

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.

ORDER OF APPROVAL

28 April 1982

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.

Whereas 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.

Whereas 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.

Whereas 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 cubic feet per second when its forebay elevation is 911.0 USCGS and Zosel Dam is now unable to meet that requirement.

Whereas 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 United States Coast and Geodetic Survey (USCGS) datum.

Whereas the United States Coast and Geodetic Survey (USCGS) datum for Osoyoos Lake levels gives readings 0.26 feet greater than the Geodetic Survey of Canada (GSC) datum. For example, elevation 911.0 USCGS equals elevation 910.7 GSC.

Whereas 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.

Whereas notices that the application had been filed were published in accordance with the Rules of Procedure of the Commission.

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

Whereas 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.

Whereas 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; 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.

Whereas 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 USCGS, and that future periods of drought will require careful management of releases of stored water.

Whereas 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 lake levels designed to protect and indemnify interests generally, and more particularly, applicants for new water licenses.

Whereas 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 January 11, 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.

Whereas 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.

Whereas several witnesses testified that a maximum Osoyoos Lake level of 912.5 feet USCGS was preferred to elevation 913.0 feet as requested in the application.

Whereas hydrological analysis indicate that the level of Osoyoos Lake has, and probably will again, exceed elevation 913.0 USCGS 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 is 12 years and that in 1972 Osoyoos Lake level peaked at elevation 917.1 feet USCGS.

Whereas flood flows of the Similkameen River create a backwater in the Okanagan 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 Okanagan River to reverse its direction and flow north into Osoyoos Lake.

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

Whereas 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 USCGS or above 82 percent of the time, 911.5 USCGS or above 50 percent of the time, 912.5 USCGS or above 11 percent of the time, and 913.0 USCGS or above 6 percent of the time. Moreover, the level of Osoyoos Lake has been maintained between elevation 911.0 and 911.5 USCGS 32 percent of the time.

The Commission concludes that 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.

The Commission concludes further that 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 Applicant, of a control structure and related works, herein called the works, on the Okanagan River downstream from the outlet of Osoyoos Lake be and the same are hereby approved, subject to the following conditions:

1. The control structure shall be located on the Okanagan River, approximately 300 feet downstream from the Cherry Street Bridge in Oroville, Washington, and upstream from the existing Zosel Dam, as shown in the concept plan submitted by the Applicant.

2. The principal works shall include a reinforced concrete control structure with appropriate power operated control gates, piers having adequate capability for breaking ice, a stilling basin, fish passage facilities, compacted earth embankments on each flank of the structure, the relocation of Tonasket Creek, and necessary dredging in the Okanagan River.
3. The top of the piers and sidewalls shall not be lower than elevation 917.5 feet United States Coast and Geodetic Survey (USCGS) datum. 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 2500 cubic feet per second when the elevation of Osoyoos Lake is 913.0 feet USCGS and there is no appreciable backwater effect from the Similkameen River.
4. Tonasket Creek shall be relocated so that its confluence with the Okanagan River is at the oxbow immediately upstream from Zosel Dam, as shown on the concept plan submitted by the Applicant. The channel of the Okanagan River between the control structure and the location of Zosel Dam shall be dredged whenever necessary so as to ensure that it has the same capacity as the control structure when the elevation of Osoyoos Lake is at 913.0 feet USCGS.
5. Before commencing construction of the said works, the Applicant shall deliver to the Commission four copies of the necessary permits, approvals and certifications from the Washington State Departments of Ecology, Fisheries, and Game as well as Okanagan County and the United States Army Corps of Engineers.
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.

Upon completion of construction the Applicant, in consultation with the Board of Control appointed under Condition 14, shall operate the works so as to maintain the levels of Osoyoos Lake between elevation 911.0 and 911.5 feet USCGS to the extent possible from 1 April to 31 October each year except under drought conditions in the Okanagan Valley, as defined in Condition 8 and also during the appreciable backwater conditions and excessive inflows described in Condition 9. Furthermore, the Applicant shall operate the works so as to maintain the levels of Osoyoos Lake between elevation 909.0 and 911.5 feet USCGS from 1 November to 31 March each year.

8. During a year of drought in the Okanagan Valley and with the concurrence of the Board of Control the level of Osoyoos Lake may be raised to 913.0 feet USCGS and may be drawn down to 910.5 feet USCGS during the period 1 April to 31 October. A drought year in the Okanagan Valley is defined as occurring whenever:

- (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 or
- (b) 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
- (c) the level of Okanagan Lake fails to or is forecasted by Canadian authorities to fail to reach during June or July elevation 1122.8 feet Canadian Geodetic Survey Datum.

Drought year operations shall be terminated when none of the three criteria defining a drought year exist. The level of Osoyoos Lake shall then be maintained in accordance with Condition 7.

9. During appreciable backwater conditions caused by flows in the Similkameen River, particularly during the freshet period, and during abnormal excessive flows in the Okanagan River, the works shall be operated so as to maintain the level of Osoyoos Lake as near as possible to the elevations prescribed in Conditions 7 and 8 herein. In such an event every effort shall be made to lower the level of Osoyoos Lake in the shortest practical time.
10. In the event of circumstances including but not restricted to a prolonged drought coupled with high evaporation from Osoyoos Lake, activities to destroy milfoil, or underwater construction, 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.
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.
13. All levels of Osoyoos Lake shall be defined as those measured at the International Gauging Station known as "Osoyoos Lake near Oroville" and shall be expressed in terms of USCGS 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 including operation and maintenance. The Board shall keep the Commission currently informed of all matters relating to

this Order including the occurrence and termination of drought conditions and report promptly any violation of this Order to the Commission and compliance by the Applicant to 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 in a manner satisfactory to the Board of Control.
16. During the period April 1 through October 31 each year, the Applicant shall not permit any diversions or releases through the works approved herein from Osoyoos Lake in the United States, other than those presently under licence and having works in place and operational as of December 24, 1980, which materially affect the levels on the other side of the boundary when the level of Osoyoos Lake is at or below elevation 910.5 USCGS or such other level as the Commission might prescribe pursuant to Condition 10.
17. The Applicant shall be responsible for compensation for physical injury or damage to persons or property occurring in Canada in connection with the construction, maintenance and operation of the works.

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

This approval will terminate:

- (a) ninety (90) days after the date of the signing of this Order, unless within that time the Applicant informs the Commission in writing that it accepts all of the conditions set forth herein;
- (b) three years after the date of signing, unless before that date the control structure and appurtenant works are essentially complete and operational according to the provisions of this Order;
- (c) twenty-five (25) years after completion of construction, unless renewed.

Signed this 28 day of April, 1982



E.R. Olson



R.C. McEwen



C.M. Bédard



L.K. Bulen



D.L. Totten