79th Congress, 2d Session - - - - - House Document No. 693

COLUMBIA RIVER AT FOSTER CREEK, WASH.

LETTER

FROM

THE SECRETARY OF WAR

TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, UNITED STATES ARMY, DATED APRIL 9, 1946, SUBMITTING A REPORT, TOGETHER WITH ACCOMPANYING PAPERS AND ILLUSTRATIONS, ON A REVIEW OF REPORTS ON THE COLUMBIA RIVER AND TRIBUTARIES, OREGON AND WASHINGTON, FOR IMPROVEMENT AT AND IN THE VICINITY OF FOSTER CREEK, REQUESTED BY A RESOLUTION OF THE COMMITTEE ON RIVERS AND HARBORS, HOUSE OF REPRESENTATIVES, ADOPTED ON MARCH 24, 1942

JULY 3, 1946.—Referred to the Committee on Rivers and Harbors and ordered to be printed, with three illustrations

UNITED STATES
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LETTER OF TRANSMITTAL

WAR DEPARTMENT
Washington, June 28, 1946.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated April 9, 1946, from the Chief of Engineers, United States Army, together with accompanying papers and illustrations, on a review of reports on the Columbia River and tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek. This report was requested by a resolution of the Committee on Rivers and Harbors, House of Representatives, adopted on March 24, 1942.

In accordance with section 1 of Public Law 534, Seventy-eighth Congress, and section 1 of Public Law 14, Seventy-ninth Congress, copies of the proposed report of the Chief of Engineers were furnished the Governors of the States of Oregon, Washington, Idaho, Montana, and Wyoming, and the Secretary of the Interior. A copy of the report was also furnished the Federal Power Commission for comment. The views of these States and of the Department of the Interior and of the Federal Power Commission are enclosed, together with a copy of the reply to the letter from the Governor of Idaho.

The Bureau of the Budget advises that there is no objection to the submission of this report. It requests that it be clearly pointed out that (*a*) construction of the proposed project would result in no flood control or navigation benefits, (*b*) the project could be developed so as to provide irrigation benefits, and (*c*) the agency of government normally charged with construction of multiple-purpose projects having irrigation benefits and no value for flood control or navigation is the Bureau of Reclamation of the Department of the Interior.

Sincerely yours,

ROBERT P. PATTERSON,
Secretary of War.

COMMENTS OF GOVERNOR OF OREGON

STATE OF OREGON,
EXECUTIVE DEPARTMENT,
Salem, February 28, 1946.

Lt. Gen. R. A. WHEELER,
Chief of Engineers, United States Army,
Washington, D. C.

DEAR GENERAL WHEELER: I am enclosing a copy of a letter of the State engineer for Oregon, Mr. Charles E. Stricklin, relative to the proposed report on the Foster Creek project on the Columbia River.

I approve the engineer's statement.

Very truly yours,

EARL SNELL, *Governor.*

STATE OF OREGON,
OFFICE OF THE STATE ENGINEER,
Salem, February 25, 1946.

Hon. EARL SNELL,
Governor of Oregon, Salem, Oreg.

DEAR GOVERNOR SNELL: This is to advise you that I have examined the reports of the United States Engineers of the United States Army of the Foster Creek project on the Columbia River, and it is my opinion, since little or no consumptive use of the water is contemplated in the construction of this property, its being a power project, that Oregon's interest will not be adversely affected.

Yours very truly,

CHAS. E. STRICKLIN, *State Engineer.*

COMMENTS OF GOVERNOR OF WASHINGTON

[Telegram]

OLYMPIA, WASH., *March 4, 1946.*

UNITED STATES ARMY ENGINEERS:

The State of Washington believes that the Foster Creek project as recommended in your report is important to the program for development of the Northwest and gives its unqualified support on behalf of the people of the State. I urge that the project be authorized and constructed as soon as possible in accordance with your recommendations. Provisions should be made of course for the irrigation of certain arid lands through the use of summer seasonal power as brought out in your public hearings.

MON C. WALLGREN, *Governor.*

COMMENTS OF GOVERNOR OF IDAHO

STATE OF IDAHO,
OFFICE OF THE GOVERNOR,
Boise, February 20, 1946.

Lt. Gen. R. A. WHEELER,
Chief of Engineers, War Department,
Washington, D. C.

DEAR GENERAL WHEELER: A copy of your proposed report on a review of reports on the Columbia River and tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek, together with the reports of the Board of Engineers for Rivers and Harbors and of the district and division engineers, has been received.

I heartily endorse the report for improvements in the vicinity of Foster Creek on the Columbia River, generally, but do vigorously oppose and protest any future storing of waters in Lake Pend Oreille to the amount of 3,200,000 acre-feet which would require a lake level of about 2,080. Estimates made by former State Reclamation Engineer, James Spofford, set the storage level of 2,062.5 as the point beyond which more injury than benefits, would accrue to the citizens of Bonner County (Columbia River and its tributaries hearings under H. Res. 262, pt. 2, Sandpoint, Idaho, August 28, 1943, p. 531).

Storage of 3,200,000 feet of water in Lake Pend Oreille would seriously affect agricultural production in Bonner County, Idaho, and, as I have been advised, would inundate a large part of the best agricultural land in Bonner County, Idaho, and also a portion of the city of Sandpoint.

I am in favor of the development of the project on the Columbia River in the vicinity of Foster Creek if such developments do not require the storing of water as above indicated.

Yours very truly,

ARNOLD WILLIAMS,
Governor of Idaho.

LETTER TO GOVERNOR OF IDAHO

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, March 14, 1946.

Hon. ARNOLD WILLIAMS,
Governor of Idaho, Boise, Idaho.

DEAR GOVERNOR WILLIAMS: I am in receipt of your letter dated February 20, 1946, which contains your comments on my proposed report on a review of the Columbia River and tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek.

I am pleased to inform you that the Foster Creek project does not require the storage of water in Lake Pend Oreille for its justification. The Foster Creek project was designed for satisfactory operation with only the existing storage in the Columbia River Basin and with suitable provision for expansion when and if any additional storage is found advisable in the Columbia River and tributaries above the Foster Creek. The discussion in the report of increased prime power resulting from additional storage in the Clark Fork Basin of approximately 3,200,000 acre-feet was included not as a specific requirement for the Foster Creek project but merely to illustrate the effect of additional stream-flow regulation on the project. The possibilities for additional storage in all sections of the Columbia Basin above Foster Creek, including Clark Fork, are being studied in connection with a comprehensive report on the entire Columbia River Basin. Recommendations as to specific sites for additional storage are, therefore, not involved at this time but will be made in connection with the comprehensive report. The Department appreciates receiving your views on its proposed report on Foster Creek and you may be assured that the Department's proposed reports on the Columbia River and other streams affecting the State of Idaho will be submitted to you for your comments prior to their submission to Congress.

As provided under the law, the views of the State of Idaho will accompany the Department's report to Congress. I shall be pleased to notify you when the report is transmitted to Congress by the Secretary of War and furnish you a copy of the letter of transmittal for your information.

Sincerely yours,

R. A. WHEELER,
Lieutenant General,
Chief of Engineers.

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COMMENTS OF GOVERNOR OF MONTANA

[Telegram]

HELENA, MONT., *March 15, 1946.*

Lt. Gen. R. A. WHEELER,
Chief of Engineers, Corps of Army Engineers, Washington, D. C.:

Reurtel 14 on February 16 advised district engineer, Seattle, that Montana has no objections, construction Foster Creek project, and no recommendations.

SAM C. FORD,
Governor of Montana.

COMMENTS OF GOVERNOR OF WYOMING

STATE OF WYOMING,
EXECUTIVE DEPARTMENT,
Cheyenne, December 12, 1945.

R. A. WHEELER,
Lieutenant General, Chief of Engineers,
United States Army, Washington, D. C.

MY DEAR GENERAL WHEELER: Receipt is acknowledged of your letter of November 29 with the copy of your proposed report on a review of the reports on Columbia River and its tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek. I am returning your enclosures today, without comment, as the report does not include any proposed development in the State of Wyoming.

Sincerely yours,

LESTER HUNT, *Governor.*

COMMENTS OF DEPARTMENT OF THE INTERIOR

DEPARTMENT OF THE INTERIOR,
Washington 25, D. C., March 4, 1946.

Lt. Gen. RAYMOND A. WHEELER,
Chief of Engineers, War Department.

MY DEAR GENERAL WHEELER: On December 4, 1945, your proposed report on a review of reports on Columbia River and tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek, was received, together with certain reports of the Board of Engineers for Rivers and Harbors and of the district and division engineers, respectively. These reports are bound in a volume entitled "Columbia River and Tributaries, Oregon and Washington, Vicinity of Foster Creek," which was transmitted to me under date of November 29, 1945. The documents were transmitted in compliance with the requirements of section 1 of the act of December 22, 1944 (58 Stat. 887).

Your proposed report recommends authorization by the Congress of construction of Foster Creek Dam and power plant as a part of the comprehensive plan for improvement of the Columbia River. You conclude that the proposed Foster Creek project is essentially a power development, well situated and capable of producing at low cost a large amount of electrical energy for the needs of the Northwest

area. You conclude that its value for irrigation is small and it is of no value for navigation or flood control. And you also conclude that the Foster Creek project is * * * unique among the potential developments below Grand Coulee Dam in that immediate construction will not affect the migratory fish problem in the Columbia River Basin.

I am in substantial agreement with a number of your findings. The navigation or flood-control values of the Foster Creek project are not impressive.

The Foster Creek Dam is assuredly unique among the potential developments below Grand Coulee Dam in that immediate construction will not affect the migratory fish problem in the Columbia River Basin. Additional power facilities will be needed to meet prospective demands for power in the area. It is my hope that these needs may first be met by the Foster Creek Dam, thereby affording additional essential time to provide safeguards for the valuable fishery resource which would be impaired by the premature construction of downstream dams, such as Umatilla. Both the Fish and Wildlife Service and the Office of Indian Affairs, as a result of their studies, urge that in scheduling construction of new major dams in the Columbia Basin, the initial requirements be met through Foster Creek.

I do not agree with your statement that the value of the Foster Creek project for irrigation is small. The report of your own district engineer together with the report on the comprehensive plan now being prepared by the Department of the Interior, both indicate the possibility of direct irrigation of some 15,000 acres in the lower Okanogan River and Columbia River Valleys. In addition, the Bureau of Reclamation is already making plans for numerous other irrigation units which require large amounts of power, such as the 29,000-acre Greater Wenatchee project. Such areas can be served only by pumping against lifts of considerable magnitude. Low summer pumping power rates appear practicable because of the natural distribution of the annual run-off of the Columbia River and the irrigation demands required to be discharged from upstream storage, which permits the generation of large blocks of otherwise secondary summer power that can be used for irrigation pumping purposes. Thus it is evident that the irrigation aspects of the Foster Creek project when considered with power are of primary importance.

In the plan for the development of the resources of the Columbia River Basin, the economic feasibility of the works of which the plan is composed would be aided materially by financial coordination. Coordination in the physical operation of the works comprised in the plan is also a highly desirable objective. Irrigated agriculture and other related land-use developments receive benefits from their financial association with the power generating aspects of other units in the plan for total development. It is essential, in order to safeguard the development of the Northwest, that the Foster Creek project be not excluded from the financial plan for the development of the entire area. If it were set up separately, without financial relationship to the irrigation developments, the benefits of financial assistance to irrigated agriculture would be denied. It is essential that this project be considered as one unit in a complete plan which would integrate

irrigation and power and would give due consideration to power rates within the basin as a whole.

Furthermore, coordination in operation of the Foster Creek project with that of Grand Coulee and Bonneville projects, prior to the eventual completion of the basin development, is highly desirable. Similarly, coordination in time of construction and of installation of generation with basin-wide power needs is important to the realization of maximum benefits from power and irrigation. In this respect, it is desirable to reexamine the number and size of the generating units and to base them on the probable regional load factor, as experienced by the Bonneville Power Administration of the Department of the Interior in marketing power from Bonneville and Grand Coulee Dams.

Your report, in paragraph 147, page 92, under the heading "Effects on local interests," states "No objection to land acquisition at reasonable compensation is anticipated from owners either on the left bank or in the Colville Indian Reservation." I wish to point out that the acquisition and direct payment for Indian-owned lands which are located in the reservoir area may not meet fully the obligations of the United States with respect to our responsibility to the Indians themselves. The productive capabilities of the lands, in the Foster Creek Reservoir area, whether by grazing, crop raising, or by other means, should be suitably replaced to insure the continued economic welfare of the displaced Indians. The solving of such problems is the responsibility of this department through the Office of Indian Affairs.

In my opinion the Foster Creek Dam project should be authorized at the present time, but it should be authorized for construction by the Bureau of Reclamation, Department of the Interior. In this connection, you will recall that the Commissioner of Reclamation advised your Board of Engineers for Rivers and Harbors by letter of October 30, 1945, when that Board was having a hearing on the proposed project, that inasmuch as the project would serve primarily the purposes of power production and irrigation, it was his opinion that, when economically justified, the project should be constructed and operated under the direction of the Secretary of the Interior and supervision of the Bureau of Reclamation, pursuant to the Federal reclamation laws. I concur fully with the statement of the Commissioner of Reclamation, and in his reasons for making that statement.

It will be possible for the authorization of the project, under those laws, to be handled by a report and findings by the Secretary of the Interior submitted to the Congress pursuant to section 9 of the Reclamation Project Act of 1939 (53 Stat. 1187), and in the ordinary handling of the matter that would be the course which this Department would follow. It may be deemed desirable, however, to proceed in this case by means of special legislation. Such special legislation, as I see it, should do these things: (1) Authorize, under the Federal reclamation laws, the construction and operation of a dam and power plant in the general location and of the same general characteristics as that described in your proposed report, (2) authorize the construction of transmission lines for the interconnection of the power plant with other Federal transmission systems in the area, (3) provide for an allocation of costs through a report to the Congress that would recognize, among other things, the benefits to be realized at this project from the construction and operation of Grand Coulee Dam and other upstream storage reservoirs, and (4) authorize, upon

compliance with the provisions of the Federal reclamation laws, the construction of such irrigation works as the Secretary of the Interior found to be feasible as a part of the total development.

Sincerely yours,

OSCAR L. CHAPMAN.
Acting Secretary of the Interior.

COMMENTS OF FEDERAL POWER COMMISSION

FEDERAL POWER COMMISSION,
Washington 25, March 18, 1946.

Lt. Gen. R. A. WHEELER,
Chief of Engineers, War Department,
Washington 25, D. C.

DEAR GENERAL WHEELER: The comments of the Commission herein with respect to your proposed report on a review of reports on Columbia River and tributaries, Oregon and Washington, for improvements at and in the vicinity of Foster Creek, are transmitted in response to the request in your letter of January 16, 1946. Your letter also transmitted the reports thereon of the Board of Engineers for Rivers and Harbors and of the division and district engineers.

These reports recommend authorization, as a part of the comprehensive plan for improvement of the Columbia River, of the construction of a dam and power plant at the Foster Creek site on the Columbia River, 51 river-miles downstream from Grand Coulee Dam. The project is essentially a power development and would have but little value for irrigation and no value for navigation or flood control. The installed capacity would consist ultimately of fifteen 64,000-kilowatt units, aggregating 960,000 kilowatts. These generating units would be installed in five stages, three with the initial construction of the dam and the remainder in four succeeding stages of three units each. The estimated cost of the completed project is $104,000,000 not including transmission.

A dam and power plant at Foster Creek has long been considered an essential unit in plans for the comprehensive development of the water resources of the Columbia River which includes the constructed Grand Coulee, Rock Island, and Bonneville Dams, the authorized Umatilla project, and Chelan, Rocky Reach, Priest Rapids, John Day, and The Dalles projects. The recent investigations by your Department and the studies by the Commission staff, including review of the subject reports, serve to confirm previous opinions in this regard.

With respect to the choice of dam site it appears that all of the sites investigated are located in a restricted reach of the river upstream from the mouth of Foster Creek where the canyon width is inadequate for both a spillway and powerhouse on approximately the same axis. The staff reports that this condition necessitates extensive excavation and other costs, not generally attendant on the construction of such a project, which may amount to as much as $7,700,000. Inspection of available topographic maps indicates a possibility of finding a dam site downstream from the one chosen where some part of these unusual expenses might be avoided. If this possibility has not been investigated, and the reports do not indicate that it has, it would be desirable to explore the situation at the time that this project may reach the definite project stage.

Careful consideration has been given to the market for the power that would be developed at Foster Creek as a result of which it is concluded, on the basis of load estimates supplied by Bonneville Power Administration, that if this power is available by about 1970 it will be absorbed as rapidly as it can be developed under the schedule proposed in the reports of your Department. This conclusion has been reached having due regard to the reduction in war loads within the region, and taking cognizance of the enlargement of existing plants and proposals for the construction of the Detroit project in the Willamette Basin, Hungry Horse on the Flathead River, Umatilla on the Columbia, and projects authorized on the Snake River. The rate at which these projects will be developed to their ultimate capacities is indeterminate at this time and will depend in part upon the rate at which additional upstream storage, not now authorized, is provided. These are problems concerning which the interested Federal agencies, including the Federal Power Commission, should continue their cooperative investigations with State participation with the view to developing a well-coordinated plan and a schedule of construction that is based upon thorough studies of future power markets.

The primary power at Foster Creek, with existing upstream regulation and with operation of the project coordinated with Grand Coulee, is estimated at 526,000 kilowatts. The estimate in the reports of the installed capacity required has been based upon the development of this power at 67 percent load factor, or 785,000 kilowatts. The proposed installation of 960,000 kilowatts would have a capability under flood flow of 500,000 cubic feet per second of about 795,000 kilowatts and it appears, therefore, that the installation proposed is adequate for the load factor assumed. While this load factor is less than that at which it may be possible to market the power under present conditions of stream-flow regulation it is reasonable to assume that substantially greater regulation will obtain in the future. On this basis the provisions for ultimate installation are considered adequate and serve as a basis for measuring the economic soundness of the project.

The cost of production of energy at the site of the Foster Creek project is estimated in the reports at 1.63 mills per kilowatt-hour of firm energy which, it is stated, would permit the sale of energy under the existing rates of the Bonneville Power Administration, with ample margin for transmission and administrative expense. Based upon its own estimates of the economics of the project the staff reports that, on the assumption that 90 percent of the total firm energy plus 10 percent of the secondary energy is salable at prevailing Bonneville Power Administration rates and that transmission annual cost is $6.25 per installed kilowatt, the at-plant returns from the 15-unit installation would exceed annual charges by $1,253,000 if financing is based upon 2½-percent interest.

Based upon the reports of your Department and upon its own staff studies the Commission concurs in the recommendation of the Board of Engineers for Rivers and Harbors that the construction of the Foster Creek Dam and powerhouse be authorized in accordance with those reports as a part of the comprehensive plan for the improvement of the Columbia River.

Sincerely yours,

LELAND OLDS, *Chairman.*

COLUMBIA RIVER AT FOSTER CREEK, WASH.

REPORT OF THE CHIEF OF ENGINEERS, UNITED STATES ARMY

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 9, 1946.

The CHAIRMAN, COMMITTEE ON RIVERS AND HARBORS,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: 1. The Committee on Rivers and Harbors of the House of Representatives, by resolution adopted March 24, 1942, requested the Board of Engineers for Rivers and Harbors to review the reports on Columbia River and tributaries, Oregon and Washington, submitted in House Document No. 103, Seventy-third Congress, first session, and previous reports, with a view to determining if improvements at and in the vicinity of Foster Creek are advisable at the present time. I enclose the report of the Board in response thereto.

2. After full consideration of the reports secured from the district and division engineers, the Board recommends authorization, as a part of the comprehensive plan for improvement of the Columbia River, of the construction of Foster Creek Dam and powerhouse in accordance with the plans in the report of the district engineer and with modification thereof as in the discretion of the Secretary of War and the Chief of Engineers may be advisable at an estimated cost of $71,000,000 for the construction of the first three units, and $33,000,000 additional for a total of 15 units, and with annual maintenance and operation ranging from $650,000 for the first three units to $1,200,000 for the 15 units.

3. After due consideration of these reports, I concur in the views and recommendations of the Board.

Very truly yours,

R. A. WHEELER,
Lieutenant General,
Chief of Engineers.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS

WAR DEPARTMENT,
THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, November 16, 1945.

Subject: Columbia River in the vicinity of Foster Creek.
To: The Chief of Engineers, United States Army.

1. This report is in response to the following resolution adopted March 24, 1942:

Resolved by the Committee on Rivers and Harbors of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors created under section 3 of the River and Harbor Act approved June 13, 1902, be, and is hereby,

requested to review the reports on Columbia River and tributaries, Oregon and Washington, submitted in House Document Numbered 103, Seventy-eighth Congress, first session, and previous reports, with a view to determining if improvements at and in the vicinity of Foster Creek are advisable at the present time.

2. Foster Creek flows into the Columbia River near Bridgeport, Wash., 545 miles above the mouth and 200 miles downstream from the international border. The improvement previously considered in the vicinity consisted of power dam which was 1 of 10 dams included in a comprehensive plan of improvement for the Columbia River. The project as contemplated consisted of a concrete gravity structure 225 feet high and 2,000 feet long and a power plant with an installation of 691,000 kilowatts. The pool formed by the dam would extend upstream to the foot of Grand Coulee Dam, a distance of 51 river-miles.

3. At a hearing held by the district engineer representatives of local, State, and national interests urged immediate authorization of Foster Creek project for early postwar construction. Lumbermen and miners cited the expansion of pulp and mineral production that will follow further low-cost power development. Agriculturists spoke at length of the fertile lands that can be irrigated in the vicinity, and others pointed out that the project will result in increased agricultural and industrial development.

4. After further investigation of the sites in the vicinity of Foster Creek the district engineer proposes construction of the project with minor modifications. He selects a site about 1 mile downstream for the construction of a concrete gravity dam with maximum height of 220 feet and a power plant with a rated capacity of 960,000 kilowatts in 15 units. An initial installation of 192,000 kilowatts is estimated to cost $71,000,000 for construction and $650,000 annually for maintenance and operation, and corresponding costs for the ultimate installation of 960,000 kilowatts are $104,050,000 and $1,202,000. Marketable firm energy is estimated as 4,146 million kilowatt-hours per year and the cost of production at the site is estimated as 1.63 mills per kilowatt-hour on a conservative basis.

5. The district engineer reports that energy generated in the States of Washington, Oregon, Idaho, Montana, and Utah, and served by existing interconnected transmission systems, amounted to 19,201 million kilowatt-hours in 1944. After discounting the present abnormal power production and making an allowance for postwar readjustment, he estimates that additional installations will be required by 1954 if the load should grow at a rate of 10 percent per annum, and by 1960 if the rate should be 5 percent per annum. He points out that frequently the load has doubled within a 7-year period or less, equivalent to average growth at the rate of 10 percent per annum. He concludes that generating capacity, additional to that planned for the authorized Federal projects and all prospective private and municipal power plants will be required in a few years, and that Foster Creek project, an element in the comprehensive plan of improvement for the Columbia River, is one of the best remaining undeveloped power sites on the Columbia River.

6. The district and division engineers concur in recommending authorization of the Foster Creek Dam and powerhouse as the next step in accomplishment of the comprehensive plan for improvement of the Columbia River.