



THE PROVINCE OF BRITISH COLUMBIA

FINAL WATER LICENCE

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

- (a) - The stream on which the rights are granted is the Pend d'Oreille River.
- (b) - The point of diversion is shown on the attached plan.
- (c) - The date from which this licence shall have precedence is 7th of January, 1974.
- (d) - The purpose for which this licence is issued is power (general), which is to be generated at the Seven Mile Generating Station.
- (e) - The maximum quantity of water which may be diverted and used under this licence is 36,000 cubic feet per second (1,020 cubic metres per second).
- (f) - Water may be diverted and used throughout the whole year.
- (g) - This licence is appurtenant to the undertaking of the licensee to generate and supply power, pursuant to the *Hydro and Power Authority Act*, with respect to the Seven Mile Generating Station situated on Crown land in the Pend d'Oreille River between District Lots 7734 and 9423, Kootenay District.
- (h) - The works authorized are dam, spillway and power house. The power house includes three turbines, generators, transformers and switchgear . The dam and spillway include auxiliary works for operating the discharge facilities.
- (i) - Programs for the protection, or enhancement, of fish and wildlife habitat and for the mitigation of losses of habitat shall be carried out as directed by the Comptroller of Water Rights, after consultation with the licensee and the Fish and Wildlife Branches of the Ministry of Environment, Lands and Parks.
- (j) - This licence is issued in substitution in part of Conditional Water Licence 42962.

A handwritten signature in black ink, appearing to read 'Lynn Kriwoken'.

Lynn Kriwoken
Deputy Comptroller of Water Rights

File No.: 0322335

Date issued: Dec 3, 1998

Final Licence: 113790



Province of British Columbia

Water Act

Order ***Water Act*** **Sections 87 and 88**

File No.: 0322335, 4002645

WHEREAS British Columbia Hydro and Power Authority (BC Hydro) is the operator of the Seven Mile Power Development, in respect of which it holds Final Water Licences 113790, 113791, 113922 and Conditional Water Licence 111911; and

WHEREAS the operation of the works has been regulated by an order dated December 31, 1998; and

WHEREAS BC Hydro has engaged in public consultation to determine values for system parameters and to develop operating procedures that may provide fisheries and recreation benefits, and

WHEREAS BC Hydro has submitted the Seven Mile Project Water Use Plan which recommends operating parameters and procedures for the Seven Mile Power Development intended to provide benefits as described above, and

WHEREAS the Seven Mile Project Water Use Plan proposes a monitoring program to determine if operating the works in accordance with the operating parameters and procedures in the Water Use Plan will provide the expected benefits, and

WHEREAS I have accepted the Seven Mile Project Water Use Plan dated December 8, 2006;

I HEREBY ORDER THAT:

1. The order issued on December 31, 1998 regulating the Seven Mile Power Development is revoked.
2. BC Hydro shall regulate discharges from Seven Mile Power Development in accordance with Schedule A attached, for the protection of fisheries values.
3. Seven Mile Reservoir shall be operated for recreation use as follows:
 - i) From June 1 to August 31, BC Hydro shall limit the number of days in which daily fluctuations in reservoir elevations exceed 4 metres and the hourly fluctuations exceed 0.6 metres, to 10 days or less.
 - ii) From September 1 to May 31, BC Hydro shall limit the number of days in which daily fluctuations exceed 6 metres and the hourly fluctuations exceed 1.2 metres, to 25 days or less.

4. In the case of a conflict between discharge requirements specified in 2 above, and the limitations on reservoir fluctuations specified in 3 i) or ii) above, the requirements under 2 will take precedence.
5. The above clauses are in force while BC Hydro and Teck-Cominco are parties to the Canal Plant Agreement (July 1, 2005) or its replacement.
6. BC Hydro shall submit within six months of the date of the order, a terms of reference for acceptance by the Comptroller outlining details of monitoring:
 - i) fish stranding below Seven Mile Dam during discharge reductions,
 - ii) the incidence of sub-adult Salmo River bull trout entrainment at the Seven Mile Power Development.
7. BC Hydro shall implement monitoring in accordance with the monitoring plan accepted by the Comptroller of Water Rights and shall report results on the findings to the Comptroller by June 30, 2008 for 6 i), and annually for the duration of the monitoring plan for 6 ii).
8. Based on the findings in clause 6 i) above, re-contouring of stream bars may be ordered by the Comptroller of Water Rights if it is determined such action will significantly decrease fish stranding.
9. With respect to the maintenance of provision of records the licensee must:
 - a) keep records of:
 - i) Actual inflows to Seven Mile Reservoir;
 - ii) Daily and hourly Seven Mile Reservoir elevations;
 - iii) Seven Mile turbine discharge;
 - iv) Total discharge from Seven Mile Power Development;
 - b) provide a written report to the Comptroller on or before February 1 of each year summarising the records from the previous calendar year; and
 - c) provide on request from the Comptroller records collected under 9a.
10. BC Hydro may operate the works in an alternate manner in the event of an emergency, a dam safety requirement, or an extreme hydrologic event.
11. 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, British Columbia, this *18th* day of *December*, 2006.



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

SCHEDULE A OPERATING PARAMETERS

WITH RESPECT TO DISCHARGES FROM SEVEN MILE POWER DEVELOPMENT, BC HYDRO MUST:

From September 1 to May 31:

1. When the "daily average inflow"¹ to Seven Mile Reservoir is less than the total authorised maximum rate(s) of diversion of the Waneta Power Development(s), the licensee shall make "reasonable efforts"² to distribute the discharge from Seven Mile Power Development such that the total instantaneous discharge at the Waneta Dam does not exceed the total authorised maximum diversion rate(s) of the Waneta Power Development(s)³.
2. When the daily average inflow to Seven Mile Reservoir is equal to or greater than the authorised maximum diversion rate(s) of the Waneta Power Development(s), the licensee shall make "reasonable efforts" to distribute discharges from the Seven Mile Power Development in a manner that does not exceed the daily average inflow.
3. In the event actual inflows to Seven Mile Generating Station cannot be distributed as described in 1 and 2 due to:
 - a. unexpected changes in inflows or inflow shaping from upstream Boundary Generating Station; or
 - b. unforecasted high discharges from the Salmo River; or
 - c. a need to respond to system demand resulting in generation discharge at Seven Mile Power Development that exceeds the authorized maximum diversion rate(s) at the Waneta Power Development(s),

then the licensee shall make "reasonable efforts" to distribute discharges from the Seven Mile Generating Station to minimise the amount of total discharge at Seven Mile that exceeds the total authorised maximum diversion rate(s) of the Waneta Power Development(s).

From June 1 to August 31:

4. During this critical white sturgeon spawning/hatching period the licensee shall make "best efforts"⁴ to conform with 1, 2 and 3 above.

¹ "Daily Average Inflow" is an estimate used to plan operations for the purpose of meeting the license obligations for the next day based on the previous day's inflow. If for that day, actual inflows vary from the daily average inflow estimate, the licensee is subject to the requirements in Schedule A, 3.

² "Reasonable efforts" means the licensee may consider the cost of alternative actions in prioritizing the options for responding to unusual system capacity demands.

³ Waneta Power Development(s) consists of the Waneta Generating Station, the Waneta Upgrade Project and if licensed, the Waneta Expansion Project.

⁴ "Best efforts" means the licensee must do everything short of cutting firm load or incurring legal liability for operations at Seven Mile Generating Station, or elsewhere.



Province of British Columbia

Water Act

Order *Water Act* Sections 87 and 88

File No.: 0322335, 4002645

WHEREAS British Columbia Hydro and Power Authority (BC Hydro) is the operator of the Seven Mile Power Development, in respect of which it holds Final Water Licences 113790, 113791, 113922 and Conditional Water Licence 111911; and

WHEREAS the operation of the works has been regulated by an order dated December 31, 1998; and

WHEREAS BC Hydro has engaged in public consultation to determine values for system parameters and to develop operating procedures that may provide fisheries and recreation benefits, and

WHEREAS BC Hydro has submitted the Seven Mile Project Water Use Plan which recommends operating parameters and procedures for the Seven Mile Power Development intended to provide benefits as described above, and

WHEREAS the Seven Mile Project Water Use Plan proposes a monitoring program to determine if operating the works in accordance with the operating parameters and procedures in the Water Use Plan will provide the expected benefits, and

WHEREAS I have accepted the Seven Mile Project Water Use Plan dated December 8, 2006;

I HEREBY ORDER THAT:

1. The order issued on December 31, 1998 regulating the Seven Mile Power Development is revoked.
2. BC Hydro shall regulate discharges from Seven Mile Power Development in accordance with Schedule A attached, for the protection of fisheries values.
3. Seven Mile Reservoir shall be operated for recreation use as follows:
 - i) From June 1 to August 31, BC Hydro shall limit the number of days in which daily fluctuations in reservoir elevations exceed 4 metres and the hourly fluctuations exceed 0.6 metres, to 10 days or less.
 - ii) From September 1 to May 31, BC Hydro shall limit the number of days in which daily fluctuations exceed 6 metres and the hourly fluctuations exceed 1.2 metres, to 25 days or less.

4. In the case of a conflict between discharge requirements specified in 2 above, and the limitations on reservoir fluctuations specified in 3 i) or ii) above, the requirements under 2 will take precedence.
5. The above clauses are in force while BC Hydro and Teck-Cominco are parties to the Canal Plant Agreement (July 1, 2005) or its replacement.
6. BC Hydro shall submit within six months of the date of the order, a terms of reference for acceptance by the Comptroller outlining details of monitoring:
 - i) fish stranding below Seven Mile Dam during discharge reductions,
 - ii) the incidence of sub-adult Salmo River bull trout entrainment at the Seven Mile Power Development.
7. BC Hydro shall implement monitoring in accordance with the monitoring plan accepted by the Comptroller of Water Rights and shall report results on the findings to the Comptroller by June 30, 2008 for 6 i), and annually for the duration of the monitoring plan for 6 ii).
8. Based on the findings in clause 6 i) above, re-contouring of stream bars may be ordered by the Comptroller of Water Rights if it is determined such action will significantly decrease fish stranding.
9. With respect to the maintenance of provision of records the licensee must:
 - a) keep records of:
 - i) Actual inflows to Seven Mile Reservoir;
 - ii) Daily and hourly Seven Mile Reservoir elevations;
 - iii) Seven Mile turbine discharge;
 - iv) Total discharge from Seven Mile Power Development;
 - b) provide a written report to the Comptroller on or before February 1 of each year summarising the records from the previous calendar year; and
 - c) provide on request from the Comptroller records collected under 9a.
10. BC Hydro may operate the works in an alternate manner in the event of an emergency, a dam safety requirement, or an extreme hydrologic event.
11. 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, British Columbia, this *18th* day of *December*, 2006.



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

**SCHEDULE A
OPERATING PARAMETERS**

WITH RESPECT TO DISCHARGES FROM SEVEN MILE POWER DEVELOPMENT, BC HYDRO MUST:

From September 1 to May 31:

1. When the "daily average inflow"¹ to Seven Mile Reservoir is less than the total authorised maximum rate(s) of diversion of the Waneta Power Development(s), the licensee shall make "reasonable efforts"² to distribute the discharge from Seven Mile Power Development such that the total instantaneous discharge at the Waneta Dam does not exceed the total authorised maximum diversion rate(s) of the Waneta Power Development(s)³.
2. When the daily average inflow to Seven Mile Reservoir is equal to or greater than the authorised maximum diversion rate(s) of the Waneta Power Development(s), the licensee shall make "reasonable efforts" to distribute discharges from the Seven Mile Power Development in a manner that does not exceed the daily average inflow.
3. In the event actual inflows to Seven Mile Generating Station cannot be distributed as described in 1 and 2 due to:
 - a. unexpected changes in inflows or inflow shaping from upstream Boundary Generating Station; or
 - b. unforecasted high discharges from the Salmo River; or
 - c. a need to respond to system demand resulting in generation discharge at Seven Mile Power Development that exceeds the authorized maximum diversion rate(s) at the Waneta Power Development(s),

then the licensee shall make "reasonable efforts" to distribute discharges from the Seven Mile Generating Station to minimise the amount of total discharge at Seven Mile that exceeds the total authorised maximum diversion rate(s) of the Waneta Power Development(s).

From June 1 to August 31:

4. During this critical white sturgeon spawning/hatching period the licensee shall make "best efforts"⁴ to conform with 1, 2 and 3 above.

¹ "Daily Average Inflow" is an estimate used to plan operations for the purpose of meeting the license obligations for the next day based on the previous day's inflow. If for that day, actual inflows vary from the daily average inflow estimate, the licensee is subject to the requirements in Schedule A, 3.

² "Reasonable efforts" means the licensee may consider the cost of alternative actions in prioritizing the options for responding to unusual system capacity demands.

³ Waneta Power Development(s) consists of the Waneta Generating Station, the Waneta Upgrade Project and if licensed, the Waneta Expansion Project.

⁴ "Best efforts" means the licensee must do everything short of cutting firm load or incurring legal liability for operations at Seven Mile Generating Station, or elsewhere.

WHEREAS the discharge from Seven Mile Power Development is anticipated to exceed the maximum authorized discharge at Waneta Power Development by 5,000 cfs for a period of 4 to 6 hours on the day the barge is scheduled to pass Garden Rapids.

I HEREBY ORDER THAT:

For an approximately 4 to 6 hour period on a day between August 1 and August 7, 2009, the discharge from BC Hydro's Seven Mile Power Development may exceed the maximum authorized discharge at Waneta Power Development by an anticipated 5,000 cfs to provide safe passage for a barge transporting power generation equipment on the Columbia River.

The ramp-up and ramp-down rate is not to exceed 1,250 cfs every 15 minutes.

With respect to the maintenance and provision of records, BC Hydro must:

- a) Keep records of:
 - i. Actual inflows to Seven Mile Reservoir;
 - ii. Daily and hourly Seven Mile Reservoir elevations;
 - iii. Seven Mile turbine discharge;
 - iv. Total discharge from Seven Mile Power Development;

- b) Provide a written report to the Comptroller within 30 days of exercising the authority granted in this Order, summarizing the records for the day the barge passed by Garden Rapids, two days previous and two days following.

BC Hydro must conduct fish and fish habitat monitoring activities as follows:

- Monitoring of suspended larval sturgeon, prior to, during, and following the additional release of water (if required) through the use of passive D-ring drift nets, as currently being implemented in the Waneta area by Golder Associates Ltd.;
- Monitoring of sturgeon egg dispersion through an egg mat monitoring program prior to, during, and following release of water (if required) as currently being implemented in the Waneta area by Golder Associates Ltd.;
- TGP spot measurements upstream and downstream of Waneta Dam prior to, during, and following the additional release of water (if required) to confirm or deny TGP levels as a result of spill.

Results must be summarized in memo format, and provided to fisheries agencies and the Comptroller upon finalization.

DATED at Victoria, British Columbia, this 31st day of July 2009.



Pieter Bekker,
Deputy Comptroller of Water Rights

ORDER

Water Act

Section 88

File No: 0322335, 4002645

WHEREAS British Columbia Hydro and Power Authority (“BC Hydro”) is the operator of the Seven Mile Power Development, in respect of which it holds Final Water Licences 113790, 113791, 113922 and Conditional Water Licence 111911; and

WHEREAS the total maximum diversion rate authorized under the water licences for Seven Mile Power Development is 1,473 m³/s (52,000 cfs), and

WHEREAS BC Hydro submitted the Seven Mile Project Water Use Plan which recommended operating parameters and procedures for the Seven Mile Power Development to provide fisheries and recreation benefits, and

WHEREAS the Deputy Comptroller of Water Rights accepted the Seven Mile Project Water Use Plan dated December 8, 2006, and

WHEREAS on December 18, 2006, the Deputy Comptroller ordered BC Hydro to regulate discharges from Seven Mile Power Development in accordance with Schedule A of that Order, for the protection of fisheries values.

WHEREAS Schedule A of the December 18, 2006 Order requires BC Hydro, from June 1 to August 31, to make best efforts to limit the instantaneous discharge from Seven Mile Power Development to flows less than the total authorized maximum rate of the Waneta Power Development which is 931.9 m³/s (32,910 cfs.)

WHEREAS BC Hydro has made a specific request to exceed the maximum authorized discharge capacity of Waneta Power Development to allow the safe passage of a barge transporting power generation equipment up the Canadian Section of the Columbia River, and

WHEREAS the discharge from Seven Mile Power Development is anticipated to exceed the maximum authorized discharge at Waneta Power Development by 5,000 cfs for a period of 4 to 6 hours on the day the barge is scheduled to pass Garden Rapids.

WHEREAS the barge arrival has been delayed by approximately one week.

I HEREBY ORDER THAT:

The order issued July 31, 2009 is revoked.

For an approximately 4 to 6 hour period on a day between August 10 and August 24, 2009, the discharge from BC Hydro's Seven Mile Power Development may exceed the maximum authorized discharge at Waneta Power Development by an anticipated 5,000 cfs to provide safe passage for a barge transporting power generation equipment on the Columbia River.

The ramp-up and ramp-down rate is not to exceed 1,250 cfs every 15 minutes.

With respect to the maintenance and provision of records, BC Hydro must:

- a) Keep records of:
 - i. Actual inflows to Seven Mile Reservoir;
 - ii. Daily and hourly Seven Mile Reservoir elevations;
 - iii. Seven Mile turbine discharge;
 - iv. Total discharge from Seven Mile Power Development;

- b) Provide a written report to the Comptroller within 30 days of exercising the authority granted in this Order, summarizing the records for the day the barge passed by Garden Rapids, two days previous and two days following.

BC Hydro must conduct fish and fish habitat monitoring activities as follows:

- Monitoring of suspended larval sturgeon, prior to, during, and following the additional release of water (if required) through the use of passive D-ring drift nets, as currently being implemented in the Waneta area by Golder Associates Ltd.;
- TGP spot measurements upstream and downstream of Waneta Dam prior to, during, and following the additional release of water (if required) to confirm or deny TGP levels as a result of spill.

Results must be summarized in memo format, and provided to fisheries agencies and the Comptroller upon finalization.

DATED at Victoria, British Columbia, this 6th day of August 2009.



Pieter Bekker
Deputy Comptroller of Water Rights

ORDER
Water Act
Sections 87 and 88

File No: 0322335, 4002645

WHEREAS British Columbia Hydro and Power Authority (“BC Hydro”) is the operator of the Seven Mile Power Development, in respect of which it holds Final Water Licences 113790, 113791, 113922 and Conditional Water Licence 111911; and

WHEREAS the total maximum diversion rate authorized under the water licences for Seven Mile Power Development is 1,473 m³/s (52,000 cfs), and

WHEREAS BC Hydro submitted the Seven Mile Project Water Use Plan which recommended operating parameters and procedures for the Seven Mile Power Development to provide fisheries and recreation benefits, and

WHEREAS the Deputy Comptroller of Water Rights accepted the Seven Mile Project Water Use Plan dated December 8, 2006, and

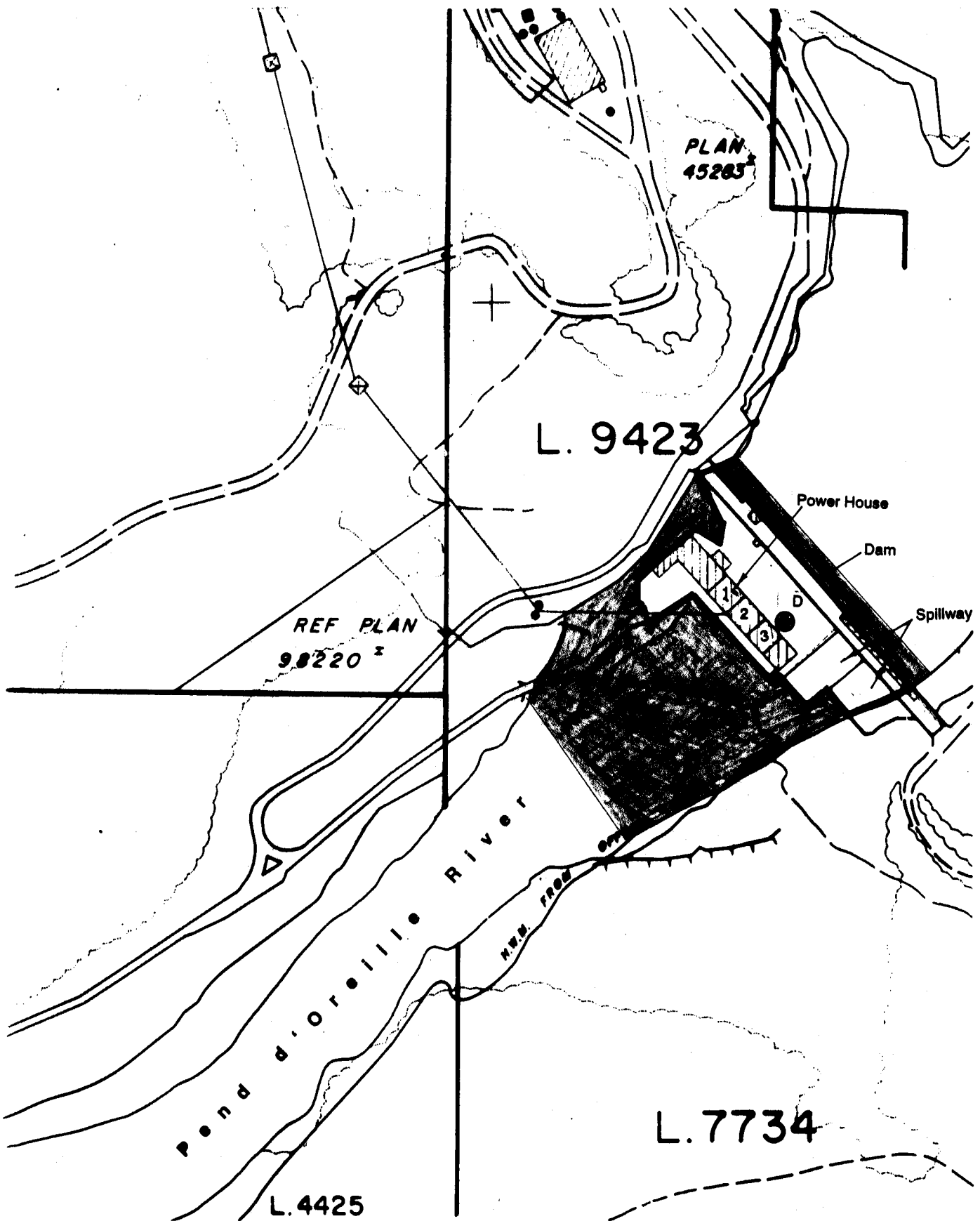
WHEREAS on December 18, 2006, the Deputy Comptroller ordered BC Hydro to regulate discharges from Seven Mile Power Development in accordance with Schedule A of that Order, for the protection of fisheries values.

WHEREAS Schedule A of the December 18, 2006 Order requires BC Hydro, from June 1 to August 31, to make best efforts to limit the instantaneous discharge from Seven Mile Power Development to flows less than the total authorized maximum rate of the Waneta Power Development which is 931.9 m³/s (32,910 cfs.)

WHEREAS BC Hydro has made a specific request to exceed the maximum authorized discharge capacity of Waneta Power Development to allow the safe passage of a barge transporting power generation equipment up the Canadian Section of the Columbia River, and



Province of British Columbia



WATER DISTRICT :
 PRECINCT :
 LAND DISTRICT :

NELSON
 WANETA
 KOOTENAY

Signature *Lyndal Sten*
 Date *Dec 3, 1998*

LEGEND

Scale :
 Point of Diversion :
 Map Number :
 Permit over Crown land :

1 : 5000
 ●
 WR 82F.003.1.4
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FL 113790
 File: 0322335
 P.C.L.: 22&35