

RECEIVED
JUN 26 1995
Department of Water Resources

BEFORE THE DIRECTOR
OF THE IDAHO DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF THE)
APPLICATION OF THE CITY OF)
POCATELLO FOR APPROVAL)
OF A MITIGATION PLAN)

APPLICATION FOR
A MITIGATION PLAN

COMES NOW City of Pocatello, a municipal corporation, and applies to the Director of the Idaho Department of Water Resources for approval of the following Mitigation Plan:

1. Name, address and telephone number of applicant:

City of Pocatello
P. O. Box 4169
Pocatello, Idaho 83205

Attn: Mr. A. Dean Tranmer, City Attorney
(208) 234-6148

2. Notice of appearance:

Notice is hereby given that Josephine P. Beeman will be acting as attorney at law on behalf of the applicant and all notices required by law to be mailed by the Director to the petitioner should be mailed to the address listed below:

Ms. Josephine P. Beeman
Dillion, Bosch, Daw & Bock
242 North 8th Street, Suite 200
Boise, Idaho 83702

(208) 344-8990

3. Water rights to be mitigated:

The mitigation plan is intended to apply to existing and future water rights for the City of Pocatello. Currently, the City provides municipal water supply for a population of approximately 46,000. Water is used for domestic, industrial, commercial, and irrigation purposes within the municipal service area of the City of

Pocatello. Water is supplied by a number of wells located within the City's service area. The City also obtains a portion of its water supply from diversions of surface water flow from Mink and Gibson Jack Creeks, tributaries of the Portneuf River. Municipal wastewater from the City's service area is delivered to the Pocatello Wastewater Treatment Plant and either discharged to the Portneuf River or disposed of by land application for irrigation of crops. A portion of the municipal water supplied for lawn irrigation or delivered to land application sites returns to the stream system as runoff or deep percolation.

The City's water rights consist of three types; (a.) Ground water rights, (b.) Surface water rights, and (c.) The City's contract interest in Palisades Reservoir (described in Paragraph 4 below). In addition, the City has a claim for Federal Reserved Water Rights, which is pending before the SRBA court. The claim is for 5,000 acre-feet per year of consumptive use, with an appropriation date of June 16, 1867.

The City's water rights to be mitigated include certain ground and surface water rights. SRBA claims have been filed for most of the water rights, although the City owns four water rights which are permitted, but for which claims have not been filed. The water rights to be mitigated are described in more detail below:

a. Ground Water Rights

The City's ground water rights include 35 wells with a combined flow rate of approximately 144 cfs. Claimed appropriation dates range from 1926 to 1992. The City has filed SRBA claims for 31 of the wells and holds permits for four additional wells not included in the SRBA claims. Additional claims will be made for these rights.

b. Surface Water Rights

The City owns claimed and decreed water rights on two streams which are used for municipal water supply. Water is conveyed to the City by pipeline. The City owns decreed water rights totalling 5.00 cfs on Mink Creek with appropriation dates ranging from 1869 to 1917. The City also owns a statutory claim water right for 7 cfs on Gibson Jack Creek with a claimed date of appropriation of 1898. The City's SRBA claim for the Gibson Jack Creek water right requests confirmation of the flow rate and appropriation date corresponding to the location notices posted for the Gibson Jack Creek diversions in 1898.

A detailed listing of the City's water rights claims for ground and surface water rights is attached as Exhibit A. A map showing the City's current service area and locations of the wells is attached as Exhibit B. A listing of the water rights to be mitigated is provided below:

The following SRBA claims were filed by the City:

SRBA Claim Numbers

A29-02274A ✓	A29-07106 ✓
A29-02274B ✓	A29-07322 ✓
A29-02274C ✓	A29-04223 ✓
A29-11342 ✓	A29-11343 ✓
A29-11339 ✓	A29-11344 ✓
A29-07375 ✓	A29-07450 ✓
A29-04226 ✓	A29-00271 ✓
A29-02401 ✓	A29-00272 ✓
A29-04224 ✓	A29-00273 ✓
A29-02324 ✓	A29-04222 ✓
A29-04225 ✓	A29-07118 ✓
A29-04221 ✓	A29-07119 ✓
A29-02499 ✓	A29-07770 ✓
A29-11348 ✓	A29-02382 ✓

*replaced by
A29-11339 11342
11343, 11344
14.76 cfs
alternative Federal claim
A29-11609 S.W.
139.968 cfs
split rights
A29-0227 ✓
A29-743 L waste water
List is an
additional repl*

The following are water rights for which claims will be filed:

<u>Permit No.</u>	
29-07782	29-08086
29-08115	29-08116

separate filing

4. **Water rights to be used for mitigation:**

The City of Pocatello entered into a contract with the United States for the City's use of 50,000 acre-feet of storage water and capacity in Palisades Reservoir. The City uses Palisades water by exchange to replace water diverted and used in Pocatello.

The Palisades Reservoir water was acquired by the City to mitigate and replace to the Snake River the impacts of the City's diversion, withdrawal and use of water from underground and surface supplies for all municipal uses.

The Palisades contract was entered into between the United States and the City of Pocatello on January 8, 1960 (Contract No. 14-06-100-1825). A copy of the contract is attached as Exhibit C. The contract allocates 4.1667 percent of the active storage capacity of Palisades Reservoir to the City. Based on the original estimated reservoir capacity, the City is allocated 50,000 acre-feet of storage capacity. The City is

entitled to 4.1667 percent of the water stored annually in the reservoir and has the right to carryover water to the next year so long as the total amount of City water in storage does not exceed the City's pro-rata portion of the total storage capacity. The City also obtained the right to rent its water to other users.

Water is released from Palisades Reservoir to mitigate impacts of the City's municipal water use to the Snake River at American Falls Reservoir during the irrigation season of April 1 through October 31. The contract specifies that the City's replacement obligation is equal to 50% of water used by the City during the irrigation season in excess of 10,000 acre-feet. (Paragraph 16.a, pg. 23,24).

The United States has filed four SRBA claims for Palisades Reservoir. The claims are summarized below:

<u>Claim No.</u>	<u>Priority Date</u>	<u>Amount(Ac-Ft)</u>	<u>Use</u>
A01-10043	March 29, 1921	259,600	Irrigation, Power
A01-02068	July 28, 1939	940,400	Irrigation, Power
A01-04056	May 3, 1957	1,200,000	Irrigation, Power
A01-04057	July 3, 1957	92,000	Irrigation, Power

The source of supply is water stored from the Snake River. The location of the point of diversion is at the Palisades Dam and Reservoir, located in Section 17, Township 1 South, Range 45 East, in Bonneville County.

5. Description of mitigation plan:

a. General Description

The City of Pocatello will use the storage water available from the Palisades contract to make releases to the Snake River to mitigate impacts caused by the City's use of water in the municipal service area. The City will be allowed to continue to pump its wells and make surface diversions at times when such diversions would otherwise be curtailed due to delivery calls from senior water rights located downstream from the City on the Snake River. The City will continue to add additional wells as new points of diversion for its water supply as demand increases. So long as the yield to the City from the 50,000 acre-feet of storage capacity in Palisades Reservoir is sufficient to fulfill replacement obligations, the City may continue to operate under this mitigation plan without injury to other water users.

b. Operation

The City will provide replacement water from Palisades Reservoir in accordance with the provisions of the contract (see page 23-24, Paragraph 16). Releases will be made at the direction of the Watermaster and in accordance with the formula contained in the contract. For the water use during the period of April 1 through October 31, the City will provide replacement of 50% of the water diverted in excess of 10,000 acre-feet. The timing and rate of reservoir releases would be determined by the watermaster; however no releases will be made during November 1 through March 31.

c. Accounting and Measurement

The City will account for and report the information necessary to administer this mitigation plan. Records of water use and replacement amounts and reservoir releases will be provided to the Director. The elements to be reported will include diversions by the City's municipal system; the amount of water in excess of 10,000 acre-feet diverted or withdrawn for use within the City's municipal service area (as it currently exists or as it may exist in the future) by the City during the period of April 1 through October 31; the status of water available in the City's allocation of storage in Palisades Reservoir; and releases made for the benefit of the City from Palisades Reservoir.

d. Other Terms and Conditions

- 1.) The City will be allowed to continue diversions through its wells and at surface water diversions at times of delivery calls.
- 2.) The City will be allowed to add additional wells to its municipal system and pump additional water as the demand continues to increase within its existing or future service area.
- 3.) The City will continue to lease a portion of its Palisades Reservoir water to others, so long as sufficient water is retained by the City to meet its replacement obligations.

6. **WHEREFORE, the Applicant prays that the Director of the Department of Water Resources of the State of Idaho take the following actions:**

- a. Find that this proposed mitigation plan will provide replacement water, at the time, place and amount required by senior water rights, sufficient to mitigate

the impacts of the City's ground water withdrawals and surface water diversions for use in its municipal water system.

- b. Find that this proposed mitigation plan and the delivery of water under this plan are in compliance with the laws of the State of Idaho.
- c. Find that the Department of Water Resources should approve future well permit applications submitted by the City of Pocatello provided such permit applications are submitted in accordance with this proposed mitigation plan.
- d. Find that the proposed mitigation plan is adequate to prevent material injury to other water rights.
- e. Order that all watermasters permit the use of ground and surface water by the City of Pocatello to continue out of priority during periods of delivery call by senior water right users, provided that the City's ground and surface water use is in accordance with this proposed mitigation plan.
- f. Order that the water rights of the City of Pocatello, as described in Paragraph 3 herein be regulated in accordance with this proposed mitigation plan.

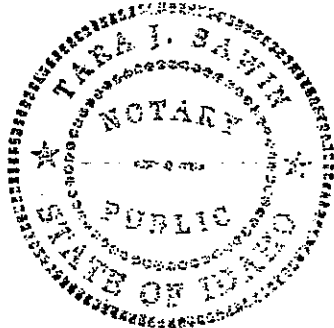
I hereby assert that no one will be injured by operation of this mitigation plan. The information contained in this application is true to the best of my knowledge.

City of Pocatello

By A. Dean Tranmer
A. Dean Tranmer, City Attorney

1995.

SUBSCRIBED AND SWORN to before me this 23rd day of June,



[Signature]
NOTARY PUBLIC FOR IDAHO
Residing at Boise Idaho
My Commission Expires 8/17/95

JPB/60769

EXHIBIT A

CITY OF POCA TELLO

**SRBA CLAIMS FOR WATER RIGHTS
TO BE MITIGATED**

Exhibit A

CITY OF POCA TELLO SRBA CLAIMS for WATER RIGHTS to be MITIGATED (a)

A. Municipal Wells

SRBA A29-#	CITY WELL	PERMIT OR LICENSE	DATE OF APPROPRIATION	AMOUNT (cfs)	LOCATION				
					T	R	SEC	40	160
02274A	2	20611	12/31/1926	3.100	7	34	1	NW	NE
	3	20611	12/31/1926	4.010	7	34	1	SW	NE
02274B	7	20611	12/31/1930	2.340	6	34	35	NW	SE
02274C	10	20611	06/15/1948	5.040	6	34	26	NE	NW
11342	11	G-24451	07/24/1952	1.100	6	33	12	NE	SE
11339	12	G-24451	09/01/1953	6.200	6	34	35	SE	NE
	13	G-24451	09/01/1953	3.110	7	34	12	NW	NE
	15	G-24451	09/01/1953	1.110	7	35	6	NW	SE
07375	15	29-7375	02/24/1977	3.340	7	35	6	NW	SE
04226	Cree	29-4226	10/01/1955	1.220	7	35	7	NE	SW
02401	16	G-27631	10/16/1958	6.670	6	34	26	SW	SE
	18	G-27631	10/16/1958	4.660	6	34	15	NE	NW
	19	G-27631	10/16/1958	0.800	6	34	7	NE	NE
04224	21	29-4224	09/15/1955	3.890	6	34	23	SW	NE
02324	22	G-23171	10/22/1952	3.000	6	34	23	SE	NW
04225	23	29-4225	08/15/1956	4.440	6	34	23	NW	NE
04221	PIP	29-4221	06/01/1943	2.670	6	34	15	NW	NE
02499	27	29-2499	12/10/1964	4.100	6	34	15	NE	NE
11348	28	29-7106	08/31/1951	5.570	7	34	1	NE	SE
07106	29	29-7106	11/06/1972	5.570	6	34	23	NE	SW
07322	30	29-7322	04/25/1976	5.690	6	34	35	NW	NE
	31	29-7322	04/25/1976	5.690	6	34	15	NE	SE
	32	29-7322	04/25/1976	5.690	6	34	16	NE	NE
04223	33	29-4223	10/01/1962	2.670	7	35	18	SE	NE
(b)	34	29-07782	01/18/1985	7.000	6	34	15	NE	SE
(b)	36	29-08086	03/26/1992	7.000	7	34	1	NW	SE
(b)	37	29-08115	12/03/1992	5.570	6	34	23	SW	NW
(b)	38	29-08116	12/03/1992	5.570	7	34	1	NE	NE
11343	Phillips 1	G-24451	12/31/1940	2.200	6	33	15	SW	NE
11344	Phillips 2	G-24451	12/31/1942	1.920	6	33	10	NE	SE
07450	Phillips 3	29-7450	06/13/1978	3.340	6	33	10	NE	SE
07118	Airport 1	29-7118	04/11/1973	4.010	6	33	16	NW	SW
07119	Airport 2	29-7119	04/11/1973	6.000	6	33	9	SW	SW
07770	WPC Plant	-	05/21/1984	5.720	6	33	12	SE	NE
02382	17	G-26676	12/21/1956	3.820	6	34	12	NW	SE
07222	Ward	29-7222	08/22/1974	1.000	6	34	9	SW	SE

TOTAL 144.830

B. Surface Water Rights

00271	Mink Creek		02/26/1869	3.222	8	34	13	NE	SE
00272	Mink Creek		10/1/1901	0.560	8	34	13	NE	SE
00273	Mink Creek		10/01/1917	1.218	8	34	13	NE	SE
04222	Gibson J.Cr.	29-4222	06/16/1898	7.000	7	34	24	SE	SW

TOTAL 12.000

(a) Claims are not yet final. Review of the pending claims by the Department and the City is pending, and amendments are possible based upon review.

(b) Permitted wells; SRBA Claims will be filed by City

EXHIBIT B

CITY OF POCA TELLO

MAP OF CURRENT SERVICE AREA

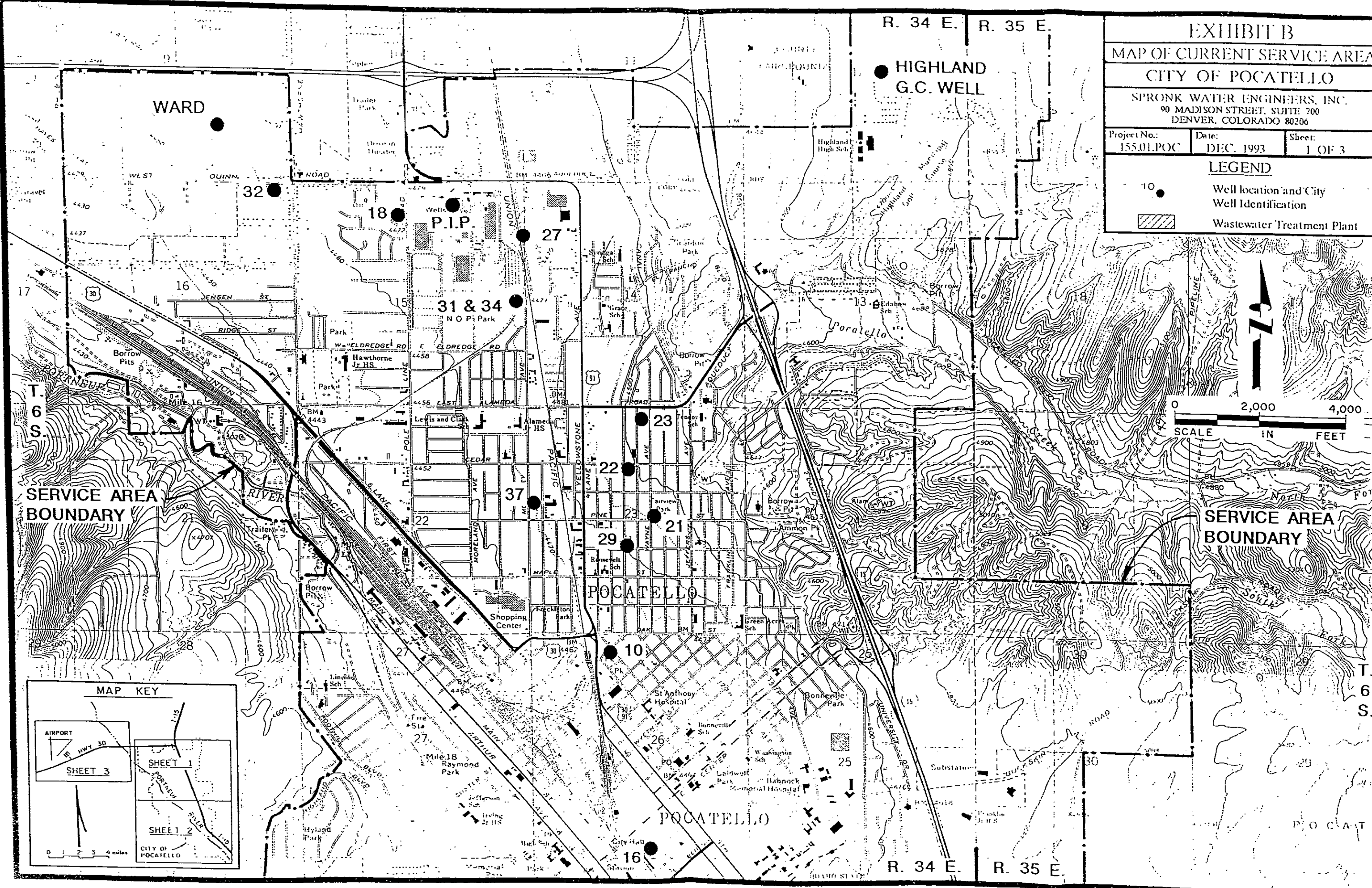
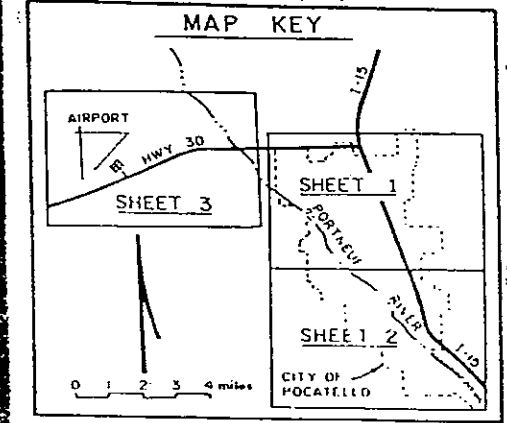
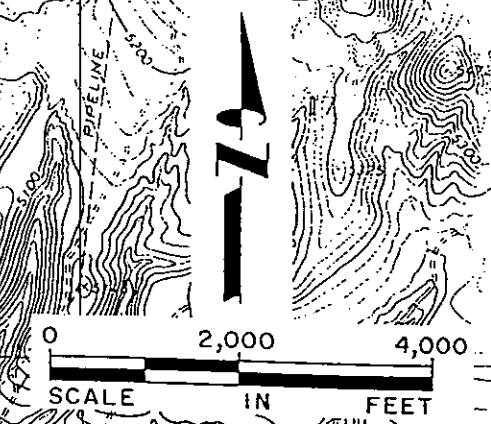


EXHIBIT B
MAP OF CURRENT SERVICE AREA
CITY OF POCATELLO
SPRONK WATER ENGINEERS, INC.
90 MADISON STREET, SUITE 700
DENVER, COLORADO 80206

Project No.: 155.01.POC	Date: DEC. 1993	Sheet: 1 OF 3
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LEGEND

- Well location and City Well Identification
- Wastewater Treatment Plant



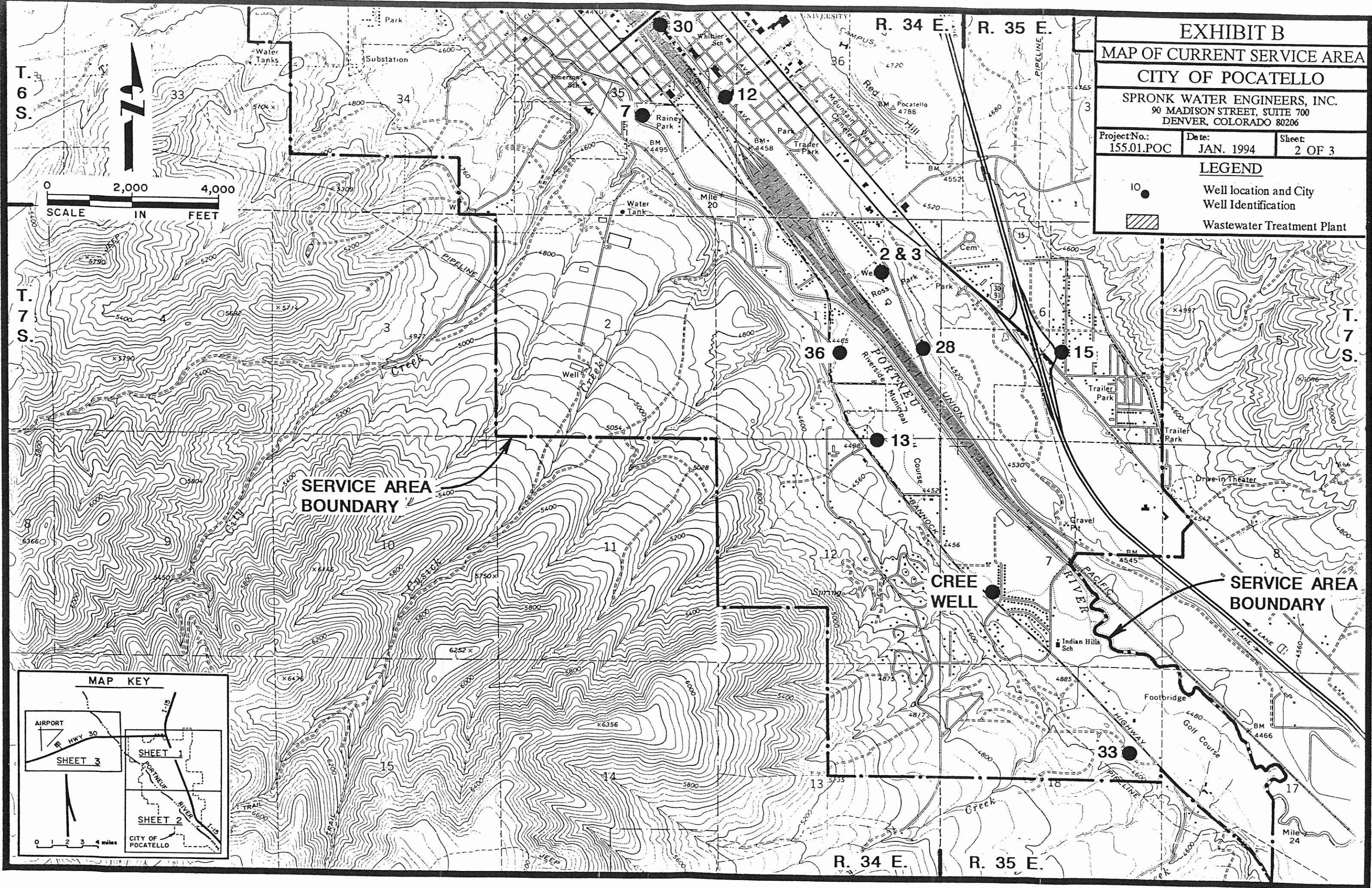


EXHIBIT B
MAP OF CURRENT SERVICE AREA
CITY OF POCATELLO
SPRONK WATER ENGINEERS, INC.
90 MADISON STREET, SUITE 700
DENVER, COLORADO 80206

Project No.: 155.01.POC	Date: JAN. 1994	Sheet: 2 OF 3
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LEGEND

●

10

Well location and City Well Identification

▨

Wastewater Treatment Plant

MAP KEY

AIRPORT

HWY 30

SHEET 3

SHEET 1

PORTNEUF RIVER

SHEET 2

0 1 2 3 4 miles

CITY OF POCATELLO

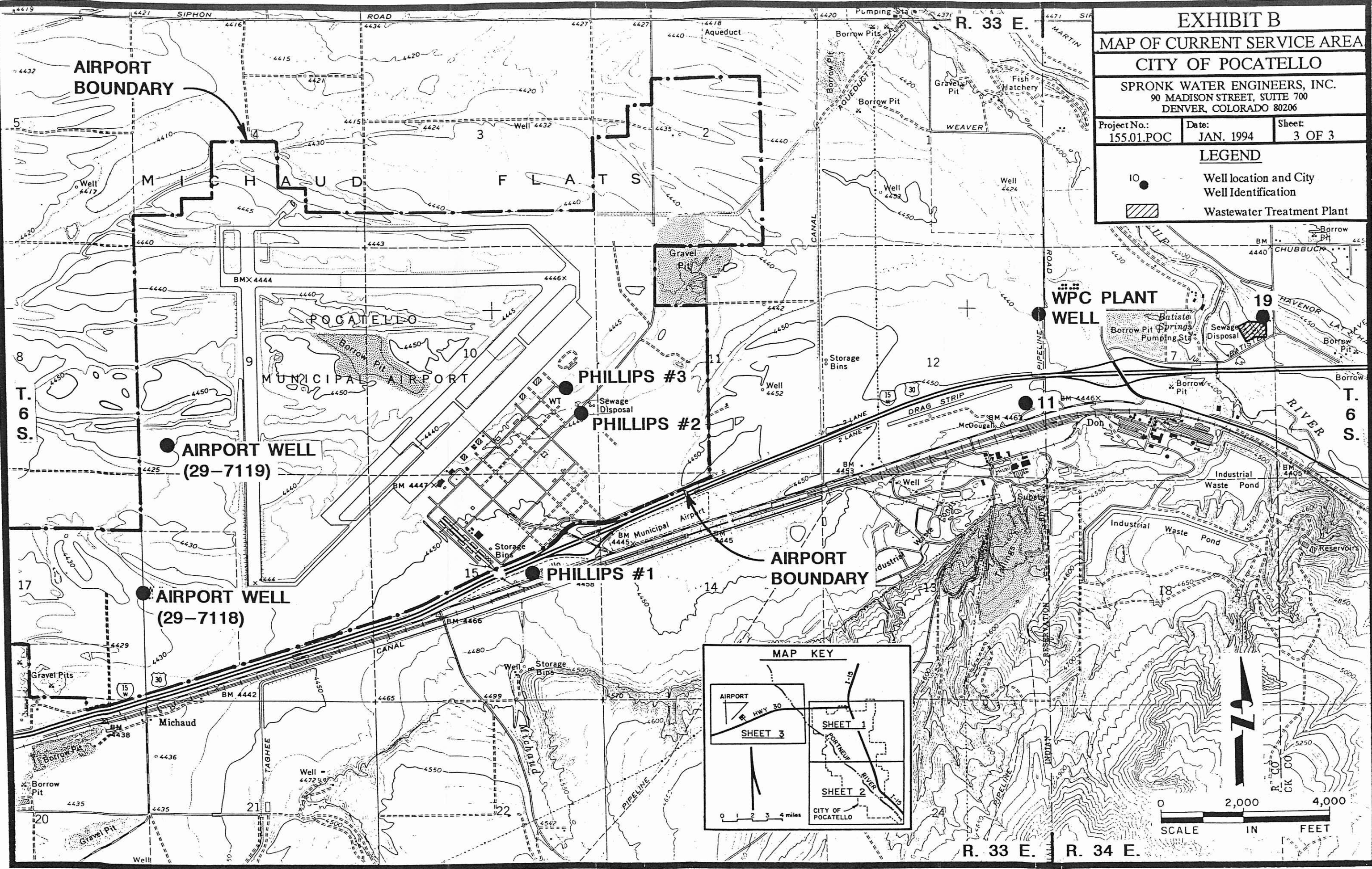


EXHIBIT B

MAP OF CURRENT SERVICE AREA CITY OF POCATELLO

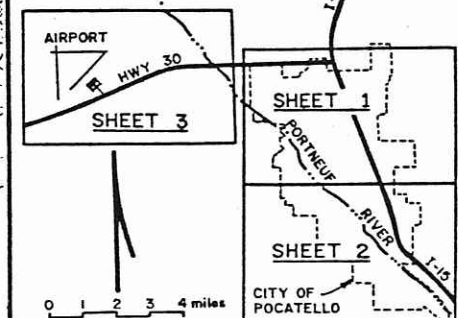
SPRONK WATER ENGINEERS, INC.
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DENVER, COLORADO 80206

Project No.: 155.01.POC Date: JAN. 1994 Sheet: 3 OF 3

LEGEND

- Well location and City Well Identification
- Wastewater Treatment Plant

MAP KEY



0 2,000 4,000
SCALE IN FEET

EXHIBIT C

CITY OF POCA TELLO

PALISADES CONTRACT

Contract No.
14-06-100-1825

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation

Minidoka and Palisades Projects
Idaho

Contract With
CITY OF POCATELLO
Concerning Storage Capacity in Palisades Reservoir,
and Related Matters

<u>Article No.</u>	<u>Title</u>	<u>Page No.</u>
1	Preamble	1
2-4	Explanatory Recitals	1-2
5	Definitions	2-4
Provisions Relating to Storage Capacity in Palisades Reservoir <u>(Articles 6 through 11)</u>		
6	United States to Construct Works	4
7	Capacity to be Available to the Company	5
8	Construction Charge Obligation	5-7
9	Operation and Maintenance Obligation - Palisades	7-9
10	Nature and Extent of Palisades Storage Right	9-10
11	Saving of Winter Water; Special Storage Right	11-13
Provisions Relating to Exchange and Redefinition of Existing American Falls and Jackson Lake Storage Rights; Winter Power Operations at the Minidoka Powerplant <u>(Articles 12 through 13)</u>		
12	Consent to American Falls-Jackson Lake Exchange and Redefinition of Storage Rights	13-14
13	Winter Power Operation; Minidoka Powerplant	14-21

Article
No.

Title

Page No.

Provisions of General Application to
All Rights Established or Defined
by This Contract
(Articles 14 through 37)

14	Temporary Storage and Exchange of Water; Release of Jackson Lake and Palisades Water for Power Production	22-23
15	Rental of Water; Sale of Space	23
16	Delivery of Water; Measurement and Losses	23-25
17	Ordering of Water	25
18	Complaints Regarding Water Supply	25-26
19	Payment of Costs in Delivery and Distribution of Stored Water	26-27
20	Computation of Costs	27-28
21	Title to and Operation of Powerplant; Power Revenues ..	28-29
22	Title to Storage Works; Miscellaneous Revenues	29-30
23	Priority of Certain Existing and Future Water Rights..	30-33
24	Protection of Water Rights	33
25	Refusal to Deliver Water in Case of Default	33-34
26	Levies and Assessments by City; All Benefits Conditioned Upon Payment; Lien to Secure Obligations..	34-35
27	Lands for Which Water is Furnished; Limitations on Area	35
28	Termination or Modification of Excess Land Provisions	36
29	Penalty for Delinquency in Payment	36
30	Advisory Committee	36-37
31	Rules and Regulations	37-38
32	Representative of the Secretary	38
33	Notices	38
34	Discrimination Against Employees or Applicants for Employment Prohibited	38-39
35	Contingent on Appropriations or Allotment of Funds....	39
36	Assignments Prohibited; Successors and Assigns Obligated	40
37	Officials Not to Benefit	40
	Signatures	40

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation

Minidoka and Palisades Projects
Idaho

Contract With
CITY OF POCA TELLO
Concerning Storage Capacity in Palisades Reservoir,
and Related Matters

THIS CONTRACT, made this 8th day of January 1960, pursuant to the Federal Reclamation Laws, between THE UNITED STATES OF AMERICA (hereinafter called the United States), acting through the Secretary of the Interior, and the CITY OF POCA TELLO (hereinafter referred to as the City unless otherwise indicated), a municipal corporation organized and existing under the laws of the State of Idaho,

WITNESSETH, That:

2. WHEREAS, the United States, under the Federal Reclamation Laws, has heretofore constructed and is now operating Jackson Lake, Island Park, American Falls, and Lake Walcott reservoirs, among others, and is now constructing Palisades Dam and Reservoir Project (herein called the Palisades Project);

3. WHEREAS, the City, desiring to cooperate with the United States and the various other water users organizations that enter into like contracts in the water conservation program that will be made possible with the construction of Palisades Reservoir and its operation in conjunction

with other Federal reservoirs on the Snake River, as herein proposed, has heretofore made application to contract for the use for its benefit of storage capacity in Palisades Reservoir; and

4. WHEREAS, the United States and the City have not heretofore entered into any contracts with respect to storage rights in reservoirs on the Snake River above Milner Dam, but the City, securing water for all municipal uses by pumping from underground and from surface flows that would, if not intercepted by the City, flow into the Snake River below Palisades Dam, desires to replace in the Snake River by means of storage at Palisades Reservoir water in volume approximately the equivalent of that removed by pumping from Snake River tributary underground and surface flows, and it having been determined that 50,000 acre-feet of active capacity in Palisades Reservoir will furnish such approximate equivalent volume;

NOW, THEREFORE, in consideration of the mutual and dependent stipulations and covenants hereinafter stated, it is hereby agreed by the parties hereto, as follows:

Definitions

5. The following terms, wherever used in this contract, shall have the following respective meanings:

"Secretary" shall mean the Secretary of the Interior or his duly authorized representative.

"Federal Reclamation Laws" shall mean the Act of June 17, 1902 (32 Stat. 388) and acts amendatory thereof or supplemental thereto, including the Act of September 30, 1950 (Public Law 864, 81st Congress, 2d Session).

"Advisory Committee" shall mean the committee defined by article 30 of this contract or its duly authorized representative.

"Irrigation season" shall mean a period of each year beginning April 1 and ending October 31 of that year.

"Storage season" shall mean, with respect to the reservoir involved, the period beginning October 1 of one year and ending during the next year when, as to the particular reservoir, no more water is available for storage.

"Reservoir system" shall mean the existing and authorized Federal reclamation reservoirs on the Snake River and its tributaries down to and including Lake Walcott.

"Upper valley" shall mean the irrigated areas of the Snake River Basin that are served by canals diverting from the Snake River and its tributaries above American Falls Dam.

"Lower valley" shall mean the irrigated areas of the Snake River Basin that are served by canals diverting from the Snake River and its tributaries between American Falls Dam and Milner Dam.

"Watermaster" shall mean the officer of the State of Idaho charged by law with the distribution of Snake River water in the lower and upper valleys, or such other officer properly authorized by law and designated by mutual agreement of the Secretary and the Advisory Committee.

"Delivery" when used herein in relationship to stored water, shall mean direct delivery from the reservoir system and delivery accomplished in the manner provided in article 16.

Provisions Relating to Storage Capacity in
Palisades Reservoir

(Articles 6 through 11)

United States to Construct Works

6. (a) Within the limits of the authorization therefor, the United States is now constructing and will complete and operate and maintain Palisades Dam on the Snake River in the vicinity of Irwin, Idaho, to provide a reservoir of an active capacity of about 1,200,000 acre-feet, and related facilities, substantially in accordance with the plans set forth in House Document No. 720, 81st Congress.

(b) When the dam and reservoir are ready for the storage and delivery of water for irrigation purposes, the Secretary shall so announce, including a statement of the active capacity that will be available for irrigation storage.

Capacity to be Available to the City

7. The authorized dam will provide a reservoir with an estimated active storage capacity of 1,200,000 acre-feet and, based on that estimated capacity, the use and benefit of four and one thousand six hundred sixty-seven ten thousandths percent (4.1667%) of that capacity is allocated hereby to the City. Beginning with the first full irrigation season after the Secretary has announced that the reservoir is ready for storage and delivery of water for irrigation purposes, the United States will make available to the City the stored water accruing to that percentage of the active capacity of that reservoir, within the limits and on terms and conditions provided in this contract. That percentage shall, so long as the reservoir has an active capacity of 1,200,000 acre-feet, be treated as the equivalent of 50,000 acre-feet of active capacity. The latter figure may, however, be adjusted from time to time by agreement between the Secretary and the Advisory Committee whenever there are determinations that the active capacity is other than above stated.

Construction Charge Obligation

8. (a) The City shall pay to the United States for the use of space as provided in article 7, as the construction charge obligation, the sum of four hundred fifty thousand dollars (\$450,000), this being determined at the rate of nine dollars (\$9.00) per acre-foot of capacity and on the assumption that the reimbursable construction costs of the Palisades Project finally allocated to joint facilities equal or exceed the sum of twenty-three million two hundred one thousand one hundred dollars (\$23,201,100). If the reimbursable joint facility construction costs, as

finally determined, are less than twenty-three million two hundred one thousand one hundred dollars (\$23,201,100), and, as a result, the amount of joint facility costs allocated to irrigation is less than the amount expected so to be allocated according to the Secretary's report of July 1, 1949,^{1/} the amount of the reduction shall be proportioned between irrigation construction costs assigned to be repaid by the water users and those assigned for repayment from power revenues on the basis of the amounts of estimated irrigation construction costs so assigned in the Secretary's report of July 1, 1949. The amount of reduction, if any, when determined by the Secretary, shall be distributed equally as a credit against the construction charge obligation of all space the costs of which are allocated to irrigation. The total amount of credit and the portion thereof to which the City is entitled shall be announced in writing by the Secretary promptly after final construction costs are determined and the allocations thereof are made. In no event, however, shall the credit be such as to reduce the City's total construction charge obligation to less than three hundred eighty-seven thousand five hundred dollars (\$387,500), this being at the rate of seven dollars and seventy-five cents (\$7.75) per acre-foot of capacity as initially stated in article 7.

^{1/} Of the estimated joint facility construction costs, \$21,724,400 were allocated to irrigation under the report approved and adopted by the Secretary on July 1, 1949 (H. Doc. No. 720, 81st Cong.).

(b) The construction charge obligation under this article shall be repaid by the City to the United States in forty (40) successive annual instalments to be as nearly equal as is practicable. The due date of the initial instalment, established in relation to the date announced by the Secretary as the date that the dam is substantially complete and ready for storage, will be as follows: (i) if, on the announced date, the provisions of (d) of article 21 are still in effect, the first instalment shall be payable on or before December 31 of the third full calendar year after that date, the project for repayment purposes being treated as incomplete during the first two years; and (ii) if, on the announced date, the provisions of (d) of article 21 are no longer in effect, the first instalment shall be payable on or before December 31 of the first full calendar year after that date. In the event there is, under the operation of (a) of this article, a reduction in the City's total obligation after the payment of instalments has started, the amount of credit available shall be distributed evenly over the remaining unaccrued instalments as of the time the amount of the credit is announced.

Operation and Maintenance Obligation - Palisades

9. (a) The City, beginning as provided in (b) of this article and continuing during the period of operation and maintenance of the Palisades Dam and Reservoir by the United States, shall pay to the United States in advance four and seventeen hundredths percent (4.17%) of the costs of operating and maintaining that dam and reservoir, including whatever costs may be incurred in the delivery of water therefrom, which are apportionable

to the irrigation storage rights therein. There shall be determined from time to time by the Secretary, after consultation with the Advisory Committee, the basis for distributing among the various purposes which by law are to be served by the dam and reservoir the costs of operation and maintenance thereof and the basis for assigning those costs for repayment. In determining the total costs annually apportioned to the irrigation storage rights there shall be deducted from the total annual cost of operation and maintenance of the dam and reservoir, those costs which are determined to be properly chargeable to other purposes served by the reservoir and for which other provision for repayment, in whole or in part, is made pursuant to law. The costs apportionable to the irrigation storage rights shall be distributed annually to all storage space that is made available for irrigation purposes.

(b) Beginning with January 1 of the year in which the use and benefit of Palisades space is first available to the City as provided in article 7, payment of the City's share of Palisades Dam and Reservoir operation and maintenance costs shall be made for each calendar year on the basis of annual estimates by the Secretary. The notice of these annual estimates, hereinafter referred to as the operation and maintenance charge notice, shall contain a statement of the estimated cost of operation and maintenance of the dam and reservoir to be incurred in the calendar year involved and the amount of the City's share of those estimated costs. The operation and maintenance charge notice shall be furnished to the City on or before February 1 of the calendar year for which the notice is issued,

but, when requested by the City, a preliminary estimate shall be given at such earlier date as is agreed on in writing. The City shall pay the amount stated in the notice on or before April 1 of the year for which it is issued or such other date as may be agreed on in writing.

(c) Whenever, in the opinion of the Secretary, funds so advanced will be inadequate to meet the City's share of the costs of operating and maintaining the dam and reservoir, he may give a supplemental operation and maintenance charge notice, stating therein the amount of the City's share of the additional funds required, and the City shall advance that additional amount on or before the date specified in the supplemental notice. If funds advanced by the City under this article exceed the City's share of the actual costs of operation and maintenance of the dam and reservoir for the year for which advanced, the surplus shall be credited on the operation and maintenance charge to become due for succeeding years.

Nature and Extent of Palisades Storage Right

10. (a) Beginning with the storage season indicated in article 7, the City shall be entitled to have the following storage rights in Palisades Reservoir:

- (1) The right to have stored to its credit during each storage season, four and one thousand six hundred sixty-seven ten thousandths percent (4.1667%) of all water stored in Palisades Reservoir during that season under the Palisades storage right.
- (2) The right to have held over from one irrigation season to the next, stored water to which it is entitled.

The total amount of stored water to the City's credit at any time shall not, however, exceed the total amount of space in the reservoir available to the City under this contract, and the City's storage rights in Palisades Reservoir are hereby made subject to the provisions of (c) of this article.

(b) Stored water available under the rights in Palisades Reservoir created by this contract shall be available for delivery to the City during any irrigation season within these limitations:

- (1) Deliveries shall be limited at any time to the amount which can be delivered by means of the City's proportionate share of the outlet capacity, taking into account the requirement of passing through the reservoir water belonging to prior rights and the physical limitations of the existing outlet works.

(c) Under the provisions of the Act of September 30, 1950, the active capacity of Palisades Reservoir will be used jointly for irrigation and flood control storage in accordance with the operating plan set forth in House Document No. 720, 81st Congress, and attached hereto as Exhibit A, as that plan is implemented by rules and regulations issued pursuant to section 7 of the Act of December 22, 1944 (58 Stat. 890). All the City's storage rights are subject to the operation of the reservoir in accordance with this subarticle. In the event Palisades Reservoir fails to fill during any storage season by reason of such flood control operations, the amount of shortage so attributable shall be prorated equally over all space allocated to storage of water for irrigation, municipal, or other miscellaneous purposes and shall be charged against all stored water including that, if any, carried over from prior irrigation seasons.

Saving of Winter Water; Special Storage Right

11. (a) Beginning with the date announced by the Secretary as the time when Palisades Reservoir will be ready for operation as provided in article 6, certain water users organizations have contracted with the United States to make, for a period of 150 consecutive days during the period from November 1 through April 30 of each storage season, no diversion of water from the Snake River or any of its tributaries by means of its existing diversion works or by any other means.

(b) The total savings of water during each storage season as the result of curtailment of winter diversions by the water users organizations diverting from the Snake River who have contracted with the United States to curtail or cease diversions is ~~agreed to be~~ 143,000 acre-feet, of which 135,000 acre-feet are attributable to curtailments by those diverting above American Falls Dam and 8,000 acre-feet below that point. The City, not partaking in the winter water savings program, shall be entitled to no storage in Palisades Reservoir by reason of the program ~~set out in this article.~~

(c) The ~~right~~ to store water pursuant to this article shall be prior in time over the storage rights held by the United States for American Falls Reservoir (the latter having a priority dated March 30, 1921), or any storage rights held by the United States or the City that are junior to the American Falls rights. The City hereby consents to the granting of special storage rights with a like priority to all water users organizations and all water users who, directly or indirectly, contract

to curtail storage season diversions substantially as provided in (a) of this article within these maxima, as to total special storage rights:

- (1) For water users organizations and water users diverting above American Falls Dam — 135,000 acre-feet.
- (2) For water users organizations and water users diverting between American Falls Dam and Milner Dam — 8,000 acre-feet, exclusive of the special storage rights described in (d) of this article.

(d) The ~~City~~ also hereby consents to permitting the North Side Canal Company and the Twin Falls Canal Company to store, in ~~either~~ American Falls or Palisades Reservoir, during the months of November through March of any storage season under a priority like that provided in (c) above, water that would otherwise accrue to them within these rights:

The rights of the North Side Canal Company and of the Twin Falls Canal Company, respectively, ~~to divert at Milner Dam for domestic and livestock uses during those months as~~ follows:

North Side Canal Company ~~126,000 acre-feet~~

Twin Falls Canal Company ~~135,000 acre-feet~~

within this limitation:

If, taking account of all storable water whether stored or not, Palisades and American Falls reservoirs fail to fill during any storage season, any water diverted during that storage

season by the North Side Canal Company in excess of 126,000 acre-feet (but not to exceed the amount of deficiency in fill), and by the Twin Falls Canal Company in excess of 150,000 acre-feet (but not to exceed the amount of deficiency in fill), will be charged as of the end of that storage season against the allotment of American Falls storage to these respective companies.

This limitation in the case of the North Side Canal Company shall become operative from the date Palisades Reservoir is ready for operation, but in the case of the Twin Falls Canal Company need not be made operative until the first year in which that company exercises the special storage provision to which consent is here given.

Provisions Relating to Exchange and Redefinition of
Existing American Falls and Jackson Lake Storage
Rights; Winter Power Operations at the Minidoka
Powerplant

(Articles 12 through 13)

Consent to American Falls-Jackson Lake Exchange and
Redefinition of Storage Rights

12. Certain upper valley water users organizations owning storage rights in American Falls Reservoir have agreed or will agree in connection with the acquisition of Palisades Reservoir rights to accept in exchange for a portion of their American Falls rights certain storage rights in Jackson Lake Reservoir below elevation 6752 feet above sea level (U.S.G.S. datum), the provisions for such exchange being substantially as set out in the revised document entitled "Basic Provisions Incorporated

or to be Incorporated in Contracts With Upper Valley and Lower Valley Water Users Organizations to Govern the Permanent Exchange of Certain American Falls and Jackson Lake Storage Rights", attached hereto as Exhibit B, and these and other water users organizations have agreed or will agree to permit the United States to operate all space in Jackson Lake Reservoir on a holdover basis. The City hereby consents to such exchange and to such holdover operating arrangements.

Winter Power Operation; Minidoka Powerplant

13. (a) The United States, in its operation of American Falls and Minidoka dams during the storage season of each year is required to pass through ~~enough water to satisfy existing diversion rights in the stretch~~ of river down to and including Milner Dam and certain power rights below Milner Dam, and has the privilege under an existing decree to use at Minidoka Dam 2,700 cubic feet per second of water for the development of power. While the United States must operate the American Falls and Minidoka dams so as not to interfere with these third-party rights, it will be the objective of the United States in the operation of both its American Falls and Minidoka powerplants to ~~curtail the release of additional water from~~ American Falls Reservoir for power production at those powerplants ~~during the storage season of any year whenever operation of those powerplants to the full extent of their respective water rights for power production would result in loss of irrigation water otherwise storable in the reservoir system.~~ Accordingly, except as it is determined by the Secretary that additional water may be passed through American Falls and Minidoka dams without the

loss of water that could be stored for irrigation in the reservoir system, the United States will, during each storage season beginning October 1, 1952, and continuing so long as the provisions of (c) of this article remain operative, limit the release of water through those dams as follows:

To the amount of water required to provide flows below Minidoka Dam sufficient to meet existing diversion rights in the reach of the river through Milner Dam and the power rights required to be recognized under the provisions of the contract of June 15, 1923, between the United States and the Idaho Power Company (Symbol and No. Ilr-733), as those diversion and power rights may be modified from time to time.

To the extent that it is practicable to do so, the Advisory Committee will be informed in advance of any plans for the release of water in excess of the foregoing limitations; and that Committee will be furnished written reports as of the close of the storage season of each year showing, among other things, the releases actually made and the minimum releases required to be made.

(b) Curtailment of releases as provided in (a) of this article will result in there being, in some years, additional water available for storage for irrigation purposes in American Falls, Island Park, and Palisades reservoirs. In any storage season when these reservoirs fail to fill, the saved water attributable to such curtailment shall be credited, first, to Island Park Reservoir to the extent of 45,000 acre-feet without regard

to the priority of the storage permits held for that reservoir, and thereafter to American Falls, Island Park, and Palisades reservoirs in the order of priority of their respective storage permits, the crediting to Island Park Reservoir and to any storage right in any other reservoir (except the lower valley exchanged space in American Falls Reservoir) being contingent on the owners of these rights obligating themselves for their share of the annual payments for power replacement in keeping with the provisions of (e) of this article.

(c) For the purposes of this contract and without relinquishment of any part of the power rights herein described, it is assumed that but for curtailment of operations as provided in (a) of this article, units 1 through 6 of the Minidoka powerplant would be operated during the storage season of each year to the maximum extent practicable within the limits of the power rights therefor ~~2,700~~ second-feet as decreed by the District Court of the Fourth Judicial District of Idaho on June 20, 1913, in the case of Min Falls Canal Company v. Charles N. Foster et al. and that in consequence of operations under this article there may be losses in the production of power and energy at that plant. To offset such losses, the United States will, as nearly concurrently as practicable, make replacement by the delivery of power and energy into the Minidoka power system at the Minidoka powerplant from other interconnected Federal powerplants being operated under the Federal Reclamation Laws. Payment for such replacement power and energy shall be made by the City and all other contractors having

reservoir rights benefiting from the water savings resulting from operations under the provisions of (a) of this article in annual amounts determined as follows:

(i) Prior to the date when either the American Falls powerplant or Palisades dam powerplant is first in service, the payment for any year shall be the product, in dollars, of the then controlling average annual replacement requirement, in kilowatt-hours, times four mills (\$0.004).

(ii) Beginning with the date when either the American Falls powerplant or Palisades dam powerplant is first in service, the payment for any year shall be the product, in dollars, of the then controlling average annual replacement requirement, in kilowatt-hours, times the price per kilowatt-hour, figured at 100 percent load factor, under the then existing rate schedule for the sale of firm power and energy from the plant or plants involved.

In determining replacement requirements under this article, no account is intended to be taken, by way of offset or otherwise, of the effect of any reservoir system storage operations on the seventh unit of the Minidoka powerplant.

(d) The replacement requirements for the year ending September 30, 1953, shall be 5,699,000 kilowatt-hours, being the average annual replacement requirement for the period beginning October 1, 1931, and ending

September 30, 1951. The average annual replacement requirement under either (i) or (ii) of (c) above for the year ending September 30, 1954, shall be the average of the annual replacement requirements for each year of the 20-year period ending September 30, 1953, and for each 12-month period after September 30, 1954, shall be the average of the annual replacement requirements of each year of the 20-year period ending on September 30 of the prior year. In deriving this average there shall be used, as annual net power production losses for each year, the annual figures for the years through September 30, 1951, as shown in Table 1 of the document entitled "Criteria and Method for Determination of Certain Minidoka Powerplant Production Losses From Restrictions on Use of Water Rights"^{2/}, and for each year thereafter, a net power production loss calculated on the basis of the comparison of (1) the total energy that could have been produced by units 1 through 6 of the Minidoka powerplant based on the water flows actually recorded at the U.S.G.S. Minidoka gaging station (hereinafter called the Minidoka gage), corrected as hereinafter provided, and (2) the energy which theoretically could have been generated at those units with the flows at the Minidoka gage without a curtailment in winter power operation as provided in this article and exclusive of irrigation storage releases. Using conclusions reached as to flows and heads, the power loss calculations will be made by utilizing the power production curves shown in drawing No. 17-100-139 incorporated by reference in the document identified above, but increases in energy in any year by reason of taking American Falls

2/ Duplicate originals of this document shall be filed with the watermaster of District No. 36, the officer of the United States in charge of the Minidoka Project, and the Burley Irrigation District.

storage into account as provided in subparagraph (iii) of this subarticle (d) shall be accounted for as compensating offset up to but not exceeding energy losses accruing in that year by reason of curtailment in power operations under this article.

To correct flows under (1) above, all storage releases except American Falls shall be excluded and the measure of American Falls storage passing the Minidoka gage shall be the increase in storage at that gage over that computed at the Blackfoot gaging station as shown in the annual report entitled "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho", the latter further corrected for any American Falls storage that may have been present by reason of having been stored temporarily upstream and that portion of Palisades storage which was diverted above the Minidoka gage. In measuring American Falls storage, it shall be assumed that storage is released from downstream reservoirs first. The flow at the Minidoka gage without storage shall be taken to be the normal flow at that gage as shown by that same report. In determining water flows, with and without curtailment of power operations as provided by this article, these assumptions shall be used with respect to units 1 through 6 of the Minidoka powerplant:

- (i) There is a right for power production to maintain a flow of 2,700 second-feet at Minidoka Dam during the storage season of each year in accordance with the decree entered June 20, 1913, supra, if that flow, disregarding the storage of saved water in the reservoir system under the provisions of this article, would be available at Minidoka Dam.

- (ii) There is a right to use, within the hydraulic capacity of these units, whatever natural flow passes Minidoka Dam during each irrigation season.
- (iii) Although there is no right to have water stored under American Falls Reservoir rights released for power production, during the period that such storage is being released for irrigation there will be more energy produced by these units than is attributable to the natural flow rights therefor, which shall be taken into account as a compensating offset as provided above in this subarticle (d).

To determine controlling power heads, the effective power head for any period shall be derived on the basis of recorded forebay and tailwater elevations for that period.

The foregoing criteria for determinations of annual net power production losses may be changed from time to time but only if the changes are made in writing with the approval of the Secretary, the Advisory Committee, and the boards of directors of both the Burley and Minidoka irrigation districts. Determinations as to net power production losses for each year and the average annual replacement requirement under this article shall be made by a committee of three comprising the state water-master of District No. 36, a representative to be selected jointly by the Burley and Minidoka irrigation districts and the North Side Canal Company, Ltd., and the officer of the United States in charge of the Minidoka

project, but, should that committee fail to make a determination for any year by January 1 of the year for which the determination is required, it may be made by the Secretary.

(e) The annual payment determined as provided in this article shall be apportioned among the benefiting reservoirs as follows: (i) prior to the first full storage season during which Palisades Reservoir is in operation, eighty-eight percent (88%) to American Falls Reservoir and twelve percent (12%) to Island Park Reservoir; and (ii) beginning with the first full storage season of Palisades operation, seventy-eight percent (78%) to American Falls, twelve percent (12%) to Island Park, and ten percent (10%) to Palisades. The amount apportioned to each reservoir shall be accounted for as part of the operation and maintenance costs for which provisions for payment for the City's share is made elsewhere in this contract. The amount apportioned to American Falls Reservoir shall be distributed equally over all space available for irrigation storage, excluding the lower valley exchanged space but including in lieu thereof the upper valley exchanged space in Jackson Lake Reservoir.

(f) If the owners of any storage rights to benefit from the operation of this article fail to obligate themselves for their share of the annual payments for power replacement hereunder, the saved water creditable to such rights and the power replacement costs chargeable thereto shall be redistributed according to a formula to be agreed on in writing between the Advisory Committee and the Secretary. Such formula shall, however, be as nearly consistent as practicable with the formula that would control but for such redistribution.

Provisions of General Application to All
Rights Established or Defined by This
Contract

(Articles 14 through 37)

Temporary Storage and Exchange of Water; Release of Jackson
Lake and Palisades Water for Power Production

14. (a) It is the purpose of the United States and the water users having storage rights in the reservoir system (including the City) to have the reservoir system so operated as to effect the greatest practicable conservation of water. In keeping with this purpose, the endeavor will be to hold stored water in reservoir system space that is farthest upstream. Water in storage in any of the reservoirs of the system may, however, when the watermaster and the Advisory Committee determine this to be in the interest of water conservation, be held temporarily in unoccupied space in any other reservoir in the system. And the City hereby consents to the making, with the approval of the watermaster, of annual exchanges of stored water among the various reservoirs of the system. No such temporary holding of water or such annual exchanges shall, however, deprive any entity of water accruing to space held for its benefit.

(b) During any storage season, the United States, after consultation with the Advisory Committee may release stored water from Palisades Reservoir for the maintenance of power production at Palisades dam powerplant and may store such water in American Falls Reservoir. The release of such water will be confined, however, in storage seasons when it appears that American Falls, Palisades, and Jackson Lake reservoirs will fail to fill, to water required for the maintenance of a minimum firm power production (estimated to be about 11,000,000 kilowatt-hours per

month at an average production of 15,000 kilowatts) and which can be stored in American Falls Reservoir; and no such release shall be made that will preclude the later delivery of water, by exchange or otherwise, to the upper valley entities entitled thereto.

Rental of Water; Sale of Space

15. (a) The City may rent stored water which has accrued to its credit in any reservoir of the system, but such ~~rentals shall be for only~~ one year at a time and at rates to be approved in advance by the Secretary and the Advisory Committee. ~~Rates shall not exceed the annual costs under~~ the City's obligations to the United States which are properly apportionable to such water, plus an amount sufficient to cover other annual costs of the City which are properly apportionable thereto.

(b) No sale of storage rights in the reservoir system, created or defined by this contract, shall be made except on terms and conditions approved by the Secretary.

Delivery of Water; Measurement and Losses

16. (a) ~~To the extent that water is pumped from wells and from surface streams that flow into American Falls Reservoir, equal measurements at the well heads and at the discharge lines of other pumping plants delivering water for the City shall be made during each irrigation season.~~ One-half of all water provided through the City's system for the use of its water users from any and all sources in any irrigation season shall be accounted for as water stored for the City as provided in article 10 and charged thereto, except an amount of 7,000 acre-feet of water in

each irrigation season until the first irrigation season beginning after a consolidation or merger has been made by the City with the water system of the City of Alameda when the amount shall be increased to 10,000 acre-feet of water to reflect prior uses of that city and other nearby communities. Delivery of water to the City that as above provided in this article is chargeable to stored water for any irrigation season, shall be limited, however, to the quantities of stored waters available as provided in article 10.

(b) The water chargeable to City stored water as provided in this article shall be determined during the irrigation season of each year. Corresponding credits shall be given by the watermaster to the water rights, whether natural flow or storage rights, that have been infringed on by pumping for the City. The amounts represented by such infringements, to whomsoever they shall accrue, shall be made up out of stored water available to the City under this agreement as necessary. ~~The determination of the charges and the credits hereunder shall be under a formula to be devised by the watermaster, after consultation with the Advisory Committee, taking account as one factor the so-called Newell formula with respect to the inflow into American Falls Reservoir, as this formula is affected in the judgment of the watermaster, by the operation of this contract and by other factors that affect the formula. Departures from that formula shall be called to the attention of the Advisory Committee from time to time.~~

(c) In addition to other specific provisions as to the distribution of losses chargeable to stored water, there shall be charged against stored water held under this contract to the credit of the City in any reservoir of the system at the end of any irrigation season one and one-half percent ~~(1 1/2%)~~ to offset evaporation losses. Such charge shall be made as of not later than the end of the ensuing storage season.

Ordering of Water

17. Under the plan of water use of the City, there will ~~normally~~ be ~~no~~ direct delivery from the Snake River of stored water. Therefore, the provisions of article 16 will govern as to the rights to water, whether charges therefor shall be ~~against~~ natural flow or stored water, matters of replacement of water from storage, and related problems. If the City should, however, ~~construct facilities which~~ would permit the direct delivery of stored water to it from the Snake River, such delivery shall be effected by the City giving notification to the watermaster, a reasonable period in advance, of the amount of water within its entitlements as stated in this agreement to be delivered for diversion by the City.

Complaints Regarding Water Supply

18. The United States and its officers, agents and employees in charge of reservoirs in the reservoir system and the watermaster will use their best efforts and best judgment to deliver to the City its proportionate share of the water to which it is entitled under this contract. Should the City feel aggrieved because of an ~~alleged~~ mistake or inaccuracy in the delivery of water or in the division of stored water among the parties

entitled to such water from the reservoir system, the City shall immediately report such alleged mistake or inaccuracy to the watermaster and to the official of the United States in charge of the reservoir involved. If the watermaster finds that the City's proportionate share of stored water is not being delivered, he will correct the error as early as possible. No liability, however, shall accrue against the United States, its officers, agents or employees, or the watermaster for damage, direct or indirect, arising by reason of shortages in the quantity of water available through the reservoir system by reason of drought, inaccuracy in distribution, hostile diversions by third parties, prior or superior claims, accident to or failure of the facilities comprising the reservoir system, whether or not attributable to negligence of officers, agents or employees of the United States, or other similar causes of whatsoever kind. Nor shall the City's obligations to the United States under this contract be reduced by reason of such shortages or interruptions.

Payment of Costs in Delivery and Distribution of Stored Water

19. (a) The City shall pay, in addition to its proportionate share of the costs of operation and maintenance of the Palisades Reservoir as provided under article 9 of this contract, ~~its proportionate share of all costs of the delivery and distribution of water beyond the outlet works of the delivering reservoirs.~~ These costs shall include, with respect to costs incurred by the United States, all costs and expense of whatsoever nature or kind in connection with, growing out of, or resulting from the distribution of stored water, the protection of stored water between the reservoir and the points of diversion from the river including the prevention of diversion of such water by parties not entitled thereto. Whatever costs of this

character are incurred by the United States shall be distributed among the City and all others on whose behalf such costs have been incurred on the basis that the operation and maintenance costs of the reservoir from which the water was delivered are distributed among the various rights. Unless otherwise agreed in writing by the Secretary and the Advisory Committee, such costs shall be paid annually and for billing purposes shall be included as part of the operation and maintenance costs under article 9 of this contract.

(b) The City shall also pay its proportionate share of the costs incurred by the watermaster in the delivery and distribution of water in accordance with the provisions of article 17 to the extent that those represent costs incurred other than by the activities of the United States in the delivery and distribution of water. The costs will be apportioned and paid in accordance with the provisions of the laws of the State of Idaho.

Computation of Costs

20. The costs which enter into the cost of operation and maintenance of the various reservoirs and the costs of delivery and distribution of water, portions of which costs are to be paid by the City, shall embrace all expenditures of whatsoever kind in relation to the function for which the charge is made, including, but without limitation by reason of this enumeration, cost of surveys and investigations, labor, property, material and equipment, engineering, legal, superintendence, administration, overhead, general expenses, inspection, special services, and damage claims of all

kinds whether or not involving the negligence of officers, agents or employees of the United States, but shall be exclusive of amounts which the law does not require to be repaid and which the Secretary determines as a matter of policy are to be treated as nonreimbursable.

Title to and Operation of Powerplant; Power Revenues

21. (a) Title to Palisades dam powerplant and all works incidental and appurtenant thereto, built or to be built by the United States, shall remain in the United States until otherwise provided by the Congress.

(b) All revenues derived from the sale or other use or disposal of power and energy developed at the Palisades dam powerplant shall be and remain the property of the United States.

(c) The United States, in its operations of the Palisades dam powerplant, will be governed by the provisions of article 14 and these criteria, among others: That the plant shall be operated so as to hold to a practicable minimum the loss of water that would otherwise be available for storage in the reservoir system for irrigation purposes; and that, until such time as a reregulating reservoir has been put into operation, wide fluctuations in the release of water to meet peak power loads will, during irrigation seasons, be confined to periods when this can be done without substantial variation from the flows that would otherwise be present in the river below the dam.

(d) Notwithstanding provisions to the contrary in this contract, the City consents to the operation of the Palisades dam powerplant, during a five-year period (but not beyond the end of the national defense emergency

as declared by Proclamation of the President No. 2914 dated December 16, 1950, 3 CFR 1950 Supp., p. 271), beginning with the date when the first unit of that plant is first placed in service, in the following manner:

In addition to normal operation at other times within the limits provided by this contract, the plant may be operated to produce an average of 60,000 kilowatts (217,440,000 kilowatt-hours) during the period October through February of each storage season when the flow of the river at the dam is equal to or greater than that for those months of the median year during the period 1928 through 1947 whenever such operation is required in the judgment of the Defense Electric Power Administrator, or his successors in functions, to help meet certified defense loads served from power systems with which the plant is interconnected, directly or indirectly.

Title to Storage Works; Miscellaneous Revenues

22. (a) Title to Palisades Dam and Reservoir and all works incidental and appurtenant thereto, built or to be built by the United States, shall remain in the United States until otherwise provided by the Congress.

(b) Having regard for the allocations of investment and repayment responsibilities, miscellaneous revenues realized in connection with the operation and maintenance of Palisades Dam and Reservoir and related costs shall be distributed annually as follows:

Twenty percent (20%) to be distributed among the City and other parties having storage rights in the reservoir on the same basis that operation and maintenance costs are distributed.

Eighty percent (80%) to remain the property of the United States.

Priority of Certain Existing and Future Water Rights

23. (a) In connection with Island Park Reservoir, located on the North Fork (Henrys Fork) of Snake River, the United States holds water license No. R-590, with a priority date of March 14, 1935, and license No. R-686, with a priority date of June 12, 1940. Notwithstanding the later priority of license No. R-686, the City hereby agrees that all storage rights held by the United States in connection with Island Park Reservoir may be treated as having the same priority as rights under license No. R-590.

(b) In connection with Idaho Permit No. 15134, a direct diversion permit with a priority date of March 30, 1921, held in connection with American Falls Reservoir, the United States may contract with American Falls Reservoir District No. 2 to recognize the right of that district to have water license No. 15134 exercised substantially as follows:

American Falls Reservoir District No. 2 to have the right to divert as natural flow during each irrigation season under water license No. 15134, having a March 30, 1921 priority, as follows: From May 1 of each irrigation season continuing during that season so long as there is natural flow

available for that priority, the first 1,700 cubic feet per second of flow to be available one-half (1/2) to American Falls Reservoir District No. 2 and one-half (1/2) to American Falls Reservoir, except that in any year in which American Falls Reservoir is full to capacity on April 30 or fills after that date, taking into account any water that may be temporarily stored to its credit in upstream reservoirs, all water diverted by American Falls Reservoir District No. 2 within the maximum of 1,700 cubic feet per second during the year prior to the initial storage draft on American Falls Reservoir after the reservoir finally fills in that year shall be considered as natural flow under water license No. 15134. Nothing herein shall prevent American Falls Reservoir District No. 2 from diverting water under said license prior to May 1 of a given irrigation season but all such diversions shall be charged as storage in the event the reservoir is not full on April 30 of that season or does not fill after April 30 of that season.

Water available at American Falls Reservoir for the March 30, 1921 priority under water license No. 15134, other than that to be available to American Falls Reservoir District No. 2 as above provided, to be available for storage in American Falls Reservoir.

And the City agrees that it will not oppose an adjudication of a natural flow right of the waters of the Snake River for the benefit of American Falls Reservoir District No. 2 consistent with the foregoing criteria. The contract by the United States with American Falls Reservoir District No. 2 shall be on the condition, however, that that district assume its proportionate share of the obligation for the cost of replacement power under the provisions of article 13. When such contract has become operative, the United States shall make application to the State of Idaho for amendment of water permit No. 15134 and the issuance thereunder with a priority date of March 30, 1921, requiring that the remainder of the right under the permit, 6,300 second-feet, to the extent such right remains outstanding, be used for storage in American Falls Reservoir, such right, however, if issued to the United States not to carry voting privileges in water users meetings under the laws of the State of Idaho. Such application shall, however, leave unaffected water license No. R-269 having a priority dated March 30, 1921.

(c) If the United States, under the Federal Reclamation Laws, hereafter constructs storage facilities on the Snake River or its tributaries above Milner Dam in addition to those now constructed or authorized to be constructed to provide water for irrigation purposes, the City hereby agrees that, notwithstanding the establishment of a storage right for such additional facilities with a priority subsequent to that assigned to Palisades Dam and Reservoir, the United States may hereafter contract with water users organizations which then have storage rights in Palisades Reservoir, to

operate not to exceed 300,000 acre-feet of such capacity for the storage of water for irrigation for the benefit of such organizations as though that capacity had a storage right of identical priority with that held for Palisades Dam and Reservoir.

Protection of Water Rights

24. In case any dispute arises as to the character, extent, priority or validity of any of the storage rights held in the name of the United States for the benefit of the City in connection with its rights under this contract, the United States may, independently of the City, bring and prosecute judicial proceedings for the determination of such dispute and take all other measures necessary toward the defense and protection of its water rights, and such proceedings may be brought and prosecuted by the City.

Refusal to Deliver Water in Case of Default

25. No water available to the City under this contract shall be delivered to or for the City if the City is in arrears in the advance payment of operation and maintenance charges owed to the United States, if any, or more than twelve (12) months in arrears in the payment of construction charge obligation instalments, or more than twelve (12) months in arrears in the payment of any other amount owed to the United States under this contract. The City shall refuse to deliver water to lands or parties who are in arrears in the advance payment of operation and maintenance charges due from such lands or parties to the United States or to the City, or to lands or parties who are in arrears more than twelve (12) months in the payment of amounts due from such lands or parties to the United States or

the City to the United States under this contract. The provisions of this article are not exclusive and shall not in any manner prevent the United States from exercising any other remedy given by this contract or by law to enforce the collection of any payments due under the terms of this contract.

Levies and Assessments by City; All Benefits
Conditioned Upon Payment; Lien to Secure Obligations

26. (a) The City shall cause to be levied and collected all necessary assessments and charges against water users and will use all the authority and resources of the City (including, without limitation by reason of this enumeration, its power to create liens and to withhold the delivery of water) to meet the obligations of the City to the United States under this contract.

(b) Should the City fail to levy the assessments and other charges against any land or the owners thereof as required by this contract, or, having levied, should the City be prevented from collecting such assessments or other charges by any judicial proceedings or otherwise fail to collect them, such land and owners shall not be entitled to receive water made available under this contract and the City, except as otherwise ordered by a court of competent jurisdiction, shall not deliver such water to such lands or the owners thereof unless and until arrangements for its delivery satisfactory to the Secretary have been made.

(c) All construction charge obligations to the United States assumed by the City under this contract shall be and remain a lien on the City's storage rights in the reservoir system as defined in this contract

until paid or otherwise satisfied. Whenever the City is in default in the payment of any instalment of such charges, the Secretary may declare the entire construction obligation due and the lien therefor may be foreclosed in the manner provided by law for the foreclosure of a mortgage.

Lands for Which Water is Furnished;
Limitations on Area

27. Pursuant to the provisions of the Federal Reclamation Laws, water made available to the City from space in the reservoir system for which the City is obligated to the United States for construction charges under the terms of this contract shall not be delivered to more than one hundred sixty (160) irrigable acres in the ownership of any one person or other entity nor more than three hundred twenty (320) irrigable acres held by a husband and wife as community property, except that delivery may be made to lands held in excess of this limitation pursuant to the provisions of section 46 of the act of May 25, 1926 (44 Stat. 649), as amended by the act of July 11, 1956 (70 Stat. 524). These limitations shall cease to operate when the construction charge obligation under this contract has been paid in full.

Termination or Modification of Excess
Land Provisions

28. In the event there is a repeal of the so-called excess land provisions of the Federal Reclamation Laws, article 27 of this contract will no longer be of any force or effect, and, in the event these provisions are amended in material respects, the United States will, at the request of the City, negotiate amendments of these articles in order to conform them to the excess land provisions of the law as so amended.

Penalty for Delinquency in Payment

29. Every instalment or charge required to be paid to the United States under this contract which shall remain unpaid after it has become due and payable shall bear interest at the rate of one-half percent (1/2%) per month from the date of delinquency. The City shall impose, on delinquencies in the payment of assessments, other charges levied by it to meet its obligations under this contract, such penalties as it is authorized to impose under the laws of the State of Idaho.

Advisory Committee

30. (a) In its operation and maintenance of the various dams and reservoirs of the reservoir system, the United States, acting through the Regional Director of the Bureau of Reclamation or his designee or such other officer as may be designated in writing by the Secretary, shall consult from time to time with the Advisory Committee on the various matters specifically requiring consultation under the terms of this contract and on such other matters as will have a substantial bearing on the determination of the amount of stored water to be available in the various

reservoirs and on the costs of operation and maintenance of those reservoirs which are required to be borne by the space allocated to irrigation storage. The representative of the United States will meet with the Advisory Committee from time to time, but not less often than two times each year beginning with the calendar year 1953, at such dates and places as may be fixed by the Advisory Committee.

(b) Informal memoranda concerning working arrangements for the carrying out of the provisions of this article may be entered into from time to time between the Regional Director or other designated representative of the Secretary and the Advisory Committee.

(c) Beginning January 1, 1953, the Advisory Committee is agreed to be the Committee of Nine, as that committee may be constituted from time to time. The Committee of Nine shall continue to function as the Advisory Committee under this contract until a different representative body has been designated by a vote of the majority of the water users voting at any regular annual meeting of the water users of District No. 36 held as provided by law. Further designations of bodies to serve as the Advisory Committee may be made from time to time by this same election process.

Rules and Regulations

31. The Secretary reserves the right, after consultation with the Advisory Committee, to make such rules and regulations consistent with the provisions of this contract, as are proper and necessary to carry out its true intent and meaning, and as are proper and necessary to cover any

details of the administration or interpretation of the contract which are not covered by its express provisions. The City shall observe such rules and regulations.

Representative of the Secretary

32. Where this contract uses the term "Secretary", this shall be deemed to include in all cases the Under Secretary or any Assistant Secretary or other officer of the Department of the Interior of equal authority. Where this contract authorizes action by the Secretary, such action may also be taken for or on behalf of the Secretary by any representative duly authorized therefor in writing.

Notices

33. Any notice, demand or request required or authorized by this contract shall be deemed properly given, except where otherwise herein specifically provided, if mailed, postage prepaid, to the Project Superintendent (the present "project officer"), Bureau of Reclamation, Burley, Idaho, on behalf of the United States, and to the City Manager, City of Pocatello, Municipal Building, 220 East Center, Pocatello, Idaho, on behalf of the City. The designation of the person to be notified or the address of such person may be changed at any time by similar notice.

Discrimination Against Employees or Applicants
For Employment Prohibited

34. (a) In connection with the performance of work under this contract, the City agrees not to discriminate against any employee or applicant for employment because of race, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following:

employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The City agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Secretary setting forth the provisions of the nondiscrimination clause. The City further agrees to insert the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

(b) In the performance of any part of the work contemplated by this contract, the City shall not employ any person undergoing sentence of imprisonment at hard labor.

Contingent on Appropriations or Allotment of Funds

35. The expenditure of any money or the performance of any work by the United States herein provided for, which may require appropriations of money by the Congress or the allotment of Federal funds, shall be contingent on such appropriations or allotments being made. The failure of the Congress to appropriate funds, or the failure of any allotment of funds, shall not, however, relieve the City from any obligations theretofore accrued under this contract, nor give the City the right to terminate this contract as to any of its executory features pending the appropriation or allotment of such funds. No liability shall accrue against the United States in case such funds are not so appropriated or allotted.

Assignments Prohibited;
Successors and Assigns Obligated

36. The provisions of this contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this contract, or any part thereof, or interest therein, shall be valid until approved by the Secretary.

Officials Not to Benefit

37. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or company for its general benefit.

IN WITNESS WHEREOF, the parties hereto have signed their names the day and year first above written.

THE UNITED STATES OF AMERICA

By /s/ H. T. Nelson
Regional Director, Region 1
Bureau of Reclamation
P. O. Box 937, Boise, Idaho

CITY OF POCATELLO

BY ITS BOARD OF COMMISSIONERS

/s/ H. B. Yearsley
Commissioner

(SEAL)

Attest:

/s/ Josephine Ball
Clerk of the City of
Pocatello

/s/ F. A. Burton
Commissioner

/s/ W. R. Hearne
Commissioner

/s/ Luvern C. Johnson
Commissioner

/s/ Arilla Blackhurst
Commissioner

/s/ J. Oren Clark, Jr.
Commissioner

/s/ Margaret F. Paulsen
Commissioner

STATE OF IDAHO)
 : ss.
County of Bannock)

On this 9th day of June 1959, before me personally appeared
H. B. Yearsley, F. A. Burton, W. R. Hearne, Luvern C. Johnson,
Arilla Blackhurst, J. Oren Clark, Jr., and Margaret F. Paulsen, to me
known to be the members of the Board of Commissioners of the City of
Pocatello, the corporation that executed the within and foregoing instru-
ment. They acknowledged said instrument to be the free and voluntary act
and deed of said corporation, for the uses and purposes therein mentioned;
and on oath stated that they were authorized to execute said instrument
and that the seal affixed is the seal of said corporation.

IN WITNESS WHEREOF, I set my hand and affix my official seal
the day and year first above written.

(SEAL)

/s/ B. D. Reese
Notary Public in and for the
State of Idaho
Residing at Pocatello, Idaho

My commission expires July 21, 1960

STATE OF IDAHO)
) ss.
County of Ada)

On this 8th day of January 1960, personally appeared before me H. T. Nelson, to me known to be the official of The United States of America that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act of said United States, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

/s/ R. H. Harris
Notary Public for Idaho
Residing at Boise
My commission expires: 6/18/61

The Following Exhibits Are
Part of This Contract

Document entitled "Criteria and Method for Determination of
Certain Minidoka Powerplant Production Losses From
Restrictions on Use of Water Rights"

Exhibit A entitled "Palisades Project - Operating Plan for
Palisades Reservoir as set Forth in the Appendixes
of House Document No. 720, 81st Congress"

Exhibit B entitled "Basic Provisions Incorporated or to be
Incorporated in Contracts with Upper Valley and
Lower Valley Water Users Organizations to Govern
the Permanent Exchange of Certain American Falls
and Jackson Lake Storage Rights"

See Exhibits at the Beginning of Volume 32A

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and Jackson Lake Storage Rights"

Last page - Contract Poc/Bur

CRITERIA AND METHOD FOR DETERMINATION
OF CERTAIN MINIDOKA POWERPLANT
PRODUCTION LOSSES FROM RESTRICTIONS
ON USE OF WATER RIGHTS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Region I

August 1952

Boise, Idaho

Criteria and Method for Determination of Certain
Minidoka Powerplant Production Losses from Restrictions
on Use of Water Rights

In this document are set forth: In Part I, a statement, in general terms, of the purposes to be served by the curtailment in the exercise of the water rights held by the United States for power production at American Falls and Minidoka dams, and a statement in more specific terms of the measure of curtailment and the basic assumptions and criteria that, by contracts made and to be made with affected water users and water users' organizations under the terms of the Act of September 30, 1950, Public Law 864, 81st Congress (herein called the 1950 Act), are made controlling in these matters; and in Part II, by way of illustration, the methods and procedures used to determine the usable-flows available at the Minidoka powerplant and the related power production by units 1 through 6 from such flows for the period October 1, 1931, to September 30, 1951, under the basic assumptions and criteria, and, in more detail, the calculations for the water year 1945, being the 12-month period ending September 30, 1945.

PART I

BASIC ASSUMPTIONS AND CRITERIA

The need for conserving the waters of the Snake River above Milner Dam for irrigation purposes requires the limiting of the use of water for power generation at American Falls and Minidoka dams below amounts that would accrue to rights that are available to the United States for power production at those dams. The measure of the curtailment

in use of water is, by a series of contracts entered into or to be entered into under the terms of the 1950 Act, to be as follows:

"Except as it is determined by the Secretary that additional water may be passed through American Falls and Minidoka dams without the loss of water that could be stored for irrigation in the reservoir system, the United States will, during each storage season beginning October 1, 1952, * * * limit the release of water through those dams as follows:

To the amount of water required to provide flows below Minidoka Dam sufficient to meet existing diversion rights in the reach of the river through Milner Dam and the power rights required to be recognized under the provisions of the contract of June 15, 1923, between the United States and the Idaho Power Company (Symbol and No. Ilr-733), as those diversion and power rights may be modified from time to time."

Such curtailment in the exercise of power rights at Minidoka dam will result in a loss of generation at units 1 through 6 of that powerplant but will result in the saving of water for storage for irrigation use. The water so saved is, under the contracts made and to be made under the 1950 Act, to be credited to American Falls, Island Park, and Palisades reservoirs. In compensation for such losses in power generation, replacement power will be provided to the Minidoka power system, and, based on a moving average of the net annual amount of replacement power and energy required, the costs thereof will be charged to the

beneficiaries of the resultant water saving. By contracts made and to be made under the 1950 Act, these basic assumptions and criteria are controlling in determining the annual net power replacement requirements:

- A. For the period beginning October 1, 1931, and ending September 30, 1951, the annual net power production losses for each year are those stated in Table 1, set out in the Part I appendices.
- B. For each year thereafter, a net power production loss is to be calculated on the basis of the comparison of (1) the total energy that could have been produced by units 1 through 6 of the Minidoka powerplant, based on the water flows actually recorded at U.S.G.S. Minidoka gaging station (hereinafter called the Minidoka gage), corrected as hereinafter provided, and (2) the energy which theoretically could have been generated at these units with the flows at the Minidoka gage without the agreed curtailment in winter power operation and exclusive of irrigation storage releases. 1/

1/ The flows recorded at the Minidoka gage for (1), as corrected, or the flows at the Minidoka gage without curtailment in winter power operation and exclusive of irrigation storage releases for (2) used in accordance with this provision of the controlling contracts are not to be reduced by an allowance for leakage at Minidoka dam.

C. To correct flows under B(1) above, all storage releases except American Falls shall be excluded and the measure of American Falls storage passing the Minidoka gage shall be the increase in storage flow at that gage over that computed at the Blackfoot gaging station as shown in the annual report of the Watermaster, District No. 36, entitled "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho", the latter further corrected for any American Falls storage that may have been present by reason of having been stored temporarily upstream and for that portion of Palisades storage which was diverted above the Minidoka gage. In measuring American Falls storage, it shall be assumed that downstream storage is released first. The flow at the Minidoka gage without storage shall be taken to be the normal flow at that gage as shown by that same report.

D. In determining water flows, with and without the agreed curtailment of power operations, these assumptions are to be used with respect to the power rights of units 1 through 6 of the Minidoka powerplant:

- (1) There is a right for power production to maintain a flow of 2,700 second-feet at Minidoka dam during the storage season of each year in accordance with the decree entered June 20, 1913 (District Court of the Fourth Judicial District of Idaho in

the case of Twin Falls Canal Company v. Charles M. Foster, et al.), if that flow, disregarding the storage of saved water in the reservoir system, would be available at Minidoka dam.

(2) There is a right to use, within the hydraulic capacity of these units, whatever natural flow passes Minidoka dam during each irrigation season.

(3) Although there is no right to have water stored under American Falls reservoir rights released for power production, during the period that such storage is being released for irrigation there will be more energy produced by these units than is attributable to the natural flow rights therefor, which shall be taken into account as a compensating offset as provided in F. below.

E. The effective power head for any period shall be derived on the basis of recorded forebay and tailwater elevations for that period.

F. Using conclusions reached as to flows and heads, the power loss calculations for each year after September 30, 1951, under B above, will be made by utilizing the power production curves shown on drawing No. 17-100-139^{2/}, a copy of which is set out in the Part I appendices, but increases in energy in any year by reason of taking American Falls storage into account as indicated by subparagraph 3 of D above shall be accounted for as a compensating offset

up to but not exceeding energy losses accruing in that year by reason of curtailment in power operations as provided in the controlling contracts made and to be made under the 1950 Act.

The contracts made and to be made provide that the average replacement requirement for the year ending September 30, 1953, is to be 5,699,000 kilowatt-hours, being the average annual replacement requirement for the 20-year period ending September 30, 1951, and that the average annual replacement requirement for the year ending September 30, 1954, shall be the average of the annual replacement requirements for each year of the 20-year period ending September 30, 1953, and for each 12-month period after September 30, 1954, shall be the average of the annual replacement requirements of each year of the 20-year period ending September 30 of the prior year.

2/ Duplicate originals of this drawing are on file with the officer of the United States in charge of the Minidoka Project, the watermaster of District No. 36, and the Burley Irrigation District.

PART II

CALCULATION OF USABLE-FLOWS AND POWER PRODUCTION

By way of illustration, this part describes the calculations that were made, in connection with Table 1, with respect to usable-flows available at Minidoka powerplant and the power that would be produced by units 1 to 6 from such flows; and also includes detailed computations for the water year 1945.

Computation of Flows Usable for Power Production.

The net annual power loss by Units 1-6 of the Minidoka Power Plant, as defined by contracts, referred to in Part I, is based on flows at the United States Geological Survey gaging station near Minidoka, Idaho, hereinafter referred to as the Minidoka gage, for two sets of conditions.

Condition I.—Under this condition the restrictions on use of the Minidoka water rights are in effect and Jackson Lake storage-flows are excluded during the irrigation season prior to October 1.

Condition II.—Under this condition there are no restrictions on use of the Minidoka water rights and all storage-flows are excluded during the irrigation season prior to October 1.

Following is an explanation of the methods used to derive these flows for the period October 1, 1931 through September 30, 1951. All basic flow data for this computation were taken directly from the annual reports on "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho", except that the October through March flows for the water-years 1932, 1933, and 1934 were adjusted to reflect the restrictions

on the use of the water power rights at Minidoka Dam. The historical flows for water-years 1935 through 1951 were assumed to be essentially the same as would have occurred with restricted use of the Minidoka power rights under the terms of the contracts made or to be made under the terms of the 1950 Act.

The water-year was divided into two periods; the Storage Period and the Storage-release Period. The Storage-release Period was defined as that period during the irrigation season and prior to October 1, during which time storage-flows were indicated at the Minidoka gage, or at the United States Geological Survey gaging station near Blackfoot, Idaho, hereinafter referred to as the Blackfoot gage. The remainder of the water-year was considered to be the Storage Period. The computation of the flows available, under each of the two conditions, was made on a daily basis. The maximum hydraulic capacity of Units 1-6 of the Minidoka Power Plant is 3700 cubic feet per second, therefore, flows in-excess of this amount cannot be used by these units. In recognition of this fact, usable-flows were limited to 3700 cubic feet per second. Inasmuch as elevation 4236 was used as the minimum elevation of Lake Walcott for satisfactory power generation, for the purpose of this computation it was assumed that during periods when the Lake Walcott pool was below elevation 4236 there were no usable-flows. Usable-flows are those flows which could have been utilized for power production by Units 1-6. The daily usable-flows for each month were converted to average monthly flows in order to simplify the power computations which are discussed in a later section of this document. The detailed compu-

tation of flows for water-year 1945 is shown in Tables 2 and 3 to illustrate the methods used.

Condition I. Usable-Flows, Units 1-6, with Restricted Use of the Minidoka Water Rights and excluding Jackson Lake Storage-Flows. The usable-flows under this condition were assumed to be the flows of the Snake River as recorded at the Minidoka gage, with adjustments to exclude Jackson Lake storage-flows which were present and to exclude flows which were in excess of the maximum hydraulic capacity of Units 1-6. The amount of Jackson Lake storage-flows passing the gaging station near Minidoka was determined by a comparison of the daily amounts of storage-flows at the Minidoka gage with those storage-flows indicated at the Blackfoot gage for the preceding day. One day travel-time was assumed between the two gages. All storage-flow data were taken from the table "Daily Segregation of Data at and between Snake River Gaging Stations," as contained in the annual reports "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho." Three assumptions were used in determining the amount of Jackson Lake storage-flows passing the Minidoka gaging station.

1. When the storage-flows near Blackfoot exceeded the storage-flows at Minidoka then the Jackson Lake storage-flows at Minidoka were assumed equal to the total storage-flows at Minidoka.

2. When the storage-flows at Blackfoot were less than the storage-flows at Minidoka then the Jackson Lake storage-flows at Minidoka were assumed equal to the storage-flows at Blackfoot.

3. When the storage-flows at either Blackfoot or Minidoka were negative the Jackson Lake storage-flows at Minidoka were assumed to be zero.

No adjustment was required for Jackson Lake storage-flows at the Minidoka gage during the Storage Period since only the Storage-release Period flows from that reservoir are excluded under the terms of the contracts. All flows recorded at the Minidoka gage during the storage period are assumed to be natural flows. During the Storage-release Period, that part of the recorded flows at the Minidoka gage which remained, after the adjustment was made for Jackson Lake storage-flows, was considered to be available for use by Units 1-6 under Condition I. Usable-flows under this condition were limited to 3700 cubic feet per second, the maximum hydraulic capacity of Units 1-6. The detailed computation of these flows for the water year 1945 is shown in Table 2.

Condition II, Usable-Flows, Units 1-6, Without Restrictions on Use of Minidoka Water Rights and Excluding Storage-Flows. During the Storage-Period, usable-flows under this condition were computed by adjusting the recorded flow at the Minidoka gage as follows:

1. If the recorded flows at the Minidoka gage were in excess of 2700 cubic feet per second, the recorded flows up to 3700 cubic feet per second (maximum hydraulic capacity Units 1-6) were assumed to be the usable-flows.

2. If the recorded flows at the Minidoka gage were less than 2700 cubic feet per second, then the usable-flows without restriction on use of the Minidoka power rights were assumed to be equal to the adjusted-

flows at the Minidoka gage up to a maximum of 2700 cubic feet per second. The adjusted-flows are obtained by adding the amount of water stored in American Falls Reservoir for the same day. That part of the adjusted-flows which is in excess of 2700 cubic feet per second may be stored in American Falls Reservoir without adversely affecting the basic power right for 2700 cubic feet per second at Minidoka Dam and is not included as a part of the usable-flows.

During the Storage-release Period the usable-flows without benefit of storage-flows were considered to be the normal flows at the Minidoka gage as indicated in the table "Daily Segregation of Data at and between Snake River Gaging Stations," as contained in the annual reports, "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho," or 3700 cubic feet per second whichever were least.

Table 3 shows the detailed computations for deriving the usable-flows under Condition II for water-year 1945.

Computation of Power Production

The power production by units 1 through 6 of the Minidoka plant was computed for both Conditions I and II for the period October 1, 1931, through September 30, 1951, based on the average monthly flows as determined by the methods previously discussed and the family of output curves (discharge versus kilowatts), and the capability curve, (head versus kilowatts) shown on drawing 17-100-139.

When the usable-flows equaled or exceeded the hydraulic capacity of the six units, the power output was determined from the power capability curve (head versus kilowatts) (drawing 17-100-139) and the curve value

multiplied by the factor 0.965. When usable-flows were below the hydraulic capacity of the six units, the power output was determined from the power output curves (discharge versus kilowatts) (drawing 17-100-139) and the curve value multiplied by the factor 0.9. Determination of the hydraulic capacity for the six units for any head was made from the hydraulic capacity curve shown on drawing 17-100-140 derived from the output curves. The upper limit of continuous output from the units has been established on the basis of past records, and this point is indicated on the power capability curve. Elevation 4236.0 was used as the minimum pool elevation of Lake Walcott for satisfactory power generation.

Table I, Annual Net Power Production Losses for the Period October 1, 1931 through September 30, 1951. The net power losses for each year for this period were determined from the power production calculations, later described and illustrated for water-year 1945 in Tables 4 and 5. Derivation of the net loss for each year is illustrated by the computations for the year 1945 as shown on Table 6. The annual net power losses for each year of the 20-year period are summarized on Table 1 and result in an average annual net power loss for the period of 5,699,000 kilowatt hours.

Condition I. Power Generation from the Average Monthly Usable-Flows with Restricted Use of the Minidoka Water Rights and Excluding Jackson Lake Storage-Flows. The computation of power generation was made by using the output curves (drawing 17-100-139) and the flows available for power production appearing in Table. 2. The average

gross power head was determined from the basic data shown in the annual reports on "Water Distribution and Hydrometric Work, District 36, Snake River, Idaho," and from reservoir area-capacity curves or tables and tailwater curves. The details are illustrated by the computation of power generation for the water-year 1945 shown in Table 4.

Condition II. Power Generation from the Average Monthly Usable-Flows without Restricted use of Minidoka Water Rights and Excluding all Storage-Flows. The average gross power head for this condition was taken to be the same as that used for Condition I based on assumptions which can be reasonably supported: (1) The operation of Lake Walcott without restriction of the Minidoka water rights would be essentially the same. (2) The same tailwater elevations were used although the tailwater elevation would be actually slightly different for the two conditions. This difference, besides being relatively small, also tends to be canceled out, since the difference is in one direction in the Storage Period and in the other direction in the Storage-Release Period. (3) The heads used are average for the month, further minimizing the difference in tailwater for the two conditions. (4) It would be a complicated procedure and a degree of refinement inconsistent with other data to adjust tailwater elevations for this condition. The detailed computation of the power generation for the water-year 1945 is shown in Table 5, derived in the same manner described for Condition I, using the flows available for power production appearing in Table 3.

By comparison of the results of the power generation for the two conditions, the losses due to restriction of the Minidoka water rights and the gains due to release of American Falls storage have been determined. The details of this computation for the water-year 1945 are shown on Table 6.

PART I APPENDICES

There are set out hereinafter these documents referred to in the text of Part I:

Table I.—Net Power Production Loss Due to Restriction on Use of Minidoka Water Rights

Drawing No. 17-100-139.—Minidoka Powerplant - Units 1-6, Power Output Curves

TABLE I
MINIDOKA POWER PLANT
UNITS 1-6

Net Power Production Loss Due to Restriction
of use of Minidoka Water Rights

Unit: Thousands of kilowatthours

Water Year	Loss From Restriction of use of Water Rights	Gain From ^{1/} American Falls Storage	Net Loss
Oct.-Sept.			
1932	14,604	3,516	11,088
1933	16,530	4,667	11,863
1934	13,463	8,966	4,497
1935	18,322	4,969	13,353
1936	20,390	5,015	15,375
1937	16,492	5,381	11,111
1938	19,054	4,104	14,950
1939	8,764	5,451	3,313
1940	19,387	4,857	14,530
1941	10,381	4,138	6,243
1942	7,133	4,707	2,426
1943	3,417	2,327	1,090
1944	2,654	2,654	0
1945	5,769	1,632	4,137
1946	33	33	0
1947	1,808	1,808	0
1948	734	734	0
1949	3,108	3,108	0
1950	201	201	0
1951	0	0	0
20 year average	9,112	3,413	5,699

^{1/} Limited to amount of winter losses occurring in the same year.

PART II APPENDICES

There are set out hereinafter these documents referred to in the text of Part II. Tables 2 through 6 constitute a sample calculation of usable-flows and power production for water-year 1945.

Table 2.—Condition I. Usable-Flow with Restricted Use of Minidoka Water Rights and Excluding Jackson Lake Storage-Flow

Table 3.—Condition II. Usable-Flow without Restrictions on Use of Minidoka Water Rights and Excluding Storage-Flow

Table 4.—Condition I. Net Annual Power Production with Restrictions on Use of Minidoka Water Rights and Excluding Jackson Lake Storage-Flow

Table 5.—Condition II. Net Annual Power Production without Restrictions on Use of Minidoka Water Rights and Excluding all Storage-Flow

Table 6.—Net Annual Power Production Loss Due to Restriction of Use of Minidoka Water Rights

Drawing No. 17-100-140.—Minidoka Power Plant - Units 1-6, Hydraulic Capacity

TABLE 2

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition I. Usable-Flow with Restricted Use of Minidoka
Water Rights and Excluding Jackson Lake Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage Period											
	October		November		December		January		February		March	
	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow
1	1,620	1,620	1,750	1,750	1,380	1,380	1,890	1,890	2,790	2,790	2,900	2,900
2	1,470	1,470	1,580	1,580	1,280	1,280	2,560	2,560	2,680	2,680	2,900	2,900
3	1,050	1,050	802	802	1,220	1,220	2,840	2,840	2,970	2,970	2,900	2,900
4	890	890	1,020	1,020	1,150	1,150	2,920	2,920	2,960	2,960	2,920	2,920
5	1,280	1,280	842	842	1,280	1,280	2,820	2,820	2,810	2,810	2,940	2,940
6	1,960	1,960	1,020	1,020	1,480	1,480	2,730	2,730	2,840	2,840	2,940	2,940
7	2,560	2,560	1,570	1,570	1,550	1,550	2,750	2,750	2,820	2,820	2,920	2,920
8	2,240	2,240	1,860	1,860	1,570	1,570	3,580	3,580	2,860	2,860	2,920	2,920
9	1,940	1,940	1,860	1,860	1,550	1,550	3,210	3,210	2,840	2,840	2,920	2,920
10	1,660	1,660	1,880	1,880	1,580	1,580	2,720	2,720	2,790	2,790	2,920	2,920
11	1,410	1,410	1,850	1,850	1,640	1,640	2,750	2,750	2,790	2,790	2,940	2,940
12	1,300	1,300	1,880	1,880	1,550	1,550	2,750	2,750	2,750	2,750	2,970	2,970
13	1,320	1,320	1,900	1,900	1,580	1,580	2,770	2,770	2,770	2,770	3,030	3,030
14	2,290	2,290	1,890	1,890	1,670	1,670	2,790	2,790	2,840	2,840	3,050	3,050
15	2,750	2,750	1,900	1,900	1,750	1,750	2,790	2,790	2,860	2,860	2,990	2,990
16	2,790	2,790	1,970	1,970	1,740	1,740	2,770	2,770	2,810	2,810	2,970	2,970
17	2,650	2,650	2,350	2,350	1,540	1,540	2,750	2,750	2,810	2,810	2,900	2,900
18	1,670	1,670	2,350	2,350	1,590	1,590	2,750	2,750	2,810	2,810	2,880	2,880
19	1,570	1,570	2,370	2,370	1,580	1,580	2,750	2,750	2,820	2,820	2,880	2,880
20	1,580	1,580	2,630	2,630	1,620	1,620	2,750	2,750	2,820	2,820	2,880	2,880
21	1,700	1,700	2,840	2,840	1,650	1,650	2,770	2,770	2,820	2,820	2,860	2,860
22	1,930	1,930	2,280	2,280	1,800	1,800	2,770	2,770	2,820	2,820	2,860	2,860
23	1,810	1,810	1,550	1,550	1,680	1,680	2,770	2,770	2,820	2,820	2,900	2,900
24	1,760	1,760	1,270	1,270	1,590	1,590	2,770	2,770	2,840	2,840	2,900	2,900
25	1,850	1,850	1,270	1,270	1,450	1,450	2,770	2,770	2,810	2,810	2,880	2,880
26	1,760	1,760	1,280	1,280	1,570	1,570	2,790	2,790	2,810	2,810	2,900	2,900
27	1,720	1,720	1,220	1,220	1,600	1,600	2,810	2,810	2,840	2,840	2,900	2,900
28	1,720	1,720	1,310	1,310	1,700	1,700	2,810	2,810	2,880	2,880	2,920	2,920
29	1,730	1,730	1,520	1,520	1,780	1,780	2,810	2,810	---	---	2,920	2,920
30	1,720	1,720	1,460	1,460	1,810	1,810	2,810	2,810	---	---	2,940	2,940
31	1,730	1,730	---	---	1,780	1,780	2,790	2,790	---	---	2,480	2,480
Total	55,430	55,430	51,274	51,274	48,710	48,710	86,310	86,310	79,080	79,080	90,130	90,130
Mean	1,788	1,788	1,709	1,709	1,571	1,571	2,784	2,784	2,824	2,824	2,907	2,907

TABLE 2

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition I. Usable-Flow with Restricted Use of Minidoka
Water Rights and Excluding Jackson Lake Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage Period						Storage-Release Period					
	April		May		June		July					
	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Usable- Flow	Storage- Flow at Minidoka Gage	Storage- Flow at Blackfoot Gage	Recorded Flow at Minidoka Gage	Jackson Lake Storage- Flow at Minidoka Gage	Flow at Minidoka Gage w/o Jackson Lake Storage	Usable- Flow
1	1,760	1,760	5,280	3,700	8,540	3,700	0	0	15,200	0	15,200	3,700
2	3,010	3,010	6,280	3,700	9,550	3,700	0	0	14,700	0	14,700	3,700
3	3,950	3,700	7,020	3,700	10,800	3,700	0	0	10,400	0	10,400	3,700
4	4,100	3,700	8,030	3,700	10,700	3,700	0	0	7,880	0	7,880	3,700
5	4,260	3,700	9,110	3,700	10,900	3,700	0	0	7,970	0	7,970	3,700
6	4,260	3,700	10,100	3,700	10,200	3,700	0	0	8,180	0	8,180	3,700
7	4,000	3,700	10,400	3,700	12,000	3,700	0	0	8,510	0	8,510	3,700
8	3,810	3,700	13,600	3,700	17,500	3,700	0	0	8,540	0	8,540	3,700
9	3,760	3,700	13,900	3,700	16,300	3,700	581	0	8,510	0	8,510	3,700
10	3,760	3,700	9,270	3,700	20,000	3,700	1,631	0	8,720	0	8,720	3,700
11	3,760	3,700	12,800	3,700	22,800	3,700	2,373	0	8,780	0	8,780	3,700
12	3,760	3,700	14,100	3,700	20,300	3,700	2,086	0	8,690	0	8,690	3,700
13	3,720	3,700	8,570	3,700	18,100	3,700	1,636	0	8,660	0	8,660	3,700
14	4,060	3,700	7,590	3,700	19,000	3,700	969	0	8,810	0	8,810	3,700
15	4,410	3,700	7,620	3,700	18,200	3,700	725	0	8,900	0	8,900	3,700
16	4,760	3,700	7,880	3,700	17,700	3,700	1,118	-17	8,780	0	8,780	3,700
17	5,730	3,700	8,600	3,700	17,500	3,700	2,359	-16	8,540	0	8,540	3,700
18	8,270	3,700	9,140	3,700	15,700	3,700	2,600	-17	8,600	0	8,600	3,700
19	8,090	3,700	9,050	3,700	11,000	3,700	2,630	-122	8,630	0	8,630	3,700
20	7,650	3,700	8,360	3,700	7,560	3,700	2,510	-430	8,510	0	8,510	3,700
21	7,210	3,700	9,300	3,700	7,440	3,700	2,668	-490	8,390	0	8,390	3,700
22	3,620	3,620	12,200	3,700	7,530	3,700	3,770	-479	8,360	0	8,360	3,700
23	3,680	3,680	11,600	3,700	7,360	3,700	4,558	-553	8,360	0	8,360	3,700
24	3,830	3,700	8,420	3,700	7,330	3,700	5,050	-646	8,450	0	8,450	3,700
25	3,640	3,640	8,450	3,700	7,160	3,700	4,990	-774	8,390	0	8,390	3,700
26	3,890	3,700	8,480	3,700	7,270	3,700	5,120	-523	8,510	0	8,510	3,700
27	4,100	3,700	8,660	3,700	7,680	3,700	5,888	1,333	8,750	1,333	7,417	3,700
28	4,120	3,700	8,720	3,700	7,620	3,700	5,915	1,079	8,780	1,079	7,701	3,700
29	4,080	3,700	8,690	3,700	10,900	3,700	6,154	583	9,020	583	8,437	3,700
30	4,320	3,700	8,660	3,700	15,000	3,700	6,243	451	9,110	451	8,659	3,700
31	---	---	8,690	3,700	---	---	5,847	390	8,720	390	8,330	3,700
Total	---	108,210	---	---	---	---	---	---	280,350	3,836	276,514	---
Mean	---	3,607	---	3,700	---	3,700	---	---	---	---	---	3,700

TABLE 2

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition I. Usable-Flow with Restricted Use of Minidoka
Water Rights and excluding Jackson Lake Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage-Release Period											
	August						September					
	Storage- Flow at Minidoka Gage	Storage- Flow at Blackfoot Gage	Recorded Flow at Minidoka Gage	Jackson Lake Storage- Flow at Minidoka Gage	Flow at Minidoka Gage w/o Jackson Lake Storage	Usable- Flow	Storage- Flow at Minidoka Gage	Storage- Flow at Blackfoot Gage	Recorded Flow at Minidoka Gage	Jackson Lake Storage- Flow at Minidoka Gage	Flow at Minidoka Gage w/o Jackson Lake Storage	Usable- Flow
1	5,423	387	8,300	387	7,913	3,700	5,050	216	8,000	216	7,784	3,700
2	5,776	498	8,660	498	8,162	3,700	5,033	866	7,970	866	7,104	3,700
3	5,949	342	8,840	342	8,498	3,700	4,997	1,921	7,970	1,921	6,049	3,700
4	6,088	193	8,990	193	8,797	3,700	4,931	2,303	8,000	2,303	5,697	3,700
5	5,957	273	8,870	273	8,597	3,700	4,928	2,102	8,060	2,102	5,958	3,700
6	5,861	790	8,780	790	7,990	3,700	5,002	1,430	8,120	1,430	6,690	3,700
7	5,772	1,738	8,690	1,738	6,952	3,700	4,609	967	7,680	967	6,713	3,700
8	5,559	2,351	8,510	2,351	6,159	3,700	4,303	657	7,360	657	6,703	3,700
9	5,289	2,085	8,360	2,085	6,275	3,700	4,114	624	7,180	624	6,556	3,700
10	5,081	2,140	8,090	2,140	5,950	3,700	4,033	740	7,100	740	6,360	3,700
11	5,015	2,433	8,000	2,433	5,567	3,700	3,788	960	6,880	960	5,920	3,700
12	5,078	1,880	8,030	1,880	6,150	3,700	3,298	696	6,520	696	5,824	3,700
13	5,278	1,772	8,240	1,772	6,468	3,700	3,271	599	6,490	599	5,891	3,700
14	5,252	1,187	8,210	1,187	7,023	3,700	3,368	594	6,600	594	6,006	3,700
15	5,248	1,067	8,240	1,067	7,173	3,700	3,535	545	6,790	545	6,245	3,700
16	5,209	938	8,270	938	7,332	3,700	3,753	498	7,040	498	6,542	3,700
17	5,278	772	8,360	772	7,588	3,700	3,721	503	7,040	503	6,537	3,700
18	5,519	592	8,600	592	8,008	3,700	3,496	620	6,820	620	6,200	3,700
19	5,641	428	8,720	428	8,292	3,700	3,206	691	6,120	691	5,429	3,700
20	5,631	315	8,720	315	8,405	3,700	2,466	800	5,280	800	4,480	3,700
21	5,481	412	8,570	412	8,158	3,700	1,535	1,313	4,960	1,313	3,647	3,647
22	5,324	1,442	8,510	1,442	7,068	3,700	647	2,171	4,000	647	3,353	3,353
23	5,069	2,639	8,360	2,639	5,721	3,700	-546	1,541	3,580	0	3,580	3,580
24	5,009	2,181	8,330	2,181	6,149	3,700	-916	1,387	3,030	0	3,030	3,030
25	5,060	1,628	8,360	1,628	6,732	3,700	-1,095	1,325	2,610	0	2,610	2,610
26	5,261	1,037	8,480	1,037	7,443	3,700	-1,025	921	2,400	0	2,400	2,400
27	5,327	588	8,480	588	7,892	3,700	-839	958	2,400	0	2,400	2,400
28	5,226	453	8,330	453	7,877	3,700	-1,353	981	2,100	0	2,100	2,100
29	5,218	207	8,270	207	8,063	3,700	-901	329	1,400	0	1,400	1,400
30	5,374	80	8,360	80	8,280	3,700	0	0	1,380	0	1,380	1,380
31	5,248	65	8,210	65	8,145	3,700	---	---	---	---	---	---
Total	---	---	261,740	32,913	228,827	---	---	---	170,880	20,292	150,588	99,900
Mean	---	---	---	---	---	3,700	---	---	---	---	---	3,330

TABLE 3

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition II. Usable-Flow Without Restrictions on use of
Minidoka Water Rights and Excluding Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage Period											
	October				November				December			
	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. ^{1/}	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. ^{1/}	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. ^{1/}	Adjusted- Flow at Minidoka Gage	Usable- Flow
1	1,620	146	1,766	1,766	1,750	812	2,562	2,562	1,380	3,559	4,939	2,700
2	1,470	297	1,767	1,767	1,580	2,924	4,504	2,700	1,280	4,154	5,434	2,700
3	1,050	1,775	2,825	2,700	802	3,413	4,215	2,700	1,220	4,785	6,005	2,700
4	890	1,921	2,811	2,700	1,020	2,924	3,944	2,700	1,150	6,116	7,266	2,700
5	1,280	590	1,870	1,870	842	3,675	4,517	2,700	1,280	5,097	6,377	2,700
6	1,960	2,959	4,919	2,700	1,020	4,522	5,542	2,700	1,480	3,872	5,352	2,700
7	2,560	1,775	4,335	2,700	1,570	2,677	4,247	2,700	1,550	4,290	5,840	2,700
8	2,240	1,502	3,742	2,700	1,860	3,181	5,041	2,700	1,570	3,998	5,568	2,700
9	1,940	2,748	4,688	2,700	1,860	3,534	5,394	2,700	1,550	4,628	6,178	2,700
10	1,660	1,684	3,344	2,700	1,880	3,615	5,495	2,700	1,580	3,998	5,578	2,700
11	1,410	913	2,323	2,323	1,850	4,134	5,984	2,700	1,640	2,944	4,584	2,700
12	1,300	459	1,759	1,759	1,880	6,544	8,424	2,700	1,550	2,526	4,076	2,700
13	1,320	918	2,238	2,238	1,900	3,126	5,026	2,700	1,580	2,733	4,313	2,700
14	2,290	151	2,441	2,441	1,890	4,780	6,670	2,700	1,670	2,813	4,483	2,700
15	2,750	—	—	2,750	1,900	5,838	7,738	2,700	1,750	2,596	4,346	2,700
16	2,790	—	—	2,790	1,970	4,780	6,750	2,700	1,740	2,380	4,120	2,700
17	2,650	615	3,265	2,700	2,350	5,047	7,397	2,700	1,540	3,247	4,787	2,700
18	1,670	1,523	3,193	2,700	2,350	4,548	6,898	2,700	1,590	3,464	5,054	2,700
19	1,570	1,376	2,946	2,700	2,370	4,906	7,276	2,700	1,580	2,596	4,176	2,700
20	1,580	1,679	3,259	2,700	2,630	5,279	7,909	2,700	1,620	3,030	4,650	2,700
21	1,700	1,679	3,379	2,700	2,840	—	—	2,840	1,650	5,727	7,377	2,700
22	1,930	2,365	4,295	2,700	2,280	4,855	7,135	2,700	1,800	5,995	7,795	2,700
23	1,810	3,469	5,279	2,700	1,550	3,736	5,286	2,700	1,680	5,102	6,782	2,700
24	1,760	2,365	4,125	2,700	1,270	2,244	3,514	2,700	1,590	4,220	5,810	2,700
25	1,850	2,047	3,897	2,700	1,270	4,724	5,994	2,700	1,450	4,709	6,159	2,700
26	1,760	1,734	3,494	2,700	1,280	5,571	6,851	2,700	1,570	3,862	5,432	2,700
27	1,720	1,734	3,454	2,700	1,220	5,768	6,988	2,700	1,600	3,640	5,240	2,700
28	1,720	1,573	3,293	2,700	1,310	5,954	7,264	2,700	1,700	3,635	5,335	2,700
29	1,730	2,097	3,827	2,700	1,520	5,143	6,663	2,700	1,780	3,181	4,961	2,700
30	1,720	3,413	5,133	2,700	1,460	3,358	4,818	2,700	1,810	3,413	5,223	2,700
31	1,730	973	2,703	2,700	—	—	—	—	1,780	3,418	5,198	2,700
Total	—	—	—	79,104	—	—	—	81,002	—	—	—	—
Mean	—	—	—	2,551	—	—	—	2,700	—	—	—	2,700

^{1/} These values given in second-foot days where one second-foot day equals 1.9834 acre-feet.

TABLE 3

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition II. Usable-Flow Without Restrictions on use of
Minidoka Water Rights and Excluding Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage Period											
	January				February				March			
	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow
1	1,890	4,417	6,307	2,700	2,790	—	—	2,790	2,900	—	—	2,900
2	2,560	2,556	5,116	2,700	2,680	3,438	6,118	2,700	2,900	—	—	2,900
3	2,840	—	—	2,840	2,970	—	—	2,970	2,900	—	—	2,900
4	2,920	—	—	2,920	2,960	—	—	2,960	2,920	—	—	2,920
5	2,820	—	—	2,820	2,810	—	—	2,810	2,940	—	—	2,940
6	2,730	—	—	2,730	2,840	—	—	2,840	2,940	—	—	2,940
7	2,750	—	—	2,750	2,820	—	—	2,820	2,920	—	—	2,920
8	3,580	—	—	3,580	2,860	—	—	2,860	2,920	—	—	2,920
9	3,210	—	—	3,210	2,840	—	—	2,840	2,920	—	—	2,920
10	2,720	—	—	2,720	2,790	—	—	2,790	2,920	—	—	2,920
11	2,750	—	—	2,750	2,790	—	—	2,790	2,940	—	—	2,940
12	2,750	—	—	2,750	2,750	—	—	2,750	2,970	—	—	2,970
13	2,770	—	—	2,770	2,770	—	—	2,770	3,030	—	—	3,030
14	2,790	—	—	2,790	2,840	—	—	2,840	3,050	—	—	3,050
15	2,790	—	—	2,790	2,860	—	—	2,860	2,990	—	—	2,990
16	2,770	—	—	2,770	2,810	—	—	2,810	2,970	—	—	2,970
17	2,750	—	—	2,750	2,810	—	—	2,810	2,900	—	—	2,900
18	2,750	—	—	2,750	2,810	—	—	2,810	2,880	—	—	2,880
19	2,750	—	—	2,750	2,820	—	—	2,820	2,880	—	—	2,880
20	2,750	—	—	2,750	2,820	—	—	2,820	2,880	—	—	2,880
21	2,770	—	—	2,770	2,820	—	—	2,820	2,860	—	—	2,860
22	2,770	—	—	2,770	2,820	—	—	2,820	2,860	—	—	2,860
23	2,770	—	—	2,770	2,820	—	—	2,820	2,900	—	—	2,900
24	2,770	—	—	2,770	2,840	—	—	2,840	2,900	—	—	2,900
25	2,770	—	—	2,770	2,810	—	—	2,810	2,880	—	—	2,880
26	2,790	—	—	2,790	2,810	—	—	2,810	2,900	—	—	2,900
27	2,810	—	—	2,810	2,840	—	—	2,840	2,900	—	—	2,900
28	2,810	—	—	2,810	2,880	—	—	2,880	2,920	—	—	2,920
29	2,810	—	—	2,810	—	—	—	—	2,920	—	—	2,920
30	2,810	—	—	2,810	—	—	—	—	2,940	—	—	2,940
31	2,790	—	—	2,790	—	—	—	—	2,480	-277	—	2,480
Total	—	—	—	87,260	—	—	—	79,100	—	—	—	90,130
Mean	—	—	—	2,815	—	—	—	2,825	—	—	—	2,907

1/ These values given in second-foot days where one second-foot day equals 1.9834 acre-feet.

TABLE 3

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition II. Usable-Flow Without Restrictions on use of
Minidoka Water Rights and Excluding Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage Period											
	April				May				June			
	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow	Recorded Flow at Minidoka Gage	Change in Storage in American Falls Res. 1/	Adjusted- Flow at Minidoka Gage	Usable- Flow
1	1,760	6,302	8,062	2,700	5,280	—	—	3,700	8,540	—	—	3,700
2	3,010	—	—	3,010	6,280	—	—	3,700	9,550	—	—	3,700
3	3,950	—	—	3,700	7,020	—	—	3,700	10,800	—	—	3,700
4	4,100	—	—	3,700	8,030	—	—	3,700	10,700	—	—	3,700
5	4,260	—	—	3,700	9,110	—	—	3,700	10,900	—	—	3,700
6	4,260	—	—	3,700	10,100	—	—	3,700	10,200	—	—	3,700
7	4,000	—	—	3,700	10,400	—	—	3,700	12,000	—	—	3,700
8	3,810	—	—	3,700	13,600	—	—	3,700	17,500	—	—	3,700
9	3,760	—	—	3,700	13,900	—	—	3,700	16,300	—	—	3,700
10	3,760	—	—	3,700	9,270	—	—	3,700	20,000	—	—	3,700
11	3,760	—	—	3,700	12,800	—	—	3,700	22,800	—	—	3,700
12	3,760	—	—	3,700	14,100	—	—	3,700	20,300	—	—	3,700
13	3,720	—	—	3,700	8,570	—	—	3,700	18,100	—	—	3,700
14	4,060	—	—	3,700	7,590	—	—	3,700	19,000	—	—	3,700
15	4,410	—	—	3,700	7,620	—	—	3,700	18,200	—	—	3,700
16	4,760	—	—	3,700	7,880	—	—	3,700	17,700	—	—	3,700
17	5,730	—	—	3,700	8,600	—	—	3,700	17,500	—	—	3,700
18	8,270	—	—	3,700	9,110	—	—	3,700	15,700	—	—	3,700
19	8,090	—	—	3,700	9,050	—	—	3,700	11,000	—	—	3,700
20	7,650	—	—	3,700	8,360	—	—	3,700	7,560	—	—	3,700
21	7,210	—	—	3,700	9,300	—	—	3,700	7,440	—	—	3,700
22	3,620	—	—	3,620	12,200	—	—	3,700	7,530	—	—	3,700
23	3,680	—	—	3,680	11,600	—	—	3,700	7,360	—	—	3,700
24	3,830	—	—	3,700	8,420	—	—	3,700	7,330	—	—	3,700
25	3,640	—	—	3,640	8,450	—	—	3,700	7,160	—	—	3,700
26	3,890	—	—	3,700	8,480	—	—	3,700	7,270	—	—	3,700
27	4,100	—	—	3,700	8,660	—	—	3,700	7,680	—	—	3,700
28	4,120	—	—	3,700	8,720	—	—	3,700	7,620	—	—	3,700
29	4,080	—	—	3,700	8,690	—	—	3,700	10,900	—	—	3,700
30	4,320	—	—	3,700	8,660	—	—	3,700	15,000	—	—	3,700
31	—	—	—	—	8,690	—	—	3,700	—	—	—	—
Total	—	—	—	109,150	—	—	—	—	—	—	—	—
Mean	—	—	—	3,638	—	—	—	3,700	—	—	—	3,700

1/ These values given in second-foot days where one second-foot day equals 1.9834 acre-feet.

TABLE 3

MINIDOKA POWER PLANT, UNITS 1-6

Sample Calculation

Condition II. Usable-Flow Without Restrictions on use of
Minidoka Water Rights and Excluding Storage-Flow

October 1, 1944 to September 30, 1945

Units: Cubic Feet Per Second

Date at Minidoka	Storage-Release Period					
	July		August		September	
	Normal-Flow at Minidoka Gage 1/	Usable-Flow	Normal-Flow at Minidoka Gage	Usable-Flow	Normal-Flow at Minidoka Gage	Usable-Flow
1	15,200	3,700	2,877	2,877	2,950	2,950
2	14,700	3,700	2,884	2,884	2,937	2,937
3	10,400	3,700	2,891	2,891	2,973	2,973
4	7,880	3,700	2,902	2,902	3,069	3,069
5	7,970	3,700	2,913	2,913	3,132	3,132
6	8,180	3,700	2,919	2,919	3,118	3,118
7	8,510	3,700	2,918	2,918	3,071	3,071
8	8,540	3,700	2,951	2,951	3,057	3,057
9	7,929 2/	3,700	3,071	3,071	3,066	3,066
10	7,089	3,700	3,009	3,009	3,067	3,067
11	6,407	3,700	2,985	2,985	3,092	3,092
12	6,604	3,700	2,952	2,952	3,222	3,222
13	7,024	3,700	2,962	2,962	3,219	3,219
14	7,841	3,700	2,958	2,958	3,232	3,232
15	8,175	3,700	2,992	2,992	3,255	3,255
16	7,662	3,700	3,061	3,061	3,287	3,287
17	6,181	3,700	3,082	3,082	3,319	3,319
18	6,000	3,700	3,081	3,081	3,324	3,324
19	6,000	3,700	3,079	3,079	2,914	2,914
20	6,000	3,700	3,089	3,089	2,814	2,814
21	5,722	3,700	3,089	3,089	3,425	3,425
22	4,590	3,700	3,186	3,186	3,353	3,353
23	3,802	3,700	3,291	3,291	4,126	3,700
24	3,400	3,400	3,321	3,321	3,946	3,700
25	3,400	3,400	3,300	3,300	3,705	3,700
26	3,390	3,390	3,219	3,219	3,425	3,425
27	2,862	2,862	3,153	3,153	3,239	3,239
28	2,865	2,865	3,104	3,104	3,453	3,453
29	2,866	2,866	3,052	3,052	2,301	2,301 3/
30	2,867	2,867	2,986	2,986	1,380	2,700 4/
31	2,873	2,873	2,962	2,962		
Total	—	109,623	—	94,239	—	95,114
Mean	—	3,536	—	3,040	—	3,170

1/ During period July 1-8, the normal-flow is equal to the recorded flow, since there is no storage-flow at the Minidoka gage.

2/ Storage releases begin on this date.

3/ Date of last irrigation storage release for the season.

4/ American Falls Reservoir storing water on this date. Adjusted-flow exceeds 2,700 c.f.s., so usable-flow equals 2,700 c.f.s.

Explanation of Columns - Tables 4 and 5

- Column 1 - Lake Walcott reservoir content at end of month in acre feet obtained from Watermaster's Annual Report.
- Column 2 - Lake Walcott reservoir elevation at end of month in feet referred to Minidoka gage whose zero elevation has been assumed at 4200.00 feet, M.S.L., read from capacity curve X-D-730.
- Column 3 - Lake Walcott average reservoir elevation, in feet, referred to Minidoka gage, taken as the average between the value in Column 2 for the end of that month and the previous month.
- Column 4 - Average tailwater elevation at Minidoka Dam in feet, referred to Minidoka gage, obtained from tailwater curve "Tailwater versus Release." Flow taken from Annual Reports on "Water Distribution and Hydrometric Work", District 36, Snake River near Minidoka, Idaho.
- Column 5 - Average power head in feet is the difference between average reservoir and tailwater elevations, Column 3 - Column 4.
- Column 6 - Average monthly usable flow, in cubic feet per second, taken from corresponding hydrologic data. (See accompanying hydrologic study).
- Column 7 - Computed output, in kilowatts, obtained from output curves, drawing 17-100-139, as previously explained.
- Column 8 - Total generation for the month, in thousands of kilowatt-hours, is obtained by multiplying average monthly generation Column 9, by the number of hours in the month.

Sample Calculation

October 1, 1944 to September 30, 1945

	1	2	3	4	5	6	7	8
:	:	Lake Walcott	:	:	:	:	:	:
:	:	Water	:	:	:	:	:	:
:	: Recorded :	Surface :	Average :	Average :	Aver. :	:	:	:
:	: Content :	Elev. :	Water :	Tail- :	Power :	Average :	:	:
:	: End of :	End of :	Surface :	water :	Head :	Usable :	:	:
:	: Month :	Month :	Elev. :	Elev. :	(3-4) :	Flow :	Computed Output :	:
:	: Acres :	:	:	:	:	:	: Average :	: 1000 :
:	: Feet :	: Feet :	: Feet :	: Feet :	: Feet :	: CFS :	: KW :	: KWH :
O :	64,140 :	4242.3 :	4243.0 :	4194.3 :	48.7 :	1788 :	5085 :	3783 :
N :	65,670 :	4242.5 :	4242.4 :	4194.3 :	48.1 :	1709 :	4860 :	3499 :
D :	67,870 :	4242.7 :	4242.6 :	4194.2 :	48.4 :	1571 :	4410 :	3281 :
J :	66,660 :	4242.6 :	4242.6 :	4195.2 :	47.4 :	2784 :	7560 :	5625 :
F :	66,660 :	4242.6 :	4242.6 :	4195.2 :	47.4 :	2824 :	7740 :	5201 :
M :	89,010 :	4244.6 :	4243.6 :	4195.3 :	48.3 :	2907 :	7965 :	5926 :
A :	94,720 :	4245.0 :	4244.8 :	4196.5 :	48.3 :	3607 :	10084 :	7260 :
M :	94,950 :	4245.0 :	4245.0 :	4196.8 :	48.2 :	3700 :	10084 :	7502 :
J :	96,390 :	4245.1 :	4245.0 :	4196.8 :	48.2 :	3700 :	10084 :	7260 :
J :	96,870 :	4245.2 :	4245.1 :	4196.8 :	48.3 :	3700 :	10084 :	7502 :
A :	95,670 :	4245.0 :	4245.1 :	4196.8 :	48.3 :	3700 :	10084 :	7502 :
S :	91,460 :	4244.7 :	4244.9 :	4196.8 :	48.1 :	3330 :	9186 :	6610 :

TABLE 5

MINIDOKA POWER PLANT
... UNITS 1-6

Sample Calculation

Condition II. Net Annual Power Production
Without Restrictions on Use of Minidoka Water
Rights and Excluding all Storage Flow

October 1, 1944 to September 30, 1945

		Lake Walcott								
		Water								
Recorded	Content	Surface Elev.	Average Water	Average Tail-	Average Power	Average Head	Average Usable			
End of Month	End of Month	Surface Elev.	Water	water	Head	(3-4)	Flow	Computed Output:		
Acre								Average	1000	
Feet	Feet	Feet	Feet	Feet	Feet	CFS	KW	KWH		
O	64,140	4242.3	4243.0	4194.3	48.7	2,551	7,047	5,243		
N	65,670	4242.5	4242.4	4194.3	48.1	2,700	7,515	5,411		
D	67,870	4242.7	4242.6	4194.2	48.4	2,700	7,497	5,578		
J	66,660	4242.6	4242.6	4195.2	47.4	2,815	7,695	5,725		
F	66,660	4242.6	4242.6	4195.2	47.4	2,825	7,740	5,201		
M	89,010	4244.6	4243.6	4195.3	48.3	2,907	7,965	5,926		
A	94,720	4245.0	4244.8	4196.5	48.3	3,638	10,084	7,260		
M	94,950	4245.0	4245.0	4196.8	48.2	3,700	10,084	7,502		
J	96,390	4245.1	4245.0	4196.8	48.2	3,700	10,084	7,260		
J	96,870	4245.2	4245.1	4196.8	48.3	3,536	9,423	7,502		
A	95,670	4245.0	4245.1	4196.8	48.3	3,040	8,370	6,227		
S	91,460	4244.7	4244.9	4196.8	48.1	3,170	8,685	6,253		

TABLE 6
MINIDOKA POWER PLANT
UNITS 1-6
Sample Calculation

Net Annual Power Production Loss Due
to Restriction of Use of Minidoka Water
Rights

October 1, 1944 to September 30, 1945

1	2	3	4	5
: Year :	Computed Output 1000 KWH		Loss from	Gain from:
: and :			Restriction	American:
: Month :	Condition II	Condition I	of use of	Falls :
			Water Rights	Storage :
: 1945 :				
: Oct. :	5,243	3,783	1,460	
: Nov. :	5,411	3,499	1,912	
: Dec. :	5,578	3,281	2,297	
: Jan. :	5,725	5,625	100	
: Feb. :	5,201	5,201	0	
: Mar. :	5,926	5,926	0	
: Apr. :	7,260	7,260	0	
: May :	7,502	7,502	0	
: June :	7,260	7,260	0	
: July :	7,502	7,502		0
: Aug. :	6,227	7,502		1,275
: Sept.:	6,253	6,610		357
: Total:			5,769	1,632

Total Annual Loss 5,769

Total Annual Gain ^{1/} 1,632

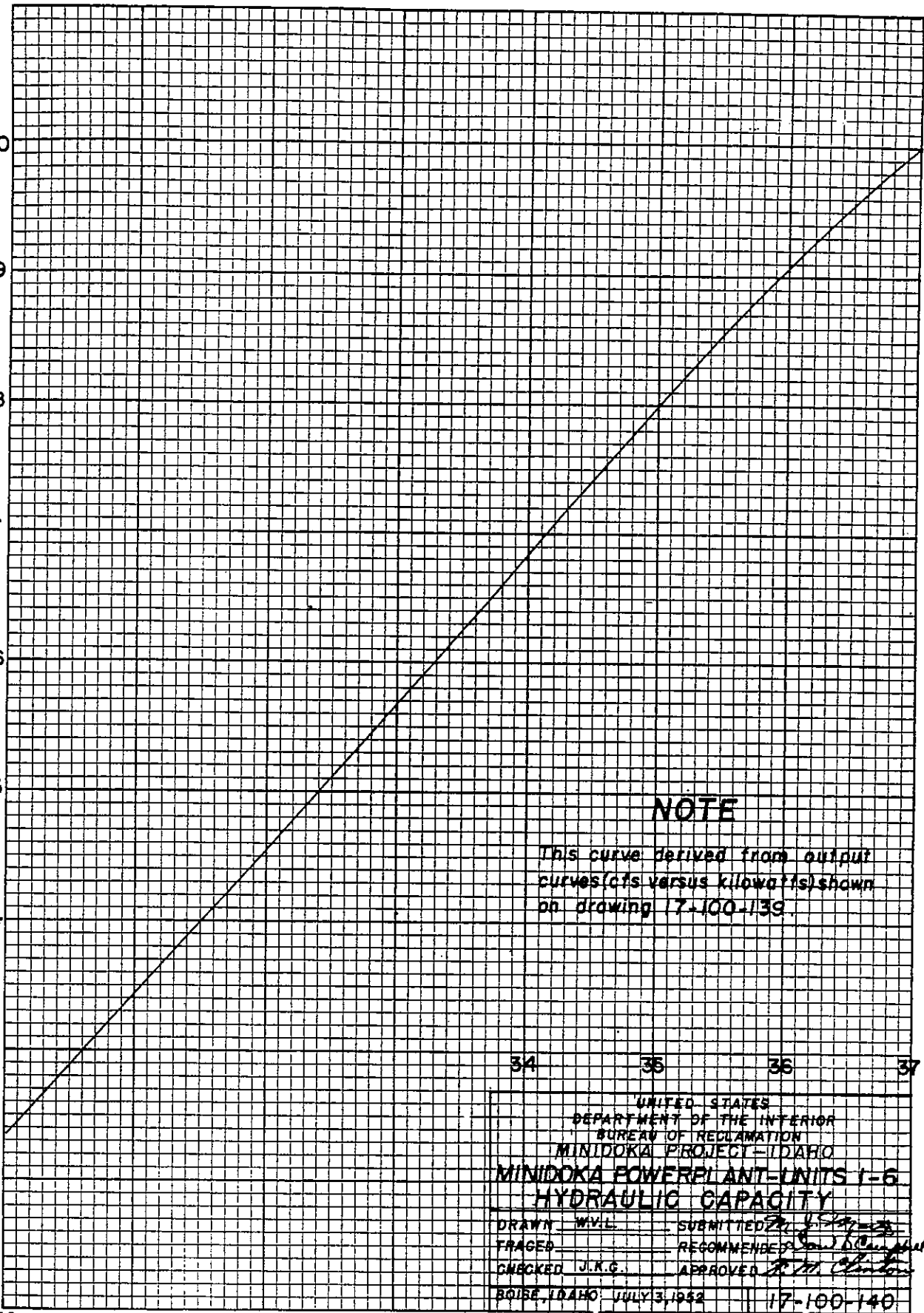
Annual Net Loss 4,137

^{1/} Contractually limited not to exceed the amount of annual loss.

HEAD-Feet

50
49
48
47
46
45
44
43
42

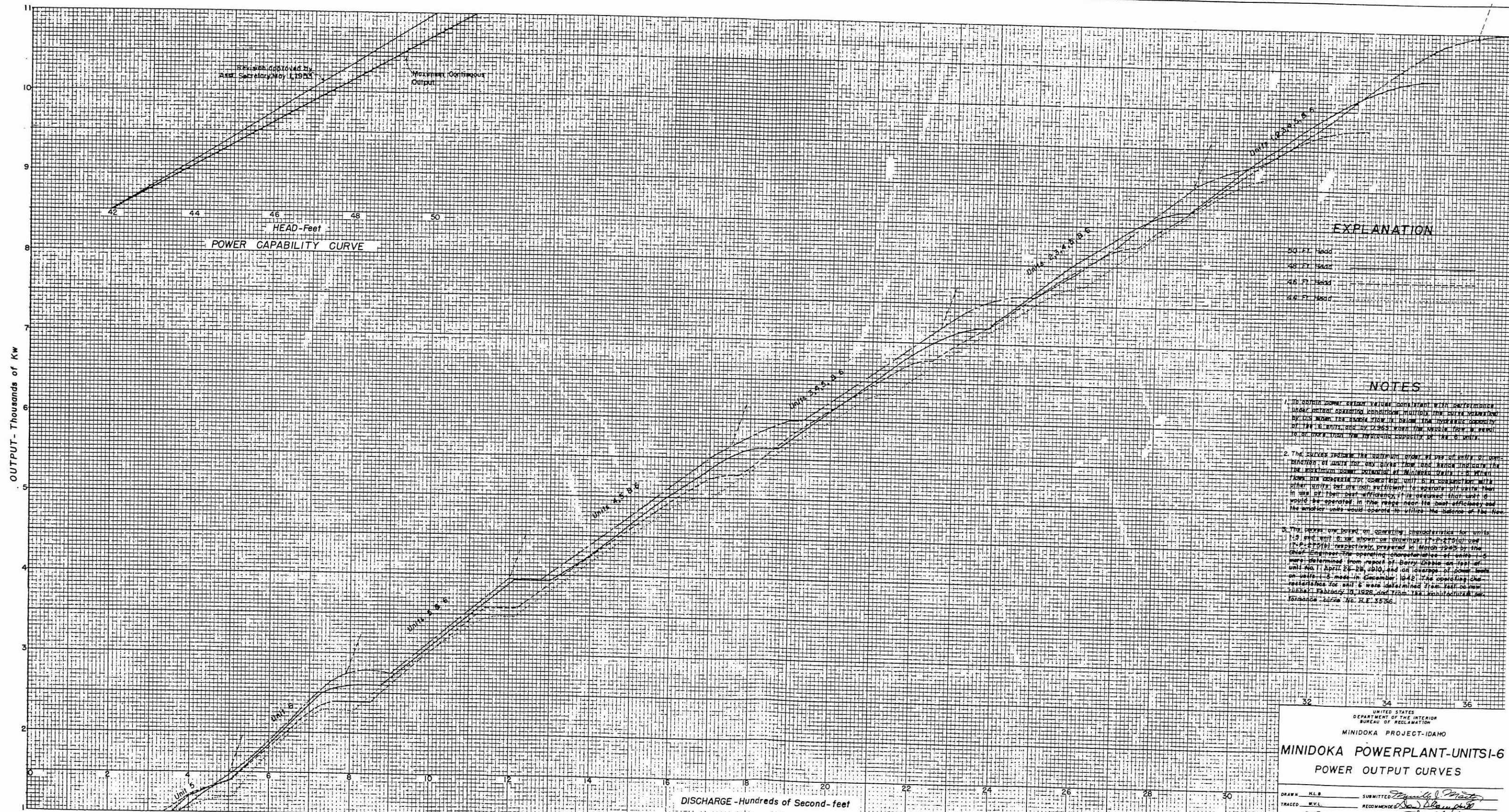
TURBINE DISCHARGE-Hundreds of Second Feet



NOTE

This curve derived from output curves(cfs versus kilowatts) shown on drawing 17-100-139.

UNITED STATES	
DEPARTMENT OF THE INTERIOR	
BUREAU OF RECLAMATION	
MINIDOKA PROJECT-IDAHO	
MINIDOKA POWERPLANT-UNITS 1-6	
HYDRAULIC CAPACITY	
DRAWN W.V.L.	SUBMITTED <i>[Signature]</i>
TRACED	RECOMMENDED <i>[Signature]</i>
CHECKED J.K.G.	APPROVED <i>[Signature]</i>
BOISE, IDAHO JULY 13, 1952	17-100-140



EXPLANATION

- 50 FT. Head
- 48 FT. Head
- 46 FT. Head
- 44 FT. Head

NOTES

1. To obtain power output values consistent with performance under actual operating conditions, unit 6 was determined by its own test results to show the hydraulic capacity of the 6 units, and by 1933 when the results show a need to increase from the hydraulic capacity of the 6 units.
2. The power shown the maximum power of unit 6 is based on the operation of unit 6 for only 1000 hours and hence indicates the maximum power potential of unit 6. When the power is required for operating unit 6 in conjunction with other units but are not sufficient to operate all units then in use, the best efficiency, it is assumed that unit 6 would be operated in the range near its best efficiency and the smaller units would operate to utilize the balance of the flow.
3. The power is based on operating characteristics for units 1, 2, 3, 4, 5, and 6 as shown on drawings 17-P-275(a) and 17-P-275(b) respectively prepared in March 1933 by the Chief Engineer. The operating characteristics of unit 6 were determined from report of Barry Dibble on test of unit No. 1 April 26-28, 1910, and on average of power tests on unit 6 made in December, 1942. The operating characteristics for unit 6 were determined from test power plant February 18, 1928, and from the manufacturer's performance curve No. H.E. 3536.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MINIDOKA PROJECT-IDAHO

MINIDOKA POWERPLANT-UNITS 1-6
POWER OUTPUT CURVES

DRAWN H.L.B. SUBMITTED *Stanley J. Maiter*
TRACED W.V.L. RECOMMENDED *Stanley J. Maiter*
CHECKED *g.c.* APPROVED *W. M. Clinton*

BOISE, IDAHO JULY 3, 1932 17-100-139

EXHIBIT A

Palisades Project Operating Plan for Palisades Reservoir As Set Forth in the Appendixes of House Document No. 720, 81st Congress

The Bureau of Reclamation plans to construct and operate Palisades Reservoir for the optimum multiple-purpose use of the entire storage of 1,400,000 acre-feet. To attain this objective, the storage below elevation 5,497 feet mean sea level, approximating 200,000 acre-feet, will be reserved for dead storage and allocated exclusively to the production of hydroelectric power and the maintenance of a permanent pool for the preservation and propagation of fish and wildlife. The remainder of the storage capacity in the amount of 1,200,000 acre-feet will be operated in the joint interests of irrigation and flood control governed by the best available runoff forecasts.

The Bureau of Reclamation will forecast from time to time during the period from February 1 to July 31 of each year, on the basis of precipitation, temperature, snow survey, and runoff data, the volume of runoff that may be expected in the drainage area tributary to the Snake River above Heise, Idaho. To the extent that such services can be arranged for by cooperative agreements, the Bureau of Reclamation will make the forecasts hereunder after consultation with the reclamation engineer of the State of Idaho or his authorized representative, and the Chief of Engineers or his authorized representative. To facilitate the forecasting of runoff the Bureau of Reclamation will expand the existing hydrologic network and will establish and operate continuously a system for the efficient assembling and analyzing of the basic data. Until such time as a better method of forecasting be devised, the forecasts will be based upon

estimates of area-elevation weighted snow water content as determined from periodic snow surveys on or about February 1, March 1, April 1, and May 1, and upon precipitation for September of the preceding year. A sample curve of the correlation between weighted snow water content on April 1 of a given year plus precipitation of the preceding September and the resultant runoff from April 1 to July 31, inclusive, of the year in question, is shown on Plate II.

To the end of accomplishing the optimum multiple-use of the reservoir, the Bureau of Reclamation, beginning with the first year the reservoir is put into operation, will operate the reservoir on the basis of the forecasted runoff as nearly as practicable in accordance with the following plan:

1. For the purpose of rules and regulations to be prescribed by the Secretary of the Army under section 7 of the Flood Control Act of 1944 (58 Stat. 887, 890) the storage space allocated to flood control is defined as follows:

It is the reservoir space which, using the governing forecast of flood runoff for the year, according to the curves shown on Plate I is required to the end of controlling the forecasted flood volume from the time in that year that reservoir inflow first exceeds 20,000 second-feet through the succeeding July 31 by releases from the reservoir during that period such that the flow at the Heise gage will not exceed 20,000 second-feet, in so far as this control can be accomplished with a reservoir capacity not exceeding 1,200,000

acre-feet. The governing forecast of flood volume for each year is the forecast made as of the day when reservoir inflow in that year first exceeds 20,000 second-feet.

The parameters shown on Plate I, empirically derived from floods of record, are enveloping curves of the storage requirements for various volumes of total forecast runoff from any given date to July 31. The reservoir capacity required to control the flood to a discharge of 20,000 second-feet (or less) below the dam is indicated by the ordinate of the parameter corresponding to the forecasted runoff on the date when the inflow to the reservoir exceeds 20,000 second-feet.

2. During the period of each year from the date of the first forecast about February 1 to the date of making the governing forecast for that year (approximately the middle of May) herein designated as the evacuation period, the reservoir will be operated in such a manner that the required reservoir level as determined by the parameters on Plate I at the time inflow to the reservoir exceeds 20,000 second-feet can be attained with minimum practicable rates and fluctuations of discharge. The rate of discharge during the evacuation period would be determined as follows: The reservoir level required on or about May 15 (the date on which inflows normally may be expected to exceed 20,000 second-feet) would be estimated by use of the parameters on Plate I and a May 15 forecast would be derived by deducting probable minimum inflows for the intervening period

from the date of periodic forecasts beginning on February 1. The reservoir levels thus estimated would comprise tentative allocations of flood control space at which to aim the evacuation procedure. The rate of discharge then would be selected as that required to release the probable maximum inflow for the period between date of forecast and May 15 plus the evacuation necessary to attain the required reservoir level indicated by the latest tentative allocation.

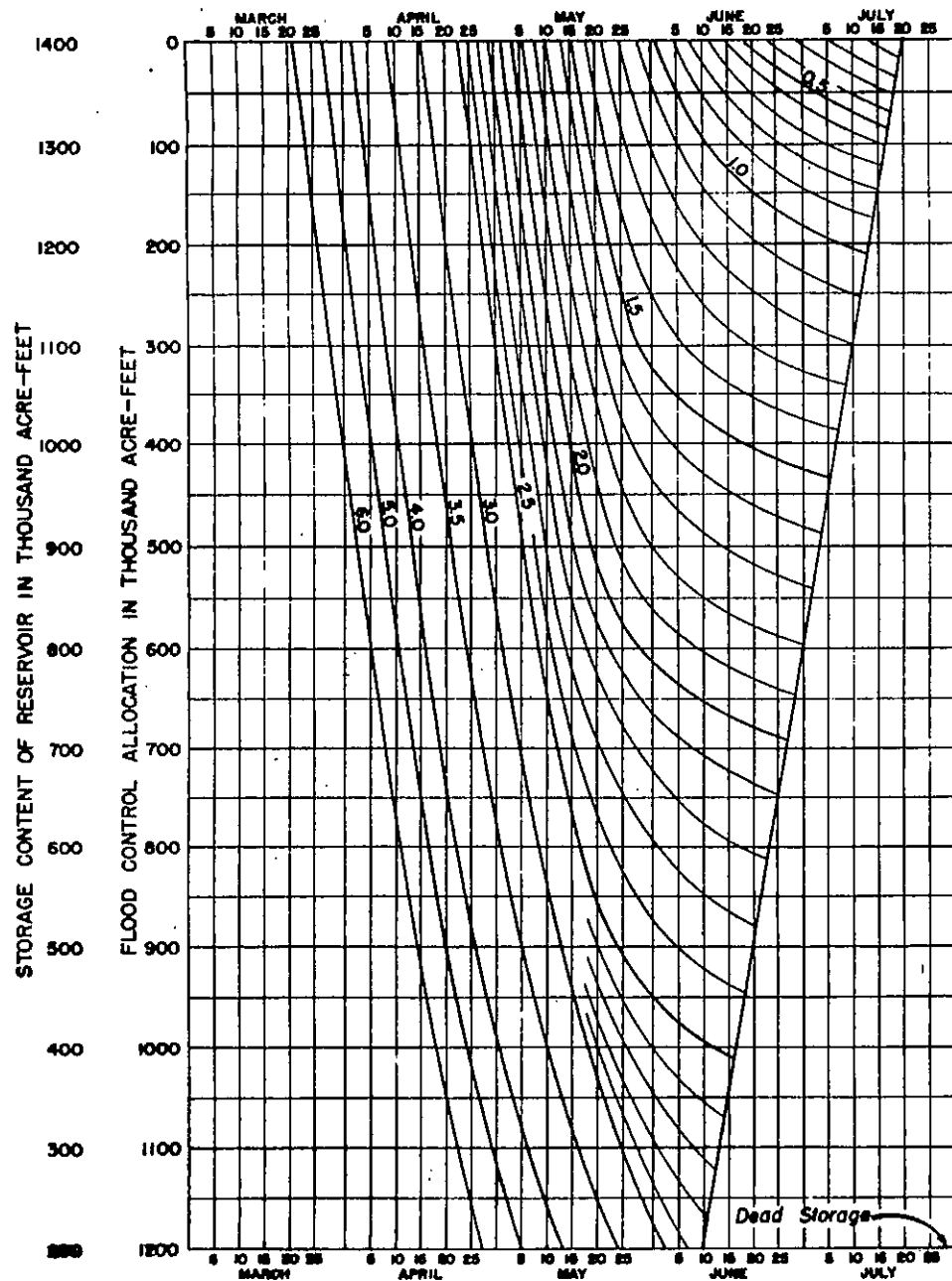
3. From the date of the governing forecast each year through July 31 of that year herein designated the filling period, the reservoir shall be operated in such a manner that the reservoir content shown on the chart (Plate I) will be maintained but not be exceeded except when storage above those levels is required to limit the flows to 20,000 second-feet at Heise. When the forecasted runoff indicates a required storage capacity in excess of the total active storage capacity of the reservoir, releases in excess of 20,000 second-feet will be made as required but at rates not to exceed 30,000 second-feet, except as indicated in paragraph 4 below.

4. Whenever the pool shall have risen above elevation 5,620, the full reservoir level, due to an extraordinary excess of inflow over the maximum releases permitted under paragraph 1 or is expected to rise above that level within the next 48 hours, releases may be increased temporarily above those previously specified, so as to minimize the peak rate of release and to draw the reservoir down to the full reservoir level as rapidly

as possible. However, the maximum rate of such extraordinary release shall not exceed the estimated maximum mean daily rate of inflow to the reservoir during the period when the reservoir level is above elevation 5,620.

5. All reservoir releases made as herein provided are subject to the condition that no releases shall be made at rates or in a manner that would be inconsistent with whatever operating rules and regulations are laid down by the Chief Engineer of the Bureau of Reclamation for the purpose of protecting the dam and reservoir from damage.

If operating experience indicates the desirability therefor, the Secretary of the Interior may, after consultation with the Secretary of the Army, modify from time to time the operating plan herein described with respect to the amount of space allocated to flood control each year on the basis of advance forecasts as to runoff, but no modification which would result in a substantial change in the control of floods herein stated to be the objective of the original operating plan shall be made without the concurrence of the Secretary of the Army. Revisions of the rules and regulations prescribed under the Flood Control Act of 1944 will be made by the Secretary of the Army if, in his judgment, these are requisite because of such modifications in flood control space allocations. Modifications in the operating plan not requiring the concurrence of the Secretary of the Army shall not be the occasion for a revision of the conclusions originally reached as to the flood control benefits to be realized from the original operating plan or of the formula adopted for the allocation of construction costs to flood control purposes.



NOTES:

1. Parameters are anticipated flood run-off of Snake River at Heise in millions of acre-feet for the remainder of the season from any given date to July 31. The anticipated run-off is the forecasted flow at Heise less the storage capacity available in Jackson Lake. A minimum of two hundred thousand acre-feet of storage space in Jackson Lake will be held vacant until May 1 of every year unless the forecast indicates that storage should begin earlier to insure filling that space.
2. Storage reservation based upon a release which would give a maximum regulated flow at Heise of twenty thousand second-feet.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

PALISADES RESERVOIR PROJECT
IDAHO

ALLOCATION OF FLOOD CONTROL SPACE

BONNE, IDAHO

OCTOBER 31, 1947

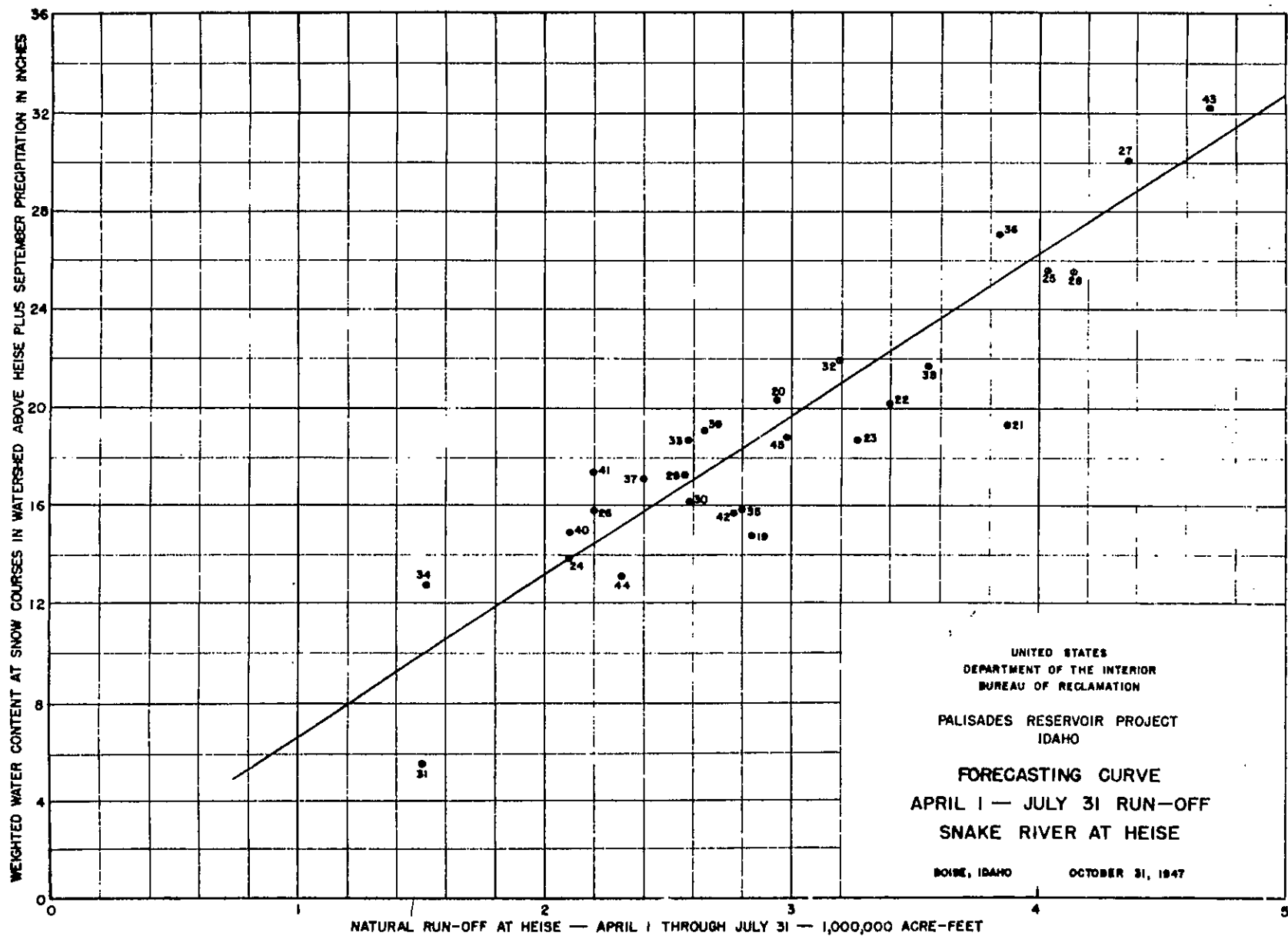


EXHIBIT B

Minidoka and Palisades Projects
Idaho

Basic Provisions Incorporated or to be Incorporated in
Contracts with Upper Valley and Lower Valley Water Users Organizations
To Govern the Permanent Exchange of Certain American Falls and Jackson
Lake Storage Rights

The United States operates and maintains for the benefit of the South Side Pumping and the Gravity divisions of the Minidoka Project and for the North Side Canal Company, the following rights to capacity in Jackson Lake Reservoir below elevation 6752 feet above sea level (U.S.G.S. datum), herein referred to as elevation 6752:

Minidoka Project 325,810 acre-feet

North Side Canal Company 10,000 acre-feet

In order to assist in effecting the permanent exchange of these Jackson Lake rights for an equivalent amount of space in American Falls Reservoir, beginning October 1, 1952, the United States will make available to the upper valley water users organizations involved a certain percentage of active capacity in Jackson Lake Reservoir below elevation 6752, within the limits and on the terms and conditions provided by contract, this being in lieu of an equivalent amount of American Falls storage capacity. The total amount of Jackson Lake capacity so to be available will not exceed 335,810 acre-feet.

In exchange for this right the upper valley water users organization involved will be required, as of October 1, 1952, to relinquish all its rights to an equivalent capacity in American Falls Reservoir. The total amount of American Falls capacity so to be relinquished by upper valley organizations will not exceed 335,810 acre-feet, and this relinquishment will be contingent on there being effective on or before October 1, 1952, or such later date as may be agreed on between the Secretary and the Advisory Committee, a relinquishment by the Burley Irrigation District, the Minidoka Irrigation District, and the North Side Canal Company of their respective rights to the 335,810 acre-feet of capacity in Jackson Lake Reservoir now being operated for their benefit by the United States.

Under basic provisions like those above described, holders of storage rights in American Falls Reservoir will have acquired in lieu of those rights seventy-six and seven tenths per cent (76.7%) of the total active capacity in Jackson Lake Reservoir below elevation 6752 as of October 1, 1952, these rights in Jackson Lake Reservoir being hereinafter called the upper valley exchanged space; and nineteen and seventy-five hundredths per cent (19.75%) of the active space in American Falls Reservoir will be held for the South Side Pumping and the Gravity divisions of the Minidoka Project (nineteen and sixteen hundredths per cent (19.16%)) and the North Side Canal Company (fifty-nine hundredths per cent (0.59%)), these rights being hereinafter called, collectively, the lower valley exchanged space. The

seventy-six and seven tenths per cent (76.7%) in Jackson Lake below elevation 6752 and the nineteen and seventy-five hundredths per cent (19.75%) in American Falls shall, so long as the respective total active capacities are not less than 847,000 and 1,700,000 acre-feet, be treated as the equivalent of 335,810 acre-feet. The latter figure will, however, be subject to adjustment from time to time by agreement between the Secretary and the Advisory Committee whenever there are determinations that the active capacities are other than above stated.

Beginning with the 1952-53 storage season, there will be a determination at the end of each storage season in which the lower valley exchanged space fails to fill, taking carryover storage into account, (1) of the amount by which the American Falls storable inflow to which the lower valley exchanged space was entitled during that season failed to fill that space; and (2) of the amount, if any, by which the Jackson Lake storable inflow to which the upper valley exchanged space was entitled during that season failed to fill that exchanged space. If the amount under (1) exceeds that under (2), there will be credited to the lower valley exchanged space and charged to the upper valley exchanged space an amount of stored water equal to the difference, but not in excess of the amount required to fill the lower valley exchanged space as of the end of that storage season. The determinations hereunder are to be made by a committee of three comprising the state watermaster of District No. 36, a

representative to be selected jointly by the Burley and Minidoka irrigation districts and the North Side Canal Company, and the officer of the United States in charge of the Minidoka Project.

Except as modified by the operation of the guarantee provision above outlined, the determinations of the rights of the holders of space in each of the two reservoirs to reservoir inflow during each storage season will be determined by the existing storage right priorities held by the United States for each reservoir and these rights in Jackson Lake Reservoir will continue to be governed by the difference in storage priorities held by the United States for the capacity below elevation 6752 and for the capacity above that elevation.

Revised
EXHIBIT B

Minidoka and Palisades Projects
Idaho

Basic Provisions Incorporated, or to be Incorporated, in Contracts With Upper Valley and Lower Valley Water Users Organizations to Govern the Permanent Exchange of Certain American Falls and Jackson Lake Storage Rights

Prior to the date of this amendatory contract, the United States operated and maintained for the benefit of the South Side Pumping Division of the Minidoka Project and for the North Side Canal Company, Limited, the following rights, on an exchange basis, in American Falls Reservoir, being equivalent to the capacities held immediately prior to October 1, 1952 in Jackson Lake Reservoir below elevation 6752 above sea level (U.S.G.S. datum), herein referred to as elevation 6752:

South Side Pumping Division, Minidoka Project: 139,780 acre-feet

North Side Canal Company, Limited: 10,000 acre-feet

In order to effectuate the permanent exchange of these Jackson Lake rights for an equivalent amount of space in American Falls Reservoir, confirming the action taken October 1, 1952, the United States has made or will make available to the upper valley water users organizations involved, a certain percentage of the active capacity in Jackson Lake Reservoir below elevation 6752, within the limits and on the terms and conditions provided by contract, this being in lieu of an equivalent amount of American Falls storage capacity. The total amount of Jackson Lake capacity so to be available will equal 149,780 acre-feet.

In exchange for this right, the upper valley water users organizations involved will be required, as of October 1, 1958 (being a revised date, first being October 1, 1952), to relinquish all their rights to an equivalent capacity in American Falls Reservoir. The total amount of American Falls capacity so to be relinquished by upper valley organizations will not exceed on a permanent basis 149,780 acre-feet but this relinquishment will be accompanied by a pro rata annual exchange and will be contingent on there being effective a confirmatory relinquishment by the Burley Irrigation District and the North Side Canal Company, Limited of their respective rights to 149,780 acre-feet of capacity in Jackson Lake heretofore operated for the benefit of those two organizations by the United States.

Under basic provisions like those above described, holders of storage rights in American Falls Reservoir will have acquired in lieu of those rights 34.2112% of the total active capacity in Jackson Lake Reservoir below elevation 6752, these rights in Jackson Lake Reservoir being hereinafter called the upper valley exchanged space; and 8.8106% of the active capacity in American Falls Reservoir will be held for the South Side Pumping Division, Minidoka Project, and the North Side Canal Company, Limited, these rights being hereinafter called, collectively, the lower valley exchanged space. The 34.2112% in Jackson Lake below elevation 6752 and the 8.8106% in American Falls, shall so long as the respective total active capacities are not less than 847,000 and 1,700,000 acre-feet, be treated as the equivalent of 149,780 acre-feet. The latter figure will, however, be subject to

adjustment from time to time by agreement between the Secretary and the Advisory Committee whenever there are determinations that the active capacities are other than above stated.

Confirming the principle which was established for the 1952-1953 storage season, starting anew with the figures at the beginning of the 1958-1959 storage season, there will be a determination at the end of each storage season in which the lower valley exchanged space fails to fill, taking carryover storage into account, (1) of the amount by which the American Falls storable inflow to which the lower valley exchanged space was entitled during that season failed to fill that space, and (2) of the amount, if any, by which the Jackson Lake storable inflow to which the upper valley exchanged space was entitled during that season failed to fill that exchanged space. If the amount under (1) exceeds the amount under (2), there will be credited to the lower valley exchanged space and charged to the upper valley exchanged space an amount of stored water equal to the difference, but not in excess of the amount required to fill the lower valley exchanged space as of the end of that storage season. Determinations hereunder are to be made by a committee of three, comprising the State Watermaster of District 36, a representative to be selected jointly by the Burley Irrigation District and the North Side Canal Company, Limited, and the officer of the United States in charge of the Minidoka Project.

Except as modified by the operation of the guarantee provisions above outlined, the determinations of the rights of the holders of space in each of the two reservoirs to reservoir inflow during each storage

season will be determined by the existing storage right or priorities held by the United States for each reservoir and these rights in Jackson Lake Reservoir will continue to be governed by the difference in storage priorities held by the United States for the capacity below elevation 6752 and for the capacity above that elevation.