APPENDIX A

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MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE DEPARTMENT OF THE INTERIOR
FOR
FLOOD CONTROL OPERATION OF BOISE RIVER RESERVOIRS, IDAHO

THIS MEMORANDUM OF AGREEMENT entered into this (20th) day (November), 1953, by and between the Department of the Army, presented by (Robert T. Stevens), SECRETARY OF THE ARMY, d the Department of the Interior, represented by (Fred G. ndahl, Assistant), SECRETARY OF THE INTERIOR,

W I T N E S S E T H

WHEREAS, the Department of the Army, through the Corps of gineers, is engaged in constructing the Lucky Peak Dam and Reservoir the Boise River in the State of Idaho, under authority of the Act July 24, 1946 (60 Stat. 641), which authorized construction of cky Peak Reservoir substantially in accordance with the recommendations the Chief of Engineers in his report of May 13, 1946; and

WHEREAS, said report concurred in the views and recommen- tions of the Board of Engineers for Rivers and Harbors that the Lucky ak Reservoir be constructed with the understanding that complete or rtial joint use of the storage in the three-reservoir system, viz., cky Peak, Arrowrock, and Anderson Ranch Reservoirs, may be under- ken at such time as may be mutually agreed upon by the Secretary

of War (now Secretary of the Army), the Secretary of the Interior, and local interests concerned with flood control and the use of irrigation water; and

WHEREAS, said report concurred in the views and recommendations of the Board of Engineers for Rivers and Harbors that Lucky Peak Reservoir be authorized for construction with the understanding that changes in the method of operation will be made in the future when the Secretary of War (now Secretary of the Army), upon the advice of the Chief of Engineers, finds that such changes are in the best interest of flood control, irrigation, and power development, and that they are agreeable to the Secretary of the Interior and to the local interests concerned with flood control and the use of irrigation water; and

WHEREAS, said act provides that Lucky Peak Dam and Reservoir "shall be operated in such manner as not materially to interfere with the operation of said Arrowrock Reservoir"; and

WHEREAS, the Department of the Interior, through the Bureau of Reclamation, acting under the Federal Reclamation Laws (these being the Act of June 17, 1902, 32 Stat. 388, and acts amendatory thereof or supplemental thereto), has constructed and is operating Arrowrock Dam and Reservoir on the Boise River and Anderson Ranch Dam and Reservoir on the south fork of the Boise River, both upstream from the Lucky Peak Dam; and

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WHEREAS, there are storage rights in Arrowrock, Anderson
nch, and Lake Lowell Reservoirs by virtue of appropriations under
e laws of Idaho and contracts between the United States, repre-
nted by the Department of the Interior, and various water users'
ganizations serving lands in the Boise Valley, and there are other
isting rights in and to the use of waters of the Boise River, both
ored and natural flow, which waters are in part diverted and dis-
ibuted through the transferred works of the Boise Project being
erated and maintained by the Boise Project Board of Control and
part by means of other works being operated and maintained by
her water users' organizations; and

WHEREAS, certain of the rights above described are
judicated rights, which are exercised under the supervision of
e State of Idaho, represented by the watermaster of District
. 12-A, Boise River; and

WHEREAS, to comply with the above-quoted Congressional
claration of operational policy in regard to Lucky Peak and Arrow-
ck Dams, and to achieve the greatest multiple-purpose use of the
mbined total usable flood control and irrigation storage of
3,000 acre-feet of water in all three reservoirs, a coordinated
an of operation is necessary for this reservoir system on the
ise River, a river totally within the State of Idaho, together
th Diversion Dam, the New York Canal headworks, and Lake Lowell;
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WHEREAS, it is recognized that the successful operation of this coordinated irrigation and flood control plan will call for the cooperation and assumption of responsibilities by the two Departments and the water users having storage rights in the reservoir system, and that there is need for a policy of mutual coordination, information, and assistance in its performance;

NOW, THEREFORE, for and in consideration of the premises and certain benefits and advantages accruing hereunder to affected local interests, it is hereby agreed as follows:

1

The hydrologic situation is shown on Plate 1, attached hereto and made a part of this agreement, which depicts the general location of the Lucky Peak, Arrowrock, and Anderson Ranch Reservoirs, herein referred to collectively as the reservoir system, Diversion Dam, the New York Canal headworks, and Lake Lowell.

2

The plan of operation hereinafter set forth is limited to the flood control operation phase of the respective general operating plans of the parties hereto and shall be used during the period commencing with the actual operation of Lucky Peak Reservoir.

3

To attain the maximum benefits from the reservoir system, the total capacity of 1,084,000 acre-feet will be utilized as follows:

a. 983,000 acre-feet (418,000 acre-feet in Anderson Ranch, 285,000 acre-feet in Arrowrock Reservoir, and

280,000 acre-feet in Lucky Peak Reservoir) will be operated primarily in the interests of irrigation and flood control and secondarily in the interests of power, as governed by forecasts of runOff. The allocation of flood control space is shown on Plate 2.

b. 5,000 acre-feet in Anderson Ranch Reservoir will be used exclusively for power production.

c. 96,000 acre-feet (70,000 acre-feet in Anderson Ranch and 26,000 acre-feet in Lucky Peak Reservoirs) will be reserved for dead storage and allocated exclusively to the maintenance of minimum power head, maintenance of permanent pools for the preservation and propagation of fish and wildlife and for silt control.

e above-designated 983,000 acre-feet or any part thereof in storage the end of each flood season will be primarily considered as ailable for irrigation except as such amount must be reduced by acuation requirements for flood control.

4

No reregulation of storage or annual exchange of storage provided in this plan shall, however, deprive any entity of water cruing to it under existing rights in Arrowrock, Anderson Ranch, d Lake Lowell Reservoirs.

5

The Chief of Engineers, the Commissioner of Reclamation, d the watermaster, having agreed upon acceptable methods of

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forecasting seasonal volumes of runoff for the Boise River above Diversion Dam, will periodically during the period from January 1 to June 30 of each year, determine the volume of runoff that may be expected in the drainage area tributary to the Boise River above Diversion Dam. Any differences in forecasted amounts shall be reconciled to arrive at a common forecast within 48 hours after basic data for forecasts are available. To facilitate forecasting of runoff, mutually satisfactory arrangements will be made among the Chief of Engineers, the Commissioner of Reclamation, and the State of Idaho, after consultation with the interested water users' organizations, to expand the existing hydrologic network and to establish and operate continuously a system for the efficient assembly, analysis, and exchange of the basic data.

6

Beginning with the first year this plan is put into operation, the system will be operated, through close collaboration with all agencies concerned on the basis of periodic sequential forecasted runoffs made during each year, as nearly as practicable in accordance with the following particular terms and provisions:

a. The storage space to be allocated to flood control for each year is defined as follows:

It is the combined reservoir space which, using the governing forecast of flood runoff for the year, is required to control the forecasted flood volume,

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from the time in that year that the natural flow as determined at Diversion Dam exceeds the allowable release through the succeeding July 31. The governing forecast of flood volume for each year is the forecast made as of the date the natural flow, as determined at Diversion Dam, first exceeds the allowable flow at that point and this date is usually about April 15. Allowable releases from the reservoir system during the period from the date of the governing forecast to the succeeding July 31 will be such that the flow in the river channel below Diversion Dam will not exceed 6,500 second-feet, in so far as this control can be accomplished with a total system capacity of 983,000 acre-feet together with the diversion to the New York Canal of an average of 1,365 second-feet during March and of 2,820 second-feet from April 1 through July 31, except that, due to decreased irrigation demand, diversions to the New York Canal may infrequently be reduced below the diversion figures indicated above. When the above decreased diversions are required, it may be necessary to increase flow in Boise River below Diversion Dam.

b. Attached hereto as Plate 2 is a scale figure depicting flood storage allocation parameters representing runoff volume anticipated at Diversion Dam between the

forecast date and July 31. These parameters were empirically derived from floods of record and are enveloping curves of the storage requirements for various volumes of total forecasted runoff from any given date to July 31. The total reservoir capacity required to control a flood to a discharge of 6,500 second-feet (or less) in the river channel past Diversion Dam is indicated by the ordinate of the parameter corresponding to the forecasted runoff on the date of the governing forecast.

c. During the period of each year from the date of the first forecast, about January 1, to the date that natural flow of Boise River at Diversion Dam first exceeds allowable releases, herein designated as the evacuation period, the reservoir system will be operated in such a manner that the reservoir levels on the date of the governing forecast as determined by the parameters on Plate 2, can be attained with the minimum practicable rates and fluctuations of discharge. The rate of discharge during the evacuation period will be determined as far as practicable in the following manner: The combined total reservoir space required on or about April 15 (approximate date of the governing forecast) will be estimated by use of the parameters

on Plate 2 and an April 15 forecast, which would be derived by deducting from the forecast made on any periodic forecast date probable average inflows, as determined from Plate 3, or measured inflow for the intervening period from the date of periodic forecasts to April 15. The required reservoir capacities thus estimated would comprise tentative allocations of flood control space at which to aim the evacuation procedure. The rate of discharge at Lucky Peak Reservoir then will be selected as that required to release the probable average inflow, as determined from Plate 3, or measured inflow for the period between the date of forecast and April 15, plus the evacuation necessary to attain the required total reservoir capacity indicated by the latest tentative allocation.

d. The evacuation of the active capacity in the reservoirs will be made in the following order: First, from Lucky Peak; second, from Arrowrock; and last, from Anderson Ranch. At least forty thousand (40,000) acre-feet of vacant space will be maintained in Lucky Peak Reservoir from November 1 to January 1 of every year, and from January 1 to May 24 of every year, except when forecasted amount of runoff between date of forecast

and July 31 is less than six hundred thousand (600,000) acre-feet and except that storage space in Anderson Ranch Reservoir may be considered partially to fulfill this requirement in Lucky Peak Reservoir to the extent of forty percent (40%). Power operation from Anderson Ranch storage will be so limited that, to the extent possible as to space allocated to flood control for any year, at least sixty percent (60%) thereof will be provided in Lucky Peak and Arrowrock Reservoirs. Filling of the three reservoirs will follow the reverse of the evacuation schedule to the extent that water is available at each of the respective sites. In the event Anderson Ranch or Arrowrock Reservoirs are not filled by reason of having evacuated water for flood control, storage in Lucky Peak will be considered as belonging to Arrowrock and Anderson Ranch storage rights to the extent of the space thus remaining unfilled at the end of the storage season but not to exceed the amount evacuated for flood control.

e. From the date of the governing forecast each year through July 31 of that year, herein designated as the filling period, the reservoir system will be operated in such a manner that the combined reservoir content, as determined from the parameter chart (Plate 2), will be

maintained except when irrigation requirements necessitate a drawdown below such total content, but will not be exceeded except when total storage above such content is required to limit the releases to allowable flows (as determined by downstream channel capacity and irrigation diversions) at Diversion Dam. However, when the forecasted runoff indicates extraordinary flood flows, requiring storage capacity for flood control in excess of the total active storage capacity of the reservoir system (983,000 acre-feet), temporary releases at Lucky Peak in excess of the allowable flows may be required but such releases will be made at a rate so as to minimize the peak rate of flow in the river channel below the Diversion Dam. The rate of such releases shall be specified by the Chief of Engineers after consultation with the Commissioner of Reclamation to the extent consistent with paragraph 6g herein.

f. Release of water for irrigation will be made from Lucky Peak Reservoir at such times and at such rates, pursuant to rights established under law, as requested by the owners thereof, or by officials or agencies authorized to make such requests. Flood control releases prescribed by the Chief of Engineers will be made in such a manner as to cause minimum practicable short-time

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fluctuations in the flow of the Boise River below Lucky Peak Reservoir. Arrangements will be made to notify the State Watermaster, and other officials upon request, of contemplated significant changes in rate of release from Lucky Peak Reservoir.

g. The Chief of Engineers and the Commissioner of Reclamation may establish operating rules and regulations for the purpose of protecting from damage the dams and reservoirs being operated under their respective supervision but such rules and regulations shall, to the greatest extent practicable, avoid interference with the delivery of water accruing to rights established under law.

h. In order to enhance the recreational value of Lucky Peak Reservoir after recession of the flood each year, that reservoir will be filled, if not already full from flood water storage or natural flow, by transfer of water from Arrowrock storage, and will be held full through September 15 each year except when Arrowrock Reservoir has been drawn down to a level from which it can no longer supply the irrigation requirements prior to that date, in which case irrigation releases will be made as required from Lucky Peak storage. In no case will storage be released from Anderson Ranch

Reservoir for the purpose of holding Lucky Peak Reservoir full for recreational purposes.

7

If operating experience indicates the desirability therefor if justified by future changes or improvements in the Boise ver system, the Chief of Engineers and the Commissioner of Recla- tion or their duly authorized representatives, after consultation th the Reclamation Engineer of the State of Idaho or his author- ed representative, the Watermaster, Boise River, and the Project nager, Boise Project Board of Control, may, within the general jectives of this agreement, modify from time to time the oper- ing plan herein described with respect to allowable releases d the amount of space allocated each year to flood control on e basis of advanced forecasts of runoff. However, no modifica- on which would affect in any substantial way any storage rights the reservoir system and Lake Lowell, shall be made without the ncurrence of all entities having rights in the reservoir system d Lake Lowell.

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If and when a power plant is installed at Lucky Peak Dam, shall be operated in a manner consistent with this operating an and in subordination to any water rights validly established der law.

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This memorandum of agreement shall become effective when it has been formally accepted by the water users having storage rights in the reservoir system and Lake Lowell and after a revised allocation report for the Boise Project, supplemental to the report and finding of June 25, 1940, by the Secretary of the Interior (H. Doc. No. 916, 76th Cong., 3d Sess.), reflecting the flood control benefits based on the operating plan herein set forth, has been transmitted to the Congress.

10.

Except for the original execution thereof, this agreement shall be administered on behalf of the Department of the Army by the Chief of Engineers, representing the Corps of Engineers, and on behalf of the Department of the Interior by the Commissioner of Reclamation, representing the Bureau of Reclamation, or their duly authorized representatives.

IN WITNESS WHEREOF, this memorandum of agreement has been executed as of the date first above stated.

DEPARTMENT OF THE ARMY Nov. 20 1953

By /s/ Robert T. Stevens
Secretary of the Army

DEPARTMENT OF THE INTERIOR Oct 30 1953

By /s/ Fred G. Aandahl
Assistant Secretary of the Interior

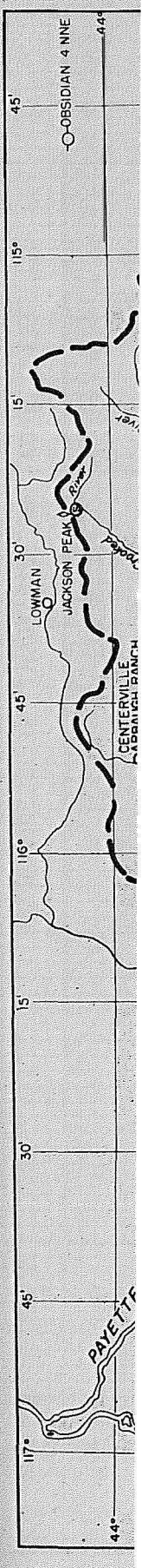

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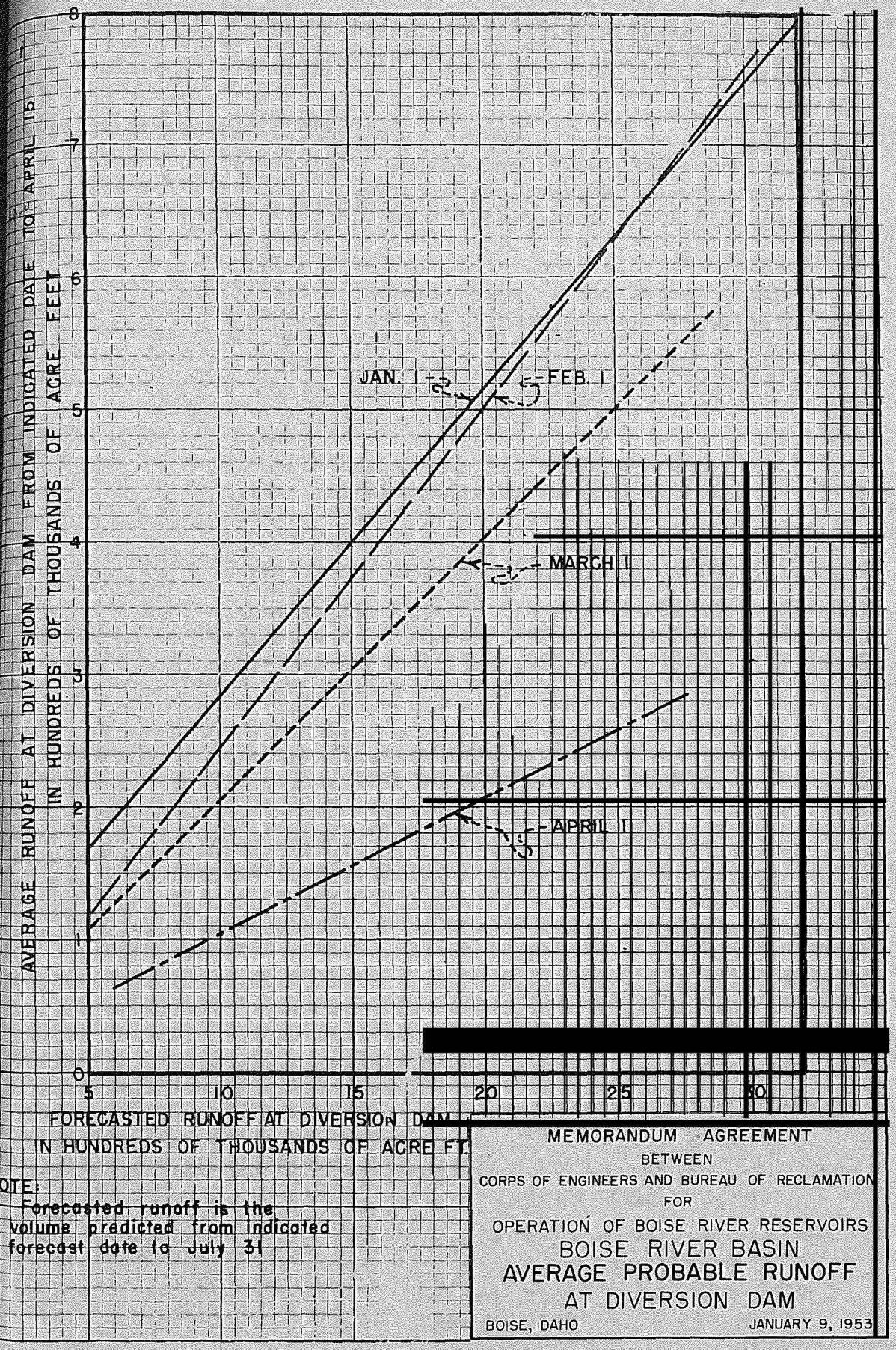
PLATE A - 1



NOTE:
Forecasted runoff is the volume predicted from indicated forecast date to July 31

MEMORANDUM AGREEMENT
BETWEEN
CORPS OF ENGINEERS AND BUREAU OF RECLAMATION
FOR
OPERATION OF BOISE RIVER RESERVOIRS
BOISE RIVER BASIN
AVERAGE PROBABLE RUNOFF
AT DIVERSION DAM
BOISE, IDAHO JANUARY 9, 1953

PLATE A-3