

INTERNATIONAL JOINT COMMISSION

IN THE MATTER OF THE APPLICATION OF THE STATE OF WASHINGTON FOR  
APPROVAL TO CONSTRUCT A CONTROL STRUCTURE NEAR THE OUTLET OF  
OSOYOOS LAKE

**CONSOLIDATION**

of the

Order of Approval dated 12 September 1946

as amended by the

Supplementary Order dated 18 October 1978

and the

Order of Approval dated 9 December 1982

as amended by the

Supplementary Order dated 17 October 1985

and the

Supplementary Order dated 29 January 2013

Approved by the Commission on December 10, 2013

Disclaimer: This consolidation is for reference purposes only. In the event of an inconsistency between this consolidation and the official Orders of Approval or Supplementary Orders signed by the Commissioners, the official Orders of Approval or Supplementary Orders will govern.

## Explanatory Notes

*This consolidation has been developed in order to unify all active conditions regarding the construction, maintenance and operation of the works on the Okanogan River downstream from the outlet of Osoyoos Lake set out in International Joint Commission (“IJC” or “Commission”) Orders of Approval dated 12 September 1946, and 9 December 1982, and the Supplementary Orders of 18 October 1978, 17 October 1985, and 29 January 2013. Applicable “whereas clauses” from the Orders are also included to provide historical background.*

*Unless noted otherwise, elevations in this consolidation are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 1929). Some Orders also used the elevation references United States Coast and Geodetic Survey (USCGS) datum and Geodetic Survey of Canada (GSC) datum. The USCGS, 1912 adjustment, is equivalent to NGVD 1929. The NGVD 1929 datum gives readings 0.26 ft greater than the GSC datum. For example, elevation 911.0 ft NGVD 1929 equals 910.74 ft GSC.*

*In this consolidation, selected text from the Orders was paraphrased, reference to the USCGS datum was deleted, selected typos were corrected and dates were reformatted to ensure consistency. As noted on the front cover of this document, however, this consolidation is for reference purposes only and the official Orders of Approval or Supplementary Orders govern in the event of inconsistencies with this consolidation.*

*The original Zosel Dam was constructed in 1927 by the Zosel Lumber Company to create a log storage pond in the Okanogan River. In 1942, the State of Washington, through the United States Government, submitted an application to the IJC for approval of the construction and operation of a dam and dykes in the vicinity of Oroville on the Okanogan River.*

*The Commission's 1946 Order of Approval specified that the pool elevation behind the dam would not exceed 911.0 ft, at a gauge located not more than 300 ft upstream from the dam, while discharging 2,500 cfs. This location was commonly referred to as the "mill pond site". In 1943, the Commission had appointed a Special Board of Engineers to study the relationship between water levels in the mill pond site to those in Osoyoos Lake. The Special Board of Engineers (Webb and Veatch, 1946) concluded that the Osoyoos Lake elevation would be just over 913 ft when the mill pond elevation was 911 ft.*

*The Commission's 1982 Order of Approval changed the location at which lake levels were specified from the mill pond site to the lake itself, specifically to "International Gauging Station Osoyoos Lake near Oroville". The 1982 Order (Condition 11) provided that a new structure be constructed such that Osoyoos Lake levels during high inflow periods would be no more extreme than would have occurred with the old dam operating in accordance with the 1946 Order. The change in monitoring location resulted in Condition 3 of the Commission's 1982 Order requiring the control gates be of sufficient number and size so as to have the capacity of at least 2,500 cfs*

*when the elevation of Osoyoos Lake is 913 ft (as opposed to the 911 ft at the mill pond site) and there is no appreciable backwater from the Similkameen River. This condition effectively replaced Condition 1 of the 1946 Order of Approval.*

*The 1982 Order of Approval specified that during non-drought (normal) conditions the water surface elevation of the Lake ranged from 911 to 911.5 ft. The Order also specified a minimum Lake level elevation of 911 ft on April 1 during non-drought conditions. Under drought conditions, the 1982 Order specified minimum and maximum Lake level elevations of 910.5 and 913 ft, respectively, on April 1.*

*The Commission's 2013 Supplementary Order of Approval retains essentially the regime for the regulated summer levels of Osoyoos Lake established in the Commission's 1982 Order of Approval. Specifically, the 2013 Order maintains revised "rule curves" and criteria for "non-drought" and "drought" year operations. During non-drought (normal) conditions the revised summer water surface elevation ranges from 911 to 912 ft, an increase of 0.5 ft in the maximum level. During drought conditions, the lower limit for summer water levels is 910.5 ft and the upper limit is 912.5 ft. The new rule curve reduces the maximum drought level by 0.5 ft to avoid flooding and erosion of shoreline properties. The 2013 Supplementary Order requires that for a year to be determined to be a drought year by the International Osoyoos Lake Board of Control the Similkameen River criterion and at least one of the two Okanagan Lake criteria must be met, compared with the 1982 Order where only one of the criteria needed to be met.*

*From the 12 September 1946 Order of Approval*

WHEREAS:

This Application came on for hearing at Penticton, British Columbia on 10 July 1943, and at Oroville, Washington, on 12 July 1943, after due notice to all interested parties desiring to be heard were fully heard;

On 12 July 1943, the Commission appointed a Special Board of Engineers consisting of the District Chief Engineer, Dominion Water and Power Bureau, Department of Mines and Resources of Canada, Vancouver, British Columbia and the District Engineer, United States Geological Survey, Tacoma, Washington and directed said Board to make a study of the relationship between the obstructions referred to in the Application and the levels of Osoyoos Lake, and in particular to give the Commission answers to certain questions and interrogatories suggested by the terms of the Application and the testimony submitted at the above mentioned hearings, which questions and interrogatories are set out in a Report of the Special Board of Engineers filed with the Commission in March, 1946, in which Report are also set out the

findings and recommendations of the Board in reply to the questions and interrogatories of the Commission;

Having given due consideration to this Report, the Commission held further public hearings at Osoyoos, British Columbia, on 21 June 1946, and at Oroville, Washington, on 22 June 1946, at which hearings further testimony was obtained from interested parties on either side of the international boundary;

It appears that the dam built by William Zosel, hereinafter referred to as the Zosel Dam, sometimes raises the level of Osoyoos Lake, an international body of water; and

The Commission concurs in the opinion of the Special Board of Engineers regarding the alterations which should be made in the Zosel Dam.

*From the 18 October 1978 Supplementary Order*

WHEREAS:

The Commission in paragraph 3 in its Order of Approval dated 12 September 1946(Docket 49) established the International Osoyoos Lake Board of Control to ensure the carrying out of the provisions of the Order, the said Board to consist of two members of the engineering services of the Government of the United States and two members of the engineering services of the Government of Canada, each to be appointed by the Commission; and

The Commission has concluded that the said Board should not necessarily be limited to two members from each country and that the membership of the said Board should not be limited to the engineering services of the two federal Governments, but rather should include the individuals most qualified from the two countries.

*From the 9 December 1982 Order of Approval*

WHEREAS:

Osoyoos Lake is a stream flowing across the boundary within the meaning of Article IV of the Boundary Waters Treaty signed on 11 January 1909;

In accordance with the Treaty the State of Washington, hereinafter referred to as the Applicant, under date of 24 December 1980 submitted through the Secretary of State for the United States of America an application to the Commission for approval for the construction of works for regulating the levels of Osoyoos Lake in the Province of British Columbia and the State of Washington, the effect of which would raise the natural level of waters on the other side of the boundary, hereinafter referred to as the works;

Pursuant to the said Treaty the Commission is to require, as a condition of its approval that

suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the boundary which may be injured thereby;

On 12 September 1946 the Commission in response to an application by the State of Washington issued an Order of Approval for Zosel Dam subject to several conditions which included alterations that would provide a capacity of 2500 cfs when its forebay elevation is 911.0 and Zosel Dam is now unable to meet that requirement;

The proposed works are intended to replace Zosel Dam, a timber structure originally built in 1927, repaired from time to time, but now in a deteriorated condition and overstressed when the water level immediately upstream from Zosel Dam is at elevation 911 ft;

Submitted with the application was a co-operation plan entitled "British Columbia Washington State Co-operation Plan for Osoyoos Lake Levels and Trans-Border Flows", prepared by the Department of Ecology of the State of Washington and the Ministry of Environment of the Government of British Columbia, the implementation of which depends upon the physical capability of the proposed works;

Notices that the application had been filed were published in accordance with the Rules of Procedure of the Commission;

Statements in Response were received by the Commission and the Applicant filed a Statement in Reply with the Commission. Copies of the Statements in Responses and the Statement in Reply are on file and available for examination at the offices of the Commission in Ottawa and Washington;

Pursuant to published notices, public hearings were held at Oroville, Washington on the morning of 8 December 1981 and at Osoyoos, British Columbia on the afternoon of the same day, at which all persons attending and interested were afforded opportunity of presenting, under oath, evidence to the Commission. Copies of the transcript of the public hearings are on file and available for examination at the offices of the Commission in Washington and Ottawa;

The spokesman for the Applicant stated that failure of Zosel Dam to maintain established lake levels would result in appreciable damage and financial loss to agriculture, recreational and municipal interests on both sides of the International Boundary; that the co-operation plan provides for emergency storage in Osoyoos Lake during water-short years; that this emergency storage would be used for fisheries protection, domestic use and irrigation in both countries; and that the Applicant and the Province of British Columbia, hereinafter called the Province, are now working together to develop suitable financial arrangements

for funding the proposed works;

The spokesman for the Province stated that the Province endorsed the application; that the Province does not consider the co-operation plan to be part of the application; and that the co-operation plan does not guarantee any transboundary flow but outlines procedures and flows which will be satisfied as far as practicable;

During a period of drought, the natural inflow to Osoyoos Lake is near zero in the latter part of the summer and the evaporation from Osoyoos Lake for July and August may exceed 12 inches, that the minimum level for the satisfactory operation of pumps in British Columbia supplying water from Osoyoos Lake for irrigation is 910.3 ft, and that future periods of drought will require careful management of releases of stored water;

The Commission heard expressed and shared the concern that if the flows provided for in the co-operation plan were given effect, then such flows could jeopardize the maintenance of Osoyoos Lake levels designed to protect and indemnify interests generally, and more particularly, applicants for new water licenses;

The Commission's consideration of the present Application in no way affects the right of the upstream country as set out in Article II of the Boundary Waters Treaty of 11 January 1909 to construct, maintain and operate such works as it may consider necessary or desirable for the purpose of making the most advantageous and reasonably practicable use on its own side of the International Boundary by diversion of the upstream waters as regulated by headwater storage reservoirs lying entirely within the upstream country and constructed wholly at the expense of the upstream country or at the expense of the upstream country's interests;

The spokesmen for the Applicant and the Province stated that notwithstanding the relationship of the co-operation plan to the proposed works, it is their view that the Co-operation Plan does not create any enforceable obligation to provide or any enforceable right to receive transboundary flows, but rather constitutes an expression of intention to satisfy the objectives therein, consistent with satisfaction of water needs as they arise in British Columbia, and so far as may be practicable while maintaining lake levels provided for in this Order;

Several witnesses testified that a maximum Osoyoos Lake level of 912.5 ft was preferred to elevation 913.0 ft as requested in the application;

Hydrological analyses indicate that the level of Osoyoos Lake has, and probably will again, exceed elevation 913.0 ft at least every other year and for a duration varying from two days to two months, that the probable recurrence interval of the lake level exceeding elevation

915.0 ft is 12 years and that in 1972 the Osoyoos Lake level peaked at elevation 917.1 ft;

Flood flows of the Similkameen River create a backwater in the Okanogan River at Oroville thereby reducing the outflows from Osoyoos Lake, raise the water level of Osoyoos Lake above that which would have occurred in the absence of a backwater and in some years causes the Okanogan River to reverse its direction and flow north into Osoyoos Lake;

Tonasket Creek during freshets frequently carries a large bedload of sand, gravel and boulders which are deposited in the Okanogan River channel about a mile below the outlet of Osoyoos Lake forming a natural obstruction which reduces the capacity of the Okanogan River channel and this natural obstruction has been removed a number of times only to form again;

Detailed analysis of recorded water levels of Osoyoos Lake from 1948 to 1981 inclusive indicates that for the period 1 April to 31 October in those years the levels have been 911.0 ft or above 82 percent of the time, 911.5 ft or above 50 percent of the time, 912.5 ft or above 11 percent of the time, and 913.0 ft or above 6 percent of the time. Moreover, the level of Osoyoos Lake has been maintained between elevation 911.0 and 911.5 ft 32 percent of the time; and

The Commission on 28 April 1982 issued an Order of Approval for the works described herein, the Applicant by letters dated 8 July and 30 November 1982, and the Province of British Columbia by letters dated 29 July and 2 December 1982, submitted comments with respect to the said Order; the Commission, having concluded that none of the items raised in those letters involved issues of substance not raised at the public hearings, has reconsidered the wording of the 28 April 1982 Order and has issued this Order of Approval.

*From the 17 October 1985 Supplementary Order*

WHEREAS:

The Applicant, by a letter from Governor Gardner dated 21 August 1985, has amended its application to change the location and design of the control works; to provide for adequate flow capacity in the channel of the Okanogan River without necessarily relocating Tonasket Creek; and to extend the time for completion of the control structure and appurtenant works;

The Commission's International Osoyoos Lake Board of Control, appointed under Condition 3 of the Commission's Order of Approval of 12 September 1946, advised the Commission in a letter dated 12 September 1985 that, based on a review of the preliminary design documents,

these changes will satisfy the conditions contained in the Commission's 1982 Order of Approval subject to certain comments and actions set out in the Board of Control's letter;

A spokesman for the Province of British Columbia has expressed the Province's support for the Applicant's amended application;

Pursuant to published notices, public hearings were held at Oroville, Washington on the morning of 19 September 1985 and at Osoyoos, British Columbia on the afternoon of the same day at which all interested persons were afforded the opportunity of being heard by the Commission;

The Commission's International Osoyoos Lake Board of Control, appointed under Condition 3 of the Commission's Order of Approval of 12 September 1946, informed the Commission at the public hearings that no further structural improvements are required to Zosel Dam if the new control structure and appurtenant works are completed by the middle of 1987;

Chief Clarence Louie of the Osoyoos Indian Band by letters dated 19 September and 25 September, 1985 requested the Commission to provide for compensation for loss of land as a result of Zosel Dam; requested the Commission to investigate damages caused by Zosel Dam as well as damage which could be caused by the works which have been proposed by the Applicant to replace Zosel Dam; and requested the Commission to determine liability for any such damages;

The Commission held public hearings in 1943 and 1946 prior to issuing an Order of Approval for Zosel Dam and the Indian Agent interested in Osoyoos Indian Reserve No. 1 stated at the public hearings held in Penticton, British Columbia on 10 July 1943 that Indian Reservation lands had been flooded;

The Indian Agent interested in Osoyoos Indian Reserve No.1 stated at the public hearings held in Osoyoos, British Columbia on 21 June 1946 that a level for Osoyoos Lake between 911.1 and 911.6 ft "would be quite satisfactory to us", and that others with property on Osoyoos Lake also said that they would have no objections to such levels;

The Commission's 1946 Order of Approval contained requirements for Zosel Dam which took into account the wishes of Osoyoos Indian Reserve No. 1 and of other persons with lakefront property concerning the effects of the dam on the level of Osoyoos Lake, as stated at the public hearings;



The Commission held public hearings in 1978 to receive comments concerning the possible improvement of water levels on Osoyoos Lake, and the Okanagan River above Zosel Dam, and about the possible structural improvement or replacement of Zosel Dam and, at those hearings, Chief Baptiste of the Osoyoos Indian Band requested compensation for land lost as a result of Zosel Dam;

Chief Baptiste attended public hearings held by the Commission prior to issuing its 1982 Order of Approval for a new control structure and appurtenant works to replace Zosel Dam, and did not at that time express concern regarding the flooding of lands belonging to the Osoyoos Indian Band but asked whether the new works would be capable of releasing enough water to keep the level of Osoyoos Lake from rising above 913 ft even during flood conditions;

The Commission's 1982 Order of Approval retained essentially the regime for the level of Osoyoos Lake established in the Commission's 1946 Order of Approval;

The Commission's present Supplementary Order of Approval does not change the requirements for the new works which relate to the level of Osoyoos Lake and which were established in the Commission's 1982 Order of Approval;

The Commission has decided that it will not accede to Chief Louie's request that it investigate this matter further and provide for compensation for loss of land caused by Zosel Dam; and

As stated in the Commission's Order of Approval of 9 December 1982, there continues to be an urgent need to replace Zosel Dam, the replacement works proposed by the Applicant would facilitate control of the water levels of Osoyoos Lake for the benefit of agriculture, tourism, and other interests; and the replacement works would not create flood levels any more extreme than would have occurred if Zosel Dam had remained in place and been maintained and operated in accordance with the 1946 Order of Approval.

*From the 29 January 2013 Supplementary Order*

WHEREAS:

The 9 December 1982 Order of Approval included drought criteria 8(c) that referred to the failure or forecasted failure of Okanagan Lake to reach an elevation of 1122.8 ft GSC that has been recorded at Water Survey of Canada Station 08NM083 – Okanagan Lake at Kelowna, and subsequent general resurveying of the geodetic benchmarks and datum in the region has resulted in a change in the conversion factor of those recordings so that 1122.8 ft is equivalent to 1122.6

ft Canadian Geodetic Vertical Datum of 1928 with the conversion factor in use in 2012;

The Applicant has completed the actions required by Conditions 3, 6 and 12 of the 9 December 1982 Order of Approval, and completed Condition 5 of the 9 December 1982 Order of Approval as amended by Condition 4 of the 17 October 1985 Order of Approval;

The 9 December 1982 Order contains a provision that the Commission's approval will terminate twenty-five years after completion of construction, unless renewed and the 17 October 1985 Supplementary Order contains a provision that the Commission's approval will terminate twenty-five years after the Board of Control has informed the Commission that construction has been completed, unless renewed;

The Commission's International Osoyoos Lake Board of Control appointed under Condition 14 of the 1982 Order notified the Commission by letter dated 20 April 1988 that the final phase of project construction as approved by the 1982 and 1985 Orders, was completed on 22 February 1988 thus defining 22 February 2013 as the date that approval under the 9 December 1982 Order of Approval will terminate, unless renewed, and defining 20 April 2013 as the date that approval under the 17 October 1985 Supplementary Order of Approval will terminate, unless renewed;

The Commission's review process began in October of 2000 with the development of a work plan by the International Osoyoos Lake Board of Control identifying issues for consideration during the review of the 9 December 1982 Order, as amended. A Plan of Study was finalized in 2006 and eight studies completed in 2011. Public consultation on the study outcomes was received at International Osoyoos Lake Board of Control meetings and at two Osoyoos Lake Water Science Forums held in 2007 and 2011;

The International Osoyoos Lake Board of Control submitted to the Commission a report on Recommendations for Renewal of the IJC Osoyoos Lake Order on 21 June 2012 documenting the outcomes of the environmental and operational studies pertinent to Order renewal and providing recommendations for Conditions and considerations to be recognized in the Order renewal process;

Pursuant to published notices, public hearings were held at Oroville, Washington on 24 July 2012 and Osoyoos, British Columbia on 25 July 2012 on the Board's report recommendations for the Osoyoos Lake Order, at which all persons attending and interested were afforded a convenient opportunity to be heard and present evidence to the Commission. The Commission also received written comments from the public through 31 August 2012. Copies of the transcript of the public hearings and written comments received are on file and available for examination at the offices of the Commission in Washington and Ottawa;

The Commission also sought comments on the Board's report at a Commission meeting with First Nations' representatives held on 25 July 2012 on the Osoyoos Indian Band reserve;

The representative from the State of Washington, Department of Ecology provided comments to the Commission on behalf of the Applicant and the Province of British Columbia provided information to support the Board's recommendations for Order renewal;

It is the understanding of the Commission that the Applicant and the Province of British Columbia continue to work together to update the "British Columbia Washington State Cooperation Plan for Osoyoos Lake Levels and Trans-Border Flows", dated October 1980, that was prepared by the Department of Ecology of the State of Washington and the Ministry of Environment of the Government of British Columbia;

At the public hearings held 24-25 July 2012 and through written comments received by the Commission several issues were raised, including: that a sustained maximum lake level of 912.5 ft would be too high because of concerns about flooding, erosion, riparian habitat, endangered species and navigation; and that seasonal transitions over a specified period were preferred to abrupt lake level changes on fixed dates;

Hydrological analyses indicate that the level of Osoyoos Lake has, and probably will again, exceed elevation 913.0 ft at least every other year and for a duration varying from two days to two months, that the probable recurrence interval of the lake level exceeding elevation 915.0 ft is 10 years, and that in 1972 the Osoyoos Lake level peaked at elevation 917.1 ft;

During the Osoyoos Lake Water Science Forums of 2007 and 2011, and the hearings held 24-25 July 2012 interest was expressed toward the formation of an International Watershed Initiative (IWI) Board that could assist in improving the ecological health of the Okanogan watershed and in preventing and solving cross-border problems;

The Commission has heard that the waters of Osoyoos Lake and the Okanagan River are valued by both countries and they help to sustain important migratory runs of salmon which are highly valued by all, particularly the Okanagan Nation and the Colville Tribes, therefore care shall be taken to consider ecosystem values in management of these waters; and

The Commission has heard from local citizens a need for forecasts of Osoyoos lake levels for the benefit of all interests and recommends that further science and methods be explored to enhance information sharing and communication with stakeholders;

THE COMMISSION CONCLUDES THAT:

From the 9 December 1982 Order

There is an urgent need to replace Zosel Dam, that the works would facilitate control of the water levels of Osoyoos Lake for the benefit of agriculture, tourism and other interests, and that the works would not create flood levels any more extreme than would have occurred if Zosel Dam had remained in place and been maintained and operated in accordance with the 1946 Order of Approval.

If the works are constructed, operated and maintained in accordance with the conditions and other provisions of this Order, suitable and adequate provision will have been made for the protection and indemnity of all interests in Canada that may be affected thereby.

NOW THEREFORE THIS COMMISSION ORDERS AND DIRECTS that the construction, maintenance and operation, by the application, or the successor or assign of the Applicant, of a control structure and related works, herein called the works, on the Okanogan River located downstream from the outlet of Osoyoos Lake be and the same are hereby approved, subject to the following conditions:

From the 17 October 1985 Supplementary Order

1. The control structure shall be located on the Okanogan River between the Cherry Street Bridge in Oroville, Washington and the present site of Zosel Dam.
2. The principal works shall include a reinforced concrete control structure with appropriate power operated control gates, an overflow weir section, stop logs, piers having adequate capability for breaking ice, a stilling basin, fish passage facilities, appropriate seepage and erosion controls, and measures required pursuant to Condition 4.

From the 9 December 1982 Order of Approval

3. The top of the piers and sidewalls shall not be lower than elevation 917.5 ft. Wing walls and training walls may be at a lower elevation. The control gates shall be of sufficient number and size so as to have a capacity of at least 2,500 cfs when the elevation of Osoyoos Lake is 913.0 ft and there is no appreciable backwater effect from the Similkameen River.

From the 17 October 1985 Supplementary Order

4. The Applicant shall take all measures necessary to ensure that the flow capacity of the Okanogan River, upstream and downstream from the control structure, enables the control

structure to pass at least 2,500 cfs when the elevation of Osoyoos Lake is 913.00 ft and there is no appreciable backwater effect from the Similkameen River.

From the 29 January 2013 Supplementary Order

5. The Applicant shall maintain the works as constructed under the 9 December 1982 and 17 October 1985 Orders. The Applicant in consultation with the Board of Control appointed under Condition 14 shall apply to the Commission for any substantive changes to the works.

From the 9 December 1982 Order of Approval

6. During construction of the said works, the Applicant shall operate all available facilities and carry out construction so as to maintain levels as nearly as possible in conformance with those prescribed in Conditions 7, 8, 9 and 10.

From the 29 January, 2013 Supplementary Order

7. The Applicant shall operate the works, except under drought conditions in the Okanogan Valley (in Canada Okanogan Valley) as defined in Condition 8, so as to the extent possible the elevation of Osoyoos Lake does not exceed elevation 911.5 ft on 1 January; 911.5 ft on 1 March; 912 ft on 1 May; 912 ft on 15 September; 911.5 ft on 1 November and 911.5 ft on 31 December; and to the extent possible the elevation of Osoyoos Lake does not fall below the elevation of 909.0 ft on 1 January; 909.0 ft on 31 March; 910.0 ft on 1 April; 911ft on 1 June; 911 ft on 15 September; 910.0 ft on 31 October; and 909.0 ft on 1 November and 909.0 ft on 31 December. Elevation limits are to be linearly interpolated between dates (See Figure 1).

8. During a year of drought as determined by the Board of Control in accordance with the criteria (a) and either (b i) or (b ii) set forth below, the Applicant may operate the works to raise the elevation of Osoyoos Lake, in a manner considering fisheries interests, up to 912.5 ft during the period 1 April to 15 September, after which the lake level shall be decreased to reach elevation 911.5 ft by 1 November; and the Applicant shall operate the works so that to the extent possible the elevation of Osoyoos Lake does not fall below the elevation of 909.0 ft on 1 January; 909.0 ft on 31 March; 910.0 ft on 1 April; 910.5 ft on 1 June; 910.5 ft on 15 September; 910.0 ft on 31 October; and 909.0 ft on 1 November and 909.0 ft on 31 December. Elevation limits are to be linearly interpolated between dates (See Figure 1).

The criteria are:

- a) the volume of flow in the Similkameen River at Nighthawk, Washington for the period April through July as calculated or forecasted by United States authorities is less than 1.0 million acre-feet and;

- b) (i) the net inflow to Okanagan Lake for the period April through July as calculated or forecasted by Canadian authorities is less than 195,000 acre-feet or;
- (ii) the level of Okanagan Lake fails to or is forecasted by Canadian authorities to fail to reach during June or July elevation 1122.6 ft GSC.

Drought year operations shall be terminated when in the opinion of the Board of Control the conditions no longer meet the criteria defining a drought year. The elevation of Osoyoos Lake shall then be returned to and maintained in accordance with Condition 7 in the shortest practicable time while respecting ramping rates that may be specified by the Board of Control from time to time.

9. During appreciable backwater conditions caused by flow in the Similkameen River, particularly during the freshet period, and during abnormal excessive inflows to Osoyoos Lake, the Applicant shall operate the works so as to maintain the level of Osoyoos Lake below or as near as possible to the elevations described in Conditions 7 and 8 herein. In the event that lake elevations deviate from Conditions 7 and 8, the Applicant in consultation with the Board of Control shall make every effort to return Osoyoos Lake levels to the required levels in the shortest practicable time while respecting ramping rates that may be specified by the Board of Control from time to time.

10. In the event of circumstances requiring temporary variation from the levels prescribed in this Order, the Commission upon written advice and recommendation from the Board of Control may allow a temporary deviation from the levels prescribed in Conditions 7 and 8.

*From the 9 December 1982 Order of Approval*

11. In the event of water supplies in excess of the recorded supplies the said works shall be operated to provide levels on Osoyoos Lake no more extreme than would have occurred had the works not been built and had Zosel Dam remained in place and maintained and operated in accordance with the 1946 Order of Approval.

12. Upon completion of the works the existing Zosel Dam shall be completely removed so that it is no longer an obstruction in the Okanagan River.

*From the 29 January 2013 Supplementary Order*

13. All levels of Osoyoos Lake shall be defined as those measured at the International Gauging Station known as "Osoyoos Lake near Oroville, USGS Station Number 12439000" and shall be expressed in terms of NGVD 1929 datum.

14. The Commission shall appoint a Board of Control to be known as the International Osoyoos Lake Board of Control with an equal number of members from each country to ensure compliance with the provisions of this Order. The duties of the Board shall be to execute the instructions of the Commission as issued from time to time with respect to this Supplementary Order. The Commission shall issue a directive to the Board to include reporting requirements, and may include adaptive management functions and, should authorization be given by the Governments of the United States and Canada, possible expansion to an IWI Board. The Board shall keep the Commission currently informed of all matters relating to this Order and report promptly any violation of this Order to the Commission and compliance by the Applicant with any instructions of the Commission as may be issued from time to time with respect to this Order. The Board shall submit reports to the Commission at such times as the Commission may determine. These reports shall include all hydrological, operational, maintenance information and diversions from Osoyoos Lake as may be required. In the event of a disagreement amongst the members of said Board of Control which they are unable to resolve, the matter shall be referred by them to the Commission for decision.

15. The Applicant shall maintain the works to State of Washington safety standards and in a manner satisfactory to the Board of Control.

16. The Applicant shall require that all water rights issued subsequent to the date of the 9 December 1982 Order for the diversion of water upstream from the control structure contain the condition that the diversion be terminated when the elevation of Osoyoos Lake drops below elevation 910.5 ft.

*From the 9 December 1982 Order of Approval*

17. The Applicant shall be responsible for the disposition of claims for physical injury or damage to persons or property occurring in Canada in connection with the construction, maintenance and operation of the works and for the satisfaction of any such claims that are valid.

*From the 29 January 2013 Supplementary Order*

18. The Applicant shall timely publish and update on its website the current status of dam operations and planned operations.

*From the 29 January 2013 Supplementary Order*

This Supplementary Order shall be subject to review no later than 25 years following the date of its adoption, or as otherwise determined by the Commission. The review shall, at a minimum, consider monitoring information collected by natural resource management agencies and others

during the interim that may indicate the effect of the changes contained in this Supplementary Order.

And it is further ordered that the Commission retains jurisdiction over the subject matter of this Supplementary Order, and may, after giving such notice and opportunity to all interested parties to make representations as the Commission deems appropriate, make such further Order or Orders relating thereto as may be necessary in judgment of the Commission.

Figure 1

