – Downstream of BDRHEF Powerhouse at Pebble Creek Bridge	7.3	54.4	20	Na

5.4 Recommendations

IEM recommendations for the BDRHEF are as follows:

- Settling ponds at the downstream portal should be continually monitored to ensure appropriate treatment of seepage from tunnelling activities is occurring. With rain forecast for the upcoming reporting period, increased water volumes in the form of increased infiltration rates within the tunnel excavation may result in discharge from the ponds. The maintenance of the ponds was discussed with CE's Environmental Coordinator and it was agreed that confirmatory samples would be taken to characterize whether the sediment/slurry (mostly rock fines from the tunnel drilling activities) should be treated as PAG or non-PAG.

5.5 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur at the BDRHEF in the upcoming reporting period(s):

- Construction is scheduled to continue on the intake access road and crane pad, a portion of which extends within the 30m riparian buffer and UWR.

6.0 Transmission Line – Monitoring Results

6.1 Transmission Line Construction Activities

Right-of-Way Clearing:

- Hand falling and slashing occurred in Segment 9, within the Lillooet River RVMA (Photo 15; Segments 5 & 6) and Pemberton Creek RVMA (Segment 14) during this reporting period.
- On September 23, Feller-Buncher clearing was performed at the crossing of the ROW and Lillooet South FSR (~ KM 7.5) within Grizzly Bear WHA 2-399 (Segment

6). A Grizzly Bear Vegetated Screen was left undisturbed to the extent possible on either side of the Lillooet South FSR within Grizzly Bear WHA 2-399 (Photo 16).

Existing Road Upgrades and Access Road Construction

- Transmission line access road works were completed in Segments 7 – 9 and 14 during this reporting period.
- The work on the approaches (Photo 17) to the permanent bridge location and improvements to the abutment of the Blacks Creek temporary bridge installed during the previous reporting period, occurred from September 22 – 24.

Transmission Line Pole Construction and Line Stringing

- Foundation construction, pole structure erection and line stringing was completed in Segments 2 to 6 during this reporting period.

Environmental Summary:

- Construction activities within 15m of Blacks Creek were monitored by the IEM on September 22 – 24. The installation did not involve any instream works and no fording of machinery was required (Photo 17). Water quality remained visually unaffected throughout the work activities and no environmental concerns were noted.
- The IEM was present as required when clearing activities occurred within 150m of wetlands, 15m RVMAs (30m for CTF streams), 100m of Coastal Tailed Frog Streams, Class 1 & 2 suitable Grizzly Bear WHA and/or suitable forage habitat, moose and deer UWR, and within legally designated Old Growth Management Areas (OGMAs). All flagged boundaries were respected during clearing activities. No environmental issues were observed.

Photos:



Photo 15 – Lillooet River RVMA clearing (September 25, 2014).



Photo 16 – A Grizzly Bear Vegetated Screen adjacent to the Lillooet South FSR within Grizzly Bear WHA 2-399 (September 23, 2014).



Photo 17 – Work on the right bank approach for the permanent Black Creek Bridge (September 23, 2014).

6.2 Water Quality Results

Date	Time	Sample Location Description	pH	Turbidity (NTU)	Temperature (°C)
No WQ measurements were recorded at active Tx-line work areas during this reporting period. Construction and clearing activities had no visual effect on WQ.					

6.3 Recommendations

No recommendations are provided for this reporting period.

6.4 Upcoming Works

The following new and/or environmentally sensitive construction activities are scheduled to occur along the Tx line in the upcoming reporting period(s):

- The majority of works described in the construction activities section described above will continue. Construction activities are tentatively scheduled to continue within RVMAs (Segment 5, 6 & 14), as well as within 100m CTF (Segment 4 & 5) and 150m western toad breeding pond (Segment 3 & 5) buffers.
- Segment 8 road construction and preparations for the permanent bridge approaches will continue past the Blacks Creek temporary bridge crossing at the beginning of road 197.1.
- Road upgrades will continue in Segment 14 past the end of Pemberton Main FSR along road 371.1 and along Branch Road F.

7.0 Wildlife Sightings

As per the CEMP, a wildlife sightings record has been implemented and will be updated regularly by Project Personnel. It is mandatory for all personnel to report wildlife sightings including, but not limited to bears, cougars, mountain goats and deer. Wildlife sighting will be reported and recorded by the contractor(s) and will submitted to the IEM

on a weekly basis. Wildlife Observation forms will be summarized on a monthly basis and appended to the first WEMR of the following month. Observation or detection of the following species will trigger notification to identified parties according to the following table.

Species Observed or Detected	Notification Period	Agencies to be Notified
Northern Rubber Boa	Immediately	IEM, Owner
Grizzly Bear	24hrs	IEM, Safety Officer, Conservation Officer, Owner
Wolverine Den	24hrs	IEM, MFLNRO, Owner
Spotted Owls	24hrs	IEM, MOE, Owner
Mountain Goats	48hrs	IEM, MFLNRO, Owner

8.0 Mountain Goat Monitoring Program

Mountain Goat Monitoring has been temporarily suspended until the fall monitoring period as outlined in the Mountain Goat Management Plan.

No Mountain Goats were observed within 500m line of sight of construction activities during this reporting period; therefore no work stoppages were required.

9.0 Environmental Issues Tracking Matrix (ITM)

9.1 Hydroelectric Facilities (ULRHEF & BDRHEF)

ITM Tracking Legend:		<i>Work Item Open</i>					
		<i>Work Item Complete</i>					
		<i>Issue Closed</i>					

Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted Date for Completion	Date Completed
ULR#17	Open	BDR Intake Access Road	Damage to standing timber and impacts outside of minimized clearing boundary & approved OLTC limit (both within and adjacent to UWR)	1. Prepare and submit EIR#011 outlining the root cause of the incident and how it will be avoided in future.	July 25, 2014	July 30, 2014	<i>August 1, 2014</i>
				2. Assess damage to standing timber and impacts outside of the minimized clearing boundaries and approved OLTC (both within and adjacent to UWR). Preliminary information has been provided to satisfy the requirements of <i>ULR#18</i> , however detailed survey is necessary to confirm impacted areas and access is currently not available due to slope stability issues.	Confirmed in Hedberg report July 25, 2014	October 17, 2014	-
<i>next ITM – ULR#20</i>							

9.2 Transmission Line

ITM Tracking Legend:		<i>Work Item Open</i>					
		<i>Work Item Complete</i>					
		<i>Issue Closed</i>					

Issue Tracking		Environmental Issue		Mitigation Measures			
ID No.	Status	Location	Issue Description	Action Taken/Recommended	Date of Identification	Targeted Date for Completion	Date Issue Closed
<i>No outstanding environmental issues (next ITM – Tx#2)</i>							