Cheakamus Project Water Use Plan

Monitoring Program Terms of Reference

- **CMSMON-1b – Cheakamus River Salmon Escapement Monitoring and Mainstem Spawning Groundwater Survey**

Addendum 1

January 22, 2013

A1 Addendum to CMSMON-1b – Cheakamus River Chum Salmon Escapement Monitoring and Mainstem Spawning Groundwater Survey

A1.1 Addendum Rationale

The Cheakamus Water Use Plan (WUP) was approved by the Comptroller of Water Rights (CWR) and Order was received under the Water Act February 17, 2006. The consultative process of the WUP concluded without consensus being reached on the operating parameters. The WUP and the covering letter for the Order both state that the WUP is to be reviewed within five years of implementation. The Terms of Reference for the Cheakamus WUP monitoring programs, approved by the CWR, were for a five year period from implementation with completion in 2012. The approved WUP recommends that the most critical studies (juvenile and adult salmonid abundance studies and channel morphology) should be carried out for 10 to 20 years.

BC Hydro met with the contractors and members of the Cheakamus WUP Monitoring Advisory Committee (MAC) to review the Cheakamus WUP monitors in Squamish on October 2 and 3, 2012. The MAC discussed the objectives of the monitoring program and what, if any, changes should be made to the scope of the program. Based on the findings to date and the importance of salmonids in the Cheakamus to members of the MAC, the MAC agreed that CMSMON-1a should continue for another five years.

According to recent analysis of existing juvenile salmonid data, although there has been an apparent increase in smolt numbers during the study period, the observed increase in numbers is not statistically significant and thus insufficient to answer the management questions. Another five years of smolt data would improve the ability of the program to detect changes in smolt abundance related to WUP fish flow releases. Patterns in the abundance data, and hence the ability to disentangle the caustic soda effects, will become more apparent as the population is given more time to respond to flow related habitat changes. An additional five years of data will provide the information needed toward answering the management questions.

A1.2 Study Design

The study design for the next five years remains largely unchanged from the original Terms of Reference (TOR) dated November 2006. The scope change include the following: drop streamwalks; radio tag only female chum year 6-10 with max 80 tags per year and add annual fecundity and prespawn mortality study. Analytical and reporting efforts will be more focused on building on previous year's data and synthesis with other Water Use Plan (WUP) monitoring programs (i.e., CMSMON-1b, CMSMON-3, CMSMON-2 and CMSMON-8) on the Cheakamus River in an effort to answer the management questions and meet the objectives of the WUP. Also, it should be noted that the initial Year 1 activities identified in the original TOR have already been completed and are not included in this scope of work. This includes the permanent mooring points for the rotary screw traps that will continue to be used for the remainder of the program.

A1.3 Budget

Total project costs budget for an additional five years of the CMSMON-1b monitoring program which will be spent in Years 2013 through 2017: $892,578.