

# **Columbia River Project Water Use Plan Kinbasket and Arrow Recreational Management Plan Monitoring Program and Physical Works**

**Annual Report: 2013**

**Implementation Period: January 2012 to December 2012**

- CLBMON-14 Boat Ramp Use Study
- CLBWORKS-4 Kinbasket: Bulldog Creek New Ramp
- CLBWORKS-5 Kinbasket: Valemount Marina Ramp Extension
- CLBWORKS-6 Kinbasket: Nixon Creek Ramp Extension
- CLBWORKS-7 Kinbasket: Bush Harbour Ramp Extension
- CLBWORKS-9 Revelstoke Ramp Extend or Build
- CLBWORKS-11 Arrow: Burton New Ramp
- CLBWORKS-12 Arrow: Edgewood Ramp Extension
- CLBWORKS-13 Arrow: Fauquier Ramp Extension
- CLBWORKS-14 Arrow: MacDonald Creek Park Ramp Extension
- CLBWORKS-16 Kinbasket: Debris Inventory, management Strategy and Removal
- CLBWORKS-17 Arrow: Debris Inventory, management Strategy and Removal
- CLBWORKS-18 Kinbasket & Arrow: Feasibility of Boat Ramps
- CLBWORKS-19 Lower Columbia: Indian Eddy Dredging Environmental and Engineering Assessment
- CLBWORKS-20 Lower Columbia: Indian Eddy Dredging
- CLBWORKS-21 Lower Columbia: Indian Eddy Debris Removal Environmental Review
- CLBWORKS-22 Lower Columbia: Indian Eddy Debris Removal
- CLBWORKS-23 Kinbasket & Arrow: Debris Removal Environmental Review
- CLBWORKS-32 Arrow: Renata New Ramp
- CLBWORKS-33 Arrow: Syringa New Ramp
- CLBWORKS-35 Mid-Columbia: Bank Erosion Protection and Monitoring Program
- CLBWORKS-36 Mid-Columbia: Long-term Erosion Monitoring Program
- CLBWORKS-40 Kinbasket: Site Preparation and Debris Work
- CLBWORKS-41 Kinbasket: Floating Debris Removal

**Conditional Water Licences for Kinbasket storage (27068 and 39432), Mica diversion (39431), Revelstoke diversion and storage (47215), and Arrow storage (27066)**

**February 28, 2013**

## **BC Hydro Columbia River Project Water Use Plan Kinbasket and Arrow Reservoir Recreational Management Plan Annual Report: 2013**

### **1 Introduction**

This document represents a summary of the status and the results of the Kinbasket and Arrow Reservoir Recreational Management Plan Water Use Plan (WUP) monitoring programs and physical works to December 2012, as per the Columbia River Order under the *Water Act*, dated January 26, 2007. There is one monitoring programs and 23 physical works.

### **2 Status**

The following table outlines the dates that TOR for the Kinbasket and Arrow Reservoir Recreational Management Plan WUP monitoring programs and physical works were submitted to and approved by the CWR.

**Table: 2-1: Dates of Kinbasket and Arrow Reservoir Recreational Management Plan  
WUP TOR Submissions and Approvals by the Comptroller of Water Rights**

Monitoring Program & Physical Works TOR	Order Clause (optional)	Original ToR Submission		Most Recent ToR Resubmission	
		Date Submitted	Date Approved	Date Submitted	Date Approved
CLBMON-14 Boat Ramp Use Study	Conditional, 2(b), 6(b)	Nov 13, 2009	Dec 17, 2009	Oct 19, 2012	Dec 21, 2012
CLBWORKS-4 Kinbasket: Bulldog Creek New Ramp	Conditional, 2(a)	Oct 24, 2007	Not Ordered Mar 03, 2008		
CLBWORKS-5 Kinbasket: Valemount Marina Ramp Extension	Conditional, 2(a)	Oct 24, 2007	Mar 03, 2008	Feb 07, 2013	
CLBWORKS-6 Kinbasket: Nixon Creek Ramp Extension	Conditional, 2(a)	Oct 24, 2007	Mar 03, 2008	Jun 22, 2009	Sep 18, 2009
CLBWORKS-7 Kinbasket: Bush Harbour Ramp Extension	Conditional, 2(a)	Oct 24, 2007	Mar 03, 2008	May 13, 2010	May 19, 2010
CLBWORKS-9 Revelstoke Ramp Extend or Build	Conditional, 3(a)	Oct 24, 2007	Mar 03, 2008	Jun 22, 2009	Sep 18, 2009
CLBWORKS-11 Arrow: Burton New Ramp	Conditional, 6(a)	Jul 25, 2007	Aug 29, 2007	Jan 17, 2012	Jul 30, 2012
CLBWORKS-12 Arrow: Edgewood Ramp Extension	Conditional, 6(a)				
CLBWORKS-13 Arrow: Fauquier Ramp Extension	Conditional, 6(a)	Jul 25, 2007	Aug 29, 2007	Mar 02, 2012	Jul 26, 2012
CLBWORKS-14 Arrow: MacDonald Creek Park Ramp Extension	Conditional, 6(a)	Jul 25, 2007	Aug 29, 2007	Mar 20, 2012	Jul 26, 2012
CLBWORKS-16 Kinbasket: Debris Inventory, management Strategy and Removal	Conditional, 1(a)(b)	Oct 26, 2007	Mar 05, 2008	Oct 16, 2012	Oct 23, 2012
CLBWORKS-17 Arrow: Debris Inventory, management Strategy and Removal	Conditional, 5(a)(b)	Oct 26, 2007	Mar 05, 2008	Oct 16, 2012	Oct 23, 2012
CLBWORKS-18 Kinbasket & Arrow: Feasibility of Boat Ramps	Schedule A, 4(a) Schedule C, 3(a) Schedule D, 4(a)	Apr 23, 2007	May 03, 2007	Mar 19, 2012	Jul 30, 2012
CLBWORKS-19 Lower Columbia: Indian Eddy Dredging Environmental and Engineering Assessment	Schedule E, 4(a)	Jul 24, 2007	Aug 29, 2007	Feb 02, 2009	Mar 26, 2009
CLBWORKS-20 Lower Columbia: Indian Eddy Dredging	Conditional, 8(a)	Sep 13, 2010	Nov 10, 2010		
CLBWORKS-21 Lower Columbia: Indian Eddy Debris Removal Environmental Review	Schedule E, 1(a)	Jul 24, 2007	Aug 29, 2007		
CLBWORKS-22 Lower Columbia: Indian Eddy Debris Removal	Conditional, 8(b)	Jun 25, 2009	Jul 13, 2009	-	-
CLBWORKS-23 Kinbasket & Arrow: Debris Removal Environmental Review	Schedule E, 1(b)	Apr 27, 2007	May 03, 2007	-	-
CLBWORKS-32 Arrow: Renata New Ramp	Conditional, 6(a)	Nov 13, 2009	Mar 15, 2010	Oct 29, 2012	Oct 30, 2012
CLBWORKS-33 Arrow: Syringa New Ramp	Conditional, 6(a)	Nov 13, 2009	<b>Not Approved</b>		
CLBWORKS-35 Mid-Columbia: Bank Erosion Protection and Monitoring Program	Amended Order, 2(a)	Jul 31, 2008	Sep 11, 2008	Mar 23, 2011	May 16 2011
CLBWORKS-36 Mid-Columbia: Long-term erosion monitoring program	Amended Order, 2(d)	Jul 31, 2008	Sep 11, 2008		
CLBWORKS-40 Kinbasket: Site Preparation and Debris Work	-	Mar 12, 2008	Mar 28, 2008	Dec 12, 2008	Dec 16, 2008
CLBWORKS-41 Kinbasket: Floating Debris Removal	Conditional, 1(c)	Mar 12, 2008	Mar 28, 2008	Dec 12, 2008	Dec 16, 2008

### 3 Schedule

The following table (Table 3-1) outlines the current schedule for the monitoring programs and physical works being delivered for the Kinbasket and Arrow Reservoir Recreational Management Plan WUP.

**Table 3-1: Table of WUP Schedule**

Monitoring Programs	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	WLR YR1	WLR YR2	WLR YR3	WLR YR4	WLR YR5	WLR YR6	WLR YR7	WLR YR8	WLR YR9	WLR YR10	WLR YR11	WLR YR12	WLR YR13
						Interim Review ↓							
Boat Ramp Use Study -CLBMON#14			✓	✓	✓	✓	■	■	■	■	■	■	■
<b>Physical Works</b>													
CLBWORKS-4 Kinbasket Bulldog Creek New Ramp <b>Not Ordered</b>													
CLBWORKS-5 Kinbasket: Valemount Marina Extend Ramp					✓	✓	■*	■*	■*	■*	■*	■*	■*
CLBWORKS-6 Kinbasket: Nixon Creek Ramp Maintenance <b>Maintenance Only; Ramp not Ordered</b>					■*	■*	■*	■*	■*	■*	■*	■*	■*
CLBWORKS-7 Kinbasket: Bush Harbour Ramp				✓	✓	✓	■	■*	■*	■*	■*	■*	■*
CLBWORKS-9 Revelstoke Ramp Upgrade				✓									
CLBWORKS-11 Arrow: Burton New Ramp				✓	✓	✓	■	■*	■*	■*	■*	■*	■*
CLBWORKS-12A Arrow: Edgewood Ramp Extension - Clause M							■	■*	■*	■*	■*	■*	■*
CLBWORKS-12B Arrow: Edgewood Ramp Extension - WLR							■	■*	■*	■*	■*	■*	■*
CLBWORKS-13A Arrow: Fauquier Ramp Extension - Clause M				✓	✓	✓	■*	■*	■*	■*	■*	■*	■*
CLBWORKS-13B Arrow: Fauquier Ramp Extension - WUP							■*	■*	■*	■*	■*	■*	■*
CLBWORKS-14A Arrow: Macdonald Ramp Extension - Clause M					✓	✓	■*	■*	■*	■*	■*	■*	■*
CLBWORKS-14B Arrow: Macdonald Ramp Extension - WLR							■*	■*	■*	■*	■*	■*	■*
CLBWORKS-16 Kinbasket: Debris Inventory, Management Strategy and Removal		✓	✓	✓	✓	✓	■	■	■	■	■	■	■
CLBWORKS-17 Arrow: Debris Inventory, Management Strategy and Removal		✓	✓	✓	✓	✓	■	■	■	■	■	■	■
CLBWORKS-18 Feasibility of Boat Ramps	✓	✓	✓										
CLBWORKS-19 Lower Columbia: Indian Eddy Dredging Environmental and Engineering Assessment	✓	✓	✓										
CLBWORKS-20 Lower Columbia: Indian Eddy Dredging - <b>Not approved</b>													
CLBWORKS-21 Lower Columbia: Indian Eddy Debris Removal Environmental Review		✓	✓										
CLBWORKS-22 Lower Columbia: Debris Removal at Indian Eddy				✓	✓	✓	■	■	■	■	■	■	■
CLBWORKS-23 Kin and Arrow: Debris Removal Environmental Review	✓	✓											
CLBWORKS-32 Arrow: Renata New Ramp					✓	✓	■	■*	■*	■*	■*	■*	■*
CLBWORKS-33 Arrow: Syringa New Ramp - <b>Not approved</b>													
CLBWORKS-35 Mid Columbia Bank Erosion Protection and Monitoring			✓	✓	✓	✓	■		■				
CLBWORKS-36 Mid Columbia Long Term Erosion Monitoring			✓	✓	✓	✓		■		■			
CLBWORKS-40 Site Prep and Debris Work		✓	✓	✓	✓								
Legend:	■	=	Program to be undertaken/initiated in identified year										
	■*	=	Boat Ramp Maintenance										
	■	=	Pending approval after 5 Year Review										
	u/w	=	Project is underway										
	✓	=	Program completed for the year										
	×	=	Program started, but encountered operational or hydrological delays										
	C*	=	Project is on Conditional List										

## **4 Monitoring Programs and Physical Works Terms of Reference**

The Monitoring Programs and Physical Works being implemented under the Kinbasket and Arrow Reservoir Recreational Management Plan WUP are described in Terms of Reference. These Terms of Reference and the reports for work completed to date can be found here:

[http://www.bchydro.com/about/sustainability/conservation/water\\_use\\_planning/southern\\_interior/columbia\\_river/kinbasket-recreation.html](http://www.bchydro.com/about/sustainability/conservation/water_use_planning/southern_interior/columbia_river/kinbasket-recreation.html)

## **5 Summary of Monitoring Programs**

### **5.1 CLBMON-14 Boat Ramp Use Study**

#### **5.1.1 Status**

This monitoring program was initiated in 2010 and will be carried out over 10 years (pending approval after 5 year review). Attached is the report for Year 2 dated August 14, 2012.

## **6 Summary of Physical Works**

### **6.1 CLBWORKS-4 Kinbasket: Bulldog Creek New Ramp**

#### **6.1.1 Status**

In a letter dated 3 March 2008, the CWR did not approve proceeding to the design and construction stage for the boat ramp at Bull Dog Creek. Consistent with community input, the boat ramp work at the north end of Kinbasket is to be focused on Valemount Marina, and is to include dredging in lieu of work at Bulldog Creek. As a result, no work has been initiated on this boat ramp project.

### **6.2 CLBWORKS-5 Kinbasket: Valemount Marina Ramp Extension**

#### **6.2.1 Status**

This physical works was initiated in 2008 and the ramp extension was completed in 2010.

Work performed in 2012 included installing three float markers to indicate high spots on the ramp, and some remedial work to cast-in-place concrete at the lower section of the ramp extension.

### **6.3 CLBWORKS-6 Kinbasket: Nixon Creek Ramp Extension**

#### **6.3.1 Status**

In a letter dated March 3, 2008, the CWR did not approve upgrade work at the Nixon Creek ramp. However, approval was given to proceed with annual maintenance of the existing ramp. Maintenance activities were undertaken in 2012, including removal of debris and sediment.

## **6.4 CLBWORKS-7 Kinbasket: Bush Harbour Ramp Extension**

### **6.4.1 Status**

This physical works was initiated in 2010 and the ramp was completed down to an elevation of approximately 728 m in 2011; a packed gravel bed was laid down to 725 m.

The design calls for the ramp to be placed down to 724.6 m. However, completion of the final bed may not be reasonable because of water levels. The current plan is to maintain the gravel bed during the brief periods when the reservoir is at low pool. If reservoir operations change and levels below 728 m are achieved for sustained times during the recreational period then a more permanent solution will be implemented.

Maintenance activities were undertaken in 2012, including deployment of the floating walkway. Currently, completion of lower elevations is planned for the spring 2013.

## **6.5 CLBWORKS-9 Revelstoke Ramp Extend or Build**

### **6.5.1 Status**

In 2011 the Revelstoke City Council in a letter to the CWR indicated that the Centennial Park ramp was not recommended because of safety concerns associated with the ramp. In a responding letter to the Revelstoke City Council the CWR notified the City that due to the concerns raised that BC Hydro would not be ordered to proceed with the planned upgrades to the site. Subsequently, the CWR instructed BC Hydro not to proceed with the planned upgrades to the Centennial Park ramp.

## **6.6 CLBWORKS-11 Arrow: Burton New Ramp**

### **6.6.1 Status**

This physical works was initiated in 2009 and the upper half of the concrete boat ramp was completed in 2011 down to 1410 ft. The access road and parking areas including drainage were completed. Half of the floating walkway was installed to match the section of ramp constructed.

In consultation with Generation Resource Management a long term review of the current operating regime indicates that the Burton ramp, as currently constructed will meet 100% of recreational users needs within the normal recreational period (May to October). Consequently, it is not recommended to continue with additional works; this recommendation was formalized in a recommendation memo to the CWR on August 25, 2011 and resubmission letter January 17, 2012. The CWR did not approve the costs incurred that exceed the TOR. In order to complete this obligation, BC Hydro is anticipating further costs in 2013; a resubmission letter will be sent in March 2013.

## **6.7 CLBWORKS-12 Arrow: Edgewood Ramp Extension**

### **6.7.1 Status**

This physical works was initiated in 2007 and will be carried out in 2013 by Columbia Power Corporation.

Final design and community approval of design was obtained in 2012. The lowest elevation will be implemented opportunistically (OR component). Submission to the CWR will occur in March 2013 once we have obtained the final contract bid price for construction.

## **6.8 CLBWORKS-13 Arrow: Fauquier Ramp Extension**

### **6.8.1 Status**

This physical works was initiated in 2007 and the ramp was constructed down to 1393.4 ft in 2010 which is adequate to provide 100% public access to the reservoir under the current operating regime. Consequently, it was not recommended to continue with additional works; this recommendation was formalized in a recommendation memo to the CWR on August 25, 2011.

A formal letter to the CWR from BC Hydro was submitted March 2, 2012 requesting to be relieved of the obligation; however, the CWR is not in a position to revoke the obligation that arose from a consultative process. In a letter dated July 26, 2012 CWR has directed BC Hydro to consult the stakeholders through the Interim Review process.

## **6.9 CLBWORKS-14 Arrow: MacDonald Creek Park Ramp Extension**

### **6.9.1 Status**

This physical works was initiated in 2007 and the ramp was constructed down to 1397 ft in 2010 which is adequate to provide 100% public access to the reservoir under the current operating regime. Consequently, it was not recommended to continue with additional works; this recommendation was formalized in a recommendation memo to the CWR on August 25, 2011.

A formal letter to the CWR from BC Hydro was submitted March 20, 2012 requesting to be relieved of the obligation; however, the CWR is not in a position to revoke the obligation that arose from a consultative process. In a letter dated July 26, 2012 CWR has directed BC Hydro to consult the stakeholders through the Interim Review process.

## **6.10 CLBWORKS-16 Kinbasket: Debris Inventory, management Strategy and Removal**

### **6.10.1 Status**

This physical works was initiated in 2008 and the 5-year program will be completed in March 2013. Currently WLR is developing a Five Year Summary Report, Debris Strategy for the next five years, and CWR submission for the next five years for March 2013.

## **6.11 CLBWORKS-17 Arrow: Debris Inventory, management Strategy and Removal**

### **6.11.1 Status**

This physical works was initiated in 2008 and the 5-year program will be completed in March 2013. Currently WLR is developing a Five Year Summary Report, Debris

Strategy for the next five years, and CWR submission for the next five years for March 2013.

## **6.12 CLBWORKS-18 Kinbasket & Arrow: Feasibility of Boat Ramps**

### **6.12.1 Status**

This physical works was initiated in 2009 and was concluded in 2010.

Resubmission of costs in excess of TOR was made in March 19, 2012; however, in a letter dated July 30, 2012, the CWR disallowed these costs.

## **6.13 CLBWORKS-19 Lower Columbia: Indian Eddy Dredging Environmental and Engineering Assessment**

### **6.13.1 Status**

This engineering assessment was initiated in 2007. The final report was received by BC Hydro in September 2009. The environment review was completed in 2009 and the final report was received by BC Hydro in February 2010.

## **6.14 CLBWORKS-20 Lower Columbia: Indian Eddy Dredging**

### **6.14.1 Status**

Due to resource constraints, this physical works has not yet been initiated. Draft Terms of Reference for a feasibility assessment were sent out for external review in 2011. Given the change in delivery model for WLR last fall, these TOR will need to be revisited prior to submission to the Water Comptroller for approval in 2013.

## **6.15 CLBWORKS-21 Lower Columbia: Indian Eddy Debris Removal Environmental Review**

### **6.15.1 Status**

On August 29, 2007, the CWR approved the Terms of Reference for the environmental review.

A contract for undertaking the environmental assessment was awarded on November 30, 2007, and field work began on April 28, 2008. The final report was received by BC Hydro in August 2008 and submitted to the CWR with the 2008 annual report.

## **6.16 CLBWORKS-22 Lower Columbia: Indian Eddy Debris Removal**

### **6.16.1 Status**

This physical works was initiated in 2010 and will be carried every year over the remaining WUP period. BC Hydro provides the City of Trail with funding annually for debris removal.



## **6.17 CLBWORKS-23 Kinbasket & Arrow: Debris Removal Environmental Review**

### **6.17.1 Status**

On May 3, 2007, the CWR issued BC Hydro with Leave to Commence for the environmental review of debris management on Kinbasket and Arrow Lakes reservoirs.

A contract for undertaking the environmental review work awarded on May 10, 2007 to take advantage of the low reservoir level at that time of year. The final report was submitted to the CWR on October 26, 2007.

Due to rapid refill of Arrow Lakes Reservoir in late spring 2007, BC Hydro was unable to complete the environmental review for debris management on this reservoir. However, as noted by BC Hydro in correspondence to the CWR, it is believed that the Kinbasket report findings are directly applicable to both reservoirs and, therefore, a separate parallel report for Arrow may not be necessary. In a letter dated March 5, 2008, the CWR noted that the report submitted by BC Hydro satisfied both Schedule A 3(a) (Kinbasket) and Schedule C 3(a) (Arrow) of the Order.

## **6.18 CLBWORKS-32 Arrow: Renata New Ramp**

### **6.18.1 Status**

This physical works was initiated in 2010 and will be carried out in 2013 by Columbia Power Corporation.

Final design, community approval of design, contract award and access roads were completed in 2012. Submission to the CWR will occur in March 2013 once we have obtained the final contract bid price for construction.

## **6.19 CLBWORKS-33 Arrow: Syringa New Ramp**

### **6.19.1 Status**

In letter from your office March 15, 2010, Terms of Reference were not approved for Syringa at this time given the proximity of Renata to the Syringa site. This decision may be reevaluated once more information from the recreational use study becomes available.

## **6.20 CLBWORKS-35 Mid-Columbia: Bank Erosion Protection and Monitoring Program**

### **6.20.1 Status**

This physical works was initiated in 2010, monitoring has occurred in 2011 (Year 1), 2012 (Year 2) with ongoing monitoring to be carried out in years 2013 (Year 3) and 2015 (Year 4). Attached is the progress report for Year 2 dated December 2012. The final report is due 2016.

## **6.21 CLBWORKS-36 Mid-Columbia: Long-term erosion monitoring program**

### **6.21.1 Status**

This monitoring program was initiated in 2009 with site selection, 2010 baseline monitoring (Year 1), 2011 (Year 2), 2012 (Year 3) with ongoing monitoring to be carried out in years 2014 (Year 4), 2016 (Year 5). Attached is the progress report for Year 3 dated December 2012. The final report is due in 2016.

## **6.22 CLBWORKS-40 Kinbasket: Site Preparation and Debris Work**

### **6.22.1 Status**

Project completed in 2011. Five-year summary will be submitted in March 2013.

## **6.23 CLBWORKS-41 Kinbasket: Floating Debris Removal**

### **6.23.1 Status**

Project Completed in 2011. Five year summary will be submitted in March 2013.

## **7 Monitoring Programs and Physical Works Costs**

The following table summarizes the Kinbasket and Arrow Recreational Management Plan WUP monitoring programs and physical works costs approved by the Comptroller and the Actual Costs to December 31, 2012.

**Table 7-1: Kinbasket and Arrow Recreational Management Plan WUP Monitoring Programs and Physical Works Costs**

Monitoring Programs	Activity	Costs approved by CWR	Life to Date Actuals (LTD)	Estimated to Complete (Forecast)	Total Forecast (LTD and Forecast)	Variance Total to Approved	Explanation	Corrective Action
<b>COLUMBIA RIVER KINBASKET &amp; ARROW RECREATION MANAGEMENT PLAN</b>	OR	\$47,328	\$1,892	\$34,507	\$36,399	\$10,929		
							Overspend is due to contract costs being higher than the original approved amount (12k) and mobilization costs for 2012 deferral (8k).	As per letter dated Dec 21, 2012, CWR will not allow these costs and requested BC Hydro to cover the overage.
<b>CLBMON#14 KIN &amp; ARR BOAT RAMP USE STUDY</b>	OR	\$600,475	\$252,434	\$368,064	\$620,498	(\$20,023)		
CLBMON#14 Direct Management 001	OR	\$90,000	\$31,824	\$58,176	\$90,000	\$0		
CLBMON#14 Implementation 002	OR	\$510,475	\$220,609	\$309,889	\$530,498	(\$20,023)		
<b>CLBWORKS#5 KIN VALEMOUNT MARINA EXTEND RAMP</b>	ONR	\$529,871	\$972,339	\$135,043	\$1,107,382	(\$577,511)		
CLBWORKS#5 Direct Management 001	ONR	\$33,444	\$15,552	\$16,043	\$31,595	\$1,849		
CLBWORKS#5 Implementation 002	ONR	\$496,427	\$956,787	\$119,000	\$1,075,787	(\$579,360)		Detailed construction designs increased scope and costs. Resubmitted in February 2013.
<b>CLBWORKS#6 KIN NIXON CREEK EXTEND RAMP</b>	ONR	\$78,880	\$4,536	\$51,055	\$55,591	\$23,289		
CLBWORKS#6 Direct Management 001	ONR	\$18,036	\$2,497	\$16,055	\$18,551	(\$515)		
CLBWORKS#6 Implementation 002	ONR	\$60,844	\$2,040	\$35,000	\$37,040	\$23,804		
<b>CLBWORKS#7 KIN BUSH HARBOUR RAMP EXTENSION</b>	ONR	\$1,652,187	\$1,363,778	\$319,568	\$1,683,346	(\$31,159)		
CLBWORKS#7 Direct Management 001	ONR	\$42,592	\$25,184	\$19,568	\$44,752	(\$2,160)		
CLBWORKS#7 Implementation 002	ONR	\$1,609,595	\$1,338,594	\$300,000	\$1,638,594	(\$28,999)		Costs in forecast are associated with construction of lower elevations planned for spring 2013. Close to approved values; maintenance costs will be submitted by March 2014 once a contract bid price is received.
<b>CLBWORKS#9 REVELSTOKE EXTEND OR BUILD</b>	OR	\$193,883	\$28,791	\$28,791	\$28,791	\$165,092		
CLBWORKS#9 Direct Management 001	OR	\$45,414	\$10,108	\$10,108	\$10,108	\$35,306		
CLBWORKS#9 Implementation 002	OR	\$148,469	\$18,683	\$18,683	\$18,683	\$129,786		Due to safety concerns, BC Hydro was ordered not to proceed with Centennial Park ramp by CWR. Letter received from CWR in 2011; No further corrective action required.
<b>CLBWORKS#11 ARR BURTON NEW RAMP</b>	OR	\$1,240,995	\$1,543,402	\$273,916	\$1,817,318	(\$576,323)		
CLBWORKS#11 Direct Management 001	OR	\$39,338	\$25,882	\$18,916	\$44,797	(\$5,459)		
CLBWORKS#11 Implementation 002	OR	\$1,201,657	\$1,517,521	\$255,000	\$1,772,521	(\$570,864)		Detailed construction designs increased scope and costs. Forecast includes amounts to complete lower elevations which will be completed as conditions allow. Resubmitted costs January 18 2012 and disallowed by CWR in July 30, 2012. Will resubmit for 2013 costs in March 2013.
<b>CLBWORKS#12A ONR ARR EDGEWOOD RAMP - CLAUSE M</b>	ONR		\$96,625	\$1,415,000	\$1,511,625	(\$1,511,625)		
CLBWORKS#12 Direct Management ONR 001	ONR			\$15,000	\$15,000	\$0		
CLBWORKS#12 Implementation ONR 002	ONR		\$96,625	\$1,400,000	\$1,496,625	(\$1,496,625)		Cost estimate was received from Columbia Power Corporation through MOU in 2012. Submit TOR for CWR approval in March 2013 with final contract bid price. Maintenance costs will be submitted once boat ramp is completed and contract bid price is received.
<b>CLBWORKS#12B OR ARR EDGEWOOD RAMP EXTENSION - WUP</b>	OR		\$3,406		\$3,406	(\$3,406)		
CLBWORKS#12 Direct Management OR 001	OR		\$793		\$793	(\$793)		
CLBWORKS#12 Implementation OR 002	OR		\$2,613		\$2,613	(\$2,613)		The lower elevations of the boat ramp will be completed opportunistically. Submit TOR for CWR approval once conditions are achieved to go ahead with lower elevations.
<b>CLBWORKS#13A ONR ARR FAUQUIER RAMP EXTENSION - CLAUSE M</b>	ONR	\$592,797	\$586,064	\$18,106	\$604,170	(\$11,373)		
CLBWORKS#13 Direct Management ONR 001	ONR	\$17,310	\$8,068	\$5,637	\$13,704	\$3,606		
CLBWORKS#13 Implementation ONR 002	ONR	\$575,487	\$577,996	\$12,469	\$590,465	(\$14,978)		Implementation costs related to boat ramp maintenance activities. Maintenance costs will be submitted once a contract bid price is received.
<b>CLBWORKS#13B OR ARR FAUQUIER RAMP EXTENSION - WUP</b>	OR	\$452,081	\$80,300		\$80,300	\$371,781		
CLBWORKS#13 Direct Management OR 001	OR	\$17,310	\$10,255		\$10,255	\$7,055		
CLBWORKS#13 Implementation OR 002	OR	\$434,771	\$70,045		\$70,045	\$364,726		Access is provided to 1394 ft which is adequate under current operating regime. Resubmission March 2, 2012 requesting to be relieved of the obligation; however, July 26, 2012 CWR directed BC Hydro to consult the stakeholders through the Interim Review process.
<b>CLBWORKS#14A ONR ARR MACDONALD RAMP EXTENSION - CLAUSE M</b>	ONR	\$617,740	\$634,799	\$51,264	\$686,062	(\$68,322)		
CLBWORKS#14 Direct Management ONR 001	ONR	\$25,947	\$23,092	\$16,264	\$39,356	(\$13,409)		
CLBWORKS#14 Implementation ONR 002	ONR	\$591,793	\$611,707	\$35,000	\$646,707	(\$54,914)		Forecasted costs are boat ramp maintenance activities. Resubmission March 20, 2012 requesting to be relieved of the obligation; however, July 26, 2012 CWR directed BC Hydro to consult the stakeholders through the Interim Review process.
<b>CLBWORKS#14B OR ARR MACDONALD RAMP EXTENSION - WUP</b>	OR	\$165,300	\$21,671		\$21,671	\$143,629		
CLBWORKS#14 Direct Management OR 001	OR	\$8,649	\$10,065		\$10,065	(\$1,416)		
CLBWORKS#14 Implementation OR 002	OR	\$156,651	\$11,606		\$11,606	\$145,045		Access is provided to 1397 ft which is adequate under current operating regime. Resubmission March 20, 2012 requesting to be relieved of the obligation; however, July 26, 2012 CWR directed BC Hydro to consult the stakeholders through the Interim Review process.
<b>CLBWORKS#16 ONR KIN DEBRIS INVENTORY, MANAGEMENT STRATEGY AND REMOVAL</b>	ONR	\$271,764	\$270,981	\$700,000	\$970,981	(\$699,217)		
CLBWORKS#16 Direct Management ONR 001	ONR				\$0	\$0		
CLBWORKS#16 Implementation ONR 002	ONR	\$271,764	\$270,981	\$700,000	\$970,981	(\$699,217)		Debris load in the Kinbasket is still very high, particularly after the high water year and surcharge in 2012. Approval was only for first 5 years; forecast includes next 5 years based on Strategy and Committee recommendations. Resubmit next 5 years to CWR (including Strategy) March 2013.
<b>CLBWORKS#16 OR KIN DEBRIS INVENTORY, MANAGEMENT STRATEGY AND REMOVAL</b>	OR	\$419,722	\$405,745	\$981,936	\$1,387,680	(\$967,958)		
CLBWORKS#16 Direct Management OR 001	OR	\$90,629	\$93,031	\$126,936	\$219,967	(\$129,338)		
CLBWORKS#16 Implementation OR 002	OR	\$329,093	\$312,713	\$855,000	\$1,167,713	(\$838,620)		Debris load in the Kinbasket is still very high, particularly after the high water year and surcharge in 2012. Approval was only for first 5 years; forecast includes next 5 years based on Strategy and Committee recommendations. Resubmission March 20, 2012 requesting to be relieved of the obligation; however, July 26, 2012 CWR directed BC Hydro to consult the stakeholders through the Interim Review process.
<b>CLBWORKS#17 ONR ARR DEBRIS INVENTORY, MANAGEMENT STRATEGY AND REMOVAL</b>	ONR	\$136,404	\$136,404	\$337,500	\$473,904	(\$337,500)		
CLBWORKS#17 Direct Management ONR 001	ONR				\$0	\$0		
CLBWORKS#17 Implementation ONR 002	ONR	\$136,404	\$136,404	\$337,500	\$473,904	(\$337,500)		Approval for CWR for first 5 years only. Forecast based on Debris Strategy and Committee recommendations. Resubmit next 5 years to CWR (including Strategy) March 2013.
<b>CLBWORKS#17 OR ARR DEBRIS INVENTORY, MANAGEMENT STRATEGY AND REMOVAL</b>	OR	\$232,973	\$189,998	\$466,155	\$656,153	(\$423,180)		
CLBWORKS#17 Direct Management OR 001	OR	\$39,241	\$37,014	\$67,655	\$104,669	(\$65,428)		
CLBWORKS#17 Implementation OR 002	OR	\$193,732	\$152,983	\$398,500	\$551,483	(\$357,751)		Approval for CWR for first 5 years only. Forecast based on Debris Strategy and Committee recommendations. Resubmit next 5 years to CWR (including Strategy) March 2013.
<b>CLBWORKS#18 FEASIBILITY OF BOAT RAMPS</b>	OR	\$238,120	\$276,842		\$276,842	(\$38,722)		
CLBWORKS#18 Direct Management 001	OR	\$53,942	\$70,065		\$70,065	(\$16,123)		
CLBWORKS#18 Implementation 002	OR	\$184,178	\$206,777		\$206,777	(\$22,599)		Project overspent in 2009. Resubmission of TOR in March 19, 2012; however, CWR disallowed these costs July 30, 2012.
<b>CLBWORKS#19 LOW COL INDIAN EDDY DREDGING ENVIRONMENTAL &amp; ENGINEERING ASSESSMENT</b>	OR	\$181,019	\$157,488		\$157,488	\$23,531		
CLBWORKS#19 Direct Management 001	OR	\$53,892	\$31,564		\$31,564	\$22,328		
CLBWORKS#19 Implementation 002	OR	\$127,127	\$125,924		\$125,924	\$1,203		
<b>CLBWORKS#20 LOW COL INDIAN EDDY DREDGING</b>	OR					\$0		
CLBWORKS#20 Direct Management 001	OR					\$0		
CLBWORKS#20 Implementation 002	OR					\$0		No approval for this project from CWR. Submit TOR to CWR in 2013.

Monitoring Programs	Activity	Costs approved by CWR	Life to Date Actuals (LTD)	Estimated to Complete (Forecast)	Total Forecast (LTD and Forecast)	Variance Total to Approved	Explanation	Corrective Action
<b>CLBWORKS#21 LOW COL DEBRIS REMOVAL AT INDIAN EDDY ENVIRONMENTAL REVIEW</b>	OR	\$53,601	\$45,886		\$45,886	\$7,715		
CLBWORKS#21 Direct Management 001	OR	\$15,367	\$15,259		\$15,259	\$108		
CLBWORKS#21 Implementation 002	OR	\$38,234	\$30,627		\$30,627	\$7,607		
<b>CLBWORKS#22 LOW COL DEBRIS REMOVAL AT INDIAN EDDY</b>	OR	\$44,726	\$7,783	\$18,010	\$25,792	\$18,934	Debris load lower than anticipated.	No corrective action.
CLBWORKS#22 Direct Management 001	OR	\$16,512	\$910	\$2,610	\$3,519	\$12,993		
CLBWORKS#22 Implementation 002	OR	\$28,214	\$6,873	\$15,400	\$22,273	\$5,941		
<b>CLBWORKS#23 KIN &amp; ARR DEBRIS REMOVAL ENVIRONMENTAL REVIEW</b>	OR	\$126,716	\$68,960		\$68,960	\$57,756		
CLBWORKS#23 Direct Management 001	OR	\$34,233	\$15,326		\$15,326	\$18,907		
CLBWORKS#23 Implementation 002	OR	\$92,483	\$53,633		\$53,633	\$38,850		
<b>CLBWORKS#32 ARR RENATA NEW RAMP</b>	OR	\$3,587,553	\$680,203	\$2,907,350	\$3,587,553	\$0		
CLBWORKS#32 Direct Management 001	OR	\$60,000	\$28,715	\$31,285	\$60,000	\$0		
CLBWORKS#32 Implementation 002	OR	\$3,527,553	\$651,487	\$2,876,066	\$3,527,553	\$0		
<b>CLBWORKS#33 ARR SYRINGA NEW RAMP</b>	OR					\$0		
CLBWORKS#33 Direct Management 001	OR					\$0		
CLBWORKS#33 Implementation 002	OR				\$0	\$0		
<b>CLBWORKS#35 MCR BANK EROSION PROTECTION &amp; MONITORING</b>	ONR	\$712,739	\$547,598	\$144,571	\$692,169	\$20,570	Efficiencies achieved in project implementation	No corrective action.
CLBWORKS#35 Direct Management 001	ONR	\$72,964	\$35,067	\$27,071	\$62,138	\$10,826		
CLBWORKS#35 Implementation 002	ONR	\$639,775	\$512,531	\$117,500	\$630,031	\$9,744		
<b>CLBWORKS#36 MCR LONG TERM EROSION MONITORING</b>	ONR	\$311,993	\$214,474	\$80,673	\$295,147	\$16,846	Efficiencies achieved in project implementation	No corrective action.
CLBWORKS#36 Direct Management 001	ONR	\$70,240	\$32,245	\$26,991	\$59,236	\$11,004		
CLBWORKS#36 Implementation 002	ONR	\$241,753	\$182,229	\$53,682	\$235,911	\$5,842		
<b>CLBWORKS#40 ONR KIN DEBRIS SITE PREP</b>	ONR	\$1,800,000	\$1,995,336		\$1,995,336	(\$195,336)	Reservoir levels went to full pool triggering additional debris work in previous years.	Annual summary report will be submitted in March 2013.
CLBWORKS#40 Direct Management ONR 001	ONR				\$0	\$0		
CLBWORKS#40 Works Implementation ONR 002	ONR	\$1,800,000	\$1,995,336		\$1,995,336	(\$195,336)		
<b>CLBWORKS#40 OR KIN DEBRIS SITE PREP</b>	OR	\$785,000	\$783,522		\$783,522	\$1,478		
CLBWORKS#40 Direct Management OR 001	OR	\$78,000	\$52,470		\$52,470	\$25,530		
CLBWORKS#40 Works Implementation OR 002	OR	\$707,000	\$731,051		\$731,051	(\$24,051)		
<b>CLBWORKS#41 KIN FLOATING DEBRIS REMOVAL</b>	ONR	\$42,026	\$1,498		\$1,498	\$40,528		
CLBWORKS#41 Direct Management 001	ONR	\$29,784	\$1,455		\$1,455	\$28,329		
CLBWORKS#41 Implementation 002	ONR	\$12,242	\$43		\$43	\$12,199		
<b>CLBWORKS#43 NAKUSP BOAT RAMP</b>	ONR		\$584,480	\$2,247,574	\$2,832,054	(\$2,832,054)	Boat ramp will be delivered by CPC. Values based on MOU.	Submit to CWR for TOR approval by April 2013.
CLBWORKS#43 Direct Management 001	ONR		\$7,865	\$7,574	\$15,439	(\$15,439)		
CLBWORKS#43 Implementation 002	ONR		\$576,615	\$2,240,000	\$2,816,615	(\$2,816,615)		
<b>CLBWORKS#45 OR BOAT RAMP MAINTENANCE</b>	OR		\$985	\$123,252	\$124,237	(\$124,237)	Forecasted costs are boat ramp maintenance activities for Burton and Renata.	Submit for approval once contract bid price on maintenance activities is received by March 2014.
CLBWORKS#45 Direct Management 001	OR		\$985	\$18,252	\$19,237	(\$19,237)		
CLBWORKS#45 Implementation 002	OR			\$105,000	\$105,000	(\$105,000)		
OR - Ordered Remissible								
ONR - Ordered Non-Remissible								