Boundary Hydroelectric Project (FERC No. 2144)

Addendum to Exhibit H of the License Application

Seattle City Light

March 2010

TABLE OF CONTENTS

1 Introduction to Exhibit H Addendum 1

2 Revised Sections of Exhibit H 1

2.1. Plans and Ability to Operate the Project, Maintaining Efficient and Reliable Electric Service (Section 2.1 of Exhibit H).....1

2.2. Statement of Need for Modifications of the Project Facilities or Operations (Section 2.3 of Exhibit H) 2

3 References.....3

This page intentionally left blank.

1 INTRODUCTION TO EXHIBIT H ADDENDUM

This document is an addendum to Exhibit H of Seattle City Light's (SCL) License Application for the Boundary Hydroelectric Project (FERC No. 2144) that was filed with FERC on September 29, 2009. The inserts on the following pages represent complete replacements of the corresponding sections in Exhibit H, allowing the reviewer to refer to only one document, i.e., either the Exhibit H filed with the License Application or this addendum, for a given section or subsection. Each replacement section below is thoroughly documented so that there is no ambiguity as to what portions of Exhibit H have been replaced.

The organization of the following document parallels that of Exhibit H, i.e., sections are presented in the same order and all revised sections, tables, or figures are numbered or referred top according to the same scheme used in Exhibit H.

2 REVISED SECTIONS OF EXHIBIT H

2.1. Plans and Ability to Operate the Project, Maintaining Efficient and Reliable Electric Service (Section 2.1 of Exhibit H)

The following section replaces Section 2.1.1, Efforts and Plans to Increase Capacity and Generation at the Project.

During the initial license term, SCL has made efforts to maximize possible energy and capacity benefits derived from the Project. Major renewals at the Project since it was completed in 1961 have included overhaul of the six turbine/generator units in the Project power plant between 1996 and 2003.

SCL has plans for further capacity upgrades at the Project during the new license term. SCL will replace the turbine runners, rewind the generators, and replace the step-up transformers for Units 55 and 56. These changes will be designed to increase unit efficiencies. The units will use the same flow to produce a greater amount of energy and will have a higher total capacity.

It is estimated that the generator capacity for Units 55 and 56will each increase from 200 megawatts (MW) to 240 MW (see Figure H.2-1), for an increase of total Project capability from 1,040 MW to 1,120 MW and an estimated increase in average annual generation of 39,838 megawatt hours (MWh). Current, revised and estimated total authorized installed and generator capacities are detailed in Exhibit B of the License Application (as revised March 2010).

Reconnaissance-level engineering and cost studies for the turbine runner upgrades were performed in 2008 and 2009. Recent results indicate that the proposed generator capability for Units 55 and 56 will each increase from 200 MW to 240 MW (see Figure B.5-1), for an increase of total Project generator capability from 1,040 MW to 1,120 MW and an estimated increase in average annual generation of 39,838 MWh. Cost estimates for this effort are detailed in Exhibit D of the License Application (as revised March 2010).

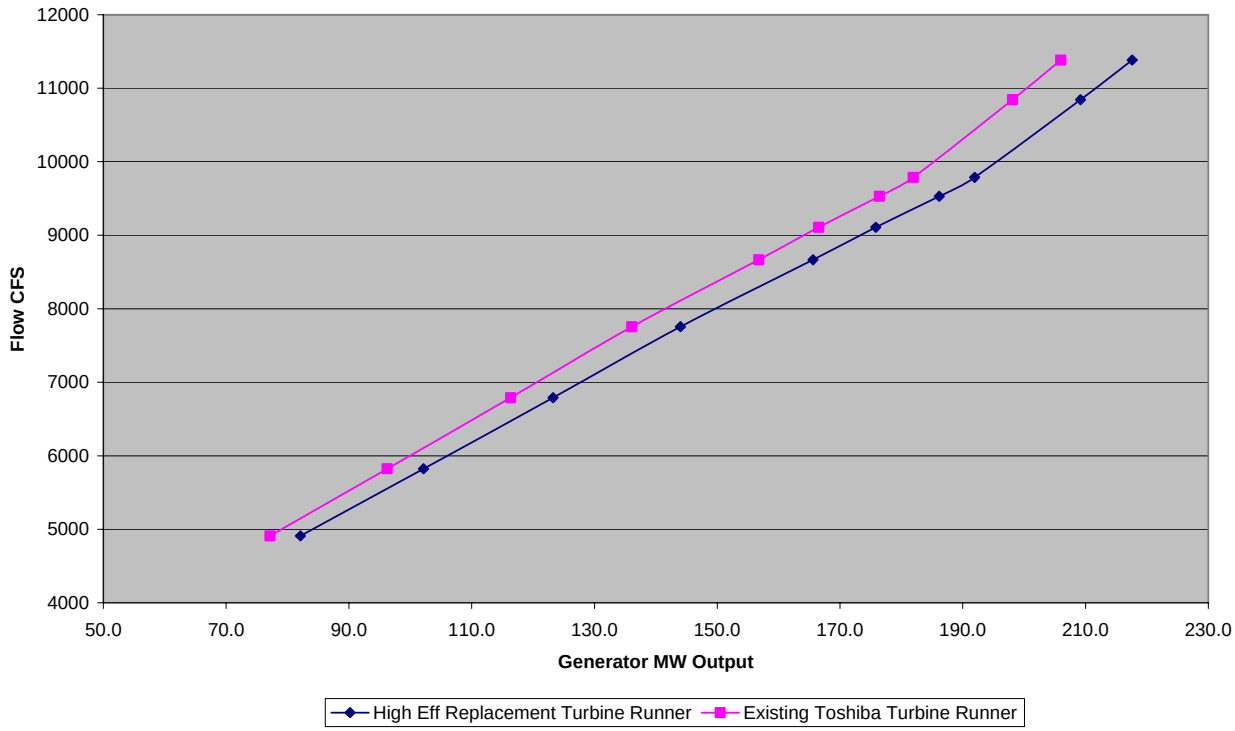

Figure H.2-1. Comparison of the efficiency of the existing and the proposed turbine runners of Units 55 and 56.

SCL also plans to rewind the generators and replace the turbine runners and transformers for Units 51 through 54 during the new license term; however, it is not expected at this time that these changes will result in an increase in capacity or generation.

Exhibits B, D and E of the License Application (as revised March 2010) provide additional information on the refurbishment and upgrades proposed for the Project.

2.2. Statement of Need for Modifications of the Project Facilities or Operations (Section 2.3 of Exhibit H)

The following section replaces Section 2.3.1, Proposal for Facility Enhancements.

SCL proposes to install new high efficiency turbines in Units 55 and 56. The turbine runner upgrades will increase efficiency, i.e., they will use the same flow to produce a greater amount of energy and will have a higher total generation capacity. The turbine runner efficiency upgrades will be performed concurrently with planned electrical generator rewinds and step-up transformer replacements, which are scheduled for Years 1 and 2 after license issuance.

Reconnaissance-level engineering and cost studies for the turbine runner upgrades were performed in 2008 and 2009. Recent results indicate that the proposed generator capability for

Units 55 and 56 will each increase from 200 MW to 240 MW (see Figure H.2-1), for an increase of total Project generator capability from 1,040 MW to 1,120 MW and an estimated increase in average annual generation of 39,838 MWh. Cost estimates for this effort are detailed in Exhibit D of the License Application (as revised March 2010).

SCL also plans to rewind the generators and replace the turbine runners and transformers for Units 51 through 54 during the new license term; however, it is not expected at this time that these changes will result in an increase in capacity or generation.

Descriptions of other proposed modifications and enhancements to Project facilities are included in Exhibits A C, D and E of the License Application (as revised March 2010).

3 REFERENCES

There are no new references in this addendum that were not already cited in Exhibit H of the License Application.

This page intentionally left blank.