



Province of British Columbia

Water Act

FINAL WATER LICENCE

BC Hydro and Power Authority is hereby authorized to store water as follows:

- a) The stream on which the rights are granted is Shuswap River, and the reservoir is Sugar Lake.
- b) The site of the dam which forms Sugar Lake Reservoir is PD 57175 located as shown on the attached plan.
- c) The date from which this licence shall have precedence is August 11, 1941.
- d) The purpose for which the water is to be used is storage. Storage purpose supports the power purpose at the Shuswap Falls Generating Station as set out in Final Water licences Nos. 120948 and 120950.
- e) Conditions for the storage of water in Sugar Lake Reservoir are as follows:
 - i) The reservoir may be operated between elevations of 589.64 metres, the minimum operating level, and 601.72 metres, the full supply level, measured at the dam using Geodetic Survey of Canada (GSC) datum.
 - ii) The volume of water authorized to be stored between the minimum operating level and the full supply level (active storage) under this licence is estimated to be 148 million cubic metres.
 - iii) Surcharging the reservoir above the full supply level, drafting the reservoir to the full supply level, and drafting the reservoir below the minimum operating level shall be done in accordance with the Operation, Maintenance, and Surveillance Manual.
- f) The water may be collected into storage, held in storage and used throughout the whole year.
- g) The licence is appurtenant to the undertaking as set out in clause (g) of Final Water Licences Nos. 120948 and 120950, Shuswap Falls Generating Station.
- h) The works authorized are Sugar Lake Dam located as shown on the attached plan, with outlets, overflow spillway section and ancillary works.

- i) This licence is issued in substitution of Conditional Water Licences Nos. 14567 and 15240.



Glen Davidson, P. Eng.
Deputy Comptroller of Water Rights

File Number: 0139633 Date Issued *October 12, 2005* Final Licence Number: 120951



Province of British Columbia

Water Act

ORDER Section 88

File No. 078649 and 0139633

WHEREAS British Columbia Hydro and Power Authority (BC Hydro) is the operator of the Shuswap River power development, in respect of which it holds Final Water Licences 120948, 120949, 120950 and 120951 which authorise the storage, diversion and use of water for power purpose; and

WHEREAS BC Hydro has engaged in public consultation to determine values for system parameters and to develop operating procedures that may provide benefits as described below;

WHEREAS the licensee has submitted the Shuswap River Water Use Plan, which recommends changes to the operation of the Shuswap River power development which are intended to benefit recreation and fisheries values in Sugar Lake Reservoir and fisheries and wildlife values, flood abatement and recreation in the Shuswap River below Sugar Lake Dam and Wilsey Dam; and

WHEREAS I have accepted the Shuswap River Water Use Plan dated August 18, 2005; and

WHEREAS the Shuswap River Water Use Plan proposes a monitoring program to determine whether operating the facility in accordance with the operating parameters and procedures in the Water Use Plan will provide the expected benefits;

I HEREBY ORDER THAT:

1. The licensee shall, subject to the Operation, Maintenance and Surveillance Manual requirements for stoplog operations, regulate Sugar Lake Reservoir to achieve the following elevations as measured at Sugar Lake Dam using the Geodetic Survey of Canada (GSC) datum:
 - a) Starting June 1, but not later than July 31, attain 600.61m or greater;
 - b) Starting August 1, but not later than August 31, attain 601.22m or greater;
 - c) Between April 1 and May 1, the reservoir will be drawn down to 596.00m or lower;
 - d) Achieving the above elevations will be secondary to meeting minimum flows below Wilsey Dam, as specified in condition 4.
2. The licensee shall release a minimum flow of 5.0 cubic meters per second from Sugar Lake Dam. When inflows are less than 5.0 cubic metres per second and the reservoir lower than 594.70m, all inflows shall be released.

3. The licensee shall operate Sugar Lake Dam to meet the ramp rates specified in Schedule A attached.
4. Sufficient water shall be released from Wilsey Dam and powerhouse to provide the following minimum flows as measured at the location of Water Survey of Canada (WSC) Hydrometric Gauge 08LC003:
 - a) 13.0 cubic metres per second from January 1 to August 14;
 - b) 16.0 cubic metres per second from August 15 to December 31;
 - c) If the above flows cannot be met, minimum flow releases shall be equal to the sum of local inflows to Wilsey Dam plus available discharge from Sugar Dam.
5. The licensee shall maintain and operate to WSC standards a hydrometric station to improve flood forecasting ability.
6. The licensee shall investigate sources of flow disruptions at Wilsey Dam, identify options for changing existing works or installing new works that will further reduce flow disruptions, and submit a report on the findings to the Comptroller within 18 months of the date of this order.
7. BC Hydro shall, within six months of the date of issue of this order, develop and submit for acceptance terms of reference with a proposed budget and schedule for a program to monitor:
 - a) the effects of Sugar Lake Reservoir elevations at or near 601.72m on shoreline erosion;
 - b) the effects of Sugar Lake Reservoir operations on archaeological sites located in the drawdown zone and shoreline erosion areas;
 - c) the additional forecasting benefits resulting from the operation of the hydrometric station referenced in condition 5;
 - d) the relationship between flows and flooding from Wilsey Dam to Mabel Lake;
8. Following review and acceptance in writing of the terms of reference developed in accordance with 7 above by the Comptroller of Water Rights the licensee shall undertake the monitoring program as directed.
9. BC Hydro shall prepare and submit to the Comptroller of Water Rights in the time period set out in the accepted terms of reference an annual report summarizing the data collected from the monitoring studies.
10. With respect to the maintenance and provision of records the licensee must:
 - a) keep records of :
 - i. Sugar Lake Reservoir elevations
 - ii. Shuswap River discharge at the location of WSC gauges 08LC 018 and 08LC003.
 - b) provide a written report to the Comptroller of Water Rights on or before February 1 and August 1 of each year summarizing the records from the previous 6 months.
 - c) provide on request from the Comptroller of Water Rights records collected under 10.a.
11. The licensee may operate the works in an alternate manner in the event of an emergency, a dam safety requirement, or an extreme hydrologic event.

12. All emergency operations or other deviations from operations ordered above shall be reported to the Comptroller of Water Rights in a timely manner.

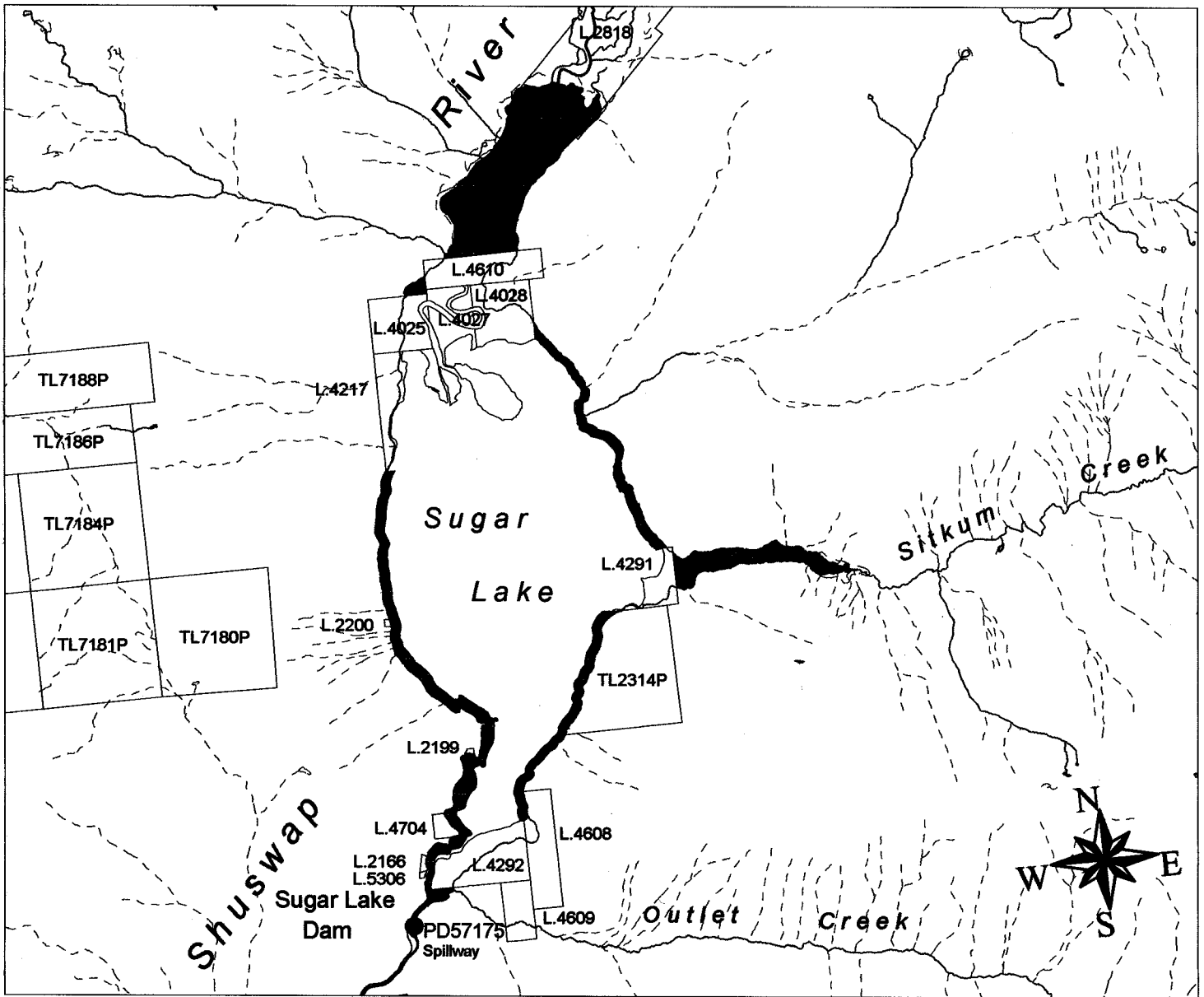
Dated at Victoria, B.C., this 12th day of October, 2005.

A handwritten signature in black ink, appearing to read 'G. Davidson', written in a cursive style.

Glen Davidson, P. Eng
Deputy Comptroller of Water Rights



BRITISH
COLUMBIA



WATER DISTRICT:
PRECINCT:
LAND DISTRICT:

VERNON
LUMBY
OSOYOOS DIVISION OF YALE

Signature: *[Signature]*

Date: October 12, 2005

LEGEND:

Scale:

1:85,000

Point of Diversion:



Map Number:

WR 82L.038.3.2

Permit over Crown Land:



F.L. 120951 for C.L. 14567 and C.L.15240
File 0139633
P.C.L. 25334

For Diversion see F.L. 120948 & F.L. 120950