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Exhibit 49

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DEPARTMENT OF
WATER RESOURCES

“Report on Application Before Federal Power
Commission by Idaho Power Company, Serial
No. 18, For Preliminary Permit covering Twin
Falls site, on Snake River,” by George L.
Hoffman, U.S. Reclamation Service Engineer,
(Mar. 15, 1921)

REPORT ON APPLICATION BEFORE FEDERAL POWER COMMISSION
by Idaho Power Company, Serial No. 18, for Preliminary
Permit covering Twin Falls site, on Snake River.

1. The watershed of the Snake River includes a large part of the State of Idaho, the western part of the State of Wyoming, and the eastern part of the State of Oregon.

2. The Twin Falls site covered by Application for Preliminary Permit by the Idaho Power Company, serial No. 18, is located about 22 miles below Milner dam on the Snake River in Sections 3 and 4, 10, 11 and 12, T. 10 S., R. 18 E.; and Section 33, T. 9 S., R. 18 E., Boise Meridian. The Snake River is the boundary line at this point between Jerome and Twin Falls counties. The Snake River flows thru a shallow canyon, approximately 100 feet deep, and has a sheer drop of 125 feet over Twin Falls, which was so named because of an island dividing the water into twin falls. The canyon below the falls is approximately 225 feet deep.

3. No development of the water resources at this site has been made.

4. The United States Reclamation Service, beginning in 1906 built the Jackson Lake dam for a water storage reservoir with a capacity of 847,000 acre-feet. This reservoir is on the South Fork of Snake River in Wyoming. Water is impounded, ordinarily, from the middle of September to the middle of July. Water is then released from Jackson Lake to make up the deficiency in the irrigation supply on the various projects which have rights in the reservoir. The principal part of the water goes to the Minidoka Project, water diverted at Minidoka Dam, and to the Twin Falls projects, water diverted at Milner dam. At the present time, from a power standpoint, the Snake River is divided into two sections, that above and that below Milner dam. This dam lies below the Minidoka dam, approximately 36 miles. During the irrigation season, after the annual flood of the river is past, and beginning usually early in July and sometimes early in June, the Snake river is turned dry at the Milner dam, all of the water being diverted into the irrigation canals above that point. This action is covered by approved water-right filings and decrees. The list of power development projects above Milner dam follows:

(1) Near Ashton, Idaho, a power plant has been installed by the Ashton-St. Anthony Power Company to supply power to an irrigation project which will pump water from Mud Lake onto a portion of the old Dubeis project, and to supply power to Ashton and neighboring towns. Plant is designed for three units; one unit is now installed. This unit has a capacity of 5150 H.P. and drives an 1800 kilowatt generator. The unit

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operates under a 50-foot head. The water available at the dam site is about 1000 second-feet. Two units would therefore take the entire available supply, and the third unit, when installed is designed to be a spare. The filings of this plant are on the entire flow of the river at this point and are in good standing at the present time. This site would be seriously affected during the non-irrigation season by the construction of the Island Park dam and reservoir on the North Fork of the Snake River which is contemplated by the U. S. Reclamation Service in the full development of the Snake River for irrigation purposes.

(3) At St. Anthony, Idaho, the Utah Power and Light Company has installed one unit operating under a head of approximately 15 feet, and having a capacity of 500 kilowatts. The filings at this plant will probably not conflict with any other development.

(5) At Idaho Falls, Idaho, there is a small municipal plant supplying part of the requirements of the city. This is a low-head plant and during high water the falls are practically submerged.

(4) About two miles below Idaho Falls, Idaho, there is a power plant of the Utah Power and Light Company where 900 H.P. has been developed. This is a low-head plant and operates with difficulty at times of high water.

(5) At American Falls, Idaho, the Idaho Power Company has three power plants, two of which are old. These old plants have a combined capacity of 2000 H.P. The new plant contains one 5000 H.P. water wheel connected to a 3750 Kv-a. generator. Development work has been done for five additional units of the same size. The further development of this site—in fact even the present development would interfere seriously with the storage of water in the American Falls reservoir, which reservoir is the key to the full development of the Snake river for irrigation purposes. Negotiations by the U. S. Reclamation Service with the Idaho Power Company are now in progress for the purchase or replacement of this site and plant.

(6) At Minidoka dam, Idaho, the U. S. Reclamation Service has a power plant of 10,000 H.P. capacity, which supplies power to the pumping unit of the Minidoka Project, and to the towns and rural communities on the Minidoka Project and vicinity. Water for the Minidoka project is diverted at this point.

5. The irrigation development to date along the Snake River from the headwaters to Milner dam covers a total acreage of 1,296,000. In addition to this area there are about 1,439,000 acres of lands which, if irrigated at all, must secure their supply from Snake river.

6. Inasmuch as the Snake river is turned dry except for leakage of approximately 10 second-feet, at Milner dam during an average of two months every year during the irrigation season, the records of rain fall are not deemed necessary in this report. The runoff for the period from 1902 to 1916, computed for the Neeley station of the U. S. Geological Survey, which station is a short distance below American Falls, is as follows: Maximum runoff 8,803,000 acre-feet; minimum runoff 4,001,000 acre-feet; mean runoff 6,800,000 acre-feet.

7. Plans for storage reservoirs are now being made by the U. S. Reclamation Service, working in conjunction with the State of Idaho and the different water users associations along the Snake River, that will ultimately conserve all the water of Snake river susceptible of economical diversion for irrigation purposes. The lowest point on the river at which diversion is practical in large amounts is at Milner dam. The different reservoir sites that may be developed are as follows: American Falls 3,000,000 acre-feet
Beckler Belcher Swamp---200,000 acre-feet
 Island Park-----550,000 acre-feet, and
 Swan Valley-----900,000 acre-feet.

The most feasible development to convert all water to irrigation will be made. Considerable time will be necessary to complete the development. Work has been started to secure the right of way for the American Falls reservoir including negotiations for the the purchase or replacement of the American Falls power site and plant of the Idaho Power Company. This will be necessary for the full development of this reservoir. The building of the Island Park reservoir would curtail the usefulness of the Ashton and St. Anthony Power Company's plant except during the irrigation season.

8. The possible power sites on the Snake River from American Falls to Swan Falls inclusive, are shown in the following table which is a part of a report of Board of Engineers to consider Projects on Snake River Valley which may affect the proposed American Falls reservoir and the available water supply therefor. This report was transmitted to Chief of Construction, U. S. Reclamation Service, on April 10, 1920.

The above mentioned table was prepared by Mr. A. H. Beckler, who is Engineer of the -3- and is a part of the report of the Board of Engineers to consider Projects on Snake River Valley which may affect the proposed American Falls reservoir and the available water supply therefor. This report was transmitted to Chief of Construction, U. S. Reclamation Service, on April 10, 1920.

Power Possibilities on Snake River from American Falls
Reservoir to Swan Falls, inclusive

Power site: Head: Now de-: Firm power under: Power at site
: feet: veloped: under present : for irrigation
: : : conditions H.P. : Pumping, H.P.

American Falls	45	6,000	18,000	35,000
Eagle Rock	45		18,000	35,000
Minidoka	45	10,000	15,000	23,000
Milner	45			0
Cedar Rapids	20			0
Dry Creek falls	125			0
Twin Falls	125		5,000	Firm power
Shoshone falls	200	1,500	8,000	" "
Auger falls	120		7,000	" "
Upper Salmon Falls	85	58,000	38,000	" "
Lower "	50		20,000	" "
Crane falls	27		13,000	" "
Swan Falls	25	13,500	10,500	" "

9. The power capacity of the "project" as defined in Regulation 1-0 is approximately 9500 H.P. This project, if allowed development by the Idaho Power Company will become a part of its system, and would in time be fully loaded as is their system at the present time. The normal growth of the Idaho Power Company's peak load in kilowatts from 1915 to 1919 inclusive is shown in the following table:

Year	Summer peak in kilowatts	Gain over previous year
1915	17,500	
1916	19,750	2,000
1917	21,900	2,250
1918	24,800	2,900
1919	27,090	2,290

The above figures were secured from a study made by Mr. W. H. Trenner, Chief Engineer of the Idaho Power Company. This study was introduced as evidence in one of the rate cases before the Public Utilities Commission of Idaho in the spring of 1920. The summer peak of 27,090 kilowatts on the Idaho Power Company system during 1919 was divided as follows: Irrigation 13,900 kilowatts, non-irrigation 13,190 kilowatts during August. In January 1919, the peak load on the system without irrigation was 18,960 kilowatts. In addition to the irrigation load, approximately 50 towns and vicinities in Idaho and Oregon are supplied by the Idaho Power Company with electrical energy for light, general

power and traction purposes.

10. The location of the Twin Falls damsite and reservoir is in the counties of Twin Falls and Jerome instead of Twin Falls and Minidoka as stated in the application.

11. No additional maps, plans, or other data are necessary for a full understanding of the project.

12. The project is on a stream technically considered as navigable but there is no navigation thru this section. It will not affect the navigable capacity of navigable waters of the United States.

13. The project does not contemplate the use of a Government dam.

14. The United States has under consideration the construction of the American Falls reservoir to effect the complete development of the water resources of the Snake River for irrigation purposes. As a result of this work, the development of power at the Government's 10,000 H.P. plant at Minidoka will be practically eliminated during the non-irrigation season and it will be necessary to look to other sources to replace the rights established by the Minidoka Project for power required by the United States during the winter and also that which is now being supplied to the settlers on the Minidoka Project including the following cities and towns: Acéquia, Rupert, Paul, Jackson, Heyburn, Burley, Declo, Albion, etc., and to take care of some future growth in the summer load. The most feasible site for obtaining this power is at Twin Falls, and the public land at this site was withdrawn about 1908 by the Reclamation Service for this purpose. Subsequently, this land was included in power-reserve withdrawal #565 on November 21, 1916, the following land being described in the Order: T. 10 S., R. 18 E., Sec. 3, lot 9, SW $\frac{1}{4}$ SW $\frac{1}{4}$; Sec. 4, lots 1, 2, and 4 and all unsurveyed islands lying in Snake River

15. The United States is also contemplating the construction of a dam for irrigation purposes on the Payette River at which it will be possible to generate some winter power; but the distance is so great from the Minidoka project that it is not economically feasible to utilize this power as a substitution for the deficiency at Minidoka, mentioned above. It might, however, be feasible to exchange

REPORT ON EXAMINATION OF ACCOUNTS OF THE
 BY HARRIS FORT COMPANY, CHICAGO, ILL.
 DURING THE YEAR ENDING 31st DECEMBER 1911.

this power with the Idaho Power Company for a like amount from one of their plants near the Minidoka Project, and save the loss to the Company of transmission from their plants in the southern part of the state to their principal markets in the western part of the state.

16. It is the recommendation of this office that the Idaho Power Company's application for the Twin Falls power site be rejected until such time as some satisfactory arrangements can be made for winter power for the Minidoka Project.

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GEORGE I. HOFFMAN

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Engineer

cc to Denver

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1. The first step in the process is to identify the problem. This involves gathering information about the situation and understanding the needs of the stakeholders involved.